Appendix J – Trail Guidelines

APPENDIX - J

TRAILS CLASSIFICATION AND DESIGN STANDARDS

The demand for trails has been substantiated through the public and staff input process. Surveys across the country consistently show that trails are among the highest-ranking recreational features desired by the public, and that trails are one of the most highly-used recreational facilities provided by municipalities. Even in communities without a trail system walking, jogging, and bicycling consistently score among the highest of all recreational activities engaged in by residents.

KEY ISSUES

Connectivity - The goal is to create a system of connected trails that link to open space, parks, schools, and other community features.

Environmental Sensitivity – Trail development should occur in a way that provides access and connectivity to open space areas without undue disturbance or impact to wildlife habitat and plant species.

Education – The trail system should maximize opportunities to inform the public about the natural and cultural heritage of Salida, by exposing people to the natural and agricultural lands within the area and providing interpretive experiences. The historic relevance of mining and extraction to the development of the region could also be a part of this educational program.

TRAIL CLASSIFICATIONS

A variety of trail types and configurations are recommended. Together, these make up an overall system to meet the needs of users. The system is hierarchical, consisting of **Primary Trails** that have an emphasis on enjoyment of the recreational experience of traveling by foot or wheel. When combined with drainage-ways, open space, or other amenities, these become **Greenways**. The emphasis for **Secondary Trails** is to connect the Primary trails to homes and other destinations. **Primitive Trails** are recommended for rural areas with lower frequency of use.

Trail Network Design Recommendations

Trail networks can be constructed of a connected network of Primary Trails and Greenways at an approximate spacing of every ½ mile across the city. Utilize drainage ways and other off-street corridors where possible. Utilize rights-of-way for arterial streets when this is not possible.

The backbone of the trails system is the Primary Trail. Primary trails should follow routes along drainages, ditches, ridges, or other features with scenic or recreational value whenever possible. They may also parallel arterial or other streets if properly designed to provide an enjoyable recreational experience. The user expects to find a variety of views, landscapes, and amenities along the way, and ideally expects to travel a circuit and return to his starting point without having to backtrack. A choice of lengths and circuits is desirable.

To accommodate a variety of users, the ideal primary trail should offer both hard and soft surfaces. It should be wide enough to accommodate the expected amount of traffic in both directions, and should provide separation between potentially conflicting uses where needed.

Primary Trails should be 10' wide in most cases, although a combined 8' hard-paved trail with an attached 3' crusher fines trail is an alternative that is sometimes preferred by runners and others who like having a choice of surfaces along the route. The crusher fines offer a refuge from faster traffic on the paved surface. Trail alignments should follow AASHTO standards for multi-use trails. Because Primary trails are intended to be multi-use paths, they should also meet all requirements of the Americans with Disabilities Act. This would not apply if the trail was intended for bicycle use only. In such case the AASHTO standards for gradients would apply.

Although greenways enhance and augment the City's transportation system, encouraging the use of alternative modes of travel, the primary intent of the greenway system is to provide opportunities for recreation. Greenway paths should be designed to offer pleasant recreational experiences for trail users, including views of the rivers and streams, and access to natural and open space areas. They should also provide pleasant connections for traveling to and from schools, parks, and other destinations.

The greenway paths are supplemented with proposed multi-use paths along new thoroughfares. These paths would be constructed parallel to the thoroughfare, either within the street right-of-way or along an adjacent street. Like the greenway paths, they should be planned and designed to meet AASHTO standards1. The typical cross-section for an arterial street includes a 6-foot detached walk separated from the street by a typical 5-foot wide landscape strip. The total area between the curb and the edge of the Right-of-Way is 19 feet. This is adequate in most situations to accommodate a primary trail that will fit the design criteria described below in the section on Trail Development Standards. The primary trail could be constructed along one side of the street with a normal sidewalk on the other side.

Minor Arterials are suitable for lower-use primary trails. The cross-section of these streets has an area that is 18 feet wide from curb to edge of R.O.W. Contained within this is a 6-foot wide path located typically 5 feet away from the curb. This walk can serve as a suitable secondary trail. If widened to match the design criteria described below, the walk would serve as a primary trail.

Major Collectors have a 5 foot wide walk as well, located 5 feet away from the curb, with a total width of 15' from back of curb to R.O.W. line. This makes it suitable for serving as a secondary path, as described below, or just barely wide enough for a primary trail in some situations. Minor Collectors are similar, but their walk is 5 feet wide and adjacent to the curb. There is an additional 7' from the back of the walk to the R.O.W. line, for a total width

[1] See AASHTO Guide for the Development of Bicycle Facilities, 1999, pages 33 – 35 for a discussion of shared-use paths in relation to other bicycle transportation facilities)

of 12'. This is too narrow for a primary trail, but if the walk is widened to 6 feet it can serve as a suitable secondary path.

In planning for new street extensions that will have primary and secondary paths along them, driveway cuts and other crossings should be minimized along the path. The paths can be designed to offer pleasant recreational experiences by maximizing the separation from the street and through proper landscaping of the ROW. Together, the greenway paths and the thoroughfare paths combine to create a series of interconnected loops, offering recreation enthusiasts a wide choice of routes and distances for recreational trips.

Provide Secondary Connections to Primary Trails and Greenways.

Secondary trails provide connections from homes, businesses, and public places to the primary trails. Secondary connections need to be designed into all new developments, and their location and form will depend upon specific conditions on a case-by-case basis. A connection by way of secondary trails to the primary trail system should be provided throughout all new developments. These should be off-street multi-use paths, with a minimum width of 6 feet and paving of concrete, asphalt, or crusher fines. Sidewalks can serve as secondary trails if wide enough and if designed to minimize conflicts with streets and driveways.

In certain sections of the community low-traffic streets or existing sidewalks might serve as secondary connections to the primary trails. While not meeting AASHTO standards for bike trails, these can provide safe access for pedestrians and others to the multi-use primary trails. Such routes should not be signed or marked as bike paths, however, unless they are safe for such use according to AASHTO standards. Streets adjacent to these routes may be marked with signage to warn motorists to watch for people using the route.

ANCILLARY FEATURES AND COMPONENTS

In addition to the trails, facilities should be provided that enhance the safety and enjoyment of the trail system.

Provide Trailheads at Appropriate Locations

Trailheads are the interface between Primary Trails and the city's transportation system. Trailheads should be provided at points where several primary routes converge, and in places where easy access from arterial streets to a parking area can be created. An adequate number of parking spaces should be provided to serve the projected use of the trailhead. Other features that can be provided include an information kiosk with a trails map posted on it, and trash receptacles. Benches and shade should also be provided. All of these features should be selected for consistency of materials, colors, and form.

Additional locations for trailheads should be identified as development proceeds in the remaining portions of the City.

Provide Waysides at Appropriate Locations
Waysides are places along trails where travelers can stop to enjoy the shade or a pleasant view, or to read an interpretive sign. Waysides should be provided at places that offer these characteristics, or at least every ½ mile along the trail. Benches and/or picnic tables should be provided at waysides. Parks or other features along the trail can serve as waysides if properly designed and connected to the trail.

Implement an Effective and Consistent System of Signage
All trails within the system should be marked with consistent signage to identify the trail, help users find their way along the trail, and provide regulatory information on allowable uses, trail courtesy, etc. Other types of signs include identification signs for trailheads and interpretive signs. All signs should be consistent in their materials, colors, and graphics. The City's logo should be included on all signs to clearly identify the trails as part of the City's trail system.

TRAIL DEVELOPMENT STANDARDS

Routes and locations for trails are discussed in Item 1. This section discusses standards for developing the trail surfaces and other features.
A. Provide appropriate surfacing and dimensions for each type of trail constructed. Meet the requirements of the American Association of State Highway and Transportation Officials (AASHTO), the Americans with Disabilities Act (ADA) and other applicable codes.

Primary Trails

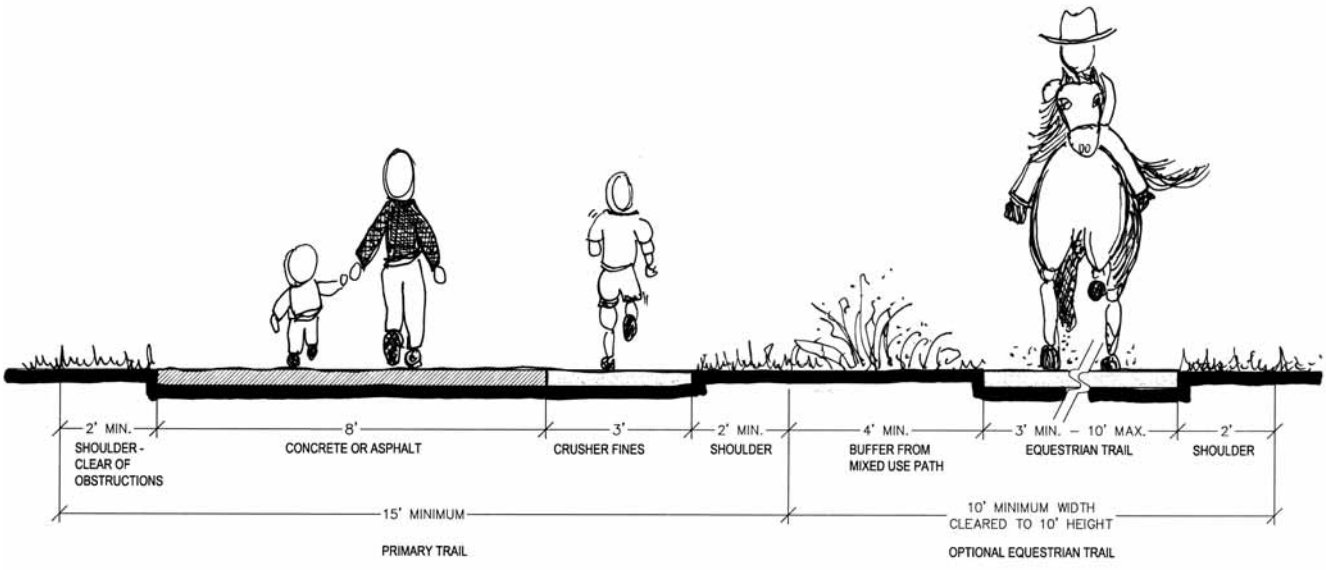

Figure 11: Primary Trail – High Use

An ideal trail cross-section is shown in **Figure 1: Primary Trail – High Use**. It includes an 8-foot wide section of paved (preferably concrete) surface suitable for wheeled vehicles including strollers, bikes, and skates. An attached 3-foot soft surface of crusher fines provides a place for runners and pedestrians who want to stay out of the path of faster-moving cyclists or skater/bladers. A two-foot shoulder on the other side, kept clear of obstructions, provides a safety zone. All shoulders should have a maximum 1:6 slope. Wider shoulders of 3 feet or more are recommended to provide clearance from trees, poles, walls, fences, guardrails or other lateral obstructions. Where the path is next to a steep (1:3 or more) drop-off, a 5-foot separation between the path and the top of the embankment is recommended.2 The slopes across the travel surface of the path should not exceed 2%. Along the direction of travel, slopes should not exceed 5% in order to meet the requirements of the Americans with Disabilities Act (ADA).

An optional equestrian trail, separated by a four-foot buffer, allows horseback riders to use the corridor as well. The equestrian trail should be a minimum of 3' wide and up to 8' or even 10' wide if significant horseback traffic is expected. Regardless of the surface width, the equestrian route should provide a space free of obstructions that is at least 10' wide and 10' high. This will allow riders to pass safely in opposite directions.

An alternative to the 8'+3' main cross-section described above is shown in **Figure 2**: Alternative Primary Trail. It consists of a single 10'foot width or wider paved trail with 2' shoulders on either side. This is useful when a high volume of bikes and other wheeled travelers is expected, or when the trail needs to accommodate service vehicles. In such a case, a 3' wide soft trail adjacent to one side is still recommended if possible. In areas of lower expected use, the entire trail surface may be paved with crusher fines instead of concrete or asphalt.

[2] AASHTO, pg 36.

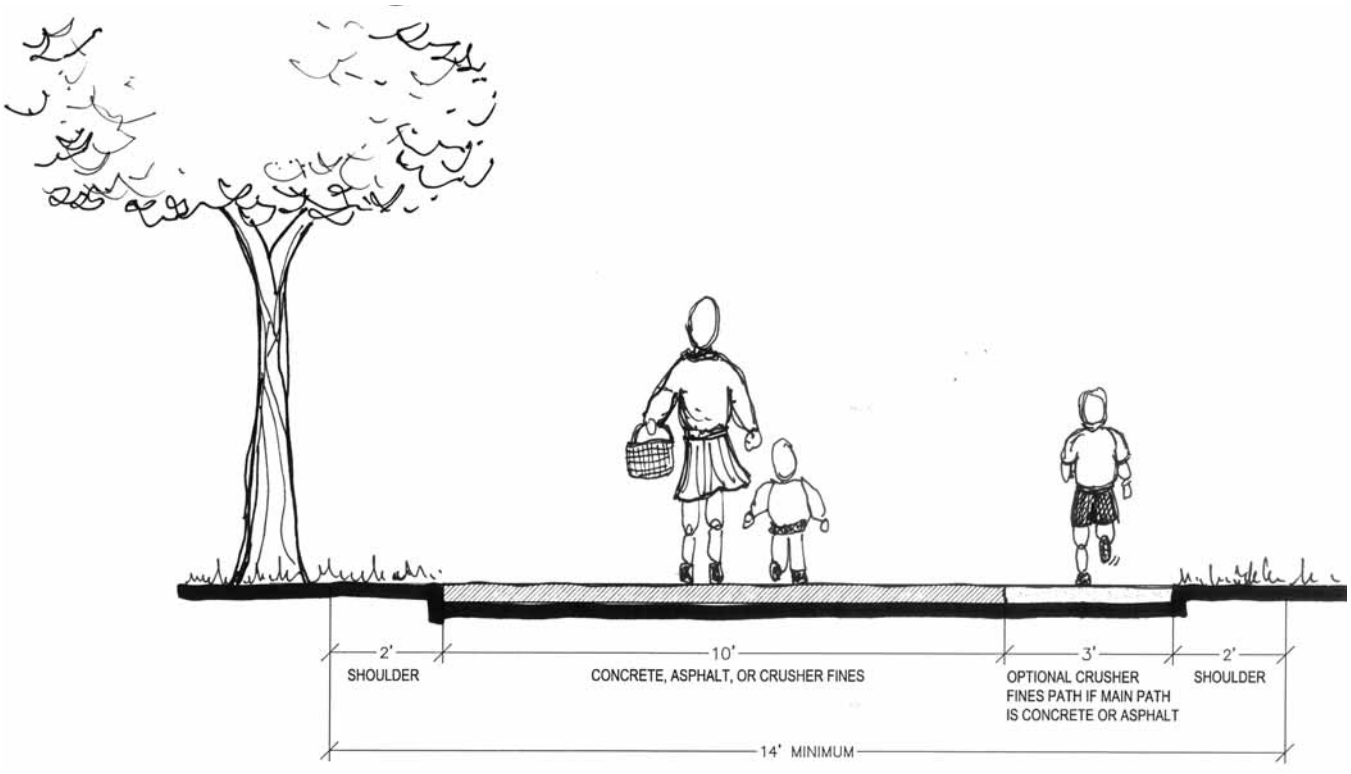

Figure 12: Alternative Primary Trail

Because of the rapid rate of growth in the city and current demand for additional trails and connectivity, it is recommended that surfacing requirements be flexible to allow for as many miles of trail to be set aside as possible. Providing a longer trail surfaced across its full width with crusher fines is likely to be preferable to a shorter concrete one if budget constraints are equal in either case. Trail surfaces can be improved at a later date, but acquiring adequate land for a trail might be impossible once the surrounding area is developed.

The trail configurations described above dictate a minimum of 15 feet and up to 25 feet of horizontal space needed to fit the trail's cross-section. Additional space will be needed to allow for the trail to be graded and to meet existing grades at the corridor's edge, and to fit around existing trees or other obstructions. The amount of additional space needed will increase with the steepness of the terrain and the density of existing vegetation or other obstructions. Providing adequate separation from roadways and other adjacent hazards may also dictate a wider corridor. Space for directional signs, trailside benches, and other amenities should also be taken into account.

A minimum corridor width of 25 feet is recommended in order to account for the variables listed above, and a corridor width of at least 40 feet is recommended whenever possible. This corridor can be an easement or right-of-way, but the entire corridor width must be available for trail purposes.

Primary trails should be designed to minimize crossings with streets, driveways, and other hazards. Grade separated crossings are recommended whenever possible, and on-grade

crossings should be clearly marked with caution signs for motorists and crosswalks on the street that is to be crossed, and stop signs on the trail where it crosses a street. Locating on-grade crossings at intersections, especially signalized ones, is preferred to mid-block crossings unless a pedestrian signal or other accommodations can be made.

Secondary Trails

Secondary trails are ones that connect from residences, schools, and other locations to the primary trail. The width and surface of these can vary according to the expected type and amount of traffic. At a minimum, these trails should meet the requirements of the Americans with Disabilities Act. In some cases, secondary trails will need to meet the same standards for width and surface as the primary trail to which they connect. All new developments should be required to provide adequate secondary trails across their property to connect to any primary trails within ¼ mile of any given point within the development. In most cases this can be accomplished on sidewalks or similar paths, although in high-use locations a wider multi-use trail with a configuration similar to the Primary Trails described above may be required.

Primitive Trails

Primitive trails should also be a part of the recreational trail system. These are appropriate within open space lands or other situations where traffic is low or the goal is to provide a more natural experience. The cross-section for this type of trail is shown in **Figure 3 – Primitive Trail**. It consists of native soil or crusher fines, with improvements made for trail stabilization and erosion control. This can include water bars, culverts, steps, or other elements.

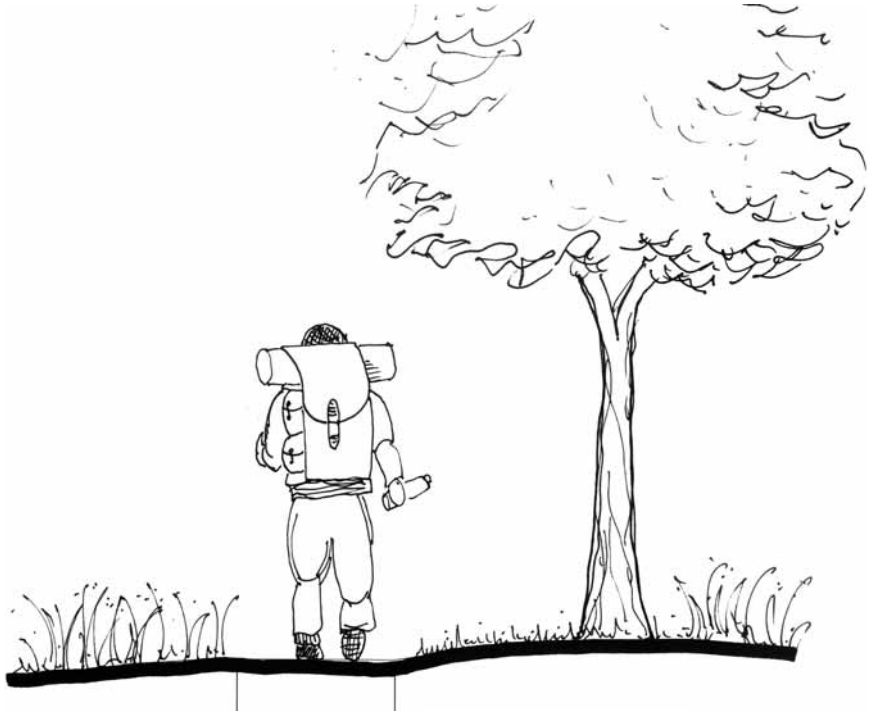

Figure 13: Primitive Trail

While not required in all cases, at least some primitive trails should be designed with slopes and surfacing to allow for use by wheelchair occupants who desire and are able to handle a challenge that is beyond the standards of ADA, yet not beyond the capabilities of an athletic wheelchair operator. Like the rest of the population, people with disabilities differ in their stamina and capability to tackle challenging routes. For this reason, consideration should be given to creating a rating system for primitive trails that would be similar to that used for ski slopes, which would rate the degree of difficulty for various trail segments. This would allow all people, disabled or otherwise, to determine if a particular primitive trail route is suitable for them.

Trailheads

Trailheads should occur where roads intersect primary trails and a suitable pull-out or curb cut can be attained, especially in rural areas. Safe entry and exit for cars is a primary concern. Some trailheads may consist of little more than a safe parking space or two, with appropriate signage. In some locations greater use may be expected, and additional improvements such as trash bins and toilets may be necessary. Portable toilets in a permanent enclosure work well in this situation. Permanent structures of any type should be of a character and quality that fits with the overall character of the park system and will meet the maintenance requirements of the City.

Signage

Signage serves a variety of functions for the trail system, and a variety of signs are needed to address these functions. Suggested configurations for these signs are shown in **Figures 4 through 7.**

Trail Marker Signs

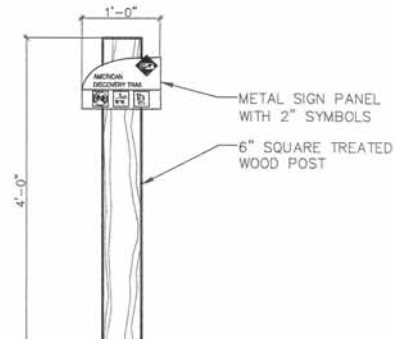

Figure 14: Trail Marker

Trail marker signs are needed to identify trails as part of an overall trail system. These signs should provide the City's logo along with the name of the trail segment along which they are placed. These signs should be located at all trail intersections and at regular intervals of every ½ mile along the trail.

Trailhead Signs

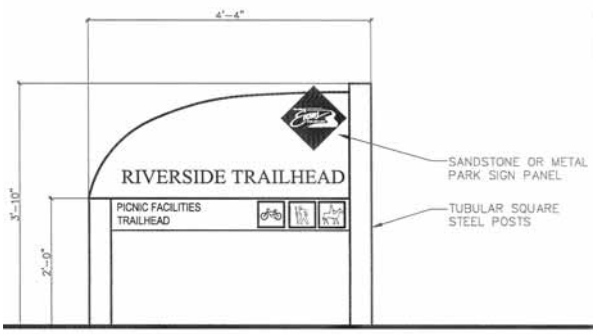

Figure 15: Trailhead

Trailheads should be identified with signs visible from the adjacent road. Such signs should be tall enough to stand above mature native vegetation in natural areas. They should include the trailhead name and City logo. If other entities are involved as partners in the provision of a trail or trailhead, their logo should be included on the trailhead sign.

Information Kiosks / Regulatory Signs

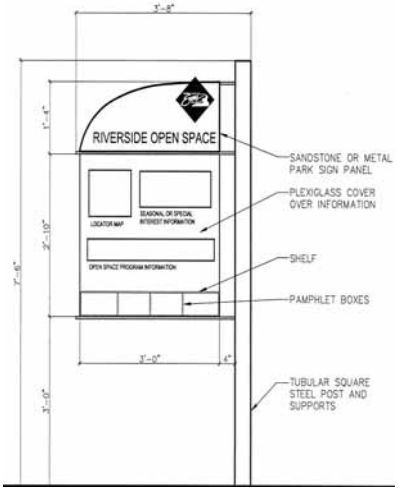

Figure 16: Regulatory Sign

Information kiosks may be used to accommodate maps, seasonal information, rules and regulations, or other information. Kiosks should have a shadow-box design and protective covering for printed materials. Pamphlet boxes for trails maps or other handouts may also be included.

Open Space Boundary Signs

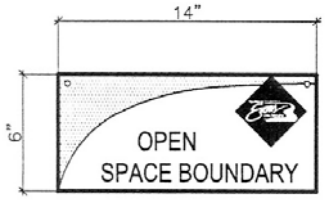

Figure 17: Open Space Boundary

In addition to trail signage, boundary signs are needed to identify lands belonging to the Open Space System. Information on the sign should include a statement indicating that the property belongs to the public and is part of the open space system. In some cases, land may be part of the system but not open to the public. For example, protected wildlife preserves, conservation easements, or agricultural lands may be protected as open space yet under private ownership or closed to the public for some other reason. In such cases, the boundary sign should identify the land as part of the open space system and state the land's status. Reference should be made on the sign to the ordinance or statute that prevents public access.

Interpretive Signs

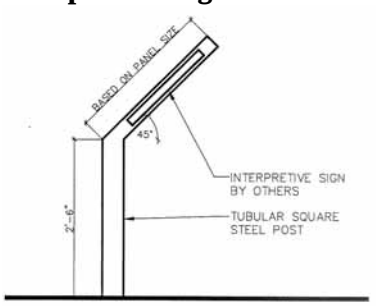

Figure 18: Interpretive

Signs will be needed to inform and educate the public about the natural and cultural history of the region and specific features along the trail. These signs need to be suitable for more detailed graphics such as photographs and illustrations, but also need to fit the design character and theme of the rest of the system signs.