

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

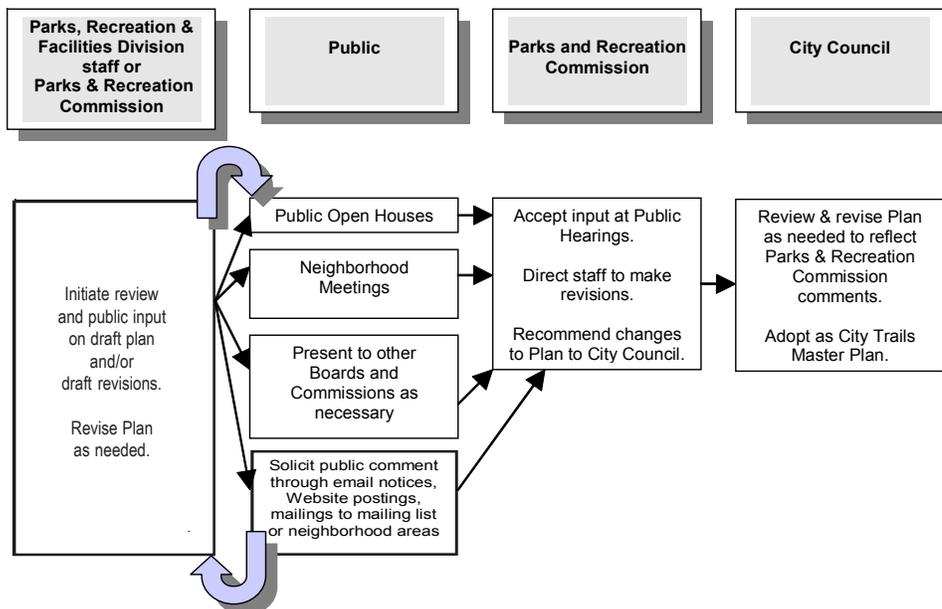
This Master Plan provides a snapshot vision and specific direction for Scottsdale’s trails for approximately a five-year period. Inevitably, changes will occur over time and it will be necessary to make adjustments based on factors such as development climate and pace, available budget, and public need. 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.

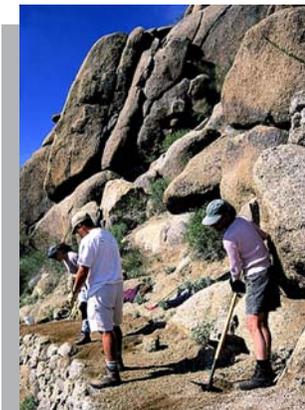
VOLUNTEERISM/STEWARDSHIP OPPORTUNITIES

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.

