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The proposed trail plan is intended to address the development of an interconnected trail system that serves the various communities and public land agencies in the Verde Valley. It is proposed to include sections for design standards, multi-use planning, inter-agency coordination, funding opportunities, management programs, open space issues and other issues that define a comprehensive program.

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I. INTRODUCTION

In 2004, the Cocopai Resource Conservation and Development agency convened a group of leading trail advocates and agency representatives from the Verde Valley to help create a Trail Master Plan for the region. The Cocopai Verde Valley Trails Partnership Action Team set out with a number of local agencies, jurisdictions and other user groups represented. Various general and specific ideas were discussed. The initial efforts were directed towards collecting GPS data for all existing trails so as to create a base map for the region.

On November 20, 2006, the Yavapai County Board of Supervisors adopted the Verde Valley Regional Land Use Plan. In this plan, there was a list of transportation issues that need to be addressed in updating the Verde Valley Regional Transportation Plan are (Pg IV-7):

- Need to provide major trail linkages
- Need trail connectivity and continuity
- Need ongoing maintenance (washouts, overhanging vegetation, sight lines, etc.)
- Need to provide safe trail crossings at intersections roadways
- Need to provide critical connections across barriers
- Need to define public access to trails on public and private lands; prevent barriers such as gated communities

This regional trail plan defines a long-range vision for how trails and open space networks could fit into the future vision for the Verde Valley and serves as a practical resource and guide for all of the communities and land agencies. This comprehensive approach supports the idea of trail systems as a basic and standard component of the land use framework at both the regional and local scale. The plan is a practical and useful tool to help guide the communities and agencies in their own decision making and public planning process. The plan is a great resource for the local decision maker, developer and community activist by not only providing a guiding vision statement but also detailed information on

planning, designing, engineering, funding, managing, maintaining and otherwise integrating great trail systems into their communities.

GOALS OF THE VERDE VALLEY REGIONAL TRAIL PLAN

1. Promote **CONNECTIVITY** between Public Lands, Incorporated Cities and Towns and Un-Incorporated Communities in the Verde Valley to create a valley-wide, shared use, non-motorized trail system that is safe and enjoyable for all who visit and recreate.
2. Provide **RESOURCES** for grant funding or other possible funding resources for trail development.
3. To build a **COLLABORATION** between the different jurisdictions in the Verde Valley which is vital to the success of a regional trail system.
4. Provide **TECHNICAL ASSISTANCE** to map potential trail connections and proposed corridors for future trail planning efforts
5. Serve as a **PUBLIC INFORMATION AND SUPPORT BUILDING TOOL** for efforts by the public lands departments, the cities and towns, and Yavapai County.

BENEFITS OF TRAILS

There are many benefits of trails which range from making our communities more livable to improving the economy through tourism and civic improvement to providing opportunities for physical activity which can improve fitness and mental health.

Health and Well-Being

- Encourage physical fitness and healthy lifestyles
- Create new outdoor recreation and alternative transportation opportunities
- Connect users with the natural environment and contribute to spiritual and mental wellbeing
- Provide safer alternatives than roadways

Social/Cultural

In addition to the economic benefits of trails, there are many social benefits as well. Trails have the power to connect us to our heritage by preserving historic places and providing access to them. They can give people a sense of place and

an understanding of the vastness of past events, such as Native American trails and cattle herding corridors. Trails provide:

- Social venues for interaction
- Protect culturally and historically valuable areas
- Foster community involvement by providing excellent partnership opportunities
- Natural learning grounds
- Improve community aesthetics when associated with vegetation
- Recreation areas that are close to home
- Promotion of physical fitness and healthy lifestyles

Economic

Trails positively impact individuals and improve communities by providing not only recreation and transportation opportunities, but also by influencing economic and community development. Trails provide countless opportunities for economic renewal and growth. Increased property values and tourism and recreation-related spending are just a few of the ways trails and greenways positively impact community economics.

- In a 1992 study, the National Park Service estimated the average economic activity associated with three multi-purpose trails in Florida, California and Iowa was \$1.5 million annually. (*The Impacts of Rails-Trails, A Study of Users and Nearby Property Owners from Three Trails*, National Park Service, Rivers, Trails, and Conservation Assistance Program, 1992.
- According to a study conducted by the U.S. Fish and Wildlife Service, birdwatchers spend over \$5.2 billion annually. (*Economic Impacts of Protecting Rivers, Trails and Greenways Corridors*, National Park Service, Rivers, Trails and Conservation Assistance Program, 4th edition, 1995.

Some of the ways in which trails benefit us economically include:

- Stimulate tourism and recreation-related spending
- Reduce the costs of medical care, sick leave and absenteeism in the workplace

- Improve property values and marketability of homes
- Improve the image and attractiveness of the City as a business and resident location
- May offer commercial opportunities

Environmental

Trails provide significant environmental benefits to every community in several ways. They create links throughout the community that can be utilized by non-motorized transportation, therefore cutting down on air pollution, traffic congestion and providing a quieter way to get around to community focal points. They conserve and link native ecosystems, landscapes and watersheds. Trails provide opportunities for people to be directly involved in creating and protecting areas of significant environmental importance.

- Preserve associated open space
- Provide an opportunity for increased understanding and appreciation of the natural resources and the protection of those values
- Improve air quality by providing an alternative to motorized transportation

II. PLANNING AREA AND SYSTEM MAP

The Verde Valley, for the purpose of this plan, is loosely defined as the Verde River watershed, extending from Sycamore Creek in the west to Fossil Creek in the East, with the Black Mountain Range and the Mogollon Rim providing the upper elevation boundaries. It includes Ponderosa Pine forests, Juniper/Pinion Pine woodlands, Red Rock canyons, high desert scrub, and numerous riparian areas, thus providing a diversity of trail opportunities.

The Verde Valley Regional Trails Plan boundary is defined to include the aforementioned area and landscape diversity. As such, its boundaries are as follows:

Sycamore Canyon is the westernmost boundary. From this Canyon, the boundary extends northeastward to West Fork in Oak Creek Canyon and then eastward to I-17. It then follows I-17 southward until the Yavapai County boundary is reached. At this point, the boundaries coincide southward to include Fossil Creek. At the confluence of Fossil Creek and the Verde River, the boundary extends in a northwesterly direction along the ridge of the Black Mountains, including Squaw Peak and Mingus Mountain, until it reaches the confluence of Sycamore Creek and the Verde River.

As part of the focus of the Verde Valley Regional Trails Plan, trail interconnectivity is provided not only between Verde Valley communities, but also to trails outside of the region, such as the Arizona Trail and the Black Canyon Trail. With this in mind, some trails within the plan may extend outside of the designated plan boundaries in order to provide these linkages.

The Verde Valley region includes five incorporated municipalities, portions of two counties, portions of two national forests, several state parks and national monuments, a large amount of state trust land, and numerous smaller

unincorporated communities spread out across an area covering over 450 square miles. Breaking the region down into several planning sub-areas will help to provide a more coherent approach for organizing the trail plan. The plan will use the planning areas defined by the boundaries of the Incorporated and unincorporated communities which includes Cornville, Camp Verde, Cottonwood, Jerome, Clarkdale, Sedona, Big Park, Beaver Creek, and the Red Rock/Dry Creek area.

III. AGENCIES AND JURISDICTIONS

The Verde Valley can be described as a collection of unique rural communities each with their own history, diverse population and distinct landscape. There are five incorporated municipalities, portions of two counties, numerous unincorporated communities, two National Forests, five State Parks facilities, Native American lands, mountains, canyons and the Verde River with its equally impressive tributaries. The following section provides summaries of the major public land agencies and jurisdictions in the Verde Valley.

COCONINO NATIONAL FOREST.

The CNF provides management for approximately 400,000 acres in the Verde Valley region through the Red Rock Ranger District. The National Forest covers a large portion of the area east of the Verde River to the Red Rock Country around Sedona and along the Mogollon Rim. The CNF is currently in the process of revising the 1987 Coconino National Forest Land and Resource Management Plan. The Plan was modified in 1998 by "Amendment 12" which addresses a range of specific Forest management issues for the Red Rock Country around Sedona. The Forest Service maintains many miles of trails in the Red Rock region. These include the many popular trails around Sedona, as well as trails in the wilderness areas, including Sycamore Canyon, Red Rock/Secret Mountain, Munds Mountain, Wet Beaver and West Clear Creek Wildernesses.

PRESCOTT NATIONAL FOREST.

The PNF manages approximately 200,000 acres in the Verde Valley Region through the Verde Ranger District located in Camp Verde. In the Verde Valley, the PNF is located mainly to the west of the Verde River from Sycamore Canyon at the north running down along the Black Mountain range past Camp Verde towards the Tonto National Forest. In 1984, the United States Congress designated approximately 65 mi (100 km) of the river as the Verde Wild and Scenic River as part of the National Wild and Scenic River program. A 13 mile section of river below Beasley Flats is designated as "Scenic River" under the

Wild and Scenic River Act. There are a few trails located in the foothills and lower elevations of the PNF in the Verde Valley, such as the Black Canyon Trail southwest of Cottonwood; however, most of the PNF trail opportunities for the Verde Valley are found in a network of trails near the top of Mingus Mountain, including Woodchute,

NATIONAL PARK SERVICE.

The NPS, which is part of the United State Department of the Interior, manages two National Monuments in the Verde Valley Region, including Tuzigoot National Monument located near Clarkdale and Montezuma Castle/Montezuma Well National Monument located near Beaver Creek. These facilities all feature Native American archeological sites located in unique natural environments. There are interpretive trails in all of the NPS sites in the Verde Valley; however, possible coordination of trail routes to or through these facilities from adjacent public lands also should be considered.

ARIZONA STATE PARKS. azstateparks.com

There are five State Parks in the greater Verde Valley Region, include Dead Horse Ranch, Red Rock, Slide Rock, Jerome and Fort Verde. In addition, the Verde River Greenway Natural Area is managed by Arizona State Parks through Dead Horse Ranch State Park. Jerome State Historic Park and Fort Verde State Historic Park are primarily educational and museum facilities.

- **Dead Horse Ranch State Park. (DEHO)**

Located next to Cottonwood along the Verde River, the park has 423 acres with hiking and equestrian trails, fishing, canoeing, kayaking, picnicking and 109 full-service campsites and another 38 campsites. The park serves as a popular location for many events throughout the year, including the nationally recognized Verde Valley Birding Festival held the last weekend in April and Verde River Days the last Saturday in September. There are a variety of trails within the park, as well as a number which extend out into the Coconino National Forest, including the 15-mile Lime Kiln Trail that connects Dead Horse Ranch State park with Red Rock State Park near Sedona. Other noted

trails include the 1.5 mile Verde River Greenway Trail, Tavasci Marsh Trail and Raptor Trail.

- **Verde River Greenway Natural Area. (VERI)**

In 1987, a six mile stretch of the Verde River was identified by the state of Arizona as a critical natural resource that needed protection and management. This reach of the Verde River, located between the Town of Clarkdale, near the [Tuzigoot National Monument](#), and the Hwy 89A Bridge near Bridgeport, became part of the Arizona State Parks system. The area, which currently encompasses some 700 acres, is known as the Verde River Greenway State Natural Area. There are several existing trails within the Greenway area, including those in Dead Horse Ranch State Park, as well as the Jail Trail and Riverfront Park trails.

- **Red Rock State Park. (RERO)**

The park includes 286 acres located along Oak Creek off of Lower Red Rock Loop Road near Sedona. Oak Creek and its associated riparian habitat flow through the park, along with a series of desert and red rock hills and a center for environmental education. The 5-mile trail network consists of interconnecting loops, which lead you to vistas of red rock and along the lush greenery of Oak Creek. Bikes and horses are only allowed on designated routes through the park.

- **Jerome State Historic Park. (JERO)**

The park features the historic 1916 Douglas Mansion located directly below the Town of Jerome. This facility is primarily an historic and educational museum with interpretive displays on the early mining history of Jerome. However, it is located in close proximity to a potential location of the trailhead for the proposed Burro Trail, which would follow an old railroad grade from the mining area of Jerome down to the smelter area almost 2,000 feet lower in elevation in the Town of Clarkdale.

- **Slide Rock State Park. (SLRO)**

The popular summer swimming area is located approximately 10 miles up Oak Creek Canyon from Uptown Sedona. The park includes an historic

homestead and apple orchard along with several short nature trails near Oak Creek. It is also close to several Coconino National Forest hiking trails in Oak Creek Canyon, including West Fork Oak Creek Trail and North Wilson Trail

- **Fort Verde State Historic Park** (added 11/26/08, but needs some information for it)

ARIZONA STATE LAND DEPARTMENT.

There are several large and prominently located areas of land in the Verde Valley identified as State Trust Land covering a total area of approximately 16 square miles. Until such time as the legislation governing the management of these lands is updated, the use of these lands for trails and open space will continue to be severely limited. The mission statement for the Arizona State Land Department indicates their responsibility to sell or lease those lands to provide funding for Arizona schools and other public beneficiaries. Obtaining such lands for open space and trails has become very challenging since the purchase of land or easement rights has become extremely expensive. Recently, in other parts of Arizona, the State Land Department has been involved with the master planning process for larger tracts of land. Consideration of trail and open space planning should be closely monitored with any future planning or sales of State Trust Land in the Verde Valley.

ARIZONA STATE GAME AND FISH DEPARTMENT.

- **Page Spring Hatchery.**

Located off of Page Springs Road south of State Route 89A and north of Cornville in the vicinity of a number of the Verde Valley's newest wineries and vineyards. The state facility raises more than 650,000 rainbow and brown trout for release in streams and lakes throughout Arizona. This facility is also associated with a wildlife area that includes a nature trail near Oak Creek.

YAVAPAI COUNTY.

Almost half the population of the Verde Valley lives in the unincorporated area of Yavapai County. The unincorporated county areas include both dispersed rural settlement and several growing communities, each with their own unique identity and character. Some of the major community areas include the following:

- **Cornville / Page Springs.**

The Cornville Community Planning Area covers a relatively large area generally located in the center of the Verde Valley region. The area includes newer planned developments, larger horse properties, older manufactured home parks, commercial development, wineries, lush growth along Oak Creek and big open hillsides. There are a number of opportunities for expanded park and trail systems in the area.

- **Beaver Creek (Rimrock / Lake Montezuma / McGuireville)**

The Beaver Creek Community Plan Area encompasses the communities of Rimrock, Lake Montezuma and McGuireville in an area generally east of I-17 and north of Camp Verde. A key part of the rural character of the area is defined by the close relationship of these communities to the surrounding Coconino National Forest. Trail access should be closely coordinated with the CNF, Montezuma Castle/ Montezuma Well National Monument and future private development in the area.

- **Big Park / Village of Oak Creek.**

Settlement of ranches and homesteads began in the Big Park area in the 1920s. The Village of Oak Creek development started in 1967 and today almost 6,000 people call this part of Red Rock Country home. Most of the trail development in the area is associated with the Coconino National Forest. Portions of the area north of Bell Rock are located in Coconino County and any future development in those areas will need close coordination with the county.

- **Verde Village.**

Development of this residential subdivision next to Cottonwood began in 1970. There are now over 11,000 people living in Verde Village between the Verde River and the foothills of Mingus Mountain. Trail opportunities within Verde Village are limited due to the developed patterns and existing land ownership; however, there may be opportunities for connections to surrounding public lands from some points around the perimeter.

COCONINO COUNTY.

It is estimated that over 3,500 residents live in the area of Coconino County that is in the greater Verde Valley region from Oak Creek Canyon to the Uptown Sedona area and then south along State Rote 179 towards Village of Oak Creek. Most of the area north of Bell Rock up to State Route 89A is located in Coconino County District 3. Trail and trailheads in this area are primarily part of the Coconino National Forest. Future development of private land in this area should be monitored for inclusion of trails.

TOWN OF CAMP VERDE.

Camp Verde incorporated in December of 1986 with a population of around 6,000. The population in 2009 was about 11,600. The town boundary is approximately 47 square miles and is considered one of the largest municipalities in the state of Arizona.

TOWN OF CLARKDALE.

Clarkdale was established almost 100 years ago as a company town to support the copper smelter that was built to service the mining operations up the hill in nearby Jerome. The town became incorporated in 1957 after the smelter closed. Since then the town limits expanded to more than 10 square miles in area. 2007 population estimate at 3,986.

CITY OF COTTONWOOD

With a 2007 population estimate at just over 11,000 people, Cottonwood would still be considered a small town; however, as the administrative and commercial center of a growing sub-area, Cottonwood faces unique challenges in providing adequate services and infra-structure for a much larger population.

TOWN OF JEROME

Although the Town of Jerome has the lowest population of any incorporated municipality in Arizona with less than 400 official residents, it was one of the largest towns in the southwest during the height of the mining days back in the late 1800s. The historic former mining town has a unique location on the side of the mountain and attracts visitors from all over the world to its shops, restaurants and hotels. There are a number of opportunities to develop trails in and around the town that could be explored both for residents and tourists.

CITY OF SEDONA

Sedona has a population of 11,300 with an estimated 2-4 million visitors per year. The City, in partnership with the United States Forest Service, has over 250 miles of trails that encircle the perimeter of the City. The City's Trails and Urban Pathways Plan, finalized in 2008, provides a comprehensive guide for the City to expand the trail system, including, but not limited to pedestrian and bicycle facilities, hiking trails, mountain bike trails and equestrian trails. Several Forest Service trailheads are within the City limits and several City trails are located at Posse Grounds Park.

One of the goals in the City's 2002 Community Plan is to develop parks and recreation facilities and an interconnected system of trails and urban pathways to meet the community's recreational needs and provide access to open space.

YAVAPAI APACHE NATION (needs to be relooked at 11/26/08)

The main settlement area and administrative center for the YA Nation is located at the Middle Verde area near Camp Verde with a somewhat smaller area nest to Clarkdale along Bitter Creek Wash. Access to trails on these reservation lands is not open to the general public; however, the Nation should have the opportunity to connect their trails to the surrounding systems.

IV. RECOMMENDATIONS FOR IMPLEMENTATION

An effective trail plan will include coordination between all jurisdictions involved. To facilitate this coordination it is recommended that an individual from each jurisdiction be designated to work on trails in their area. This individual will be responsible for communicating with their agency the potential trail links defined within this plan that need to be studied, along with their linkages to neighboring jurisdictions. For incorporated areas, the selected individual will most likely be from the Planning or Parks and Recreation Departments. The Community Associations of the unincorporated areas will need to work in conjunction with the County's Development Services Department in order to coordinate their portion of the plan. The Public and State Land agencies will be asked to participate in all planning processes since most of the trails will be within their jurisdiction, and they are more experienced establishing trail systems. Coordination and communication between all jurisdictions will be essential to ensure that everyone is focused on the same goal- completing trails that provide interconnectivity within the entire trail system.

The implementation of this plan will require a commitment from all jurisdictions, not only for personnel mentioned above, but also for financial support to see the various projects through, and to educate the public on the benefits and progress of the trails projects.

Once trails have been established, there will be a need to develop and enforce uniform regulations for their management. Inter-agency agreements between neighboring jurisdictions will allow enforcement of these regulations by either jurisdiction in border areas.

Methods and Procedures to Improve Trail System Planning, Development, and Management

- Planning
 - Someone from each jurisdiction specifically designated to continue to be a contact person, responsible for the trails in their area
 - planning officials from towns, cities and unincorporated areas take

responsibility for trails within their areas and for trails to connect to surrounding public land.

- Public lands create 'system trails' to connect with trails coming out of the urban areas.
- Development
 - Most important- a commitment from each participant to commit both money and personnel to the project.
 - Continued communication so everyone involved is working the same project at the same time, following the same plan, so we do not end up with trails to nowhere.
 - Lots of publicity to advertise projects, benefits and progress.
- Management
 - Development and enforcement of uniform regulations
 - Inter-agency agreements providing regulations can be enforced in border areas by either jurisdiction.
- Describe expectations, guiding policies, internal procedures and timelines for planning and implementation of trails within each community and land agency.

V. IMPLEMENTATION STRATEGIES

Strategies to implement plan objectives can be organized in a number of ways. One approach to getting projects going with limited budgets, staff and resources is to evaluate which projects can be accomplished by using existing funding and resources as much as possible. It may be relatively easy to implement certain types of improvements while other projects are going to take more time, money and work to figure out. By establishing criteria and methods to evaluate project suitability based on low, medium and high costs and then looking further at time requirements organized as short, medium and long-term, it becomes possible to prioritize projects according to more realistic expectations. There are other factors to consider as well, including life-cycle costs, maintenance requirements, ability to extend project effectiveness through coordination with other projects, quality of life issues, economic benefits and other long-term community goals.

The cost and ease of implementation of trail projects needs to be balanced with need. Proposed trails and trail systems need to be prioritized by local citizens and agency managers. The highest priority trails should provide for environmental protection, citizen and visitor demand, inter community connection, trails that have good trailhead possibilities and trails that circle communities. Trails that circle subdivisions and towns should receive high priority. That's based on the proven fact that "If you do not know where you are going, you will never get there". The same is true with trails. A well planned trail system circles communities so there is not an unending demand for log "Social Trails" that damage soil and vegetation and depart from every private holding. Also, maintaining the individual identity of communities while keeping their physical separation has been listed in the community and land management plans for decades in the Verde Valley. Therefore, trails that connect communities not only maintain that physical separation but also their individual community personality and identity. These trails are also often historical wagon roads and

some of the longest trails available for travel in segments or in one trip. These trails also are some of the most endangered trails due to road and subdivision development.

LOW COST PROJECTS

- **Identify Existing Trails:** Inventory and mapping can be used to identify existing trail segments that may currently function as part of an interconnected system or show potential for interconnection. Naming or numbering the existing trail routes can help bring attention to the system potential.
- **Trail Signage:** Establish a coordinated system of trail signage. This could include route identification with destination and distance information, trail classification systems, trailhead maps and information, street crossing and traffic signs, and other informational signs.
- **Meet Regularly:** Citizens, trail enthusiasts and agency representatives need to meet regularly to plan and complete trail planning and specific trail projects (both large and small). This is done by using existing trail coalition groups and developing new ones. Encourage local elected officials and agency line officers to send representatives to those meetings. This keeps trail on the elected officials and agency “radar screens” and is a proven way to get results.
- **Speak Out for the Benefits of Trails:** Speak out to elected officials, the media and agency representatives about the benefits of trails. It is a proven fact that trails and other recreation opportunities reduce crime, increase support for public lands, improve the environment and improve mental and physical health, family cohesiveness and sense of community. This helps trails compete for funding during these austere budget times. Trails also help reduce the possibility of future national forest and state land exchanges by keeping the lands- “National Forest and State Parks in Character”.
- **Maintain Existing Trails:** Find out what types of maintenance the landowner will let groups perform without direct supervision, such as pruning and rock

picking. Trail marking of existing system trails is the first requirement of trail maintenance. If visitors can not find a trail, they will make “social trails” or make detours that damage the area. It is hard to get staff interested in the construction of new trails when current system trails are in serious disrepair or they can not even be located.

- **Convert Roads Closed During National Forest Travel Management Decisions into Trails:** The Coconino and Prescott National Forests (including all national forests in Arizona) are closing hundreds of miles of backcountry roads. It would be relatively inexpensive to convert many of these “closed roads” into challenging non-motorized and motorized trails.
- **Review Existing Commercial Publications:** For accuracy and to determine that trail segments already exist. Many locals and visitors get lost on Verde Valley trails after reading existing publications. Recommend changes to the authors of these trail guides.
- **Trailhead Kiosks:** Relatively simple informational sign boards can be installed at existing trailheads.
- **Education, Training and Safety Programs:** Outreach programs, workshops, conferences, publications, partnerships
- **Awards Programs:** Annual award programs can be used to highlight volunteer activity by individuals or organizations.
- **Volunteer Coordination:** Periodic events, adopt-a-trail and referral programs can be coordinated by existing staff members.

MEDIUM COST PROJECTS

- **Assigned Staff Coordinator:** Assign an existing staff person as a part-time coordinator for trails and/or bicycle and pedestrian issues.
- **Citizen Committees:** Elected officials can appoint a committee or task force to address development and implementation of trail, open space and multi-modal transportation programs.

- **Planning and Design:** Plan, design and coordinate specific trail and pathway segments as part of existing land use, transportation, parks and recreation, and community planning programs. Use existing staff, committees and volunteers. Obtain small grants to budget N.E.P.A. (National Environmental Policy Act) analysis for projects which according to agency representatives will only require a project record or a decision memo and not a decision notice. This will include archaeological and biological surveys and small scale involvement. These projects would require less than \$5,000.00 in cooperative funding.
- **Publications and Maps:** Production of maps or brochures will be beneficial to residents and visitors. Professional graphic design should be utilized in the production of a map/brochure. Other publications may describe safety or volunteer programs.
- **Minor Trail Construction Projects:** Any number of minor projects may be identified to help provide continuity to a system or to upgrade existing facilities, including short connecting sections, fencing and gates, and improved road crossing.
- **Minor Support Facilities:** Provide equestrian facilities at major trailheads, including hitching posts, corrals, and water troughs. Install bicycle racks at convenient, safe locations at trailheads, public facilities and popular destinations.
- **Traffic Signal Mechanisms:** Install bicycle-activated mechanisms at traffic signals, such as buttons accessible from on-street lanes and pavement loop detectors. Include provisions for these mechanisms in all new traffic signal projects.
- **Volunteer Coordination:** More advanced programs may include training programs regarding maintenance and construction of trails and logistical support with event management, tools and general outreach.

HIGH COST PROJECTS

- **Program Staff:** Budgeting for additional full-time staff to address trail and open space coordination and/or pedestrian and multi-modal transportation issues would generally be considered a high cost expense. The benefits to the community should be weighed in terms of community priorities and strategic planning.
- **Planning and Design:** Plan, design and coordinate specific trail and pathway segments as part of existing land use, transportation, parks and recreation, and community planning programs.
- **Environmental Clearance:** System planning for projects on federal land or using federal funding typically require some degree of environmental and legal clearance. These efforts usually require additional program funding to be obtained within agency budgets. High cost N.E.P.A. would include project scoping, development of a proposed action, public involvement, and determination of significant issues, development of alternatives to address issues, archaeological and biological clearances, evaluation of alternatives and a decision notice. Although this sounds very daunting, it can be done at a reasonable cost by seeking multiple funding sources and entering into “challenge cost share” and “collection” agreements with private clubs, city, county, state and federal agencies.
- **New Trail Facilities:** Construction of new trails and bikeway facilities may include relatively high cost projects to achieve the completion of an effective interconnected community system. Sometimes new trails and related facilities can be developed for relatively low cost by using existing resources; however, obtaining land, planning and constructing the trail can have higher costs in some cases. The completion of effective interconnected community trail systems is likely to require a commitment of funding at some point.
- **Citizen Committees:** Elected officials can appoint a permanent committee or task force to address development and implementation of trail, open space and multi-modal transportation programs.

- **Publications:** Production of maps or brochures will be beneficial to residents and visitors. Professional graphic design should be utilized in the production of a map/brochure. Other publications may describe safety or volunteer programs.
- **Right-of-Way Acquisition:** There are a variety of ways in which land for trails is acquired, including using existing public land, incorporating into development projects, obtaining easements or buying land. Purchasing land to complete systems may involve higher costs but the benefits should be considered in terms of total program goals.
- **Trailhead Development:** A system of major, minor and neighborhood trailheads would meet the diverse needs of trail users. Major trailheads may include paved or unpaved parking facilities, restrooms, information kiosks and additional park type facilities, such as picnic benches and armadas. Minor trailheads may include limited unpaved parking, fencing, gates and signage. Neighborhood trailheads may include simple signage and defined entry points only. Costs for any of these facilities could be in the higher range.
- **Bridges:** Bridge structures may be required to achieve system continuity depending on circumstances. Costs for bridges range from relatively high to relatively low going from major steel truss construction with masonry abutments to smaller timber plank bridges in remote areas. Major bridge spans with steel truss construction and masonry abutments may have a relatively high cost. Smaller steel or timber bridges on trails may also have relatively high costs.

Criteria for Trail Construction Priorities

In establishing the priorities for trail system construction, the following criteria should be taken into consideration. It should also be noted that priorities can change due to opportunities that arise, funding abilities are limited, or other issues that can create obstacles or amend a project. This is a conceptual list and will be based on current desires and available funding.

1. Links population centers (communities, neighborhoods) and traffic generators (commercial centers, schools, recreation sites)
2. Minimal Physical constraints (low level of natural hazards, amenable topography, room for re-vegetation and stabilization, etc)/ construction will not be extremely difficult
3. Minimal ownership constraints and disruption of existing property use
4. Accommodates a mix of user groups/benefit the most people
5. Multiple entities can share costs, design, construction, signs, maintenance, right-of-way, etc.
6. Creates no or minimal impact on the area's wildlife or habitat
7. Is critical link in the establishment of a continuous system or connects existing trails
8. Maximizes opportunities to view or pass through scenic features such as unique land forms, waterways, vistas, vegetation, and wildlife
9. Can be constructed and maintained at a relatively reasonable cost in a reasonable amount of time
10. Meets funding agency criteria
11. Provides an opportunity for historic or natural feature interpretation without disturbance
12. Facilitates the development of an inter-county or statewide non-motorized network of trails

VI. TRAIL DESIGN GUIDELINES

A variety of design standards and guidelines for trails have been developed over the years by a number of agencies and institutions that are involved in the design, construction, and maintenance of such facilities. Because regional trails and related facilities will be provided by the County and other agencies throughout the region, policies and guidelines addressing their design and construction are broad to allow the flexibility necessary to determine the most appropriate way to provide the trail connection or facility. These guidelines are recommendations to help minimize future maintenance, operation issues, user conflicts, and impacts to cultural and natural resources.

All regional trail segments should have design guidelines established for tread width, easement width, function, cross slope, grade, anticipated user volume, horizontal clearance, and vertical clearance as well as adequate signage, fencing, staging areas and additional trail features. When siting new trails, it is preferable, under most circumstances, to utilize existing forest service roads that have been closed, utility easements or existing (unauthorized/social) trails.

Design guidelines tend to vary among federal, state, and regional entities responsible for trail development. Major sources that are particularly relevant to the development of trails in the Verde Valley include the Prescott National Forest, Coconino National Forest, Arizona State Parks, and others. Forest Service guidelines are widely utilized for trails built to a “wildland” standard in a more primitive setting which is often preferred by trail users in more remote and less developed settings.

VII. TRAILHEAD DESIGN

The primary purpose of a trailhead is to provide access to a trail system. They also provide ancillary accommodations that allow for vehicle parking, trip planning and preparation as well as areas for rest and regrouping. Trailhead facilities may be incorporated into private developments or be included in the public land planning process. The size of each facility, land requirements, parking spaces and utility requirements will depend on projected use and location for each specific facility. Based on the specific conditions there may be variations within each type to accommodate the unique characteristics and needs of a specific location. Three types of trailheads are classified for purposes of design and system planning.

- Major Trailhead
- Minor Trailhead
- Neighborhood Trailhead

Major Trailhead

A major trailhead is designed to serve large numbers of people and to provide a range of facilities for multiple types of trail users serving a regional area. This type of trailhead should be located adjacent to or with very close access to a highway or major arterial roadway. Generally, the major trailhead serves as a hub or node that provides access to multiple trails. Equestrian facilities should be included with a major trailhead. The types of facilities that are typically provided at a Major Trailhead include the following:

- Parking for 25-50 or more vehicles, including parking and maneuvering room horse trailers. Accessible parking spaces typically need to be paved.
- When 5 or more designated parking spaces are provided at a trailhead, they must comply with the technical provisions in the Architectural Barriers Act Accessibility Standards (ABAAS) for accessible parking spaces.
- Trail and Informational signage. Kiosk type signs provide a range of information.
- Restroom facilities.

- Provide pull through trailer spaces, if equestrian use is permitted.
- Drinking fountains and (watering device for horses on equestrian routes)
- Picnic Ramada/s and Seating
- Lighting of parking areas, restrooms and pedestrian areas.
- Waste receptacles.

Minor Trailhead

A minor trailhead is similar in function to major trailheads but is smaller in size and has fewer features. This type of trailhead will accommodate a variety of users and is intended to provide access to multiple trails or to significant destination points. The minor trailhead should have access to an arterial street or major collector road. Equestrian facilities may be included with a minor trailhead. The types of facilities that are provided at a Minor Trailhead include some or all of the following:

- Parking for 10-25 or more vehicles, including parking and maneuvering room for horse trailers. Parking may be paved or compacted gravel. Accessible parking spaces are typically paved.
- Restroom accommodations.
- Provide pull through trailer spaces, if equestrian use is permitted.
- Drinking fountains and (watering device for horses on equestrian routes)
- Seating and Shade Structures.
- Lighting
- Trail and Informational Signage, with free standing panel or multi-sided kiosk
- Waste receptacles

Neighborhood Trailhead

The size and layout of a neighborhood trailhead varies depending on the anticipated use and specific conditions. This type of trailhead may consist of a simple gate with identification signage or there may be. There may be a separate parking area with some other features. The parking may be paved or unpaved. These facilities are defined by the following:

- Adequate fencing and gates to clearly identify the trail location and to restrict unofficial vehicle entry.
- Trail signage may be limited to basic information, such as trail name, destinations and other necessary information or there may be a more elaborate information kiosk.
- Generally 10 or fewer parking spaces. In some cases this type of trailhead will have no designated parking spaces.

Optional Facilities:

- Seating and shade
- Permanent or portable restroom accommodations.
- Waste receptacle

Equestrian Trailhead Guidelines

Three primary criteria have been identified for locating equestrian trailheads: ease of road access, parking for large rigs (truck and horse trailer) and access to trails that can be ridden by the beginning to intermediate equestrian who follows reasonable horse safety practices. Road access, whether paved or unpaved, needs to be able to accommodate a fully loaded trailer. Steep and narrow gravel roads or rough backcountry jeep roads would not provide good access to equestrian trailheads. Parking and loading should allow straight through travel or adequate turning radius so as to avoid the need for difficult back up maneuvers. Equestrian trailheads should be located with access to trails that can safely accommodate a typical horse and rider. Steep rocky mountain trails may be ridden by highly skilled riders but it would make less sense to locate the trailhead exclusively for those types of trails.

- Provide pull-through trailer parking spaces that are long enough for a car and horse trailer, but no less than 10 feet wide by 40 feet in length.
- An 8' wide loading and unloading area adjacent to the pull through space will assist with side loading trailers and general maneuvering of horses.
- Parking space should be laid out so that straight-ahead entrance and exit is possible.
- Drive aisle width and turning radius shall be sufficient for turning trailers.

- Provide adequate warning signage and pavement markings along drive aisles.
- Horse staging area should be located adjacent to or in close proximity to the parking area.
- A small corral would be helpful for facilities that anticipate moderate to heavy use.
- Surface material of staging area should be composed of compacted gravel or decomposed granite.
- Provide a series of hitches and hitching rails to accommodate more than one group.
- Providing a watering source for horses is a very desirable amenity, although it may be difficult or expensive. If water is available, a hose bib and water trough
- Provide trees or shade structure. Any covered structures provided for horse staging should be at least twelve feet in height to accommodate horse and rider.

Kiosk Design

A kiosk is a small outdoor structure that incorporates trail maps, route data and specific site information such as historical and environmental information for trail users. For the purpose of this plan three levels of signage have been developed. The level of signage is determined by the size of trailhead, its projected use and location. Informational kiosks and system signage should be located in a convenient location in close proximity to the start of the trail.

Type I Kiosks. Used at Major Trailheads, the Type I kiosk is intended to function as a stand alone element that incorporate shade, seating, trail system information and site related data such as historical and/or environmental information. This type of kiosk would typically have four sides to allow several users to view trail maps and data simultaneously. Kiosks should include uniform elements, exhibits, descriptions, historical, archeological or environmental narratives, graphics, and logos.

Type II Kiosks. Generally used with Minor Trailheads, these kiosks are primarily designed to display route maps and specific information about the facilities. This could be a smaller four-sided kiosk or a multi-panel display. Decorative variations could include an integrated base structure comprised of stone or masonry and a small roof structure to protect the display panels.

Type III Kiosk. May be located at Neighborhood Trailheads and periodically throughout the trail system. The Type III kiosk is generally defined by a single panel with location maps and basic information. The structure also may include an integrated base comprised of stone or masonry and a simple roof covering.

VIII. IMPACTS OF TRAILS

There are literally hundreds of detailed studies on the economic, social, environmental and public health benefits of trails and open space systems. These reports are widely available on numerous organizational web sites compiled by government, business, academic and non-profit sources. The evidence describing the positive benefits of trail systems is overwhelming. There is no excuse for any community to not actively support inclusion of trail facilities into their land use planning framework.

Often trail advocates must address neighbors, developers and public leaders. Initial concerns are that trails will decrease property values and increase crime, litter, vandalism and worse. Although any area with public access is susceptible to criminal activity and there may be incidental events reported, there is no correlation to show that trails are inherently unsafe or more prone to increased criminal activity. There is no evidence whatsoever to indicate that trails, in general, cause or attract increased criminal activity. In fact, studies indicate that crimes of opportunity are less likely to occur in areas where people congregate, including public trail systems.

Individual property owners and residents living in proximity to trail facilities may report various unique anecdotal experiences; however, it needs to be clearly understood that planning for these valued public facilities should be based on the broader statistical evidence. Impacts are also relative to individual expectations in specific locations: urban residents may expect certain levels of noise and activity where rural residents expect less noise and human activity. Likewise, a small percentage of the population will be generally negative about these types of public facilities in any case. .

IX. OPEN SPACE PLANNING

The Verde Valley contains a wealth of landscapes and habitats. Open space is a defining characteristic. Verde Valley residents have repeatedly expressed a desire to preserve the area's open spaces. During the creation of the Verde Valley Regional Land Use Plan, citizens were asked in public meetings to list their land use priorities. Open Space was a top value at each meeting. In 1998 all the municipalities of the Verde Valley agreed to a resolution that open space buffers should be maintained between the communities. A 2002 Verde Valley forum on open space led to the creation of the Verde Valley Land Preservation Institute. This group is studying the scenic, cultural, and important biological qualities found in the open space of the Verde Valley. From this work a regional open space plan will be developed.

Open space doesn't exist without trails. Even when human trails aren't found, animal paths can be seen. Our enjoyment of wildlands is enhanced when we experience them away from major human infrastructure such as roads. Open space with trails has become widely regarded as a desirable amenity in housing developments. Dedicated open space protects trail access. Many former Verde Valley paths are no longer available to residents due to loss of open space. Open space preservation and trail plans will hopefully halt this trend and provide lasting value for residents and visitors to our beautiful valley.

X. TRAIL FUNDING OPPORTUNITIES

Costs associated with developing and maintaining trails can be looked at in a number of ways. There are strategies that do not require outside funding sources, such as integrating trail projects into existing budgets and programs, incorporating trails with private development projects, working with volunteers and seeking donations of property to locate such facilities. There may be other circumstances where additional funding will be required for trail development, such as for land acquisition, required environmental studies, major construction activities or installation of related structures. Many funding programs involve competitive grants, matching fund requirements, public participation, multi-objective criteria and other requirements that should be carefully evaluated by any agency considering such sources. The availability of specific funding sources for trails is likely to change from year to year so the following information will need to be checked for current status. Examples of potential funding sources are shown as Federal, state, local and private sources, as follows:

FEDERAL SOURCES

American Recovery and Investment Act

Also known as the “Federal Stimulus” bill, this program was created in 2009 to provide billions of dollars to Federal, state and local agencies to assist with the “economic recovery” of the nation through an emphasis on job creation and major infrastructure projects. This is likely to be a one-time program; however, there may be funding spill-over and related secondary programs for a number of years. Potential programs could provide direct or indirectly resources for development of local recreational facilities and trails. The details are not known at this time but is recommended that the programs continue to be monitored for inclusion of potential trail facilities.

Federal Transportation Program

The U.S. Department of Transportation's Federal Highway Administration (FHWA) has been the largest single source of funding for multiple use paths, trails and related projects. Availability of transportation funds for trails or pathways will need to be closely monitored in the coming years as these

programs are subject to changes based on economic conditions. Typically, the Verde Valley Transportation Planning Organization, Northern Arizona Council of Governments, and ADOT determine how Federal transportation monies from ADOT are spent in this area through ongoing coordination and prioritization of projects.

Surface Transportation Authorization Act of 2009 (STAA) is the name for the latest version of the Federal transportation bill. This bill replaces “The Safe, Accountable, Efficient Transportation Equity Act - a Legacy for Users” also known as SAFETEA-LU (2005-2009). Sources within the Federal transportation program that could potentially include trail and trail-related projects will need to be evaluated over the coming years to determine availability.

Recreational Trails Program. Although the funding source for this program is derived through Federal transportation sources, this program is managed through Arizona State Parks to provide for both motorized and non-motorized recreational trails. More information on this program is provided in the State Funding Sources section that follows.

Transportation Enhancements (TE). The Arizona Department of Transportation (ADOT) administers this program. Since 1991, the Transportation Enhancement program has been an important source of funding for activities and projects that go beyond standard road construction projects. Walkways, pedestrian bridges, multi-use pathways, sidewalks, and support facilities for pedestrian and bicyclist use have used these funds. All such projects must have a primary function for transportation use, however, this could include urban trail type facilities, pedestrian bridges and connecting pathways that meet transportation and recreation objectives. Typically these funds have been set aside each year as a dedicated portion of the general transportation funds each state receives from the federal government.

Safe Routes to School Initiative.

This program is intended to improve pedestrian and bicycle infrastructure providing routes to schools. The purpose is to enable and encourage children, including those with disabilities, to walk and bicycle to school; to make walking

and bicycling to school safe and more appealing; and to facilitate the planning, development and implementation of projects that will improve safety, and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. Funds are to be administered by ADOT to provide financial assistance to state, local, and regional agencies, including non-profit organizations that demonstrate the ability to meet the requirements of the program. The Federal share has been 100 percent. Eligible projects include sidewalk improvements, traffic calming and speed reduction improvements, pedestrian and bicycle crossing improvements, on-street bicycle facilities, off-street bicycle and pedestrian facilities, secure bike parking, and traffic diversion improvements in the vicinity of schools (within approximately 2 miles).

Other Federal Program Sources

Land and Water Conservation Fund (LWCF) – Federal Side

Historically, this program has been a major source of funding to acquire important land and open space resources that support recreational and community-based objectives. The program includes a Federal side and state-side, each with unique program requirements and emphasis. The availability of funding through either the Federal or state programs has varied greatly over the years and needs to be closely monitored to determine availability. Arizona State Parks manages any state-side LWCF programming through their grant program. Federal side funding is provided directly to the Federal land management agencies, such as the U.S. Forest Service or National Park Service, based on program need and unique qualifications after a competitive review process that requires support of the President and Congress.

National Park Service Rivers, Trails and Conservation Assistance Program (RTCA)

This NPS program has been able to provide valuable consulting and program development assistance to a number of communities and agencies in the Verde Valley over the years. Program funding has been cut in recent years; however, RTCA could be contacted about possibilities to provide assistance with planning and program development where a specific project meets their qualifications.

USFS Challenge Cost-Share Program

The Challenge Cost-Share Grant program establishes a partnership between the Forest Service and local entities, such as local governments and organizations. To participate, the agency must enter into a Challenge Cost-Share Agreement with the USFS. The "challenger" typically matches the USFS funds with funding, labor, equipment, supplies or technical skills. The application process is typically done through the local Ranger Station. The ratio for matching with USFS funds is determined through established policies and procedures and has varied depending on the program: (i.e. 50:50, 20:80, etc.) Other programs that allow funding partnerships may also be available and should be considered for projects which involve interconnected facilities between Federal agencies and local jurisdictions.

STATE SOURCES

Arizona State Parks Grant Program

NOTE: For 2009, these programs were suspended by the State of Arizona so that all funds could be applied to the state budget deficit. It is anticipated that these programs will resume at a later time.

The Arizona State Parks Grants Section administers eight grant programs. There are three (3) State Parks grant programs that come from the Arizona Heritage Fund with other five other programs coming from other state and federal sources. The primary state grant programs for trails and trail-related projects are the Trails Heritage Fund and the Recreational Trails Program (RTP); however, a number of the other funding programs, such as Local, Regional & State Parks and State Lake Improvement Fund (SLIF), could potentially include trail projects as part of a larger project. The State Parks Grant Program includes the following:

1. Trails Heritage Fund (*Arizona Heritage Fund*)
2. Local, Regional & State Parks (*Arizona Heritage Fund*)
3. Historic Preservation (*Arizona Heritage Fund*)
4. Recreational Trails Program
5. State Lake Improvement Fund (SLIF)

6. Land and Water Conservation Fund (LWCF) - state portion
7. Growing Smarter State Trust Land Acquisition Program.
8. Law Enforcement & Boating Safety Fund (LEBSF)

Trails Heritage Fund

The Trails Heritage Fund Grant Program provides funding assistance for non-motorized trail projects. The Arizona State Parks Board administers the program through the State Parks Grants Section. Each year the Arizona Lottery has contributed as much as \$475,000 in new revenue through a competitive grant process. A trail must be included in the State Trails System to be eligible for Trails Heritage Fund grant assistance. State Trails System nominations are due by July 1st each year and acceptance will be determined well in advance of the grant application deadline. Grants are awarded on a matching basis. In 2008, the State Parks Board approved modifications to the grant match formula to allow projects in local jurisdictions to apply under a 25-75 matching formula. Allowing the 25% match for the grant was intended to provide an incentive for smaller or underserved communities to apply. Federal agencies are still required to provide at least 50% of the total eligible project cost for the grant match.

Eligible Activities: Projects eligible for Trails Heritage Fund support include trail development and reconstruction activities, retaining walls, guard rails, hand rails, bridges, re-vegetation, repair and conditioning of the ground; trail support facilities including, but not limited to: signage, parking areas, hitching rails, bike racks, fencing, motorized access barriers, underpasses, rest rooms, and water facilities; acquisition or lease of future trail alignments; one-time non-routine volunteer trail clean-up activities or events; design and engineering when included with trail development; cultural resources survey, including archaeological and other historic properties.

Non-Eligible Activities: Landscaping projects, defined as the addition of trees, bushes, shrubs, cacti, grass, flowers, or rock to enhance an area and irrigation needed to support the landscaping. Administrative pre-application or planning activities, including the development of local or regional trail plans, are not

eligible for funding. Funds cannot be used for administrative or overhead costs, or costs associated with application preparation.

Recreational Trails Program (RTP)

RTP includes both motorized and non-motorized trails designated for recreational rather than transportation purposes. To be eligible for funding, projects must be designed consistent with the State Comprehensive Outdoor Recreation Plan (SCORP) that is published every five years by Arizona State Parks. Arizona State Parks administers the program for the US Department of Transportation. Funds are available to develop, construct, maintain, and rehabilitate trails and trail facilities for hiking, bicycling, in-line skating, equestrian use, cross-country skiing, snowmobiling, off-road motorcycling, all-terrain vehicle riding, four-wheel driving, or using other off-road motorized vehicles.

RTP funding availability from the Federal sources is going to remain uncertain due to the state of the economy; however, trails are an investment in the community that provides economic returns so it is likely this program will continue at some time. The program provides funds for all kinds of recreational trail uses, such as pedestrian uses (hiking, running, wheelchair use), bicycling, in-line skating, equestrian use, cross-country skiing, snowmobiling, off-road motorcycling, all-terrain vehicle riding, four-wheel driving, or using other off-road motorized vehicles. Each state develops its own procedures to solicit projects from applicants, and to select projects for funding, in response to motorized and non-motorized recreational trail needs within the state. In past years at least forty-four percent (44%) of Arizona's yearly allocation of RTP funds has been available for motorized trails projects and forty-four percent (44%) available for non-motorized trail purposes with the remainder open for either through a competitive grant process. Standards and procedures for the RTP are subject to change.

Eligible activities include:

- Maintenance and restoration of trails.
- Development and rehabilitation of trailside and trailhead facilities
- Purchase and lease of trail construction and maintenance equipment.

- Construction of new trails (with some limits on Federal lands).
- Acquisition of easements and fee simple title to property.
- Assessment of trail conditions for accessibility and maintenance.
- Development and dissemination of publications and operation of trail safety and trail environmental protection programs (including non-law enforcement monitoring and patrol programs and trail-related training), not to exceed 5% of the annual apportionment.
- State costs for administering the program, not to exceed 7% of the annual apportionment
- Assessment of trail conditions for accessibility and maintenance.
- Clarification that education funds may be used for publications, monitoring and patrol programs and for trail-related training.

Land and Water Conservation Fund (LWCF) – State Side

The state-side portion of the LWCF grant program comes from the National Park Service. Annual funding amounts have varied widely over the years. The Land and Water Conservation Fund (LWCF) Grant Programs provides funding assistance to cities, towns, counties and tribal governments for outdoor recreation and open space projects. Governmental entities are eligible to apply for LWCF grants. Grants are awarded on a matching basis, where the applicant must provide at least 50% of the total project cost and the grant provides the remainder. Eligible project activities include park development (for example, playground equipment, lighting, picnic facilities, ball fields, restrooms) to serve outdoor recreation needs, and land acquisition for outdoor recreation and/or open space.

Local, Regional and State Parks (LRSP) Heritage Fund

The Arizona State Parks Board Local, Regional and State Parks (LRSP) Heritage Fund (A.R.S. § 41-503), established in 1990, provides funding for outdoor recreation and open space throughout Arizona. Revenue for the program is derived from the Arizona Lottery. Several of these programs, including the Heritage Fund, the Land and Water Conservation Fund, and the State Lake

Improvement Fund could provide funding opportunities for trails, bicycle and pedestrian facilities, and related open space acquisition or improvements.

Other State Program Sources:

Arizona Conservation Corps

ACC provides employment, educational and personal development opportunities for young adults' ages 18 to 25 engaged in conservation and community service projects. Fifty percent of ACC projects have involved trail building along with re-vegetation and assisting in construction of campgrounds and parks. Administrative support for ACC is provided by the Arizona State Parks Board.

LOCAL SOURCES & STRATEGIES

The following section includes a range of potential local sources to obtain funding for trail development. Individual communities and agencies would have to determine whether any of these approaches were desirable or feasible for their particular project.

General Funds

General fund revenue sources, consisting of local sales tax and property tax, state-shared revenues, and various grant sources, can be used to pay for all or part of service or facility expansions. General fund revenues can be used where a cash match is required for grant requests. Funds can also be set aside over a number of years to build up revenues.

Specialty Industry Tax (Hotels, Restaurants, Bars)

Typically, these specialty taxes are associated with predominately non-resident type uses, such as hotels, restaurants and bars. Trails and recreational facility funding could be considered as a recipient of such funding where the businesses being taxed see a direct benefit through improved tourism activity or increased recreation spending. Hospitality taxes have proven to be popular and successful where the tax rate is relatively small at 1%-2% and the funds are directed into community amenities that benefit both the businesses and the community. Such taxes must be approved by the voters but should also have the support of the businesses being taxed prior to consideration.

Improvement District Bonds

Typically used to finance local sewer, water or street improvements. An improvement district could potentially be set up to develop sidewalks, pathways or trails associated with a neighborhood or district improvement program. An assessment is determined for each parcel in the district based on the share of benefit to be derived. The assessment district may be defined as the entire community or as a specific area to be determined. Assessments may be paid by property owners up front in cash or financed through issuance of bonds. This process can allow the project to be financed up front while a schedule of payments is assessed to properties to be paid over a number of years. Bonds are secured by a lien on property. This type of bond usually requires at least 51% of property owner approval of the affected area through a petition process.

Revenue Bonds

Funds borrowed to finance public service expansion that are paid back through future revenues pledged to the bond issuer. Pathways and pedestrian facilities could potentially be developed through revenue bonds. This is generally from sales tax and Highway User Revenue Funds (HURF) that are distributed to local jurisdictions from state fuel taxes. Must be approved by public vote.

Community Facility District Bonds.

Allows financing of a range of public infrastructure projects through general obligation bonds, revenue bonds or assessment bonds within an improvement district. The property owners in the District and not the City or Town bear liability if default should occur. Street and sidewalk improvements, parks and recreation facilities, water and wastewater projects, downtown redevelopment and various public facilities may be financed through issuance of Community Facility District Bonds.

Municipal Property Corporation Bonds.

Funds borrowed for improvements to public projects, such park facilities, water facilities and other municipal projects, that are paid back through future property tax revenues. Typically, the town or city could borrow for up to 20 percent of its secondary assessed valuation with an additional 6 percent available for special projects. Must be approved by public vote.

Development (Impact) Fees.

Programs to establish development fees for various public amenities require extensive study and documentation to show the proportionate relationship of development impacts; however, where such studies are shown to bear a relationship, it is possible to include impact fee requirements for parks and recreation facilities, including trail systems and related facilities. Development fees are typically assessed at the time of issuance of a building permit. The statute applicable to municipalities allows development fees to be assessed for necessary public services, which has been interpreted to include parks and open space areas. Municipalities may impose development fees in an identified benefit area to pay for a proportionate share of the public facilities required to serve that development. A benefit area is a geographic area in which public facilities are of direct benefit to the development. For a development fee to be imposed, three standards must be met:

1. There must be a reasonable relationship between the cost of the public facilities for which the development fee is assessed and the service demands of the benefit area.
2. The development fees assessed must not exceed a proportionate share of the costs incurred or be incurred in providing a public facility.
3. Development fees must be used and expended for the benefit of the area that pays the development fee.

Right-of-Way Projects

All right-of-way projects, such as new street development, existing street upgrade projects, and utility corridor projects, should be evaluated for opportunities to include bicycle, pedestrian and trail facilities. Communities can benefit by having local bicycle, pedestrian and trail plans and related policies already in place to guide the evaluation of proposed right-of-way projects for inclusion of bikeway, pedestrian or trail facilities.

User Fees

User fees are assessed for the specific use of a service or activity. A user fee can be used to defray a portion or the total cost that service. Local jurisdictions

typically do not charge park entrance or use fees but they often charge for specific recreation programs or specialized activities. One advantage of the user fee is that it is incurred directly by the person or group using the specific service. The disadvantage of user fees is that they are seen as double taxation and essentially result in the exclusion of lower income residents from enjoying the public domain.

Bicycle Registration Fees

Bicycle registration programs are usually administered by a police department. If the fee level is too low, it may not even cover administrative costs; however, if the fees are considered too high, an unfair burden is placed on low income residents. Registration fees may help support bicycle education and safety programs but are not likely to support construction projects. Another benefit can be to help identify bicycles in theft recovery. Grant programs and waivers should be considered for low-income residents and children so as to encourage wider participation in such programs. Costs and benefits need to be carefully weighed.

PRIVATE SOURCES

Private Development.

One of the most important tools for developing an interconnected trail system involves working with the private development sector to include public trail facilities in and through private development projects. Trails along with open space areas are extremely popular amenities that add value to a development. It is best to plan trail facilities with new development projects at the earliest phase of project planning; however, many existing development projects could be evaluated for opportunities to add trails, especially within wash corridors and existing open space areas.

Zoning and Subdivision Ordinances.

Local Zoning Ordinances and Subdivision Regulations can include provisions and incentives for trail, bikeway and pedestrian facilities. Any such requirements need to be carefully written to ensure there is a direct relationship between the required trail facilities and the specific development project. These types of

requirements could be included with change of zoning requests and new subdivision projects. Any such amendments need close legal scrutiny to ensure compliance with state and federal laws.

Private Grant Sources.

Grant sources may be available from corporate support programs and non-profit foundations. These types of grants vary widely in their scope. Private grants may require matching funds or provide complete project funding. Grants are typically competitive and typically can not be expected as a guaranteed source from year to year. Private sources often provide funds through a partnership type approach with an emphasis on projects that provide multiple benefits.

Volunteer Support.

Great trail systems benefit from ongoing support and assistance from volunteer community groups, both for initial trail construction and long-term maintenance needs. Various formats exist to formalize community and organizational relationships with volunteers. Training and leadership programs are recommended to achieve successful volunteer programs. Partnerships with existing groups and agencies are recommended for program development; however, new groups can also be started.

Adopt-A-Trail Programs.

Adopt-A-Trail programs allow individuals, organizations or businesses to assist with general maintenance and clean up of specific trail or bikeway segments. Agencies should have adequate staff capacity to assist with coordinating such programs.

Donations and Gifts.

Cash donations or in-kind services from individuals or companies should be accepted for trail projects with the understanding that these sources cannot be expected and government agencies should not request such gifts as a matter of policy. Charitable giving programs to secure private funds can be developed but should clearly define the objectives and any incentives offered, such as tax breaks or donor recognition opportunities. Voluntary right-of-way dedications and donations of access easements should always be sought when applicable to

approved plans, as these facilities almost always add value to the related properties and can be seen as a partnership relationship.

Examples

1. Lime Kiln Trail- Cottonwood/Clarkdale to Sedona

The Lime Kiln Trail and the Deer Pass Trailhead is a great example of a cooperative effort between numerous agencies, individuals and State, Local and Federal Government as well as volunteer organizations. The project was started by the Verde Valley Horsemen's Council in the 1980's as a trail project to commemorate the Historic Lime Kiln Trail which linked the Cottonwood/Clarkdale Area to Sedona slightly before and during the early 1900's. After approximately 15 years of effort Diane Lovett and Fran Whetten convinced the Forest Service to endorse the project.

The Lime Kiln Trail was sponsored by the Dead Horse Ranch Trails Coalition and was put on the Coconino National Forest Land Management Plan Amendment #12 in June of 1998 as an approved trail subject to site specific survey and design. This provided the necessary approval according to the National Environmental Policy Act. Volunteers and the Forest Service then began the long process of trail location, Cultural Resource Survey and Clearance and Biological Assessment and Evaluation. During this process it was determined that the project crossed one and one half miles of State of Arizona Trust Lands.

Easements had to be purchased based on an appraisal (based on the actual cost of purchase of the land). The easement had to be surveyed by a licensed surveyor. Yavapai County provided the survey and the State Appraised the easement at approx. \$42,000. Max Castillo of Arizona State Parks was able to obtain State Trail Funding for the purchase of the easement. The City of Cottonwood also provided support.

The Forest Service funded cultural and biological clearances including for the Arizona State Trust Lands and once they were approved funding was obtained for construction of the trail thru an Application for a Centennial of the Forest Service Grant of approximately \$35,000. The Forest Service Youth Conservation Corps., the Forest Service Trail Crew, Arizona State Parks Employees and

volunteers from the Dead Horse Ranch Trails Coalition, the Friends of the Forest, the Cactus Kickers and the Skyliners Hiking Clubs and the Verde Valley Cyclist Coalition plus numerous other volunteer organizations assisted in the completion of the trail. Standard Carsonite Trail stickers were fabricated, rock-wire cairns were constructed and installed, tread was constructed where necessary and drainage structures, brush clearing was completed.

A trailhead was constructed along the Deer Pass Road (Forest Road 89B) including a toilet, parking lot, and signs and bulletin boards were installed. The parking lot was funded by an "RTP" Grant thru Arizona State Parks and the toilet was funded by the Forest Service using Red Rock Pass Revenues and Recreation Facility Funds from the Coconino National Forest. The toilet cost \$35,000 and the "RTP" Grant was approximately \$11,000. An additional future trailhead is needed near Sheepshead Tank. The project has become a popular trail which connects the communities of Cottonwood/Clarkdale to Sedona and provides recreationists an opportunity to travel short or long sections of the trail and see many of the original "grades" traveled by the pioneers on horseback and in "buck board" wagons.

2. The Mail Trail –Camp Verde to Payson

The Mail Trail was used by the Yavapai-Apache for generations before European settlement of the Arizona Territory. It was later used by the Military and cowboys as early as 1869 as a route from Fort Reno to Fort Verde. It was later used by the US Postal Service from 1884 to 1914 as a contract Mail Route. Many of the citizens of Camp Verde had relatives who carried the Mail along the 52 mile route from Camp Verde to Rutherford to Pine and on to Payson and Rye. They covered the 104 mile round trip in two days.

The trail sat there for over 70 years until 1984 when Bill Stafford, of the Forest Service, asked the Foreman of the Ward Ranch (Wan Mackelprang) why the stock tank on Mud Tanks Mesa was called Mail Trail Tank and he showed Bill the Mail Trail as it drops off the Rim of Fossil Creek. In 1990 the Forest Service then re-constructed a short two mile section of the Mail Trail from the Rim across Fossil Creek to the junction of the Fossil Creek Trail on the Tonto National

Forest. In approximately 1998 a group from Camp Verde including Howard Parrish, Doug Roy and Lynn Reddell contacted the Red Rock Ranger District with the proposal to connect the General Crook Trail to already constructed roads and trails along or near the original trail alignment for the entire distance from the General Crook Trail to Payson, AZ. The Forest Service considered the project for a period of approx. eight years until it was finally funded with \$42,000 in Forest Service Trail Construction Funds in 2006. The Tonto National Forest (Payson Ranger District) told the group that there were existing trails and roads from the Strawberry Trailhead to Payson. They did not want any of the existing roads and trails to have any change in name or road number.

A group was founded by Howard Parrish called the Mail Trail Coalition to push the project forward and provide continued support for funding and volunteers for construction and maintenance. The following groups participated: The Town of Camp Verde (funding), the Camp Verde Cavalry (labor and sponsorship of the 501(3)C status), the Camp Verde Chamber of Commerce (meeting site, published maps and advertising), the Friends of the Forest (\$2,000 in carsonite posts and custom trail markers), the Pine Chamber of Commerce (dedication celebration, food and location for a plaque), the Payson Chamber of Commerce (dedication celebration, food and location for a plaque) and the Yavapai-Apache Nation (sponsor ship of kick off dinner). The Trailhead was built on Mud Tanks Mesa near Hwy. 260 with donated material from Rocky Construction, McDonald Brothers Construction and Oothoudt Bros. Trucking. Future needs include completion of gravel and interpretive signing at the Mud Tanks Trailhead, volunteer maintenance of cairns and installation of carsonites and custom trail markers.

3. Red Rock Trail System and Sedona Urban Trails and Pathway System

Forty-four new trails were constructed on National Forest Lands covering approximately 113 miles in and around Sedona including the Village of Oak Creek, Elmerville and the Schnebly Hill Road Area. In addition many miles of urban pathway was constructed on Sedona City Parks Land and along streets and highways. Twenty-three new trailheads and neighborhood links have been

constructed to date with this project. These trailheads include six public toilets, hundreds of parking spaces, directional and interpretive signs and many other improvements. Much is still left to be done. The concept was started by Norm Herkenham of the Sedona Westerners along with a group sponsored by the Bell Rock Kiwanis Club called the Red Rock Pathways Group. From approximately 1991 to 1994, Norm worked on what was called the Sedona Urban Trails and Pathways Plan as a member of the the Sedona Parks and Recreation Commission under the guidance of Dave Copely (Sedona Parks Director) and later Marie Brown. Simultaneously the Red Rock Pathways Group commissioned a local Architectural Design Firm (Design Group Incorporated) to prepare a concept map of both existing and proposed non-motorized trails and pathways for the Sedona and Village of Oak Creek Areas. Red Rock Pathways was able to sponsor and complete a Memorandum of Understanding signed by the Mayor of Sedona, the County Supervisor and the District Ranger for the Red Rock Ranger District. The group that prepared the concept plan was composed of local professionals who were expert hikers and mountain bikers and knew the locations and lay of the land. They included Daniel Patochowski, Tom Hutchison, Max Licher and several others.

The Sedona Urban Trails and Pathways Plan and the Red Rock Pathways were completed and were adopted into the Coconino National Forest Land Management Plan Amendment #12 approved in June 1998. This specific "Plan Amendment" by adopting these trail plans in total allowed for the approval of the trails located on the Coconino National Forest without the necessity of doing separate National Environmental Policy Act Analysis on each specific trail. The only environmental work necessary was site specific survey and design and cultural and biological clearances. A big job but not nearly as big as it would have been with NEPA analysis.

The project actually began before Amendment #12 with the Bell Rock Pathway and the Bell Rock Pathway, Little Horse and the Huckaby Trailheads in 1996. Separate NEPA was approved and grants were obtained from the Interstate Transportation Enhancement Act Fund (ISTEA), the City of Sedona and the

Arizona Department of Environmental Quality (EPA 319h fund). The total project cost approximately \$600,000 and included the construction of an “American Disability Act” Compliant Trail from the Village of Oak Creek to Sedona (4 mi. long), two “hub” trailheads (Bell Rock Pathway and Huckaby) and a secondary trailhead (Little Horse). The trailheads included toilets, asphalt parking lots, kiosks, signs, fences, parking delineations and wheel stops. The City of Sedona and the Forest Service funded the paving of one mile of the Schnebly Hill Road. The ADEQ Grant paid for the toilets and the “ISTEA” grant paid for the trailhead parking lots.

When Amendment #12 was approved in June of 1998, the Forest Service, the City of Sedona, the Sedona Cultural Park, Red Rock Highschool, Yavapai County and Arizona State Parks with the help of the Arizona State Lottery Heritage Grant Program began the multi-year process of the “march around Sedona” to construct trails and trailheads. The group decided to begin on the northeast side of town because the Bell Rock Pathway project began on the southeast side. This large endeavor was started in a counter clock wise direction and each year a section was surveyed, designed and built. Starting in 1997 with the S.E. then moving to east, northeast, north, northwest, west, southwest and south respectively from 1997 thru 2008. The system was prioritized with the primary "Hub" trail the highest priority. This included a 27 mile loop around Sedona which received the highest priority. The City of Sedona provided funds ranging from \$20,000 to \$90,000 per year. The Forest Service matched these funds with trail construction money and developed the “Red Rock Pass Program” to help fund trail maintenance and some construction. Volunteers including “T.R.A.C.S.” (Trail Resource Access Coalition), the Friends of the Forest, the Sedona Westerners, the Sierra Club, the Friends of the Forest and many other volunteers too numerous to mention provided “in kind labor” and cash to provide a “match” for grant money from the “Heritage Grant” program.

The Forest Service completed cultural resource survey and clearances and met with landowners and concerned citizens to determine the exact location of trails and trailheads. With Amendment #12 and the City of Sedona General Plan we

were able to tell landowners that over 20 public meetings were held for the City General Plan and many others for Amendment #12 where public involvement was sought and the trails and trailheads were approved in the Sedona City Plan and in the Decision Notice for Amendment #12. We told landowners that the trail and trailheads would be built but we would work with them on the exact location and other specifications to mitigate their concerns. This saved a tremendous amount of time and money.

4. Mystic and Kel Fox Trails and widening of the shoulder of the Upper Red Rock Loop Road

In the late 1990's, Unisource, the public utility gas company, applied to the Coconino National Forest for an expansion of its natural gas lines from the main line along Hwy. 89a down the Upper Red Rock Loop Road, across Oak Creek, up the Back-O-Beyond Road and continuing north to Sedona. In about 2000 the utility applied for an extension of their gas lines from the Hwy. 279 near Camp Verde to Middle Verde, up FR 119a to the Beaverhead Flat Road and on to the Village of Oak Creek. During the public involvement part of the NEPA Analysis for these projects, issues arose related to revegetation, trails, visual quality and the concern over the pipelines becoming roads. Alternatives were proposed to use some of these pipeline routes as non-motorized trails. The alternatives selected in the NEPA Decisions for these projects required that trails be constructed over the pipelines from Chapel Road to Pine Knolls Drive in Sedona and from Fuller Tank to Arabian Drive in the Village of Oak Creek Area. The Decision for the pipeline from 89a to Sedona also required the widening of the Upper Red Rock Loop Road on the Red Rock Ranger District for the pipeline. The first mile of this road from Hwy. 89a is City of Sedona Easement and the second mile is Yavapai County Easement. This road was dangerously narrow for walkers and bikers and this project provided a wider shoulder on one side of the road to accommodate them. The wider shoulder was constructed along the road and the other trails were added to the Coconino National Forest's trail system. The utility company is allowed to inspect the pipeline and that has non-

motorized trails with an ATV as authorized in their pipeline right-of-way permit. The use of utility corridors for trails is a useful way to solve visual quality and recreational issues for communities while providing important utility infrastructure. This unique partnership between Unisource, Yavapai County, the Forest Service and the Sedona and Village of Oak Creek Communities solved problems and provided trails. It also funded the environmental analysis, cultural resource survey and clearance, biological survey and clearance and construction

XI. TRAIL LIABILITY AND RISK MANAGEMENT

In today's litigious society, private landowners and municipalities must concern themselves with the issue of liability. The fear of a lawsuit is often enough to prevent private landowners from opening their land to trail users. Most states, including Arizona, have enacted laws that limit both private and municipal landowners from liabilities (Arizona Revised Statutes § 33-1551). On the private side, these laws are called Recreational Use Statutes. For public land, the governing laws include the Federal Torts Claims Act and Arizona statutes under ARS § 12-820 et seq., pertaining to actions against public entities or public employees. These laws are important tools to support trail development as they address the responsibilities of the trail user, while protecting the private and/or municipal landowner. This section describes three forms of legal protection to address liability concerns and also describes a programmatic approach for risk management.

PART 1. FORMS OF PROTECTION

There are three legal precepts, either alone or in combination, which define and in many cases limit liability for injury resulting from trail use. The first is the concept is Duty of Care, which addresses the responsibility that a landowner (private or public) has to anyone on their land. Second is the State Recreational Use Statute (RUS) which provides protection to private landowners and some public landowners who allow the public free access to land for recreational purposes. Third, for all private and public parties, Liability Insurance provides the final line of defense.

1. Duty of Care

There are a number of legal concepts that apply to a landowner's responsibility for ensuring that persons will not become injured while on their property. Some of this has to do with basic risk management type activities whereby the landowner needs to be aware of conditions of the property and take adequate action to repair dangerous conditions or provide warnings. The "duty of care" that the landowner has to the public is further defined by whether the person is a

“trespasser,” “invitee,” “licensee,” or “child,” since there are different expectations for each of these classes.

2. Recreational Use Statutes

When a trail crosses or intersects privately owned land, the property owner may be apprehensive about the prospect of allowing public use of their property for recreation purposes. Fortunately, landowners who allow public trail easements are offered important levels of protection under the state recreational use statutes. These laws do not prevent landowners from being sued but they do grant those landowners basic protections from liability where standards have been followed.

Arizona Recreation Liability Statute: ARS § 33-1551. Duty of owner, lessee or occupant of premises to recreational or educational users; liability; definitions.

- A. A public or private owner, easement holder, lessee or occupant of premises is not liable to a recreational or educational user except upon a showing that the owner, easement holder, lessee or occupant was guilty of willful, malicious or grossly negligent conduct which was a direct cause of the injury to the recreational or educational user.
- B. This section does not limit the liability which otherwise exists for maintaining an attractive nuisance, except with respect to dams, channels, canals and lateral ditches used for flood control, agricultural, industrial, metallurgical or municipal purposes.
- C. As used in this section:
 - 1. "Educational user" means a person to whom permission has been granted or implied without the payment of an admission fee or any other consideration to enter upon premises to participate in an educational program, including but not limited to, the viewing of historical, natural, archaeological or scientific sights. A nominal fee that is charged by a public entity or a nonprofit corporation to offset the cost of providing the

educational or recreational premises and associated services does not constitute an admission fee or any other consideration as prescribed by this section.

2. "Grossly negligent" means a knowing or reckless indifference to the health and safety of others.
3. "Premises" means agricultural, range, open space, park, flood control, mining, forest or railroad lands, and any other similar lands, wherever located, which are available to a recreational or educational user, including, but not limited to, paved or unpaved multi-use trails and special purpose roads or trails not open to automotive use by the public and any building, improvement, fixture, water conveyance system, body of water, channel, canal or lateral, road, trail or structure on such lands.
4. "Recreational user" means a person to whom permission has been granted or implied without the payment of an admission fee or any other consideration to travel across or to enter upon premises to hunt, fish, trap, camp, hike, ride, exercise, and swim or engage in similar pursuits. The purchase of a state hunting, trapping or fishing license is not the payment of an admission fee or any other consideration as provided in this section. A nominal fee that is charged by a public entity or a nonprofit corporation to offset the cost of providing the educational or recreational premises and associated services does not constitute an admission fee or any other consideration as prescribed by this section.

3. Trail Liability Insurance

Insurance coverage is generally recommended for property owners and land management agencies responsible for trails. In most cases, the trail is owned by a public entity with an umbrella insurance policy that protects such facilities and related activities. Most municipalities in Arizona participate in the Arizona

Municipal Risk Retention Pool. Counties and school districts also have risk management and insurance coverage policies. When a non-governmental organization, such as a homeowner's association or private land owner, owns the land where a trail is located, they should maintain a similar comprehensive liability insurance policy. Where a private land owner grants an easement for use of a trail, the insurance coverage can be carried by the managing agency and that should be clearly stated in the operating agreements.

Public Agency Liability. Governments (federal, state, and local) can also find protection from lawsuits under the concept of Sovereign Immunity. The concept holds that the sovereign entity (the government) is generally immune from liability. However, the federal government and most state and local governments have waived this privilege of immunity, in many contexts, including trail user injuries, by enacting a Tort Claims Act. Such acts stipulate that the government can be held responsible for negligence under some circumstances. Arizona Revised Statutes § 12-820 et seq., covers these concerns for public entities in Arizona.

PART 2. RISK MANAGEMENT

The best defense against injury or lawsuit is to design and construct the trail according to the best known practices for safety and to employ a comprehensive risk management approach in the management of the trail facility. A risk assessment and management plan should be developed in order to identify, resolve and record actions taken to avoid possible risks. Where an agency has taken all reasonable measures and followed accepted practices, the exposure to liability should rightfully be minimized. The question of negligence comes in to play where basic trail design standards are ignored and ongoing management is avoided and other activities described as willful misconduct, gross negligence or bad faith. A comprehensive risk management program includes the following:

- **Comprehensive Planning:** During trail design and development, develop a list of potential hazards, design and locate the trail such that dangerous locations are avoided, develop a list of permitted trail uses and the risks associated with each, identify applicable laws, and design and construct the

trail in accordance with recognized guidelines. The trail management agency should have a written trail management handbook or policy guidelines that describes the frequency and scope of an inspection and maintenance program.

- **Leadership:** Identify who is responsible for the management of the trail facility. Ideally, a specific trail manager would be identified by the land agency. Oversight may also be provided by a citizen committee or political board but a lead coordinator should be identified by the agency or department responsible for the trails.
- **Trail Design:** Work with experienced trail designers so that trail safety concerns can be incorporated in the initial layout and design of the trail. The design of the trail should take into account the anticipated level of use and the types of trail users so as to address appropriate design concepts into the physical standards.
- **Inspection Program:** Once the trail is open for use, conduct regular inspections, document the results of the inspections, keep accurate records and any actions taken, and maintain a plan for handling medical emergencies. Develop a Trail Inspection Report process that will regularly assess the trail corridor for obvious and non-obvious hazards, including natural hazards, such as erosion, landslides, rock slides and falling timber, as well as overgrown trails, low branches and thorny plants. The frequency of inspections should be appropriate to the level of use. Unmarked or poorly signed intersections should also be identified and fixed. Maintain records of all inspections, what was found, and what was done about it. Photographs of found hazardous conditions and follow up corrections can also be useful.
- **Warning Signage:** If a hazardous condition does exist near the trail, signs should be developed to warn trail users of the hazard if it cannot be quickly mitigated. Of particular concern to adjacent landowners are attractions that may be dangerous to children and others, such as a pond. Make it clear that trail users are not invited onto the adjoining land. This can be aided by installing appropriate warning signs or by installing landscape screening or fencing.

- **Enforcement:** Enforce rules and regulations regarding trail use. Although regular patrols and staffing may be difficult to fund and administer for all trails at all times, the appropriate law enforcement agencies should be identified and kept informed of activities, complaints and concerns with particular trails.
- **Legal Review:** If a landowner provides an easement for a public-use trail, the easement contract should specify that the managing agency will carry liability insurance, will design the trail to recognized standards, and will develop and carryout a maintenance plan. The landowner may also request that an indemnification agreement be created in their favor. Agency attorneys should regularly review the state's liability and protective laws, including Recreational Use Statutes and court cases involving trails.
- **Trail User Survey.** Conduct surveys of the types of trail users (bicycle, equestrian, hikers, etc.) and the level of use typical for each. It would be expected that heavily used trails would require higher levels of maintenance. Facilities and design standards for a particular trail may need to be revised if the type of trail user changes over time on that trail.
- **Mitigation.** Try to fix or reduce hazards by eliminating or isolating the problem. The trail may need to be rerouted to avoid possible conflict. Place warning signs on the corridor, and in trail maps and brochures, for any potential liabilities. Develop procedures for handling medical emergencies. Document these procedures as well as any occurrence of medical emergencies.

XII. ENFORCEMENT AND EDUCATION

Enforcement and education are both important components of a trails plan. They help to ensure a trail's existence for future generations by preventing overuse or misuse.

Trail Signs and Posters

One of the best ways to educate users is to have a sign at the beginning of each trail stating trail usage that will help maintain both the physical and scenic values of the trail. Some of the common guidelines for trail usage that might be included on a sign are as follows:

- Leave No Trace, so that other trail users may have a unique trail experience also.
- Pack it in; Pack it out, thus keeping the area free from litter.
- Stay on the trail and don't take shortcuts. This helps prevent trail erosion and also stops the spread of social trails, which detract from the trail experience.
- Leave historic artifacts behind so that others may enjoy and experience the history of the area.
- Keep pets on a leash, so as not to bother other hikers and to prevent wildlife harassment.
- Don't feed wildlife – wild animals are better able to fend for themselves if they don't become acclimated to human food.
- Treat wildlife with respect – do not harass – wild animals are not pets and can cause harm if approached. This not only endangers you, but also the animal.
- Make sure you bring a good map of the area and know where you are headed. Bring sufficient water and basic survival gear in case you are out longer than expected.
- Learn and practice the standards of sharing the trail with other users. This prevents conflicts between users and makes for a more enjoyable trail experience. The Share the Trail ethic includes:

- Cyclists yield to horses and hikers.
- Hikers yield to horses.
- Up hill hikers have the right of way.
- Pass on the left.
- Be careful with fire.

Part of the education process is to also have information available on the wildlife, ecology, geology, and history of the area the trail passes through. This helps a user establish a sense of place in the area. This information can be provided at the start of the trail on a sign, or possibly in a trails brochure.

All of these educational points can be reinforced by volunteers or rangers walking the trails or showing a presence at trailheads to provide user contact. Local hiking clubs can also provide education through various public outlets – meetings, public service announcements on the radio or in the newspaper, or a web page. General trail patrols by interested parties can ensure that the trail is maintained. Taken together, all of these practices are to preserve our trails and the natural environment so that future generations can also enjoy the experience we have today.

Trail Directional Signs and Markers

Many local trails are not well marked. Because of this, trail users cannot stay on existing trails, even if they want to. Work with land owners and managers to properly mark existing system trails with markers. Use standards for marking listed in existing agency sign plans where they exist and develop new standards where they don't currently exist. Install signs that encourage trail users to "stay on the trails".

Implement and Develop Local Trail Sign Plans

Some trail sign plans already exist; such as the "Red Rock Trails Sign Plan" funded by the Sunrise Kiwanis Club. Work with local forest service and agency representatives to implement existing county, state parks and Arizona Department of Transportation sign plans. Develop new sign plans for directional, informational, and interpretive signs where sign plans do not exist.

Trail Sign and Poster Maintenance and Development

Review with agencies which trail signs and posters, listed above, are currently in stock and available. Volunteers obtain supplies of these signs to keep trailhead kiosks in top shape and maintained. Help agencies obtain the signs listed above that are currently not in stock or available and assist them in keeping the signs posted. Use "PowerPoint", laminating and other immediately available technology to get the proper posters installed. Work with agencies and landowners to set up an "adopt a kiosk" or "adopt a trailhead" program, Many local trailhead signs are poorly maintained due to reduced agency budgets.

Trail Publications

Work with commercial publishers, city, county, state and federal agencies to see what trail publications are currently available and where new ones are needed. Use local and agency "desk top" publishing and commercial publishers to make information available to the public at agency visitor centers, county and city halls and chambers of commerce.

Media News Releases

Trail coalitions, city, county, state and federal representatives prepare news releases and go on public radio concerning the benefits of trails to communities and information about existing trail hikes and opportunities. Encourage local media representatives to include "leave no trace", survival and "stay on existing trails" etiquette into their articles. Work with the media, citizens and local and federal officials to get support for public lands thru trails. People do not love what they do not know. Visitors and citizens need to know their public lands by using trails. What they know, they love and what they love, they support with their vote, their tax dollars and their volunteer time.

Outreach to Local Trail Businesses

Trail coalition members go to local mountain bike, ATV, outfitter/guide, resorts, Chambers of Commerce and recreational equipment businesses to obtain support for trail planning and projects. Trail coalition members can solicit political and commercial support for trails by contacting and educating these commercial entities about trail planning, visitor education and "leave no trace ethics".

Enforcement of the Trail Plan

Insure that the trail plan is always considered in city, county, state and federal proposed actions including but not limited to Planning and Zoning requests for subdivisions and road planning. This is done by including wording in all community plans, city plans and forest service land management plans which requires decisions on all permits and proposed actions to be evaluated for their effects on the Verde Valley Trail Plan.

XIII. HISTORIC TRAILS

Hundreds of years ago the first people who inhabited this land developed an intricate system of footpaths for traveling between the small settlements scattered through the region. They also developed long distance trails for traveling as far north as present-day Hopi Land and south to the Valley of the Sun. Both the Spanish conquistadors who visited the area in the late-sixteenth century following rumors of gold to be found near present-day Jerome and the frontier explorers who arrived in the mid-nineteenth century are reported to have first entered this unknown country by following these ancient trails. The pioneer settlers, ranchers, miners and military forces that arrived in the late 1800s began to develop more extensive wagon roads to serve the growing communities. A few of these old trails and wagon roads are still being used today; however, in many cases only remnants of the historic trails can be found. Identification and preservation of these historic trails serves an important role in helping us understand the diverse cultures, issues, and historical events that shaped this land.

Different types of historic trails can be identified and described, including Native American trails, emigrant trails, military routes, local wagon roads, ranching trails, mining roads and general commerce routes. Some of the oldest trails have deteriorated to an extent that only trace evidence remains. Identifying historic trails typically combines not only field investigations of the physical and archeological evidence but also historical research from a variety of sources. Research to identify historic trails may involve investigating records and documents in libraries or historical societies. This may come from military records of early campaigns, newspaper articles or the stories described in the letters and diaries of the early settlers. Historic photos and maps, if available, can provide some of the best evidence of the trail location. Another method, which is sometimes useful in determining the route of an historic trail, is to review aerial or satellite photographs of the area for possible indications of the trail.

Criteria for Designating Historic Trails

1. Established by historic use, including a significant historic event.

2. Historically significant effect on culture.
3. Potential for public recreational use or historic interest based on historic interpretation and appreciation.
4. Recognize a historic person associated with its use, development or location.

Historic Trail Categories

Six categories are used to describe the condition of trails in terms of historic heritage characteristics. This does not refer to recreational or interpretive qualities, which are considered through other systems of classification.

I Unaltered Trail

Trail retains the essence of original character and has not been impacted by subsequent uses.

II Minor Alteration

Trail retains elements of its original character but shows minor evidence of alteration by subsequent use, development or natural events.

III Little Remaining Evidence

Trail route is located and verified from historic documentation and/or archaeological evidence but shows mainly trace elements. Weathering, erosion, vegetative succession, development or modern use has impacted original trail.

IV Permanently Altered

Trail route is verified from historic documentation with little or no physical evidence remaining. Trail permanently altered or obliterated by human-caused or natural events.

V Approximate Trail

Trail route cannot be accurately verified from historic records or field research. Location is only approximately known.

VI Historic Reconstruction

Trail has been reconstructed and restored to appear as it did during period

of maximum historic importance. Trail is located in the original location.

Arizona State Trail System Criteria for Historic Trails

Discernible Historic Trail

1. The trail must provide day-use or extended trail opportunities for outdoor trail activities.
2. The description of the trail must be specific enough to assist in identifying and protecting historic routes, remnants, and artifacts for public knowledge and enjoyment.
3. Use of trail must have had an effect on Arizona's culture with respect to a broad aspect of the State's historic or prehistoric past, such as trade, commerce, migration and settlement.
4. Nomination documentation must include notification record of landowners along the route.
5. Information should be provided to the user of the trail's historic importance and how to protect the resource and its context while enjoying the site.
6. Identify a contact person, agency or organization that will act as curator or steward of trail's history.

Non-Discernible Historic Trail

1. The trail need not currently exist as a discernible trail, but must be sufficiently known to allow for documentation and evaluation.
2. The description of the trail must be specific enough to assist in identifying and protecting historic routes, remnants and artifacts.
3. Use of the trail must have had an effect on Arizona's culture with respect to a broad aspect of the State's historic or prehistoric past, such as trade, commerce, migration and settlement.
4. There must be a contact person, agency or organization that will act as curator or steward of trail's history.

Historic Trails of the Verde Valley Region

The following descriptions indicate existing trails in the greater Verde Valley

region that have some association with historic use and activities.

A.B. Young Trail

Located towards the upper end of Oak Creek Canyon north of the Verde Valley, the trail is believed to have originally been built by C.S. (Bear) Howard in the 1880's. It was reconstructed in the 1930's by the Civilian Conservation Corp under the supervision of A.B. Young. The steep 2.4 mile long trail climbs almost 2,000 feet in elevation through 33 switchbacks to East Pocket Fire Lookout on the rim of Oak Creek Canyon.

Bear Mountain Trail

A steep 1,800 foot climb provides a scenic view of Sedona Red Rock country. The trail was built by Jesse "Bear" Howard to graze horses on Bear Mountain.

Bell Trail

Rancher Charles Bell built this trail in the 1930s to move his cattle through Wet Beaver Creek Canyon and then up to the higher elevations. Today, this popular trail provides the main developed route into Wet Beaver Creek Wilderness Area. The trail generally follows along a bench located above the clear cool streambed flowing through the scenic desert canyon. The trail reaches Wet Beaver Creek at Bell Crossing after about 3.3 miles, a lovely area shaded by cottonwoods, sycamores, willows and ash.

Casner Mountain Trail

The Casner Mountain Trail was built by the Casner family in the 1880s to move cattle from summer range on the Mogollon Rim to winter grazing in the Verde Valley. Later it was used as an access road to build and maintain power lines. A portion of the trail still provides access to the power lines but is closed to private vehicles. The Casner Mountain trail offers spectacular views of Sycamore Canyon and Red Rock/Secret Mountain Wildernesses.

Cháves Trail

Established in 1864 by Lt. Colonel J. Francisco Cháves, the Cháves Trail was an early route connecting Winslow to Fort Whipple in Prescott by way of the Verde Valley. The trail begins by following an old Hopi Indian path, known as the "Palatkwapi Trail," going westward through Cháves Pass, past Stoneman Lake,

and down the Mogollon Rim to the Verde Valley. From here it continued by way of Montezuma Well to Camp Verde. It then ascended the Black Hills up Grief Hill through the pass to Ash Creek and on to Prescott. The Chaves Trail was the first immigrant trail into the Verde Valley and it pre-dated the General Crook Trail. It was used to carry mail periodically from 1865 to 1882 when it was discontinued. It was used by the Santa Fe to Prescott Stage Line from 1876 to 1882 (according to Albert Thompson's book "*Those Early Days*", Sedona Westerners, 1968 pgs. 226-227).

Dogie Trail

Cowboys call a stray or motherless calf a 'dogie' and this trail, which is part of the system of trails that make up the Taylor Cabin Loop system, was established by ranchers from the 1930s for moving cattle from the Verde Valley to the higher elevations on the rim. The 5.4 mile trail into the Sycamore Canyon Wilderness can be accessed from Sycamore Pass, which is about 12.5 miles west of State Route 89A by way of Red Canyon Road (Forest Road 525 to FR 525C.)

Flume Trail

The Flume Trail (Forest Trail #154) goes from Irving to Fossil Springs. It was completed between 1908 and 1911 when the Irving hydroelectric plan was put in operation. It is 4 miles in length and currently is a service road being used for the removal of the flume and Fossil Springs Dam operated by APS. After the flume and top 14 feet of the Fossil Springs Dam is removed in 2009, the flume service road will be returned to a trail. Wooden bridges will be abandoned and routes need to be located around the bridges. This is a very scenic historic road/trail and will offer the easiest access to Fossil Springs for recreationists from the Verde Valley and elsewhere.

General Crook Road

In 1871, General George Crook came to Arizona Territory as Commander of the Department of Arizona. He immediately began the planning and construction of a wagon road that would link Fort Apache in the White Mountains to Fort Whipple in Prescott by way of Fort Verde located in present day Camp Verde. From Fort Apache the road follows closely along the edge of the Mogollian Rim before

dropping down to Fort Verde. From there it went up Copper Canyon and then around the west side of the Black Mountain range up to Prescott. Before Crook built his trail from Fort Apache, there was a trail established around 1864 from Camp Verde to Prescott, used by farmers in the Verde Valley to supply food to Prescott for both the military and civilians. The original route of this trail from the Verde Valley came up Grief Hill, where there are still traces of a road. This route from the top of the climb and the later Crook route up Copper Canyon soon converged for the rest of the way to Prescott, passing the Old Stone Corral on Ash Creek. The Chavez Trail probably used the most of the same route from the Verde Valley to Prescott. The General Crook road was completed in 1874 and was used by troops patrolling the Territory for twenty-two years and for another thirty-two more years by the public, until the Rim Road was built in 1928.

Huckaby Trail

The Huckaby Trail was named for the pioneer Huckaby family who lived along Oak Creek during and before the construction of Midgely Bridge across Wilson Canyon along State Route 89A. The bridge was completed in 1939 when Mr. Huckaby worked for the highway department. Before that the Huckaby family lived in the lower Oak Creek area near Red Rock Crossing. The 2.5 mile long Huckaby Trail begins at the Huckaby Trailhead located along the Schnebly Hill road. The trail crosses Bear Wallow Canyon and climbs to the rim above the inner gorge of Oak Creek Canyon then descends into Oak Creek where it follows one of the only remaining portions of the historic trail built sometime before 1887 by J.J. Thompson (the first settler of European descent in Oak Creek Canyon). According to Albert Thompson in "*Those Early Days*," Jim Thompson built the wagon trail right up Oak Creek before 1887. In 1887, he moved his family up to Indian Gardens but was only able to use the road for a few years until there was a big flood which washed out most of the road. The trail follows the east side of Oak Creek to the location of the old Huckaby house location, which later became an old motel location. It then crosses the creek and climbs to the Midgely trailhead along a historic road which has some historic and wonderfully large and intricately constructed rock retaining walls.

Jacks Canyon Trail

The Jacks Canyon Trail was named for “Jackie” Montgomery, pioneer rancher and ranch foreman for the Old Bell Ranch.

Loy Canyon

The wide, well constructed path was used by the Samuel Loy family in the 1880s to move their livestock to and from summer pastures on the rim. The 5 mile long trail starts out by skirting the fence line of the Hancock Ranch and leads up a desert wilderness canyon. Near the end of the canyon, the trail climbs almost 1680 feet to a high saddle that leads to the top of a mesa called Secret Mountain, which provides spectacular overlooks of the region.

Lime Kiln Trail

In the mid 1880s a kiln was constructed in the White Hills east of Cottonwood to fire the locally obtained limestone to create lime which was used in the mortar for the brick homes being constructed in the area. Eventually the road from Cottonwood to the lime kiln was extended to the Oak Creek Road connecting to Sedona, and it became known as the Lime Kiln Cut-Off. It was used as a major travel route between the mining town of Jerome and the Oak Creek farming community of Sedona. Horse drawn wagons transported bricks, Oak Creek wine and locally grown produce for trade between these Verde Valley communities; however, its use was abandoned by the time automobiles became popular and new roads were built. After many years of dedicated advocacy by the Dead Horse Ranch Trails Coalition, the historic route was approved by the Forest Service for inclusion as a Forest System Trail connecting Dead Horse Ranch State Park in Cottonwood with Red Rock State Park in Sedona. The 15-mile long Lime Kiln Trail includes nine miles of non-motorized trail and six miles of multi-use dirt roads in the Coconino National Forest. Major access points include Dead Horse Ranch State Park, Bill Grey Road, State Route 89A, Deer Pass Road (FR 89B), Lower Red Rock Loop Road and Red Rock State Park. The Lime Kiln Trail was recognized by the White House Millennium Council and Hillary Rodham Clinton in 2000 as a National Millennium Community Trail to

“connect the people to their land, their history and their culture.” The signed proclamation is on display at the Clemenceau Heritage Museum in Cottonwood. In 2005 the trail was also listed as a Centennial Trail by the USDA Forest Service, in celebration of the 100th birthday of the US Forest Service.

Mail Trail

The Mail Trail re-establishes the historic 52 mile route that was used from as early as 1869 to 1914 for delivering mail and other goods by horseback to the communities and ranches from Camp Verde to Pine and Payson. It was used as a primary mail route from 1884 to 1914. Access to the trail begins at the Mud Tanks Trailhead 15 miles east of Camp Verde on the General Crook Highway. The Mail Trail travels 6 miles in a southerly direction mostly on the original route to the north rim of Fossil Creek Canyon where it drops 1,200 feet to Fossil Creek and connects to the Tonto NF Trail 16 and then climbs on a steep grade (1,500 Ft.) to the Fossil Springs Trailhead located along Forest Road 78 on the Tonto NF. The historic route follows through rugged isolated canyons, across broad mesas, along portions of forest roads, Tonto NF system trails and through the developed towns of Pine and Payson.

Mooney Trail

This 4.2 mile long trail was originally built to drive cattle from the Verde Valley to summer pastures on the rim and is still used for this purpose. The trail was used by “Bear” Howard to move horses from summer range in Barney Pasture and Fry Park to the Red Rock Country. The trail had been built by an early pioneer named Mooney before it was used by “Bear” Howard. Because of this relationship to ranching, this is a wide, well constructed trail. The trail begins next to Black Tank located near Sycamore Pass. The road ends at Sebra Tank and the foot path begins. From Sebra Tank the trail follows Mooney Canyon for about a mile at which time it starts a steep ascent to the top to the rim. Views are outstanding not only from the top but all along the way. Shade is available in the riparian zone of the canyon but once on the slopes of the canyon, shade becomes scarce. The trail tops out at the junction of Taylor Cabin and Casner Mountain trails.

Munds Wagon Trail

This 4 mile historic trail follows one of the first and most popular cattle trails out of the Sedona area. It was the first road linking Sedona and Flagstaff. Upgrading of the Munds trail began in 1896, but its completion as a wagon trail awaited the work of pioneer J.J. Thompson, funded by Coconino County in 1902. It was originally known as the Munds Road and later as the Schnebly Hill Road. The trail climbs gradually 1,100 feet and parallels Bear Wallow Canyon and Schnebly Hill Road.

Taylor Cabin Loop

19 mile loop through Sycamore Canyon Wilderness includes Dogie Trail, Taylor Cabin Trail and Casner Mountain Trail. A national historic site, Taylor Cabin was built in the early 1930s as a line camp for cowboys grazing cattle in the canyon. The brands of the various ranches that have utilized the structure are carved into the front wall, while the pre-existing sandstone cliff constitutes its back wall.

Walker Basin Trail

This was an early ranching trail from at least the 1930s used to move livestock from the lower elevations near Beaver Creek up to the higher summer pastures.

Woodchute Trail

Located in the Woodchute Wilderness on the mountain ridge high above the historic mining town of Jerome, this 2.75 mile trail got its start in the late 1800s as a route for transporting timber down the mountain to the copper mine. Smelting of the ores called for vast amounts of fuel, which was supplied by timber sent down from the ponderosa forest located at over 7,000 feet elevation. The logs were cut and sent sliding down the mountain via a log chute, which gave this area its name. At the north end of Woodchute Mountain the trail offers a spectacular view of the San Francisco Peaks and Bill Williams Mountains to the north, Red Rock Country around Sedona, Sycamore Canyon, Granite Mountain near Prescott and development around Prescott Valley. Woodchute Trail (Forest Trail #102).

Proposed and Identified Historic Trails

The following descriptions indicate historic routes that could be developed as recreational trails.

Beaver Creek Trail

This trail starts west of the westernmost Wet Beaver Creek Bridge and follows an old wagon road to Lawrence Crossing. It was first identified as a trail possibility in 1984 by the Forest Service. It appears on 1932 USGS maps and on the 1885 Lt. Bingham map. This trail is approximately 1.5 miles in length and would make a very attractive recreation trail.

Buckhorn Cabin Trail

This trail is located in Coconino County close to the county line with Yavapai County in the West Clear Creek Wilderness. It was built by pioneers to provide access to water in the Home Tank/Rock Tank Draw tributary of West Clear Creek. It was a well-built trail, about one quarter mile in length, constructed with large rocks. The trail allowed pack horses from the historic Buckhorn Camp and Cabin to get to the pools in West Clear Creek. Maps dating back to 1932 identify Buckhorn Cabin but the T.A. Bingham map dated 1885 identifies what appears to be a shepherd's spring or gulch in the Buckhorn area. When inspected in October 2008, the trail was overgrown with vegetation and had large trees growing out of it.

Buckhorn Trail

This trail is identified on 1932 USGS maps as the Buckhorn Trail and on 1936 USGS maps as the Hollingshead Trail. It also appears to be on 1881 Rand McNally maps of the Arizona Territory. The trail begins south of the "M Diamond" Ranch following the route of Forest Road 618. At FR 9201E it turns into a trail which climbs the Mogollon Rim rising 1,700 feet in elevation through sandstone cliffs to cedar flat where it largely follows fuelwood roads including FR 214B, 9236M and 9236Y to Buckhorn Cabin.

Burro Trail

(REPLACE WITH REVISED SECTION)

Cháves Trail Extensions

It was not uncommon for the specific location of travel routes through the Western frontier country to have a number of variations as early users would have discovered more advantageous routes to traverse the rugged landscape. The location of the historic Cháves Trail through the Verde Valley had evolved over time following several different routes. The following four trail descriptions indicate several of the routes that were used, which could be developed today as recreation trails.

Cháves Trail--Hwy. 179 to Beaverhead

The Chaves Trail historic route goes from the Chaves Trailhead near Mile Marker 302 on State Route 179 along the east side of the highway to the Dry Beaver Creek bridge where it crosses the highway. It then parallels State Route 179 on the west side to the original Chaves grade near mile marker 302 to the Beaverhead Stage Stop.

Cháves Trail--Forest Road 647 to Rattlesnake Tanks and east to Stoneman Lake

This section of the original Chaves Trail connects the existing Forest System Trail which currently ends on the west side of I-17 on FR 647. There it needs to be established as a Forest System Trail paralleling FR 647 to the Rattlesnake Canyon underpass of I-17 following historic routes and then to the existing relatively pristine sections of the trail located between Rattlesnake Canyon and the Stoneman Lake Road. This segment is approximately 10 miles in length traveling from just south of Rattlesnake Tanks going east to the junction with FR 80 and crossing the Stoneman Lake Road just west of Stoneman Lake. It then goes south of FR 213. This section of the Chaves Trail exists on the ground and is shown on historic maps and in Jim Byrkit's booklet, "Lt. Col. J. Francisco Chaves and the Chavez Trail."

Cháves Trail--Beaverhead Stage Stop to Rimrock, McGuireville and Camp Verde

From the Beaverhead Stage Stop the trail heads east following Forest Road 9204F on the north side, crosses to the south side where it follows an existing

section of the Stage and Mail Road, crosses Bias Canyon and goes to its junction with I-17 one half mile north of the McGuireville rest area. Trailhead access could be from the McGuireville rest area where a connector trail could be built. Where the trail meets Forest Road 9235N, a spur could be connected to a trail leading to the I-17 stock underpass, located just south of the I-17 and State Route 179 intersection. From there it would continue east to connect with a possible trail going west of FR 119 to the Rimrock area. The trail from that point is on private land. More field research needs to be done but the historic route appears to follow close to Brockett Road and Culpepper Road, crossing Beaver Creek near the Old Maxwell Ditch and then again at the Mariposa Bed and Breakfast. From there it follows Stagecoach Lane to the Montezuma Castle Road and into Camp Verde along the Camp Verde to Page Springs Highway past the Yavapai Apache Cliff Castle Casino. This historical trail was part of the Star Mail Route and Santa Fe to Prescott Stage Coach Road referred to by Albert Thompson in his Book "*Those Early Days*" pg. 226-228. This route accessed the Wales Arnold Ranch near Montezuma Well National Monument, which was a division point on the mail route until it was moved to Beaverhead in 1876. This mail route was discontinued in 1882 with the development of the Atlantic and Pacific Railroad and mail delivery from Williams via a new stage coach route.

Cháves 1864 Route

This existing historic wagon trail goes from the Beaverhead Stage Stop and historic campground just upstream from the Dry Beaver Creek pools, crosses Dry Beaver Creek and goes up the west side of Dry Beaver Creek on a very distinct path until it crossover the ridge. From there it is less distinct until it reaches Forest Road 9204X where there are some very distinct wagon road sections paralleling the modern road. It then meets the Beaverhead Flat Road (FR 120) where the wagon road splits. One section continues east towards Cornville thru sections 7, 8, and 9 in Township 15 North, Range 5 East and Section 12 in T. 15 N., R. 4E. It then crosses the Cornville Road opposite Forest Road 119D. The other section follows the Beaverhead Flat Road to the Cornville Road and travels on or near FR 119A to FR 119B crosses the Verde River in the north half of

Section 4, Township 14 1/2 North and Range 4 East. This section is the part of the Chaves Route identified by Dr. Jim Byrkit, Professor of History at Northern Arizona University, who conducted extensive research of the route traveled in 1864 by Lt. Col. J. Francisco Chaves during his return to Santa Fe from Fort Whipple.

Cone Wagon Road

The name "Cone" is listed on pg. 24, Pioneering by James Page in the book "Pioneer Stories of the Verde Valley" by the Camp Verde Historical Society. This wagon road goes from Chick Road in Cornville west up a small canyon, continues west to FR 9806G and FR 9806 to Tissaw Road and on to locations shown in the Cornville trails plan. It eventually goes to a location south of Verde Santa Fe subdivision and goes to Zalesky Road. This trail follows a mile of original grade and otherwise follows non-historic routes identified in the Cornville trails planning documents and maps. The trail/road is visible on the 1936 USGS quadrangle.

General Crook Historic Road Extension from Camp Verde to the Fossil Creek Road

This trail is the final connection for the General Crook Trail and is one of the most significant portions. It goes from the General Crook Wagon Road crossing on the Verde River just south of the State Route 260 bridge, follows along the S.R. 260 frontage road, then follows just south of the S.R. 260 right-of-way fence to the Verde Lakes area where it then accesses FR 503 then follows along the south side of the State Route 260 fence to FR 708 (Fossil Creek Road). This historic road/trail would provide an important connection for the last link to Camp Verde and Fort Verde State Park. Although, much of it does not follow the original grade (that is located on private land), it does have portions that follow the original grade of the General Crook Trail.

Hollingshead Trail

Named for Dr. Charles Horace Hollingshead, this trail is a difficult, high clearance and steep 4x4 road listed as Forest Road 9201J. It can be enjoyed by motorized and non-motorized users. Hollingshead gathered wild horses in the desert as a

youth with his brother and sold them in the Verde Valley. He was also the bareback wild horse riding champion at the 1893 Chicago World's Fair and was a member of Buffalo Bill Cody's Wild West Show. He made his winter home at Ash Spring just above the Soda Springs Ranch on Beaver Creek and his summer headquarters at Buck Park on the Rim. He operated the A Bar Z brand. The earliest known map that identifies the Hollingshead Trail is the 1932 USGS map. The 1936 USGS topographic map identifies this trail as the White Hills Trail and the Buckhorn Trail as the Hollingshead Trail but the earliest known map, which is the 1932 map, takes precedence. This rough jeep road starts north of the Rancho Roco Roja on FR 618 and goes up the north side of Walker Creek then turns north up a steep and somewhat challenging grade for jeeps to the top of the Rim. The trail continues to FR 214 (Cedar Flats Road) where it heads east in a currently undetermined location.

Sheep Driveway Trail

The sheep driveway is a 1 mile wide grazing allotment which originally went from the Salt River valley to various summer ranges from Williams/ Flagstaff to the White Mountains. The part involved in Verde Valley Regional planning comes into the Verde Valley down the Grief Hill /Camp Tenders corridor, although the best way to connect Camp Verde into it would be: just north of the intersection of Interstate I-17 and S.R. 169 it intersects the General Crook Trail, which could be used to bring users straight into Camp Verde via Copper Canyon. The bridge over Hayfield Draw appears to allow plenty of room for use as an underpass for trail users crossing State Route 260. The bigger problem is avoiding the high bluffs above the Verde River and the deeded land of Thousand Trails and Alcantara Winery to get to the original "Sheep's Crossing." On the west side of the Verde River the trail is mostly on the Prescott National Forest, however location of the boundary markers across Coconino Forest all the way to the Stage Stop on Highway 179, and its connection to the Chaves Trail, is nearly complete. In addition to a river crossing, this section will need a crossing of Cornville Road - now only available at ground level. When Cornville Road is improved it will be vital to ask for an underpass for wildlife and recreational use!

From this crossing (of Cornville Road), the trail could use the County Beaverhead Trailhead and the County trail which parallels the road to a crossing under Beaverhead Road and then head toward the Stage Stop and a crossing of Dry Beaver Creek.

Woodcutter Trail

This trail climbs from the east side of the Verde River 500 feet to the top of Wickiup Mesa. This was an historical road used by woodcutters to supply firewood for Fort Verde during the 1870s and 1880s.

XIV. GLOSSARY OF TRAIL TERMS

Accessible Trail - A trail that is accessible to and usable by people with disabilities. Accessible trails are identified as meeting minimum guidelines established by the U. S. Access Board.

Adopt-A-Trail - A program in which individuals, groups or businesses "adopt" a trail, providing assistance to the land manager through periodic volunteer maintenance events and general monitoring of the trail conditions. All work must be performed within agency specification.

All-Terrain Vehicle (ATV) - A wheeled or tracked vehicle, other than a snowmobile or work vehicle, designed primarily for recreational use or for the transportation of property or equipment exclusively on trails, undeveloped road rights-of-way, marshland, open country, or other unprepared surfaces.

ASCOT - Arizona State Committee on Trails.

Bench Cut - A relatively flat, stable section of a hillside made by excavation to allow the location of the trail tread. Full bench cut includes excavating the total width of trail to natural soil, whereas partial bench cut includes a combination of built up fill material on the outside portion of trail.

Climbing Turn - A turn to reverse direction on a less steep slope that does not include a constructed platform or landing but keeps a continuous turn. The tread design at the turn between the upper and lower sections is constructed to ensure drainage will be directed away from the fall line. Turns on steeper slopes use switchbacks to address erosion problems.

Contour Trail - A trail that generally follows along a constant elevation on a hillside with periodic dips and rolls to allow water to drain naturally off the trail.

Dip (Grade Dip, Drain Dip, Rolling Grade Dip, Grade Reversal,) A reverse or gradual dip in the grade of the trail, followed by a gradual rise at an angle to the outslope to divert water off the trail. This accomplishes the same effect as a waterbar but will last longer due to the structure being designed and constructed as an integral part of the trail.

Easement - A legal right granted by a property owner for a person or persons to use all or a specific portion of land for a specific purpose or purposes, including but not limited to access, roads, placement of utilities and drainage features. The underlying ownership remains with the property owner while the terms of the easement define the rights of others to use the property for some purpose.

Equestrian - Pertaining to horses, horseback riding, riders, and horsemanship.

Fall Line - Steepest line across a given contour or the direction that water will flow naturally down a slope (path of least resistance) under most circumstances. Constructing a trail on the fall line encourages water to run down the trail, which tends to lead to erosion.

Gabion (Gabion Baskets) - Rectangular containers (usually made of heavy galvanized wire) that can be wired together, and then filled with gravel or cobble to make quick retaining walls for erosion control.

Grade - The vertical distance of ascent or descent of the trail expressed as a percentage of the horizontal distance, commonly measured as a ratio of rise to run. Eight percent is a generally the limit of maximum grade for long trail runs; however, soil characteristics and the amount of cross slope must be taken into consideration. For example, a trail that rises 8 vertical feet in 100 horizontal feet has an 8% grade.

Grade Dip (Grade Reversal, Grade Change) - A reverse in the trail grade, usually a short dip followed by a rise that forces water off the trail. Grade reversals are subtle and typically designed into the alignment of the trail. When designed into the alignment they can prevent the future need for more artificial water diversion structures, such as waterbars.

Leave No Trace (LNT) - Educational program and philosophy designed to instill behaviors in the outdoors that leave minimum or no impact of human activities. The term is used with trail development to describe an approach in which minimal area within the trail corridor is disturbed during construction and maintenance.

Multi-Use Trail - A trail that permits more than one user group, such as hikers, bicycles and equestrians.

National Environmental Policy Act (NEPA) - Federal law (established by Congress in 1969), which requires that every Federal agency with public involvement assess the biological and cultural resources in the location of any ground-disturbing activity on federal land and evaluate if there will be any significant environmental impacts of the proposed project.

Off-Highway Vehicle (OHV) - Any motorized vehicle used for travel in areas normally considered inaccessible to conventional highway vehicles. OHVs generally include dirt motorcycles, dune buggies, jeeps, 4-wheel drive vehicles, snowmobiles, and ATVs. Previously referred to as Off-Road Vehicles.

Path (Pathway) - Paved or unpaved path physically separated from motor vehicle traffic. May be primarily pedestrian oriented or multi-use pathway allowing bicycles and/or equestrians

Rail-Trail (Rails-to-Trails) - A multi-purpose, public path or trail (paved or natural) created along an inactive railroad corridor.

Recreational Trails Program (RTP) - Federal program first established in 1991, RTP returns a portion of federal gasoline taxes, generated by non-highway recreation, to the states, which in turn provide grants for trail-related purposes to private organizations, state and federal agencies, and municipalities. RTP Grants include both motorized and non-motorized trails.

Right-Of-Way - A general term denoting public land, property, or interest therein, for transportation purposes, but with other associated uses such as utilities, water and sewer lines, or buffer zones.

Recreational Use Statute (RUS) - State law (in all 50 states) designed to limit the liability of public organizations, easement donors, landowners, and others who open their lands for public recreation use without charge.

Shared-Use Path - A multi-use facility intended and designed for use by bicyclists, as well as pedestrians or other nonmotorized modes. It is detached

and separate from parallel roadways although it may be located within the right of way of a roadway. Some paths may be divided into parallel sections separating use by cyclists from use by pedestrians or horses. Paths may have a variety of surface treatments, including paved and unpaved surfaces.

Sign (Signage) - A board, post, or placard that displays written, symbolic, tactile, or pictorial information about the trail or surrounding area. Signage increases safety and comfort on trails. There are five basic types of signs: Cautionary, Directional, Interpretive, Objective, and Regulatory.

Single-Track Trail - A narrow trail tread generally allowing users to travel in single file manner.

Slope - Rising or falling natural (or created) incline of the land. Generally refers to the hillside and not the trail.

Social Trail (Wildcat Trail) - An unofficial trail resulting from users traveling off established trails for shortcutting or cross-country travel or through the deliberate creation of unofficial trails.

Sustainable Trail - A trail that supports currently planned and potential future uses with minimal impact and negligible soil loss while allowing the naturally occurring plant systems to inhabit the area; and which meets the needs of the users in a positive manner.

Switchback - A sustainable turn on a hillside, usually on a slope of more than 10%, which doubles back on itself. The trail is routed onto a level landing or deck where it makes a transition to the opposite direction of travel to gain elevation. The landing is the turning portion of the switchback. The approaches are the trail sections upgrade and downgrade from the landing.

Trail - A designated route on land or water with public access for recreation or transportation purposes such as walking, jogging, motorcycling, hiking, bicycling, ATVing, horseback riding, mountain biking, canoeing, kayaking, and backpacking.

Trailhead - The beginning of a trail system or access point to a trail or trail system. The trailhead may include minimal facilities or be developed with parking areas, restrooms, water source, signs, and other facilities.

Trailway - The trailway includes the tread surface and an area on each side of the tread cleared of all but very low plants and grasses.

Tread - The surface portion of a trail upon which users travel.

Water Bar - Stones, logs, or cut lumber barriers placed diagonally across the trail to divert water off the tread. This method has been generally discontinued in the arid southwest, as it results in ongoing maintenance requirements. The preferred method is to incorporate drainage features into the design of the trail through rolling contours or through installation of grade or drain dips.

XV. References

ONLINE TRAIL RESOURCES

National Organizations and Resources

American Trails	www.americantrails.org
National Trails Training Partnership	www.nttp.net
American Hiking Society	www.americanhiking.org
Rails-to-Trails Conservancy	www.railtrails.org
RTC Trails and Greenway Publications	www.railstotrails.org/ourwork/trailbuilding/toolbox/documents.html
International Mountain Bicycling Association	www.imba.com
Back Country Horsemen of America	www.backcountryhorse.com
The Professional Trailbuilders Association	www.trailbuilders.org
National Park Service RTCA	www.ncrc.nps.gov/rtca
Universal Trail Assessment Process	www.beneficialdesigns.com/trails/utap.html
Recreational Trail Program Publications	www.fhwa.dot.gov/environment/rectrails/publications.htm
Forest Service Publications List	www.fhwa.dot.gov/environment/fspubs/index.htm

Arizona Organizations and Programs

Arizona State Parks Trails Program	http://azstateparks.com/trails/index.html
ADOT Bicycle and Pedestrian Program	www.azbikeped.org
Arizona Trail Association	www.aztrail.org
Black Canyon Trail Coalition	www.bctaz.com
Flagstaff Biking Organization	www.flagstaffbiking.org
Back Country Horsemen of Central Arizona	http://bchcaz.org
Volunteers for Outdoor Arizona	www.voaz.org

Plans and Links

Scottsdale Trail Plan	www.scottsdaleaz.gov/trails/plan
San Tan Park Trails Plan	www.maricopa.gov/parks/santan/pdf/SanTanTrailManual.pdf
Queen Creek Trail Plan	www.queencreek.org/
Gilbert Trail Guidelines	www.ci.gilbert.az.us/planning/pdf/traildesignguidelines

Prescott Bike Ped Plan

www.cityofprescott.net/_d/bikepedmasterplan.pdf

Maricopa County Trail Plan

www.maricopa.gov/parks/MaricopaTrail/pdf/TrailPlan.pdf

Yavapai County Trail Plan

www.co.yavapai.az.us/DevServ.aspx

Pinal County Trails Master Plan:

<http://pinalcountyaz.gov/>

Walking / Bicycling Links

National Center for Bicycling & Walking

www.bikewalk.org

Association of Pedestrian and Bicycle Professionals

www.apbp.org/website

Pedestrian and Bicycle Information Center

www.bicyclinginfo.org

Walkable Communities, Inc.

www.walkable.org

FHWA Bicycle & Pedestrian Program

www.fhwa.dot.gov/environment/bikeped/index.htm

Trail Books & Publications

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Trails for the Twenty-First Century: Planning, Design, and Management Manual for Multi-Use Trails, Second Edition, 211 pages, Charles A. Flink, Kristine Olka, Robert M. Searns, Rails-to-Trails Conservancy, Island Press, Washington, DC, 2001

Greenways: A Guide to Planning, Design, and Development, 380 pages, Charles A. Flink, Kristine Olka, and Robert M. Searns. 1993. Available from IMBA on-line bookstore.

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Lightly on the Land: The SCA Trail-Building and Maintenance Manual, 2nd Edition (Paperback), 268 pages, Robert C. Birkby, Student Conservation Association, The Mountaineers Books, Seattle WA, 2005

Natural Surface Trails by Design: Physical and Human Design Essentials of Sustainable, Enjoyable Trails, 80 pages, Troy Scott Parker, Natureshape, Boulder, CO, 2004

Trail Construction and Maintenance Notebook, 2007 Edition, 144 pages, W. Hesselbarth, B. Vachowski, M.A. Davies, USDA Forest Service, Technology & Development Program. Revised 2007

The Complete Guide to Trail Building and Maintenance, 3rd Edition, 256 pages, Carl Demrow & David Salisbury, Appalachian Mountain Club, 1998

Off-Highway Motorcycle & ATV Trails: Guidelines for Design, Construction, Maintenance and User Satisfaction, Second Edition. 56 pages, American Motorcyclist Association, Westerville, OH

AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities, 1st Edition. American Association of State Highway and Transportation Officials, 2004. AASHTO online bookstore.

AASHTO Guide for the Development of Bicycle Facilities, 3rd Edition, 78 pages, American Association of State Highway and Transportation Officials, Washington, DC, 1999. AASHTO online bookstore.

Economic Studies

The Benefits of Parks: Why America Needs More City Parks and Open Space, 31 pages, The Trust for Public Land, San Francisco, 2003

Trail User Surveys and Economic Impacts, Rails to Trails Conservancy, Washington DC, 2009

Economic Benefits of Parks and Open Space, 48 pages, Steve Lerner and William Poole, Trust for Public Land, San Francisco, 1999

The Economic Impacts and Uses of Long-Distance Trails, Roger Moore PhD & Kelly Barthlow, National Park Service, Washington DC, 1998

The Impacts of Rail-Trails, A study of Users and Nearby Property Owners for Three Trails, National Park Service, Rivers, Trails and Conservation Assistance Program, Washington DC, 1992. Available US Government Printing Office. - Study looks at urban, sub-urban trails and rural trails.

Economic Impacts of Protecting Rivers, Trails and Greenway Corridors: A Resource Book, National Park Service, Rivers, Trails and Conservation Assistance Program (RTCA), 1995

Evaluation of the Burke-Gilman Trail's Effect on Property Values and Crime, Seattle Engineering Department, 1987

TRAIL BUILDING TOOLS

Forestry Suppliers, Inc.
Jackson, Mississippi
supplies
800-647-5368
www.forestry-suppliers.com

*Hand tools, pin flags, clinometers,
wide range of general tools and*

Ben Meadows Company
Janesville, Wisconsin
800-241-6401
www.benmeadows.com

*Hand tools, safety equipment, clothing,
GPS supplies, forestry supplies*

Warwood Tool Company
mattocks
Wheeling, West Virginia
304-277-1414
Listed.
www.warwoodtool.com

*Highly rated hand tools, pick
pinch point rock bars
See "Tools for Federal Procurement*

Lamberton Rake
McLeod
Montana
www.lambertonrake.com

Simplified, but heavy duty

SIGN AND TRAIL MARKERS

Carsonite International
markers
Early Branch, South Carolina
800-648-7915
www.carsonite.com

Carsonite flexible sign posts and

RockArt
Mesa, Arizona
877-718-7446
480-854-3400
www.rockartsigns.com

Fiberglass signs and markers

Rhino Marking & Protection Systems
posts
Bloomington, Minnesota
800-522-4343
www.rhinomarkers.com

Triangular and flat fiberglass

Scenic Signs
Wausau Wisconsin

Signs and sign markers

800-388-4811
www.scenic signs.cm

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