

**SCOTTSDALE TRAILS
MASTER PLAN:
ON THE RIGHT TRAIL**



**EXECUTIVE SUMMARY
APRIL 2003**

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 Citywide basis was in 1991. Adopted as an element to the City's General Plan, it included approximately 300 miles of unpaved, 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.

UNDERSTAND: 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.

IDEATE: review existing and potential trail corridors leading to a recommended draft plan and process for identifying specific improvement projects.

IMPLEMENT: production of the final recommended trails plan with implementation strategies.

APPROVE: final approvals 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.

Newsletters, the City's Web site and media provided information and announcements for upcoming meetings. Participatory opportunities were available for the interested public, users and non-user of trails. Residents in four specific neighborhood study areas: Mescal Park, Cactus Corridor, Shea 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 5, 2003. The City Council approved the Scottsdale Trails Master Plan in its entirety on April 14, 2003.

OPERATIONS, FUNDING, POLICIES & PROCEDURES

In order to gain a better understanding of the current operations shaping trail planning in Scottsdale, the Consultant team evaluated existing staffing levels, volunteerism/citizen support, maintenance and operations programs. Existing capital improvement programs were reviewed illustrating the multi-departmental responsibilities for trail planning and development currently existing in the City. Various policies and procedures were identified and documented that further shape the City's trail program: the parks and trails planning management focus, trail maintenance standards, trail design and policies standards and the overall trail planning process.

PHYSICAL INVENTORY & ANALYSIS

Physical components of Scottsdale's trail system were analyzed and documented from a broad, regional context down to neighborhood study areas. Four neighborhoods were studied in detail: Desert Foothills, East Cactus Corridor, East Shea Corridor and Mescal Park. A comprehensive Geographic Information System (GIS) database was developed for all existing and potential trail corridors in the City that includes such information as legal status, physical condition, maintenance responsibility, signs, location, length, classification and trail type. The database is now up-to-date. This analysis concluded there were 324 miles of trails shown in the 1991 Trails Plan, of which 100 are contained within the McDowell Sonoran Preserve study boundary. An additional 33 miles of easements exist that are not identified in the 1991 General Plan.



ISSUES AND NEEDS ANALYSIS

Issues and needs of the community were identified and documented through a variety of means including focus groups, a statistically valid phone survey, open houses and workshops. Citizens defined characteristics that make up a great trail and a great trail system. Additionally, they responded to questions about use of, and satisfaction with, existing trails and proximity to their homes.

OPPORTUNITIES ANALYSIS

Specific issues and needs formed the basis for an opportunities and constraints analysis and organized into several topics: linkages and destinations, trailheads, support/opposition, and crossings/traffic conflicts. These topics were further refined to form the basis for the project's themes:

- Function
- Discovery & Experience
- Implementation
- Awareness & Education
- Safety



SUITABILITY ANALYSIS

A suitability analysis was performed for every potential trail corridor in the City of Scottsdale. The purpose of this analysis was to identify trail corridors that are most, and least, suitable for trails. This became a critical step in the planning process because it bridged issues, opportunities and constraints, as well as the development of the final master plan. This step, above others, greatly influenced the outcome of the overall master plan. The following criteria used to analyze a corridor's suitability came from citizen comments, specifically their definition of a great trail and a great trail system:

- Local Link
- Loop Link
- Negotiability/Usability
- Regional Link
- Multi-modal Linkage
- Safety

THE VISION

This functional network of non-motorized, unpaved, multi-use trails will create journeys of discovery linking local and regional places while connecting to the greater transportation network. These trails serve both recreation and transportation needs, providing a safe and enjoyable experience for all users.

The trail network will be responsive to the public, promoting a healthful outdoor lifestyle resulting in more trail users and advocates. This trail network will link people to place, enhancing Scottsdale's economy, culture and quality of life.

PLANNING GOALS

The goals were derived from refining five themes that embody City and Staff comments: Function, Discovery and Experience, Safety, Implementation and Awareness and Education. These goals and objectives guided the plan's development.

BUILT VS. NATURAL ENVIRONMENTS

Trail classifications are divided into built and natural environments. Built environment trails are located in more *constructed environments* and are constructed with decomposed granite trail surfacing. Natural environment trails are located in more *natural or undisturbed open space* (such as Natural Area Open Space areas) and consist of native surface materials.

PRIMARY TRAILS: *The Sun Circle Trail (right), a regional 110-mile loop trail, passes through Scottsdale along the Arizona Canal. This is an example of a built environment trail.*

Two hikers (below right) enjoy the natural environment trail along the Central Arizona Project Canal.

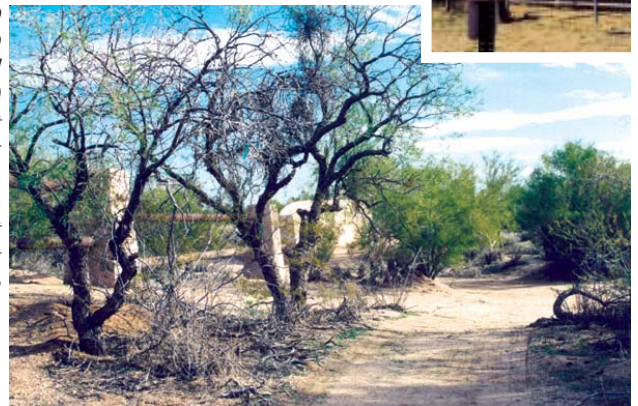


SECONDARY TRAIL: *A hiker (left) takes in the views along the Pinnacle Peak Trail. This is an example of a natural environment trail.*

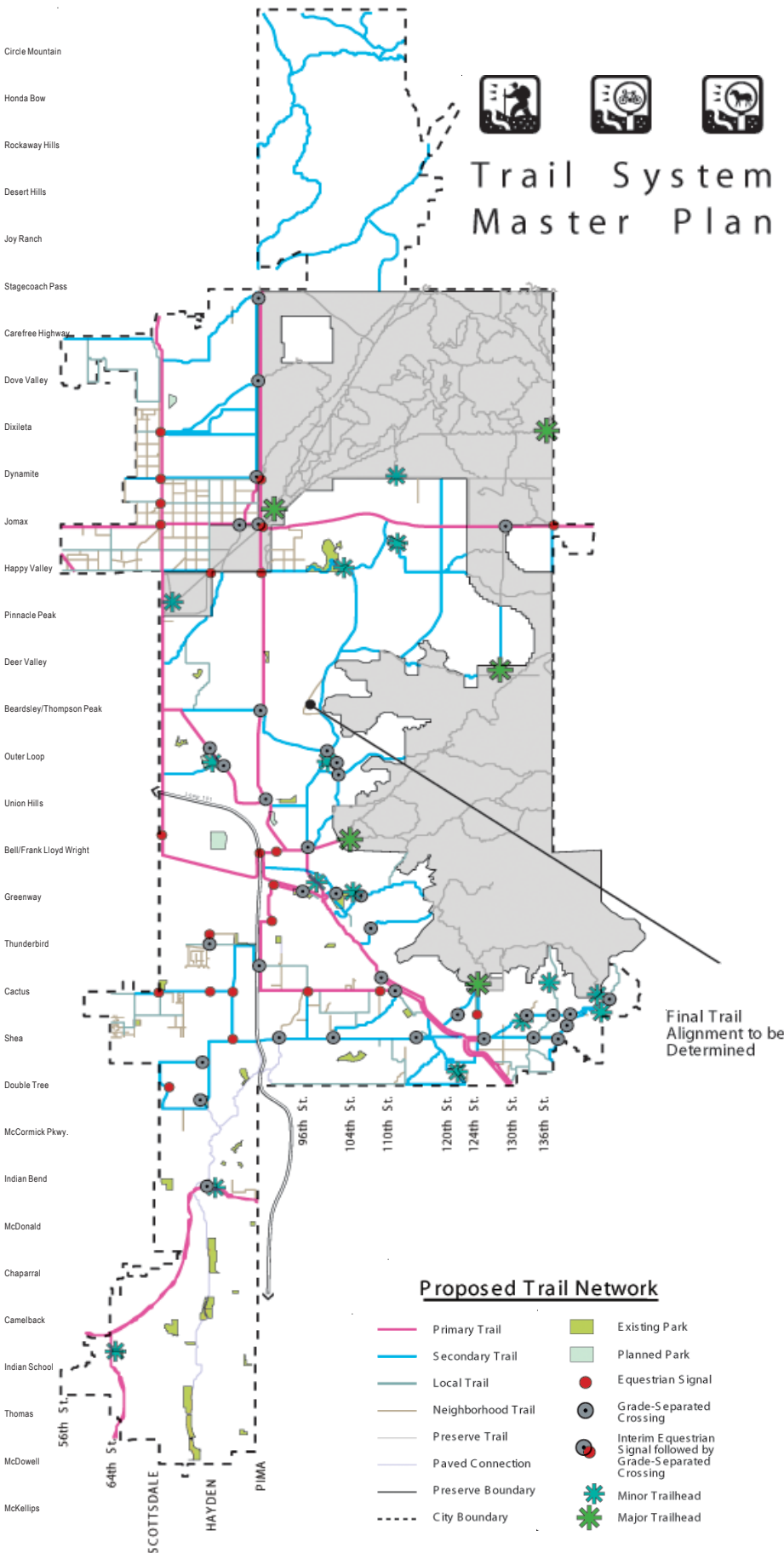


LOCAL AND NEIGHBORHOOD TRAILS: *A natural environment trail (right) passes through lush desert in the Whisper Rock neighborhood.*

Signs (above right) direct users along the built environment trails in the Mescal Park area.



PLAN ELEMENTS



Primary/Signature Trail: 73 miles. Generally, these trails have a regional significance by providing linkages to major destinations. They have the widest trail width, greatest quantity and variety of signs, and the greatest opportunity for amenities like benches and drinking fountains.

Secondary Trail: 115 miles. These trails provide links between Primary/Signature trails and more localized neighborhood trails.

Local Trail: 42 miles. Usually feeder trails that are not continuous on both ends, or are lesser-used alternatives to already existing routes connecting to Secondary Trails.

Neighborhood Trail: 56 miles. These trails are very limited in range and serve a localized area. They have the narrowest trail width and lesser use of signs.

Trailheads: 21 planned. Major trailheads are located at major entry points into the McDowell Sonoran Preserve. Minor trailheads are planned in existing, or planned, community and neighborhood parks, such as Stonegate Park, Rio Montana Park and DC Ranch Park.

Trail Crossings: To minimize trail/traffic safety risks, several types of trail crossings are proposed:

- 1) **Equestrian Crossings: 22 proposed.** Ideally, crossings will consist of asphalt-alternative surfacing and a specialized user-activated signal control in a "safe zone."
- 2) **Grade-separated Crossings: 38 identified.** These exist in several forms, drainage structures, pedestrian bridges, pedestrian underpasses and vehicular bridges.
- 3) **Interim Equestrian Crossings: 2 identified.** These exist in locations where grade-separated crossings are proposed. It may be several years before it is built.

Paved Linkages: Areas where constructing a new unpaved trail is not possible, yet the connection remains important and is made on a paved path.



IMPLEMENTATION GOALS

Implementation goals were developed which aim to provide a means to implement the various components of the plan over time. They address topics of multi-modalism, signage, impact, user experience, safety, construction, maintenance, partnerships, publicity, enforcement and education.

RECOMMENDATIONS

In order to provide a simplified blueprint for the expenditure of existing and future capital funds, the expenditure of operational funds, and the implementation of assisted policies, the plan recommendations fall into the following three broad categories:

ACQUISITION AND DEVELOPMENT

The action plan recognizes that trails will continue to be built in Scottsdale through a variety of means. This section examines the City departments and other outside jurisdictions that have a history of implementing or impacting aspects of the trail system.

Project lists identify the “Top Twenty Five” trail projects and a Phase One Project List to be built with Bond 2000 \$2.5 million trail acquisition and development funds. Projects range from underpass improvements, to signage installation and easement acquisition. The plan recognizes these lists as being flexible in nature. Average trail construction costs are identified for each trail classification, based upon built or natural environments, ranging from \$2,648.45 to \$26,168.83 per mile. To assist with acquisition and development, recommendations are made to update Trail Design Standards and Policies Manual.

MAINTENANCE

Recommendations include the development of trail maintenance standards, establishment of trail maintenance cycles based upon trail classifications, and working closely with Homeowner’s Associations (HOA’s) to properly maintain public trails on their properties. A methodology is suggested for determining maintenance standards. Typical trail maintenance costs are provided that range from \$1000 per mile/year for neighborhood trails to \$1750 per mile/year for Primary Trails. A further recommendation states that, over time, all public trails not within organized HOAs should be maintained by the City of Scottsdale to ensure a consistent and predictable trail condition.

POLICIES AND PROCEDURES

Recommendations include procedures for Master Plan review, update and revisions; trail inventory maintenance, citizen representation, planning and project coordination, motorized vehicles, staffing, funding, awareness and education.

The Trails Master Plan should undergo a comprehensive update every five years. The trails database should be updated on a monthly basis and a trails supporter should continue to be a part of the Parks & Recreation Commission.



Further recommendations include improvements to the construction and inspection process for privately built trails, and the development of checklists and standard trail stipulations to help both project reviewers and developers build the right trails in the right place.

Joint meetings between the Parks & Recreation Commission and the Preserve and Transportation Commissions are recommended to ensure issues of shared interest are properly planned and addressed. The continuing issue of illegal motorized use on trails is addressed through the identification of several controlling tools from education to ordinance enforcement.

Staffing recommendations include more coordinated use of volunteers, creation of a trails advisory committee, and addition of staff to manage the increasing trail planning operations and maintenance responsibilities. Continued use of grants is identified as a means to make limited funds go further.

Awareness and education is addressed through publicizing the Arizona Recreational Use Statute, production of a Scottsdale trails map and brochure, revision of signage standards, and the implementation of a “Name-the-Trail” contest.



TRENDS

Several trends help shape the Plan:

Green Infrastructure: Trails are seen as a critical part of a city’s infrastructure; fundamental to the community’s health and well being.

Trail Research: More studies report how trails typically have no impact or improve property values and the negligible impact trails have upon crime.

Trails/Health Link: The U.S. Surgeon General and the Center for Disease Control’s Task Force on Community Preventive Services strongly recommend creating, or enhancing, access to trails and other community locations for physical activity.

TEA 3 Funding: The U.S. Department of Transportation recommended reauthorization of the Transportation Equity Act for the 21st Century in an effort to continue support of trails programs across America.

Trail Planning: Citizen involvement helps shape plans that recognize a community’s varied users, ability levels, and specific cultural and geographic characteristics of the community leading to specific action items.

Continuation

Citizens support trails, and they recognize trails contribute to Scottsdale’s quality of life.

Our civic leaders have demonstrated their commitment to provide these benefits for all residents.

This comprehensive Trails Master Plan examines existing trail infrastructure from physical characteristics, to policies and procedures that put it in place.

Most importantly, this plan provides meaning, structure and guidance to those who will use and implement the trail system’s many features.



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YES! YES! YES!
YES! YES! YES!
YES! YES! YES!

Do trails improve a person's life?

Do trails improve a community?

*Does trail use improve
a person's health and wellness?*

*Do trails provide an alternative
to driving cars?*

*Do trails provide connections
to nature and neighborhoods?*

*Do trails improve quality of life
for people and communities?*

SCOTTSDALE CITY COUNCIL:

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Wayne Ecton
Robert Littlefield
Cynthia Lukas
Ned O'Hearn
David Ortega
Tom Silverman

City Manager:
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ACKNOWLEDGMENTS

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Additional thanks go to:

- ◆ The citizens who gave their personal time, thoughts and ideas through focus groups, workshops, open houses, phone calls, emails, and letters.
- ◆ The citizens who participated in the phone survey.
- ◆ Scott Hamilton, Gary Meyer and Ryan Stee from the Parks, Recreation and Facilities Division, for their knowledge, enthusiasm, and insight.
- ◆ The Insight Group Inc., for preparing and conducting the phone survey.
- ◆ Members of the Parks & Recreation, Planning, Transportation, and Preserve Commissions, for promoting integrated land use and transportation planning as embodied in this trails plan.
- ◆ Robin Meinhart and the City of Scottsdale Communications and Public Affairs Office, for providing outstanding assistance in promoting this plan throughout its creation.
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I. INTRODUCTION



A. PURPOSE AND BACKGROUND

The last time the City of Scottsdale addressed trail planning on a citywide basis was 1991. Adopted as an element of the General Plan, the trails plan map included approximately 300 miles of unpaved, non-motorized, multi-use trails. The 1991 plan reflected historic trails throughout the City that had been documented starting in the early 1970s, and then refined during the 1980s.

The City has seen tremendous change since 1991. From 1991 through 1992, the “Scottsdale Visioning” process asked citizens what they thought created the special character of Scottsdale. This was followed by CityShape 2020 in 1994 through 1996, where the community identified trails, among other factors, as being a unique part of the Scottsdale lifestyle and an important public amenity. The results of CityShape 2020 provided a basis for the 2000 bond election, which included \$2.5 million for trail acquisition and development. Then in 1999 through 2001, Scottsdale embarked on an update of the General Plan in a process known as “Future in Focus.” Policies regarding trails appear in a number of elements of the General Plan, although primarily located in the Open Space and Recreation and Community Mobility Elements. Upon completion of the Trails Master Plan, it will become a “sub-plan” to the General Plan.

The purpose of this study is to develop a vision, goals and objectives to guide the development and prioritization of a citywide trails master plan that will be implemented through the expenditure of the 2000 bond funds and beyond. The project team, including City staff and consultants, has a simple mission. It is to create a great trail system for the citizens of Scottsdale. In order to accomplish this, the study must first accurately gauge citizen wants and needs, next establish a hierarchy of trails according to location and purpose, and then create a cohesive trails system that establishes links between neighborhoods and recreation opportunities, and provides an alternative transportation mode. The trails related policies from the Scottsdale General Plan provide excellent direction for this effort. It is worth noting that the public feedback obtained during this master plan process has been consistent with these policies, and has provided a touchstone to assure this study remains true to the community vision that has evolved over many years.

B. BENEFITS

Using trails is one of America’s fastest growing recreational activities. In the Arizona State Parks Trails 2000 Survey conducted by Arizona State University, it was determined that more than 90% of the state’s population uses trails, and nationwide the American Hiking Society reports almost one-third of Americans, more than 67 million, went hiking in the year 2000. In fact, the USDA Forest Service is predicting steep increases in participation in backpacking and hiking, including an 80% increase in hiking in the Southern and Pacific Coast areas, over the next 50 years.

Recreational trail use is often associated with backcountry areas and camping, but as trail use grows and more trails are developed near population centers, communities are recognizing the economic, social and health benefits of trails. A 2002 study by the Rails-to-Trails Conservancy (Washington, DC) identifies six primary benefits of trails, including transportation, economic, public health, open space, education and social capital.



1991 General Plan

Communities, businesses, health care professionals, and policy makers are recognizing the personal, social, economic and environmental benefits of having recreational resources readily available to people. The benefits of trails include improvements to a person's physical and emotional health and quality of life, increased property values, individual and community revenues from trail users' purchases of goods and services, and a greater appreciation and stewardship of the natural environment, to name just a few (National Park Service, 1991; Bruns Study, 1998).

The benefits of trails and greenways expand dramatically when municipal and regional transportation planning concepts and trail design work together to increase usage rates of a community's trails and greenway infrastructure. Trails and greenways help to create neighborhood interaction, bringing residents into contact with one another. Trails offer easy-to-access options for increased physical activity and desirable off-street connections to schools, work, shopping, and other recreational facilities.

Increased use of trail corridors can be magnified by such factors as air quality improvement, physical and mental health benefits derived from physical activity and positive economic impacts. Increased usage, in turn, leads to increased benefits and the expansion of trail systems can help ensure the benefits are more equitably distributed among all residents of the community.

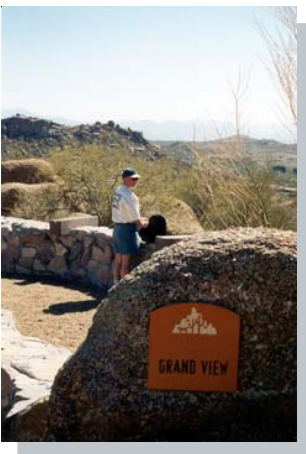
In a 2001 study by the United States Environmental Protection Agency, the total costs of poor air quality associated with motor vehicle emissions range from \$28 billion to \$531 billion for health, and \$2.5 billion to \$4.6 billion for crops each year in the United States. Considering the spiraling health care costs in the nation today, any reduction in motor vehicle emissions through the increased use of community trails would bring welcome health benefits to any urban area laced with motor vehicle transportation.

And, finally, several significant trail studies have consistently found that the majority of people owning homes immediately adjacent to a trail (as well as real estate professionals) believe that the presence of a trail near their home will make it easier to sell and those that sold were valued an average of six to nine percent more, and sold faster than those homes not immediately adjacent to a trail. (Moore, 1992; National Park Service, 1995; Brown County, 1998.)

In the 2000 Arizona State Parks Trails Survey of 10,000 randomly selected participants, an overwhelming majority of Arizona residents said they agreed with these following four statements:

1. Trails benefit my community and state (96%)
2. The presence of trails enhances my quality of life (92%)
3. Trails benefit Arizona's economy (88%)
4. Trails benefit me directly (77%)

With this strong citizen support in Arizona, and with all of the other demonstrated benefits of trails and greenways combined, the City of Scottsdale's Trails Master Plan clearly documents the civic leaders' interest in, and the importance of, providing these benefits to the community and its citizens.



A Stop along the Pinnacle Peak Trail

C. PROCESS OVERVIEW

The master planning process was structured in five phases; analyze data, understand the issues, generate ideas, identify plan and implementation strategies, and gain final approval. They are described below:



ANALYZE

In this phase, the inventory and evaluation of existing conditions, plans, procedures, facts, and initial public comment takes place. The purpose of this phase is to:

- ◆ Begin a mailing and email list
- ◆ Review the current status of existing trail database
- ◆ Review current planning documents, both within and outside Scottsdale
- ◆ Review current status of trail signage
- ◆ Initiate photo documentation
- ◆ Identify City staff issues and ideas through a staff and consultant team kick-off meeting
- ◆ Identify citizen's issues and ideas for a great trail and a great trail system through focus groups and a trail ride/hike

UNDERSTAND

This phase includes the identification of additional issues, facts, needs, ideas, opportunities and constraints leading to a clear understanding of how the Scottsdale Trail System currently functions and the preparation of a guiding vision, goals and objectives for how the Trail System will function in the future. The purpose of this phase is to:

- ◆ Produce a comprehensive picture of issues, facts, needs and ideas that affect the City's trails, gathered from within and outside the community
- ◆ Identify the project's guiding themes and goals
- ◆ Document specific opportunities and constraints
- ◆ Better understand citizen opinions on "neighborhood trails" through a statistically valid phone survey and focus groups
- ◆ Provide opportunities for public comment on the City's website
- ◆ Produce and distribute the first project newsletter
- ◆ Share this information at a public open house and a presentation to the Parks & Recreation Commission

IDEATE

This phase involves the review of all existing and potential trail corridors in the City leading to a recommended draft plan and a process for identifying specific improvement projects. The purpose of this phase is to:

- ◆ Further refine goals & objectives
- ◆ Develop corridor suitability attributes using public input
- ◆ Evaluate trail corridor suitability and develop a corridor suitability map
- ◆ Prepare a Draft Trails Plan which includes a trail hierarchy
- ◆ Use the trail hierarchy as a basis for applying the City's existing trail standards to each recommended corridor
- ◆ Produce and distribute the second project newsletter
- ◆ Conduct a Focus Group work session to:
 - Develop a project prioritization methodology
 - Collect citizen comments on the Draft Master Trails Plan



Three Open Houses occurred during the Planning Process

IMPLEMENT

This phase includes production of the final recommended trails plan with implementation strategies. The purpose of this phase is to:

- ◆ Refine and prepare the Recommended Draft Trails Master Plan based upon Citizen comments which includes:
 - Trail improvement projects to spend the \$2.5 million and beyond
 - Management and operations costs for implementing the City-wide trail plan
- ◆ Present the information at the second open house, and the Preserve, Transportation, Planning and Parks & Recreation Commissions
- ◆ Produce and distribute the third project newsletter

APPROVE

This phase includes the final approvals of the Recommended Draft Trails Master Plan thereby creating the Scottsdale Trails Master Plan. These final steps include:

- ◆ Recommended approval by the Parks & Recreation Commission
- ◆ Approval by the City Council

D. PUBLIC INVOLVEMENT SUMMARY

Information was gathered from the public 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 meetings, and personal meetings provided opportunities for direct input and creative ideas at crucial points in the process. Newsletters, the City's Web site, and the media provided information and announcements for upcoming meetings. Participation opportunities were available for the interested public, users and non-users of trails. Residents in four specific neighborhood areas, Mescal Park, Cactus Corridor, Shea Corridor, and Desert Foothills were invited to participate in an in depth analysis of the localized trail issues and opportunities. These activities are briefly described below and more detailed summaries can be found in Appendix A.

FOCUS GROUPS

CITYWIDE FOCUS GROUPS

In April 2002 three focus groups were held throughout Scottsdale. Participants were asked to look ten years into the future and envision a great Scottsdale trail system. They answered the question – what were some of the characteristics they were most pleased about? They offered many specific ideas about the general topics of connectivity, design, street crossing safety, experience, education, operations, and city policies.

NEIGHBORHOOD FOCUS GROUPS

Three focus groups were held in May 2002 with residents in the Desert Foothills, Mescal Park, and Cactus/Shea Corridor neighborhoods. Participants provided good information about issues surrounding proximity to trails; impacts on property values, and willingness to support trail enhancements. They also provided specific information on their level of satisfaction with trail system characteristics in their neighborhoods.

OPEN HOUSES

Open houses were held in June and October 2002, and January 2003. Attendees at the first open house provided input on the most important attributes of a trails system. They specified safe street crossings, personal safety, connection to regional trails and destinations, adequate separation and buffering between the roadway and the trail. At the October event attendees reviewed the draft trails plan and concept plans for specific neighborhoods. Comments or suggestions around specific intersections or trail issues were received at both meetings. The third open house was held specifically for those interested in the proposed trail system in the Desert Foothills area. Other attendees came to learn more or voice their concerns about the trail corridor alternates proposed in the Dobson Wash area.

PUBLIC WORKSHOP

In September those who had participated in the earlier focus groups were invited to a workshop. They reviewed conceptual neighborhood trail layouts and a draft trails map for citywide trail corridors. They also participated in a session where they helped to prioritize criteria for deciding which trails projects should be built first. Fixing a potential safety problem followed by the opportunity to complete an existing project received the highest priority.

NEWSLETTERS

Three newsletters were prepared. Updates on the planning process, input received from the public, announcements of upcoming meetings and other public involvement opportunities were included. These newsletters were mailed to those on the project mailing list, posted on the City's website, and made available at all public meetings.

WEBSITE

The City's website, www.scottsdaleAZ.gov/trails/plan, provided a quick reference for the project newsletters, general information about places to hike, survival tips, and City staff contact information.

TELEPHONE SURVEY

A random telephone survey was conducted in the same four neighborhoods in May 2002 with residents 18 years or older who had lived in their current neighborhood for more than one year. 78% of the respondents knew of unpaved, multi-use, non-motorized trails in their neighborhood. Of those who were aware, almost 80% had used a trail in the past year. Trails are very important to nearly 60% of users, and 60% reported they would be more likely to use trails if there were more regional destinations.

TRAIL HIKE, BIKE AND RIDE

In April 2002, the City Trail Planner and consultants joined citizens to explore a series of trails in the Shea Corridor. Each citizen participant was provided a map of the route broken into segments that highlighted various planning, development or use issues. A form was provided to write comments per segment.

MEDIA

Many articles about the project appeared in local newspapers, as did notices for the open houses.



Citizens discuss issues at an Open House



The "Trail Hike, Bike and Ride" explored the neighborhoods near Stonegate Equestrian Park

COMMISSION PRESENTATIONS

The nature of a trail system is that of crossing boundaries. Within the City's governmental structure this is also the case where the planning and implementation of trails crosses responsibilities of several different departments. In order to ensure coordination during the planning process and encourage a sense of ownership, various stages of the draft plan were presented to several City commissions. Each provided unique insight and contributions to the plan.

PRESERVE COMMISSION

The Draft Trails Plan was presented to the Preserve Commission on November 7, 2002 during the Implement Phase. The City's existing and proposed mountain and desert preserve system forms the most significant destination for trail users within Scottsdale. Connectivity between the City's preserve trails and the city trails is a fundamental priority of the plan.

PLANNING COMMISSION

The Consultant and staff team made three presentations to the Planning Commission on May 15, 2002, November 20, 2002, and December 11, 2002. The May presentation, conducted during the Understand Phase focused on the project's vision, goals and objectives. The Draft Trails Master Plan was presented at the November and December meetings, where issues of joint interest included street cross-section standards, neighborhood trails, rights-of-way (ROW) and easement abandonments, and relationships between trails and public facilities.

TRANSPORTATION COMMISSION

Of all the other services provided by the City, on and off-street transportation coordination clearly has the greatest potential impact on the trails system. The Consultant and staff team presented issues and solicited comments from the Transportation Commission three times during the process on June 5, August 14, and November 21, 2002. The primary purpose of the June 5th meeting and August 14th follow-up meeting, held jointly with the Parks & Recreation Commission during the Understand Phase, was to coordinate issues between the trails planning process and the streets master planning process. Relevant items from the Streets Master Plan included street cross-sections that include trails, off and on-street bicycle facilities and pedestrian facilities. Cross sectional standards are expected to vary by character area of the City. The Commissions also recognized the joint benefits of capital improvement project coordination, as funding is available in both departments that would have an impact on the trail system. Several citizens spoke on street and trail coordination issues particularly in the Desert Foothills area of the City. The November meeting, conducted during the Implement Phase included a presentation of the Draft Trails Plan map and discussion of several coordination issues including: cross-section standards; scenic corridors; street crossing safety improvements; planning coordination of trailheads, park & ride lots, and bicycle facilities; and project coordination for upcoming street improvement projects including Cactus Road, 96th Street and Scottsdale Road, all of which include trail improvements.

PARKS & RECREATION COMMISSION

The staff and Consultant team brought information forward to the Parks & Recreation Commission four times during the planning process: June 5, 2002, February 5 & 19, 2003 and finally March 5, 2003. The June 5th meeting was held jointly with the Transportation Commission and is discussed above. The February 5th meeting included a presentation of the recommended trails plan map, elements of the draft master plan document, and trail alignment alternatives in the Dobson Wash neighborhood. This neighborhood is located roughly along the 98th Street/Church Road alignments between Pinnacle Peak Road & the Deer Valley Road alignment. Discussion focused primarily on the Dobson Wash trail issues. The Parks & Recreation Commission recommended approval of the map portion and the text portion of the Master Plan on February 19, 2003 and the March 5, 2003 respectively, and forwarded their recommendation to the City Council.

CITY COUNCIL APPROVAL

The City Council discussed the Draft Trails Master Plan at a work-study session on February 24th. Discussion focussed mostly on trail alignments in the Dobson Wash neighborhood. The City Council approved the Scottsdale Trails Master Plan on _____, 2003.



The Draft Plan was presented to the Parks and Recreation Commission in February and March 2003

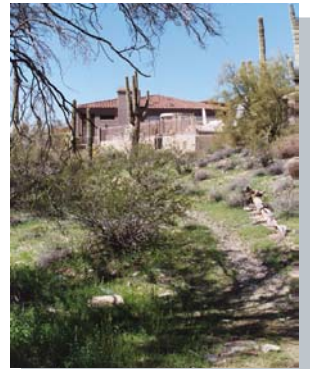
II. EXISTING CONDITIONS



A. TRAIL TRENDS

GREEN INFRASTRUCTURE

Communities of every size throughout the United States and the world are preparing plans and building trails because they believe trails improve their community and their citizen’s lives. Increasingly, trails are being seen as an integral part of a City’s infrastructure, sometimes referred to as a “green infrastructure”. This way of thinking places trails on par with a City’s transportation system and utility distribution; and as fundamental to the health and well being of the community as these two more recognized city-building components. A speaker at the 2002 National Trails Symposium held in Orlando, Florida, went so far as to say that trails = hope. He observed that when the atrocities of September 11 nearly paralyzed New York City and all other infrastructure failed, people walked! Trails are perhaps more important than most people recognize. The same speaker stated that many people define themselves by their recreation. It’s fair to say that many communities define themselves by their trails, greenways and open spaces.



The “Green Infrastructure” in McDowell Mountain Ranch

TRAIL RESEARCH

More research is being published that provides factual information about many of the common points of opposition to trails. These studies report how trails typically have no impact or improve property values. Other studies show the negligible impact trails have upon crime. Trails done with proper planning and design most typically help a community. Websites provided by the Rails to Trails Conservancy and American Trails provide links to many of these on-going studies.



Mountain bicyclists enjoy a trail at Stongate Equestrian Park

TRAILS/HEALTH LINK

There is strong scientific evidence that regular physical activity promotes health and reduces risk of premature death and many chronic diseases. The U.S. Surgeon General and the Center for Disease Control have recently recommended that adults obtain a daily minimum of 30 minutes of moderate intense physical activity and the Task Force on Community Preventative Services strongly recommends creating or enhancing access to trails and other community locations for physical activity. In fact, trends across the nation strongly support community action and leadership in providing trails and trails systems to the public.

TEA 3 FUNDING

National interest in the benefits of trails in providing transportation alternatives and promoting cleaner air in communities has increased the trend to fund community trails programs that link neighborhoods and destinations through public access to a community’s trails system. The US Department of Transportation has recently recommended reauthorization of the Transportation Equity Act for the 21st Century to Congress for 2003 (TEA 3) in an effort to continue the support of the trails programs across America. The Recreational Trails Program, which is only one phase of TEA 3, is slated to grant \$50 million in 2003 to the states for the enhancement of their trails systems.



Pinnacle Peak Park and trail are major Scottsdale landmarks



The Arizona Canal provides a trail link through the heart of Scottsdale

TRAIL PLANNING

Trail plans being prepared around the world are now incorporating some of these trends. They are moving beyond simply physical plans and are giving direction and guidance to future operations, maintenance and public relations. The most successful plans have a strong vision that speaks of the community's desires. Citizens are involved in the planning process, and are kept engaged as the trails are built and used. The plans recognize a community's varied users and differing ability levels. They are built upon the specific cultural and geographic characteristics of the community. Most importantly, the plans provide specific actions that will assist citizens and staff to build, maintain and promote a trail system that will become truly integral to the City's infrastructure and to a person's daily life.

B. STAFFING & FUNDING

STAFFING

The Parks/Trails Planning Office is located within the Parks, Recreation & Facilities Division of the Community Services Department. There are currently two full-time staff in this office, the Parks/Trails Planning Manager and the Trails Planner; and one part-time staff, the Parks/Trails Technician. Only the Trails Planner focuses exclusively on trails, which are defined by the City of Scottsdale as unpaved, non-motorized, and multi-use. The Trails Planner and the Parks/Trails Planning Technician report to the Parks/Trails Planning Manager.

VOLUNTEERISM/CITIZEN SUPPORT

Currently there is no formal trails volunteer program in the non-preserve portions of the City, and the Trails Planner coordinates trail volunteer projects on an as-requested basis. Several trail user groups and neighborhoods organizations have performed trail maintenance and sign installation under the direction of the Trails Planner. For example, during the planning stages for Pinnacle Peak Park, the Trails Planner coordinated volunteer trail building projects at the Park. Now that the park is open and operating, volunteers are coordinated by the Pinnacle Peak Park Manager. In addition, the City currently pays the Scottsdale Saddle Club a nominal fee for trails inspection that can later be addressed by the City or volunteers.

Historically, there has usually been a trail advocate appointed to the Parks & Recreation Commission. Commissioners are often a direct conduit to the City Council and Mayor on key trail issues. Previous and current commissioners actively participate in and provide support to trail planning and construction projects and National Trails Day events.

MAINTENANCE & OPERATIONS

The Parks and Trails Planning Office currently oversees a maintenance and operations budget of approximately \$42,000 annually. This fund typically goes toward such things as trail weed abatement, pruning, sign installation, general trail clean-up, fencing and vehicle barriers, and tread improvements. This maintenance budget was first established in 1997 and has continued at this level through the preparation of this plan. The fund covers both in-house work as well as private contractual work.

CAPITAL IMPROVEMENT PROGRAMS

COMMUNITY SERVICES DEPARTMENT

The Parks/Trails Planning Office has overseen the expenditure of approximately \$680,000 in trail capital improvement project funds since 1999. The majority of these funds went towards construction of trails and security fencing along the Pima Freeway, trail connections over the Central Arizona Project Canal between WestWorld and Horizon Park, fabrication and installation of trail signs, and to the trails master planning effort. In 2000, Scottsdale voters approved a \$2.5 million capital improvement program specifically for trail development and improvements. These funds will go towards detailed trail planning, construction, acquisition of ROW/easements, signage and other improvements. Chapter IV of this Master Plan, the Action Plan, provides prioritized project recommendations for the expenditure of this \$2.5 million as well as projects to be funded in the future by other means.

TRANSPORTATION DEPARTMENT

The Scottsdale Transportation Department has played a significant role in the implementation of the City's trails infrastructure. Trails have been built or improved in conjunction with a variety of street improvement projects. Trails have been constructed within rights-of-way along arterial streets and trails have been included within grade-separated crossings along major arterials usually associated with drainage improvements. Other transportation related improvements include trail-crossing signs, fence installation between trails and roadways, improved crosswalks, and the installation of pedestrian/equestrian/bicyclist activated crosswalk signals at certain intersections. The Transportation Department has also been the key liaison with the Arizona Department of Transportation for a trail crossing of the 101 Freeway (at Sweetwater) and the joint use of the freeway's maintenance roads for trails. Upcoming street projects with substantial trails components include the Cactus Road improvements between the Pima Freeway and Frank Lloyd Wright Blvd., 96th Street between Shea Blvd. and Larkspur, and Scottsdale Road between Frank Lloyd Wright Blvd. and Thompson Peak Parkway.

Drainage improvements, managed by the Transportation Department, also have a major impact on the City's trail system as many trails follow drainage corridors. No significant trail corridor has yet been developed as a result of City-sponsored major drainageway improvements. However, potential drainage basins in areas north of the 101 Freeway provide potential trail development opportunities along the basin's perimeter.

PRESERVATION DIVISION

Though the Preservation Division expends no funds on trails outside of the preserve, the McDowell Sonoran Preserve and expanded preserve areas in Scottsdale's northern third are the primary destination point for many of the City's trails. An extensive network of trails and trailheads are planned within and at its perimeter. Between 1995-2000 Scottsdale citizens voted five times to support the preservation of desert lands in the City. Sales tax collections through November 2002 totaled \$99.2 million of which \$24.7 million have been expended for land acquisition. As of the same date, \$232 million in bonds have been issued. The City now owns 10,822 acres. The Preservation Division's Capital Improvement Program has identified \$2.2 million for improvements at the Gateway, the Preserve's primary access point roughly at the northeast corner of Bell Road and Thompson Peak Parkway. These funds are identified through fiscal year 2005/6. An additional \$500,000 is identified for trailhead and connecting trail improvements in the Hidden Hills area on the southeast corner of the McDowell Mountains. The Lost Dog Wash access area on the south



Trail signs installed by the Transportation Department

side of the McDowell Mountains at 124th Street has been identified to receive \$1.5 million for trail and trailhead improvements. The Parks/Trails Planning Office coordinates closely with the Preservation Division in trail and trailhead planning and development to ensure a connected system of trails throughout the City.

Others

Trail planning and development along several corridors is dependent upon the management policies and funding sources of non-city agencies. The Central Arizona Project (CAP) canal, which cuts diagonally across Scottsdale, is managed jointly by the Bureau of Reclamation (BOR) and the Central Arizona Water Conservation District (CAWCD). At the time of this writing, a trail/path feasibility study is underway for the portion of the canal that runs through Maricopa County, including Scottsdale. The corridor has been identified on Scottsdale's trail plans since the 1980's, and the BOR and CAWCD have worked cooperatively with the City in addressing trail-related issues within (outside the security fence) or adjacent to the canal's right-of-way. This cooperation has resulted in appropriate signage and access control in needed locations. The BOR has funds available nationwide through a cost sharing program to provide recreational improvements on their facilities.

The Salt River Project is the primary managing agency for the Arizona Canal, which bisects the southern third of Scottsdale. This canal is home to the Sun Circle Trail, a 110-mile regional trail that exists through a multiple-use agreement between the Salt River Project, Maricopa County and local jurisdictions. Scottsdale has not yet been a beneficiary of unpaved trail improvements along the canal paid for by either the County or the Salt River Project, though other Valley communities have been successful in improving trail conditions along the Arizona Canal and other canals through interjurisdictional agreements.



The regional "Sun Circle Trail" follows SRP managed Arizona Canal

C. POLICIES AND PROCEDURES

MANAGEMENT FOCUS

Historically, the oversight of the General Plan for Trails has fallen within the Parks/Trails Planning Office. The General Plan, last updated in 1991, includes trails of citywide and regional significance. The focus of City staff was to apply resources only to those trails shown on the City's General Plan. The work of the Parks and Trails Planning Office focuses primarily on:

- ◆ Coordination with other City staff in stipulating development improvements from private development
- ◆ Inspection and coordination of private development trail construction
- ◆ Oversight of a trail maintenance and operations budget
- ◆ Oversight of the Trails Acquisition/Development Capital Improvement Program (CIP) account
- ◆ Design and installation of trail signs
- ◆ Project management for City sponsored (generally CIP funded) trail and trailhead improvements
- ◆ Trail inspections
- ◆ Coordination of National Trails Day events
- ◆ Writing and monitoring trail related grants
- ◆ Coordination with other City departments on trail issues relevant to transportation and land use planning
- ◆ Responding to citizen inquiries
- ◆ Volunteer oversight
- ◆ Production of trail maps
- ◆ Presentations to the various commissions and City Council on trail related issues

There are however, numerous existing trail, equestrian, and public access easements throughout the City that serve a primarily neighborhood purpose that were not previously included in the City's General Plan. This fact did not however, keep issues from arising on these existing easements. Neighborhoods rallied either for or against these types of trails throughout the City, causing a crisis of responsibility in the Parks/Trails Planning Office. As a result of citizen need, some small projects have been coordinated along non-General Plan trails, usually with citizen volunteers. The current planning process is aimed at eliminating this conflict by considering all potential and existing corridors throughout the City for possible inclusion in a multi-level citywide Trails Plan.

MAINTENANCE STANDARDS

The City of Scottsdale does not currently have a formal set of trail maintenance standards, and trail maintenance is performed primarily on an as-needed basis, although some trail corridors are on a regular weed-abatement schedule. Maintenance responsibilities typically fall either with the City or with individual Homeowners' Associations (HOAs). Maintenance done by HOAs is done per standards of the association, not the City.

Other maintenance issues are largely dependent upon the specific character and location of a trail. Typically, characteristics that determine differences in the maintenance approach are, 1) whether the trail is in a natural or built setting, 2) variation of slope, 3) proximity to homes, and 4) level and type of use.

TRAIL DESIGN AND POLICIES STANDARDS

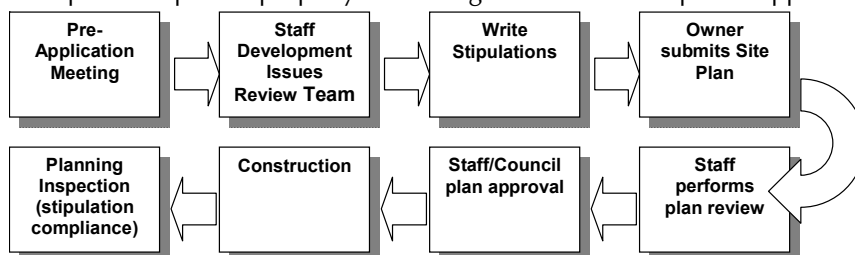
Non-paved trails in Scottsdale are developed according to standards and policies outlined in Section 7.3 of the City's Design Standards and Policies Manual. This section was last updated in October 1999. The document consists of a combination of written and graphic standards. Sections include goals and purpose, design objectives and considerations, identification of trail classifications, specifications per trail classification, trail construction techniques, trail signs and markers, and trail maintenance. The classifications cover all types of trail conditions in Scottsdale from heavily developed areas to mountainous areas. The current trail classifications are:

- ◆ Urban
- ◆ Rural
- ◆ Backcountry Primary
- ◆ Backcountry Secondary
- ◆ Interpretive
- ◆ Barrier Free

PLANNING PROCESS CONTEXT

PRIVATE DEVELOPMENT PLAN REVIEW PROCESS

The vast majority of trails within Scottsdale (outside of the Preserves) resulted from the development of private property. Rezoning and other development applications



Picnic amenities along a trail



A developer installed trail

have and continue to provide a crucial opportunity for the City to request trail easement dedications and trail improvements. This process is managed by City staff, from the initial review of proposed projects to the inspection of construction sites to ensure compliance with City Council approved plans. The following diagram briefly illustrates the planning and development process.

The City's Trails Planner is actively involved in this process by reviewing plans, attending meetings and talking with other City staff project coordinators and plan reviewers regarding a project's trail needs. The 1991 Trails Master Plan map has been the primary documentation tool available for city staff reviewers and decision makers. While the map identifies trail corridors, insufficient detail has created implementation problems. Issues with developers and property owners have resulted from a lack of definition on exact trail placement relative to the side of a street or a wash. Section 7.2 of the City's Design Standards and Policies Manual provides detailed trail design standards, however the range of trail standards presented there have not been linked to specific trail corridors on the map.

The most significant problems though, occur in the Construction and Planning Inspection phases of a project. In general, City inspectors lack the specific procedures, tools, documentation and training to sufficiently enforce the proper construction of trails required by a new development.

Lack of a coordinated focus on trails throughout the plan review process has allowed unfortunate conflicts during construction. For instance, though trails are often placed on a landscape plan, they are not consistently cross-referenced to drainage and grading plans. As a result, a trail is sometimes installed on a 4:1 side slope of a detention basin or impossibly shares a rip rap channel. Occasionally, in spite of detailed plans, a constructed trail simply disappears into a landscape area and effectively becomes unusable. Without diligent monitoring during construction, a trail can be compromised to the point of ineffectiveness in spite of inclusion in approved plans and written stipulations.

GENERAL PLANNING

The community visioning and goal setting exercises that have been conducted in Scottsdale were typically a precursor and/or component of an update of the general plan. In the past, general plans were only required to address land use and circulation. However, in 1998 new legislation was passed called "Growing Smarter" that required a more comprehensive approach to long-range planning for larger communities in Arizona. In 2000, additional legislation was passed called "Growing Smarter Plus." This act set forth time limits for completing general plan updates and established required elements for counties and municipalities in Arizona.

For cities and towns generally over 10,000 people, the following elements are required: land use, circulation, open space, growth areas, environmental planning, cost of development, and water resources. The open space element must include an inventory of open space areas, recreational resources and designations of access points to open space areas and resources; an analysis of forecasted needs, policies for managing and protecting open space areas and resources and implementation strategies to acquire additional open space areas and further establish recreational resources; and policies and implementation strategies designed to promote a regional system of integrated open space and recreational resources and a consideration of any existing regional open space plans.

The Open Space and Recreation Element of the Scottsdale General Plan was written and adopted in accordance with the provisions of “Growing Smarter/Plus.” It is important to emphasize the importance that the general plan goals and policies play in the original development, ongoing monitoring, and future refinement and modification of the Trails Master Plan. The Trails Master Plan goes into greater detail than is appropriate for a general plan, and is therefore a free standing document. Whenever any changes to the Trails Master Plan are being considered, the Scottsdale General Plan should always be referred to first in order to assure that consistency is maintained.

D. PHYSICAL CONDITIONS

REGIONAL CONTEXT

Scottsdale is situated adjacent to several other municipalities with trails, as well as large areas of open space, such as Maricopa County’s McDowell Mountain Regional Park to the east, and the Tonto National Forest to the north/northeast. Because of this regional connectivity, several regionally significant trails cross through the City of Scottsdale. Most of these trails run along canal and power line corridors. The Sun Circle Trail is a 110-mile regional trail that was established in the 1970s and operated by Maricopa County in partnership with the Salt River Project (SRP). It runs along the Arizona Canal and connects Phoenix to the west, and the Salt River Pima-Maricopa Indian Community to the east. The Central Arizona Project (CAP) canal, controlled the Bureau of Reclamation (BOR) runs through central Scottsdale and also acts as a regionally significant trail corridor.

In the early stages of the planning process, several meetings were held to coordinate between neighboring jurisdictions, which are in various stages of planning and implementation of their trail systems. Meetings with the City of Phoenix, Towns of Cave Creek/Carefree, Town of Fountain Hills, Salt River Pima-Maricopa Indian Community, Maricopa County, and the Tonto National Forest were held to identify issues and opportunities. The locations of potential or existing trail corridors were identified and mapped. The [Potential Trail Connections](#) map shows the locations where potential or existing City of Scottsdale trails connect with other trails outside the City.

SCOTTSDALE CONTEXT

CITYWIDE TRAIL STATUS

At the beginning of the planning process, an existing database of planned and existing trails was furnished by the City. This database was created in ArcView, a type of GIS (Geographic Information Systems) software. Existing and planned trails were mapped on the computer based on the 1991 General Plan alignments, and an extensive amount of information was previously collected. This information included legal status of trail, physical condition, maintenance responsibility, signs, location, length, classification, and trail type. See an example of the GIS trail database in Appendix B.

Additional data was collected, bringing the inventory of trails in the City of Scottsdale up-to-date. This inventory update was based on discussions with the Trails Coordinator, on-site inventory trips to field-check trail status, and research to check legal access issues. An accurate inventory is vital to identify gaps in the trail system and to identify projects and expenditures that will maximize the function of the overall system.



Powerline corridors provide connection opportunities



An example of a “substantially improved” trail



An example of a “Non GP existing easement” in the Mescal Park area

Upon completion of the trail inventory in ArcView, it was possible to identify and classify trails based upon their level of completion. In previous meetings and discussions, it was agreed that several requirements must be in place in order for a trail to be considered “existing.” These requirements are:

1. Legal Access: Permits legal public access to a trail, such as an easement, tract, or right-of-way.
2. Clearance: There must be a clear path, free of obstructions such as vegetation or other physical barriers.
3. Tread Definition: The trail must be physically identifiable on the ground.
4. Signage: The trail must have signs that identify it as a trail corridor.

Based on the GIS inventory, five categories were developed that describe the level of completion of any given trail segment. These categories run the continuum from **planned** to fully **existing**. The following table defines these five categories:

TRAIL CATEGORY	CHARACTERISTICS
Planned	<ul style="list-style-type: none"> ◆ shown on prior General Plan Trail Map ◆ no legal access ◆ no trail clearance ◆ no tread definition ◆ no signs
Unimproved	<ul style="list-style-type: none"> ◆ legal access ◆ no trail clearance ◆ no tread definition ◆ no signs
Partially Improved	<ul style="list-style-type: none"> ◆ legal access ◆ partial trail definition and/or clearance, needs work ◆ no signs or old signs
Substantially Improved	<ul style="list-style-type: none"> ◆ legal access ◆ trail definition and/or clearance ◆ no signs or old signs
Existing	<ul style="list-style-type: none"> ◆ legal access ◆ trail clearance ◆ improved trail or tread definition ◆ new signs

The existing trail plan (based on the 1991 General Plan) includes a total of 324 miles of trails. Of these trails, 100 miles are contained within the McDowell Sonoran Preserve study boundary, and the remaining 224 miles are located throughout the remainder of the City. An additional 33 miles of easements exist that are not identified on the General Plan (referred to as “Non-GP trails”). These easements are primarily located in neighborhoods. The following table lists the breakdown of trail mileage based on the 1991 General Plan.

**Total miles of planned trails in the City of Scottsdale
(Based on 1991 General Plan)**

Trail Type	Miles
City of Scottsdale General Plan	224
Preserve trails	100
Non GP existing easements	33
Total	357

Based on the GIS inventory, 168 miles of trails identified on the 1991 plan have public access, such as an easement, right-of-way, canal bank, or City-owned property. Of these trail corridors with public access, 121 miles are classified as existing or “soon-to-be-existing” (currently under development). In addition, of the 33 miles of existing Non-GP easements, 21 miles are actually existing, functional trails (See the following table).

Total miles of easements and existing trails (Based on trail inventory)

Trail Type	Miles
Public access in place (easement, etc.)	168
Trail is existing or under development	121
Trails on Non GP existing easements	21

Currently trails are located in several different settings. These **Trail Types** were also classified. They are: canal, desert, mountain, neighborhood, powerline corridor, roadside, and wash. The following table lists the breakdown of miles of trails based on trail type.

Trail Type (Based on trail inventory)

Trail Type	Miles
Canal	24
Desert	4
Mountain	13
Neighborhood	41
Powerline	3
Roadside	120
Wash	43

The majority of trails are located along roads, followed by neighborhood and wash trails. Desert, mountain, and powerline trails compose a minority of the trail mileage simply because the majority of these trails are located in the Preserve. Washes and canals present significant opportunities for long-range, continuous trail corridors, as do some roadside trails, such as those planned along scenic corridors.

Upon completion of the inventory, many issues with the current plan became apparent. The fragmented nature of the trail system and the difficulties in implementation can be, in part, attributed to the following factors:

- ◆ The 1991 General Plan trail map was printed in a way that made it very difficult to interpret the correct trail alignment. As a result, many trails were developed on the wrong side of the road. This has created numerous problems in implementing the original plan, and has contributed to fragmented and unusable corridors.
- ◆ Trail acquisition and development primarily occurs as part of the development process. Many trails are constructed in a “piecemeal” fashion as development occurs throughout the City.
- ◆ Many changes have occurred in the past, which have made planned trail alignments either impossible or obsolete.
- ◆ The original plan does not indicate a hierarchy, or varying levels of trails, which has made trail project prioritization very difficult.

The existing General Plan trails map is located in Appendix C.



The Pinnacle Peak Trail is a “Mountain Trail”



A typical trailhead and regulatory sign



A trail in the Desert Foothills Area



A natural surface trail in the Desert Foothills Area



An Equestrian Property in the East Cactus Corridor

SIGNAGE STATUS

Existing trails in the City of Scottsdale are signed based on the current sign standards outlined in Section 7.3 of the City’s Design Standards and Policies Manual. However, there are many miles of trails that currently have old and outdated signs of varying colors, styles, heights, etc. In 1998, new trail signage was designed with the goal of eventually signing all trails within the City consistently. There are several different types of signs, designed to communicate a variety of information.

Trailhead signs (12” x 18”) indicate the use of the trail, trail direction, and carry the Scottsdale Trails System logo. **Directional** signs (6” x 6”) are the least intrusive signs and serve to guide trail users to reinforce the direction of the trail, and are usually accompanied by, or interspersed with Scottsdale Trail System signs. These 6” x 6” signs carry the Scottsdale Trails System logo and their purpose is to identify the trail as a public access City trail. In addition, there are several **regulatory** signs, such as “No Dumping,” “No Motorized Vehicles,” and “Private Property” signs. Finally, since the trails are predominantly multi-use, **“Trail Courtesy”** signs (based on national standards) are also included in the signage program. These signs advise users as to the conventional system of right-of-way between different trail users: equestrians, hikers, and mountain bikers.

Currently, there are approximately 46 miles of existing trails in the City that have no signs, and 14 miles of existing trails that have old or outdated signs.

Signage Status (Based on trails inventory)

Description	Miles
Miles of trails with no signs	46
Miles of trails with old signs	14
Total miles of signs needed	60

NEIGHBORHOOD AND LOCALIZED TRAIL STATUS

In addition to looking at the citywide system of trails, the consultant team was asked to specifically evaluate four Scottsdale neighborhoods. These neighborhoods were chosen because together they represent the types of conditions and issues common to trails in neighborhood settings, or are very unique to that particular area. The Neighborhood Areas map indicates the boundaries of these four neighborhood areas. The following provides descriptions of these neighborhoods.

DESERT FOOTHILLS AREA

The area is a mix of large lot platted subdivisions and more typically, custom homes on a mix of lot sizes from an acre and larger. Native Sonoran Desert vegetation is the dominant visual character. Equestrian facilities and amenities are visible on many of the properties such as corrals, barns and pens. The area is bisected by three scenic corridors; Pima Road, Scottsdale Road and Dynamite Boulevard. Many residents have horses and live an “equestrian lifestyle.” Pinnacle Peak Park and the McDowell Sonoran Preserve provide major regional destinations for trail users. Trail users currently use many of the unpaved roads, some dedicated and developed trails, and a network of Government Land Office (GLO) easements that are a result of original Federal land platting that encouraged settlement in the area. The easements encircle many of the area’s lots.

EAST CACTUS CORRIDOR AREA

The area is a mix of primarily residential land uses. Built density varies from less than quarter acre lots in platted subdivisions to large lot custom homes and small horse ranches. Development and construction is active in the area. Cholla Park is located along the eastern edge of the neighborhood, but does not currently have trails or trail related amenities. To some, the Cactus Corridor is the epitome of “Old Scottsdale’s” equestrian lifestyle. The visual character is a mix of desert and Mediterranean landscaping, equestrian facilities and a mix of architectural styles, primarily southwestern in nature.

Cactus Road has historically been a major trail access point to the southwestern corner of the McDowell Mountains and the trails along the Central Arizona Project Canal, which is just east of Frank Lloyd Wright Boulevard. The Bent Tree Wash cuts diagonally from northeast to southwest providing an off-street trail corridor and separating two distinct development patterns from large lots to the north and smaller lots to the south. 96th Street provides a major north-south trail corridor. Trail use still occurs alongside roads with less traffic. A trail/drainage underpass exists at 100th Street/Shea.

EAST SHEA CORRIDOR AREA

The area is primarily residential, with a few other land uses located along Shea Boulevard. The area includes the large master planned community of Stonegate and other smaller platted subdivisions. Large lot custom homes and equestrian properties are located primarily east of 120th Street. Development and construction is still active in the area. The visual character is a combination of native desert, Mediterranean and drought-adapted landscaping, equestrian facilities and a mix of architectural styles. Stonegate Equestrian Park serves as a trail hub and provides small-scale neighborhood equestrian and other amenities at the southern end of 120th Street.

GLO easements are common in the area northeast of the CAP canal, and have provided opportunities for some trail dedications. The CAP canal and the 69KV power lines bisect the area at a diagonal running northwest to southeast. Both of these corridors provide trail opportunities. Other trails are scattered throughout the area that have been dedicated through the development process. Trail use occurs on formally dedicated trails as well as along low-traveled streets and along washes. Several washes have historically provided access to the southern end of the McDowell Mountains. Trail/drainage underpasses exist at just west of Frank Lloyd Wright/Shea, 124th Street/Shea, the 132nd St. Wash/Shea, and the 136th St. Wash/Shea. The 124th Street/Shea underpass requires exist and entry ramps to make it passable.

MESCAL PARK AREA

The area is a mix of land uses. Non-residential uses exist primarily along Scottsdale Road and Shea. Large lot single-family residential units are most common. The majority of these lots were platted with an interconnected system of equestrian trail easements between backyards, allowing for neighborhood riding. Many of these trails have recently been improved with a surfacing of decomposed granite and trail signs. There is a fairly consistent visual character to the area since most of the homes were built in a short span of time with a similar style on fairly consistent lot sizes. Vegetation is largely mature Mediterranean style. There are a significant number of home remodels occurring. Horses are still common, but less so in the neighborhood, along with their requisite outdoor facilities. Mescal Park, located at the northeast corner of 68th Street and Mescal Street, provides an equestrian hub for the neighborhood with an unlighted arena and a water trough.



The Stonegate Community in the East Shea Corridor provides many public trails



Mescal Park provides a significant destination



A newly built trail in the Pima Road Scenic Corridor



Trail users value the scenic quality along the trail



A "Great trail" along the Central Arizona Project Canal

This neighborhood is essentially cut off from regional trail destinations by adjacent development, though some trails attempt to provide these connections. An often-criticized trail exists along the south side of Cactus Road that leads towards Cactus Park at the northeast corner of Scottsdale Road and Cactus Road. There are no trail related uses or facilities internal to this park, however a trail connects across the southern edge of the park along Cactus Road. A trail exists along the east side of Scottsdale Road south of Cactus Road providing additional connections to the park. Also, a trail exists on the south side of Cactus Road from Scottsdale Road heading east where it connects to an existing neighborhood trail system.

E. ISSUES & NEEDS IDENTIFICATION

CITYWIDE

Many issues, needs and ideas were documented throughout the trail planning process through numerous public involvement activities, unsolicited emails and phone calls. Staff comments were gathered at two multi-department staff/consultant meetings and individual meetings with key staff. Using the City's GIS database, additional inventory information was documented and analyzed to identify the following issues and needs.

In early public and staff meetings, the consultant team asked a simple question that related directly to the already developed mission of creating a great trail system. Participants were asked, "What are the attributes of a great trail and a great trail system?" The following list summarizes the responses to this question.

ATTRIBUTES OF A GREAT TRAIL AND GREAT TRAIL SYSTEM

CONNECTIVITY: Citizens felt it important to have trails that connect neighborhoods and provide links to major trails and destinations such as the McDowell Sonoran Preserve, schools and employment areas. Loops of varying lengths were desired. Connectivity is also dependent upon the absence of obstructions. The multi-use aspect of the trail system was also emphasized.

DESIGN: Quality design was recognized as crucial to a great trail and system. This includes appropriately located and informative signage, provisions for a variety of difficulty levels, widths to accommodate more than one user, sufficient buffers from roads and adjacent properties and barrier/fences that restrict ATV use on trails. Trail surface material is critical to many types of users, with a preference for natural dirt as opposed to rocks. Trailheads with good access and natural surface parking, hitching posts and water stations were identified.

STREET/TRAIL SAFETY: One of the most significant issues identified was safety of trails adjacent to or crossing streets. Specific amenities were identified that would improve safety. These include non-skid cross walks, longer signal timing, and signal buttons located high enough to reach from a horse. Grade-separated crossings were identified, including both bridges and underpasses. In addition, greater setbacks from the roadway would improve safety as well as allow a more pleasant trail experience.

EXPERIENCE/AESTHETICS: There are many factors that affect the quality of the trail experience. Specific examples include the retention of natural flora and provisions for shade. Trails with views and opportunities for quiet spaces were highly valued. Also, a variety of character along a trail was also identified, recognizing that trails go through natural areas as well as within more developed areas.

AWARENESS & EDUCATION: There are other aspects to a great trail system that are not related to the quality of a trail on the ground. Recommendations were

made that address the availability of quality trail maps and other publicity for the City's trails. Other awareness programs might include wider promotion of the City's all terrain vehicle (ATV) use restriction on City's trails. Promotion of trail courtesy among all users was recognized as an important factor in creating a quality trail experience. Ongoing awareness and education of various trail issues could be fostered by the reestablishment of the Equestrian Safety Committee in coordination with the Police Department and a more coordinated collaboration with adjoining homeowners and neighborhood associations. One specific trail improvement program was the provision of and promotion of mutt mitts for dog droppings.

OPERATIONS & MAINTENANCE: Recognizing that a great trail system is dependent on long-term upkeep and care as well as proper infrastructure, specific items identified included the development of maintenance standards, cost-effective system operations, stewardship program for each trail area, and a more intensive use of adopt-a-trail programs. Illegal ATV use was also identified here as related to more aggressive programs to control their use on City trails.

POLICIES & PROCEDURES: Proper policies and procedures are essential to guiding the best trail operations, maintenance and development programs. These might include the inclusion of trail dedication requirements in the City's subdivision ordinances, improved city review and approval procedures for trail development, closer collaboration between various City departments that have roles in trail development, and enhanced design guidelines and standards for both trails and properties that border trails. The equestrian community spoke of encouraging equestrian amenities at destinations accessed by horseback.

NEIGHBORHOOD AND LOCALIZED TRAILS

As well as gathering information regarding trail issues citywide, special attention was given to the neighborhoods identified in section D. The process also highlighted other localized conditions. Two methods were employed to address issues specific to the Mescal Park area, Cactus/Shea Corridors and the Desert Foothills area: a statistically valid phone survey and focus groups with area residents.

PHONE SURVEY SUMMARY OF FINDINGS

The purpose of the brief statistically valid telephone survey was to gauge awareness of, and outlooks on, unpaved, multi-use, non-motorized trails among residents in four neighborhoods—Desert Foothills, Mescal Park, and the two-part Cactus/Shea Corridor. These areas were chosen because they had been the focus of other project research and outreach and represented a cross-section of issues related to neighborhood level trails. The survey contained 13 questions. See Appendix D for a copy of the survey and complete survey results.

Telephone interviews took place between May 30 and June 3, 2002 with residents 18 years of age or older who had lived in their current neighborhood for more than one year. This representative survey included 309 interviews. The survey has a margin of sampling error of plus or minus 5.7 percent.



Constructed barriers prohibit off road vehicles use in the Desert Foothills Area



This trail links directly to the equestrian facilities at Mescal Park



Trails border single family homes in the Stonegate Neighborhood

Covering a wide range of ages, nearly 60 percent of respondents described themselves as full-time residents of their neighborhoods, and more than half of these citizens had lived in their current areas for more than six years. In fact, one third of respondents had been residents of their areas for more than ten years.

SURVEY HIGHLIGHTS

- ◆ Awareness of unpaved, multi-use, non-motorized trails is high: Seventy-eight percent of respondents said they knew of such trails in their neighborhoods
- ◆ Trail use is notable as well: Nearly a third of trail users utilize a trail “more than once a week.”
- ◆ The quality of the trails is “very good” or “good” according to a significant majority of users: More than 80 percent of users said the trails were “very good” or “good.”
- ◆ Users value the trails in their areas: More than half of these respondents (57%) viewed trails as “very important” to them personally with just three percent admitting that the trails are “not very important” to them.
- ◆ Connecting neighborhood trails to more destinations would make many respondents even more likely to use them: Those who were aware of neighborhood trails were asked how more destinations and connections would affect their use of them. Sixty percent reported they would be more likely to use the trails if there were more destinations. However, nearly 40 percent said that expansion would make “no difference” in their use. These respondents also favored more trails throughout Scottsdale. As with more trails in their neighborhoods, over half (57%) of those surveyed said that expanding the trail system regionally would make them more likely to use the trails. However, again as with the local trails, more connections would make no difference to 40 percent of respondents.
- ◆ Residents tended to be more positive than negative about locating new trails next to homeowners’ property: Creating new trails might mean putting them close to residents’ property since that is where easements are, and land has become limited as Scottsdale has expanded. Because it would not be out of the ordinary for residents to say they value trails but not want them close to existing properties, this question was important for this planning effort. When asked how supportive they would be of expanding the trail system in their area, even if the trails were “on the edge of homeowners’ property in some places,” residents were more positive than negative. On a scale of 1 to 5 where 1 was “not at all supportive” of expanding the trail system and five was “very supportive,” the ratings averaged 3.43. Twice as many respondents put their support at “5” than at “1.”

Significant numbers of residents are aware of trails and report using them. In addition, a considerable number report that trails are important to them personally. As a result, trails appear to have solid support in these neighborhoods. However, the data also seem to point toward a division into two groups: 1) a core group where support is definite and strong and expansion would motivate even greater use; and 2) a second group where support and use are more casual. This second group may be less affected by trail expansion than the core group.

Trails seem to be a valuable amenity in these neighborhoods, according to the responses to this brief survey. Expansion appears to be favored, although those who said they were not supportive of further development represent a notable segment of residents. This survey reconfirms that outdoor recreation, in terms of trail use, is an integral part of the Arizona—and the Scottsdale—lifestyle.

FOCUS GROUP SUMMARY OF FINDINGS

This study had two purposes: 1) to determine if there is sufficient resident interest in neighborhood trails, and 2) to document the cost impacts to the City if it were to assume responsibility for planning, acquisition, development and maintenance of neighborhood trails.

Three focus groups were held in May 2002 with residents in the Desert Foothills, Mescal Park, and Cactus/Shea Corridors neighborhoods. The purpose of the meetings was to discuss issues, concerns, and desires for an unpaved multi-use, non-motorized neighborhood trail system. These meetings were not designed to be statistically valid but to solicit specific information from neighborhoods.

Interactive audience response technology was used to collect information from the focus group participants for the purpose of creating a rich discussion. The results portrayed in the data displays, while informative, should not be considered statistically representative of a larger group. Several perspectives were represented in all meetings: trail users and non-users, equestrians, bicyclists, hikers, joggers, and walkers. Specific discussion items and issues are first identified below by neighborhood. The following “Key Findings” are a summary of the interactive audience response technology results. Some of these findings are aggregated across all neighborhoods in some instances.

DESERT FOOTHILLS AREA ISSUES

- ◆ Requested abandonments of Government Land Office (GLO) easements that may restrict connectivity within a neighborhood trail network
- ◆ Some GLO's are blocked by property owners
- ◆ GLO's are becoming fragmented and disconnected
- ◆ Desire to maintain a desert character
- ◆ Lack of comprehensive and interconnected trail system feeding into the citywide and regional system
- ◆ Desire for privacy on private property
- ◆ Trail crossings of Dynamite, Pima and Scottsdale Roads
- ◆ Ability to use trails within neighborhood without crossing major streets
- ◆ Much trail use is currently on dirt roads, which is lost when pavement occurs
- ◆ County islands provide discontinuity of development and planning standards
- ◆ Trail connections into county and into the City of Phoenix
- ◆ Land ownership consolidation and conversion to large platted subdivisions, many gated, make trail connections difficult

CACTUS CORRIDOR ISSUES

- ◆ Traffic conflicts at Frank Lloyd Wright Boulevard and at 96th Street
- ◆ Cactus Road redesign to accommodate equestrians
- ◆ 96th Street redesign to accommodate equestrians
- ◆ Ability to use trails within neighborhood without crossing major streets
- ◆ Equestrian lifestyle compatibility with non-equestrian
- ◆ Maintenance of Bent Tree Wash and its safe use as a trail corridor
- ◆ Conditions of underpass at 100th Street/Bent Tree Wash/Shea Boulevard.
- ◆ Land ownership consolidation and conversion to large platted subdivisions, many gated, make trail connections difficult



Signs promote courtesy and respect



An imposing street crossing at Pima and Dynamite Blvd.



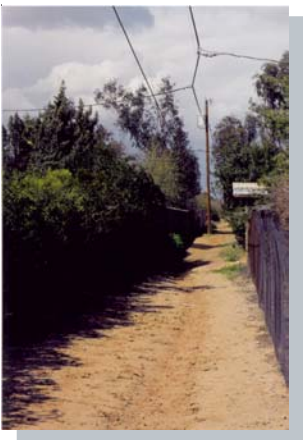
Trails along Cactus Road must cross Frank Lloyd Wright Blvd to get to the CAP Canal trail and the McDowell Mountains



Though the CAP trail provides great trail opportunities it is also a significant barrier between neighborhoods



Cactus Road provides a challenging trail location in a well established equestrian neighborhood



Maintenance of existing trails is a high citizen priority

SHEA CORRIDOR ISSUES

- ◆ Trail crossing conflicts at Shea Boulevard
- ◆ Traffic speeds on Mountain View and 124th Street where trail use is common
- ◆ Central Arizona Project (CAP) canal continued trail access and maintenance responsibilities
- ◆ CAP Trail provides barriers within neighborhood with few crossing points
- ◆ Requested abandonments of GLO easements that may restrict potential connected neighborhood trail network
- ◆ Maintaining the historic equestrian lifestyle
- ◆ Ability to use trails within neighborhood without crossing major streets
- ◆ Equestrian lifestyle compatibility with non-equestrian
- ◆ Continued local equestrian use of Stonegate Park
- ◆ Use of underpasses and completion of trails that lead to the McDowell Mountains
- ◆ Lack of maintenance of Los Diamantes wash trails
- ◆ Gap in trail south of Los Diamantes on Central Arizona Water Conservation District land
- ◆ ATV use in ditch along east side of CAP canal at Los Diamantes
- ◆ Land ownership consolidation and conversion to large platted subdivisions, many gated make trail connections difficult

MESCAL PARK AREA ISSUES

- ◆ Perceived safety problem for trail along south side of Cactus Road
- ◆ Though signs direct trail users at the intersection of Cactus and Scottsdale Roads, roadway widths, speed and traffic volume discourage trail use
- ◆ Scottsdale Road provides significant barrier between equestrian neighborhoods east and west of Scottsdale Road
- ◆ Removal of barriers along existing dedicated trail easements
- ◆ Maintaining the historic equestrian lifestyle
- ◆ Street crossing safety along Scottsdale Road, Cactus Road and Shea Boulevards
- ◆ Equestrian lifestyle compatibility with non-equestrian
- ◆ Isolation from regional trails and regional trail destinations

COMMON ISSUES

- ◆ *Safety:* Participants all expressed a concern for safety along streets, at street crossings and for personal safety along the trail
- ◆ *Opportunity Loss:* Continuing development of land as well as requested abandonments of rights-of-way and GLO easements limit the potential for future trail connectivity. Some residents fear that street improvements will eliminate trails of use if those corridors are not specifically included in the City's trail plan.
- ◆ *Trail Maintenance:* Existing trails are often not maintained. Maintenance standards are not developed. Responsibility for maintenance is not well documented and results in little to no maintenance of some trails. Without proper maintenance, dedicated trails often revert to simple landscaped areas, effectively eliminating them from the public's ability to use.
- ◆ *Enforcement:* Lack of enforcement of existing City ordinances, most specifically ATV's on City trails creates hardship for the trail user as well as those who live near dedicated trails. Enforcement also includes ensuring that trails are built and maintained per development stipulations.

KEY FINDINGS (SEE APPENDIX E FOR A COMPLETE SUMMARY)

- ◆ *Use:* Almost three-fourths of the participants use the trails. The transportation uses include traveling to work, going to school, or running errands. Most of those who use the trails either ride their horse or walk at least once a month.
- ◆ *Proximity to Trails:* Those Mescal Park and Cactus/Shea participants, who live adjacent to trails, are completely satisfied with their proximity. Most of the neighborhood users ride their horse or walk to the trail.
- ◆ *Property Value Impacts:* Many of the Mescal Park and Cactus/Shea neighbors believe a well-maintained trail system has a positive impact on property values. Desert Foothills neighbors are less certain. Most feel trail access would be a key factor in their purchasing a new or different home. Slightly more than one-third of the participants said they would pay a lot premium for a new home with trail access. Half of those neighbors with Government Land Office (GLO) easements would allow their property to be dedicated as a trail easement.
- ◆ *Importance of Trail Attributes and Current Levels of Satisfaction:* Mescal Park and Cactus/Shea neighbors feel safety is most important followed by adequate maintenance and lack of trail obstructions. Desert Foothills neighbors are quite satisfied with their most important attribute – retaining the natural environment. Trail maintenance is second in importance to all neighborhoods and their level of satisfaction is very low. Connections and crossings are very important to the Desert Foothills trail users, and they are very dissatisfied with the current conditions. Signage is least important to all three neighborhoods. Mescal Park and Cactus/Shea neighborhoods rate lifestyle, walker, horse, and bicycle friendliness, adjacency, buffers, and proximity as very important to their quality of life. Desert Foothills participants rate horse friendliness relatively high.
- ◆ *Willingness to Support Trail Enhancements:* Two-thirds of all participants would be willing to consider paying a nominal fee to enhance or maintain a network of trails in their neighborhoods. Amounts for those willing to pay range up to \$250. One-third of all participants are members of organized groups that use trails. Three-fourths would consider joining a new Scottsdale trails advocacy group.

The above attributes of a great trail and trail system and the issues related to more localized trails set the framework for the next level of analysis of the City's trails; opportunities and constraints.

F. OPPORTUNITIES & CONSTRAINTS

At every public involvement and outreach opportunity and at staff and consultant meetings throughout the process, the City's existing and potential trail system was evaluated for opportunities and constraints that would enhance the overall functionality of the system. Appendix F provides a complete listing of recorded opportunities and constraints. The following provides a summary of the typical topics and themes:

LINKAGES & DESTINATIONS

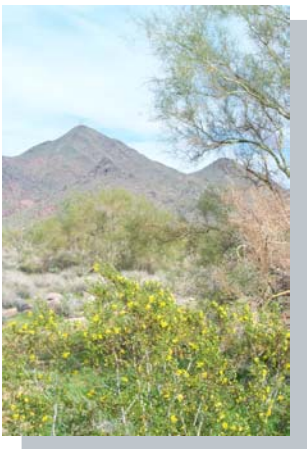
Respondents recognized linkage opportunities to the major destinations that are within or surround Scottsdale, as well as more localized linkages to neighborhood schools and parks. Regional destinations identified included the Tonto National Forest, the McDowell Sonoran Preserve, the CAP Canal, Sun Circle Trail/Arizona Canal, Phoenix' Reach 11 Recreation Area, and the Phoenix Mountains Preserve.



Desert Foothills area residents highly value their natural desert environment



Two-thirds of Focus Group participants are willing to pay a nominal



Scottsdale's scenic corridors were seen as an opportunity to provide long distance trails in a desert environment that may also provide non-vehicular transportation corridors. A trail along Dynamite Boulevard was recognized as a potential link east to the Arizona Trail, which runs north/south through the Tonto National Forest, connecting Utah with Mexico. Western destinations along a Dynamite Blvd. trail would include the Phoenix Sonoran Preserve and the Cave Buttes Recreation Area along Cave Creek Wash. Trails along the Scenic Corridors of Scottsdale and Pima Roads provide part of the corridors that could link the Tonto National Forest to the Rio Salado. These corridors intersect the CAP Canal, a corridor that may eventually link the Colorado River to Tucson while passing alongside the major equestrian and trailhead facilities located at Westworld.

Opportunities were seen in more localized areas such as in the yet unbuilt detention basin north of the Pima Freeway adjacent to the Scottsdale Water Campus. This site could become a major connection point along the diagonally cutting power line corridor. There may be opportunities to better link established equestrian neighborhoods to local or regional destinations such as from Paradise Valley Farms to the Indian Bend Wash; the Cactus Road corridor to Bent Tree Wash, the McDowell Sonoran Preserve and Cholla Park; neighborhoods near Stonegate Park to the southern end of the McDowell Sonoran Preserve and Desert Mountain High School; the Desert Foothills area to the McDowell Sonoran Preserve and the Scottsdale and Pima Road Scenic Corridors.

In the decades that a trail plan has been in place in Scottsdale, many corridors have been developed, some modified and others made extremely difficult to implement. Trail corridors, established with well-intended compromises during the development process, often compromise the effectiveness of the corridor. Trail corridors have often wrongly been combined with drainage solutions and landscaped areas, with specific trail user needs being ignored. Examples of this situation exist along the Sweetwater corridor between approximately 92nd and 94th Street; along the north side of Via Linda in the Ancala subdivision; along Alma School Road in Desert Highlands; and along Doubletree Ranch Road east of Scottsdale Road.

Other constraints to trail continuity exist due to barriers caused by private ownership or private development. Some examples include a potential trail alignment blocked by new construction along Pinnacle Vista east of the Hayden alignment and the power line corridor south of Via Linda and west of Frank Lloyd Wright Blvd. Other large-scale barriers to trails within Scottsdale include the Scottsdale Airpark, the 101/Pima Freeway and the Core North area proposed on the south side of the Grayhawk development. Natural physical barriers exist along corridors where proposed trail routes were not overlaid on topography maps. Severe slope barriers are present along existing trail easements in the Scottsdale Mountain development. Other physical conditions such as soil material may make some trail uses less desirable than others.

Other jurisdictional decisions affect the nature of Scottsdale's trails. Currently, the Salt River Pima-Maricopa Indian Community does not provide trails along the Arizona Canal or the CAP Canal. Fountain Hills is restricting equestrian use on their trails and do not intend to link to Scottsdale's trail planned along Via Linda. Phoenix does not show a trail along Dynamite Boulevard.

Some master planned community developments aggressively planned for and built their own integrated system of unpaved trails. Often, these trails link to the City's trail system. Though the intentions were good, this mix of private and public trails

has caused problems, both for the City and the homeowner associations of these developments because the distinction between public and private trails is invisible to the public. The Stonegate community has worked closely with the City to alleviate this problem, which resulted in the City installing private property signs at the points where private trails connect to public trails. A similar situation exists in the Terravita community that has not yet been addressed by the City.

TRAILHEADS

Existing and already proposed trailheads were seen as a means to gain access into the City's many natural resources. Many of these trailheads are at the edge of the McDowell Sonoran Preserve, and provide the interface between trails inside and outside the Preserve. Other trailheads are located in relative close proximity to the Preserve, but not along its edge, again providing access to the preserve and other City trails and destinations. The trailheads in DC Ranch, Westworld and McDowell Mountain Ranch are examples of this. Other trailheads in City parks provide opportunities to access more localized trail networks and local destinations like the Stonegate Equestrian Park. The trailhead at Pinnacle Peak Park provides direct access to the Pinnacle Peak Trail as well as to trails in all directions from the Peak. A proposed trailhead in Grayhawk Community Park would provide trail access opportunities along the power line corridor and west to Scottsdale Road.

The Sun Circle Trail along the Arizona Canal in the southern third of Scottsdale currently has no City designated trailheads. Trailheads exist in Phoenix to the west at Herberger Park, and to the south along the Cross-Cut Canal in Papago Park. Although the Sun Circle is considered a major regional trail, use in Scottsdale is most likely limited to those who live, work or visit in relatively close proximity to the trail as well as long distance users coming from elsewhere in the metropolitan region.

It is likely that some Sun Circle Trail users park in private parking lots in the downtown area. This situation is both an opportunity and a constraint. Space is currently very limited or simply unavailable to provide a new trailhead. But, opportunities exist for shared parking, or incorporation of trailhead facilities in new development along the Canal's edge.

SUPPORT/OPPOSITION

Scottsdale residents see trails as both friend and foe. Many residents participate in trail steward programs in the McDowell Sonoran Preserve. Several neighborhoods and neighborhood activists have organized to plan, promote and develop trails in their own neighborhoods and to ensure connections from their neighborhoods to the City's many destinations. The four neighborhoods that received in-depth analysis during this study have produced the vast majority of the City's neighborhood trail supporters.

The Master Plan public involvement process and prior discussions between staff and citizens have identified opposition to specific trail corridors in several neighborhoods. Most residents identify similar issues when elaborating upon their opposition; crime, vandalism, horse droppings, and a desire for privacy. This opposition has been expressed through petitions, letters and emails to staff, elected and appointed officials, and through comment sheets at public meetings. Sweetwater Ranch neighbors expressed their opposition to the continuation of a trail along 96th



The existing trailhead in McDowell Mountain Ranch



Hundreds of residents expressed their opinion during the planning process



A typical street crossing challenge

Street from Cactus Road to Frank Lloyd Wright Blvd. The Pinnacle Vistas neighborhood near 98th Street south of Pinnacle Peak Road is opposed to the continuation of a trail coming north out of DC Ranch and heading towards Pinnacle Peak Park. Residents in Desert Mountain have expressed their wish to not extend the trail system through their neighborhood.

Similar concerns were expressed for trails within and adjoining Pinnacle Peak Park. Upon completion of the trails there, problems have not materialized.

CROSSINGS/TRAFFIC CONFLICTS

In every public outreach activity conducted during the planning process, the safety of the trail user was stressed, particularly as the trail relates to roadways. Opportunities were identified throughout Scottsdale that would improve the interface between the trail user and traffic conditions. Additional or improved grade-separated crossings were identified along Pima Road and Shea Blvd., most of which are associated with drainage structures. Improvements include construction of underpass approach ramps and modifications to corrugated metal structures that are not equestrian-friendly. The linkage benefits of existing bridges were highlighted, such as the bridge over the Pima Freeway and Sweetwater and the bridge over the CAP Canal connecting Horizon Park and Westworld.

Some significant barriers to connectivity exist along major streets and freeways. The Pima Freeway creates a nearly solid trail barrier between the Salt River Pima-Maricopa Indian community and the bridge at Sweetwater. Thompson Peak Parkway and McDowell Mountain Ranch Road sever the historic Verde Canal corridor trail in the McDowell Mountain Ranch community. The Cactus Road/Scottsdale Road intersection is often identified as a major trail barrier due to the amount of traffic and the constricted space for waiting at corners. Shea Boulevard, particularly at the Pima Freeway also creates a very challenging trail experience.

In most situations, paved pathways and unpaved trails coexist in a mutually beneficial way. However, in the Terravita development along Scottsdale Road, the paved path and the unpaved trail criss-cross each other, creating an uncomfortable situation, particularly for the unpaved trail user.

G. THEMES

The previously discussed issues, opportunities, and constraints identified by the various means in the initial planning process were compiled, along with a list of issues identified by the consultant team and the Trails Planner. This list includes issues of connectivity, street crossing safety, budget, mapping, and aesthetics. Initially, these items fell within several distinct categories, such as *function, comfort and safety, identity, experience, and planning, management and operations*. These categories were further refined into the following five **themes**, which ultimately became the basis for the Trails Master Plan Goals.

FUNCTION

This theme addresses issues of functionality, at the broad citywide scale, as well as the small scale. It deals with issues such as continuity and connectivity, access, multi-modal linkages, signage, transportation and recreation, trail visibility, trail standard application, and trail hierarchy. The primary sub-categories are:

- ◆ Linkage and access
- ◆ Transportation and recreation integration
- ◆ Regionalism
- ◆ Trail signage

DISCOVERY & EXPERIENCE

This theme addresses the needs and experience of the trail users. It includes trail organization, accurate mapping, environmental impact of trails, aesthetics, adjacent land uses, regionally significant trails, multiple user needs, and neighborhood trail systems. The sub-categories are:

- ◆ Clarity
- ◆ Compatibility
- ◆ Quality experience
- ◆ Healthy lifestyle

SAFETY

The biggest safety concerns relate to either personal trail safety, to minimize the risks inherent in any physical activity, and to safety from vehicular conflict when a trail either crosses or runs parallel to a street. Thus, the two sub-categories are:

- ◆ Trail user (personal)
- ◆ Street/Trail Interface

IMPLEMENTATION

Since the most significant component of this trail plan is its implementation, there are several issues related to developing a fully functional, on-the-ground trail system. The sub-categories are:

- ◆ Development
- ◆ Improvement
- ◆ Partnerships
- ◆ Maintenance
- ◆ Process
- ◆ Enforcement

AWARENESS & EDUCATION

Awareness and education related issues deal with trail user education, promotion of the multiple benefits and uses of trails, and the promotion of volunteer programs and other partnerships. The sub-categories are:

- ◆ Promotion
- ◆ Safety Education
- ◆ User/Non-user Education
- ◆ Partnerships

H. SUITABILITY ANALYSIS

Upon identification of the issues, opportunities, and constraints, a trail corridor suitability analysis was performed. This analysis was carried out on every potential trail corridor in the City of Scottsdale. The purpose of the suitability analysis was simply to identify trail corridors that are the most and least suitable for trails. This became a critical step in the planning process because it bridged the issues/opportunities/constraints and the development of the final master plan. The suitability



Bus stops, bike lanes and trails integrate transportation modes



"Partnerships" a key implementation strategy



A sign helps to educate the user on rules, history and destinations



Adjacent land use relationships weigh in during suitability analysis

analysis is the step that most greatly influenced the outcome of the overall master plan. The overall suitability analysis process was taken in the following six steps:

1. Identify several attributes that define the most suitable trail corridor
2. Assign weights to attributes
3. Define corridors to be analyzed
4. Analyze each corridor using trail attributes and assign appropriate score
5. Analyze breakdown of numerical scores and divide into suitability levels
6. Map all corridors by suitability level

CRITERIA DEVELOPMENT

In order to determine suitability, a set of criteria had to be identified. A list was developed that was a compilation of public comments from the first two rounds of focus groups and the first open house. It was these ten characteristics, or criteria, that were used to perform a segment-by-segment analysis of every potential and existing trail corridor in Scottsdale. The ten criteria are defined as follows:

LOCAL LINK

A trail corridor that links to a local destination (i.e. neighborhood park, equestrian center, neighborhood school, local open space corridor, neighborhood commercial center) in a direct way.

REGIONAL LINK

A trail corridor that links to a regional destination (i.e. regional park or trail, regional open space, major equestrian center, place of commerce or employment, high schools, etc.) in a direct way, or is a regional trail itself.

LOOP LINK

A trail corridor that completes a portion of 1 or more loops.

MULTI-MODAL LINKAGE

A trail corridor that provides existing or potential link to a larger network of sidewalks, paved pathways and/or to transit stops and stations.

ADJACENT LAND USE RELATIONSHIP

A trail corridor that complements adjacent land use. For example, a trail corridor running through a natural desert setting, such as along a wash corridor.

EXPERIENCE

A trail corridor that is defined by positive features such as scenic vistas, proximity to historic or cultural sites and/or natural features.

USE/DEMAND

A trail corridor that is expected to have heavy use or demand.

NEGOTIABILITY/USABILITY

A trail corridor that flows easily along a logical course and has numerous access points.

SAFETY

A trail corridor that is free of hazards and fosters a sense of personal safety and security.

TRAIL/TRAFFIC RELATIONSHIP

A trail corridor with minimal existing or potential conflict along or crossing a roadway.

The intent was that each corridor would receive a score of 0, 1, or 2 for each of the ten criteria, based on how well it satisfied each criteria. For example, a trail corridor might receive a zero for “Safety” if it has numerous hazards, or a trail corridor might receive a score of 1 for “Adjacent Land Use Relationship” if it has a negligible impact on adjacent land use. For a detailed list of each criteria and scoring definitions, see Appendix G.

However, it was recognized that some trail attributes are more important than others and should be given a heavier weight when being scored. For example, many people feel that safety is much more important than multi-modal linkages. Because of this, the consultant team participated in an exercise to determine the relative importance of each trail attribute in relation to the others. This was done using a computer technology called Option Finder, which was used in several of the public meetings and focus groups.

The final result was that different criteria received different weights, and that the trail corridor scoring would vary based on how each attribute was weighted. For example, some criteria received a weighting factor of 1, some received a weighting factor of 1.5 (thus a score of 1 would become a 1.5, a score of 2 would become a 3), and some received a weighting factor of 2 (a score of 2 would become 4). The following table summarizes the relative weights and subsequent scoring ranges for each attribute.

Suitability Analysis Criteria Weighting

Attribute	Weight Factor	Total Point Range
Safety	2	0 - 4
Regional Link	1.5	0 - 3
Experience	1.5	0 - 3
Use/Demand	1.5	0 - 3
Negotiability/Usability	1.5	0 - 3
Trail/Traffic Relationship	1.5	0 - 3
Local Link	1	0 - 2
Loop Link	1	0 - 2
Multi-Modal Linkage	1	0 - 2
Adjacent Land Use Relationship	1	0 - 2



The best trails go where people want to go



Hikers enjoying the Jomax Road trail

CORRIDOR ANALYSIS

Based on this scoring method, each trail corridor in the City was given a score based on how well it satisfied each of the criteria. A total of 250 corridors were analyzed and scored. The highest possible score for any trail corridor was 27. From this data, the scores and their frequency were broken down into three levels: highest suitability, moderate suitability, and lowest suitability. The scoring breakdown is as follows:

Corridor Suitability Breakdown

Suitability Rating	Suitability Score Range
Highest suitability	8.0 - 16.5
Moderate suitability	17.0 - 19.5
Lowest suitability	20.0 - 26.0

The results of the analysis were input into the ArcView GIS mapping program, and overlaid onto the existing trails inventory. From this, a suitability map was developed that showed a range of corridor suitability (see [Suitability Analysis Map](#)). This map became an essential tool that guided decisions about where the best possible trail alignments were located and also helped identify where unnecessary and unsuitable trail alignments exist that would be best removed from the plan. In addition, the suitability map guided the development of a hierarchy of trails that can best suit the needs of trail users.

FINDINGS

There was a wide variation in suitability scores that ranged all across the City. In general, wash corridors, power line corridors, canals, and scenic corridors received the highest suitability scores, especially those with a more regional significance. Corridors that received lower scores included smaller trail segments that are limited in terms of connectivity, or are in conflict with heavy traffic areas. Overall, the least suitable trail corridors account for approximately 60 miles; moderately suitable trails account for 78 miles; and there are 156 miles of trail corridors that fall within the most suitable category.

MOST SUITABLE TRAILS

The corridor that received the highest score (26) was Cactus Road from 96th Street to Frank Lloyd Wright. Other examples of most suitable trail corridors are the Arizona and Crosscut canal trails, the CAP canal (in several places), Scottsdale Road from Bell Road northward, Pima Road from Union Hills northward, Dynamite Blvd., Reata Wash trail corridor from WestWorld to Pinnacle Peak Park, Beardsley Wash, the Quartz trail running through McDowell Mountain Ranch, the Taliesin trail, the Pinnacle Peak trail, and the Lost Dog Wash trail.

MODERATELY SUITABLE TRAILS

In general, moderately suitable trails are located along roadsides throughout Scottsdale or are more locally oriented in terms of connectivity. Trail corridors representing moderate suitability include 84th St. from Shea to Thunderbird, the Gainey Loop trail connecting Paradise Valley Farms to Shea, portions of Shea Blvd., Happy Valley from Pima to Alma School Parkway, and the trails along Lone Mountain and within the Whisper Rock development.

LEAST SUITABLE TRAILS

The two trail corridors that received the lowest score (8), were trails in the Stonegate neighborhood and in Scottsdale Mountain. In both cases, they are trail corridors that were previously on the General Plan, but have become impassable due to heavy vegetation and topographical constraints. In addition, potential trail use and/or demand were determined to be limited, and other alternative routes exist. Other low-scoring trail corridors are 96th Street north of Sweetwater, the south side of the CAP canal from Scottsdale Road to Pima, and Scottsdale Road from Cholla to Cactus.

Finally, the information from the suitability map was combined with other specific information gained from the public input and firsthand knowledge of the trails. Several steps of overlaying the suitability map on the existing trail maps and database resulted in the final trail system plan, which is discussed in detail in the following chapter.



Equestrians on one of Scottsdale's Secondary Trails

III. TRAIL SYSTEM PLAN



A. VISION

Based on many meetings and discussions on what will make the ideal trail system, the consultant team established the following vision:

This functional network of non-motorized, unpaved, multi-use trails will create journeys of discovery linking local and regional places while connecting to the greater transportation network.

These trails will serve both recreation and transportation needs providing a safe and enjoyable experience for all users. The trail network will be responsive to the public, promoting a healthful outdoor lifestyle resulting in more trail users and advocates.

This trail network will link people to place, enhancing Scottsdale's economy, culture and quality of life.

B. GOALS & OBJECTIVES

The goals and objectives were derived from the refinement of the five themes discussed in Chapter II. The issues contained within those themes directly relate to the majority of the plan goals. In addition, there is a distinct difference between goals relating to the creation of the Master Plan, and goals relating to implementation of the Master Plan.

Therefore, the following goals and objectives were considered vital to the planning process, and are outlined below. The implementation goals and objectives are outlined in Chapter IV. The goals and objectives outlined below are organized into the five themes; function, discovery & experience, safety, implementation, and awareness & education.

FUNCTION

Goal #1: Develop a continuous trail system

- Objectives:
- 1.1 Provide continuous routes, with minimal gaps
 - 1.2 Provide loops of various lengths
 - 1.3 Provide a trail system which provides numerous neighborhood connections as well as connections to trails of regional significance and regional destinations
 - 1.4 Connect to open space/ mountain trails in the Tonto National Forest, McDowell Sonoran Preserve, and the County
 - 1.5 Connect to adjacent city trails

Goal #2: Make trails functional as a transportation mode

- Objective:
- 2.1 Link trails to significant destinations such as parks, open space, commercial centers, and schools

- Goal #3: Integrate trails into an overall multi-modal system**
 Objective: 3.1 Provide improved pedestrian and bicycle routes to neighborhood schools and parks
 3.2 Provide linkages between trails and paved pathways, bike lanes, transit terminals, bus stops, and park & ride lots

- Goal #4: Create regionally significant trails**
 Objectives: 4.1 Create “Signature” Trails that provide the backbone of the system
 4.2 Make full use of regional corridors, such as the Arizona Canal, powerlines, roadways, scenic corridors, and open space preserves

DISCOVERY & EXPERIENCE

- Goal #5: Create an organized and easily understood trail system**
 Objectives: 5.1 Create a hierarchy of trail classifications similar to a street hierarchy
 5.2 Make trail alignments simple and logical

- Goal #6: Minimize the visual and environmental impact of trails and trail users**
 Objective: 6.1 Distinguish between citywide trails, trails of regional significance, and neighborhood trails
 6.1 Make use of already available or already disturbed land where possible for trail alignments

- Goal #7: Provide a quality trail experience for all users**
 Objectives: 7.1 Develop a variety of trail types
 7.2 Plan and develop safe trails

- Goal #8: Integrate trails into every day life**
 Objective: 8.1 Locate trails in such a way that they are readily accessible to potential users

SAFETY

- Goal #9: Make trail use safe**
 Objective: 9.1 Maximize visibility and physical access to trails from streets and other public lands

- Goal #10: Minimize vehicular conflicts**
 Objective: 10.1 Make all street crossings safer

IMPLEMENTATION

- Goal #11: Build new trails per the approved Trails Master Plan**
 Objective: 11.1 Develop prioritization plan and schedule for new trail projects

- Goal #12: Improve existing trails**
 Objective: 12.1 Develop a prioritization plan and schedule for improving existing trails

Goal #13: Encourage partnerships between the City and other entities

- Objectives:
- 13.1 Work closely with neighborhood homeowner associations
 - 13.2 Work closely with the business community

Goal #14: Provide appropriate maintenance

- Objective:
- 14.1 Identify maintenance responsibility for all existing trails
 - 14.2 Continue to budget for the maintenance of all trails

Goal #15: Enforce legal protections to trails

- Objective:
- 15.1 Secure trail easements through the development process based upon locations shown on the Trails Master Plan
 - 15.2 Work with Code Enforcement to address blocked trail easements

EDUCATION & AWARENESS

Goal #16: Promote awareness of trails and the trail system

- Objective:
- 16.1 Promote the benefits of trail usage such as economic, transportation, safety, connectivity, community image and health

C. PLAN ELEMENTS

This section outlines the four main components of the Trail System Plan; 1) Trail Classifications, 2) Trailheads, 3) Trail Crossings, and 4) Paved Linkages. The [Trail Network Map](#) details the locations of these elements.

TRAIL CLASSIFICATIONS

With nearly 300 miles of trails in the citywide trail system, it is necessary to organize them in a way that reflects the variety of functions that the trails serve, based on their use and location within the larger trail system. Just like the street system, with freeways, arterial and collector streets, the trail system, too, has been organized into a hierarchy ranging from major (those with a regional significance) to minor and localized. We have classified these trails into four categories; Primary/Signature, Secondary, Local, and Neighborhood trails. The following table outlines the number of miles of trail per trail classification.

Trail Type	Miles
Primary/Signature	73
Secondary	115
Local	42
Neighborhood	56
Total	286



The Arizona Canal is a Primary/Signature Trail



Trails leading into the McDowell Mountains are Secondary Trails



Local and Neighborhood Trails are throughout the Mescal Park area



Stonegate Equestrian Park is an example of a Minor Trailhead

Ultimately, the purpose for classifying the trails into different categories is twofold: First, to help organize the many miles of trails into a plan that is easy to interpret. Second, the trail classification is the basis for the revisions to the Trail Design Standards and Policies manual. For example, a regional trail in a scenic corridor will have a different design standard than one within a small neighborhood area. By organizing the Master Plan trails in this way, we are able to take a very complex system of trails and trail connections and define it in a way which will ultimately result in a logical, useful and understandable trail system.

PRIMARY/SIGNATURE TRAIL

Generally, the trails with a regional significance, such as a trail connecting to an adjacent jurisdiction, or into the Preserve or the Tonto National Forest, have been classified as Primary, or Signature, trails. These trails are planned along the scenic corridors of Scottsdale and Pima Roads and Dynamite Blvd. Others include those along the CAP canal, power line corridors and major wash corridors. This designation will give significance to one of the City's oldest regional trails, the Sun Circle Trail along the Arizona Canal. Primary/Signature designation illustrates the significance of the Arizona Crosscut Canal within the regionally promoted Papago Salado area in Scottsdale's southwestern corner. In general, primary/signature trails are anticipated to receive the greatest level of use of all the City's trails.

SECONDARY TRAIL

The Secondary trail classification has the most trail miles. At just over 100 miles, these trails feed into the larger Primary trail network and provide the connections between the most significant corridors and the more localized trails. Examples of Secondary trails include the Bent Tree Wash trail, Shea Blvd, the Lost Dog Wash and Taliesin Trails, the Hidden Hills Trail, the Pinnacle Peak Trail, and the trails through DC Ranch and the Reata and Beardsley washes. These secondary trails are to be built and maintained to a different standard than the Primary trails, with a narrower tread width than most Primary Trails, reflecting an anticipated lesser degree of use.

LOCAL TRAIL

The next step down in the hierarchy includes the Local trails. Their purpose is to connect to the Secondary trails, which in turn, feed into the Primary trails. Local trails are usually feeder trails that are not continuous on both ends, or are lesser-used alternatives to an already existing route.

NEIGHBORHOOD TRAIL

The neighborhood trail is very limited in range and serves a very localized area. In most cases, the neighborhood trails connect to local trails and the larger trail system. Many of these trails and/or trail easements already exist, but have never been part of an approved plan, and were historically never considered part of the city trail system. These trails are proposed for inclusion in the overall city trails plan, as all public input indicates that trail opportunities close to home are in high demand.

TRAILHEADS

There are 21 trailheads planned in the City of Scottsdale, nine of which are in the Preserve. They vary in size and amenities based on their place in the overall trail system. Five of these trailheads are designated as Major, and the remaining 16 are classified as Minor trailheads. All five Major trailheads are located at major entry points into the McDowell Sonoran Preserve. The [Trailheads Map](#) details trailhead

classifications and locations. Preserve trailheads are taken directly from the Preserve Access Areas Report.

MAJOR TRAILHEAD

A major trailhead (or community access area) contains more amenities than minor trailheads and its primary purpose is to provide opportunities for public use of and access to the Preserve for the entire community. The typical size of a major trailhead is 30-60 acres, with 200-300 parking spaces including horse trailers. Amenities can include parking (including horse trailer and bus parking), a transit stop where feasible, maps and signage, restrooms, picnic areas, ramadas, drinking fountains, telephones, interpretive and educational displays, and visitor information.

MINOR TRAILHEAD

A minor trailhead is similar in function to major trailheads but smaller in size. Minor trailheads will accommodate a variety of users but will be in locations where public demand is not anticipated to be as high as in areas where major trailheads are planned. The size and amenities in these areas will be dependent upon the character of the surrounding area and level of use. The size of a minor trailhead will be less than 30 acres, up to 100 parking spaces and limited horse trailer parking. Amenities can include maps and signage, and possibly restrooms, picnic areas, ramadas, drinking fountains, and telephones. Wherever possible, minor trailheads are planned in existing or planned community or neighborhood parks, such as Stonegate Park, Rio Montana Park, and DC Ranch Park. The following table describes each trailhead by name and/or location:



The northwest corner of Thompson Peak Parkway and Bell Road is the site of a major trailhead at the Preserve's "Gateway"

Trailheads

Map ID	Trailhead Name	Class	Existing or Planned	Horse parking	In City Park	In Preserve
1	Happy Valley / Scottsdale Road	Minor	Planned	X		X
2	Pima/Dynamite	Major	Planned	X		X
3	Alma School Rd. north of Dixileta	Minor	Planned	X		X
4	136 th St./Lone Mtn.	Major	Planned	X		X
5	128 th St./Dynamite	Minor	Planned	X		X
6	Troon North Park	Minor	Planned	X	X	
7	Pinnacle Peak Park	Minor	Existing	X	X	
8	128 th St. north of McDowell Mountains	Major	Planned	X		X
9	Grayhawk Community Park	Minor	Planned	X	X	
10	DC Ranch Park	Minor	Planned	X	X	
11	Gateway: Thompson Peak Pkwy./Bell Road	Major	Planned	X		X
12	WestWorld	Minor	Planned	X		
13	McDowell Mtn. Ranch	Minor	Existing		X	
14	124 th St./Cactus	Major	Planned	X		X
15	136 th St. Wash	Minor	Existing	X		
16	Rio Montana Park	Minor	Existing		X	
17	Via Linda/Hidden Hills	Minor	Planned	X		
18	145 th Street / Hidden Hills	Minor	Planned			X
19	Stonegate	Minor	Existing	X	X	
20	Nature Area	Minor	Existing		X	
21	Paiute Park	Minor	Existing		X	



Several drainage structures provide trail crossings under Shea Boulevard

TRAIL CROSSINGS

Any time a trail crosses a street there exists a potential safety hazard, especially with regard to equestrians. A major goal of the Trails Master Plan is to minimize conflicts between autos and trail users. To minimize these risks, several types of trail crossings are proposed: 1) equestrian crossings, 2) grade-separated crossings, and 3) interim equestrian crossings (see [Grade-Separated Crossings Map](#)). Currently, the majority of trail crossings already exist. Most of these crossings are grade-separated crossings that take place in drainage corridors. The following table outlines the existing vs. planned crossing by type:

Trail Crossings

Crossing Type	Existing	Planned	Total
Equestrian	0	22	22
Grade-Separated	25	13	38
Interim Equestrian	0	2	2

EQUESTRIAN CROSSINGS

The plan proposes several locations where there is a high incidence of equestrian traffic crossing major arterials. To increase safety of these intersections, specialized equestrian crossings are proposed at 22 intersections throughout the City. The crossings should consist of an alternative surfacing other than asphalt and a specialized user-activated signal control. The push-button control mechanism should be located a safe distance from the intersection, and be placed at a height so that it can be activated by a person without getting off a horse. Additional coordination is necessary with the Transportation and Traffic Engineering Departments to refine this conceptual design.

GRADE-SEPARATED CROSSINGS

In an effort to further decrease any potential conflict between street traffic and trail users, 38 grade-separated crossings are included in the plan. There are 25 locations where these crossings already exist which greatly increase safety. There are four main types of grade-separated crossings that will accommodate trails. They are 1) drainage structures, 2) pedestrian/equestrian/bicycle bridges, 3) pedestrian/equestrian/bicycle underpasses, and 4) vehicular bridges.

Drainage structures comprise the majority of crossing opportunities. There are currently 21 existing trail crossings along drainage corridors. The Master Plan proposes an additional eight, primarily in the far north reaches of the City. There are three existing pedestrian bridges, with no additional bridges planned. However, there are five pedestrian underpasses planned. Whenever possible, these grade-separated crossings are to be coordinated with Transportation Department capital improvements, similar to the 124th Street/Shea underpass.

Grade-Separated Crossings

Crossing Type	Existing	Planned	Total
Drainage Corridor	21	8	29
Pedestrian Bridge	3	0	3
Pedestrian Underpass	0	5	5
Vehicular Bridge	1	0	1

INTERIM EQUESTRIAN CROSSINGS

In instances where a grade-separated crossing is proposed but will be several years before it is to be built, it is proposed that an equestrian signal be installed in that location as an interim safety measure until the time at which an underpass or bridge is put in place. See the Master Plan map for locations of all specialized crossings.

PAVED LINKAGES

In addition, some areas were identified where constructing a new trail is not possible, yet the connection remains important. We have identified these connections (primarily the paved paths along the Indian Bend Wash and the Camelback Walk) on the Master Plan as “Paved Connections.” It is important to recognize these paths as links between the more isolated southern portions of the city with the areas in the central parts of the city that have much greater opportunities for trail activity.

D. TRAIL STANDARDS

The following standards are proposed for each trail classification. Trail standards serve as a guide to the development of the trail system and are discussed in more detail in Section 7.3 of the City’s Design Standards and Policies Manual. For example, a primary trail will be developed differently than a local or neighborhood trail. In addition, the classifications are further divided between trails within built space or natural space, which also influences the standard under which it is to be developed. The following table outlines the specific differences in trail standards for each trail classification.

PRIMARY/SIGNATURE TRAILS

Primary trails are to be developed to a greater extent than any other trail in the system. The standard width for primary trails is a minimum of 8’ (in the built environment) and a minimum of 4’ (in a natural environment), wide enough for two users to pass side-by-side. Signage along primary corridors is to be the most extensive, which may include named routes and/or distance markers. Signature trails are primary trails that are high profile enough to be named. Primary trails will have the priority for including amenities, such as shade structures, hitching posts, and/or water fountains. In addition, development of trails along primary corridors will be placed at a higher priority than other trails in the system.

SECONDARY TRAILS

Secondary trails comprise the majority of trail mileage in the system, with approximately 115 miles. They are the primary connecting corridors between the local and neighborhood trails and the more regional primary trails. The minimum tread width for secondary trails is 4’. Signage along secondary trail corridors will consist of trailhead signs, directional signs, trail courtesy signs, and regulatory signs where necessary.

LOCAL AND NEIGHBORHOOD TRAILS

Local and neighborhood trails share the same standard. They are the narrowest and the least developed trails in the system and are geared more towards smaller-scale local use. The minimum tread width in the built area trails is to be 4’, while in the natural areas, the tread width may be as narrow as 2’. Signage is to consist of directional signs, trail courtesy signs, and regulatory signs where necessary.

BUILT VS. NATURAL ENVIRONMENT TRAILS

Each of the trail classifications is divided into built and natural environments. The standards for each will vary based on their surroundings. Built environment trails



The Camelback Walk is the most significant “Paved Linkage”



A “Built Environment” Trail



A “Natural Environment” Trail

are located along roadsides, power line corridors, canal banks, and drainage corridors, and are to be constructed with decomposed granite trail surfacing. Natural environment trails are located in washes and natural undisturbed open space (such as NAOS areas), and consist of the native surface material. Trail width in natural environment trails will be either the same as built environment trails or narrower, depending on the site conditions. Typically, variations in tread width will be determined by the amount and density of surrounding vegetation and the width of the overall easement

Trail Classification Standards

TRAIL CLASS	MINIMUM TREAD WIDTH	SURFACE TYPE	SIGNAGE	AMENITIES
PRIMARY TRAILS				
Built Environment Canal banks Power line corridors Scenic Corridors Standard Corridors Drainage corridors Built open space	8'	Decomposed Granite	Trailhead Directional Regulatory Courtesy Distance Signature Routes	X
Natural Environment Washes Natural open space/NAOS	4' - 8'	Native Surface	Trailhead Directional Regulatory Courtesy Distance Signature Routes	X
<i>SECONDARY TRAILS</i>				
Built Environment Roadside Non-street easements Drainage corridors Built open space	4'	Decomposed Granite	Trailhead Directional Regulatory Courtesy	
Natural Environment Washes Natural open space/NAOS	4'	Native Surface	Trailhead Directional Regulatory Courtesy	
<i>LOCAL AND NEIGHBORHOOD TRAILS</i>				
Built Environment Roadside Alleyways/non-street easements Drainage corridors Built open space	4'	Decomposed Granite	Directional Regulatory Courtesy	
Natural Environment Washes Natural open space/NAOS Roadside with adjacent natural environment	2' - 4'	Native Surface	Directional Regulatory Courtesy	

IV. ACTION PLAN



A. IMPLEMENTATION GOALS & OBJECTIVES

The implementation goals and objectives are aimed specifically at providing a means to implement the various components of the plan over time, and address the following issues: transportation and recreation integration, signage, clarity, compatibility, quality experience, trail users, street/trail interface, trail development and improvements, partnerships, maintenance, process, enforcement, promotion, and education.

- Goal #1: Integrate trails into an overall multi-modal system.**
 Objectives: 1.1 Integrate trails with bus stops, park & ride lots and other transportation facilities
 1.2 Provide smooth transitions from unpaved trails to sidewalks and paved pathways
- Goal #2: Sign all trails**
 Objective: 2.1 Implement standard signage across entire trail system
- Goal #3: Create an organized and easily understood trail system.**
 Objective: 3.1 Make all trail destinations and routes clearly known
- Goal #4: Minimize visual and environmental impact of trails and trail users**
 Objectives: 4.1 Minimize inappropriate/illegal use of trails
 4.2 Distinguish between citywide trails, trails of regional significance and neighborhood trails
 4.3 Develop appropriate neighborhood trail character complemented by specific trail design techniques, signage and interpretive opportunities
 4.4 Develop wider easement standards in areas of significant natural desert vegetation
 4.5 Include appropriate guidelines for buffering adjacent properties in the Trail Design Standards and Policies Manual
- Goal #5: Provide a quality trail experience for all users**
 Objectives: 5.1 Integrate trail construction materials and techniques that respect various user needs, are functionally and aesthetically compatible with the area's character
 5.2 Provide opportunities for interpretation
 5.3 Keep trails well maintained
 5.4 Plan and develop safe trails
 5.5 Provide buffers between streets and trails, and between adjacent residences and trails
- Goal #6: Make trail use safe**
 Objectives: 6.1 Build trails to a safe standard
 6.2 Maximize visibility and physical access to trails from streets and other public lands
 6.3 Provide a trail surface material that is firm under foot to minimize foot/ankle injuries
 6.4 Encourage a "share-the-trail" ethic among trail users

- Goal #7: Minimize vehicular conflicts**
Objective: 7.1 Develop process for working with Transportation Department on trail safety issues
7.2 Make all trail/street crossings safer
- Goal #8: Build new trails per the approved Trails Plan**
Objectives: 8.1 Secure access where none currently exists
8.2 Improve the Development Plan Review Process
8.3 Improve the inspection process for all trails including those built by private developers
8.4 Coordinate with Transportation Department on future capital improvement projects
8.5 Build trails to a consistent set of standards based upon the Trail Design Standards and Policies Manual
- Goal #9: Improve existing trails**
Objective: 9.1 Construct and improve trails to a consistent set of standards based upon the Trail Design Standards and Policies Manual
- Goal #10: Pursue strategic partnerships**
Objectives: 10.1 Work closely with neighborhood homeowner Associations
10.2 Work closely with the business community
10.3 Identify and apply for supplemental grant funding
10.4 Develop community support by organizing adopt-a-trail and trailwatch programs
10.5 Promote partnerships with user groups and other governmental agencies
- Goal #11: Provide appropriate maintenance**
Objectives: 11.1 Identify maintenance responsibilities of all public trails in Scottsdale
11.2 Develop trail maintenance standards based upon the classification of a trail
11.3 Develop a trail maintenance schedule
11.4 Identify the staff resources required to oversee the ongoing maintenance and management of the trails system
11.5 Develop process for trail monitoring and inspection
11.6 Enforce trail maintenance when it is the responsibility of private owners such as a Homeowner's Association
- Goal #12: Identify, improve, document and publicize the process for planning, developing and maintaining the trail system.**
Objective: 12.1 Work with appropriate City Departments to ensure trail system is properly identified, evaluated and acted upon during plan review and construction inspection process of private development & City managed development
- Goal #13: Enforce legal protections to trails**
Objectives: 13.1 Identify, improve, document, publicize, and enforce trail related codes, ordinances, easement limitations and allowances
13.2 Establish and document a chain of authority and actions for responding to off-road vehicle use violations on trails

- 13.3 Provide standard easement dedication language
- 13.4 Review and refine trail design standards to ensure ability to limit off-road vehicle use on designated trails through physical barriers

Goal #14: Promote awareness of trails and the trail system

- Objectives:
- 14.1 Promote public awareness of the multiple uses of trails
 - 14.2 Promote the benefits of trail usage such as economic, transportation, safety, connectivity, community image and health

Goal #15: Create safety education programs

- Objective:
- 15.1 Coordinate with existing public safety education programs

Goal #16: Promote respect, understanding and proper trail etiquette between trail users and non-users

- Objectives:
- 16.1 Promote awareness of specific trail user and non-user issues
 - 16.2 Publicize penalties and fines for non-compliance with trail related codes, ordinances, and easements
 - 16.3 Include Share-the-Trail logo on signage and trail related maps/brochures

B. RECOMMENDATIONS

In order to provide a simplified blueprint for the expenditure of existing and future capital funds, the expenditure of operational funds, and the implementation of assistive policies, the plan recommendations fall into three broad categories: 1) Acquisition and Development, 2) Maintenance, and 3) Policies and Procedures. Beginning with the Maintenance Section, the following specific actions and timelines are offered.

ACQUISITION AND DEVELOPMENT

CAPITAL IMPROVEMENT PROJECT RECOMMENDATIONS

The action plan recognizes that trails will continue to be built in Scottsdale through a variety of means. This section examines the City departments and other outside jurisdictions that have a history of implementing aspects of the City’s trail systems.

COMMUNITY SERVICES DEPARTMENT

The voter approved 2000 Bond included \$2.5 million for trail acquisition and development. While trails will continue to be developed through the private development process, this fund provides the greatest opportunity to close the gaps, make safety improvements or simply to build the City’s needed trails.

This section provides recommendations on how to spend the \$2.5 million capital improvement dollars. While this list provides guidance for the expenditure of these funds, flexibility must be permitted to allow for other variables, such as budget constraints or opportunities that may arise.



A bridge over the Central Arizona Project Canal provides a major trail connection.



The McDowell Mountains are the City's premier trail destination.

PROJECT PRIORITIZATION METHODOLOGY

This process was developed in order to objectively evaluate and prioritize a list of potential trail projects. Detailed cost estimates were prepared for the twenty-five highest scoring projects. This “Top Twenty Five” project list provides direction on how the \$2.5 million capital improvement budget could be spent.

The list of projects was developed from input gathered at public and staff meetings as well as on-site reconnaissance. Likewise, the specific criteria used to evaluate each project were derived from public, staff and consultant input. The criteria are similar to those used in the Trail Corridor Suitability Analysis, but with greater emphasis placed on implementation issues such as completion of an unfinished project or correcting a safety problem. As was used elsewhere in the planning process, citizens used the “Option Finder” technology to perform a paired analysis of each of the criteria to determine their priority in choosing a specific trail project. The following list first identifies the resulting prioritized project criteria, and then describes the highest scoring or “best case scenario” attribute:

Safety: Project corrects a problem on an existing trail.

Completion: Completes an existing unfinished project along a Primary/Signature Trail corridor.

Connection: Project provides a critical connection opportunity (only route available).

Suitability: Project is along a corridor of highest trail suitability.

Gap: Project completes a gap providing a significant usable and continuous trail corridor.

Use: Project is along a corridor with heavy existing or potential use.

Destination: Project greatly improves access to a neighborhood, community or regional destination.

Signature: Project enhances a Signature (Primary) Trail.

Most Miles: Project completes greater than 4 miles of trails for the money available.

Criteria were developed so that it was possible to assign projects a score of 0, 1, or 2. For example, a project would receive an initial score of 2 for the “Signature” criteria if the project enhanced a Signature Trail, and it would receive a zero score for “Safety” if the project did not correct a safety problem on an existing trail. See Appendix G for a detailed list of each criteria and scoring definitions.

Similar to the process used for evaluating specific trail corridor suitability, some trail project criteria are more important than others and should be given a heavier weight during scoring. Again, the project criteria priorities that resulted from public input determined the weighting priorities. Weighting factors were 1, 1.5 and 2.

The criteria with the public’s highest degree of importance scored approximately twice as much as the lowest scoring criteria. So, during the project evaluation process, the criteria with an initial score of 1 and a weighting factor of 1.5 would receive a final score of 1.5, and those with an initial score of 2 and a weighting factor of 2 would receive a final score of 4. The following table summarized the relative weights and subsequent scoring ranges for each criteria.

Project Evaluation Criteria Weighting

Criteria	Weight Factor	Total Point Range
Safety	2	0 - 4
Completion	2	0 - 4
Connection	1.5	0 - 3
Suitability	1.5	0 - 3
Fragment	1.5	0 - 3
Use	1	0 - 2
Destination	1	0 - 2
Signature	1	0 - 2
Most Miles	1	0 - 2

PROJECT LISTS

Each project was then scored by evaluating each of the weighted criteria, and an overall score was determined. The projects with the highest priority for implementation had the highest overall score. The following table presents the “top twenty five” projects. See Appendix H for the detailed project list and scores.

“Top Twenty Five” Project List

Project Rank	Project Description	Total Score
1	Construct approaches along north and south sides of Shea, connecting to underpass at Shea & 124th St.	22
2	Construct approaches to and complete underpass at Deer Valley & Pima	21
3	Complete Stonegate Loop: construct trail connection at 116 th St., north of Mtn. View, Improve existing trail continuing down east side of 116 th St. to Mtn. View and along north side of Mtn. View to 120 th St.	19
4	Construct model Scenic Corridor trail along east side of Pima from Deer Valley to Jomax	18
5	Improve corrugated underpass @ Desert Cove & 136th St: resurface bottom of culvert and stabilize downstream edge of culvert.	17
6	Construct trail on the north side of Jomax between Miller and Hayden	17
7	Construct trail along both sides of Thompson Peak Parkway, connecting Verde Canal Trail to underpass to the south	16
8	Construct and sign trail along west side of Alma School between Happy Valley and Jomax	15.5
9	Construct trail in the ROW on north side of Mtn. View from 120th to 124th St., connecting to the Central Arizona Project Canal	15.5
10	Equestrian Intersection retrofit projects throughout City (23 intersections, 61 button posts)	14.5
11	Complete loop trail around Gainey Ranch. Build trail along north side of Doubletree from Scottsdale Rd. to Gainey Suites Drive	14.5
12	Complete trail on west side of 90th St. from Raintree to CAP	14.5
13	Trail improvements (fencing, gates, and signs) along ADOT maintenance road on east side of Pima Freeway, Sweetwater to Cactus	14
14	Complete & Sign Pinnacle Peak Loop Trail: construct and improve trails on Dynamite, west of Alma School, and along west side of Alma School south of Dynamite to trail at south end of Four Seasons Hotel.	13.5
15	Construct trail through Reata Wash from Union Hills to Deer Valley alignment	13
16	Construct trail in between Deer Valley alignment and Pinnacle Peak Rd. west of the McDowell Sonoran Preserve	13
17	Acquire easement, build, and sign new trail connecting the CAP northeast to existing Lost Dog Wash trail at Via Linda	13
18	Trail improvements on the north side of Mtn. View from 112th St. west approx. 700'	13
19	Construct trail along powerline corridor connecting Grayhawk Community Park to Pima basin park	12.5

20	Replace split rail fence along Cactus west of Scottsdale Rd. plus install equestrian safety measures at Cactus and Scottsdale Rd.	12.5
21	Construct new trail in WestWorld from Pima to Thompson Peak Parkway, along north side of CAP	12
22	Construct trail along west side of 84th St. from Cactus to Thunderbird	11.5
23	Construct new trail on south side of Dynamite between Alma School Rd. and 118th St.	11.5
24	Sign and improve trails along Thunderbird between Miller and 84th St.	10.5
25	Trail improvements/definition and signs along south side of Mtn. View in Los Diamantes, east of canal to ramada	10.5

The following table identifies the priority order of the other eighteen projects that were evaluated.

Remaining Project List

Project Rank	Project Description	Total Score
26	Trail work/clearance in 136th St. wash in Scottsdale Mountain north of Via Linda	10
27	Non-skid surface added on canal bridge at Mtn. View and 124th Street	10
28	Complete Reata Wash trail from Pinnacle Peak to Happy Valley	10
29	Build and sign new trail on south side of Dynamite from 64th St. west to city boundary: acquire easement or build trail in ROW	10
30	Construct local trails in Cactus neighborhood (98th St. from Cactus to Cholla, Cholla from 98th St to 106th; 106th St. from Cholla to Cactus)	10
31	Minor trail work/new signs along Bent Tree Wash	10
32	Improve trail on Hayden north of Westland Drive to wash trail. Needs moderate tread improvements and new signs.	10
33	Powerline corridor trail between Jomax and Pinnacle Vista at western City boundary line	9.5
34	Improve trail on northside of Cactus from Scottsdale Rd. to Hayden	9
35	Construct trail and install signs at Northsight Park detention basin, east of 84th St.	9
36	Construct and sign trail on existing easement on south side of Lone Mtn from Hayden east to Pima, then south to Peak View	9
37	Trail improvements and new signage along east side of Frank Lloyd Wright from Via Linda to canal bridge	8.5
38	New signs at McDowell Mountain Ranch and 104th St. Trailhead	8
39	Build trail in ROW on Cholla from 68th St. to Scottsdale Rd.	7.5
40	Improve trail on south side Shea from Hayden to Pima (signs and tread definition)	7
41	Complete Terravita trail loop	4.5



Project 1



Project 2



Project 21



Project 10



Project 11

The consultant and staff team then evaluated and grouped the above projects into biddable construction projects that would total the \$2.5 million dollars currently available for trail acquisition and development. This list became the **Phase One Project List**. The Trail Project Locations map shows the general location of each of the Phase One projects listed below. The project implementation order does not exactly follow the project priority ranking because of the efficiencies of scale that may results from grouping similar projects.

Signing trails was not evaluated by the criteria in the same manner as other site-specific projects. Signing otherwise existing trails was seen as critical for several reasons and therefore warranted its priority placement in Phase One:

- ◆ Signs give visibility and identity to the City's trail system
- ◆ Signs alert adjacent neighbors that the trail is open for public use
- ◆ Signs tell the public they are on an officially designated public trail
- ◆ Signs provide directional guidance and information to the trail user
- ◆ Signs direct trail users away from private property
- ◆ Signs promote proper trail etiquette
- ◆ Signs tell of illegal use and other City ordinances (ATV's, etc.)
- ◆ Signs allow maintenance crews to see where maintenance responsibilities begin and end

Phase One Project List

Project Rank	Bid Package Number	Project Description	Total Score	Project Length/Notes	Estimated Project Cost
1	1	Sign 46 Miles of Trails	10.5	227,040' throughout City	\$ 85,560.72
2		Construct approaches along north and south sides of Shea, connecting to underpass at Shea & 124th St.	22	3572	\$ 235,874.50
3	2	Construct approaches to and complete underpass at Deer Valley & Pima.	21	Calculate minimum distance to reach grade	\$ 604,454.40
6		Improve corrugated underpass @ Desert Cove & 136th St: resurface bottom of culvert and stabilize downstream edge of culvert.	17		\$ 37,632.00
4	3	Complete Stonegate Loop: Construct trail connection at 116th St., north of Mountain View. Improve existing trail continuing down east side of 110th to Mountain View, and along north side of Mountain View to 120th St.	19	2600'	\$ 65,776.00
5	4	Construct model Scenic Corridor trail along east side of Pima from Deer Valley to Jomax	18	15,674	\$ 314,752.00
21	5	Replacing the split rail fence and installing equestrian safety measures near the Cactus Road and Scottsdale Road intersection	12.5	5162'	\$ 608,313.60
9		Construct and sign trail along westside of Alma School between Happy Valley and Jomax	15.5	5061'	\$ 75,232.00
10	6	Construct trail in the ROW on north side of Mountain View from 120th to 124th St., connecting to the Central Arizona Project Canal (CAP)	15.5	2992' Trail Construction. check on easement acquisition	\$ 22,912.00
13		Complete trail on west side of 90th St. from Raintree to CAP	14.5	4084'	\$ 68,184.00
11	7	Equestrian Intersection retrofit projects throughout City	14.5	Approx. 8 intersections of 2 bush buttons each	\$ 206,080.00
Phase One TOTAL					\$ 2,493,081.82

Project #21 moved into the Phase One project list ahead of several other projects in the “Top Twenty Five” list. This project involves replacing the split rail fence and installing equestrian safety measures near the Cactus Road and Scottsdale Road intersection. It was moved ahead of other ranked projects due to safety improvements. Improvements would include replacing the split rail fence along Cactus Road with a stronger barrier to separate trail users from traffic.

Similarly, Project #11, which involves equestrian intersection retrofit projects throughout City, would begin funding approximately 25% of the identified intersection improvements later in the schedule, after a demonstration project is built with already existing capital improvement funds at the 96th Street and Cactus Road intersection. This project will be included in the street improvement project funded by the Transportation Department between Loop 101/Pima Freeway and Frank Lloyd Wright Boulevard in which provides a multi-use trail along one side of Cactus Road. The late Phase One timing of these intersection improvements allows enough time to observe and document the operational issues of the “equestrian intersection” concept, before large-scale replication Citywide.

OTHER CURRENTLY-FUNDED COMMUNITY SERVICES DEPARTMENT TRAIL-RELATED PROJECTS

Prior to the approval of the \$2.5 million earmarked specifically for trail acquisition and development, several other projects had already been funded. The following list describes these projects.

Previously Identified and Funded Projects (pre-\$2.5 million)

Project	Description	Budget
Cactus/Frank Lloyd Wright Trail Underpass	Grade-separated crossing connecting trails at southwest corner to northeast corner of intersection. Improved access to the CAP & Preserve	\$1,429,000
DC Ranch Community Park	Trail connections and trail head as part of overall park development. Improved access to Reata Wash and Preserve	\$5,507,300
DC Ranch Neighborhood Park	Trail connections and trailhead as part of overall park development. Improved access to Reata Wash and Preserve	\$2,050,200
Troon North Park	Trail connections and trailhead as part of overall park development. Improved access to Alma School Road trail and Preserve	\$3,835,500

OTHER CITY CAPITAL IMPROVEMENT PROJECTS

Other City departments are continuing to play a role in the City’s trail system development. This information is taken directly from the City’s 2002/07 Capital Improvement Plan and reflects the best information as of mid-February 2003. *The entire City’s CIP budget is up for review in Spring 2003 by City Council, therefore available dollars and dates are subject to change.*

TRAIL RELATED PROJECTS

The following set of tables identifies projects that directly improve a trail and/or trailhead identified within the Trails Master Plan. These projects already have a trail component identified in the project scope. In some cases, coordination has already begun between the sponsoring Department and the Parks, Recreation and Facilities Division.

Trail Related Projects: Neighborhood & Community Improvements

Project	Description	Budget	Fiscal Year
Scottsdale Road Preservation Streetscape Enhancement	Potential trail improvements and amenities as part of acquisition, preservation and restoration of desert lands along Scottsdale Road scenic corridor	\$27,000,000	FY prior thru 05/06
WestWorld Driveways and Pedestrian/Horse Paths	Driveway pavement, pedestrian walkways on the equestrian show ground areas	\$253,300	FY 03/04 thru 05/06
WestWorld Public Recreational Facility and Trailhead	A community trailhead and equestrian amenities including vehicle and horse trailer parking, a 150' x 250' lighted equestrian arena, a smaller lighted arena dividable into two separate use areas, and a restroom.	\$985,000	FY prior thru 02/03. Opening 2003

Trail Related Projects: Streets

Project	Description	Budget	Fiscal Year
Roadway Capacity Improvements - 104 th Street, Cholla to Bent Tree Wash	Roadway and drainage improvements. Trail connection from Cholla to Bent Tree Wash along east side of 104th Street	Portion of \$10,950,000	FY prior thru 02/03
96 th Street – Shea to Sweetwater	Roadway and drainage improvements. Trail from Shea to Cactus	\$3,741,000	FY prior thru 02/03
Cactus Road – Pima to Frank Lloyd Wright	Roadway improvements using new collector standard including trail	\$7,481,800	FY prior thru 02/03
Equestrian Signal Demonstration Project as part of the 96 th Street – Shea to Sweetwater project and the Cactus Road – Pima to Frank Lloyd Wright project	Equestrian signal and other improvements.	N/A Included in above two budgets	FY prior thru 02/03

Preservation

Project	Description	Budget	Fiscal Year
Hidden Hills Trailheads & Amenities	Two Trailheads near Via Linda and 140th Street. Construction of 140th Street trail into Preserve	\$499,500	FY 02/03 thru 03/04
124 th Street Access Area Amenities	Trailheads at major south access area into Preserve at 124th Street and Sweetwater alignment near Lost Dog Wash	\$1,525,100	FY 03/04 thru 04/05
North Access Area Amenities	Trailhead at major north access area into Preserve at 128th Street and Paraiso Drive alignment	\$2,058,100	FY 06/07
Gateway to the Preserve Amenities	Major trailhead and other amenities at major entrance into Preserve at Bell and Thompson Peak Parkway	\$2,200,00	FY 04/05 thru 05/06

POTENTIAL TRAIL RELATED PROJECTS

The following set of tables identifies projects that are along or adjacent to trails and/or trailheads identified within the Master Plan. Coordination between the sponsoring Department and the Parks/Trails Planning Office would ensure that any potential trail or trailhead improvements would be included in project scopes if found feasible. Cost sharing potential would be a part of any coordination.

Potential Trail Related Projects: Neighborhood Drainage and Flood Control Project

Project	Description	Budget	Fiscal Year
Floodplain Acquisition Program	Acquisition of major wash corridors north of CAP Canal Possible trail corridors	\$2,366,600	FY 02/03 thru 05/06

Potential Trail Related Projects: Streets

Project	Description	Budget	Fiscal Year
Bell Road – 94 th Street to Thompson Peak Parkway	Roadway and drainage improvements. Primary trail corridor access to Gateway. Equestrian signals. Grade-separated crossing at Bell & Thompson Peak.	\$6,460,000	FY prior thru 05/06
Hayden Road – Cactus to Redfield	Turn lanes, bike path, drainage and landscaping. Potential equestrian signal improvements.	\$12,317,600	FY prior thru 03/04
Indian School Road Canal Bank Enhancements – 60 th to 64 th Streets	Joint City of Phoenix project with retention wall reconstruction, fencing, landscaping and trail improvements.	\$857,400	FY 02/03
Pima Road – Deer Valley to Pinnacle Peak	Roadway and drainage improvements. Along Primary Trail.	\$14,112,700	FY 03/04 thru 06/07
Pima Road – Pima Freeway to Thompson Peak Parkway	Roadway and intersection improvements, soundwalls. Primary Trail along portion. Underpass coordination north of Union Hills.	\$12,156,600	FY prior thru 04/05
Pinnacle Peak – Scottsdale to Pima	Roadway improvement. Portion of Local Trail.	\$10,754,100	FY 03/06
Scottsdale Road – Dynamite to Carefree Highway	Roadway & intersection improvements. Along Primary Trail.	\$921,200	FY prior thru 02/03
Scottsdale Road – Frank Lloyd Wright to Pima Freeway	Roadway and drainage improvements. Primary Trail and potential equestrian signal providing access to Phoenix Reach 11.	\$10,095,800	FY prior thru 03/04
Scottsdale Road – Pima Freeway to Pinnacle Peak	Roadway improvement. Along Primary Trail.	\$22,611,500	FY 02/03 thru 05/06
Scottsdale Road – Pinnacle Peak to Dynamite	Roadway improvements. Potential equestrian signal at Dynamite.	\$2,092,600	FY 05/06
Shea Blvd. and 92 nd Street Improvements	Roadway improvements including turn lanes, bike lanes, landscaping bus pullout. Secondary Trail along Shea. Grade-separated crossing along 92 nd Street.	\$812,000	FY 02/03 thru 03/04
Shea Blvd. and Hayden Intersection Improvement	Improve intersection with turn lanes, bike lanes, landscaping bus pullout. Secondary Trail at southeast corner.	\$882,300	FY 02/03 thru 03/04
Shea Blvd. - 90 th & 96 th Street Intersection Improvements	Improve intersections with turn lanes, bike lanes, landscaping and bus pullout. Secondary Trails along Shea and 96 th St.	\$596,500	FY 02/03 thru 03/04
Shea Blvd. - Pima Freeway to 136 th St.	Turn bays, bus bays, Intelligent Transportation System integration at intersections. Secondary Trail along Shea. Portions of Primary. Numerous Grade-separated crossings.	\$4,184,600	FY 05/06 thru 06/07
Thompson Peak Bridge @ Reata Pass Wash	Construct 2 nd 2 lane bridge over wash. Secondary Trails along Reata Wash and Thompson Peak Pkwy.	\$1,391,100	FY 05/06
Thompson Peak Pkwy – Bell to Union Hills	Initial roadway construction with bike lanes and landscaping. Primary Trail crossing at Bell/Thompson Peak intersection	\$16,035,800	FY 02/03 thru 06/07

Potential Trail Related Projects: Traffic

Project	Description	Budget	Fiscal Year
Neighborhood Traffic Reduction Program – Phase II. Multiple Locations	Traffic reduction projects such as speed humps, traffic circles, etc. Potential trail coordination.	\$1,367,100	FY 02/03 thru 05/06
Traffic Signal Program. Multiple Locations.	Design plans, acquire materials and install equipment for new and modified traffic signals. Potential coordination with Equestrian Signals.	\$3,994,600	FY 02/03 thru 06/07

Potential Trail Related Projects: Transit

Project	Description	Budget	Fiscal Year
Bikeways Program. Multiple Locations.	Coordinate complimentary projects at Crosscut Canal, Bent Tree Wash; Horizon Park/CAP/WestWorld and Papago Salado Loop Trail.	\$7,711,300	FY prior thru 05/06
Loop 101 Park and Ride Lots	Construction park and ride lots in vicinity of Loop 101/Scottsdale Road and Loop 101/Pima Road. Primary Trails along both roads could feed to Park & Ride Lots.	\$5,933,900	FY 03/04 thru 05/06
Multi-use Path Enhancements	Potential coordination on new Grade-separated Crossings.	\$5,063,000	FY 03/04 thru 05/06
Sidewalk Improvements	Potential coordination on sidewalk and ramp improvements where combined with trails	\$6,645,900	FY prior thru 06/07

COORDINATION WITH OTHER JURISDICTIONS

CENTRAL ARIZONA PROJECT CANAL

As of the writing of this plan, a Path and Trail Feasibility Study is being prepared that is co-funded by Maricopa County and the cities of Scottsdale, Phoenix, Glendale and Mesa. The purpose of the study is to determine potential locations of paved paths along the Central Arizona Project (CAP) Canal Corridor in the Phoenix metropolitan area. The study is looking at barriers, crossings and potential corridors. The majority of cities in the Phoenix area, as well as Pima County and Tucson recognize the potential of this corridor for trails and pathways by including it in their paths and trails plans. The Scottsdale Trails Planner is a staff participant in this Feasibility Study to ensure that Scottsdale’s unpaved trail issues are addressed. Though no funds are currently identified by the Central Arizona Project Water Conservation District (CAWCD) or the Bureau of Reclamation (BOR) for trail improvements along the canal, there is a potential that they can provide assistance in the future.

TYPICAL DEVELOPMENT COSTS

The project lists above still address only a portion of the potential trail projects that will eventually complete Scottsdale’s entire trail system. Therefore, the following generalized cost estimates are provided to assist in developing future budgets for future trail projects. See Appendix I for detailed cost breakdowns.

Trail Classification	Average Trail Cost per Mile	
	Built Environment	Natural Environment
Primary	\$26,168.83	\$6,810.62
Secondary	\$11,464.70	\$4,469.76
Local/Neighborhood	\$9,408.96	\$2,648.45

TRAIL DESIGN STANDARDS AND POLICIES MANUAL UPDATE

Prior to the development of this Master Plan, the City had both a Multi-Use Trails Plan and a Design Standards and Policies Manual for Non-Paved Trails. The two documents however, were developed independently of each other. There was no means to apply a specific design standard to a specific trail. This Master Plan has made the connection between trail classifications on the map and specific trail design standards. Those standards were summarized in Chapter III. This however, is not an exhaustive list of the standards, and in no way replaces the existing detailed design standards in Section 7.3 of the City's Design Standards and Policies Manual. These standards are critical for trail development in the City, either by projects initiated by the City itself or on-going private development.

Action: Update Section 7.3 of the City's "Design Standards and Policies Manual for Non-Paved Trails" to reflect the new Trail Classifications of Primary/Signature, Secondary, Local and Neighborhood and the abbreviated standards identified in Chapter III. Update signage standards to include use of trailhead signs that might include maps, rules, etiquette and other pertinent trail information.

MAINTENANCE

TRAIL MAINTENANCE STANDARDS DEVELOPMENT

As identified in Chapter II the City of Scottsdale does not currently have trail maintenance standards. Section 7.3, Subsection 7-306 of the City's "Design Standards and Policies Manual for Non-Paved Trails" provides general direction for some specific trail maintenance techniques including slough and berm removal, vegetation clearance, tread maintenance, drainage, special structures and signs. This section does not however, address typical, on-going and regularly scheduled trail maintenance. It further does not distinguish between variable maintenance needs of trails of differing classifications and in different settings.

Action: Develop trail maintenance standards for each trail classification that addresses techniques, timing, and man-hours.

SUGGESTED METHODOLOGY FOR DETERMINING MAINTENANCE STANDARDS

For the long-term operations and maintenance of the trail system to succeed, the City must first identify what is to be maintained, and who is responsible for the trail maintenance. There are many different parties that may become responsible for trail maintenance, such as a homeowners association (HOA), a private landowner, a utility/canal operator, or the City of Scottsdale. Once the parameters of the system are defined, strategies, procedures and budgets can be implemented.

The initial research and documentation of the trail responsibility is the up-front task from which all subsequent work follows. This information (ownership, maintenance responsibility, trail category, and location) can be added to the existing trails GIS database. Once the areas of responsibility are known and documented, an operations and maintenance program can then be established, budgeted, and scheduled. This program is cyclical and must be ongoing to ensure the operational safety and quality of the trails. The steps in this ongoing program are:

- ◆ Evaluation (what is the existing condition of the trail?)
- ◆ Maintenance regime (a set cycle for maintenance of trail components)
- ◆ Response to situations (fix trail components which are damaged through weather events, accidents or vandalism)



Trail maintenance along the Pinnacle Peak Trail

The already established trail classifications and their related components (signs, trail bed, width, etc.) form the basis of the maintenance program. An **Evaluation Checklist** should be created to aid in the evaluation phase of the program. This checklist should identify the trail standard, location, trail name, and notations of deficiencies. Depending on the trail classification, trail evaluations may vary from quarterly to annually. For instance, a busy Primary Trail should be evaluated more frequently than a neighborhood trail with relatively little use. Evaluations should be done for all public trails within the City, including those maintained by homeowner's associations. From these checklists work orders for repairs could then be written. In addition, the information could be input into a performance database and utilized for baseline information for future maintenance programs. A notification procedure should be established whereby HOA's are told of trail work required for trails under their responsibility.

A regular cycle of maintenance or "Maintenance Regime" should be established for every trail under the City of Scottsdale's responsibility. This same regime should be shared with private HOA's so they have an understanding of the City's expectations.

Trail Maintenance Cycle

Trail Classification	Maintenance Cycle
Primary: Built	6 months
Primary: Natural Environment	1 year
Secondary: Built	6 months
Secondary: Natural Environment	1 year
Local and Neighborhood: Built	1 year
Local and Neighborhood: Natural Environment	1 year

Under unique conditions or based upon the performance database, these frequencies could be increased or decreased for specific trail segments. Ideally, the City would be responsible for maintaining all of the public trails not within an organized homeowner's association, thereby ensuring a consistent level of maintenance and care.

However, the existing maintenance budget does not allow this, and increases in the existing maintenance budget are unrealistic, given current budget constraints. Well-documented maintenance standards, evaluation schedules and maintenance cycles will likewise improve the level of maintenance performed by HOA's and private property owners.

Action 1: Move towards the City assuming maintenance responsibility for all public trails that are not the responsibility of an organized HOA.
Action 2: Continue to work closely with HOA's to communicate maintenance standards, evaluation schedules and expected maintenance cycles to ensure a consistent level of maintenance on trails not maintained by the City. Work with the City's Code Enforcement as needed.

ESTIMATED AVERAGE ANNUAL MAINTENANCE COST

To fund the ongoing trails operation and maintenance program, it is necessary to establish an annual operating budget. The amount of money needed for maintenance directly correlates to the Trail Classification. Annual budgets can be determined using an average cost per mile (annual maintenance) multiplied by the number miles of trails that are the city's responsibility.

Estimated Average Annual Maintenance Cost

Trail Classification	Cost/Mile/Year
Primary	\$1750
Secondary	\$1500
Local	\$1250
Neighborhood	\$1000

POLICIES & PROCEDURES

MASTER PLAN REVIEW, UPDATE AND REVISION PROCEDURES

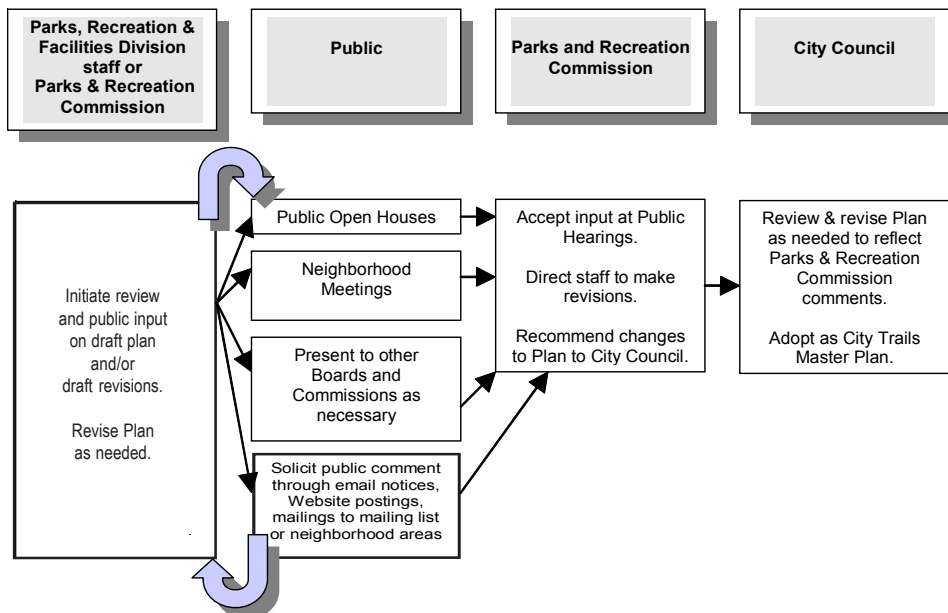
This Master Plan provides a snapshot vision and specific direction for Scottsdale’s trails for approximately a five-year period. Inevitably, changes will occur over time and it will be necessary to make adjustments based on factors such as development climate and pace, available budget, and public need. Additionally, many trails, trailheads and trail components will be developed and improved. Certain corridors may be relocated or modified based upon unforeseen site-specific constraints. Levels and types of use will become better known over time. The City’s Preserve system will become a functional open space network with trails and trailheads. Review and evaluation of this Plan should be part of the regular implementation program.

In order to maintain focus on the intent and scope of this plan, it is recommended that several processes be put into place within the Parks, Recreation and Facilities Division, which are outlined below:

MAJOR UPDATES AND REVISIONS

The Trails Master Plan should undergo a comprehensive update every five (5) years. If major revisions or updates occur in the interim, such revisions must be reviewed and approved by the Parks and Recreation Commission and City Council. Major revisions are those items deemed by the Parks, Recreation and Facilities Division Director to significantly alter the intent or spirit of the plan (such as the deletion of a trail from the trail network). The major updates and revisions conducted at the five-year intervals will follow the adoption and approval process as outlined in the following chart.

Revision Process



A Parks and Recreation Commission meeting

Action 1: Update the entire Trails Master Plan document every five years beginning five years after initial approval.

Action 2: As necessary, makes revisions to the Trails Master Plan and follow the above process.

MINOR UPDATES AND REVISIONS

These changes are those determined to not significantly alter the intent or spirit of the plan such as minor relocations of trails on the Trails Master Plan. Minor revisions to the plan will be subject to staff review and will be sent to the Parks and Recreation Commission as deemed necessary by the Parks, Recreation and Facilities Division Director.

Action 1: As determined by the Parks, Recreation and Facilities Director, bring minor revisions to the Parks and Recreation Commission for review and approval.

Action 2: The Trails Planner or the Parks/Trails Planning Manager should conduct an annual internal progress review to track trail planning and development activities relative to the Plan and its implementation. Provide an annual “Trails System Review” to the Parks and Recreation Commission. Highlight projects completed, programs initiated, and any changes recommended.

TRAIL INVENTORY MAINTENANCE (GIS)

Since the collection of the trail inventory and creation of the GIS trail database has consumed considerable time and resources, it is essential that the trail inventory is updated and maintained on a regular basis. Keeping the database current is essential to continue appropriate planning, tracking maintenance and signage status, and creating accurate maps for planning purposes and for the public.

Action: Update the trail database on a monthly basis.

CITIZEN REPRESENTATION

Typically, at least one citizen with interest and/or knowledge in trails has been appointed to the City’s Parks & Recreation Commission. It is important for this person to take on the role of being a strong advocate for the City’s trail system, attending trail related events and openings, and participating in trail planning issues. This has greatly improved the visibility and importance of Scottsdale’s trails, and kept key issues in front of key decision makers.

Action: Recommend a formal policy to the City Council to maintain at least one strong trails advocate on the Parks & Recreation Commission.

PLANNING & PROJECT COORDINATION

GENERAL PLAN

The City’s General Plan overarching goal for trails is to develop and maintain a citywide interconnecting network of trails to provide valuable recreation and transportation opportunities for city residents and visitors. Trails can function as transportation and recreation links between schools, residential areas, parks, employment centers, shopping areas, and other areas of interest. Trails also provide hikers, walkers, joggers, equestrians, and mountain bikers with opportunities to

improve health and fitness, spend time with family and friends, enjoy the natural environment, and escape the stresses of everyday life. Where possible, trails will connect to neighborhoods or serve as destinations. Where practical, parks will be used as staging areas for trails into desert or mountain preservation areas.

Trails and trailheads are specifically addressed in the Goals and Policies of several General Plan Elements including Open Space and Recreation, Public Buildings and Facilities, and Community Mobility. A complete listing of these General Plan Goals and Policies are in Appendix J.

Action: Maintain Parks, Recreation and Facilities Division involvement in Citywide planning issues related to Transportation, Open Space, and Community Facilities.

TRANSPORTATION PLANNING

Evident by the above extensive list of transportation related projects that will have either a direct or indirect impact upon the City's trail system, the Transportation Department is a crucial partner in trail development in the City.

Action 1: Joint meetings as needed with the Parks & Recreation Commission and Transportation Commission where common issues, concerns and crossover projects are discussed and coordinated as necessary.

Action 2: Incorporate trails into all applicable street cross-section standards in the Streets Master Plan.

Action 3: Continue involvement by Parks, Recreation and Facilities Division staff in the Development Issue Review Team (DIRT) meetings.

PRESERVE PLANNING

The City's McDowell Sonoran Preserve will always provide a destination for many of the trails identified in the Trails Master Plan. Many of the planned trailheads occur at the interface between trails within and outside of the Preserve lands. The Trails Master Plan was prepared with the latest possible trail and trailhead information available from the Preserve Division. However, some interface areas between preserve and other City trails will require further refinement to best address opportunities and constraints. Continued coordination and cooperation between the City's Preserve Division and the Parks, Recreation and Facilities Division is necessary to create a seamless system of trails, trailheads and open spaces for the benefit of residents and visitors.

Action 1: Joint meetings as-needed between the Parks & Recreation Commission and Preserve Commission where common issues, concerns and crossover projects are discussed and coordinated.

Action 2: In order to maximize the use of the proposed trailhead at approximately Dynamite and 128th Street, staff from both Preservation and the Parks, Recreation and Facilities Division to jointly address potential trail modifications to the "bridge" area of the preserve between Dynamite Blvd. and the northern end of the McDowell Mountains.

REGIONAL & STATEWIDE PLANNING

Several of the City's trails are considered of regional or even statewide significance. The Scottsdale Road Scenic Corridor Primary/Signature Trail straddles the Cities of Phoenix and Scottsdale for over 11 miles. The CAP canal passes through Scottsdale linking the Colorado River to Tucson. The Arizona Trail, a cross-state trail linking Utah to Mexico lies to the east of Scottsdale, potentially linked to the Phoenix metropolitan area through Scottsdale's northern half. The Sun Circle Trail passes through Scottsdale as part of its 110-mile loop through the Phoenix metropolitan area. Clearly, these and other Primary/Signature trails can play a significant role in providing trail opportunities to residents and visitors from throughout Arizona.

Action 1: Continue Parks, Recreation and Facilities Division participation in statewide and regional trail planning and feasibility studies that aim to provide unpaved, multi-use, non-motorized trail opportunities to residents and visitors, such as the CAP Trail Feasibility Study.

Action 2: Submit the entire Scottsdale Trail System to the Arizona State Committee on Trails for inclusion in the State Trail System, thereby making all trails eligible for matching grants from the Arizona State Parks' Heritage Fund for trails.

PRIVATE DEVELOPMENT PLAN REVIEW PROCESS

As discussed in Chapter II, the process is fairly complex for implementing trails through the private development review process. For the most part, the process has worked, as the vast majority of Scottsdale's existing trails are a result of this process. However, process gaps exist, and the quality of many privately built trails are not to the level they should be. The following recommendations aim to improve this process by improving the tools available to plan reviewers as well as improving the construction/inspection process. These recommendations should improve the conditions of privately built trails, however, the Parks, Recreation and Facilities Division's continued involvement in the plan review process is seen as critical to ensure the best possible trail implementation.

TRAIL CHECKLIST

The developer first meets with City staff in a pre-application submittal meeting where a conceptual site plan of the proposed development is submitted. During this meeting, checklists are often distributed to the developer describing various types of city requirements and expectations. A trails checklist should be available to any developer at this step in the process if a trail is known to be present within a proposed development. This checklist would include probing questions and/or direction to ensure proper placement of the trail(s) within the plan. The list would direct the developer to investigate the proposed trail classification and associated design standards, adjacent trail connections, drainage conditions, utility connections and placement, street crossings and cross-section standards, and other issues that would affect the nature and quality of the trail.

Action: Work with Project Coordination staff to develop a checklist that could be incorporated into the plan review process.

TRAIL STIPULATIONS

Like the checklist above, standardized stipulations would greatly improve the manner in which trail requirements are consistently communicated to private developers. These stipulations should address easement width,

location, and language; trail classification and standards application; trail placement; inspection, review and approval procedures; dedication requirements; signage requirements; and maintenance responsibilities. Standardized stipulations would clarify requirements and reduce possible confusion between various plan reviewers and coordinators.

Action: Work with Project Coordination to write standard trail stipulations that address the specifics of trail dedications, construction and maintenance.

CONSTRUCTION AND INSPECTION PROCESS

As stated above, the basic plan review process has been successful in including trails in approved plans. Often, the weakest point in the implementation process is during construction and inspection. Improving this process is primarily based upon coordination with the City's inspectors as to the specific requirements of a successful trail.

Action: The Trails Planner should attend regularly scheduled meetings of the Inspectors team twice annually. The purpose of this meeting is two-way communication: 1) The Trails Planner should share with the Inspectors the City's trail standards, name and phone number of the Trails Planner, examples of the most successful trails in the City, coordination of trail sign installation, etc. and 2) the Inspectors should share with the Trails Planner current and upcoming projects that may impact the City's trail system.

MOTORIZED VEHICLES (ATV'S, MOTORCYCLES, ETC.)

Although motorized vehicles are expressly prohibited (except maintenance and emergency vehicles and wheelchairs) on Scottsdale's trails per Ordinance 17-62 (See Appendix K), public comment throughout the planning process indicates that their illegal use is a critical issue facing Scottsdale's trails. This places an increased burden on the City to control this illegal use and educate the public on the ordinance. There are various tools that can be utilized to reduce illegal motor vehicle use.

Action 1: Educate the community about ATV use on trails and the existing ordinance. Use a variety of means such as public announcements in local newspapers, notices in the City's water bill, public service announcements on Scottsdale Cable 11, and brochures or fliers at city libraries and community centers.

Action 2: Properly **design and build** trail corridors and access points in such a way that illegal ATV use is discouraged or made physically impossible.

Action 3: Sign trails with "motorized vehicles prohibited" signs. Placement of these signs along troublesome corridors allows public safety officers to cite specific posted ordinances when writing citations.

Action 4: Construct motorized vehicle **access barriers** at key entry points along troublesome corridors. These barriers allow access for non-motorized trail users, but restrict the passage of heavier and usually wider motorized vehicles.

Action 5: Work closely with the Scottsdale Police Department to **enforce** the existing ordinance.

STAFFING & FUNDING

STAFFING

The parks/trails planning component of the Parks, Recreation and Facilities Division consists of two full-time and one part-time staff: The Parks/Trails Planning Manager, the Trails Planner and the Parks/Trails Technician. This team has grown by one person in the last decade. The Trails Planner is the primary staff responsible for trail planning, trail implementation, citizen inquiries and oversight of trail maintenance issues. The Trails Planner position was upgraded in FY 98/99 from a Trails Coordinator to reflect the increasing responsibilities of that position which ranged from on-site trail sign installation to presentations before various Boards and Commissions and City Council. Unlike other park development projects whose maintenance responsibilities transition to Parks, Recreation and Facilities Division maintenance staff, the bulk of trail maintenance responsibilities remains with the Trails Planner. As the trail system continues to expand with the expenditure of the \$2.5 million bond funds, trail maintenance responsibilities will also expand. Likewise, implementing the revisions to the Private Development Plan Review Process, the Trail Standards and Policies Manual, and developing the City's first Trail Maintenance Standards, will likewise take considerable effort, on top of on-going trail planning and management issues.

Action: Add additional staff within the Parks, Recreation and Facilities Division to manage the increasing trail planning, operations and maintenance responsibilities.

VOLUNTEERISM/STEWARDSHIP OPPORTUNITIES

The most successful trail programs throughout the country have a well-established volunteer program. There is great value to involving volunteers and organizations in trail stewardship opportunities in municipal trail programs today. These programs complement the government-sponsored efforts and often lend visibility to a program while expanding upon available resources. A successful trail volunteer program has well-organized stewardship recruitment, training, retention and reward/recognition elements managed in a wide variety of ways. Many communities assist citizens in establishing neighborhood or citywide volunteer trail organizations, and they work in tandem with community agencies to monitor and maintain trail corridors to maximize trail opportunities for the community's citizens and visitors.

Existing youth, senior, health-care, school, church, business, conservation, environmental, land trust, and a wide variety of trail-user clubs and organizations are already well equipped to assist their community in volunteer activities. These organizations and others can provide the basis of an effective community trail stewardship program. Through these in-kind volunteer activities, a municipality can significantly expand the trail opportunities for its citizens and accelerate the timeline and implementation planning for an entire community-wide trail system.

The Parks, Recreation and Facilities Division has been involved in numerous volunteer efforts on Scottsdale's trails, from Boy Scout trail construction projects to neighborhood clean-ups. The City has typically been in a response mode to volunteer requests. No formal program exists in the Division to develop trail volunteers, direct them to needed projects, or provide operational assistance.

Action: Develop an adopt-a-trail program for all trail classifications within Scottsdale. Explore existing trails advocacy groups as potential first adopters, such as the Mountain Bike Association of Arizona (MBAA) and the Arizona State Horseman's Association (ASHA). Encourage neighborhoods to adopt neighborhood and local level trails.



Volunteers working along a trail

Throughout the planning process, an effort was made to include all types of trail users and advocates in the input and review process. Individuals represented their own interests as well as interests of organized trail or trail related groups like ASHA and the MBAA. What has been lacking, however, is a single trails advocacy organization that promotes and protects the City's system of multi-use unpaved, non-motorized trails.

Action: Lend staff support to the creation and operation of a Trails Advisory Committee that would serve at the discretion of and advise to the Scottsdale Parks and Recreation Commission.

GRANTS & OTHER FUNDING SOURCES

The \$2.5 million trail acquisition and development funds and prior years trail development funds can be greatly expanded upon by making use of available matching grant programs at the state and national level. The State of Arizona sponsors the Trails Heritage Fund, a 50% matching grant program for trails listed on the State's Trail System. TEA 3, a federal multi-modal funding program also provides matching grants for eligible projects. A specific category exists for trails. The fund is locally overseen by the Arizona Department of Transportation (ADOT). Projects compete statewide. See Chapter IV for more information on funding opportunities.

Action: Select projects from the "Top Twenty Five" projects list to make annual grant applications to the Heritage Fund. Consider TEA 3 grant applications for the larger capital projects such as grade-separated crossings that will serve multiple non-vehicular transportation needs.

AWARENESS & EDUCATION

The trail system is only as good as the public's ability to safely and easily access, use, and enjoy it. Their ability to do all these things is largely dependent upon the manner in which the system is made known to the public. Trail users want to know, first of all, where to go. They want to know the rules to follow to minimize their impact on others and to ensure their own safety and enjoyment. Likewise, the public who may not use the trails, but may have them in their neighborhoods, want to know what responsibilities the City has towards those trails, who to call with concerns, and the rules that apply to users.

The City has undertaken awareness and education campaigns on some of these issues already. Information on motorized vehicle restrictions have appeared in newspaper notices and in water bills. Maps have been produced for neighborhoods where the existing trail system is already well developed such as the Stonegate Equestrian Park area. The Preservation Division has produced numerous maps highlighting future and existing access points and trails. Additionally, much of this information was collected and made available at public meetings throughout the Trails Master Planning process.

Action 1: Make copies available of the Arizona Recreation Use Statute.
Action 2: Produce a trail map and brochure of Scottsdale's trail system that distinguishes between existing and proposed trails. Include trail etiquette, rules, Ordinance 17-62 information and appropriate phone numbers for maintenance and emergencies.
Action 3: Revise signage standards to include location for trail name, mileage or location markers, and phone numbers for emergency calls.
Action 4: Institute a "Name-the-Trail" contest for the City's Primary/Signature trail corridors, thereby publicizing their existence and importance and to directly involve the community in "taking ownership" of the system.

V. CONTINUING THE VISION



A. WHY ARE TRAILS IMPORTANT?

Using trails is one of America’s fastest growing recreational activities. In the Arizona State Parks Trails 2000 Survey conducted by Arizona State University, it was determined that more than 90% of the state’s population uses trails, and nationwide the American Hiking Society reports almost one-third of Americans, more than 67 million, went hiking in the year 2000. In fact, the USDA Forest Service is predicting steep increases in participation in backpacking and hiking, including an 80% increase in hiking in the Southern and Pacific Coast areas, over the next 50 years.

Recreational trail use is often associated with backcountry areas and camping, but as trail use grows and more trails are developed near population centers, communities are recognizing the economic, social and health benefits of trails. These benefits include improvements to physical and emotional health and quality of life, increased property values, reduction of traffic congestion and air pollution, heat island mitigation, and increased city revenues, to name a few.

As a means of transportation, the development of a trails and greenway infrastructure is essential to enable people to utilize non-motorized means of travel to work, school, or shopping. This will not be realized, however, unless the appropriate land use and infrastructure are present. Current low rates of non-motorized trips appear to exist not because of lack of desire, but rather because of the lack of infrastructure that supports non-motorized trips. Green infrastructure, bike lanes, sidewalks, trails, and greenways provide the infrastructure that makes non-motorized trips not only possible, but also enjoyable.



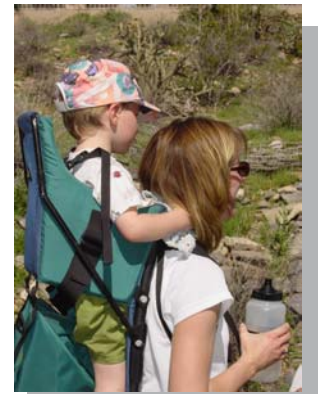
A neighborhood trail in the Mescal Park area.

ALTERNATIVE TRANSPORTATION

Trail use does not cause air pollution, noise pollution, or traffic congestion, and consumes few natural resources. Motor vehicles, on the other hand, are major consumers of limited energy resources, and are a major source of noise and air pollution in the United States.

But in spite of growing concern over this trend, only about 3 million of over 80 million bicyclists in the US commute by bicycle to work on a regular basis. This is less than 1% of all commuters in the United States. Many factors influence America’s commuting public on non-motorized trails, and most people who want to use trails for commuting are not able to make safe connections to their destinations in nearly all of America’s urban environments.

Promoting trail use as a means of transportation is more than “just a good thing to do.” The potential environmental, economic, and social benefits are enormous, considering that the 1% of bicycle commuters in the US saved 17 million barrels of oil in 1990. If the 1980 Department of Transportation’s report, “Bicycle Transportation for Energy Conservation,” had been implemented over the past decade, roughly 200 million barrels of oil would have been saved.



Scottsdale trails are for all ages

CLEAN AIR

Each new car produced in the US (in compliance with every federal standard) emits over 100 pounds of pollutants into the air every year. Walking or bicycling to work



Equestrians have a long history of using Scottsdale's trails



Trail winds through lush Sonoran Desert vegetation

instead of driving, would result in the reduction of up to 2.0 grams of hydrocarbons, 20 grams of carbon monoxide, and 1.6 grams of nitrogen oxides for every mile traveled. Clearly, trail use can contribute to solving today's air pollution problems, especially in Arizona's climate.

Just how realistic is non-motorized trail use for commuting to work? More than half the population of the nation lives within 5 miles of the place they work, which requires less than 30 minutes of bicycling. Some individuals live within 1 or 2 miles and could walk to work. If just 2% of the US workforce living within 2 miles of a transit route were to use mass transit or use a trail to get to work, 120 million gallons of gasoline could be saved every year. Imagine the dramatic reduction we would realize in the amount of hydrocarbons, carbon monoxide, and nitrogen oxides we are now breathing!

If trail use can improve air quality, reduce traffic congestion, and improve health, then why don't more people do it? The answer lies in the fact that the majority of commuters want safer routes and better facilities at work to store bicycles and change clothes. Communities that rank high in many surveys in the quality of life and physical environment are changing their commuting standards by implementing master planning for trail connectivity, safer environments, and partnering with businesses to encourage workers to commute. Cities such as Madison, WI, Gainesville, FL, Boulder, CO, Eugene, OR, Davis, CA, Minneapolis, MN, Pittsburgh, PA, and Arlington, VA are all addressing the air quality of their communities by making it easier for people to get to their destinations using trails instead of motorized streets.

HEALTH BENEFITS

A Japanese study of 2,211 senior citizens linked longevity to access to walkable green spaces such as parks and tree-lined streets. Living in areas with walkable green spaces positively influenced the longevity of urban senior citizens independent of their age, sex, marital status, baseline functional status, and socioeconomic status. Greenery-filled public areas that are nearby and easy to walk in should be further emphasized in urban planning for the development and re-development of densely populated areas in a mega city.

Here in the US, people have recently begun to recognize the tremendous benefits of trails as a resource to improve the health of our nation's citizens. With strong urging from the U.S. Surgeon General's office in Washington, DC, community leaders are now looking at their trail systems as having value far beyond their ability to provide recreational experiences and transportation linkages.

Recent research shared by the Centers for Disease Control and Prevention in Atlanta, Georgia, has prompted recommendations to promote health and to prevent disease, injury, disability, and premature death through increased physical activity. According to their recent publication, "The Guide to Community Preventive Services," a community's access to trails and trail systems can directly and positively impact our nation's rapidly rising obesity epidemic, as well as reduce the health problems associated with many chronic diseases such as hypertension, diabetes, and heart attacks.

A new program, Active Community Environments (ACEs), is an initiative sponsored by the National Center for Chronic Disease Prevention and Health Promotion to support walking, bicycling, and the development of accessible recreation facilities

in our nation's communities. ACE encourages community access to pedestrian and bicycle friendly environments and promotes physical activity through trails and partnerships between public health practitioners and public parks, recreation, transportation and planning departments to promote healthy physical activity.

These types of collaborative efforts can directly expand the inherent value of trails to every community in the nation. A synthesis of the literature on the relationship between physical activity and community design points to the need of responsible community leadership to plan ahead for the health benefits their trails systems can bring to their citizens.

ECONOMIC BENEFITS

An organized trail system is a desirable amenity and can contribute to the economic vitality of a community. A trail can guide both visitors and residents through diverse natural ecosystems, neighborhoods, and past interesting shops, enticing restaurants, and many other urban and suburban businesses. Revenue generated from trail-related recreation and sports activities provides substantial income and employment opportunities.

Outdoor recreation is a booming business. The leisure industry today, at \$311 billion annually, is almost the size of Australia's gross national product. In 15 years, consumer spending on recreation and entertainment has increased from 6.5% of total consumer spending to 10.5%. And trails alone have been experiencing a substantial upsurge of use in urban areas. Surveys of communities throughout the US that have created trails and linkages to destinations in their communities all report businesses along trail corridors have experienced increases in excess of 25%.

B. FUNDING AND FINANCIAL PARTNERSHIP OPPORTUNITIES

There are many sources of funding available for trails and trailheads, bridges, underpasses, recreation equipment and furnishings, shelters, watering devices, lighting, accessibility features, signage, and other trail amenities. Some of these funds are available from government and agency sources and others are available from the private sector. Developers, associations, foundations, corporations, trails organizations, private companies, and individuals often participate in the process of funding segments of trails or entire trail systems and trail amenities.

Opportunities for project funding for trails and the creation of new trail funding partnerships have never been greater than they are in this first decade of the new Millennium. The sources for this funding are very broad based, and it is vital to "cast a large net" to maximize and utilize this wide variety of available funding resources.

FUNDING SOURCES

Some funding sources provide 100% grants, while others require matching funds and/or in-kind matching resources, and some funds are directed toward supporting specific user-group recreational opportunities, such as hiking, biking, horseback riding, physically challenged individuals, youth, seniors, and health-oriented activities. The following is a summary of several free funding information centers:

THE FOUNDATION CENTER – An independent national service organization established by foundations to provide an authoritative source of information on foundations and corporate giving. The New York, Washington, DC, Atlanta,



A chance encounter along a shaded trail



Memorable experiences are made



Man's best friend is welcome on trails as long as they are leashed and cleaned up after

Cleveland and San Francisco reference collections operated by the Foundation Center offer a wide variety of services and comprehensive collections of information on foundations and grants. All five Center libraries have FC Search: The Foundation Center's Database on CD-ROM available for patron use at Phoenix Public Library, Information Services Department, 1221 N. Central Avenue, Phoenix, AZ 85004, (602) 262-4636.

SONORAN INSTITUTE CONSERVATION ASSISTANCE TOOLS - This organization offers a website with a Directory of Programs that provide funding from various national and state sources that can provide matching funds and project grants for trails programs. <http://www.sonoran.org/cat/search.asp>

THE CONSERVATION ALLIANCE - Outdoor business giving back to the outdoors - The Conservation Alliance is a group of 57 outdoor businesses whose collective contributions support citizen action groups and their effort to protect wild and natural areas where outdoor enthusiasts recreate. The Conservation Alliance, through annual membership dues, provides these groups the necessary funding to complete their projects to protect, restore, and educate. www.outdoorlink.com/consall

ENVIRONMENTAL SUPPORT CENTER - Supporting the environmental movement from the grassroots up - The Environmental Support Center's goal is to improve the environment in the United States by enhancing the health and well being of these organizations.

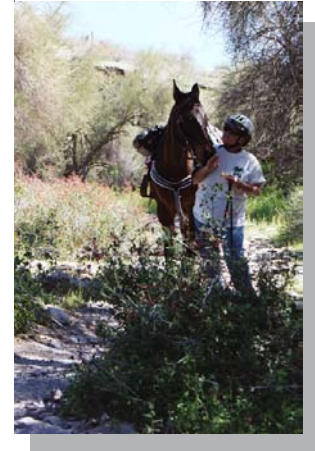
ARIZONA STATE PARKS HERITAGE FUND - A source of funding for new trail construction in the state of Arizona, with required matching funds from land management agencies. Monies for this program are derived from proceeds set aside from the Arizona Lottery.

LAND CONSERVATION, PRESERVATION AND INFRASTRUCTURE IMPROVEMENT TRUST AND THE RECREATIONAL TRAILS PROGRAM, which help to maintain existing trails and recreational facilities, provide financial resources for preserving open space, and allocates approximately \$50 million in funding annually to state agencies. In Arizona these funds are administered by Arizona State Parks.

C. CONCLUSION

Do trails improve a person's life? Do they make a community better? An ever-increasing body of research and information answers both these questions with a resounding yes. Does use of trails improve a person's health and wellness? Yes! Do trails provide an alternative to driving your car? Yes! Do trails provide connections to nature and your neighbors? Yes! Do trails improve the quality of life of a community and help economic development efforts? Yes!

With such strong evidence of the benefits of community trails and strong citizen support in Arizona and Scottsdale, the commitment to providing trails and an improved quality of life in Scottsdale demonstrates the civic leaders' interest in, and the importance of, providing these benefits to the community and its citizens. This Trails Master Plan provides Scottsdale for the first time, a comprehensive look at the existing status of the City's trail infrastructure, from its physical condition to the policies and procedures that put it in place. Most importantly, it provides meaning, structure, direction and guidance to those that will use it and those that will implement its many features beginning immediately upon its approval and continuing for many years.



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