Park City
Trails Master Plan Update

Produced by:
Park City Municipal Corporation
November 2008

Park City Municipal Corporation

LIST OF FIGURES

INTRODUCTION

The Park City Trails Master Plan is a supplement to the Park City General Plan, the Land Management Code, and the Recreation Master Plan. It is intended for the use of decision makers and advisory boards, such as, the Mayor; City Council; Planning Commission; Recreation Advisory Board; City Departments; trail oriented groups and the general public.

The Trails Master Plan is intended to facilitate the development of a recreation and alternative transportation system for all non-motorized forms of transportation and to help support the motorized and transit system. This plan is a reference document for planning and securing a city-wide trail system. It is not intended to set forth strict standards, but to present sound guidelines for the location, policies, type, and construction of trails.

This plan is designed for decision makers to: set policy for staff regarding trail acquisition, development and maintenance; give direction regarding priorities for trail funding; provide ideas and options for trail funding; and set policy guidelines for trail implementation priorities, and direction on special projects such as: community volunteer projects, community information materials, user information materials, and user conflicts management. The document is divided into several sections:

- Goals and Objectives
- Sample Policies
- Trail Types
- Construction Standards
- ADA
- Signs and Maps
- Trail Head Policy
- Pedestrian Network
- Trail System Benefits and Safety
- Trails Master Plan Map

As Park City grows and develops there is an increasing need and demand for recreational hiking and biking trails, trail-head parking, neighborhood trails and connections, sidewalks, bicycle lanes, signs, and maps. There is a desire in the community to better identify, develop and preserve pedestrian and bicycle access as the land becomes developed. In addition to encouraging recreation, the development of a non-motorized trail system can help reduce vehicle trips and traffic congestion. The result will be a community resource providing transportation alternatives, recreational opportunities, environmental aesthetics, open space preservation and increased property values.

I. Trails Master Plan Vision Statement

"Non-motorized travel is a viable transportation option to the automobile. It improves the quality of life, community aesthetic, environment and thus our quality of life."

VISION:
In the year 2020, as people view Park City, housing, shopping, educational institutions, medical, and other service areas cover the land. But throughout these urban areas, green spaces appear, where people can be seen riding bicycles, walking from shop to shop or to school and talking with their neighbors on street corners and front yards.

A coordinated trail system links all of the important destinations within the city. The residents have access to these trails on sidewalks or neighborhood pathways. These trails provide a safe, visible route between destinations. They provide a fast link between residential areas and commercial and educational opportunities. The trails are connected to sidewalks leading to downtown areas designed as pedestrian friendly zones. Walking and bicycle trips are convenient, safe and pleasant. Park City's trail system is linked to both its neighboring community's and to the neighboring counties' trail systems.

II. Goals and Objectives

GOAL 1 **To develop policies, standards, and an updated trails plan and map which will provide direction for the community to develop an area-wide trails network. This goal can be achieved by providing a more bicycle/pedestrian friendly transportation network that will:**

Policy 1) Create a seamless network of non-motorized improvements that allows bicycles and pedestrians to reach important destinations easily.

Policy 2) To implement the recommendations of the Parks, Recreation, and Beautification Board. See Appendix "D" Trail Head Work Plan and Appendix "E" Parks, Recreation and Beautification Board Memo.

Policy 3) Encourage relevant bicycle and pedestrian elements in all transportation projects.

GOAL 2 **Provide the following benefits and opportunities to the Park City Community:**

Transportation: Trails can increase the transportation mode split of bicycling and walking trips, and they can also improve safety and increase access. The trail system should include a commuter system for employees and students that will encourage non-motorized travel by connecting residential areas with major destinations. This system may ultimately reduce or avoid traffic congestion and air pollution in future years.

Recreation: Trails provide an easily accessible outdoor resource for many forms of recreation, most notably bicycling and walking. Trails greatly increase community access to physical activity and fitness opportunities by providing more miles of safe, attractive bicycling, walking, and hiking facilities.

Reduction of Pedestrian/Bicycle/Auto Accidents: Park City should target and eliminate key behaviors that cause accidents resulting in injuries and/or loss of property (e.g., wrong-way riding, motorist failure to yield, speeding, and jaywalking).

Economic: Walkable communities can produce income from shared utility leases, increase the value of real estate, and generate income from tourist, special events, and other users. Improved walking conditions improve the quality of life by making an area more attractive for business relocations and in-migration. Costs of developing and maintaining the road access infrastructure are also reduced.

Land Use Planning: Trails and other green way corridors promote park and recreation development, wet land preservation, and buffered environmental protection. Trails preserve undeveloped lands in urban areas and serve to separate and buffer contradicting land uses.

Environment: Possible environmental benefits include wildlife preservation, water quality protection, storm water management, preservation of vegetation, and other benefits, such as firebreaks. They also reduce noise and visual pollution.

Education: A trail corridor often encompasses several different environments along its route and can be thought of as an outdoor classroom full of educational materials. The scientific community, educators and students can realize the value of trails through a wide range of studies, such as biology, geography, history, recreation management, and art.

History and Culture: Trails can educate and increase awareness about the history and culture of a region. Preserved historical sites provide unique locations for cultural, local and social events. Methods, such as on site interpretive material and promotional literature, aid in the community's effort to preserve historic sites.

Quality of Life: Increases in the quality of life associated with non-motorized trails are realized through expressions of community character and pride, aesthetics of the local environment, economic revitalization of the community, access to the outdoors, opportunities for socialization, and easy increase of mobility.

Disability Access: Provide disabled access to and within the trail system with the level of access provided at posted trail-heads. Physical barriers and hazards that obstruct access should be removed from streets, sidewalks and trails designated as part of the trail system. Trails should be ranked by their level of disability access.

III. Sample Policies

To achieve the above stated goals, public policy within our current Community Development Department should support the construction of this integrated system, just as public policy has created the local road network or our national highway system.

As the community grows and changes, and user preferences change, the specific recommendations of these vision policies may also change. However, the more general policies should remain the same providing continuity of the trail system between communities and sidewalks and pathways within cities.

1. A Trail System Increases Pedestrian Access and is an Asset to Park City

> *As the city grows, trails can mitigate traffic congestion and other aspects of development. Non-motorized travel is non-polluting. The Park City trail system should be safe, easily accessible, aesthetically pleasing, and contribute to the general quality of life in the community.*

The Park City Trails Master Plan should connect residential areas to schools and commercial and business areas. Other amenities to consider are: State Parks, community parks, resorts, dedicated open space parcels, golf courses, and other private recreational facilities.

Where feasible, trails that are separated from vehicle traffic (shared use path) should be provided. Snow removal and general maintenance are less costly for this type of trail, users are generally safer, and the overall experience is enhanced and preferred when traveling on paths that are separate from the roadway. Where traffic separation is not possible then striping of bicycle lanes, and sidewalks as well as signs, should be provided. Trails consisting of signs only (See American Association of State Highway and Transportation Officials (AASHTO) 1999 Guide for Development of Bike Facilities) should be provided only after all other options are considered infeasible. As portions of the trail system are developed, uniform materials, surfacing, and signs should be installed.

***Pathways*:** Pathways are short, often informal, links between houses or businesses. They usually cover short distances connecting residential neighborhoods to shared use paths, shopping areas or schools. Paths are especially needed in cul-de-sacs where through access is limited. In cul-de-sacs, strategically placed paths (10' between two lots) can link bicyclists and pedestrians to shopping malls, transit stops, parks, and other neighborhoods so that a busy street can be avoided.

Being a critical element of a non-motorized system, paths should be required in new developments to ensure access for pedestrians and bicyclists. A path allows people to shorten an otherwise roundabout trip through a maze of subdivision streets on their way to school, the bus, or neighborhood shopping. Their existence and maintenance are sometimes granted by private homeowners. However, future housing development can institutionalize these facilities by providing narrow (10') public rights-of- way as housing is constructed.

2. Development of a Comprehensive Pedestrian and Bicycle Network

Park City desires to develop a comprehensive network for public access. The network should coordinate existing and future trail connections, with pedestrian friendly zones. It should ensure a continuous system between cities, neighborhoods, and varying land uses throughout the region.

The Park City Trails Master Plan should provide safe non-motorized access along key transportation corridors, to schools, recreation and fitness centers, major retail and service centers. Trails should be constructed to accommodate maintenance and pedestrian and bicycle access year- round. To obtain rights-of-way in developed areas, Park City should work with landowners to obtain public access to important existing and desired non-motorized corridors. New residential and commercial development should include non-motorized access, trail connections and public easements as shown on the master plan maps. When a trail route has been adopted and is represented in the city's general plan, a subdivision trail ordinance can protect and require proposed trail right-of-way as a public thoroughfare.

Land Management Code

Required trail improvements under the ordinance of the Land Management Code in accordance with the Trails Master Plan can insure the preservation of a proposed trail route. Under the Subdivision title of the Land Management Code, the section for Sidewalks, hiking trails, bike paths, horse trails specifically requires these improvements.

Section..... Sidewalks, Hiking Trails, Bike Paths, Horse Trails.
Required Improvements.

I. Sidewalks shall be included within the dedicated non-pavement right-of-way of all roads unless an alternate location has been specifically approved by the Planning Commission. In many cases pedestrian paths separate from the road right of way may be preferable due to snow removal concerns.

II. Concrete curbs are required for all roads where sidewalks are required by these regulations or where required in the discretion of the Planning Commission.

III. Sidewalks shall be improved as required in Section .. of these regulations.

IV. Trails, pedestrian paths, and bike paths shall be related appropriately to topography, require a minimum of site disturbance, permit efficient drainage, and provide safe access.

V. Hiking trails, bike paths, and horse trails shall be provided by the developer in accordance with the City Trails Master Plan and where otherwise necessary as determined by the Planning Commission. Trails should connect traffic generators such as, schools, recreation facilities, commercial areas, parks, and other significant natural features. Such trails shall be built to City specifications and easements shall be dedicated for such trails. The trails shall be constructed at the time of road construction, unless the Planning Commission determines otherwise, in which case cash deposits shall be required pursuant to Chapter 15-7.2-2 of the code.

Such an ordinance would require a developer to meet with planning staff to interpret the Trails Master Plan, and the plan's relationship to the proposed development. This includes the consideration and possible connection of any trail concepts within the proposed development to the city-wide trail system.

Master Plan Map Updates: Future needs, generated by new residential and commercial development, may not be anticipated in the Plan. The Master Plan Map should be updated as development occurs with trails and pedestrian friendly zones developing according to the master plan's intention and specified standards. Public access can be guaranteed in new developments through the exaction of public trail easements, through building standards, and zoning requirements.

Funding and Acquisition: Park City should examine alternatives for the acquisition of trail corridors according to the adopted trails master plan. Trail easement acquisition and development can be accomplished in a variety of ways including, but not limited to: purchase, donation, prescriptive use, easements, leases or other possessory interests. Park City should explore a variety of local and national funding sources and mechanisms for the development of trails. Real Estate Transfer Tax, grants, special service districts, transportation funds, joint-funding with other jurisdictions or agencies, exactions, bonding, developer dedication, state parks and recreation funds, private donations, fund raising rides and events, and various taxing mechanisms are a few of the funding mechanisms that are now available. National funding sources for bicycles and pedestrian projects are available through several programs under the federal Transportation Equity Act for the 21st Century:

Transportation Equity Act for the 21st Century (TEA-21)

- **National Highway System** funds may be used to construct bicycle transportation facilities and pedestrian walkways on land adjacent to any highway on the National Highway System (not including the interstate system).
- **Surface Transportation Program (STP)** funds may be used for either the construction of bicycle transportation facilities and pedestrian walkways or non-construction projects (such as brochures, public service announcements, and route maps) related to safe bicycle use. Ten percent of Surface Transportation Program funds are used for "Transportation Enhancements," which includes a provision for bicycle and pedestrian facilities.
- **Congestion Mitigation and Air Quality Improvement (CM/AQ)** program funds may be used for either the construction of bicycle transportation facilities and pedestrian walkways, or projects related to safe bicycle use.
- **Federal Land Highway Funds** may be used to construct pedestrian walkways and bicycle transportation facilities on federal land in conjunction with roads, highways, and parkways at the discretion of the department charged with the administration of such funds.
- **Scenic Byways Section** may be used to construct facilities along designated scenic byways for pedestrians and bicyclists. (For example, the Provo Canyon Scenic Byway that extends to US 40.)
- **Enhancement Section** may be used to construct facilities to enhance the traveling experience including historical, cultural, recreation, bicycle, and pedestrian facilities. This section is primarily focused on the provision bicycle facilities.

- **National Recreational Trails Funds** may be used for a variety of recreational trail programs to benefit bicyclists, pedestrian, and other non-motorized users with an emphasis on bicycle facilities. Projects must be consistent with Statewide Comprehensive Outdoor Recreation Plan (Utah State Parks and Recreation) required by the Land and Water Conservation Fund Act.
- **Section 402 Funding** provides highway safety program funds, with an emphasis on pedestrian and bicyclist safety. Title II, Section 2002, of Inter-modal Surface Transportation Efficiency Act (ISTEA) addresses state and community highway safety grant program funds. The priority status of safety programs for pedestrians and bicyclists expedites the approval process for these safety efforts.
- **Federal Transit Funding-Enhancement** Title III, Section 25 of ISTEA, continues to allow transit funds to be used for bicycle and pedestrian access to transit facilities and to provide shelter and parking facilities for bicycles in or around transit facilities or to install racks or other equipment for transporting bicycles on transit vehicles.
- **Land and Water Conservation Fund** is a federal fund managed by the Utah Division of State Parks and Recreation. This money has been used to purchase and construct city parks and trail systems.
- **River and Stream Enhancement Fund** another federal fund managed by the Utah Division of State Parks and Recreation is used to rehabilitate, restore and preserve important rivers and streams and associated access trails.
- **State of Utah's Non-Motorized Trail Fund** is appropriated from the general fund (State Parks) annually, and is used to construct motorized/non-motorized trail facilities, such as the Bonneville Shoreline Trail.

3. Liabilities on Trails, Pathways or Sidewalks

The Park City Trails Master Plan should provide liability information to private landowners regarding the granting of public access to existing roads and trails, use of private property for public recreation purposes, and the intent of the Utah Landowner Liability Act.

Park City can implement the Non-Motorized Trails Plan, in part, by requiring developers and landowners to include trails internal to and connecting through the developer's property as part of the development review process. Developers and owners of undeveloped property adjacent to trail development have voiced concerns about landowners' liability. No activity is entirely free from exposure to liability, but the dedication, construction, and operation of public trails can be at the low end of the landowner liability spectrum.

To address liability concerns, Utah has adopted the Landowner's Liability Act, which states:

> *"The purpose of this Act is to encourage public and private owners of land to make land and water areas available to the public for recreational purposes by limiting their liability toward persons entering thereon for those purposes. The Act further provides that the owner of the land owes no duty of care to keep the premises safe for entry or use by any person using the premises for any recreational purpose or to give any warning of a dangerous condition, use structure or activity on those premises to those persons."*

The Act provides further protection for landowners, including limitations on representations as to the safety of the premises, limitations on the duty of care owed to visitors and limitations on liability for injuries caused by the acts of visitors while on the premises.

The Utah Landowner Liability Act was construed by the Utah Supreme Court in Crawford v. Tilley, 780 P.2d 1248 (1989). The court found the landowner ***not*** to be protected by the Utah Act because the premises on which the injuries occurred were not open to the public and were, in fact, posted "No Trespassing."

An annotation in American Law Reports suggests that counsel representing a landowner should consider, in advance of any litigation, the nature and number of warning signs that the landowner could place on his property to best take advantage of the protection from liability afforded by a recreational use statute. The annotation also suggests that counsel should advise his client to post signs that warn of the danger, but not to bar entry, such as advising entering "At Your Own Risk" (47 A.L.R. 4th 262).

Biking and Hiking Regulations Ordinance

In addition to the Utah Landowner Liability Act, the Park City Council should consider adopting an ordinance to regulate biking and hiking on designated trails in Park City. An example ordinance follows:

> "**WHEREAS**, the Park City Council recognizes landowners within Park City who make their land or designated portions thereof available for public transportation or recreational purposes and afford themselves the liability protection contemplated by the Utah Landowner Liability Act (UCA 57-14-1, et seq,) and,
>
> **WHEREAS**, the Park City Council encourages development of designated trails within the city and wishes to regulate the use of said trails in a manner which will safeguard and promote the health, safety, and welfare of trail users and landowners who directly or indirectly permit public use of their land for transportation or recreational purposes;
>
> **NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF PARK CITY, UTAH**:
>
> Section 1. It shall be unlawful for any person, for the purpose of biking, hiking, or other transportation or recreational activity, to willfully go upon any land area designated and posted unsafe or closed by landowner, County Sheriff, Forest Service or National Park Service.
>
> Section 2. "Posted," as used in this Ordinance, means:
>
> (a) any personal communication by the landowner, representative of the owner, the Sheriff, the Forest Service, or National Park Service, or,
>
> (b) fencing or other enclosures or barriers obviously designed to prevent unintentional access to an area; or,
>
> (c) posting of signs reasonably likely to come to the attention of persons engaged in transportation or recreational use of another's land.
>
> Section 3. It shall be unlawful for any person for the purpose of biking, hiking, or other transportation or recreational activity to willfully leave the boundaries of any designated public trail across privately owned lands without the consent of the landowner.
>
> Section 4. Any person violating the provisions of this Ordinance shall be guilty of a Class C Misdemeanor, and be punished by a fine not to exceed $750.00 and/or confinement in the City Jail for not more than ninety days.

There are a variety of solutions to the liability concerns raised by private landowners when asked to allow public access on their properties for transportation or recreation purposes. The

first, of

course, is reliance on the applicable landowners' liability statute and posting of appropriate warning signs. Another alternative includes the leasing of trail areas to the city or other governmental entity desiring public use. The more traditional method would be to convey or dedicate the trail to the City or other governmental entity in fee for title, thereby removing any status liability of the former landowner.

This is not to suggest that construction and operation of a public trail system is without liability at all, but such activities probably expose landowners and sponsoring governmental agencies to lower levels of liability for damage claims than most other activities. In fact, attempts by landowners to prevent public access to their properties may remove the protection offered by the Utah Landowner's Liability Act.

Utah Liability Issues

(Produced by Fabian & Clendenin, Salt Lake City, Utah)

I. PRIVATE LANDOWNERS

A. COMMON LAW LIABILITY

Depends on user's status

Trespasser (property posted or fenced)

No duty to warn; no duty to protect; liability only for malicious injury

Licensee (allowed on property but not invited)

Duty to warn of known dangers; no duty to protect

Invitee (business patron or social guest invited on property)

Under common law owners are driven to post property and vigorously enforce against trespass in order to get highest level of protection

B. STATUTORY PROTECTIONBLIMITATION ON LANDOWNER LIABILITY ACT (U.C.A §57-14-1)

Purpose is to encourage owners to allow public access to private land

Applies only where:

use is recreational

landowner does not charge for use

property is open to general public

Landowner's liability to all users under statute is same as to trespassers under common law

C. TRAIL CONSIDERATIONS

Owner of adjoining property (but not trail corridor)

No liability for accidents on trail

For accidents on adjoining private property:

if property is closed to public use, common law will apply

if property is open, statute will apply

in either case, liability is only for malicious injury

Where trail corridor is privately owned, subject to an easement granting a public right of way, liability picture is not as clear.

Does selling an easement constitute a "charge" for public access? If so, statute may not apply and liability would be a licensee or invitee

In 1997 statute was amended to specifically cover cooperative wildlife management units (where hunter buys permit from state whom remits a portion to participating landowner)

A similar amendment might be needed for trail easements

Posting Issues

Generally, property is considered open unless posted or enclosed

Some ordinances (e.g. Summit City) prohibit leaving public trails without adjoining owner's express consent

II. PUBLIC LANDOWNERS

A. SOVEREIGN IMMUNITY

Government agencies are not liable for accidents unless immunity has been waived by statute Immunity has been waived for sidewalks, streets and other public "structures or improvements" B does this include trails?

B. RECREATIONAL LAND USE IMMUNITY ACT (HB 107 1999)

Restores immunity for injuries arising from the "inherent risks" of "recreational activities," which expressly includes hiking, bike riding and equestrian activity

C. LIMITATION ON LANDOWNER LIABILITY ACT

Statute does not apply to urban parks, but may still apply to trails across undeveloped land. See, *De Baritault v. Salt Lake City*, 913 P.2d 743 (1996)

4. Development of a Safe Multiple-Use Trail System and Pedestrian Friendly Zones

The design, development and implementation of the Park City Trails Master Plan should consider safe shared use paths throughout the trail system. Pedestrian friendly zones should be designed and located to maximize usage, thereby increasing their contribution to traffic mitigation and air pollution reduction efforts.

In order to provide a safe shared use trail system, trail construction standards should include such things as: width, surface materials, slopes, appropriate sight distances, signs, and trail curvatures. Trail use types are identified and different standards for various trail use types are delineated.

Trails should generally be open to bicycles, pedestrians, joggers, and hikers. However, some trails should be designated as pedestrian trails only, excluding mountain bikes, in-line skaters and equestrian access. (Equestrian trails should be specifically designated.) Signs at trail-heads and significant access points should specify allowed uses and define user etiquette. Motorized vehicles except those for emergency or maintenance purposes should be prohibited from using the Park City Trail System.

***Safety Within Pedestrian Friendly Zones*:** Crossing the street is more difficult and dangerous on roads that have been widened to accommodate greater traffic volumes. Each additional traffic lane adds to the time crossing pedestrians are exposed to vehicles. Wider roads encourage increased traffic speeds, which yield shorter reaction times in dangerous situations and a greater likelihood of fatal or debilitating injuries resulting from an auto pedestrian crash. Controlling traffic volumes can forestall the need to widen roads; therefore, existing roads do not become more dangerous to pedestrians.

The most important factor for pedestrians on the street is the speed of vehicles. High-speed traffic is intimidating for pedestrians because it increases road noise and shortens reaction times for drivers. Drivers are less likely to yield for pedestrians and, when collisions occur,

serious pedestrian injuries are more likely to result.

Streets should be designed for slower speeds (less pavement width). On existing streets, you can change their design by adding trees, on street parking, reduce pavement width, signage, medians, and other traffic calming devices.

Pedestrian deaths and injuries can be prevented in two ways: 1) Make roadways safer for pedestrians by installing 'pedestrian friendly' street design features, especially at intersections. 2) Provide a transportation system where people can find a convenient alternative to driving. By encouraging the development of safe and accessible pedestrian networks, most trips and traffic volumes can be reduced.

5. Environmental Sensitivity

The trail system should be designed and constructed in an environmentally sensitive manner in green or open spaces.

The city-wide trail system should provide opportunities for trail users to observe ecological features, such as stream corridors, and wetland edges while protecting these areas from overuse. As development occurs trails should become green ways. Trails should be located to take advantage of Park City's positive environmental qualities, such as views, natural vegetation, wildlife, geologic, and water features.

Green ways should be aesthetically pleasing and provide a pleasant transportation and recreational experience. On steep slopes and highly vegetated areas, the selection of trail locations should be based upon trail user preferences, topography, environmental impacts and visual compatibility rather than along convenient property boundaries.

In visually or environmentally sensitive areas, special location and/or construction methods should be used which protect the site from environmental or visual impact. Examples of visually or environmentally sensitive sites are: wet lands, riparian areas, highly visible hillsides, areas with significant vegetation, highly erodable soils, unstable slopes and ridge-lines. Minimal visual or construction impacts on highly vulnerable sites can be achieved through certain techniques, such as limits of disturbance, fencing, site specific trail routing, erosion control measures, site specific adjustment of construction standards and design guidelines, and site specific construction practices. Use of one or more of these techniques should minimize environmental, visual or construction impacts. (See the *Shared Use Paths* section of this document for specific environmental treatments.)

6. Trail, Pedestrian Friendly Zone Standards and Park City Character

Park City should develop a trail system that is functional and conforms to national standards, where applicable, while preserving the unique character of the Park City environment.

National standards are important when considering trail user safety, and the potential liability to the City, so AASHTO and/or national standards should be followed where practical. But due to the mountainous terrain and dynamic nature of outdoor recreation in Park City, national standards are not always practical. No mountainous terrain standards have yet to be established by any nationally recognized organization.

Park City's unique character is a valued quality and trails should reflect that character in setting and materials. When possible, materials indigenous to the site should be used in construction. When the use of indigenous materials is not possible, use of historic looking materials should be considered.

***Pathways*:** Informal neighborhood pathways may be constructed out of crushed gravel, concrete, native dirt, woodchips or asphalt. Pathways should be built to "fit" with the surrounding materials and match the feel of the adjacent area. The sense of place an area has should be preserved through the choice and treatment of materials and setting of the path.

***Pedestrian Friendly Zones*:** Creating a more accessible urban area often involves landscaping, traffic calming, zero setback and/or mixed use zoning. Preservation or re-invention of historic areas contributes both to pedestrian access and community character.

7. Pedestrians, Bicyclists and Community Needs

Park City intends to develop a trail network providing for the needs of residents and visitors for daily travel on foot, bicycle or other non-motorized means.

The ideal non-motorized network should connect neighborhoods with important destinations, such as parks, employment centers, shopping areas, libraries, medical facilities, and convention facilities. As new trails are developed fencing, landscaping and physical separations are reasonable measures that need be taken to assure adjacent landowner privacy.

Bicycle Parking: The availability of safe and convenient parking is as critical to bicyclists as it is to motor vehicles. Bicycle parking needs to be visible, accessible, easy to use, convenient, and plentiful. Racks need to support the whole bike (not just one wheel) and enable the user to lock the frame and wheels of the bike with a cable or U-shaped lock. Parking should preferably be covered, well lit, and in plain view without being in the way of pedestrians or motor vehicles. And if any of these criteria aren't met, there's a good chance cyclists won't use what is provided and will park wherever they think their bike will be safe. All new development should be reviewed for the appropriateness of bicycle parking and or storage. Where possible existing development should be retrofitted for bicycle parking and or storage.

Maps: The development of guides and maps is encouraged. Trail and pedestrian friendly zone maps will provide information about access for non-motorized travel for visitors to the area and will enrich the transportation, recreational and educational experiences for all.

Maps and guides should contain information concerning the trail: trail-head locations, description of trail route, steepness, and wheel chair accessibility. Transit connections, locations of public and private facilities, such as parking lots, drinking water, rest rooms, and benches should also be identified. Other items to include in maps and guides are major destinations, schools, universities, major employment centers, retail, social services, residential areas, and public transportation routes including, park and ride lots, bus stops and private shuttle systems.

Signs: As new trails are completed, signing should be installed along the major corridors of the trail system with information on direction, safety and trail policy. Specific location of signs is evaluated on a case-by-case basis. Placement guidelines are listed in the Construction Standards section of this document. These guidelines are intended to provide general direction for signs and their placement. Final signing may not be possible until certain trails are completed.

***Needs Within the Pedestrian-Friendly Zone*:** The encouragement of pedestrian and bicycle travel within downtown areas should be established and designed for safe, non-motorized travel.

This requires street designs that give people as much, or more, consideration than cars. On street parking can be provided, which aids the merchants while still providing a buffer for pedestrians. Landscaping, building design, street furniture, in addition to traffic calming methods should be incorporated. This comprehensive street design should have community approval and create a street style that individualizes the community while providing pedestrian and bicycle access.

8. Long-Term Maintenance Policies and Standard

The long-term maintenance of trails is integral to the ultimate success of the trail system.

Typically the maintenance of an existing trail is the responsibility of public works/parks department of the jurisdiction in which the trail is located. Trail maintenance levels are dependent on funding. Future maintenance could be coordinated for the entire trail network for efficiency. When street improvements are made, it is recommended that sidewalks and trails be installed at the same time in order to reduce costs and inconvenience. It is also recommended that higher volume, shared use path corridors be given priority over lower volume, single use trails, unless specific conditions warrant otherwise. Several maintenance guidelines are described in detail for each type of trail and pathway included in this plan.

Park City has established a program element in their public works/parks departments for the maintenance of trails in the Park City Trails System, including an appropriate budget. Issues considered are snow removal, litter pick-up, installation of root barriers, resurfacing of paved trails, installation of signs, crosswalks, bollards, centerline striping, vegetation trimming, and trail sweeping. Future trails may need trash receptacles, rest rooms, drinking water facilities, lighting, and cross country skiing track settings. The ongoing cost for trail signs and their management and maintenance should also be considered.

See Appendix C.

IV. Trail Types

A. Shared Use Path

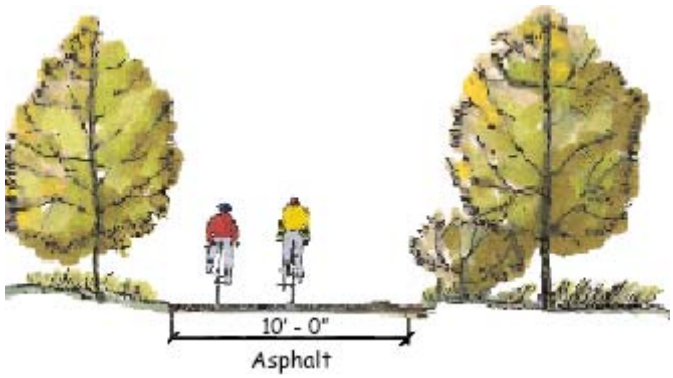
Generally, shared use paths should be used to serve corridors not served by streets and highways or where wide utility or former railroad right-of-way exists, permitting such facilities to be constructed away from the influence of parallel streets. Shared use paths should offer opportunities not provided by the road system. They can provide a recreational opportunity or, in some instances, can serve as direct commute routes if cross flow by motor vehicles and pedestrians is minimized.

The most common applications are along rivers, canals, utility rights of way, former or active railroad rights-of-way, within college campuses or within and between parks. There may also be situations where such facilities can be provided as part of planned developments. Another common application of shared use paths is to close gaps in bicycle travel caused by construction of cul-de-sacs, railroads and freeways or to circumvent natural barriers (rivers, mountains, etc.) While shared use paths should be designed with the bicyclist's safety in mind, other users, such as pedestrians, joggers, dog walkers, people pushing baby carriages, persons in wheelchairs, skate boarders, and in-line skaters are also likely to use such paths.

In selecting the proper facility, an overriding concern is to assure that the proposed facility will not encourage or require bicyclists or motorists to operate in a manner that is inconsistent with the rules of the road. The needs of both motorists and bicyclists must be considered in selecting the appropriate type of facility.

An important consideration in selecting the type of facility is continuity. Alternating segments of shared use paths and bike lanes along a route are generally inappropriate and inconvenient because street crossings by bicyclists may be required when the route changes character. Also, wrong-way bicycle travel with the higher potential for crashes may occur on the street beyond the ends of shared use paths because of the inconvenience of having to cross the street.

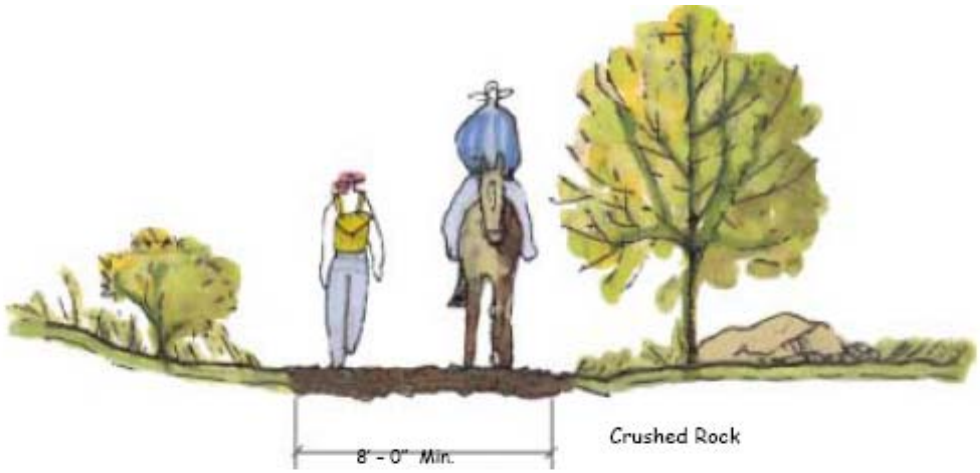
Sidewalks generally are not acceptable for cycling. however, in a few limited situations, such as on long and narrow bridges and where bicyclists are incidental or infrequent users, the sidewalk can serve as an alternate facility, provided any significant different in height from the roadway is protected by a suitable barrier between the sidewalk and roadway.

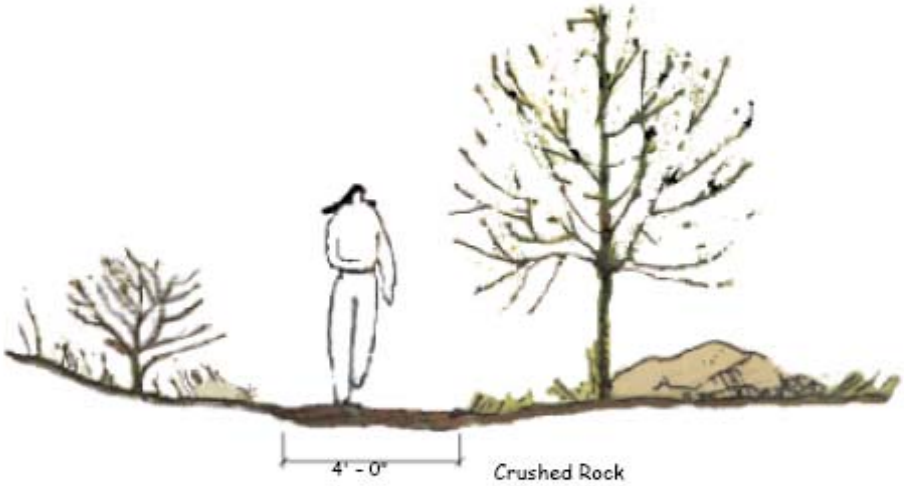


Any federally funded project is required to conform to the existing AASHTO Design Guidelines.

B. Crushed Gravel Trail

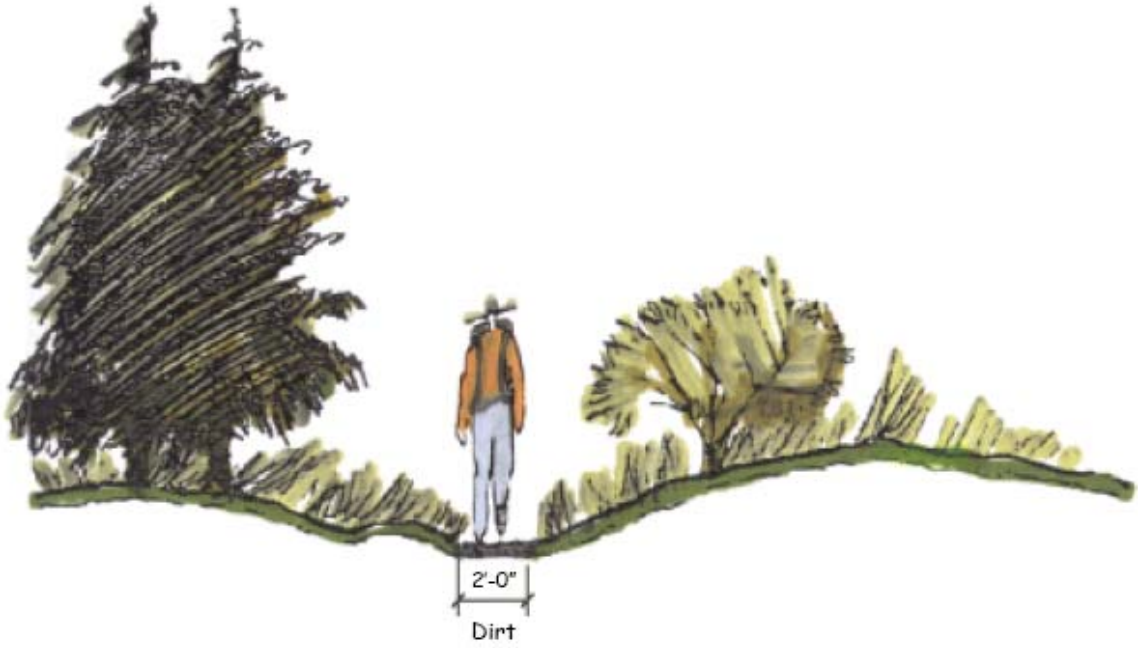
Anticipated uses along crushed gravel trails include mountain bikes, pedestrians and horses (where specifically designed). Width varies with anticipated intensity of use. Surface drainage across soft-surfaced trails should be designed to minimize erosion of the trail surface and edges.

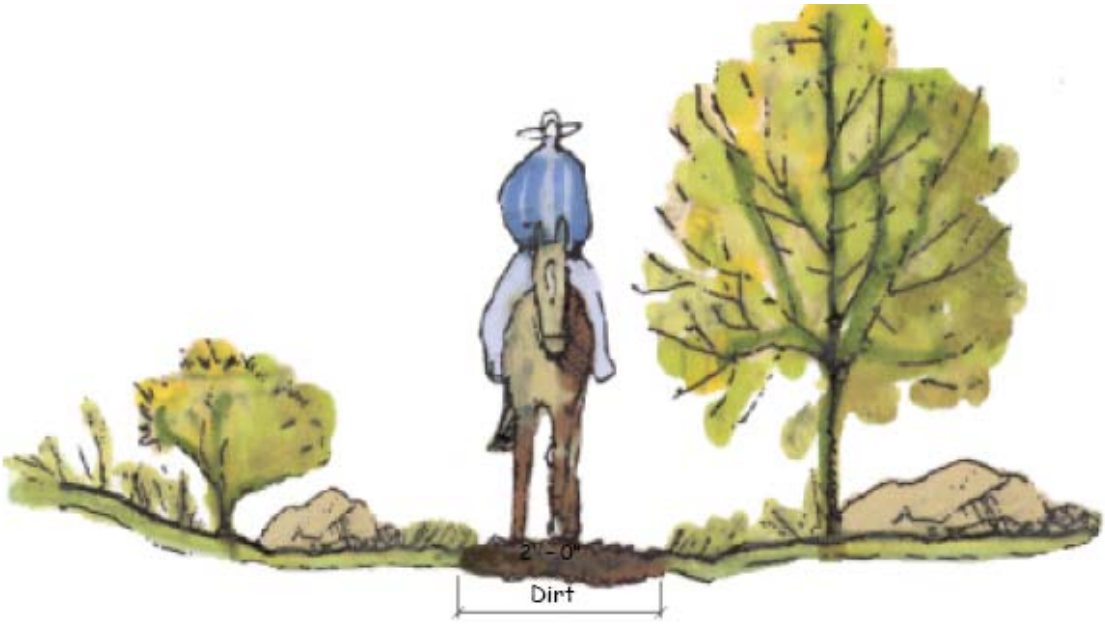




C. Back Country

Back Country trail types are generally used when a low volume recreational use is anticipated and to access natural areas.


2'-0"
Dirt

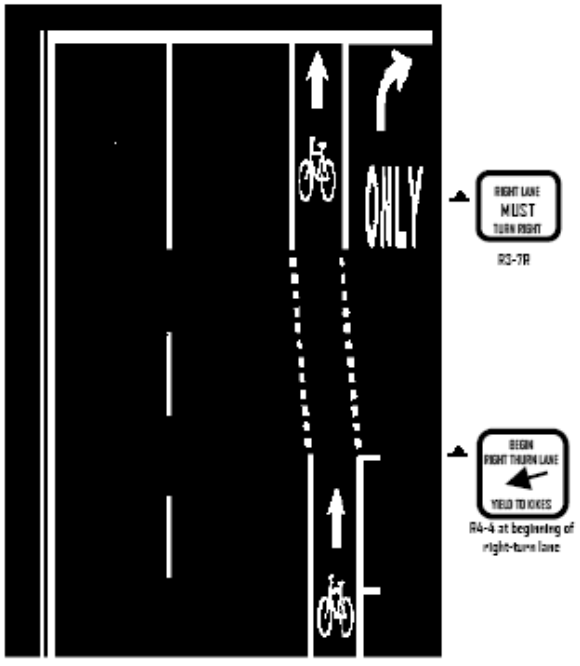

2'-0"
Dirt

D. Bicycle Lane

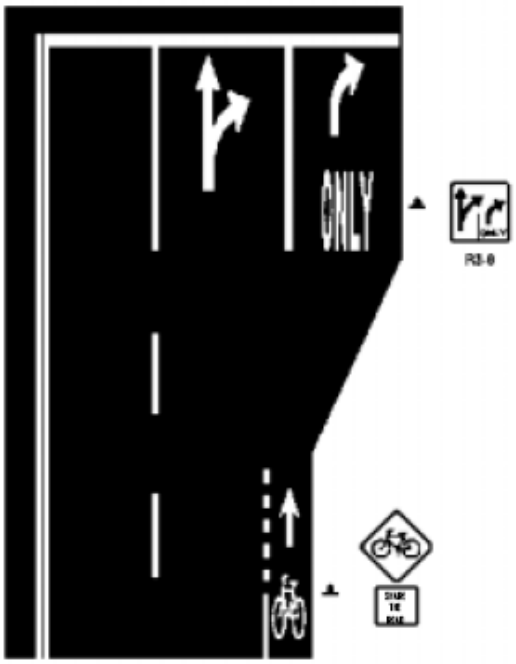
Bicycle facility type is dependent on many factors, including the ability of the users, specific corridor conditions and facility cost. The descriptions below provide an overview of each facility type and general design.

Bike lanes are established with appropriate pavement markings and signing along streets in corridors where there is significant bicycle demand and where there are distinct needs that can be served by them. The purpose should be to improve conditions for cyclists on the streets. Bike lanes are intended to delineate the right-of-way assigned to bicycles and motorists and to provide for more predictable movements by each. Bike lanes also help to increase the total capacities of highways carrying bicycle and motor vehicle traffic. Another important reason for constructing bike lanes is to better accommodate bicyclists where insufficient space exists for comfortable bicycling on existing streets. This may be accomplished by reducing the width of vehicular lanes or prohibiting parking in order to delineate bike lanes. In addition to lane striping, other measures should be taken to ensure that bicycle lanes are effective facilities. In particular, bicycle-safe drainage inlet grates should be used, pavement surfaces should be smooth, and traffic signals should be responsive to bicyclists. Regular maintenance of bicycle lanes should be a top priority, since bicyclists are unable to use a lane with potholes, debris or broken glass.

If bicycle travel is to be improved, special efforts should be made to assure that a high quality network is provided with these lanes. However, the needs of both the motorist and the bicyclist must be considered in the decision to provide bike lanes.



Parking lane into right-turn-only lane

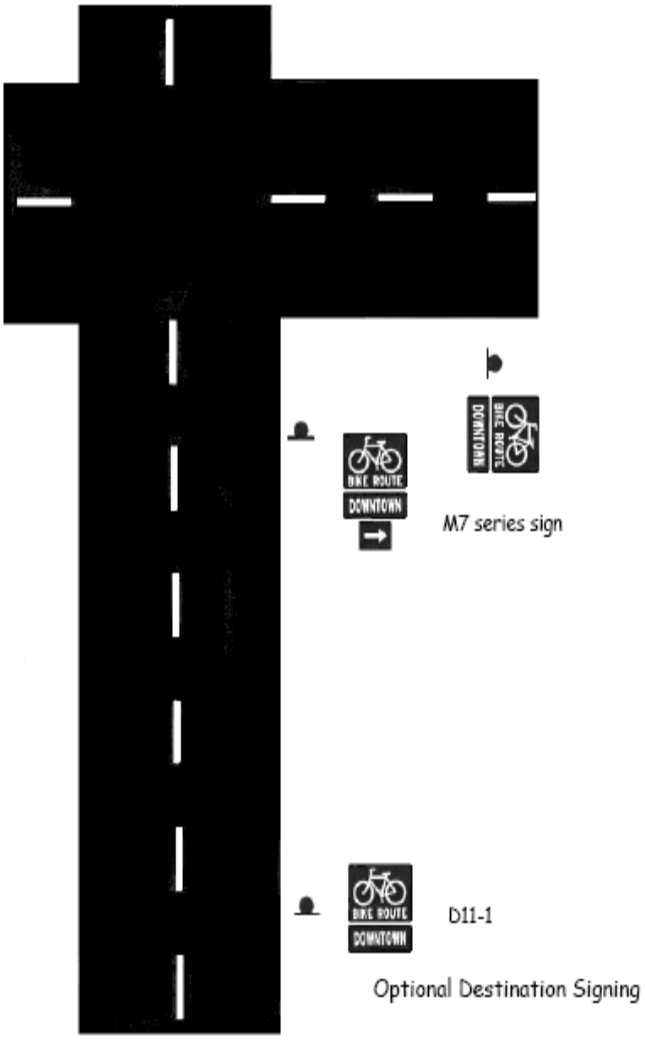


Optional right/straight and right-turn-only

E. Shared Roadways

To varying extents, bicycles will be used on all highways where they are permitted. Bicycle-safe design practices, as described in this guide, should be followed during initial roadway design to avoid costly subsequent improvements. Because most existing highways have not been designed with bicycle travel in mind, roadways can often be improved to more safely accommodate bicycle traffic. Design features that can make roadways more compatible to bicycle travel include bicycle-safe drainage grates and bridge expansion joints, improved railroad crossings, smooth pavements, adequate sight distances, and signal timing and detector systems that respond to bicycles. In addition, more costly shoulder improvements and wide curb lanes can be considered. Also see Chapter 2, Other Design Consideration AASHTO Guidelines.

Width is the most critical variable affecting the ability of a roadway to accommodate bicycle traffic. In order to bicycles and motor vehicles to share the use of a roadway without compromising the level of service and safety for either, the facility should provide sufficient paved width to accommodate both modes. This width can be achieved by providing outside lanes of paved shoulders.



In urban areas, signs should be placed every 500 m (approx. $\frac{1}{4}$ mile). At every turn and at all signalized intersections.

Signed Shared Roadway. Signed shared roadways are designated by bike route signs, and serve either to: a. Provide continuity to other bicycle facilities (usually Bike Lanes); or b. Designate preferred routes through high demand corridors.

As with bike lanes, signing shared roadways indicates to bicyclists that using these routes provided particular advantages compared with alternative routes. This means that responsible agencies have taken actions to assure that these routes are suitable as shared routes and will be maintained in a manner consistent with the needed of bicycles. Signing also serves to advise vehicle drivers that bicycles are present.

Shared Roadway (No Bikeway Designation). Most bicycle travel in the Unites States now occurs on streets and highways without bikeway designations. This probably will be true in the future as well. In other cases, some streets and highways may be unsuitable for bicycle travel at present, and it would be inappropriate to encourage bicycle travel by designating the routes as bikeways. Finally, some routes may not be considered high bicycle demand corridors, and it would be inappropriate to designate them as bikeways regardless of roadway conditions (e.g., minor residential streets).

Touring bicyclists use some rural highways for intercity and recreational travel. In most cases, such routes should only be designated as bikeways where there is a need for enhanced continuity with other bicycle routes. However, the development and maintenance of 1.2-m (4-foot) paved shoulders with a 100-mm (4-inch) edge stripe can significantly improve the safety and convenience of bicyclists and motorists along such routes.

V. Trail Location and Construction Standards

The following guidelines provide specific recommendations for how trails should be routed and/or constructed to reduce maintenance and environmental impacts and should be followed in the construction of trails.

A. General Guidelines

Trails should be located and constructed in such a manner as to minimize maintenance and maximize access.

Trails should follow natural contours where possible and respect surrounding landforms. For example, trails crossing steep sites should flow with the landform. Drainage features, such as water bars, should be constructed where appropriate to reduce erosion.

Trail slopes should match expected user volumes and types. Refer to AASHTO Guide For The Development of Bicycle Facilities for further guidance.

B. Trail Separation From Vehicle Traffic

Where feasible, trails should be separated from vehicle traffic. Snow removal and general maintenance are less costly when trails are separated from roads and parking lots. Users are generally safer on separated trails and travel experiences are enhanced on separated trails.

Security for Trail Improvements: Where trails are required as part of a development project, a security or bond will be posted for the full cost of the trail improvements. This should be required prior to the issuance of any occupancy permits or recording of final plats.

Phasing of Trail Improvements: When trails are part of a phased project, the phasing of various trail segments will follow a logical sequence for trail users. For example, some trail construction may be required through an entire project to provide completed trail connections at an early phase in the project. Further improvements can be made as funding becomes available.

Trail Easements: All trails that are open to the public should be located on publicly dedicated property. There are a variety of mechanisms for this to occur. Public street rights-of-way and dedicated easements are the most common and acceptable forms of access rights. In special circumstances some other form of access may be considered, such as a temporary easement. The Trails Matrix provides recommended easement widths for the various trail types.

Often liability concerns are raised in the process of acquiring trail easements. In cases where public easements are dedicated, or lease agreements are negotiated for public use with private landowner, the jurisdiction should assume general liability responsibility in the same manner as assumed for streets and other public areas.

In specific cases, temporary trail easements and installations may be required. An example of such a need might be on a large phased project where a trail exists but is to be relocated and dedicated in a future phase. In this case, a temporary trail easement is needed to access the existing trail until the future phase is constructed. Another example involving a temporary trail easement is where a developer has property that will not be developed until a future time. The developer may allow trail access on this property on an interim basis until the land is developed. A temporary easement should be granted for trail purposes.

C. Recommendations for Environmentally Sensitive Sites

Special location or construction methods may be necessary to reduce impacts and minimize disturbance in environmentally sensitive areas. Examples of visually or environmentally sensitive sites include: wetlands, highly visible hillsides, significant vegetation areas, highly erodible soils, unstable slopes, and ridgelines.

Techniques, such as site specific trail routing, erosion control measures, site specific adjustment of construction standards, and site specific construction practices should be implemented to minimize environmental, visual or construction impacts. Construction methods that should reduce impacts including installing retaining walls to reduce cut and fill slopes on a visually prominent hillside, hand construction of the trail, stabilizing a mine hazard that is located within or adjacent to a trail corridor or installing a tree well around a significant tree to be preserved.

Each environmentally sensitive site is unique, specific trail proposals through such locations need to be considered on a case-by-case basis.

D. Guidelines for Sensitive Sites

Construction Practices For Sensitive Sites: Disturbance fencing limits should be implemented to minimize construction impacts. Construction limits should be as small as practical to construct the trail. Significant vegetation root zones should be considered when locating the trail and establishing construction limits.

Erosion Control: Methods should be employed to protect areas adjacent to the trail from impacts both during and after construction. (See Drainage Planning and Slope Management

Indigenous Materials: Indigenous construction materials should be used for retaining walls, bridges, and barriers wherever possible.

Existing Vegetation: Existing significant vegetation should be preserved wherever possible. Trees, riparian vegetation, scrub oak, and rare plants are considered significant. Root zones, as well as above ground vegetation

Re-Vegetation: Native and/or self-sustaining plant materials should be used for re-vegetation of all disturbed areas where trails pass through native or non-irrigated sites. Re-vegetation can be used to provide screening. Construction techniques to preserve vegetation and trail routing techniques should be used to minimize visual intrusion

Natural Considerations: Where significant wildlife or other natural features exist, special trail routing, construction methods and trail use should be considered.

Wetlands: Trails that cross or are located adjacent to wetlands should be designed for minimal impact. Wooden boardwalks or other techniques may be necessary to impose minimal construction impacts. Wildlife needs should also be considered when setting trails near wetlands.

Visually Sensitive Areas: Locations that are visually sensitive, such as talus slopes, may require reduced cut and fill slopes, hand-construction, and low retaining walls to minimize site disturbance and visual intrusion.

Environmentally Hazardous Areas: Where environmental hazards are present, special trail construction techniques or locations should be used to mitigate the hazard. Hazardous areas can be abandoned mine sites, where mine tailing should be stabilized, top soiled and re-vegetated. Other hazardous locations, such as lightening prone areas, rockslide and avalanche areas should either r be avoided or be closed seasonally when hazardous conditions are a problem.

Micro Climatic Trail Use Opportunities: Locate the trails for both summer and winter activities, where possible, given the terrain and climactic considerations. Identify snow retention areas for possible cross-country ski trails. In open areas, place trail alignment to take advantage of wind protection and shaded canyon areas.

E. Utilities

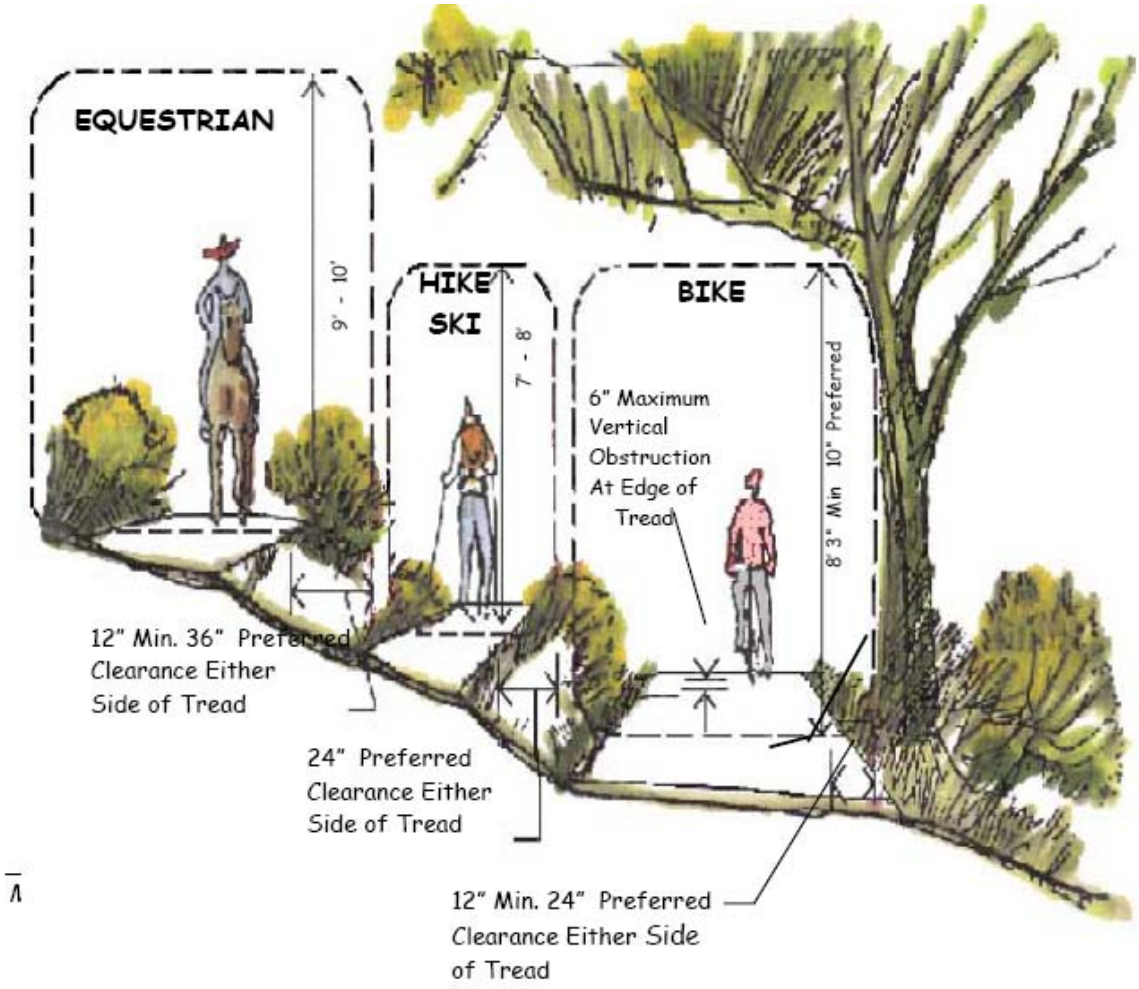
The routing of utilities within trail corridors is generally encouraged. Many trail managers have allowed co-location of utilities in consideration for appropriate fee payments by the utility company. Locations that are visually or environmentally sensitive may restrict or preclude sharing utilities with trails. The following guidelines for placement, site disturbance and access should be followed.

Placement: Utility lines that run parallel to the trail should be placed under the trail bed where possible to minimize site disturbance. Utility lines that are perpendicular to the trail and lateral lines should be located to minimize site disturbance and removal of siginificant vegetation. Physical obstructions, such as utility pedestals, transformers and the like should be located out of the clear zone so they are not hazards to trail users. Access points which are not a physical obstruction, such as manhole covers should be located flush with the trail surface and where they do not pose a hazard to trail users.

Site Disturbance: Construction of utility lines within naturally vegetated areas should minimize site disturbance wherever possible. All disturbances should be re-vegetated according to the requirements for trail construction. Bonding for this work should be required.

Utility Access: Access for utility maintenance vehicles will be evaluated on a case by case basis and provided for utility maintenance vehicles will be evaluated on a case by case basis and provided for as part of the trail construction. Visually or environmentally sensitive sites may preclude full access to trail/utility corridors.

F. Vertical Clearance Guidelines – Also see Trail Types for Specific Requirements
A 10' vertical clearance from the trail surface is recommended. The vertical clearance to obstructions will be a minimum of 8 feet across the clear width of the path.

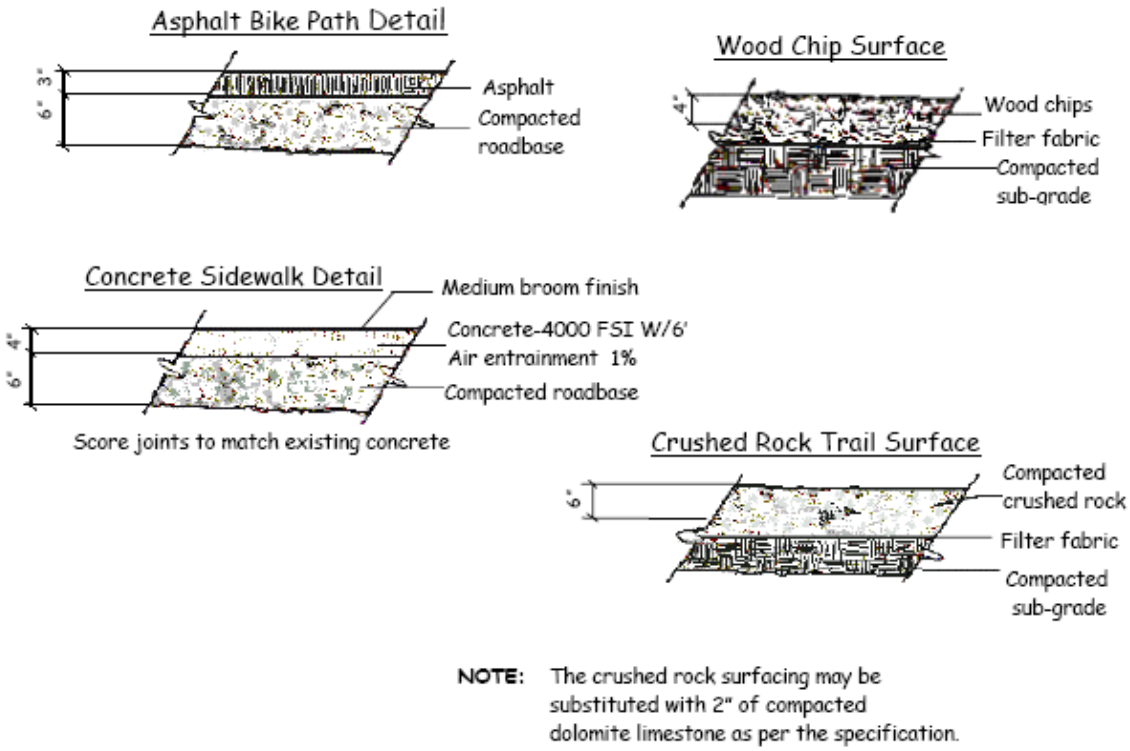


G. Trail Surfacing Guidelines

Asphalt, concrete and base specifications will meet those set forth in this document The 6' crushed rock trail surfaces may be substituted with a compacted 2" dolomite limestone material meeting the following specifications:

Passing ½" screen – 100%
Passing 3/8" screen – 97-99%
Passing #4 screen – 75-80%
Passing #8 screen – 50-55%
Passing #16 screen – 30-35%
Passing #30 screen – 20-25%
Passing #50 screen – 17-20%
Passing #100 screen – 13-17%
Passing #200 screen – 12-15%
Maximum water absorption – less than 3%

A 6" compacted road base sub grade should be placed under the dirt surface in areas with a high water table or with poor drainage conditions. If a wood or other edging material is used along any of the trail surfaces, care will be taken to assure trail surface drainage. Edging is not recommended along soft surface trails because the soft surface changes over time causing the hard edge to impede drainage. Weed or root barriers also may be necessary.

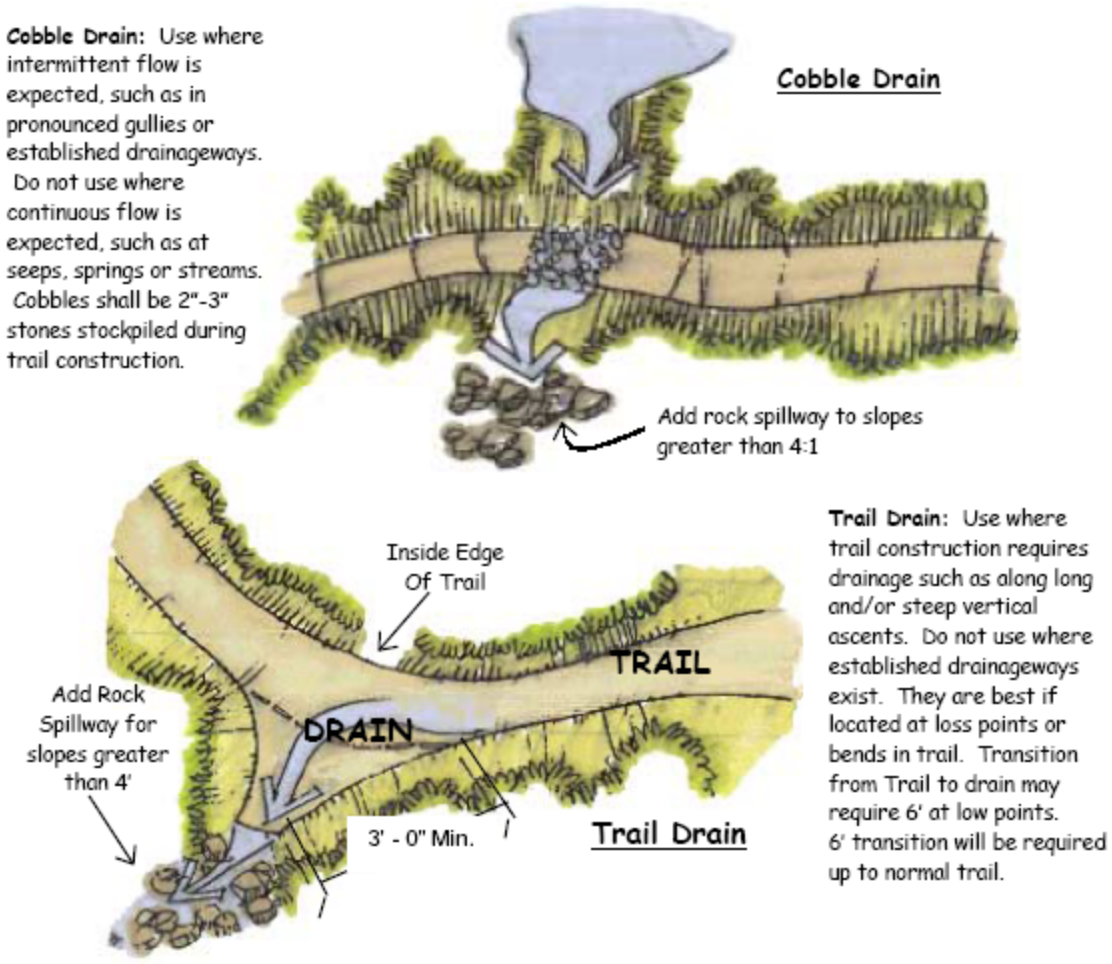


H. Drainage Planning

Careful study of topography adjacent to the trail may yield insight to maximize protection of the trail, which minimizing trail structures. General drainage should be studies at 50' stations with provisions made to protect the trail.

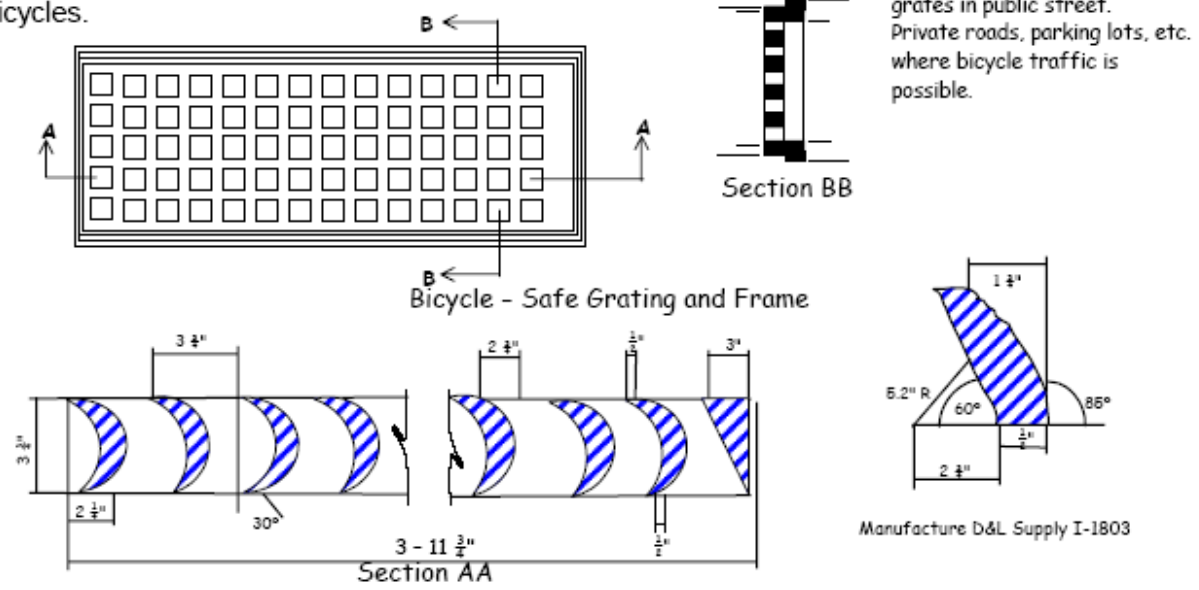
Swells and Culverts: Drainage swells or culverts should be installed on trails at locations where the normal cross slope will not allow for adequate drainage. Drainage swells are not allowed on paved trails. Drains are best located at low points or bends in the trail along existing natural drainage ways.

Wherever water is concentrated into new locations or in heavier concentrations, erosion protection needs to be evaluated and installed if necessary. Native stone is the preferred material.

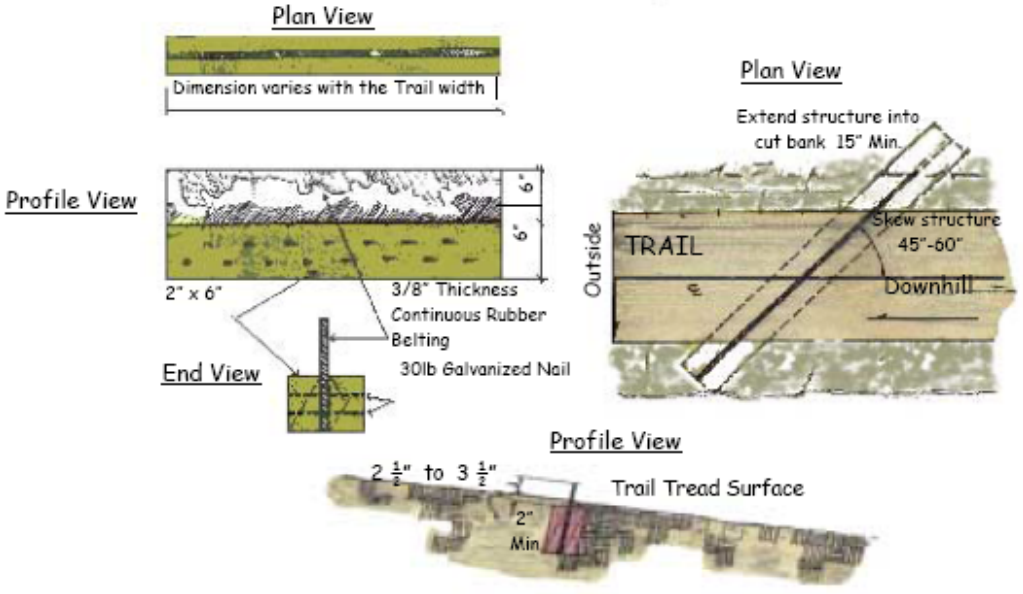


Drainage Grates: Drainage inlet grates on bikeways will have openings narrow enough and short enough to assure bicycle tires will not drop into the grates (e.g., reticulin type), regardless of the direction of bicycle travel.

Bicycle Safe Drainage Grates: Drainage grates should be installed where necessary to allow drainage and safe passage for bicycles.



Water bar: Water bars will likely need to be installed at regular intervals on soft surface trails that are steeper than a 5% gradient for more than five vertical feet. Rubber water bars should be used since they are the safest for multiple use trails, also construction is more economical, faster and easier than other construction methods.



I. Slope Management Guidelines

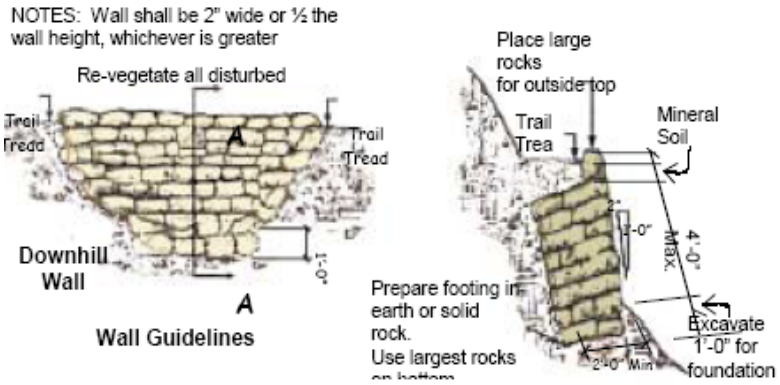
When sloped areas are disturbed, the area needs to be stabilized and re-vegetated as part of the trail construction process to prevent subsequent soil erosion and frequent maintenance problems.

Permanent Slope Stabilization

Retaining Walls: Permanent slope stabilization includes native stacked rock or wood retaining walls, rock filled gabions, wire baskets, wattling, planting or placing plant materials and slope serration.

Where necessary for safety, retaining walls should be installed to prevent erosion of cut or fill slopes, to reduce cut and fill slopes or to minimize disturbance of environmentally or aesthetically sensitive sites. Retaining walls should be constructed of indigenous or natural materials, walls located on visually sensitive sites should be designed to blend with the natural surroundings. Materials, texture, color and height all affect the visual prominence of a retaining wall. Walls exceeding a height of 4 feet must conform to the requirements set forth in the Uniform Building Code.

Following are some guidelines for various techniques. All uninterrupted cut or fill slopes will not exceed six vertical feet unless a site-specific analysis is performed to justify otherwise. Some method of permanent slope stabilization should be required for all slopes in excess of 2:1 vertical unless a site specific soils analysis is performed to justify otherwise.



-Use stone which is native to the site wherever possible:

-To stabilize the trail in less than adequate situations.

-To widen a trail that otherwise would be too narrow.

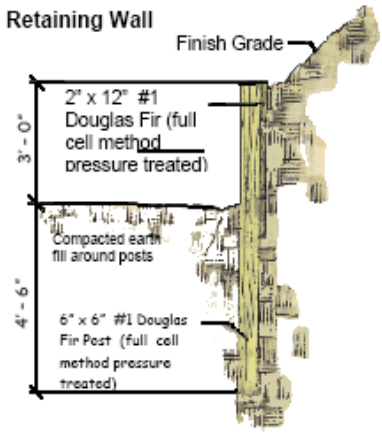
-To taper up or down in areas where typical tread construction will not work.

-Walls should be built in areas where adequate footings can be dug.

-All stones should be angular free, free from defects, projections and impressions.

-Approximately 25-33% of wall should be tie stones.

-Maximum height of wall should be 4'-0"



-Use wherever natural trees or otherwise significant vegetation can be saved with the use of walls.

-Uniformly distribute sizes and shapes over the entire face of the wall.

-Shape stones for best fit. Use a 4" hammer if available.

-All walls must be battered: 3 in 12 through 12 in 12 are acceptable.

-Trench should slope inward as shown and drain to daylight. The stones shall completely penetrate wall. Miscellaneous backfill must be free from organic matter. Select backfill less that ½" maximum dimension, 4" depth optimum.

-Walls which are greater that 4'-0" in heights shall be engineered.

-Use where either cut or fill slopes for trail construction exceeds 4 vertical feet.

-Cut and fill slopes should be a maximum of 2:1 unless site specific soil analysis is performed to justify stability of steeper slopes.

-A maximum of 4 vertical feet of cut or fill is allowed environmentally or visually sensitive areas may be less.

-Areas which require steeper cut or fill slopes than the allowable shall use retaining walls as shown in these details.

-All disturbed areas shall be re-vegetated. Species for re-vegetation shall be appropriate and wherever possible shall match the surrounding species.

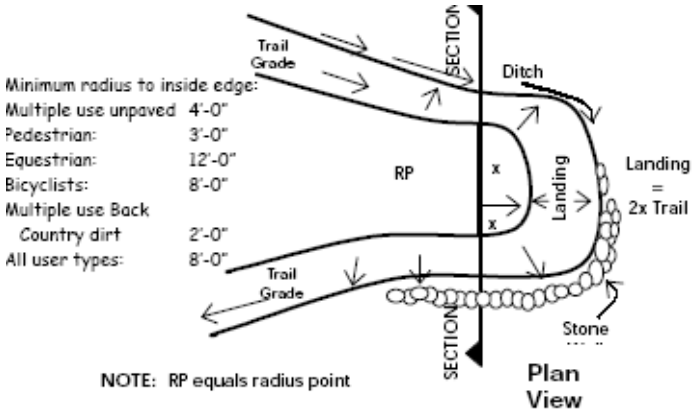
Cut and Fill Slopes: Combined cut and fill slopes should not exceed twelve vertical feet and Individual cut or fill slopes should not exceed six vertical feet (less in environmentally and visually sensitive areas). Slopes that exceed these parameters should consider low retaining walls or alternate routing of the trail to a more acceptable location.

Cut or fill finish grades should not exceed a 2:1 vertical unless a site specific soil analysis is performed to justify the stability of steeper slopes. All cut and fill slopes will be stabilized and re-vegetated as per the re-vegetation and slope stabilization guidelines.

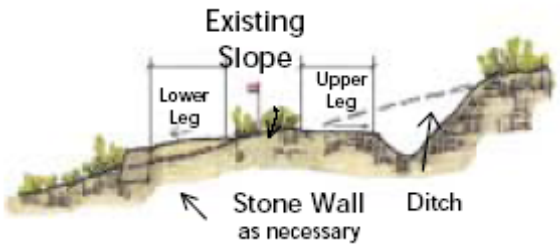
Existing Vegetation Protection: Existing significant vegetation that is to be saved will be protected with temporary fencing along the limits of disturbance. Trees that are to be saved should not be disturbed within the drip line of the tree, if possible, and the protective limits of disturbance fencing should extend to the drip line. Where this is not possible, all work within the drip line should be done by hand and mechanical equipment should not be allowed within the drip line. If filling is necessary above the root zone, perforated pipe along the drip line and vertical air wells should be installed. If cutting of roots or interception of natural drainage to the root zone is necessary, temporary irrigation may be required to compensate for the disturbance.

Temporary Runoff Management: During construction and establishment of re-vegetation, techniques, such as temporary erosion control, runoff measures, and slope stabilization may be necessary. Techniques, such as hydro mulching, star mulch, jute matting, wood excelsior matting, tackifiers, straw bales, siltation fences, matting in drainage channels and stone mulching are examples of temporary runoff management. The following treatment guidelines provide some direction for the use of these measures. All are temporary measures and are intended to last from one to two years until permanent stabilization techniques are effective.

Wattling: Bundles of branches are used to both stabilize and re-vegetate slopes that are nearly stable but continue to erode. Wattling is only recommended after initial methods have failed and where the unstable areas are minor.



Slope Serration: Small steps or indentations are cut in the slope face and are useful for providing small favorable sites for vegetation establishment. This technique should be used only on soils that are fairly cohesive. Sites that have severe exposure to heat, sun or wind and have slopes that are excessively steep benefit most from this method.



Switchbacks: Switchbacks are expensive to construct but are necessary when steep slopes are encountered. When switchbacks are required, they should be designed to discourage crosscutting and subsequent erosion.

Locate switchbacks were natural barriers exist; installing physical or visual barriers or providing sufficient separation between the switchbacks all help to discourage crosscutting. If crosscutting cannot be discouraged through design or construction then the installation of stairs or relocation of the trail should be considered.

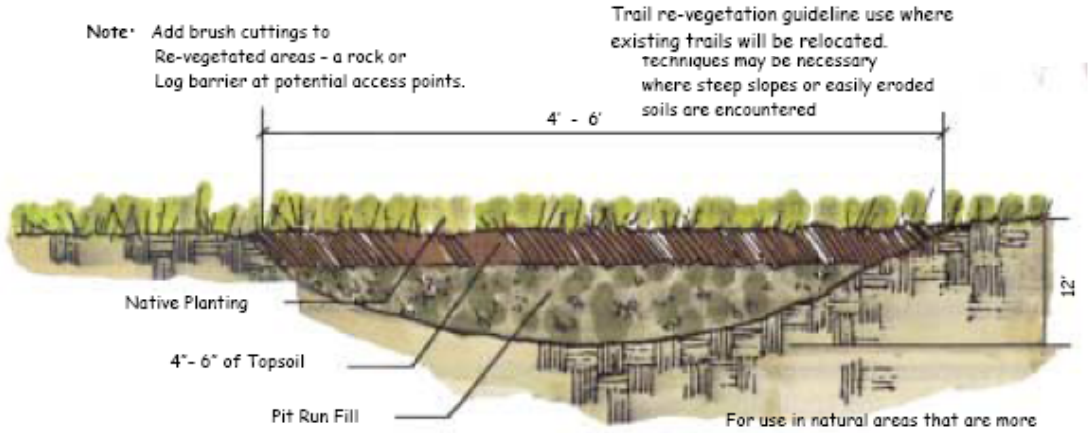
Re-vegetation: Re-vegetation consists of seedling and planting operations. Seed and plant species and application rates will be submitted and approved with the construction plans. In general the re-vegetation of natural sites will match that of the undisturbed areas in species, density and vegetation patterns. Re-vegetation will be accomplished as soon as grading work is completed and weather permits. Unless the site is irrigated, native plant species indigenous to the site should be used. All re-vegetation work on non-irrigated sites will be done between October 15th and April 15th unless approval is granted otherwise. Sites that are re-vegetated between June 1st and September 1st will require temporary irrigation.

Seedbed Preparation: Sub-grade soils should be scarified to a depth of 3-4" and topsoil placed to a minimum depth of 4 inches.

Seedlings: Seeds will be broadcast or hydro seeded and raked into topsoil before the application of mulch, matting or other surface stabilization materials. Seeding can be used for grasses and forbs, but container stock should be used for all trees and shrubs.

Planting: Planting of container grown materials on non-irrigated sites will be confined to tubling stock unless there is sufficient natural moisture present to sustain larger plants.

Maintenance: Re-vegetated sites will be maintained until sufficient establishment has occurred to reasonably stabilize the site. Security bond will be posted for all re-vegetation work for a minimum of one year at which time it will be reviewed and released if it meets the above requirements.



Typical Trail Re-Vegetation

Temporary Slope Stabilization

Hydro mulching: This is a mechanized, rapid method for mulching large areas and is generally used with seeding to re-vegetation disturbed areas. Use may be limited on sites where equipment access is limited. Only 100% wood fiber mulch will be used and applied at a rate of

3000 pounds per acre.

Straw Mulching: This method can be used over small areas where it is applied by hand or on large sites where it is installed mechanically. Straw mulching is generally used in combination with seeding to re-vegetation disturbed sites. Straw must be held in place by matting, crimping or other method. Apply at a rate of 2 tons per acres or a uniform depth of 2-3".

Jute Matting: Jute matting can be used alone or in combination with hydro mulching or star mulching for erosion control and slope stabilization. It is generally used in combination with seeding to re-vegetate disturbed areas. Apply up and down the slope, never along the slope. Overlap edges a minimum of 4" and use wire staples that are a minimum of 6" long and spaced approximately 5" apart down the sides and middle of the roll. Extend the mat a minimum of 3" beyond the top and bottom of the slope and bury the mat end in an 8" deep trench at the top of the slope. Uniform contact of the mat to the slope underneath is critical.

Wood Excelsior Matting: This type of matting is used for erosion control generally in combination with re-vegetation. Care must be taken during installation to prevent concentrated flows under the mat. Apply up and down the slope, never along the slope. Edges should butt snugly together and held down with wire staples, a minim of 8" long spaced approximately 2" along the edges and 4 down the center. Extend the mat a minimum of 3" beyond the top and bottom of the slope and bury the mat end in an 8" deep trench at the top of the slope.

Tackifiers: Generally, tackifiers are mixed with mulches to provide better adhesion to steep and/or windy slopes. Tackifiers should be applied at a rate of 80 pounds dry ingredients per acres or 200 gallons wet ingredients per acre.

Straw Bales: Straw bales can be used in a variety of ways to protect areas from impact, straw bales reduce uninterrupted flow in low and intermittent flow channels. Straw bales also provide a siltation device for slopes or gullies until re-vegetation can be established. When installing, anchor bales in place with steel re-bar stakes, driven a minimum of 12" into the sub—grade, in a 6" deep trench which has soil tamped firmly along the uphill side.

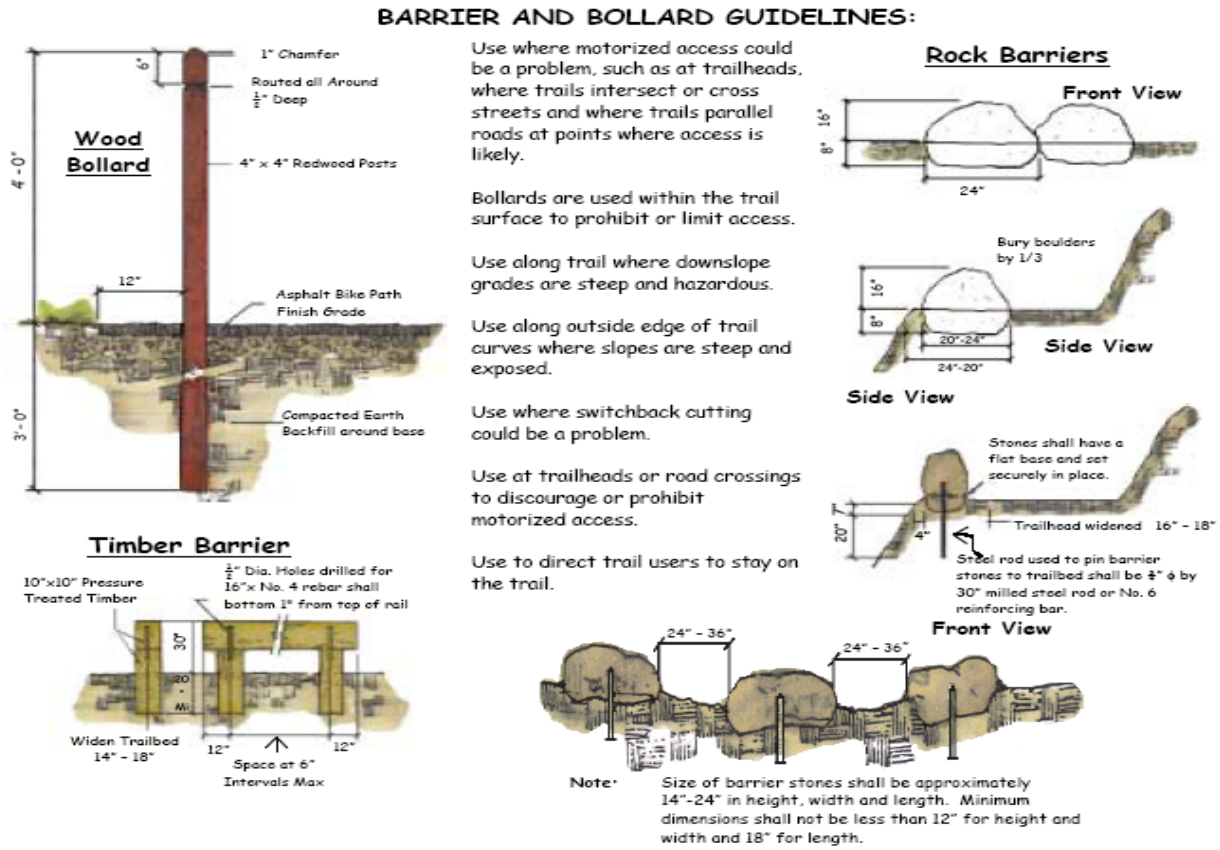
Siltation Fences: Siltation fences are used to protect undisturbed down slope areas from up slope erosion.

Matting in Drainage Channels: Jute matting or fiberglass roving are typically installed in open drainage channels for temporary erosion control. Use this technique only where flow velocities do not exceed 20 feet per second. Apply from the top and overlap edged a minimum of 4 inches. Secure the top and bottom ends in an 8" deep trench secured with steel staples every 12 inches. Edges should be stapled every 2 inches.

Stone Mulching: May be used during construction to control erosion, mud or dust.

Gabions: Gabions are rock filled wire baskets used to retain steep slopes or stabilize drainage ways and may be preferable to stacked rock walls where the native rock is too small or too rounded for effective stacking. They are particularly effective when seepage is anticipated. Empty gabions are placed in position, wired together and filled with rock that is a minimum of 4-6" in diameter. When used as a retaining wall the bottom basked should be buried a minimum of 6" at the toe. Gabions should be keyed into the slope and laid back at a maximum of 6" vertical to 1" horizontal.

Bollards and Barriers: Barriers should be installed at trail-heads to control access of motor vehicle traffic and to direct and/or protect trail users from steep or hazardous areas along the trail.

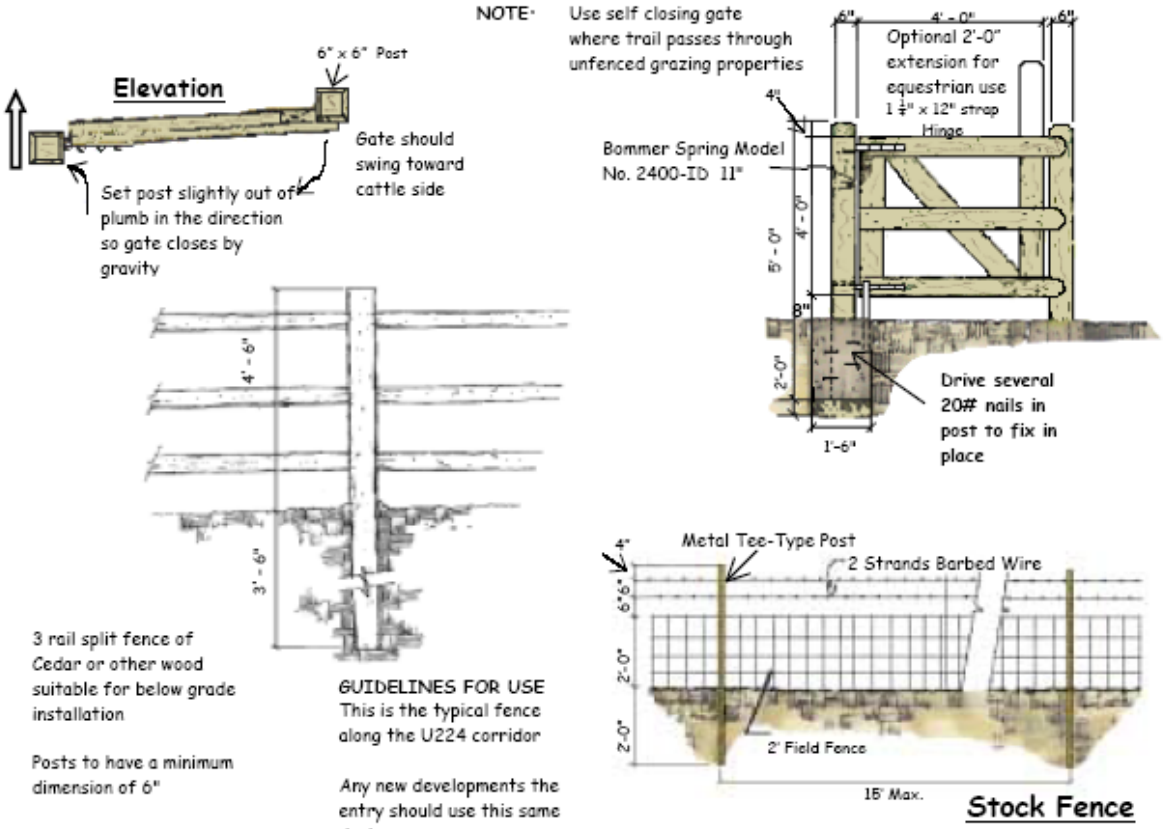


Three types of barriers are generally used: large boulders, timber barriers and wood bollards. All three types of barriers are effective in stopping motorized access when placed at the trailhead. The location of such barriers is usually where trails intersect or cross streets and where trails parallel roads at points where access is likely. Rock barriers can also be used along portions of a trail where the down slope grades are hazardous, where switchback cutting can be a problem and along outside edges are exposed to steep slopes. The placement and spacing of barriers are dependent upon unique trails site characteristics and use requirements.

Fencing: Fencing should be installed only where physical separation is necessary for safety and/or to preserve adjacent landowner privacy. Fences should not create a narrow corridor effect for long stretches along the trail. Where possible fencing should be located only on one side of the trail at a time. Fences should be no closer than 5' from the trail edge. Where fences

are necessary along both sides of a trail, the minimum width should be 20’.

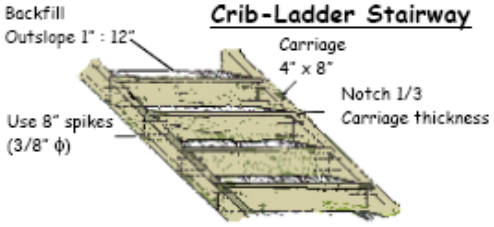
Gates are required for trails that cross stock grazing area. They will be a self-closing level latch type gate, such as those manufactured by *Powder River* or another manufacturer with similar design characteristics.



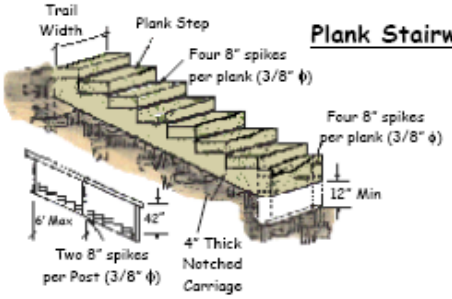
Stairways: Trails in excess of the slopes indicated on the Trails Matrix should consider stairways. Stairways may be required to conform to the requirements set forth in the Uniform Building Code. Stairs should not be used on trails that are used by horses, road bikes or the disabled.

Wooden Stairs--will be constructed of pressure treated or approved rot resistant timber.

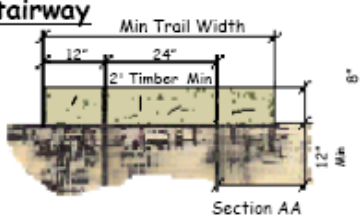
Crib-Ladder Stairway



Plank Stairway



Pinned Stairway

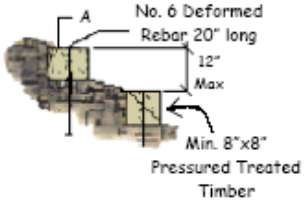


NOTE: Where stairs are located in developed areas of the community, compliance with the uniform building code is required.

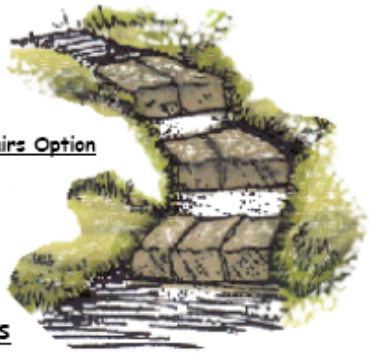
Treads to be dug into the slope and set into place.

Drill holes through each tread for each rebar stake.

Drive rebar stakes through treads and into ground below.



Stone Stairs--can be used where trail grades exceed the maximum allowable slopes and where the grade must be gained quickly. Stone stairs should be built with the intent that intensive use should not impact the stairs in the slightest.



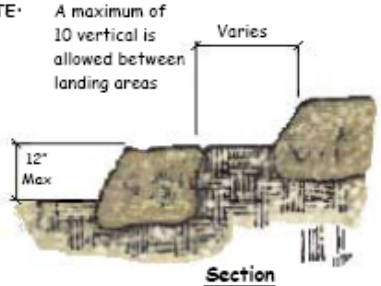
Stone Stairs:

Details are included for reference only. Choose stones with a good shape for stairs. Minimum sizes are shown, start at the bottom and work up. Use the biggest stones possible to span the trail. One stone would be the best, two are fine and three is maximum.

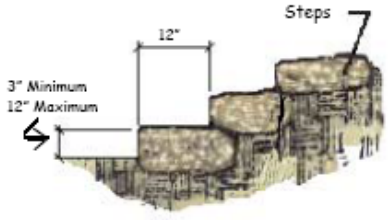
Completely cross the trail. Route the trail so people will stay on the trail and stairs. Build to the dimensions shown and make each set of stairs are uniform. Keep the height of each step and the distance between steps as uniform as possible within each set of stairs. Maximum grade at top and bottom of stairs as well as between stairs should be 8%. Walk your staircase to ensure it is smooth and uniform.

Stone Stairs for Back Country Trails

NOTE: A maximum of 10 vertical is allowed between landing areas

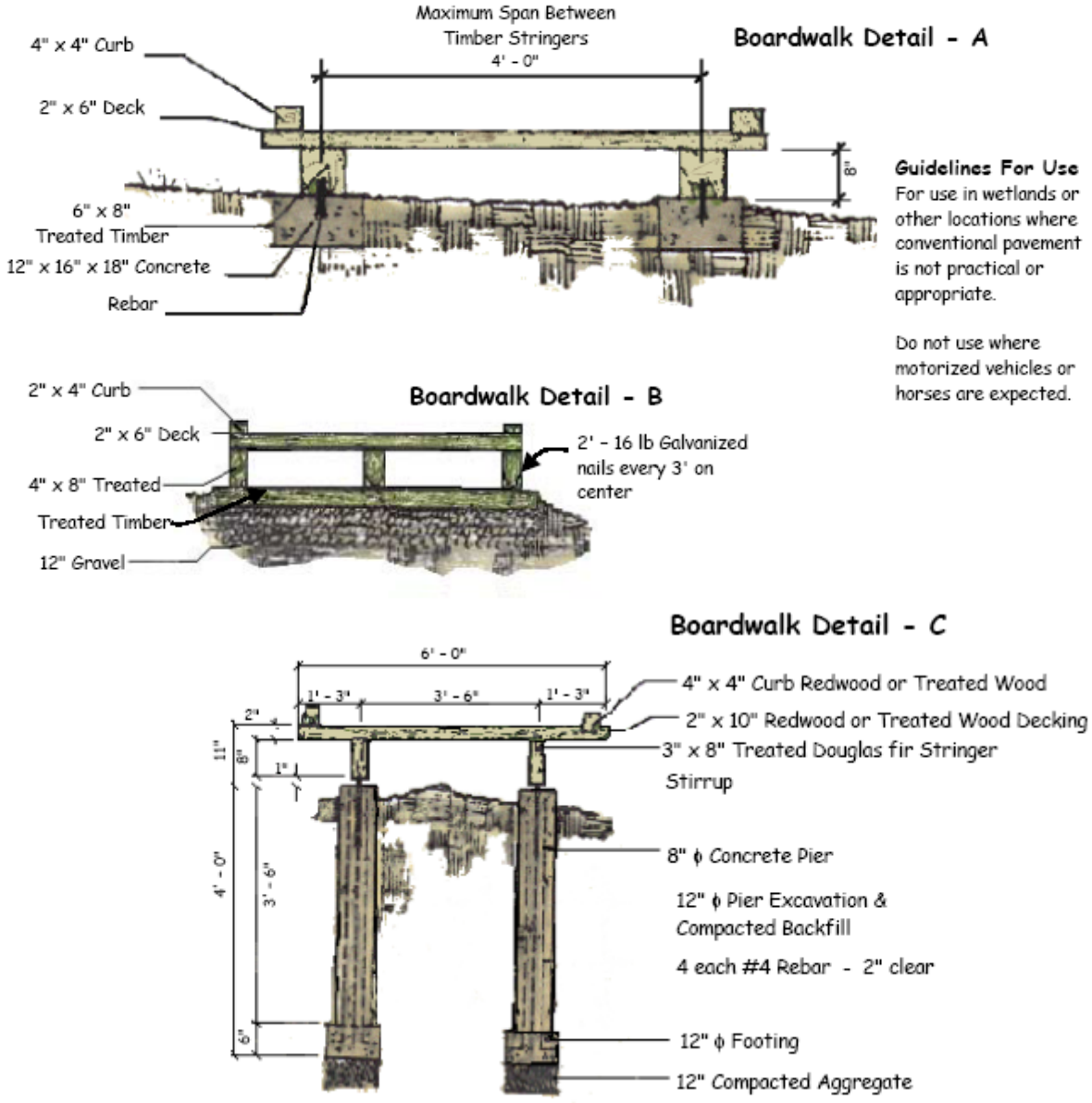


Section



Section

Boardwalks: All wood used in boardwalk construction will be pressure treated or approved rot resistant timber.



Weed & Root Barriers: Root barriers should be installed along the edges of trails where riparian or vegetation that aggressively seeks out water is present. Willows, Gamble's Oak, Aspens and Cottonwoods are examples of aggressively spreading plants. In situations where irrigated land is on one side of the trail and non-irrigated land is on the other, water seeking vegetation in the non-irrigated side may send roots to the irrigated side, a root barrier should be installed.

VI. Americans with Disabilities Act

In 1990, congress passed the Americans with Disabilities Act. Among other provisions, the act prohibits state and local governments from discriminating on the basis of disability and requires government services, programs, and activities to be accessible to people with disabilities. Technical assistance concerning the law's application is available by calling 1-800-USA-ABLE.

Where potential use and/or ADA access needs warrant, provide trail access through, around, over or under major barriers. For pedestrians, add or improve sidewalks, create safe crossings, add ADA-compliant ramps, and modify signalization and intersecting where needed.

Almost 15 years ago, William Whyte wrote, "if circulation and amenities are planned with (the disabled) in mind, the place is apt to function more easily for everyone."

ADA guidelines recommend that to accommodate people in wheelchairs and with other disabilities, each street corner should include two curb ramps. Mid-block crossings should have curb ramps at each end. The City of Seattle now installs about 400 wheelchair ramps at pedestrian crossings per year.

Alternatively, the crosswalk area can be raised to the level of the sidewalk. Such a raised crosswalk will have additional traffic calming benefits, serving as 'speed tables' that will slow traffic speed at intersections.

Access for the Disabled: While it is clearly not practical for all types of trails in a mountainous environment to be fully accessible to the disabled, where reasonably appropriate, the trail system should comply with the standards set forth in this law. Until such time as more definitive standards are set forth, this section of the master plan will provide policy as to what trails are required to comply with this law and how Park City will approach the improvement of trails.

All new trails that provide access between new parking lots and new public facilities, such as recreation or institutional facilities, clubhouses, resort facilities, and commercial or business facilities are required to comply with ADA. All new trails providing access to new public, private and institutional transportation facilities also need to comply with ADA requirements. Trails renovation or new trails located in existing developed areas of the community should comply with the ADA standards.

A trail is considered ADA accessible if it meets the following criteria:
a. Five foot minimum width.
b. Hard surfaces – Asphalt and concrete are the most accessible. Compacted crushed stone also works well, provided that the stones' diameter is less than 3/8 inches. Loose gravel is not recommended.
c. Trail gradient should be no greater than 5 percent.
d. Ramps, not stairs, should be provided for grades exceeding the 5% maximum.
e. Ramp grades should not exceed 8% and have a level landing for every 30 inches of vertical rise and have a slip resistant surface.
f. 32 inches high handrails should be installed on all ramps and bridges.
g. Fully accessible trails should have a rest area every 300 feet, preferably cleared with a bench outside of the trail path with the distance between rest areas posted.
h. One or more accessible parking spaces should be provided at trail parking lots.

i. If gates or bollards are planned to prevent motorized vehicle access to the trail, maintain 32-inch clearance to ensure or provide wheelchair access.

VII. Signs and Public Maps

Locations for signs need to be evaluated on a case-by-case basis and signs should only be posted where necessary to avoid visual pollution. These guidelines provide general direction for signs and their placement.

A. Regulatory Signs

Requirements for the use and placement of signs, including regulatory signs at intersections, will follow the standards set forth in the *Manual on Uniform Traffic Control Devices* (MUTCD) section on 'Traffic Control Devices for Bicycle Facilities' and will apply to all multi-use paved trails. Bicycle Crossing Signs near a road approaching a crossing will confirm to MUTCD standards. The following information lists the types of regulatory signs and describes where they should be located:

Examples of other signs available. Copy and graphics can be altered to fit your needs and size.

Stop Signs: Stop signs will be installed wherever paved multiple use trails cross public streets, unless traffic is required to stop at trail intersections or at other potentially hazardous locations.

Speed Limit, Steep Grade, Danger Warning, and Slow Signs: These signs should be installed where trails approach maximum slopes, areas with limited sight distance and areas with dangerous conditions ahead, such as 'Moose Crossings.'

Curve Signs: Trail users should be cautioned by signs when a curve has a smaller than recommended travel radius and/or limited sign distance. Curve signs should be posted at points along the trail where travel at a moderate rate would cause a trail user to leave their lane.

Dismount Signs: Such signs should be posted in areas where slope exceeds recommended standard and where trail width or vertical clearance is less than the recommended standard.

School Zone Signs: For the safety of schoolchildren and trail users, school signs should be posted near schools.

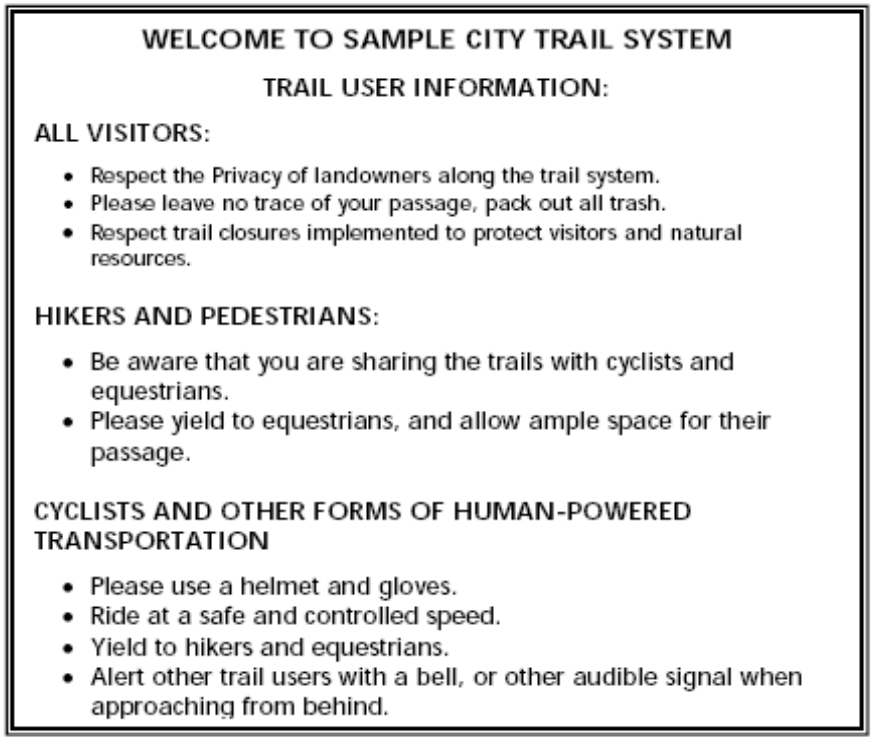
Private Property Signs: Signs identifying private property should be located on as 'as needed' basis.

All regulatory signs should have engineer grade reflective coating and be graffiti proof. Sign size and letter height should conform to the speed of traffic along the trail.

B. Informational Signs

- Signs indicating allowed uses should be posted at trail-heads
- At high volume multiple-use trail-heads, informational signs indicating user etiquette should be posted

Trail User Information Sign: This sign should be placed at all major trail-head facilities and city parks where trails are accessed. It should be located where it is clearly visible and where it does not impede trail use or present a hazard to trail users.



WELCOME TO SAMPLE CITY TRAIL SYSTEM

TRAIL USER INFORMATION:

ALL VISITORS:

- Respect the Privacy of landowners along the trail system.
- Please leave no trace of your passage, pack out all trash.
- Respect trail closures implemented to protect visitors and natural resources.

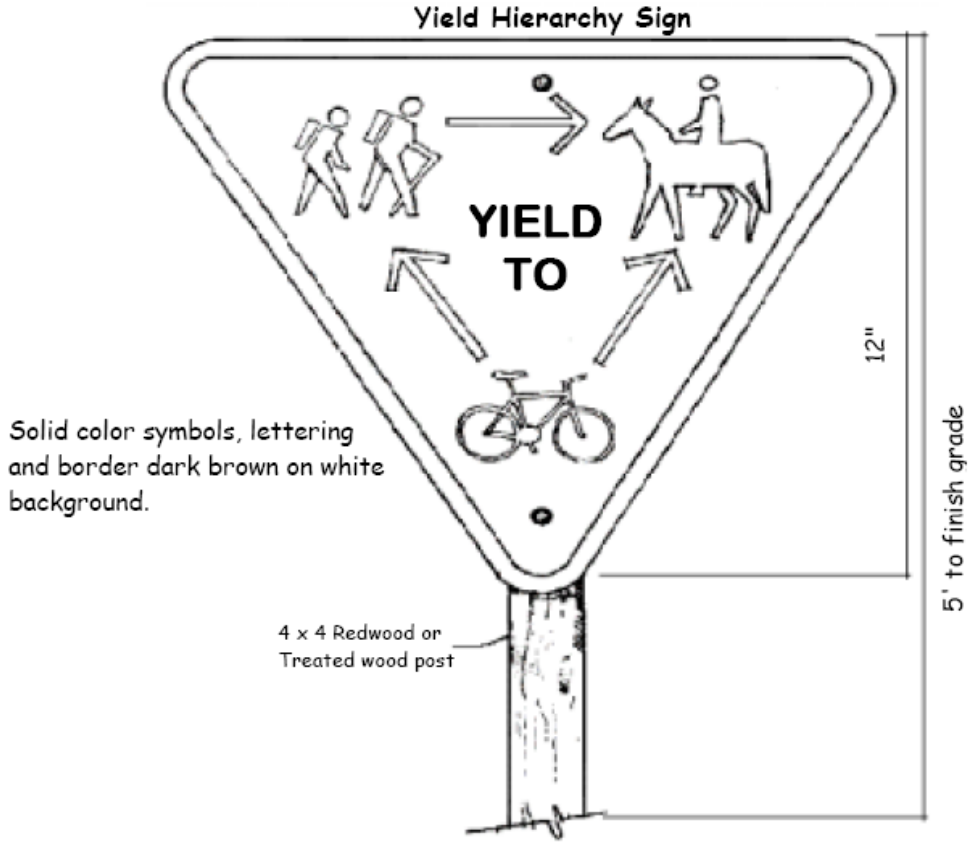
HIKERS AND PEDESTRIANS:

- Be aware that you are sharing the trails with cyclists and equestrians.
- Please yield to equestrians, and allow ample space for their passage.

CYCLISTS AND OTHER FORMS OF HUMAN-POWERED TRANSPORTATION

- Please use a helmet and gloves.
- Ride at a safe and controlled speed.
- Yield to hikers and equestrians.
- Alert other trail users with a bell, or other audible signal when approaching from behind.

Yield Hierarchy Sign: This sign should be placed at all major access points of multiple use trails. It should be located where it is clearly visible and where it does not impede trail use or present a hazard to trail users.



Trail Courtesy Sign: Trail courtesy signs should be posted at all trailheads. A shortened user courtesy sign should be installed at trail access points. This sign can be placed on the same post as the 'Yield Hierarchy Sign,' wherever the Trail User Information sign is not located. The Trail Courtesy sign should also be located on 'Stop' and 'Private Property Signs'.

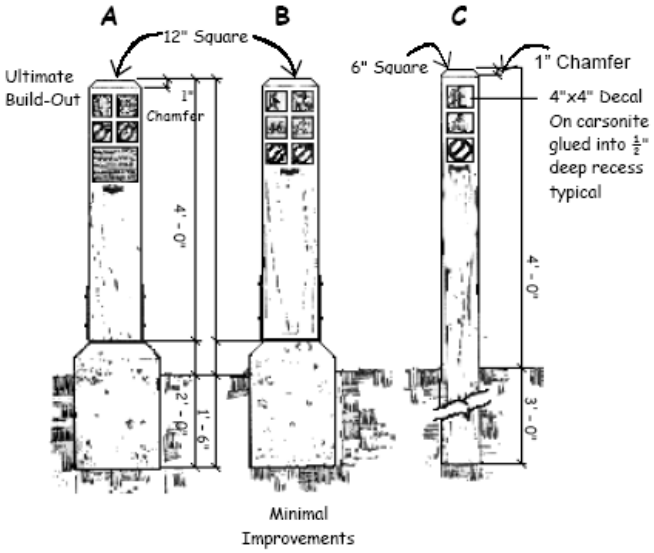
REMEMBER TRAIL COURTESY

1. **IF IN DOUBT YIELD**
2. **RESPECT HORSES**
3. **RIDE SAFELY AND AWARE**
4. **ALERT OTHERS WHEN APPROACHING**
5. **LEAVE NO TRACE**

C. Sign Construction Features (Sample Bollards and Mile Markers)

Sign Posts: There are many design solutions to signage along a trail; below is one commonly used design.

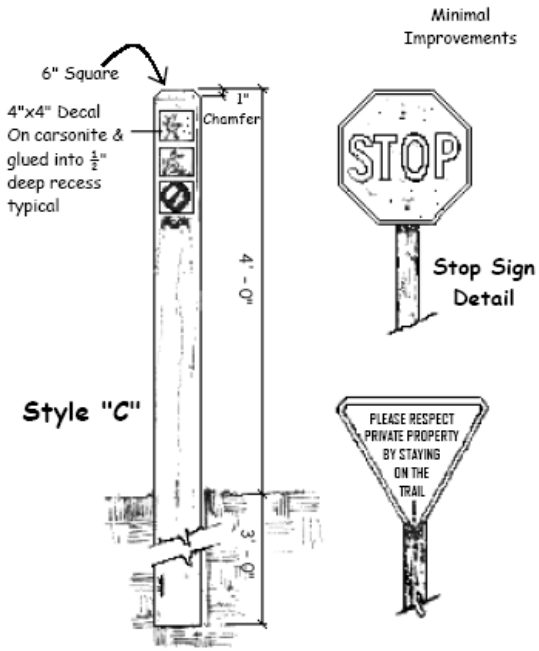
Post location will conform to the standards set forth in the *Manual on Uniform Traffic Control Devices* section on 'Traffic Control Devices for Bicycle Facilities.' Sign posts will be 4x4 pressure-treated Douglas Fir, embedded into the ground a minimum of 24" unless other materials are specifically approved.



Different styles for sign bollards are depicted in the figures for "A", "B", and "C". Style 'A' and 'B' should to be located at trailhead facilities. Style 'A' is for all named trails or designated access points. Style 'C' is for all other access points and can be used in conjunction with plain bollards where motorized access is restricted, or modified for use as trail mile markers. The individual symbols are 3" square reflective decals that can be ordered from Carsonite International. They should be mounted on heavy gauge aluminum plate routed into the post a minimum of 2" and epoxy into place. All types of bollards should be constructed of redwood or pressure treated Douglas Fir.

Attachment Systems: Signs should be attached to wood posts with 2" diameter galvanized carriage bolts in a minimum of two locations per post.

Sign Bollards: These should be located at all trail access points. (See Bollards and Barriers, Trail Location and Construction Standard Section).



D. Trail Courtesy Brochures

A Trail Courtesy Brochure can be an effective tool in encouraging safe and courteous trails use. Any maps, guides, other trail related literature or trail user education or orientation programs should contain similar information.

E. Trail Guides and Maps

Mapping includes the proposed shared use path system, the existing approved city trails, parks and the approved and proposed Snyderville Basin trails. These systems should be connected so that people have access to and from trails to major destinations and their homes. Specific streets, existing and proposed pedestrian friendly areas should be shown. Trail Maps have been a coordinated effort of The Mountain Trails Foundation, the Snyderville Basin Special Recreation District, Park City Chamber of commerce and park City Municipal Corporation. Funds from the four groups have been used to produce the map for free to area and visitor trail users. In the past area businesses have funded the map, in exchange for advertising space on the map. To keep these maps free a combination of funding will likely be necessary.

Trail guides and maps provide greater access to non-motorized travel for visitors to the area as well as enriching the transportation, recreational and educational experiences for all. Park City encourages the development of guides and maps. Maps and guides should contain the following information:

- Locations of trails, trail-heads and a description of trail route, steepness and accessibility. Accessibility ratings, including the presence of staircases or barriers should be noted and fully accessible trails should be clearly marked.
- Pedestrian/bicycle corridors with wheel chair access, cross walks, transit connections, bicycle lockers and trail connections clearly shown.
- Location of public and private facilities, such as parking lots, drinking water, restrooms and benches should be marked.
- Major destinations, such as schools, universities, major employment centers, retail and social services, and residential areas.
- Public transportation routes including park and ride lots, bus stops and private shuttle systems.
- Environmental impacts, access and the protection of wildlife.
- Potential user conflicts and the control of dogs.

VIII. Trailhead Administrative Development Policy

To comport with the Land Management Code, trailheads will be evaluated in light of the following criteria as a baseline:

1. Unless public parking is currently available, parking spaces will be limited to 4 defined stalls or curb stops. A greater number can be considered if paving and lighting are possible.
2. Trailhead parking surfaces may be improved with road base or gravel unless greater than 4 spaces are defined, in which case paving is assumed to be required.
3. Neighborhood impacts will be considered and attempts made to mitigate trailhead impacts with user notices and other signs. Where public parking is currently allowed, the City will make a good faith effort to notify trailhead users of possible private trespass areas. The City may consider, at its discretion and in consultation with neighbors, law enforcement, code enforcement or other interested parties, methods to make a trailhead compatible with the neighborhood.
4. Trail Kiosks will display area trail access and routes and post allowed and prohibited trail/trailhead uses. Fishing regulations and pet regulations may be included where necessary.
5. The decision to create or deny a formal trailhead, in any location, for whatever reason, has no bearing on the existing formal trail access easements, trail use regulations or public vs. private access or parking designations.
6. Trailhead parking areas usually will not include lighting except when required by formal Planning approvals. It is not the general intent to create trailheads that permit or encourage nighttime use.
7. Each trailhead proposal will be evaluated according to the merits and constraints of the site to consider. Factors considered will include: proximity to trail access, useable space, adjacent uses, popularity and anticipated us of trail, traffic, proximity to town and need for additional amenities.

8. These seven criteria constitute the interim administrative policy concerning trailhead development until formally amended or adopted in the formal Trails Master Plan. Any amendments to this administrative policy or any policy included in the Trails Master Plan are recommended by staff or the Parks and Recreation Beautification Board to the City Council for final consent and approval.

IX. Pedestrian Network

A. Sidewalks and Walkways

Cities can improve the facilities used by walkers and bicyclists further increasing the attractiveness of non-motorized travel. Walking is hindered where there are no sidewalks or where the sidewalk is not continuous. Sidewalks are elevated above the grade of the road, providing the clear visual message to drivers about where vehicle space ends and pedestrian space begins. Where there is a break in sidewalk continuity, pedestrians are forced to maneuver around pared cars and other obstacles and are more vulnerable to oncoming traffic.

Walkways are most convenient when they have numerous connections, creating direct routes in many directions. Grid pattern streets with short blocks provide lots of direct connections. In contract, long blocks provide fewer connections. Dead-end, cul-de-sac, and circular streets force not only cars but pedestrians into circuitous journeys to reach destinations that may be relatively close. It is not always necessary or desirable to acquire the right-of-way to connect dead-ends and cul-de-sacs into the street network. Another option is creating walkway/bikeways to provide these non-polluting, direct and comfortable connections.

Sidewalk Width: Wide walkways are essential for pedestrian comfort. Normally, the section of a sidewalk that is actually used is less than the full width of the sidewalk. According to the Project for Public Spaces 9PPS), which employs extensive observation to understand how people use street space, successful urban sidewalks are divided into imaginary lanes. A 2-to-3-foot window-shopping lane next to store windows is provided for the people walking along the street. On the roadway side, pedestrians tend to observe a 1-1/2 foot buffer lane between themselves and the curb, or from the trees, signposts, benches, or traffic signs near the curb. Between these two lanes is the walking lane.

PPS suggests 8 feet to be the minimum desirable width for the walking lane, enough for two pairs of pedestrians to pass each other comfortably.

The City of Portland requires that in commercial and shopping districts, a six-foot wide path of travel adjacent to businesses must remain clear to accommodate all pedestrians, including people with wheelchairs, strollers and small children, and canine companions. This regulation goes beyond the federal requirement of a three-foot wide clear path.

It is also recommended by Richard Untermann, in a report prepared for the Washington State Department of Transportation, that sidewalks in low-density residential areas be six feet wide.

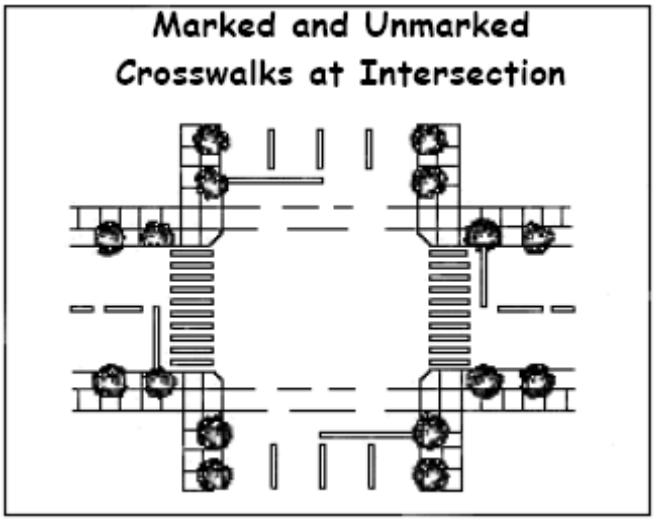
Buffer between pedestrians and auto traffic: Walking adjacent to vehicles weighing thousands of pounds and traveling at various speeds can be intimidating and unpleasant. It is no wonder that many well-crafted sidewalks go underutilized.

A buffer is often needed between pedestrians and vehicular traffic. One common buffer is a planter strip with grass, shrubs, and/or trees. Another buffer method is to allow on-street parking in commercial areas. The motionless cars provide a six-foot barrier between the sidewalk and the moving traffic.

B. Intersections and Crosswalks

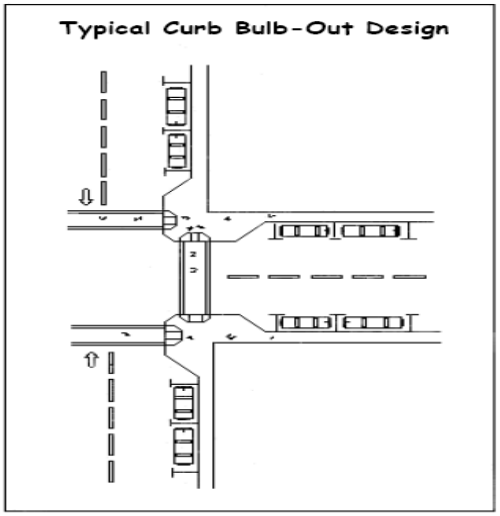
Obviously, crossing the street is the most dangerous place for pedestrians as it means crossing paths with the flow of motor vehicles. Most intersections are designed to facilitate rapid traffic flow, forcing those on foot to cross wide expanses of roadway, to dodge fast turning vehicles, and to wait for long periods of time for the right to cross.

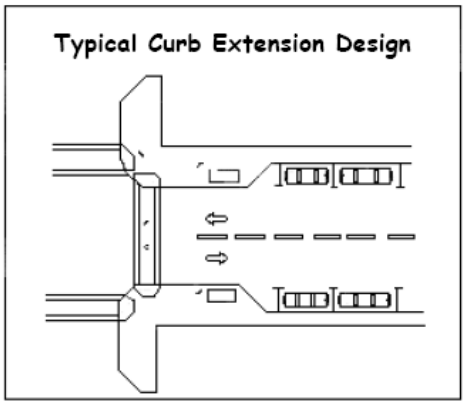
How can intersections be made safer and More pedestrian friendly? A common answer Would be to mark a crosswalk. However, According to Peter Lagerway of the City of Seattle Engineering Department, marked Crosswalks may provide pedestrians With a false sense of security. Marked Crosswalks aren't an effective way to slow Or reduce accidents and they do not send Drivers a strong visual signal that the Intersection is to be shared with pedestrians.



There are several design features that can Be used to enhance pedestrian safety and Ease of crossing at intersections. The Following are suggestions for both Protecting and encouraging pedestrians:

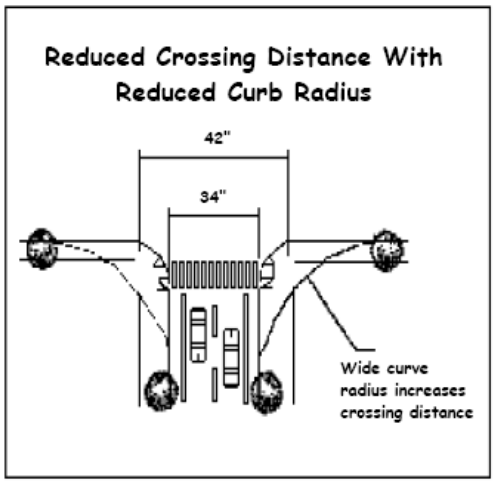
Curb extensions (curb bulbs): As mentioned earlier, curb bulbs are important 'traffic calming' tools. Curb bulbs benefit pedestrians crossing an intersection by: shortening the crossing distance and the amount of time the pedestrian is exposed to traffic in the roadway; providing pedestrians with a clear view of traffic; and providing drivers with a better view of pedestrians.

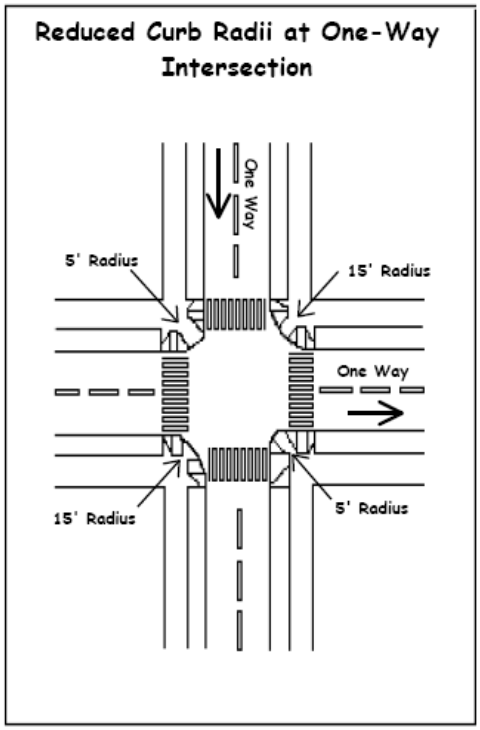




Narrower turning radii: A large curb radius allows vehicles to negotiate a right turn rapidly, while a smaller curb radius makes for a sharper turn at the intersection and forces vehicles to slow down. While traffic engineers often prefer the wide radius for vehicle convenience, a larger radius is both inconvenient and dangers for pedestrians. Vehicles tend to turn corners with wide radii more rapidly and, by pulling back the street corner, the crossing distance for pedestrians is increased.

In Seattle, the design standard for curb radii at arterial intersections is 25 feet, rising to 30 feet if many trucks or buses are present. At one time the standard was 15 feet, and the Central Business District had a 9 foot radius standard. The Florida Department of Transportation recommends that the roadway geometry at intersections should limit vehicle turning speeds to less than 20 mph on left turns, and 10 mph on right turns.

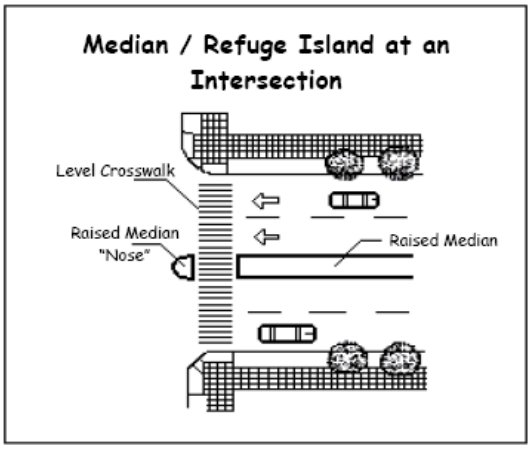


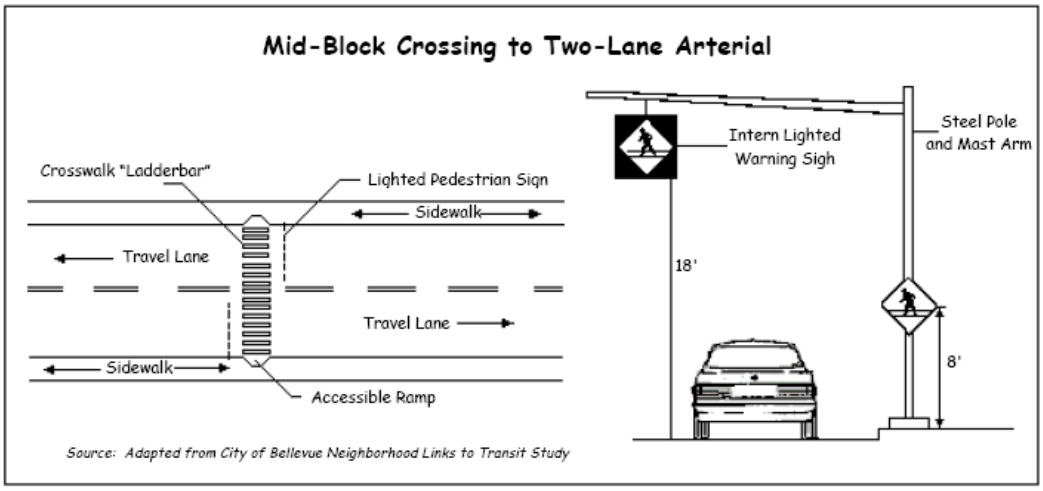


Mid-block crossings and raised medians: Most suburban blocks are too long for pedestrians to conveniently cross the street. Mid-block crossings are crucial for increasing pedestrian access
And convenience along these types of streets and at intersections.

Raised medians are paved or landscaped islands that run parallel with traffic, separating the traffic flowing in opposite directions. Raised medians are a vital component to most mid-block crossings, providing a safe mid-point waiting areas for pedestrians crossing busy, multi-lane-arterials.

The raised medians also provide drivers on wide roadways a necessary visual cue that a crosswalk exists mid-block. Florida's Department of Transportation recommends, "All current five and seven-lane cross sections should be retrofitted with raised medians." To enhance safety, mid-block crossings also need to be lit and marked well. Medians must be cut at the actual crossing point for compliance with the Americans with Disabilities Act guidelines.





C. Pedestrian Amenities and 'Street Furniture'
The basic features of walkable streets are calm auto traffic, a continuous network of wide sidewalks, and safe street crossings. Additionally, it is important to furnish the walking environment with improvements to enhance the convenience and pleasantness of walking.

These improvements are often called *amenities* or *street furniture*, and include such things as seating, bus shelters, and drinking fountains. Other improvements include lighting for night walking, signs to orient pedestrians, and awnings for protection from rain or sun. Landscaping and street trees also make walking more desirable.

The design and location of these improvements are important. Many benches, bus shelters, and other improvements are not well utilized because of ineffective design or poor placement on the street. Placement of trash receptacles, seating, lighting, and other amenities should be tailored to specific locations rather than be placed in a regimented pattern (i.e., every 50 or 100 feet along a street).

Seating: Seating includes sidewalk benches, ledges that extend from planter boxes, and movable chairs outside of food shops or in public plazas. Seating location is a crucial factor. The Project for Public Spaces, which has built upon the work of William H. Whyte, utilizes intensive observation to learn how people use street furniture. They have found that "people like to sit and watch other people go by, and that most people prefer to sit right where the most people are and the most action is, rather than to seek out some secluded spot." They also found that seating tends to be well used when located near major destination points, such as the entry to a department store or outside eating establishments, such as a deli or ice cream shop.

The design of seating is also very important. If the seat is too high or low, if it gets too hot or cold, or if it does not accommodate the human contour well, it will be underutilized. When possible, seating should not be anchored permanently to a specific location, but be movable if observation shows that it is underutilized. Chairs that people can move themselves, outside of an eatery or in public plazas, are especially popular.

Signs: Signs are valuable tools for helping orient pedestrians to the location of streets, public services, and special attractions. Signs for pedestrians often need to be designed differently than signs oriented to vehicles. For example, street name signs on one-way streets often face only oncoming traffic. Up-street pedestrians are forced to walk to the intersection to look onto the printed side of the sign. Street name signs oriented to the pedestrian are visible from either side of the intersection. Ideally, the signs are printed large enough to read from a full block's distance, so that pedestrians at an intersection can identify streets a block away.

Information Kiosks: Informative centers can provide walking visitors, as well as residents, with interesting information on local history, culture, and environment. Community billboards provide local organizations the opportunity to publicize events and can be helpful in discouraging people from covering utility poles with handbills.

Lighting: Lighting is an important factor in encouraging pedestrian activity after the daylight hours. Good illumination is especially important at intersections and crosswalks so that pedestrians are fully visible while waiting to cross and while actually crossing. In areas where crime is a concern, lighting is essential for fostering a sense of safety. All lighting should comply with Park City ordinance.

Pedestrians also need plenty of spaces to escape the rain or cold winds, as well as the hot summer sun. Awnings are important in retail areas to provide window shopping pedestrians with protection from the rain or the sun.

As mentioned earlier, street trees can visually scale-down a street, reducing the roadway's relative prominence and making it appear more accommodating to people. Trees and landscaping can also be used to delineate walkways and separate them from vehicle space. In areas with a large proportion of land dedicated to roadways, parking lots and buildings, vegetation is crucial for softening and beautifying the walking environment.

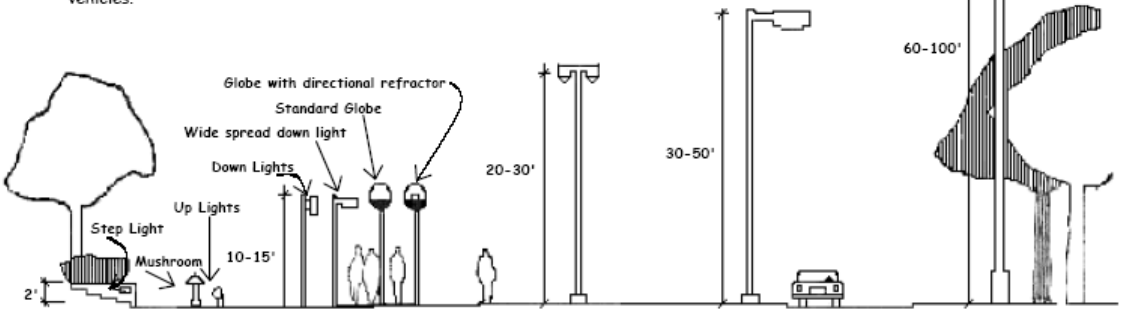
CONSIDERATIONS

The following factors must be considered when installing or renovating outdoor lighting systems:

- In general, overhead lighting is more efficient and economical than low level lighting.
- Fixtures should provide an overlapping pattern of light at a height of about 7 ft.
- Lighting levels should respond to site hazards such as steps, ramps, and steep embankments.
- Posts and standards should be placed so that they do not create hazards for pedestrians or vehicles.

NOTES

- Because of their effect on light distribution, trees and shrubs at present height and growth potential should be considered in a lighting layout.
- It is recommended to use manufacturer-provided lighting templates sized for fixture type, wattage, pole height, and layout scale.
- Color rendition should be considered when selecting light source. When possible, colors should be selected under proposed light source.
- Light pollution to areas other than those to be illuminated should be avoided.



LOW LEVEL LIGHTING

1. Heights below eye level.
2. Very finite patterns with low wattage capabilities.
3. Incandescent, fluorescent, and high-pressure sodium, 5 to 150 watt lamps. Lowest maintenance requirements, but highly susceptible to vandals.

MALL AND WALKWAY LIGHTING

1. 10 ft. to 15 ft. heights average for multiuse areas. Wide variety of fixtures and light patterns.
2. Mercury, metal halide, or high-pressure sodium, 70 to 250 watt lamps.
3. Susceptible to vandals.

SPECIAL PURPOSE LIGHTING

1. 20 ft. to 30 ft. heights average.
2. Recreational, commercial, residential, industrial.
3. Mercury, metal halide, or high-pressure sodium, 200 to 400 watt lamps.
4. Fixtures maintained by gantry.

PARKING AND ROADWAY LIGHTING

1. 30 ft. to 50 ft. heights average.
2. Large recreational, commercial, industrial areas, highways.
3. Mercury, metal halide, or high- pressure sodium, 400 to 1000 watt lamps.
4. Fixtures maintained by gantry.

HIGH MASTLIGHTING

1. 60 ft. to 100 ft. heights average.
2. Large areas-parking, recreational, highway interchanges.
3. Metal halide, or high-pressure sodium, 1000-watt lamps.
4. Fixtures must lower for maintenance.

DEFINNITIONS

A lumen is a unit used for measuring the amount of light energy given off by a light source. A footcandle is a unit used for measuring the amount of illumination on a surface. The amount of usable light from any given source is partially determined by the source's angle of incidence and the distance to the illuminated surface.

NOTE: All exterior installations must be provided with a fault interruption circuit.

Other amenities that help define the streetscape for pedestrians include murals and sculpture, and the location and design of telephones, trash receptacles, clocks, lampposts, and drinking fountains. For instance, designing drinking fountains low enough to be wheelchair accessible, also ensure that children can reach the fountain as well. Clocks, planters, trash receptacles, and lampposts all provide the opportunity to reinforce the community design motifs that help define the town's character.

D. Old Town Stairs

Unique to Park City is the Old town stairways. Most of the platted cross street rights of way are too step for automobile traffic or horse and carriage of the day. The miners built wooden stairs to connect the residential streets to Main Street. The City has reconstructed most of the Old town stairs. As part of the pedestrian network the City should continue to construct new stairs in the undeveloped rights of way where appropriate and replace the wooden treads with safer galvanized treads as necessary.

E. Local example and Desired Outcome

Center Street in Provo is a good example of pedestrian oriented design. The street is designed for people as well as automobiles. Center Street has been narrowed through the addition of a center parking lane and tree plantings. There are bulb outs at pedestrian crossings and the crosswalks are frequently spaced and well marked. Automobiles travel very slowly through this area. There are very limited setbacks on all buildings' and shop windows are prevalent. Street furniture includes telephones, waste receptacles, lighting, and street cafes. Land uses are mixed with residential areas in close proximity to shopping, office space and services.

X. Trail System Benefits and Safety

There are two purposes of this section: first, to present some concluding evidence that trails, and other parts of the non-motorized transportation system, will benefit the overall quality of life in Park City; and second, to address the issues of safety and community involvement.

A. Ten Economic Benefits of Greenways and Trails

There are many ways in which a trail system, designed with greenway corridors and easy accessibility can benefit a community. The following information discusses ten different economical benefits a community can enjoy from a trail system.

1. Real Property Values--*Many studies demonstrate that parks, greenways and trails increase nearby property values. In turn, increased property values can increase local tax revenues and help offset greenway acquisition costs.*

In a survey of adjacent landowners along the Luce Line Rail Trail in Minnesota, the majority of owners (87%) believed the trail increased or had no effect on the value of their property. New owners felt that the trail had a more positive effect on adjacent property values than continuing owners.

Furthermore, a survey of Denver residential neighborhoods shows the public's increasing interest in greenways and trail. From 1980 to 1990, those who said they would pay extra for such amenities in their neighborhood rose from 15% to 48%.

2. Increased Property Tax Revenues--*An increase in property values generally results in increased property tax revenues for local governments.*

Many arguments made for investments in trails, parks and open spaces claim that these acquisitions pay for themselves in a short period of time, due in part to increased property tax revenues from higher values of nearby property.

Locally and national, bicycle and pedestrian facilities have proven to be a cost effective use of public funds. Maryland's Northern Central Rail-Trail found that while the trail's cost to the public in 1993 was $191,893, it generated State tax revenue of $303,750 in the same year. This revenue was a direct result of a growing economy's sales, property and income taxes.

3. Construction/Development Perspectives--*Proximity to greenways, rivers and trails can increase sales price, increase the marketability of adjacent properties, and promote faster sales. Clustering the residential development to allow for establishment of a trail corridor or greenway can also decrease overall development costs and result in greater profits for the developer.*

For example, a land developer from Front Royal, Virginia, donated a 50 foot wide, seven mile easement, for the Big Blue Trail in Northern Virginia. This easement provided a critical trail link along the perimeter of his subdivision. The developer recognized the amenity value of the trail and advertised that the trail would cross approximately 50 parcels. All tracts were sold within four months.

4. Expenditure by Residents--*Spending by local residents on greenway related activities helps support recreation oriented businesses and employment, as well as other businesses that are patronized by greenway and trail users.*

5. Commercial Uses--*Greenways and trails often provide business opportunities, locations and resources for commercial activities, such as recreation equipment rentals and sales, lessons, and other related businesses.*

The following are two examples of how trails have helped local commercial areas across the nation:

a. The downtown area of Dunedin, Florida was suffering a 35 percent storefront vacancy rate in the early 1990's until the Pinellas Trail came into town. Now, storefront occupancy is 100 percent and business is booming.

b. A study of the Oil Creek Bike Trail, in Pennsylvania (Pennsylvania State University, 1992) revealed that the average visitor spends $25.85 per day. This was broken down into $9.09 for food, $6.27 for transportation, $2.56 for lodging (many visitors camp) and $7.94 for equipment and other activities.

6. Tourism--*Trails are often major tourist attractions that generate expenditures on lodging, food, and recreation oriented services. Greenways along trails can also help improve the overall appeal of a community to perspective tourists and new residents.*

Many Americans prefer to visit places, such as greenways and trails that offer safe, scenic recreation and transportation for the whole family. The U.S. Department of Transportation, in its recreation and transportation for the whole family. The U.S. Department of Transportation, in its *National Bicycling and Walking Study (NBWS)* final report, estimates that 131 million Americans regularly bicycle, walk, skate or jog for exercise, sport or recreation.

For example, peak-season hotel rooms along Wisconsin's Elroy-Sparta State Park Trail are booked up to one year in advance. A study revealed that the average visitor travels 228 miles to experience the trail.

7. Agency Expenditures--*The agency responsible for managing a trail can help support local businesses by purchasing supplies and services. Jobs created by the managing agency may also help increase local employment opportunities.*

8. Corporate Relocation--*Evidence shows that the quality of life of a community is an increasingly important factor in corporate relocation decisions. Greenways and trails are often cited as important contributors to quality of life.*

In a June 8, 1989 article, the *San Francisco Chronicle* noted that when corporations are relocating, the number one factor was a location that would attract and retain key personnel. Corporate real estate executives now say that employee 'quality of life' issues are as important as cost when deciding where to locate a new factory or office.

Bicycle and pedestrian trails also attract high quality businesses by providing community options for employees, scenic places for stress-free strolls at lunchtime, and safe, convenient sites for family recreation. The Provo Parkway Trail and the Riverwoods Business Park are a local example of this interaction.

Furthermore, natural open space, greenways, and trails are prime attractions for potential homebuyers. According to research conducted in 1995 by *American Lives, Inc.* for the real estate industry, 77.7% of all home buyers and shoppers in the study rated natural open space as either 'essential' or 'very important' in planned communities. Walking or biking paths ranked third. A community design that offers quiet and low traffic was the top ranked feature.

9. Public Cost Reduction--*The conservation of rivers, trails, and greenways can help local government and other public agencies reduce costs resulting from congested roadways, environmental degradation, and other natural hazards, such as flooding.*

The construction of multi-use trails allows more Americans to replace automobile trips with non-motorized trips. According to the *NBWS* report, the American public saves from 5 to 22 cents for every automobile mile replaced by walking and bicycling, due to reduced pollution, oil import costs, and costs due to congestion, such as lost wages, and lost time on the job.

10. Intrinsic Value--*With all of the previously mentioned benefits of trails it is important to remember the intrinsic environmental value of preserving rivers, trails and other open space corridors.*

B. Four Social Benefits of Trails

1. Community Character--Not only do bicycle and pedestrian facilities enhance the quality of life for many individuals, but trails and pathways can also be an expression of community pride and character. In many cases it means preserving the natural and historical resources of a region.

2. Close to Home Recreation--An explosion in the number of people who participate in outdoor recreation has led to an increased demand for bicycle and pedestrian facilities. Participation in trail uses, such as hiking, walking, mountain biking, and in-line skating have experienced phenomenal growth in recent years.

Multi-use trails provide convenient access to the outdoors while promoting health and fitness activities. These trails are becoming especially popular among people living in cities and suburban areas, where recreation opportunities close to home are scarce.

3. Convenient Transportation--Nearly half of all trips people make within their communities can be made easily on foot or bicycle. Fifty percent of all personal travel trips are less than 3 miles long. Personal business trips, like doctor visits, household errands, and visits to friends account for 415% of all trips. Such personal short distance trips are well suited to travel by walking or bicycling.

Public rail-trails, multi-use pathways, and on-road bicycle facilities offer communities a means of safe convenient transportation and keep the essential links within a community open to all. They can connect neighborhoods to schools, work places, commercial and cultural centers, historic sights, and transit stations.

4. Health and Fitness--The health benefits of exercise derived from recreational activities, such as bicycling and walking lessen health-related problems and reduce health care costs. Trails, spacious sidewalks, and greenway trails offer adults and children alike the opportunity to integrate moderate, individualized exercise with their daily trips to work, school, the library or shopping.

Regular, moderate exercise has been proven to reduce the risk of many health problems, such as coronary heart disease, diabetes, certain kinds of cancers, and obesity. Regular exercise can also protect against injury and disability because it build muscular strength and flexibility.

In addition to the health benefits that bicycling and walking offer, consider also the improvement

of physical health reduces health care costs. People who exercise regularly have 14% lower claims against their medical insurance and spend 30% fewer days in the hospital than people who do not exercise regularly.

C. Community Safety

Communities can take several steps in reducing accidents that can occur between automobiles, pedestrians, and bicyclists. The following are suggestions on how to create a safer environment for all modes of travel:

Encourage schools, safety organizations, and law enforcement agencies to deal with bicycle and pedestrian safety issues and to deal with bicycle and pedestrian safety issues and to focus on the most important safety problems. The development of public education campaigns should be keyed to the most important causes of accidents, injuries, and deaths. For example, the leading cause of bicycle accidents occurs when cyclists ride on the wrong (left) side of the street. By educating bicyclists to obey traffic rules and to ride safely with motor vehicles most accidents can be prevented.

Promote the use of safety equipment among bicyclists (e.g., lights, helmets, reflectors) and encourage safety groups to develop programs promoting the purchase and use of safety equipment among the bicycling public. Ideas for public involvement include community 'safety days' centered on trails or group presentations to local clubs and schools. It is recommended that safety presentations are more effective when the information is tailored to the particular audience. A good example, for school-aged children is to set up a mock street or trail on the school grounds with lines, obstructions and signs. Children who make up a large percentage of bicycle traffic can then practice safe bike riding habits on the course.

Discourage agencies' placing marked (painted) crosswalks at uncontrolled locations, i.e. no stop or traffic signal control. Marked crosswalks on busy streets give pedestrians a false sense of security and are a leading cause of auto/pedestrian accidents.

Encourage city planning commissions to design neighborhoods for both pedestrians and autos. Local streets can be designed to induce lower vehicle speeds. Cities can discourage school districts from placing elementary schools along major streets and thus limit children's exposure to traffic and speeding vehicles.

Employment centers can contribute to reducing the number or crashes', injuries, and deaths among agency staff. Provide training and awareness programs for employees. Encourage staff to use bicycle safety equipment.

D. Crime Control and Emergency Vehicle Access

A well-designed trail prevents many security problems. Although crime is a common concern many studies have proven that crime does not increase at trail locations or on adjacent properties.

If problems will occur they will most likely happen in parking lots. Parking Lot Design (fencing, lighting, one entrance point to trail) can solve most safety concerns. Night security lights installed at trailheads and other activity areas can also solve many problems at these locations.

Trails should always be planned to accommodate security, safety and emergency equipment

(fire engines and ambulances). Construct bollards at access points that can be removed or folded over in the event an emergency vehicle needs to enter onto the trail.

Other safety considerations should include emergency telephones and landscaping. Emergency telephones or call box systems with direct connections to 911 are a worthwhile consideration especially along remote sections of a trail. Landscaping along trails should consist of low shrubs and tree branches should be 'cropped close to the trunk, at least 10 feet from the ground,' so that potential offenders will not have an easy place to hide.

E. Community Involvement

The following are ideas adapted from *Trails in the Twenty-First Century*, by the Rails-to-Trails Conservancy (1993):

To maintain and develop relationships with adjacent landowners:

1. Adjacent Landowners need to know who to contact about specific problems.

2. Maintain trail on regular basis and consider involving citizens in trail upkeep with volunt4eer work groups and 'adopt-a-trail' programs.

3. Promptly respond to problems, such as unauthorized motorized vehicles use, vandalism, theft of trail signs, and graffiti. Consistent quality upkeep of the trail will build community confidence in the ability to manage the trail.

4. Consider scheduling regular meetings to receive input from users, residents and landowners.

5. Invite landowners on a trail tour led by a park ranger or someone who is involved with trail management or planning.

6. To win support of landowners, consider writing personal letters testifying of the benefits of trails.

7. Make sure adequate facilities, such as restrooms and drinking fountains are provided so that adjacent landowners are assured that trail users will stay on the trail.

F. Community Trail Events and Publicity

1. Trail Corridor Tours
2. Trail Work Day
3. Photo Competition
4. Trail-athon or Walk-athon
5. Poster/Logo Contests "Name the Trail"
6. Decorative Bicycle Parade
7. Nature Walks
8. Newspaper Column

PARK CITY TRAILS MASTER PLAN UPDATE

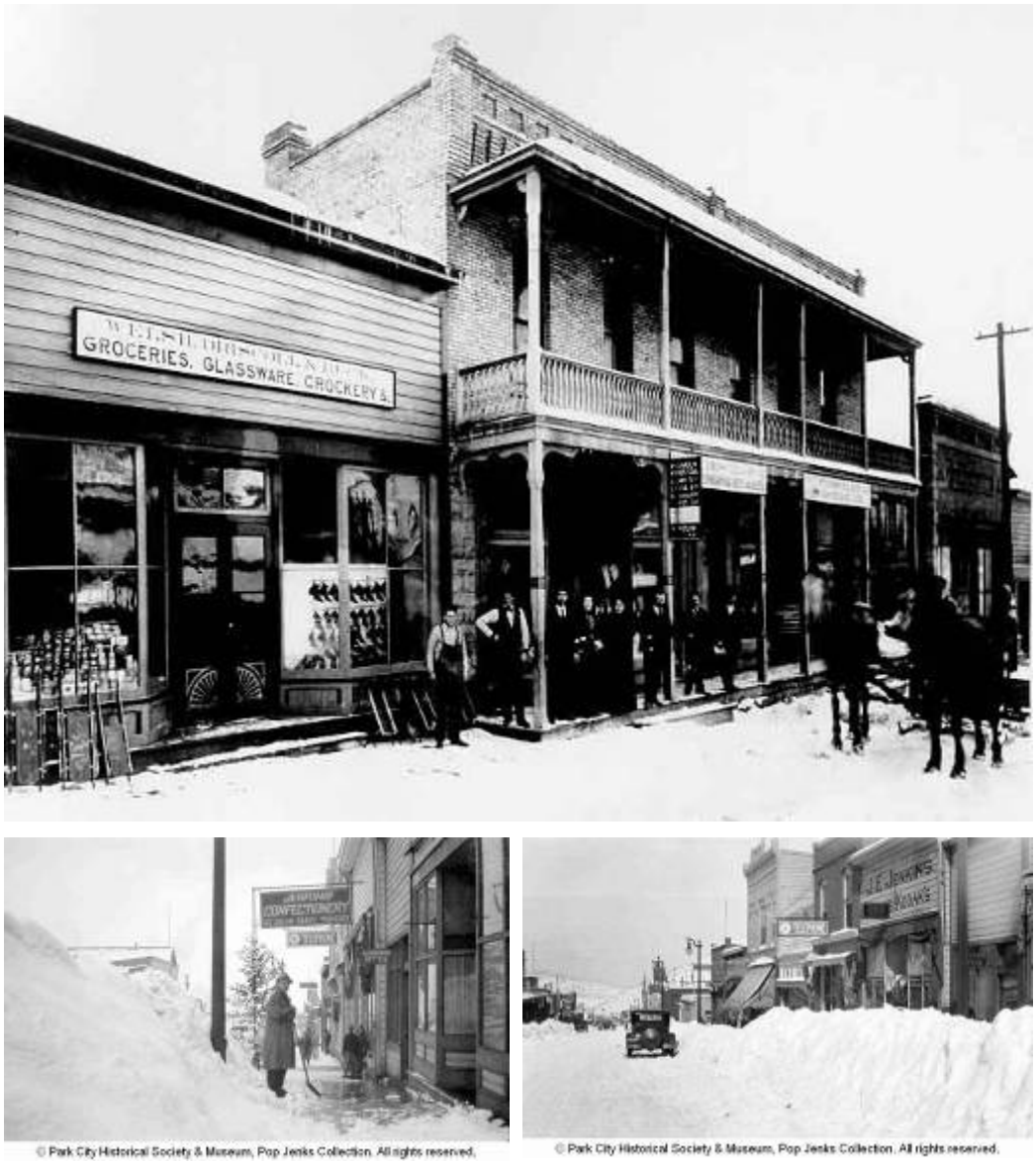
WALKABILITY AND BIKEABILITY

TABLE OF CONTENTS

1.0 Background and Context

Since its beginnings as a late-nineteenth-century mining town, walking has been the primary form of negotiating the steep and hilly streets of Park City. In the earliest days, there was little or no delineation between the areas for walking and the areas for driving - pedestrian beware.

As the town has grown and evolved, the form and function of the city's streets have modified accordingly. Park City has transcended its mining background and resort skiing roots, blossoming into a place with high-level, year-round recreation and entertainment expectations, and a populace drawn to these activities. Hiking and biking have become major recreation draws, for visitors and residents alike.



Examples of Historic Park City Streets and Sidewalks

In recent decades, city districts that were originally designed as places for second homes and temporary lodging have morphed into full-time neighborhoods – sometimes lacking sidewalks and other amenities that make walking and biking safe and pleasant. Residents of these neighborhoods – adults and children alike – look forward to walking and biking to school, work and other destinations as part of their daily lives. However, sharing the roads has become increasingly difficult as vehicular traffic has increased and the roadways have become more crowded with vehicles.

Park City is recognized as a world-class recreation destination. It is home to renowned skiing and winter sports activities, in addition to a wide range of fair-weather sports and draws, including hiking, mountain biking and cycling. However, some residents and others feel that walking and biking in the built-up part of the city is less than desirable, lagging behind hiking and biking in the nearby backcounty.

The recently-completed Park City Walkability and Bikeability Neighborhood Study (March 2007) indicates that Parkites desire a community that is safe and well-connected for walkers and bikers. The study also indicates a desire to preserve the tight and compact community form that makes the city a good place to walk and bike – for residents, tourists and visitors alike.

2.0 Purpose of the Walkability and Bikeability Update

The Park City Trails Master Plan Update - Walkability and Bikeability builds upon the information and direction provided in the Park City Trails Master Plan, which was adopted in March 2003. The update addresses the need and desire for a safe, pleasant and well-connected biking and pedestrian system in Park City proper.

The purpose of the update is to analyze the "walkability and bikeability" of Park City and in the process provide planning and design suggestions that will improve walking and biking in Park City. The study assesses walking and biking within the urban environment of the city, as opposed to the surrounding system of off-road and backcountry trails.

The Walkability and Bikeability update builds on and coordinates with the approach and information contained in the Park City Walkable/Bikeable Neighborhood Study, which was presented to the City Council in March 2007.

3.0 Existing Conditions

As illustrated in Figure 1, there are approximately 41 miles of paved urban trails within city boundaries of Park City. These consist of seventeen miles of asphalt sidewalks and trails; 20 miles of concrete sidewalks and trails; and four miles of unpaved trails. In addition to the sidewalks and trails listed, approximately 4 miles of cycle lanes are located along the edge of Park City's streets.

The bulk of Park City's trails are located alongside existing streets in the form of sidewalks and roadside trails. The remaining facilities are located primarily along two fully-separated trails - the UPRR Rail Trail and Poison Creek Trail. The existing trail and sidewalk system provide connections and linkages with a wide range of destinations and community places – as illustrated on Figure 2.

At present, approximately half of the existing walking and biking system is plowed by

Park City during the winter, representing a significant maintenance commitment on the part of the city. Only the Poison Creek Trail includes a system of pedestrian lighting.

As new trails are developed and existing facilities enhanced, determining the levels of maintenance and lighting are of particular concern.

Examples of Historic Walking and Biking Environments

4.0 Walkability/ Bikeability Vision

Park City is envisioned as a place with neighborhoods and districts where people can live within walking distance to most places they want to visit - schools, work, stores, parks, churches and so on. The city is a place where walking, biking and mass transit are well-connected and easy, with corresponding environments that are pleasant and safe to walk or bike to at all hours of the day.

The Park City Walkability/ Bikeability Vision foresees a community that is accessible to all persons, including those with disabilities, and is compliant with the regulations of the Americans with Disabilities Act (ADA). The design and layout of the Park City walking and biking environment is unique, reflecting the special physical and social character of the mountain community. It is a place that has a distinctive identity, and is a place people want to live and visit.

The Park City Walkability/ Bikeability Vision supports the five goals and established for the Park City Walkable/Bikeable Neighborhood Study (March 2007), as follow:

GOAL 1: SAFETY
Walking and biking in Park City should be safe and pleasant. The needs of those least able to negotiate busy streets – children and elderly citizens, for example –should set the standard. Residents and visitors should be able to safely walk and bike to school, shopping, work and other destinations, and access public transit.

GOAL 2: EFFICIENCY
Walking and biking in Park City should be easy and efficient. The urban walking and biking environment should be capable of helping to reduce vehicle trips and/or mitigate traffic congestion.

GOAL 3: ENHANCES REGIONAL CONNECTIONS
The Park City walking and biking environment should be highly integrated and interconnected. Facilities should enhance regional walking and cycling mobility and access, particularly along primary walking/biking routes including SR-224, SR-248 (Kearns Blvd.), Bonanza Drive, the Rail Trail and other significant regional links.

GOAL 4: ENHANCES LOCAL CONNECTIONS
The Park City walking and biking environment should be developed in a manner that improves intercity mobility to and through the city's neighborhoods. Connections should be seamless and obvious, ultimately linking with regional routes and activities. Walkable and bikeable design for both residential and commercial areas should be encouraged.

GOAL 5: COST AND MAINTENANCE
Walking and biking in Park City should be cost effective, providing the greatest value to taxpayers. Facilities should serve a large number of users, and build upon established routes and ways.

Figure 1
Existing Walking and Biking System

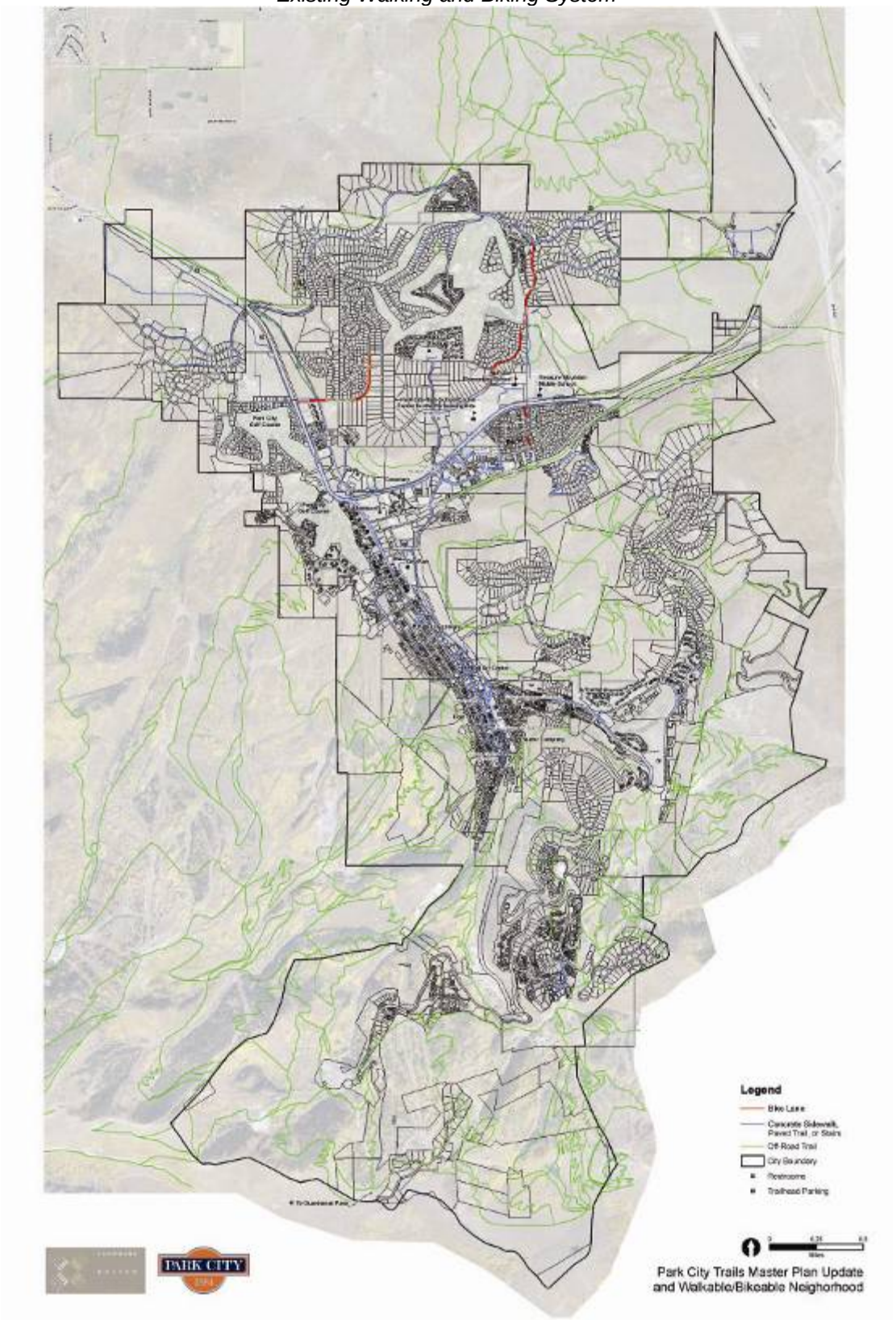
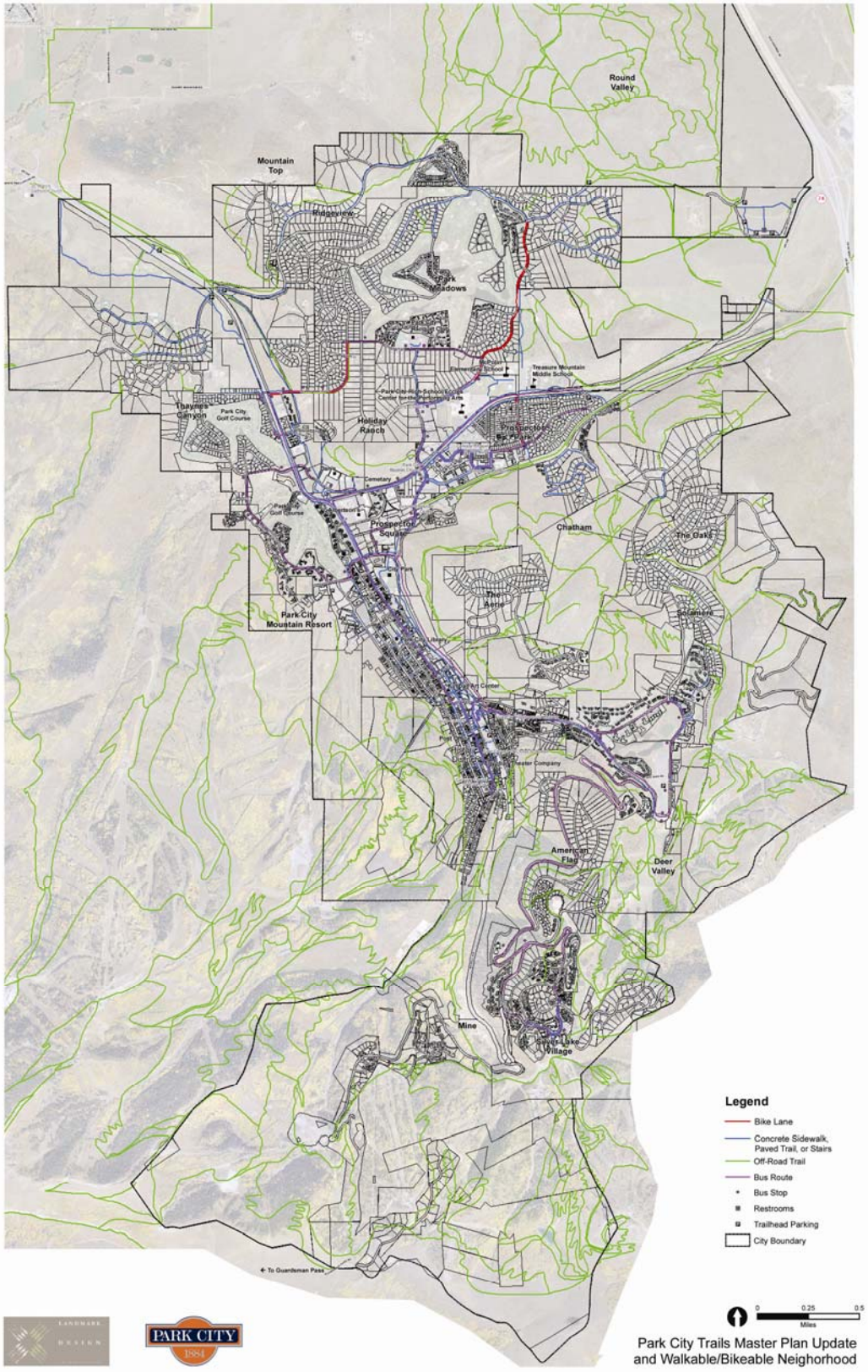


Figure 2
Existing Destinations and Community Locations



5.0 Walkability/Bikeability Planning Concept

The Park City Walkability/Planning Concept builds upon the well-established walking and biking system currently in place, while supporting enhancements that create a high-quality, interconnected system.

The Planning Concept envisions a “Spine System” that will serve as the primary Walking/Biking route. The "Spine System" is supported by a system of “Interconnected Neighborhood Linkages”. Together, the various sidewalks, trails, pathways and routes which comprise these systems provide a high-quality, interconnected system for walking and biking through the community, and for accessing trails beyond the city limits.

The “Spine System” (Figure 3), is only partially implemented at present. In order to be fully functional, it will ultimately incorporate a system of interconnected sidewalks and trails located along the edges of major thoroughfares (SR-224, SR-248 /Kearns Boulevard and Bonanza Drive).

The “Spine System” will provide good access to schools, shopping and work places, and easy connections with transit. The system also improves or eliminates crossings on busy roads, fixes current gaps and missing connections, will serve a large number of users, and maximizes underutilized existing walking and biking facilities to the greatest degree possible.

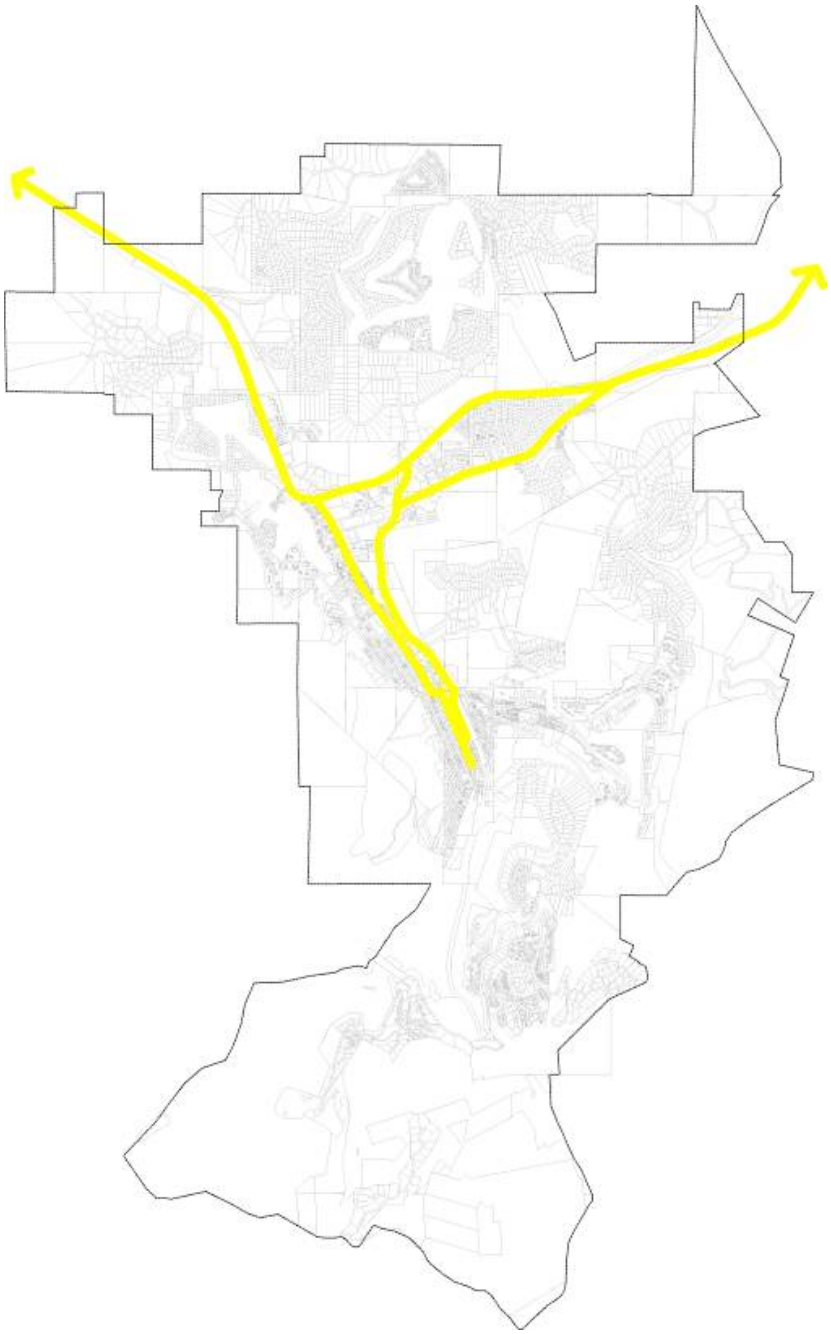
As illustrated in Figure 4, a system of “Interconnected Neighborhood Linkages” connects surrounding neighborhoods and districts with the “Spine System”, helping to create a high-quality, fully-connected walking and biking environment in the city. The range of walking and facilities which compose this system are by nature more diverse than those which make up the "Spine System" encompassing various sidewalks, pathways, trails and routes.

6.0 Walkability/Bikeability Recommendations: Goals and Policies

Specific walkability/bikeability enhancement projects and priorities are contained in the Park City Walkable/Bikeable Neighborhood Study (March 2007). The corresponding implementation and phasing recommendations contained in that study are supported in this update.

The Park City Walkable/Bikeable Neighborhood Study (March 2007) undertook an extensive and comprehensive process to identify projects and priorities. However, discretion should be afforded to the Park City Council and staff to use their judgment, experience, and institutional knowledge to determine the legitimacy and viability of individual projects. Costs included in the study do not generally include the enforcement and administrative costs of improvements. An example is a crosswalk where paint needs to be reapplied in subsequent years and enforcement of crosswalk regulations strains law enforcement resources. All walking/biking improvement projects, similar to other capital projects within Park City, need to be considered within the overall context of Park City as well as the

Figure 3
Park City Walking/Biking "Spine System"

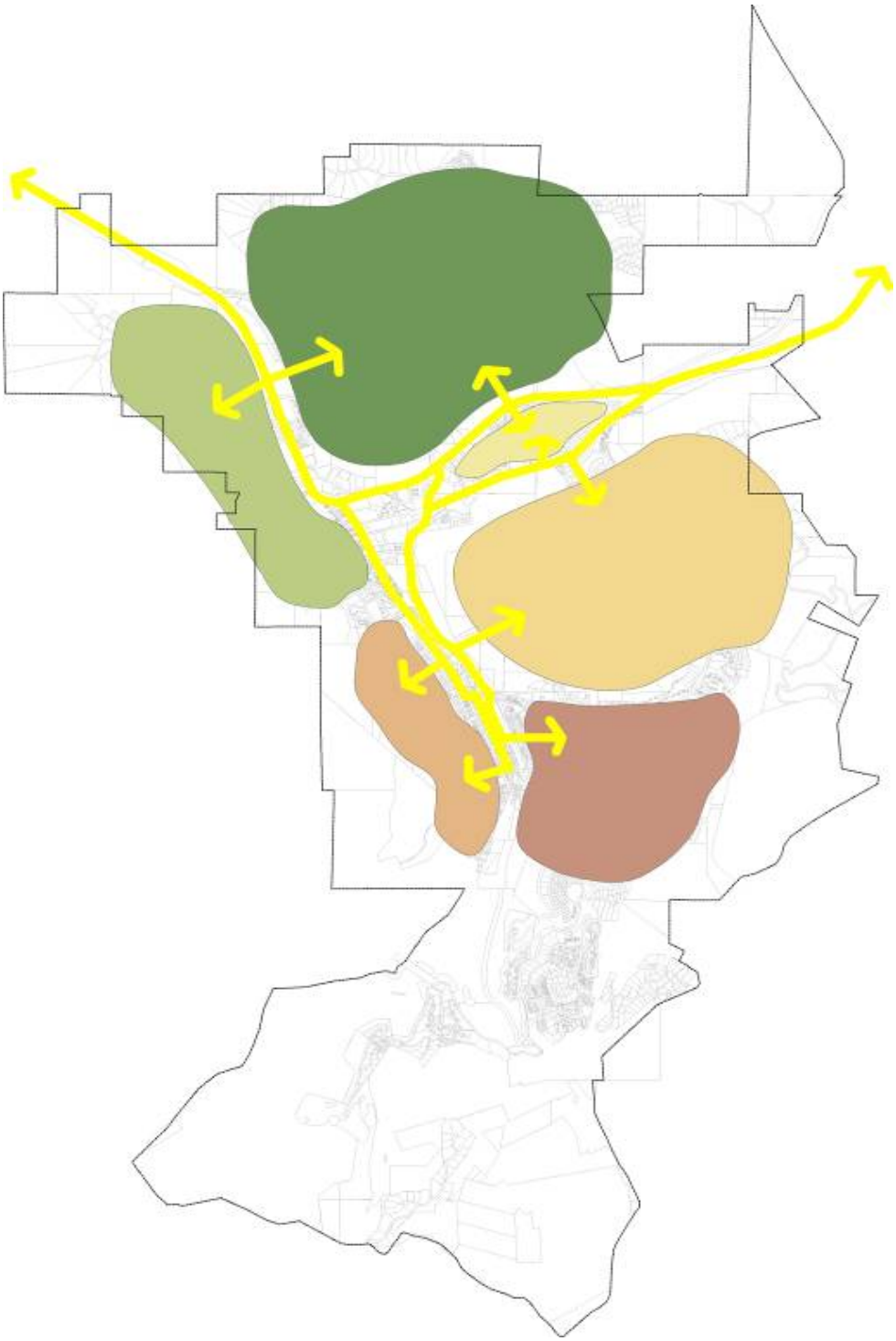


existing traffic calming program, the Manual on Uniform Traffic Control Devices (MUTCD), and AASHTO design standards.

The following recommendations focus on maintenance and policy issues identified as part of the Park City Walkable/Bikeable Neighborhood Study (March

2007), and are intended to aide decision-makers as they address walkability and bikeability issues in the future.

Figure 4
Park City Walking/Biking Interconnected Neighborhood Linkages



Goal 1
To promote walking and biking in Park City

Policy: Improve existing walking and biking facilities in a manner that meets community desires and aspirations.

Implementation Measure: Review implementation actions outlined in the Park City Walkable/Bikeable Neighborhood Study (March 2007) on a regular basis and make adjustments as necessary.

Policy: Encourage pedestrian-friendly development and design within and near neighborhoods, districts and community destinations.

Implementation Measure: Evaluate future development and re-development proposals to ensure compliance with walking and biking needs and aspirations of the community.

Implementation Measure: Provide safe routes to school in all residential areas, utilizing a mix of sidewalks, trails and other design features as appropriate.

Implementation Measure: Link Park City's neighborhoods and destinations as part of a comprehensive system of trails and pathways.

Policy: Consider a wide range of "simple" enhancements to promote safe walking and biking in Park City.

Implementation Measure: Create a special fund to implement simple, on-going enhancement programs, such as striping and curb cut solutions.

Implementation Measure: Consider modifications of standard crossing solutions, including pedestrian "flags" and countdown pedestrian crossing lights.

Goal 2
To ensure good maintenance of existing and future walking and biking facilities

Policy: Ensure that snow removal is adequate to safely facilitate walking during winter months.

Implementation Measure: Review and update as appropriate the snow removal plan for all facilities comprising the Park City walking/ biking "Spine System".

Implementation Measure: Review and modify existing snow removal policy for non-"Spine System" facilities to ensure legislation is implementable and

enforceable.

Implementation Measure: Review, modify and enforce as appropriate the snow removal policy for non-“Spine System” facilities by adjacent land owners and/or operators.

Policy: Ensure the lighting of walking and cycling facilities is adequate to safely facilitate walking during nighttime hours.

Implementation Measure: Provide pedestrian lighting along “Spine System” facilities in a judicious manner. Lighting solutions should be carefully developed to generally meet and acknowledge conflicting policies (night sky, in particular).

Implementation Measure: Light minor trails when appropriate and feasible according to street lighting standards for neighborhoods.

Policy: Provide walking/ biking signage that promotes wayfinding and safe movement through the community.

Implementation Measure: Design and develop a system of walking/ biking signage that is easy to read, attractive and part of coordinated standard furnishing palette solution.

Implementation Measure: Minimize the use of multiple sign locations, posts and standards to convey similar and related messages.

Implementation Measure: Adhere to the standards and requirements for signs as detailed in the Manual on Uniform Traffic Control Devices (MUTCD).

Policy: Maintain existing and future walking/ biking facilities according to industry and local standards.

Implementation Measure: Ensure ADA and common-sense accessibility standards are met as required.

Implementation Measure: Ensure AASHTO standards for trails are met as required.

Goal 3
To ensure walking and biking policy and ordinances meet the needs and desires of the community

Policy: Ensure that construction and maintenance budgets are adequate to meet needs and expectations

Implementation Measure: Conduct regular review of funding policies and

make adjustments as required.

Policy: Promote educational efforts to inform and sensitize residents and visitors of the prominent role of walking and biking in the community.

Implementation Measure: Develop and fund a walking/biking educational program.

Implementation Measure: Promote walking and biking in Park City as part of a concerted marketing approach.

Policy: Merge local walking/ biking enhancement efforts with regional needs and desires.

Implementation Measure: Evaluate the development of park-and-ride lots and other means that encourage bicycle commuting.

SUMMARY

As Park City and the region continues to grow and develop, there is an increasing need and demand for recreational hiking and biking trails, trailhead parking, neighborhood trails and connections, sidewalks, bicycle lanes, signs, and maps. There is a desire in the community to better identify, develop and preserve pedestrian and bicycle access as the land becomes developed. In addition to encouraging recreation, the development of a non-motorized trail system can help reduce vehicle trips and traffic congestion. The result will be a community resource providing transportation alternatives, recreational opportunities, environmental aesthetics, open space preservation, increased property values and other economic and social benefits.

The Trails Master Plan is intended to facilitate the development of a recreation and alternative transportation system for all non-motorized forms of transportation and to help support the motorized and transit system. This plan is a reference document for planning and securing a city-wide trail system. It is not intended to set forth strict standards, but to present sound guidelines for the location, policies, type, and construction of trails.

APPENDIX "A" List of Sources

Blaine City Recreation District, Path and Trail System Map for Wood River and Sun City Trails, 1992.
Colorado State Parks. The Effect of Greenways on Property Values and Public Safety, 1995.
C-Tran (Clark City, WA). New Way to Grow, 1995.
Florida Department of Transportation. Walkable and Bicycle Friendly Communities, 1996.
Lawley Publications. "Doubling of Bicycle and Walking Trips Recommended," Urban Transportation Monitor. April 1994.
Oregon Chapter American Planning Association. Recommendations for Pedestrian, Bicycle and Transit Friendly Development Ordinance, February 1993--working draft.
National Bicycle and Pedestrian Clearinghouse. NBPC Technical Brief No. 2-6, Sept. 1995.
National Park Service. Economic Impacts of Protecting Rivers, Trails and Greenway Corridors, 1995.
Nelessen, Anton Clarence. Visions For a New American Dream, 1994.
Rails-to-Trails Conservancy. Trails for the Twenty-First Century, 1993.
Summit City. Non-Motorized Trails Master Plan Update, 1993.
Untermann, Richard K. "Streets are for Sharing," Landscape Architecture, July 1990.
U.S. Department of Transportation, Federal Highway Administration. Improving Bicycle and Pedestrian Safety, March 1996.
U.S. Department of Transportation, Federal Highway Administration. The National Walking and Bicycling Study No. 2-6, September 1994.
Utah City: Utah City Non-Motorized Transportation System, 1997.
ASSHTO: 1999 Guide for Development of Bike Facilities.

APPENDIX "B" Trail Inventory

Within City Limits: 140 miles total

HIGH VOLUME:	44 miles total
Asphalt Paved Trails - Plowed in Winter	11 Miles
Asphalt Paved Trails - Not Plowed:	4 Miles
Concrete Sidewalk/Trails- Plowed in Winter:	11 Miles
Concrete Sidewalk/Trails - Not Plowed:	12 Miles
Unpaved Trails:	4 Miles
Historic Union Pacific Rail Trail State Park:	2 miles
PAINTED LANE IN STREET:	4 miles total
Painted Lanes:	4 Miles
BACK-COUNTRY/SINGLE-TRACK	92 miles total
Beginner:	10 Miles
Intermediate:	51 Miles
Expert:	29 Miles
Misc. Dirt Roads:	2 Miles
TRAILHEAD KIOSKS/SIGNS:	
Trailhead Kiosks:	4
12x12 Wood/concrete base	5
6x6 Wood posts	50
Wood/metal post signs	32
Fiberglass	Approx. 100

Outside City Limits (Park City Area: 134 miles total

Round Valley: 21 miles total	
Beginner:	2 Miles
Intermediate:	4 Miles
Expert:	2 Miles
Double-track/Roads:	12 Miles
Snyderville Basin: 91 miles total (Excluding Jeremy Ranch & Pinebrook)	
Single-track:	80 miles
High Volume:	8 Miles
Hiking:	3 Miles
Wasatch County (Deer Crest, Deer Valley, Flagstaff): 15 miles	
Single-track	15 miles

APPENDIX "C" Maintenance Costs
(Costs determined in 2002 and not adjusted for inflation)

8' - 10' Asphalt Multi-use Trails (Snow Removal in Winter)
Approximately 11 Miles **Total Annual Cost: $50,595.60**

TOTAL ANNUAL COST PER MILE: $4,599.60

YEARLY/ONGOING COSTS		*Total Cost Per Mile: $1,942.03*
Tree trimming	$20 equipment & $100 labor/11 miles	$10.90
Sweeping	$25 equipment & $8 labor/11 miles	$32.00
Noxious weed control (contracted yearly(	$8,000/11 miles	$727.72
Snow plowing:	$232.14 equipment & $90 labor/storm @40/11 miles	$1,171.41

LONG TERM COSTS		*Total Cost Per Mile Per Year: $2,657.57*
Centerline striping	(Every 3 years: $250 total)	$7.58
Asphalt slurry seal	(Every 3 years: $4,500)	$1,500.00
Asphalt overlay (1")	(Every 15 years: $7,500) 11 miles)	$681.81
Bollards	(Every 10 years: $1,700/set) 7 sets/11 miles	$108.18
Wood pole fence	(Every 10 years: $3,000)	$300.00
Benches	1 /mile seal every 3 years; replace 5% yearly	$60.00

8' - 10' Asphalt Multi-use Trails (No snow removal in Winter)
Approximately 4 Miles **Total Annual Cost: $13,712.76**

TOTAL ANNUAL COST PER MILE: $3,428.19

YEARLY/ONGOING COSTS	*Total Cost Per Mile:*	$770.62
LONG TERM COSTS	*Total Cost Per Mile Per Year:*	*$2,657.57*

Concrete Sidewalks/trail 5' Width Average (Snow removal in Winter)
Approximately 11 miles **Total Annual Cost: $23,640.76**

TOTAL ANNUAL COST PER MILE: $2,149.16

YEARLY/ONGOING COSTS	*Total Cost Per Mile: $1,414.31*	
Tree trimming	$20.00 equipment $100.00 labor/11 miles	$10.90
Sweeping	$25.00 equipment $8.00 labor (Per Mile)	$32.00
Weed Control	Crack weed control $100.00 per mile 2 per year	$200.00
Snow plowing	$232.14 equipment & $90 labor/storm @ 40/11 miles	$1,171.41

LONG TERM COSTS	*Total Cost Per Mile Per Year $734.85*	
Centerline striping	(Every 3 years: $250 total)	$7.58
Replace Concrete Sections	(2500 sf/year @$3.2/11)	$727.27
Wood pole fence	(Every 10 years)	no service
Benches	(Every 3 years)	no service

Concrete Sidewalks/trails (No snow removal in Winter)
Approximately 12 miles **Total annual Cost: $11,733.00**

TOTAL ANNUAL COST PER MILE: $977.75

YEARLY/ONGOING COSTS	*Total Cost Per Mile:*	*$242.90*
LONG TERM COSTS	*Total Cost Per Mile Per Year:*	*$734.85*

Unpaved Trails (No snow removal in Winter)
Approximately 4 miles **Total Annual Cost: $2,360.00**

TOTAL ANNUAL COST PER MILE: $590.00

YEARLY/ONGOING COSTS *Total Cost Per*
Unpaved Trails (No snow removal in Winter)
Approximately 4 miles **Total Annual Cost: $2,360.00**

TOTAL ANNUAL COST PER MILE: $590.00

YEARLY/ONGOING COSTS	*Total Cost Per Mile: $30.00*	
Tree trimming	$20.00 equipment $100 labor/4 miles	$30.00
Sweeping		No service
Weed Control		No Service

LONG TERM COSTS	*Total Cost Per Mile Per Year $560.00*	
Re-grade/Add material	Every 10 years: $200 equip. mat. labor/yr	$200.00
Wood pole fence	(Every 10 years: $3,000)	$300.00
Benches	1/mile (seal every 3 years) replace 5% yearly	$60.00

Painted Lane in the Street
Approximately 4 miles **Total Annual Cost: $4,120.00**

TOTAL ANNUAL COST PER MILE: $1,030.00

YEARLY/ONGOING COSTS	*Total Cost Per Mile: $1,000.00*	
Sweeping		Included in budget for Streets
Re-striping	Twice/year	$1,000.00

LONG TERM COSTS	*Total Cost Per Mile Per Year: $30.00*	
Tree trimming	$20.00 equipment $100.00 labor/4	$30.00

Back-Country/Single-Track
Approximately 35 miles/92(mostly@Resorts)**Total annual Cost: $5,200.00**

LONG TERM COSTS	*Total Cost Per Mile Per Year: $148.58*	
Tree trimming	$200/year/35	$5.72
Re-grading & Misc. Maintenance	$5,000/year/35	$142.86

Trail-head parking Areas
Approximately 5: 30 spaces (10 paved) (Build-out 8: 44 spaces (30 paved)

Total Annual Current Cost: $2,068.00

YEARLY/ONGOING COSTS	*Total Cost Per Year: $1,600.00*	
Snow Removal		Not presently
Trash	Check and empty every day 1.00 each	$1,600.00
LONG TERM COSTS	*Total Cost per Space Per Year (Paved): $35.00*	
Striping	Every 3 years: 450/10	$15.00
Asphalt Slurry Seal	Every 3 years: 450/10	$15.00
Asphalt Overlay (1")	Every 15 years: 750/10	$5.00
LONG TERM COSTS	*Total Cost Per Year: $118.00*	
Kiosks	Re-stain every 3 years: $33 5%/year: $75.00	$108.00

Signs and Markers

Total $872.00

YEARLY/ONGOING COSTS		
*Carsonite markets (with decals)	(Replace 5%) 4 @ $40	$200.00
LONG-TERM COSTS		
*Wood markers (with placards)	(Replace every 15 years)	$502.00
*Wood/metel post signs	(Replace 5%) 2@$85	$170.00

*From Trails Budget

TOTAL ANNUAL MAINTENANCE COST FOR ALL TRAILS: $114,302.12

APPENDIX 'E' Work Plan

2002 - 2003 Trail Head Development and Related Elements - Projected Work Plan

I. Purpose
The City Council has placed a high priority on the development of trailheads in conjunction with the integrated trail system. The Council approved the development of trailheads as a priority component of the Trails Master Plan in January of 2001. City staff and the Parks and Rec Board, with the Snyderville Basin Trails Coordinator and Mountain Trails foundation staff are concentrating on trail head development as a regional approach to create consistency in look, postings and wayfinding information displays. This work plan is offered for discussion of recommendations, priorities, opportunities, Parks and Recreation Beautification Board review, Planning Commission review and City Council progress updates. As the plan evolves and takes shape with fiscal considerations and process approvals, sections of the plan will be formally presented to the various approval entities.

II. Plan Elements
The plan elements provide for a 2002 time line, overview of recommended and potential sites, review of recommendations and public input/neighborhood requests, prioritization of projects, zoning and land use permits, trail head parking areas and related amenities on a site specific basis, review of opportunities to acquire or lease additional space, and project funding and approval.

"Trailheads", in the most general sense, will either provide access to a particular trail or loop, with or without parking, or will provide interim rail information at logical junctions or trail segments. The signature landmark feature is a trail "kiosk". To be used throughout the Basin and the City, each kiosk includes a display sign mounted on 8x8 wood posts with an inverted V overhang roof. The 36"x48" display area, suitable for maps and other trail user information, is covered with Plexiglas. Map dispensers can be affixed to the posts. The design is reminiscent of an old rail stop and should be readily identifiable throughout the regional trail system.

Parking for trailheads will be reviewed on a site-specific basis. Priority will be extended to potential sites that can relieve problems on streets or rights of ways, e.g. staff is currently seeking approval for trailhead parking on Meadows Drive just each of the intersection with Hwy 224. A small pull-out area already serves as fishing access. It could be improved and delineated for at least 4 parking stalls adjacent to a trail kiosk. The site not only provides access to the McLeod Creek trail but is sufficiently close to the underpass to direct trail users to the Farm or Quarry Mountain thereby relieving pressure from Aspen Springs or the Hwy 224 ROW and entry corridor. The State's Division of Wildlife Resources owns the small site and have been contacted for approval of shared use. Further site detail is available below.

Trailhead parking is treated in the Land Management Code. Within the City limits, a parking area greater than 4 delineated stalls must be hard-surfaced and provide area lighting. Each site must be evaluated on its own merits given these LMC standards. The McLeod Creek trailhead while suitable for parking, would likely not be appropriate with lighting. Conversely, the old Chamber/Bureau information space on Hwy 224 (part of Richards acquisition) is ready-made for ten parking spaces, is already paved and it lit per its prior use. This site like McLeod Creek will alleviate pressure from the Farm right of way. However, it also illustrates the merits of site evaluation and the range of impacts that the scale of parking and lighting will have on an area. Some sites only require administrative approval by Planning staff. Others with zoning issues of

scale standards must be formally reviewed by the Planning Commission and the City Council may have particular interest in any given site. Given that we don't have any experience with the trailhead standards in the LMC, the Cup applications for the proposed sites should give both staff and the Planning Commission an opportunity to test the practical applications of lighting and paving on a case by case basis.

Crosswalks will need to be addressed in conjunction with some trailhead sites. In addition crosswalks are likely part of a greater discussion of traffic calming around the entire town and will be a Council policy issue currently under study by the Public Works Department. The City Engineer has requested that cross-walk locations be comprehensively identified for Park City and prioritized such that they can be evaluated by a uniform traffic study which warrants a site. In conjunction with trailheads and prior recommendations of the Parks and Rec board, cross-walks will require an official study city-wide. As part of the traffic calming study on Holiday Ranch Loop Road, the engineering firm of Fehr and Peers will study the need for a pedestrian crossing at the Snow Creek/McLeod Creek trail.

The Parks, Recreation and Beautification Board, with staff, has identified at least six trailhead locations, identified below, for which staff has entered conditional use applications for administrative approval. Those locations requiring Planning Commission approval will be forwarded by Planning staff. Four kiosks have been placed in coordination with the Basin/County - at the entrance to Round Valley near the National Abilities Center; at the Old Ranch Road trail head; at the entrance to Round Valley (the McMillian acquisition) off Round Valley Way above Park Meadows; and at Quarry Mountain where the trail diverts from highway 224.

III. Time Line

July/August 2002

A. Distribution and review of work plan for consistency with prior council approval to the Parks and Rec Board regarding the Trails Master Plan
B. Informational progress report to Council
C. Overview of Parks and Rec Board recommendations
D. Consideration of optional trailhead amenities - maps and other postings, signs, crosswalks, restrooms, water, trash receptacles, dog waste scoopers

July through October

Possible public input mechanisms
Area notices where conditional use permits are required
Community or neighborhood design review information meetings
Optional public information meetings conducted by Parks and Rec Board
Required public hearings - Planning Commission, City Council

July through October

A. Creation of concept renderings for approved projects - if necessary
B. Approval of concept renderings
C. Determination of site mitigation
D. Permit Process - internal and external
E. Production of construction document - engineering, grading, landscaping if necessary
F. Probably cost estimates or bid of approved projects
G. Determination of future maintenance costs
H. Coordination of site amenities with Parks Department
I. Bid and construction unless in-house project feasible

IV. Sites Currently Under Review - see attached site plans

Tier 1

A. Round Valley Way Trailhead - access to Round Valley above Park Meadows into the City's McMillian acquisition. Access off a city street with trailhead kiosk and parking area of eight stalls in County ROS. County does not require paving or lighting for the site. Motorized vehicle access beyond trailhead will need to be prohibited with fence or boulders.
B. McLeod Creek Trailhead with four parking stalls
C. Hwy 224 Farm Trailhead (west side between Thaynes ad Aspen Springs at old Chamber/Bureau Visitor Info kiosk) with ten parking stalls
D. The Cove/Rossman Traihead with four parallel parking stalls

Tier 2 - to be reviewed in next round

A. Daly Canyon Trailhead - with UPCM approval?
B. PCMR Spiro Trailhead - with PCMR approval?
C. The Farm Trailhead - where trails crosses the Farm Access Road
D. Prospect Ridge Trailhead - above Hillside Avenue

V. Proposed Site Evaluation Criteria

To be determined by subcommittee

APPENDIX "E" Park City Parks, Recreation and Beautification Advisory Board

Date: October 18, 2000
Authors: Kris Beer, Peter Tomai, Brigitta Wray
Title: Report of the Trails Sub-Committee of the Parks, Recreation and Beautification Advisory Board
Type of Item: Information and Policy Recommendations

Statement of Purpose: The Park City Parks, Recreation, and Beautification Advisory Board recognized the importance of trails to the residents and visitors of Park City and Summit County. In an effort to achieve the objectives of both the Trails Master Plan and the Recreation Facilities Mater Plan, we submit this report, which addresses issues and concerns and outlines possible solutions for developing a more Trail-Friendly Town.

Summary Recommendations: The Park City Parks, Recreation, and Beautification Advisory Board commends the City Council for their continual commitment to the importance of trails to the Park City community as evidenced in the Trails Master Plan (1992) and the Recreation Facilities Master Plan (2000). The proposed recommendations offer another opportunity to demonstrate and fulfill this commitment. Competitive resort communities have recognized that comprehensive, area wide trail systems are both a vital community asset and a viable benefit to tourism. As such, trails initiatives warrant the support and cooperation of all applicable departments, commissions and boards.

This report includes the following recommendations:

- Secure trailheads to include adequate space for parking
- Inventory and preserve existing trail easements
- Create new access to trails, especially through developing neighborhoods and projects and to outlying and interconnecting trails
- Ensure safe trail crossings with signage, striping, and traffic calming measures
- Provide clear signage for routes through residential and commercial areas including consistent trail markers and way-finding informational signage (both access and on-trail signs and symbols)
- Complete a system of "loop" and/or perimeter trails for transportation in and around the Park City area
- Combine the resources of Park City, Snyderville Basin Recreation, Summit and Wasatch Counties, the resorts, and Mountain Trails foundation, where appropriate for trail advocacy, planning, building, maintenance and grant funding

Background

The Survey data that provides the basis for the findings and recommendations of the Recreation Facilities Master Plan focused on trails and open space, placing them at the top of the respondents' priorities for recreation in the community. Not only important for local use, trails also offer tourists recreation and transportation options in an unfamiliar area. The popularity and growth of trail use throughout the area clearly indicates the value placed on trails. Statistics from the Chamber's Visitor Centers, resorts, shops, and lodging point toward the conclusion that as a community, we must take action to ensure that we continue to provide positive, fun, and interesting trail experiences for our growing community and tourist base. Over 70% of the visitors to the tourist information center inquire about hiking and biking trails. The majority of customers at local bike and sport shops also request trail information and recommendations, especially if they are renting equipment. Feedback from visitors at both the information centers and local shops is for the most part, positive. However, comments indicate that people have trouble finding trails, trailheads, and parking. Many visitor families also request low or intermediate level trails that are easy to find, scenic, and either loop or connect to other similar

level trails.
The Findings/Conclusions section of the Parks, Recreation and Beautification Board Customer Survey, which was conducted in 1998 and which provided data for the 2000 Park City Recreation Facilities Master Plan states that Park City residents are heavy users of trails for hiking, mountain biking, cross country, and equestrian purposes. It also states that residents want to see more resources devoted to providing additional trail, in fact over 27% of the total dollar allocation, an amount that exceeds even open space funding. The findings state clearly that the 'PRBB should int3ensify its efforts at coordinating trails systems with Summit County and to fast-track efforts to provide trails on the farm property…"
The **Action Plan of Park City's Recreation Facilities Master Plan** refers to the strong interest in trails with the following action items:

- Continue to implement the existing Trails Master Plan and complete the currently approved trail projects in Park City Municipal Corporation
- Continue to coordinate with the Basin's trail development efforts.

Specifically, the **Recommendations** section includes the following:

- Maintain strong, positive relationships with the Snyderville Basin Recreation District and the Park City School District
- Take a regional approach to the development of large-scale recreational amenities, such as ice skating facilities or golf courses, and share costs with other agencies

Based on the above general support, these **Recommendations** of the **Parks, Recreation and Beautification Board** focus on the following:

1. **Trailheads: secure trailheads to include adequate space for parking.** This recommendation places high priority on the construction of trailheads with amenities such as parking with proper drainage, directional signage, vehicle barriers, and restrooms. The Trails Subcommittee has determined that three primary parking options include onsite onstreet, onsite offstreet, and remove parking with nearby access to trailheads. A policy decision by the City Council (with approval by the Park City Planning Commission and other entities as deemed appropriate) will determine which of three options for parking is advisable for each trailhead.
   In addition, trailhead decisions may require coordination between neighborhoods, integrating the needs of property owners, existing easements, local and state regulations, and the impacts of design and safety on accessibility.
   The PRBB recommends that specific trailhead within the city be given priority. These include:
   2. East side of Highway 224 past meadows drive near the lean-to and north to the McLeod Creek Trail. An adequate onsite offstreet parking area is already available and is currently being used for parking although it is not an official trailhead. We recommend that the city and UDOT consider making it official by posting Trailhead Parking and No parking signs where deemed appropriate. With minimal improvements, this area could be a temporary solution providing maximum benefits to trail users.
   2. Round Valley access from Hwy 248. The increasing use of this trailhead to safely access the Round Valley trails and the underpass to the Rail Trail require both graded offstreet parking and signage that designated direction to available trails.
   2. Other trailheads to evaluate for improvements include Iron Canyon, the Rail Trail at the Chatham Crossing access, and Deer Valley area.

2. **Easements: Inventory and preserve existing trail easements.** The Trails Master Plan, 1992, is a source of information about easements, existing trails, and future planning. However, some of the details are outdated and do not address the

development of new neighborhoods, particularly in Park Meadows, Thaynes and Iron Canyons, Aspen Springs, and parts of Deer Valley. To ensure future trail connectivity, it is important to note that without continual vigilance and maintenance, we may lose essential trail easements. Neighbors, developers, and fences can quietly obliterate a trail is no one is paying attention. The PRBB requests that the City Council authorizes the appropriate city offices to investigate if encroachment has occurred on any planned trails and to take corrective action.

3. **Access: Create new access to trails, especially through developing neighborhoods and projects and to outlying and interconnecting trails.** The Trails Master Plan addresses trails within the city limits, and in those areas, protecting or creating access should continue to be a critical course of action. However, with the current focus on regional planning and the efforts to develop a system of trails throughout the area, we need to turn our attention to how the City Council and the Parks and Recreation Board should position themselves with regard to these efforts. Because area trails are bound not by jurisdictional but by geographical limitations, the Trails Subcommittee supports the creation of a regional trails advisory group, which could help to plan and coordinate trail efforts by each specific jurisdiction.
4. **Safe Crossings: Ensure safe trail crossings with signage, striping, and traffic-calming measures.** Integral to trail access are safe trail crossings. With the number of trail projects under construction or proposed, comprehensive plans must include a design for safe crossings. The completion of the trail should coincide with the completion of the crossing. For example, if a new trail starts or ends on a busy street or intersection, but no safe crossing is constructed at the same time, the trail should not be available for use until the crossing is also completed. Safe crossings could include any or all of the following: on street and on trail signage, street or shoulder striping (with or without symbols), traffic-calming devices such as speed bumps, planters or warning lights.
5. **Signage: Provide clear signage for routes through residential and commercial areas (both access and on-trail signs and symbols).** Signs are currently being constructed and installed throughout the city in accordance with the Trails Sign Plan. In the past, signage has represented one of the major criticisms from both local and tourist trail users. For maximum benefit, clear signage must be strategically located at trailheads and on the trails themselves. Also helpful are signs that are consistent in form and appearance. The city and local trails organizations have worked to place and maintain good signage through the city that shows connections to county and regional trails. Whether onstreet striping and symbols or signs designating trail pathways, clear directions are essential to encourage the use of trails for recreation and for transportation to and through residential and commercial neighborhoods. Signs should be large enough to be seen from a reasonable distance. They should be consistent in design to foster quick recognition. They should include text and symbols indicating trail name, approved use or restrictions, links with directions to other trails, and any special information about the trail relevant to users' safety and/or enjoyment. Signs should correspond in both text and symbol to area trail maps that are available through the Visitor Information Center, sporting goods shops, lodging, the Chamber of Commerce, etc.
6. **Contiguous/Continuous Connections: Complete a system of "loop" and/or perimeter trails for transportation in and around the Park City area.** Identify and acquire additional trail segments necessary or desirable to connect to existing trails. The Park City Trails Master Plan as well as the Mountain Trails Foundation and Snyderville Basin Trails plans focus on the interconnectivity of area trails and trail systems. Many existing trails do not "go" anywhere, or are not useful a transportation links. Although we

are a mountain resort community, many of our visitors prefer road biking to mountain biking and roller blading/roller skiing to hiking. We do not provide a trail system that is conducive to either transportation or road riding conditions. The highly visible corridor trails, such as Hwy 224, appear to be *real* alternative transportation, but they may end abruptly. Because the cause for some of the broken links lies with area development projects. We need to continue to encourage developers to complete their trail commitment in a timely manner. Another connectivity issue deals with trails that begin as paved surface and turn into composite or dirt surface. The Rail Trail, for example, is highly used for walking, running, biking, and cross country skiing. Although the Trail is easily accessible to many residential neighborhoods and therefore is also a common transportation option, the section from Bonanza Avenue to the trailhead kiosk remains unpaved.

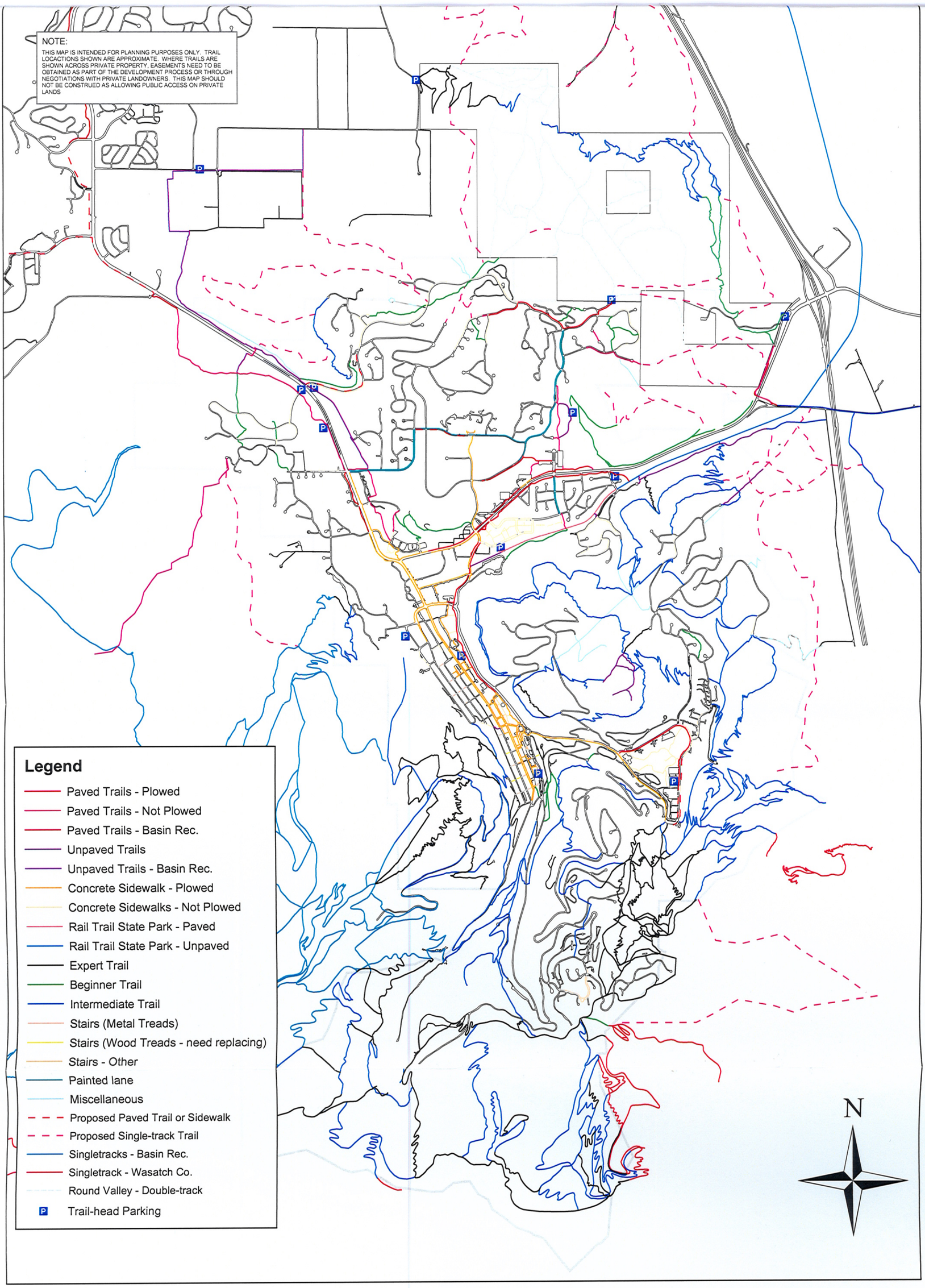
7. **Regional Alliance: Combine the resources of Summit and Wasatch Counties, Snyderville Basin Recreation District, Jordanelle Special Services District, Mountain Trails Foundation, Park City, the resorts and other are communities.** Trail advocates from the entire Wasatch Back area would be able to initiate a more systematic strategy for what will someday become a system of interconnected trails that does not follow city or county lines. This regional alliance of resources, with the support and cooperation of all applicable departments, commissions and boards, could carry out recommended trails initiatives more effectively with available funds throughout the region. A regional alliance might also provide a public forum to communicate trails issues, answer questions, and provide updates on trail development. Along with the ongoing communication strategies implemented by City Council and other area organizations, this type of proactive discussion could foster greater community understanding and support of trails initiatives One example of where public understanding may currently be inadequate is with the whole funding process. Knowledge of how funding works could perhaps mitigate much of the impatience and frustration about the progress of trail building and improvement. The PRBB recognizes the benefits to be gained from a regional trails organization and offers its assistance to organize and create such an alliance.

Suggested specific initiatives warranting immediate attention:

- Inventory existing trails, trail easements, and trailheads to provide an up-to-date baseline from which to determine priorities. As an additional benefit, an inventory would furnish current trail information to the Mountain Trails Foundation for the publication of the 2001 regional trail map.
- Interface with UDOT to determine the feasibility of using the east side of Hwy 224 for temporary trailhead parking to serve the McLeod Creek and Millennium Farm trails.
- Open the Hwy 224 underpass using signage to encourage its use for the safe crossing of 224 and access through the McPolin farm to the Millennium Farm trail.
- Grade and utilize the former sewer treatment location as temporary off-street trailhead parking.
- Identify bike lanes with clear and consistent striping, and, as the streets are repaved or striped, with additional pavement on surface streets paying particular attention to safe direction of travel.
- Continue to augment existing trail marking using inexpensive, readily available, and easily installed/modified Forest Service standard markers.
- Implement pilot trail crossing/traffic-calming methods possible using portable planters and striping.
- Initiate dialogue with the ski resorts to cooperate on use of resort parking and placement of directory signage and maps to area-wide trail resources.

Conclusion

The above short term actions, none of which requires significant capital outlays, would significantly benefit the use, safety, and accessibility of existing Park City trails. Longer term, we would encourage Council to consider the implications of all Council and City actions on trails and to consider the ongoing resource needs of a comprehensive trail system. At some point, discussion may address the possibility of producing a revised Trails Master Plan, or an addendum to the existing plan, which would build on and incorporate recent changes in growth and development. Support for the regional trails task force will facilitate the identification and prioritization of specific new trails projects along with recommendations for the appropriation of specific resources. With additional focus and attention on trails and trails issues, Park City can further differentiate itself as a trail-friendly community and create a community asset that further improves the quality of life and livability of our area.



Trails Master Plan

0 0.25 0.5 1 1.5 2 2.5

Miles