

Virginia's State Trails

January 2017



Sign Plan

Acknowledgments

This document is presented by the Virginia State Trails Advisory Committee to provide guidance to trail partners seeking to advance Virginia's Statewide Trails

The Department of Conservation and Recreation would like to thank the following individuals who participated in the review of this document.

- Rick Burgess, VDOT Directional and Service Signing Program, Traffic Engineering Division
- Marc Lipschultz, VDOT Regulatory Signing Program, Traffic Engineering Division
- Albert Bryant, VDOT Landscape Architecture Section
- Bruce Drees, Tidewater Bicycle Association
- Forrest Atwood, DCR State Parks Division

This document uses imagery from the Manual on Uniform Traffic Control Devices (MUTCD) and the Pedestrian Bicycle Information Center (PBIC)

This document uses text and imagery from these resources provided by the National Park Service:

- Potomac Heritage National Scenic Trail route marking & graphic identity guide*
- Planning a Trailhead Kiosk*, developed for Appalachian Trail member clubs.
- Interpretive Planning Toolkit* by Star-Spangled Banner National Historic Trail staff

This document uses text and imagery from these state resources:

- Virginia State Park Sign Manual*
- The Great Allegheny Passage Graphic Identity & Sign Guidelines Manual*
- Trails Technical Document #2: Trail Signage Guidelines for the New York State Park System*
- Pennsylvania Trail Design & Development Principles: Guidelines for Sustainable, Non-motorized Trails*

Other sources include

- New Zealand Cycle Tracks*
- Universal Signage Recommendation, NASBLA Paddlesports Committee*

EXECUTIVE SUMMARY



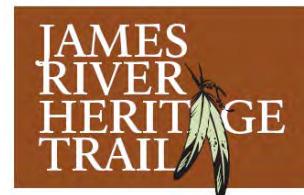
As momentum grows for Virginia's statewide system of trails, guidance for signing these routes is needed to encourage safe and seamless transitions. Trails that cross jurisdictions, pass through urban areas into the countryside and weave on and off-road must give travelers confidence in the network and make them want to come back.

This guide recognizes that resources are scarce, and that low-cost solutions are effective when well-planned and maintained. Rather than insisting on a suite of sign templates, this guide offers a *logo sign*, *bicycle route sign* and *thumbnail map* of each trail that local and regional partners can adapt to their own sign systems. For those who would like more guidance, particularly on sections of trail with shared identity, case studies are provided from the Potomac Heritage Trail.

Virginia's statewide network is made up of scenic, recreational and connecting trails. As the trunkline network is implemented, it may be necessary to update this guide with more specific information on connecting trails, how they are designated and whether a specific sign template is warranted.

Regulatory and warning signs on bikeways should adhere to the Manual on Uniform Traffic Control Devices (MUTCD), whether or not they are in road right-of-way. Samples of these signs and many others are included in this document for reference.

These guidelines, proposed by the statewide trails advisory committee, will become part of the 2018 Virginia Outdoors Plan.



East Coast



NETWORK GOALS

- ◆ Trail signs should include a clear statement of ownership and management of each trail
- ◆ Trail signs and information materials should be readily available in order to give users the impression of a coherent, unified trail system, thus providing continuity of experience.
- ◆ Guidelines provide a menu of options for partners that are easy and affordable to implement.
- ◆ The guidelines suggest a family of signs for each statewide trail composed of a limited range of images, materials, and colors intended to reduce complexity and clutter in the Trail corridor, to establish a clear identity and continuity of experience, and to account for the existing design guidelines of partner agencies and organizations.
- ◆ Guidelines are designed to complement a range of interpretive media. Elements of the guidelines should be applied to other future media including Web pages, cell phone and tablet applications, brochures, maps, guides and more.
- ◆ Guidelines incorporate best practices pertaining to accessibility. Guidance from the Architectural Barriers Act (ABA) and the Americans with Disabilities Act (ADA) has been used to develop this document.
- ◆ With many trail segments sharing roadways, guidance adheres to state and federal Department of Transportation standards.

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CHAPTER 1

THE

STATE TRAIL

EXPERIENCE

INTRODUCTION

Virginia's State Trails are a developing network of non-motorized trails that stretch across the state and connect the Eastern Seaboard.

State trail designation implies a standard of quality and a trail experience a notch above the rest. Beyond a well-maintained, stable surface, users on state trails will have expectations for consistent and well-placed signage, electronic and hard-copy navigation aids, and smooth transitions between connecting trails and on and off-road sections.

State trails are made up of many segments managed by others who work collaboratively to minimize user conflicts, maintain a firm and stable trail surface, and control vegetation and litter. Since trails are often free, all trail users share responsibility for trail upkeep.

Trail users also give back by supporting businesses in the communities they visit. State trails help connect residential and commercial areas to support local economies and encourage walking, horse-back riding and biking for short trips as well as long sojourns. Community members that strive to serve trail users well help businesses succeed and enrich their own lives by promoting what is essentially public health infrastructure.



DID YOU KNOW?

The Manual on Uniform Traffic Control Devices (MUTCD), written by the Federal Highway Administration is the national standard for all traffic control devices installed on any street, highway, or bicycle trail open to public travel? In accordance with 23 U.S.C. 109(d) and 402(a), the MUTCD defines a bikeway as a generic term for any road, street, path, or way that in some manner is specifically designated for bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

PURPOSE AND GOALS

These guidelines are a “toolkit” for trail segment managers, intended to foster continuity between and among various segments of the State Trail network by establishing a consistent identity for the network through a set of clear, concise, and flexible tools. Consistency allows users to plan and execute travel with a high level of confidence. In addition, clear, consistent, and recognizable graphics will help develop and maintain an identity for the network and associated experiences among users, partner agencies and organizations. This established identity will encourage advocacy and promotion, and serve visitors both near and far.

These guidelines do not apply to water trails or to thematic driving trails like the Civil War Trails or the Crooked Road Heritage Music Trail. They also do not substitute for any standards required by local, state or federal codes.

Throughout this document, guidance that applies to shared-use paths and roadways is highlighted in yellow.

The guidelines outlined in this document can be applied in a variety of trail contexts. The guidelines respect the need for segment managers to retain institutional identities and address organizational needs and goals. The following goals guided the creation of these guidelines:

- ◆ Trail signs should include a clear statement of ownership and management of each trail
- ◆ Trail signs and information materials should be readily available in order to give users the impression of a coherent, unified trail system, thus providing continuity of experience.
- ◆ Guidelines provide a menu of options for partners that are easy and affordable to implement.
- ◆ The guidelines suggest a family of signs for each statewide trail composed of a limited range of images, materials, and colors intended to reduce complexity and clutter in the Trail corridor, to establish a clear identity and continuity of experience, and to account for the existing design guidelines of partner agencies and organizations.
- ◆ Guidelines are designed to complement a range of interpretive media. Elements of the guidelines should be applied to other future media including Web pages, cell phone and tablet applications, brochures, maps, guides and more.
- ◆ Guidelines incorporate best practices pertaining to accessibility. Guidance from the Architectural Barriers Act (ABA) and the Americans with Disabilities Act (ADA) has been used to develop this document.
- ◆ With many trail segments sharing roadways, guidance adheres to state and federal Department of Transportation standards. Any sign erected within VDOT-maintained right-of-way, or at intersections with VDOT-maintained roads, shall not be erected without prior approval from VDOT.
- ◆ Guidelines for On-Road Facilities and Shared Use Paths shall adhere to state and federal Department of Transportation sign standards, including the standards of the Manual on Uniform Traffic Control Devices (MUTCD).

THE USER EXPERIENCE

The State Trail network today embodies a wide range of resource types, management interests, and users. The need to establish and maintain physical, graphic, and interpretive continuity between and among segments is essential for trail corridors with both state and national significance.

These guidelines are intended to further establish and improve the following experiences for trail users:

- ◆ The local experience - Users can confidently and safely navigate between Trail segments managed by different partners.
- ◆ The long-distance experience - Users can confidently and safely navigate significant portions of—or the entire length of—trail corridors throughout Virginia.
- ◆ A sense of something larger - At key trailheads and destinations, users understand their current location in relation to the Trail network as a whole from both navigational and interpretive perspectives. This experience ties site-specific locations to local and regional histories.
- ◆ Services and amenities - Opportunities for businesses to promote the connection to towns and other services that support the trail user.

RELATED DOCUMENTS

These guidelines build off other planning efforts for each of the six State Trails. As best practices evolve, the guidelines will be revised. Future updates will be made periodically to document changes and links to other authoritative documents. Each trail in the network is listed below, along with a link to any available guidance that should serve as primary source material.

- ◆ [Appalachian National Scenic Trail](#). This federal hiking trail follows the Blue Ridge Mountains from Maine to Georgia. This trail is managed through a partnership between the National Park Service, the Appalachian Trail Conservancy and a network of maintaining clubs.
- ◆ [Beaches to Bluegrass Trail](#). This proposed statewide shared-use path and multi-use trail will connect communities between the Virginia Beach oceanfront and Cumberland Gap. An on-road route connects existing off-road segments. This trail is championed by regional trail groups desiring statewide connectivity.
- ◆ [East Coast Greenway](#). This shared-use path connects urban areas from Maine to Florida, and is championed by the East Coast Greenway Alliance. An interim on-road route connects existing off-road segments.
- ◆ [Great Eastern Trail](#). This hiking trail follows the Allegheny Mountains from New York to Alabama. Most of this trail through Virginia is on multipurpose trails through U.S. Forest Service lands. This trail is championed by the Great Eastern Trail Association.
- ◆ [James River Heritage Trail Corridor](#). This land and water trail system follows the James River and some key tributaries from the Chesapeake Bay to the foothills of the Allegheny Mountains. This braided trail corridor is championed by local communities and organizations in the watershed.
- ◆ [Potomac Heritage National Scenic Trail](#). This federal land and water trail system links the Potomac and upper Ohio river basins and follows the paths explored by George Washington. This trail is managed through a partnership between the National Park Service and local/regional land managers.



Several statewide trails like the James River Heritage Trail and the Potomac Heritage Trail are braided trail networks, incorporating water trails and land trails along the corridor to offer a variety of experiences.

These resources provide more information on water trail signs:

- National Water Trail System Best Management Practices Toolkit
- Iowa Water Trails Toolkit
- American Rivers Blue Trails Guide
- American Canoe Association Water Trail Resources

CREATING A SIGNAGE PLAN

A signage plan enables the trail or route stakeholders to evaluate the needs and adequacy of the plan before ordering or installing signs. It also provides the basis for a sound budget for soliciting funds to design, fabricate and install the signs needed. To minimize costs and clutter, use existing sign posts if possible.

A sign plan requires four steps:

1) With your GPS device and camera in tow, conduct a sign survey by traveling in both directions to assess the signage needs of trail/route users

2) Create a reference table that records the information from your sign survey that includes the following fields:

- Sign number
- GPS waypoint
- Photo link
- Description of the physical location
- Distance from starting point
- Direction of travel
- Specific sign required
- Direction arrow required
- Proposed text (if any)
- Type of sign post (if any)
- Other relevant details

3) Create a map that identifies each sign point with blow-ups as needed for critical sections. A minimum scale of 1:250,000 is needed to show the level of detail required.

4) For complex intersections, provide zoomed-in aerial maps that detail the location and content of existing signs, show the proposed signs and where they will be co-located on existing signposts, and detail other information relevant to the intersection.

NEW ZEALAND CYCLE TRAIL SIGN SCHEDULE FOR: Golden Downs Trail
 Route Section: St Arnaud to Wakefield Survey direction: Sth to Nth Collected by: Jonathan Kennett Date: 23/4/2012

Waypoint / Map Ref	Photo Ref	Physical Location of Sign	Odometer Reading	Direction Heading	Sign Type ¹	Arrow Direction ²	Sign Text (Destination & Distance)	Sign Post	Other Details
①	0628	Cnr Ward + View roads	0km	east	ID	→		<input type="checkbox"/> Install new post <input checked="" type="checkbox"/> 100x100 wooden <input type="checkbox"/> Metal (round) <input type="checkbox"/> Other (specify):	
②	0629	Cnr View + Kerr Bay roads	0.05km	Nth - east West	ID	←		<input type="checkbox"/> Install new post <input checked="" type="checkbox"/> 100x100 wooden <input type="checkbox"/> Metal (round) <input type="checkbox"/> Other (specify):	2 Signs on 1 post.
③	0632 0633 0634	Cnr SH 63 + Kerr Bay Rd	0.15km	Nth East South west	ID	→		<input type="checkbox"/> Install new post <input checked="" type="checkbox"/> 100x100 wooden <input type="checkbox"/> Metal (round) <input type="checkbox"/> Other (specify):	2 signs on 1 post
④	0640 0641 0642	Cnr SH 63 + Kereru - Tophouse Road	4.8km	Nth East or west	ID	←		<input type="checkbox"/> Install new post <input checked="" type="checkbox"/> 100x100 wooden <input type="checkbox"/> Metal (round) <input type="checkbox"/> Other (specify):	First sign on Nth post. Second sign on Chch post
⑤	0647 0648 0649	Cnr Kereru - Tophouse + Tophouse roads	8.3km	Nth South	ID	↔		<input type="checkbox"/> Install new post <input type="checkbox"/> 100x100 wooden <input type="checkbox"/> Metal (round) <input type="checkbox"/> Other (specify):	
⑥	0654 0655	Halfway between ⑤ and ⑦	13.5km	Nth + Sth	CD	↑ ↑		<input checked="" type="checkbox"/> Install new post <input type="checkbox"/> 100x100 wooden <input type="checkbox"/> Metal (round) <input type="checkbox"/> Other (specify):	Choose suitable place on east side of the road, close to cyclists riding uphill. 2 signs on 1 post.

¹ NZCT SIGN TYPE: AI = Advanced Information; BE = Begin/Ends; AD = Advanced Direction; ID = Intersection Direction; CD = Confirmation Direction

² ARROW DIRECTION: ← ↗ ↘ ↛

Roadway & Trail Sign Continuity





Virginia has two national scenic trails as authorized by the National Trails System Act (P.L. 90-543, as amended through P.L. 111-11), the Appalachian Trail and the Potomac Heritage Trail.

For more information on the National Trails Act, visit: <http://www.nps.gov/ncrc/programs/nts/legislation.html>.



LEGISLATION AND ADMINISTRATION

These six trails are components of the Statewide System of Trails, authorized by the General Assembly in 1971 §10.1-204.

VDCR is authorized to enter into such agreements and to acquire interests as may be necessary to establish, maintain, protect, and regulate a statewide system of trails in order to provide for the ever-increasing outdoor recreational needs of an expanding population, and in order to promote public access to, travel within, and enjoyment and appreciation of the outdoor, natural, and remote areas of the Commonwealth.

DCR provides the following services to support the statewide trail system:

- ◆ Provide and disseminate statewide standards and policies for trail development (i.e. Greenways and Trails Toolbox)
- ◆ Provide educational experiences to encourage trail and greenway development (i.e. targeted regional workshops)
- ◆ Provide technical assistance to localities and NGOs (by request)
- ◆ Provide information for trail users (i.e. E-newsletter and website)
- ◆ Plan for and promote a connected statewide trails system (i.e. Virginia Outdoors Plan)

STATEWIDE TRAIL TYPES

Excerpt from §10.1-204

C. The statewide system of trails shall be composed of:

1. Scenic trails so located as to provide maximum potential for the appreciation of natural areas and for the conservation and enjoyment of the significant scenic, historic, natural, ecological, geological, or cultural qualities of the areas through which such trails may pass;
 2. Recreation trails to provide a variety of outdoor recreation uses in or reasonably accessible to urban areas; and
 3. Connecting trails or side trails to provide additional points of public access to recreation trails or scenic trails, or to provide connections between such trails, or to provide access from urban areas to major outdoor recreation sites.
- D. Each trail shall be limited to foot, horse, or nonmotorized bicycle use, or a combination thereof, as deemed appropriate by the Department. The use of motorized vehicles by the public shall be prohibited along any of the scenic, recreation, or connecting or side trails.

Recreation, scenic and connecting trails may be single or multi use, or considered a **shared-use path**.

A shared-use path falls under a special category with more regulation because shared-use paths provide a transportation function. All newly constructed shared-use paths should be built to provide access for people with disabilities. In addition, existing shared-use paths should be improved to enhance access whenever possible. If improvements to existing facilities cannot be made immediately, it is recommended that information, including signage, be provided at all path entrances. This information should clearly convey objective information to trail users, including data about grade, cross slope, surface, and width.. Shared use paths are physically separated from motor vehicle traffic by an open space or barrier, and are either within the highway right-of-way or within an independent right-of-way. (U.S. Access Board). Like sidewalks and accessible routes, shared-use paths are subject to additional state and federal regulations but are also eligible for funding through transportation sources.

BRANDING

BusinessDictionary defines a brand as the unique design, sign, symbol, words, or a combination of these, employed in creating an image that identifies a product and differentiates it from its competitors. Over time, this image becomes associated with a level of credibility, quality, and satisfaction in the consumer's mind. This document addresses only the trail logo as one component of the trail brand.

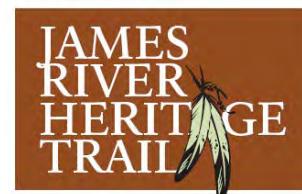
THE TRAIL LOGO

Use of the Trail logo helps enrich the experience of travel by reinforcing the trail brand. Use of the trail logo provides visual continuity and recognizes formal relationships between trail segments and the Trail network and the trail management partners.

National park service trail logos are an official "Federal mark" published in the Federal Register.¹ With permission, the logo may be used on signs and in printed and electronic media such as brochures, guides, maps, and websites. The logo should not be used in place of a blaze or other means of marking a route in cases where directional guidance is necessary and/or desirable.

Contact each sponsoring agency to order copies of the logo signs when your trail section is designated. For the James River Heritage Trail and the Beaches to Bluegrass Trail, 12 x 18-inch signs can be ordered from the State Parks Logistics Center for a fee. DCR can also provide the artwork for local sign fabrication. DCR has the artwork for 3-inch decals, 3.5-inch plaques, and 9-inch plastic decals.

1. The design of the Trail insignia is part of a family of insignia for national historic and national scenic trails within the National Trails System. Authorities for development and use of the Trail insignia (or logo) can be found in the National Trails System Act of 1968 (as amended), 16 U.S.C. 124(a) and 1246(c) and in Protection of Official Badges, Insignia, etc. in 18 U.S.C. 701.3



TYPES OF SIGNS

The following sign types are used to provide information along the trail. They are discussed in more detail by chapter as indicated.

Chapter 2 Signs for Roads and Shared-Use Paths

- Bike route signs
- Regulatory signs
- Warning signs
- Directional signs

Chapter 4 Wayfinding

- Blazes
- Boundary signs
- Destination signs
- Mileage markers

Chapter 5 Orienting the Visitor

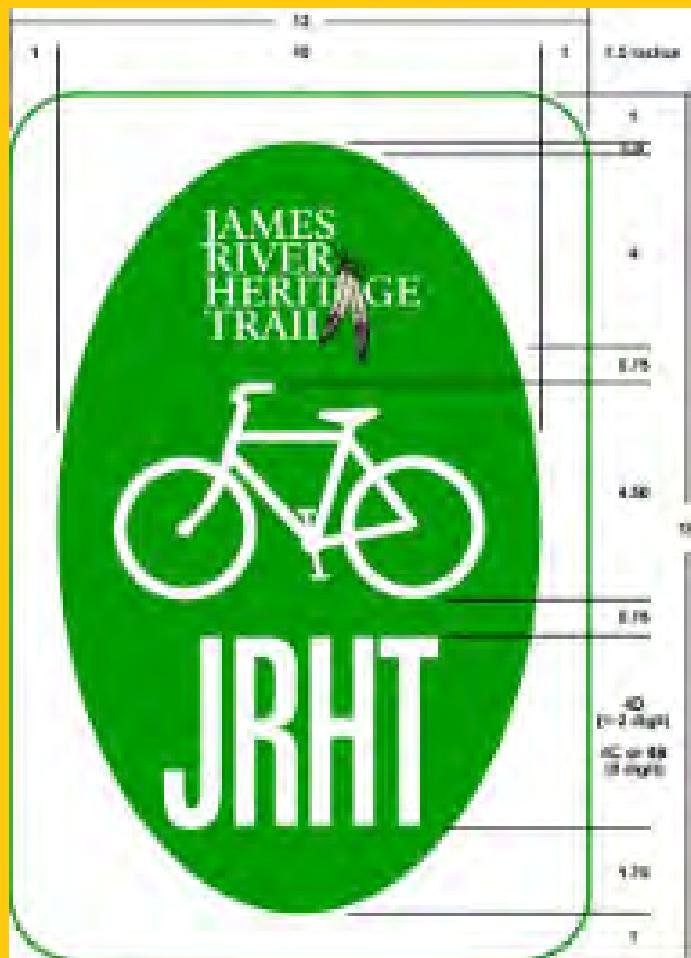
- Trailhead kiosks
- Orientation signs
- Gateway signs
- Interpretive signs
- Trail Experience Signs
- Difficulty level markers

Chapter 6 Other Applications

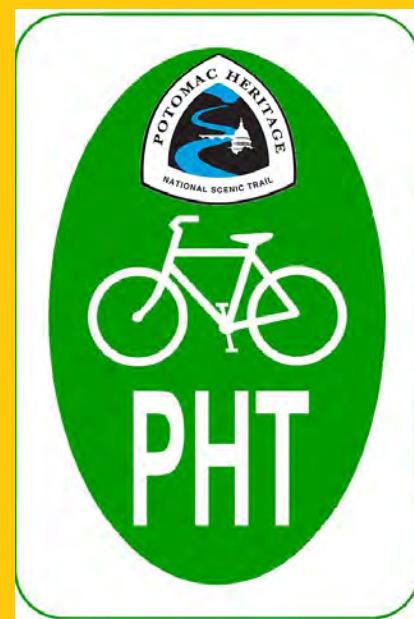
- Etiquette signs
- Resource Protection Signs

CHAPTER 2

SIGNS FOR ROADS AND SHARED-USE PATHS



The Bicycle Route (M1-8) sign shall contain a route designation and shall have a green background with a retroreflective white legend and border. The Bicycle Route (M1-8a) sign shall contain the same information as the M1-8 sign and in addition shall include a pictograph or words that are associated with the route or with the agency that has jurisdiction over the route. (2009 MUTCD)



On-Road Bicycling Route
MUTCD M1-8a compliant

BIKE ROUTE SIGNS

These signs, referred to in the *MUTCD* as M1-8a, can be used along roadways to denote on-road bicycling routes. On-road routes are usually paved and present a very different experience and setting than that of off-road routes. This PHT sign is currently in use along roadways in the Northern Neck area of Virginia.

Trail segment managers should be aware of state and federal policies for planning, installing, and maintaining on-road Trail-related signs.

When placing these signs, consider roughness of the road, pinch points, busy intersections, steep gradients and the avoidance of obstacles that may distract cyclists.

Signs installed on VDOT right-of-way require a land-use permit. VDOT will review the design to ensure design standards are met, retro-reflective sheeting is used, and safety issues are resolved. The fabrication and installation of these signs average about \$850 each. Contact your local VDOT representative for more information.





Regulatory signs and plaques for bicycle facilities from the MUTCD

REGULATORY SIGNS

Regulatory signs indicate or reinforce laws, regulations or requirements, the disregard of which may be considered a violation.

Regulatory Sign Standard from the MUTCD

01 Regulatory signs shall be used to inform road users of selected traffic laws or regulations and indicate the applicability of the legal requirements.

02 Regulatory signs shall be installed at or near where the regulations apply. The signs shall clearly indicate the requirements imposed by the regulations and shall be designed and installed to provide adequate visibility and legibility in order to obtain compliance.

03 Regulatory signs shall be retroreflective or illuminated (see Section 2A.07) to show the same shape and similar color by both day and night, unless specifically stated otherwise in the text discussion in this Manual for a particular sign or group of signs.

04 The requirements for sign illumination shall not be considered to be satisfied by street or highway lighting.



RISK MANAGEMENT

Address unreasonable hazards and post warnings. Anticipate foreseeable activities and take reasonable steps to protect users.

Provide clear and concise messaging on warning signs, for example, a sign at the trailhead may read “This area contains hazards associated with water, rocks, cliff faces” etc. A sign closing an area is considered OK because duty of care is lowered.

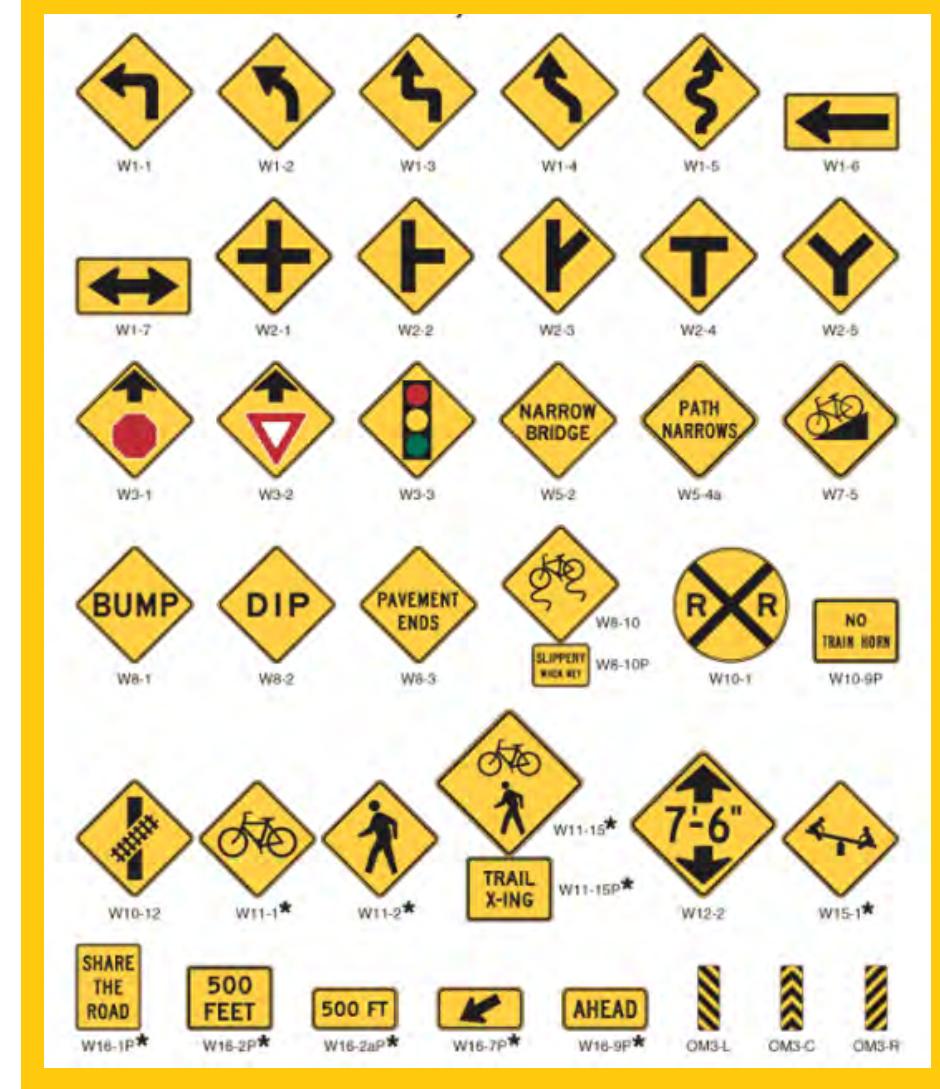
SIGN MAINTENANCE

Sign maintenance is important from a safety and liability perspective. Further, signs are highly visible and their maintenance level leaves the visitor with a positive or negative impression about the trail. Well-maintained signs convey a sense of pride and reduce vandalism while poorly maintained signs may contribute to a diminished visitor experience.

- Maintain a record of all signage, including location, GPS coordinates, type of sign, and photo.
- Inspect signs regularly, especially after each winter season, for weathering and visibility
- Repair or replace damaged or missing signs as soon as possible
- For signs mounted on living trees, loosen fasteners as necessary to accommodate growth of the tree
- Review signage content to ensure continued relevance and accuracy
- Obsolete, damaged, or surplus signs should be reused or recycled whenever possible
- Has the sign been patched or “overlaid”?
- Is the frame in good condition, free of mower damage, algae, etc?
- Is the sign clean, free of scratches, algae, and road film?
- Does the font match all other signs in this park?
- Is it neatly presented, no tall grass, level and plumb?
- Is it mounted properly at its designated height above the ground?
- Are there bolts/ screws obscuring any letters?

WARNING SIGNS

There is a fine balance between providing good information and diminishing the trail experience with too much signage. An abundance of signage can also be a burden on the trail managers and those responsible for maintaining the signs.



Trails have different levels of duty of care depending on the size of the land base, the proximity to the built environment, and whether areas are easy for youth to access. If fees are charged, there is a higher duty of care (consider charging a “parking” fee, not a trail entrance fee). Duty of care is higher on built structures.

The U.S. Forest Service Recreation Opportunity Spectrum defines the spectrum for risk-taking (self-reliant) areas to security/comfort/socializing areas. The spectrum also moves from primitive to urban. Defining these zones can be part of risk management plan.

Warning sign for bicycle facilities from the MUTCD

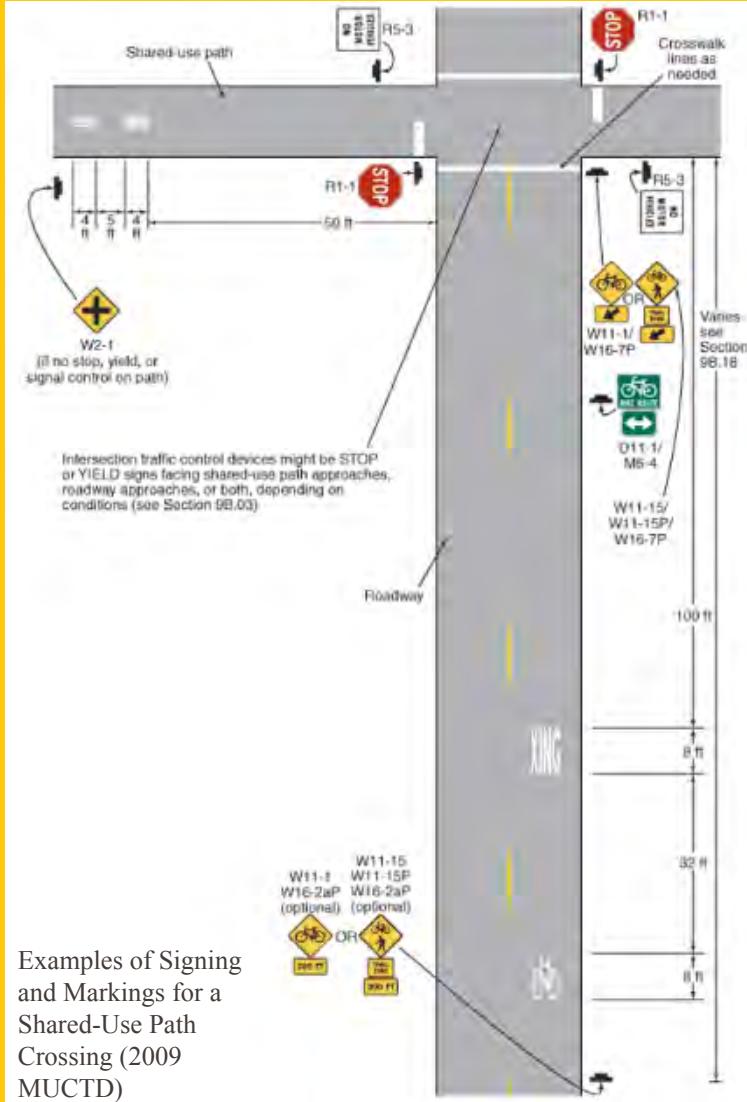
ROAD CROSSINGS

When the trail or shared-use path crosses a roadway, it is critical to have adequate signage for all approaches. The MUCTD provides guidance for signing intersections with shared use paths.

VDOT typically requires on-road signs to be 5-7 feet off the road surface, depending on whether the sign is in an urban or rural area. VDOT also has requirements for lateral offset for on-road facilities that may be different than offset for off-road facilities. At road crossings, be sure to coordinate with VDOT's local representative. That individual can be found at www.virginiadot.org/about/districts.asp.



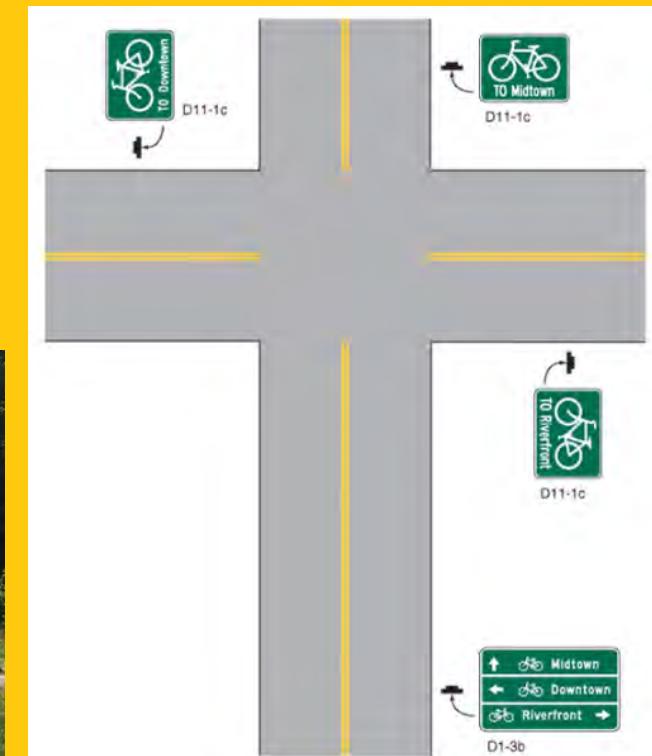
Examples of Signing and Markings for a Shared-Use Path Crossing (2009 MUCTD)



PATH CROSSINGS

When a shared use path crosses another trail, consider stopping distances required for potential users in both directions.

Examples of Signing and Markings for a Shared-Use Path Crossing from the MUTCD

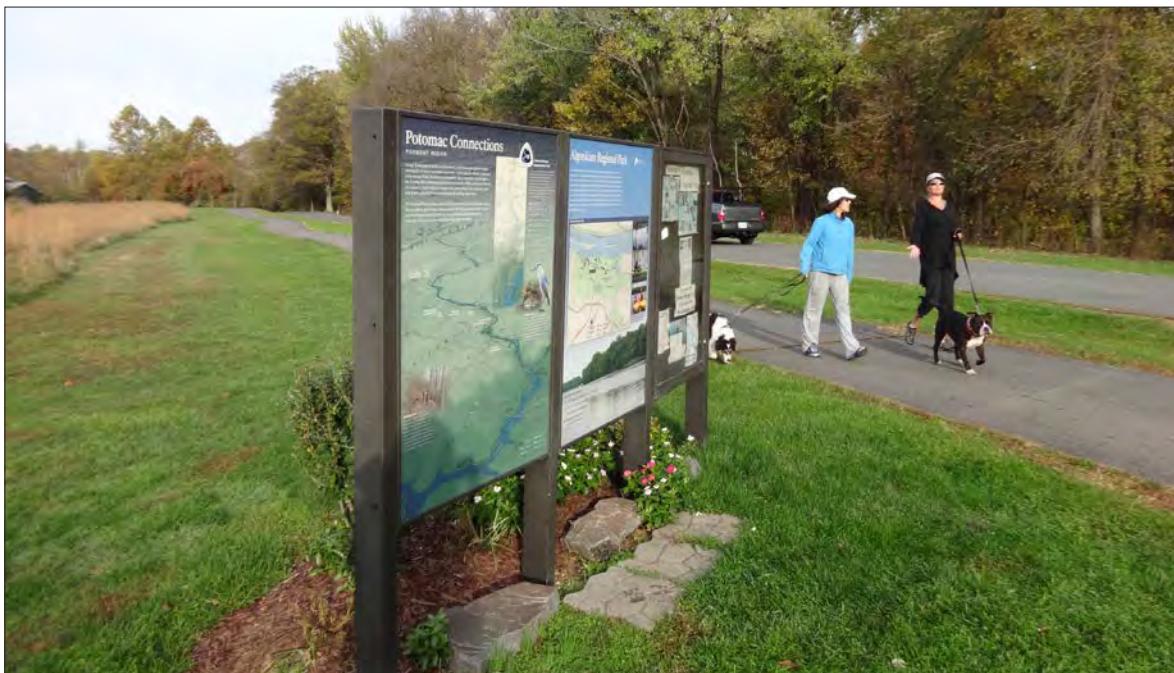




CONNECTING TRAILHEADS

Connecting trailheads connect to the larger state trail network and offer access to neighborhoods, businesses, attractions, access points or other loop trails. At their trailheads, connecting trails typically provide parking and a kiosk with information on the state trail connection as well as the connecting trail.

Regulatory information may change at these intersections, so it is important to review kiosk content and determine what information needs to be conveyed at this location.



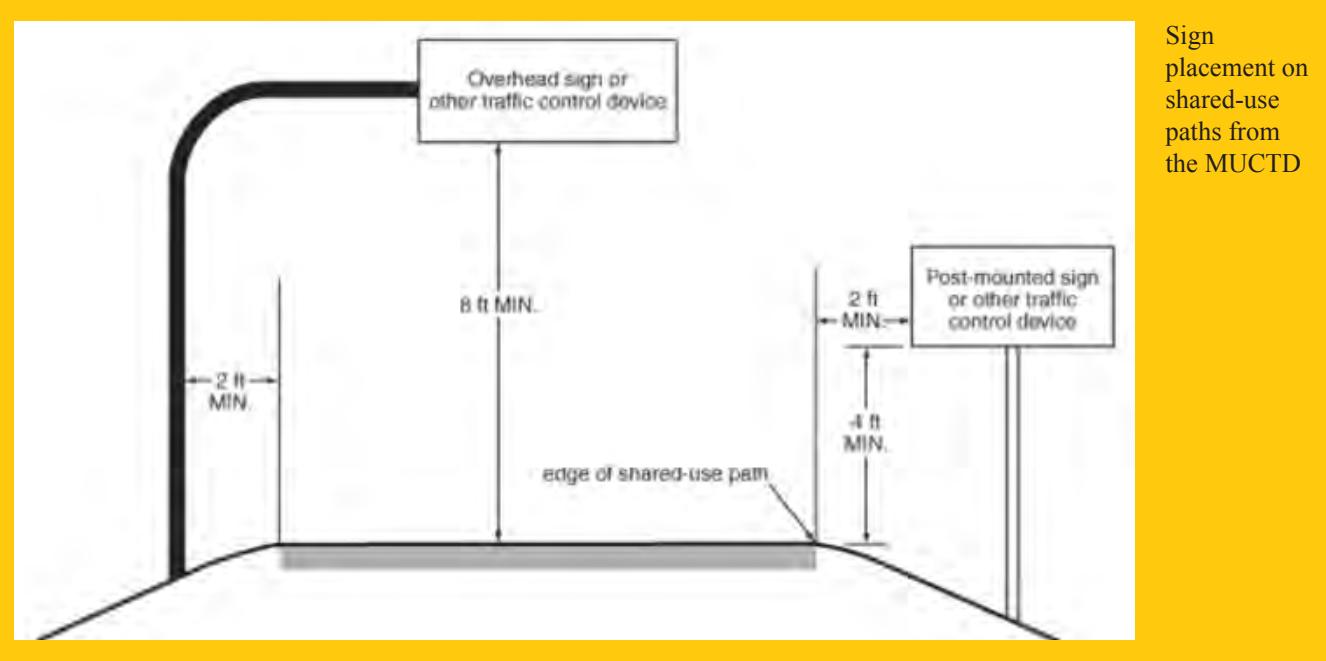
TRAIL-ROUTE CONNECTIONS

When trail users transition from a connecting trail to a shared use path or especially an on-road route, it is important to convey the new hazards they may encounter, whether that is speeding bicyclists or vehicular traffic. Their skills may not be up to the new challenge.

It is recommended that any type of trail crossing be designed using right angles to maximize visibility. Clear sight lines and signage should be provided when trails intersect other trails to avoid conflicts between user groups.

SIGN PLACEMENT

- Would a smaller sign suffice?
- Is the sign of correct size for the message?
- Is the sign frame appropriate for the size of sign?
- Is the face canted slightly toward the road to prevent headlight glare?
- For bike routes, is the entire sign readable at the posted highway speed?
- Is it sufficiently distant from a directed turn to allow safe maneuvering?
- Does the sign block a significant natural vista or create a traffic hazard?
- Directional signs: Are there signs from both directions of travel?



ELIMINATE SIGN CLUTTER

- Is this sign necessary?
- Does it accomplish its intended purpose?
- What would be the consequences if we eliminated it?
- Is this sign necessary in this place?
- Is it within sight of another related sign?
- Can the two be consolidated?
- Could the sign be replaced with an international symbol?

LOCATIONS

Sign spacing will depend on whether the trail is urban or rural, the level and type of use, and the design or class of trail. At a minimum, consider placing signs at the following locations:

- Trailheads
- Campgrounds
- Intersections
- Overlooks
- Service facilities
- Trail crossings
- Transitions between wayfinding systems of adjacent land managers
- Road crossings
- Key roadways or connecting trails providing access to trail

CHAPTER 3

TOOLS & TIPS

The suite of tools in this section provides Trail segment managers with general advice on design and materials. Consistent use of these elements on signage, as well as in print and web materials will ensure that users of each trail network will experience a unified system and set of complementary and outstanding outdoor recreational experiences.

TRAIL TERMINOLOGY

Trail: The treadway and shoulders of a cleared or improved path (2007 Virginia Outdoors Plan). Trail design will vary with the primary user group--if a trail is designed to serve pedestrians, federal guidelines for outdoor developed areas apply.

Accessible Route: For paths that connect accessible facilities, more stringent guidelines apply. A review of the definitions and technical requirements for each type of route is available online.

Trailhead: According to the U.S. Access Board, a trailhead is an outdoor space developed to serve as an access point to a trail, not a junction of two or more trails where no other access point is provided. To meet federal guidelines for outdoor developed areas, new or altered trailhead information signs should include

- Length of the trail or trail segment
- Type of trail surface
- Typical and minimum trail tread width
- Typical and maximum trail grade
- Typical and maximum trail cross slope

This objective information about the trail conditions is preferable to subjective difficulty ratings (e.g., easier, most difficult). Because subjective ratings of difficulty typically represent the perceptions of the person making the assessment, the ratings cannot be accurate or appropriate for the range of trail users. Individuals with respiratory or heart conditions, as well as individuals with mobility impairments, are more likely to have different interpretations of trail difficulty than other users.

It is important to include objective information at the trailhead along with the rating system so that all users can determine whether they have the ability to use the trail.

RATING SYSTEM



Easiest (green)

More Difficult (blue)

Most Difficult (black)

RATING FACTORS

- Trail width and corridor width
- Rugosity (variations in surface heights)
- Average gradient
- Maximum sustained grade
- Maximum grade
- Typical trail materials
- Duty of care
- User profile
- Typical drainage/waterway crossings
- Formality of trail structures
- Turn radii
- Steepness of side slopes



Road Biking



Cross-Country Skiing



Hiking



Paddling



Horseback Riding



Off-Road Biking

TRAIL EXPERIENCES

Building on the intent of Virginia Code and the National Trails System Act, trails within the statewide network provide one or more of the symbolized nonmotorized travel experiences. Consistent use of these—or similar symbols—will help users choose a route and experience. These symbols should be used on maps, signs, as well as interpretive and informational media.

Note that colors change when indicating a prohibited use.



Pedal/Paddle Trail Crossing

APPEARANCE AND LAYOUT

- Maintain an even balance of graphics, text and blank space on signs
- Use different font types and weights to reflect the importance of information
- Use a consistent color palette for each sign type
- Keep text brief and convey information through international symbols if possible



KEEPING SIGNS AFFORDABLE

Keep the number of signs to the minimum number required. If one sign, placed properly, does not solve the problem, two or more probably won't either.

- Reduce or eliminate theft. Use "priority" screws to mount signs to frames.
- Reduce or eliminate damage. Train mowing crews in proper methods of mowing and trimming around signs.
- Maintain existing signs. Periodically wash algae, mildew, and road splatter from sign faces.
- Use "overlays" for frequently changed information such as operating hours and fees.
- Eliminate storage damage. Store seasonal and occasional signs wrapped in clear plastic to prevent scratches.
- Reduce or eliminate roadside damage from traffic and snow removal. Install signs 5-7 feet from the paved surface, depending on whether you are in an urban or rural area.
- Use the properly sized signs for the application. Signs that are too small are not effective and will eventually have to be replaced. Signs that are too large are obtrusive in the landscape and are wasteful.
- Specify state-approved reflective materials only when necessary (on roads and shared-use paths). The use of reflective materials nearly doubles the cost of a sign and should only be used when it is critical for the sign to be seen at night by headlight or flashlight.
- Request design and application assistance when ordering signs. Have text checked for conciseness and clarity of purpose. Make sure it says to the guest what you think it says.
- Request only the technological level of sign necessary for the application.

FONTS

In order to ensure that materials (including signs and brochures) have a high level of readability, the following fonts are recommended. See "Appendix A: Access for Everyone" for additional Outdoor Developed Area Guidelines that uphold the Americans with Disabilities Act (ADA) and the Architectural Barriers Act (ABA).

Arial
Optima
Trebuchet
Frutiger

Helvetica
Tahoma
Univers (Sans serif)
Century (serif)

COLORS

- Black: Regulation
- White: Regulation
- PMS 294 Blue: Road/tourist information
- PMS 469 Brown: Recreational/cultural
- PMS 342 Green: Directional guidance
- PMS 152 Orange: Traffic control
- PMS 187 Red: Stop or prohibition
- PMS 116 Yellow: Warning



What is wrong with this photo? All crosswalks must be bordered with retroreflective white striping. Signs do not conform to MUTCD guidelines.

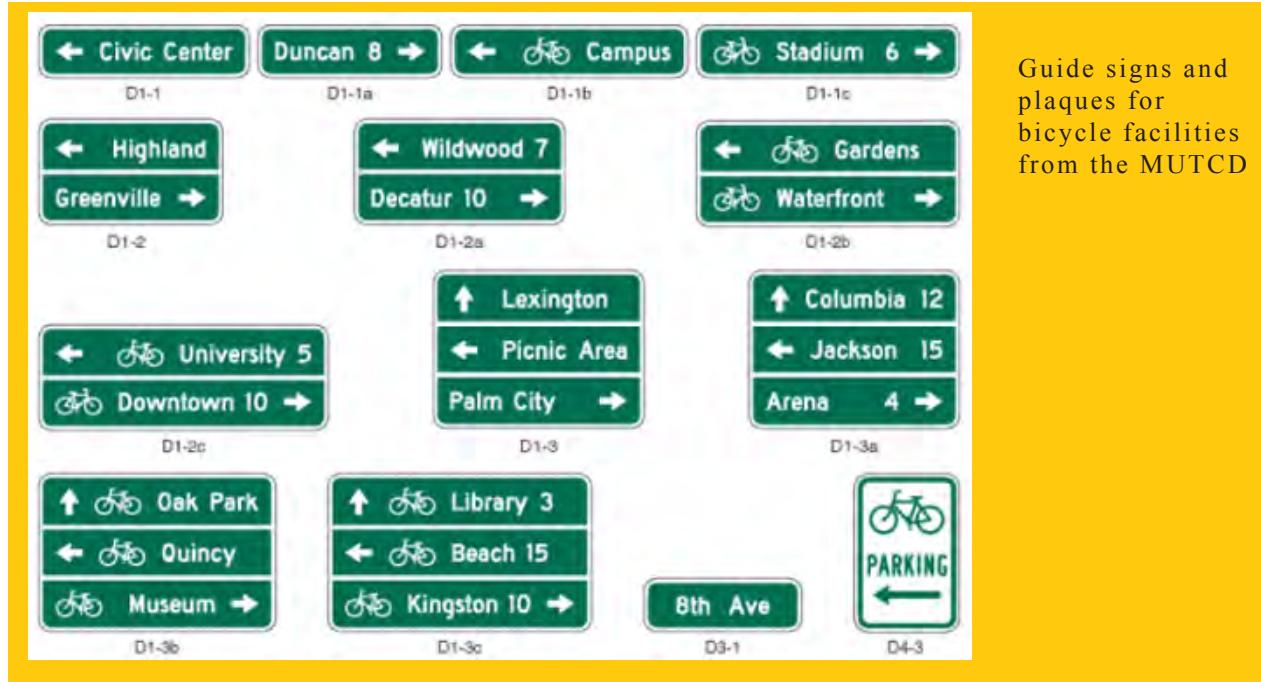


What is wrong with this photo? Don't use yellow to mark the crosswalk through the roadway. Continuing the brick surface with white striping would work.



What is wrong with this picture? As a rule of thumb, slower traffic keeps to the right. Pavement markings can be a maintenance issue, particularly if your shared-use path is plowed in winter. Consider whether edge and center lane striping are really needed.

DIRECTIONAL SIGNS



Guide signs and plaques for bicycle facilities from the MUTCD

CHAPTER 4 WAYFINDING

This chapter provides additional information on how and where to use signs in both urban and rural settings.

Wayfinding signs help users navigate to and along trails. The following are some options to use the state trail logo to complement local identity while creating continuity throughout the network.



DIRECTIONAL SIGNS



MILEAGE MARKERS

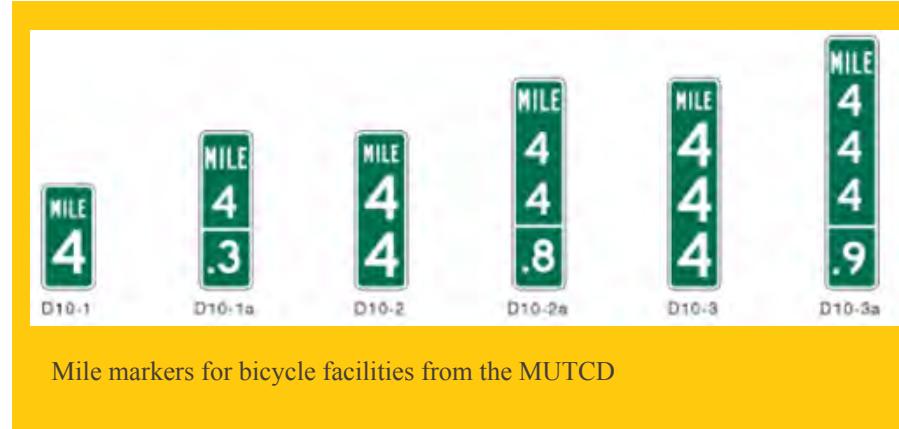
Mileage markers help orient trail users and expedite rescues if locations are entered into the 911 system.



Mile markers on pavement. LT 10.60 represents the Legacy Trail 10.6 miles north of the Venice Train Depot in Sarasota, Florida



This sign in Dakota County uses the U.S. National Grid, a coordinate system originally used by the military now adopted by FEMA.



Mile markers for bicycle facilities from the MUTCD

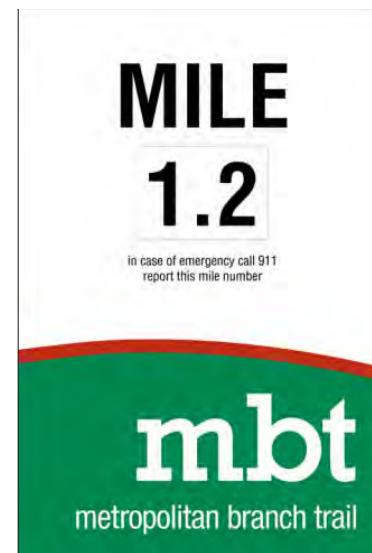


Image of mile marker signage being implemented by Delaware DOT



911 Trail location marker, City of Lenexa, Kansas.



Historic mle markers indicate that the Huckleberry trail follows an old train line.

THE BLAZE

Trails should be marked with the appropriate color of paint blaze in both directions of travel. Where possible, the blaze should be placed at eye level (approximately six feet off the ground) on trees, posts, or rocks. The standard blaze should consist of a rectangle of paint two inches wide by six inches high.



White blazes reassure hikers that they are on the A.T. Two blazes indicate a turn. Dark blue blazes indicate a sidepath.

When To Use The Blaze

The blaze is a complement to the Trail logo on primary Trails. The Trail logo should not be used in place of the blaze. The overall purpose of the blaze is to communicate to trail users that they are following an intended route and to aid in navigational decisions.

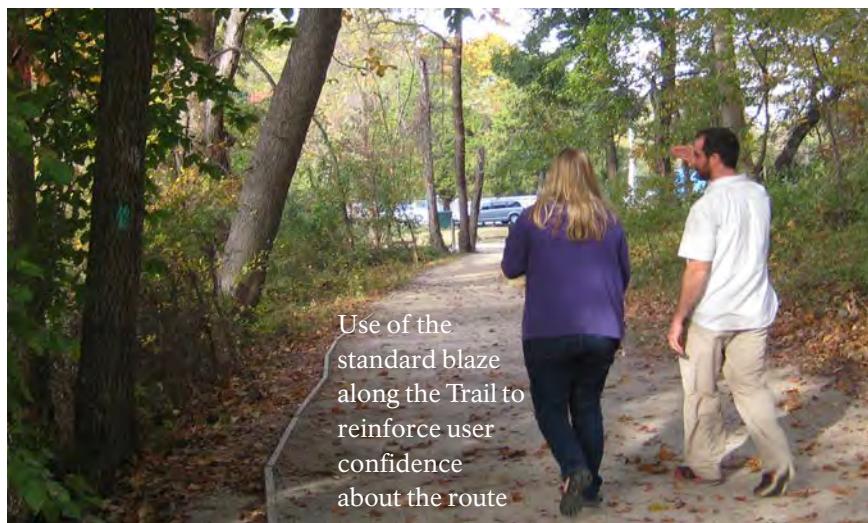
Thus, the blaze should be used mainly at decision points along a route, such as trail intersections, road crossings, and changes in direction. In areas where the trail tread is well defined—such as a paved trail—the blaze need only be used where the user has a choice to make. Minimal use of blazes and other forms of route marking reduce sign clutter.



The GET uses Nelson Aero Spot Green Glo spray paint, and a mark slightly higher than eye level--6 1/2 feet off the ground unless the tree is on a bank. Consider what will be most visible to the hiker.

Use a cardboard template with a 2x6" rectangular cutout. Hold the template close against the tree trunk, keeping the blaze trace vertical, and spray to make a blaze. Spray enough to make a solid mark, but with minimal rundown.

Left Turn



Right Turn



Two or more trails can share the blaze, as in this example from Pennsylvania

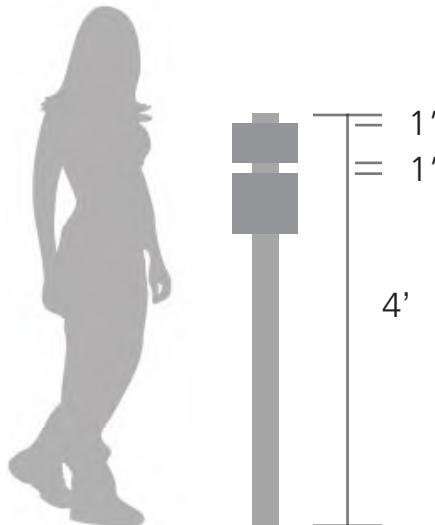


The PHT uses Pantone 299 blue blazes to mark the trail. A right turn should be marked with a double blaze, with the right rectangle offset slightly higher as shown below. A left turn would be the opposite.

SHARED IDENTITY CASE STUDIES ON THE PHT

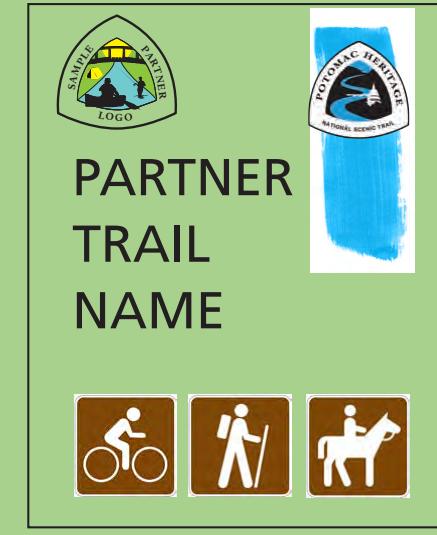
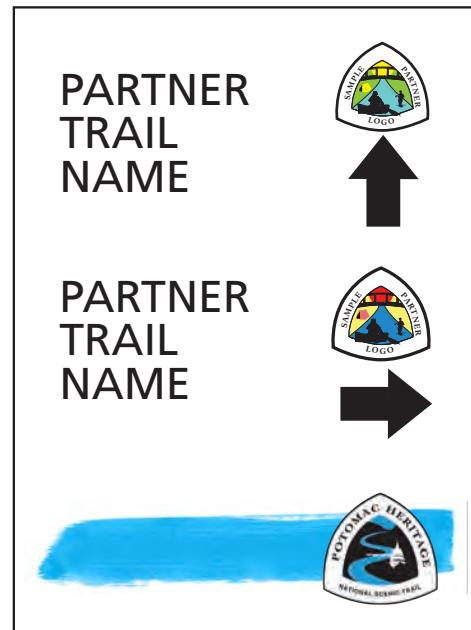
At Trail Intersections

This sign does not separate information and includes a brush-stroke at the bottom to indicate that both trails are part of the PHT network.



Single Trail

The state logo should also be used where the user has to make a route choice. The signs below use separation between icons to show that the trail that goes straight ahead is also the Potomac Heritage National Scenic Trail (via the black banner) and that the trail that goes to the right is not part of the PHT network.



OPTION A

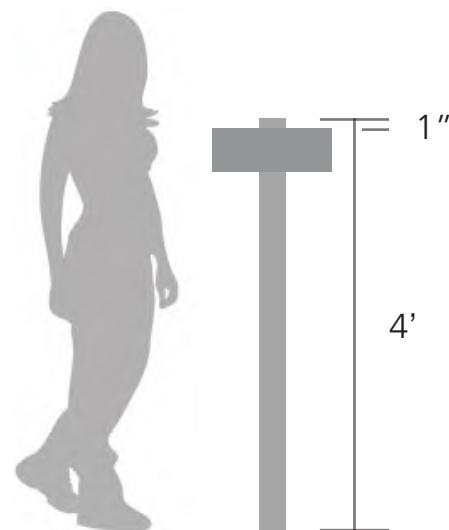
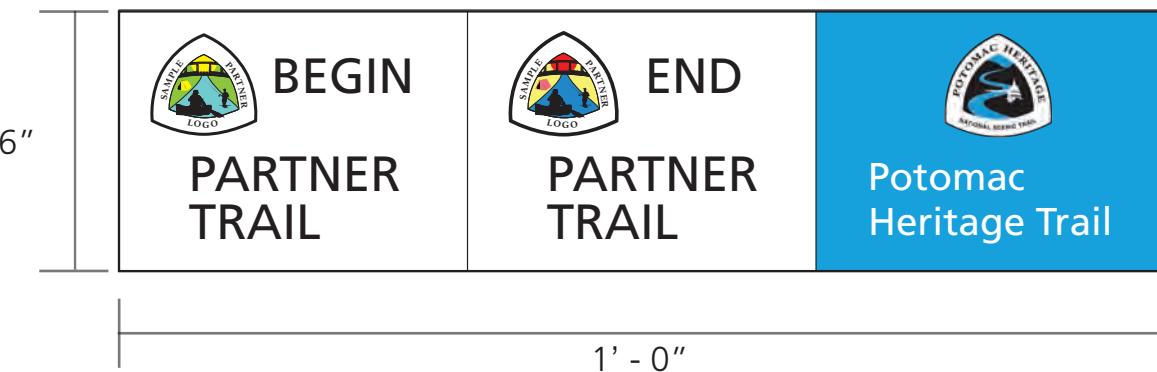


OPTION B

Option A Uses the logo and blaze oriented vertically, providing additional room to indicate permitted uses. Option B Uses only the PHT logo below the Trail partner name. This logo is available as a 3" sticker, 3.5" plastic decal, or 9" plastic decal from the PHT Trail Office. Note that the size of the information and the PHT logo should be generally proportional to each other

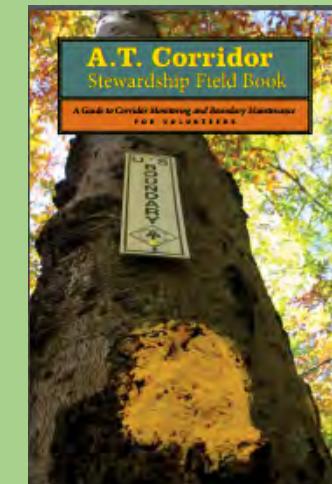
CHANGES IN TRAIL JURISDICTION

The state logo provides continuity between trails managed by different agencies and organizations. It is important to use the state trail logo or brand in transition areas between different trail segment managers. Use of the logo or brand on signage in these areas accomplishes two objectives: 1) it reinforces user confidence that they remain on a primary segment; and 2) it creates a geographic and thematic link between different jurisdictions.



BOUNDARY SIGNS

Monitoring and replacing boundary markers as needed is an important part of trail stewardship. The A.T. Corridor Stewardship Field Book provides comprehensive information on monitoring the trail corridor, maintaining its surveyed boundaries, and taking effective and efficient action to address encroachments.

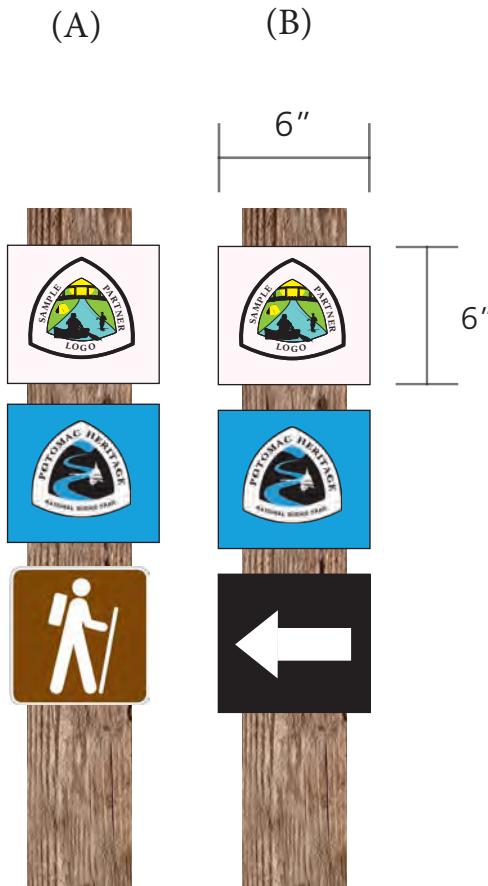




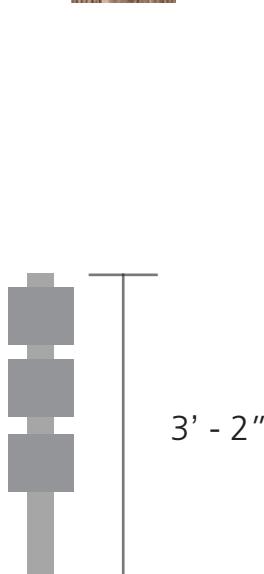
Note the difference in sign placement for a rural trail (above) versus a rural shared-use path (below).



(A)



(B)



RURAL AND NATURAL AREAS

Trail segments in rural and natural areas may use signs with a natural feel, such as wooden posts with small icons.

Mark the start of a trail and transitions between jurisdictions.

This image (A) shows use of the PHT logo beneath the information for the Trail segment manager, but above information showing what uses are permitted on the trail. The 4'x4' post is suggested to be cut into a triangle shape at a 45 degree angle and the height should be 3'2" above ground.

Marking an intersection or change in direction.

This image (B) shows use of the PHT logo below the Trail segment information and above the navigational arrow.

The PHT logo (3.5 inches) is mounted on a 6X6 inch blue metal square. The partner trail logo is mounted on a 6X6 inch metal square as well, color to be determined by the partner.

These signs are for illustration purposes only. When you fabricate a sign, be sure to round the edges to minimize the risk of injury.

Keep the bottom sign in your series at least 15 inches off the ground so that it doesn't get obscured by weed growth.

CHAPTER 5

ORIENTING VISITORS

Orientation signs are usually installed at trailheads where parking or transit is available. They should provide general information about the trail, specific information about accessing the trail at this entry point, regulatory and safety information, and related maps and graphics.



WAYSIDE EXHIBITS

The National Park Service has prepared a comprehensive Wayside Exhibit Resource. Link: www.nps.gov/hfc/pdf/waysides/Wayside-Guide-First-Edition.pdf



Welcome to Natural Tunnel State Park

Wildlife and Safety

The natural world is a wild and wonderful place for relaxation, discovery, and recreation. Please be mindful of your surroundings and obey all trail safety signs. Help keep the wild in wildlife. Be cautious at dawn and dusk when animals are more active; always keep your distance and do not feed or chase any wild animals. Prepare for forecasted weather and carry plenty of water, insect repellent, and sunscreen. Travel with a companion and keep children and pets near you. Enjoy your outdoor adventure!

Difficulty Scale

- Easy Grade: Inclines are less than 10% and grade elevation is less than 300'. Trail can be easily accomplished and completed with low risk of injury or fatigue.
- Moderate Grade: Inclines and steps/more than 10% and grade elevation is greater than 300'. Trail can be accomplished by moderately healthy persons with minimum risk of injury or fatigue.
- ◆ Difficult & physically demanding trail: varying grade inclines and steps/more than 10% and grade elevation is greater than 300'. Trail is recommended for experienced trail users or groups of 8 to 10 people.

Trail Etiquette

- Be courteous
- Stay on designated trails
- Stay right, pass left
- Alert others to your approach
- Maintain safe speeds
- Keep trail clean

Attention Horseback Riders

Information about horse trails and other horse facilities in Virginia State Parks can be found at 800-933-PARK or www.virginiasatestateparks.gov

EMERGENCY CONTACT NUMBERS

Park Office (Daytime):	276-940-2874
Park Manager Residence:	276-940-2891
Assistant Park Manager Residence:	276-940-5107
Chief Ranger Residence:	276-940-2883
Staff Pager:	800-289-2337 PIN 7530

TRAILHEAD KIOSKS

Trailhead kiosks provide the first and last impression of the trail. They indicate arrival, welcome visitors, and provide them with information that may be essential to their safety and enjoyment on the trail. They also offer the opportunity to educate and communicate information that helps solve management problems associated with visitor use.

Location

At vandal-prone trailheads, choose a kiosk location out of view of the casual parking lot user or cruiser. It is okay to situate the kiosk a few hundred yards down the trail.

Consider partnering with a local school or youth group for kiosk maintenance if vandalism is a recurrent problem.



Kiosk Content

- Trail logo or routed wooden trail name
- Thumbnail map of entire trail (option: also include a description of the entire route)
- Approximate mileage to the trail's beginning and endpoints along with major attractions and points of interest
- Area map of trail with "you are here" indicator
- Area services (for gateway kiosks)
- Trail rating and assessed conditions if available, descriptions of trip alternatives if appropriate
- Emergency phone contacts (911, animal control, etc.)
- 911 address (or equivalent location identifier)
- Contact information for trail management entity and partner logos, contacts and roles if appropriate
- Specific prohibitions or restrictions (regulatory signs)
- Safety and etiquette information to manage user conflicts
- Trail protection information (leave no trace, tread lightly)
- Interpretive information
- QR codes to appropriate websites (partners, local chambers of commerce, etc.)
- Appreciation to donors, volunteers and others who help make the trail and upkeep possible
- Save space for dynamic or changing content, like alerts, trail closures or relocations, temporary hazards, prescribed burns, volunteer opportunities, special events, hunting season information, etc.

Content Tips

The Appalachian Trail Conservancy provides this guidance on kiosk content to member clubs:

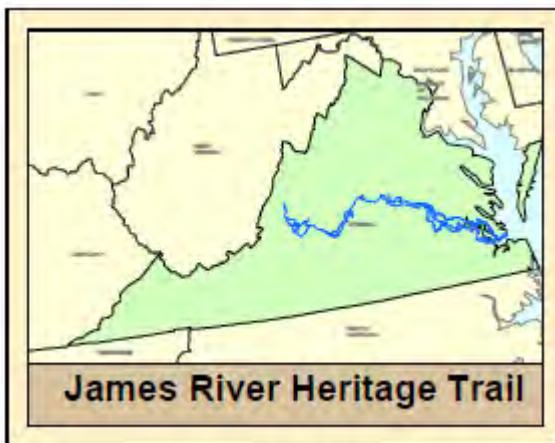
- Keep it brief
- Make it easy to read by using Arial font at a large point size, since most people stand about four feet from a sign
- Use an active voice
- Simplify the message so it's easy to understand
- Make sure it's relevant
- Use graphics, if possible, to enhance your message.
- Avoid acronyms, adverbs, contractions, cliches, and colloquialisms.
- Emphasize appropriate use by welcoming specific user groups, for example "Hikers Welcome."



THUMBNAIL MAPS OF THE TRAILS

These “thumbnail” maps can be used on materials where space is limited—such as a brochure or an application for a smart phone. The maps show the location and geographic expanse of the trail network.

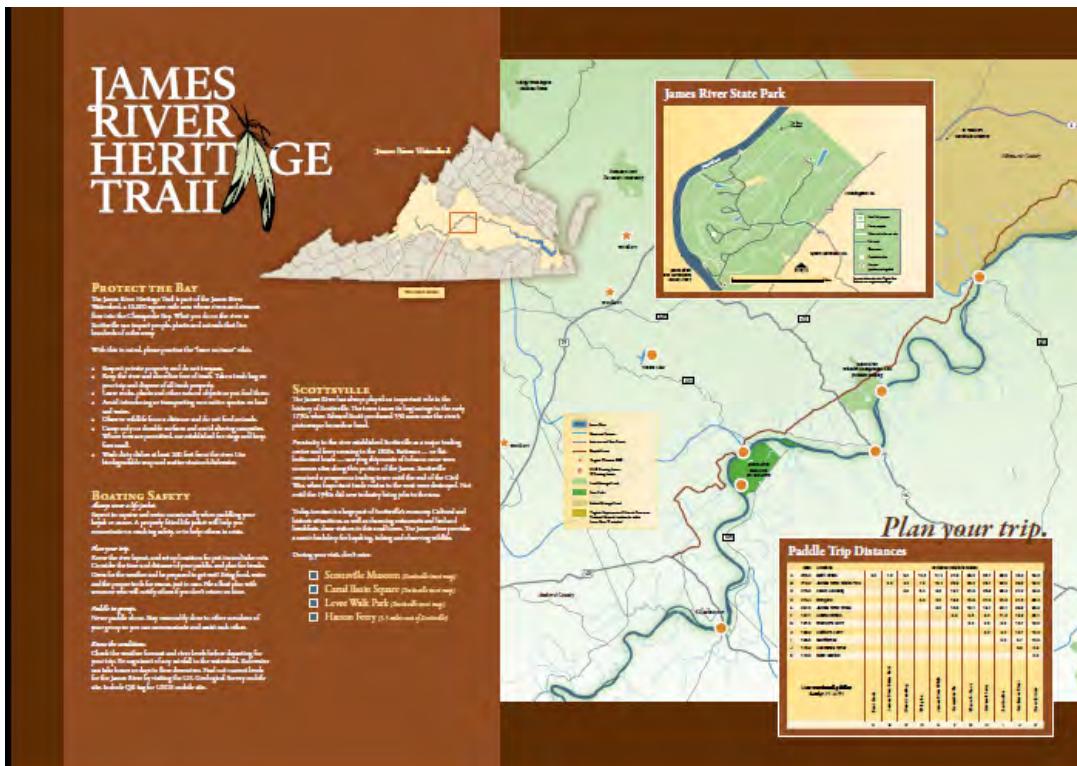
A simplified version of the thumbnail map, without topographic detail and colors depicting land cover, can be used when space is limited and map details may not be clearly readable.



REGIONAL ORIENTATION

Orientation panels place users in the landscape, illustrate location in the context of the entire Trail network, and provide important information. These panels should also stimulate further interest in the Trail network.

The PHT regional panel shown here has been designed for use at trailheads and other key destinations in the network. The panel focuses on the bigger picture (regional geographic scale) and is designed to give users a sense of something larger. The map is not intended to be used for navigation.



Potomac Heritage National Scenic Trail

PIEDMONT REGION

George Washington walked, rode horseback, and boated through this region pursuing his dream of westward expansion—connecting the Atlantic Seaboard to the frontier West. His efforts to reengineer, dam, channelize, and straighten the Potomac River influenced industrialization in the 1800s and beyond. But the river resisted. Today wild intermingles with urban. Huge oaks, sycamores, and tulip poplars guard the river and welcome all seeking solace there.

The Potomac Heritage National Scenic Trail network is a portal into the region's history, culture, and ecology. Here a network of hiking and water trails affords you an intimate connection with the river and the distinctive Piedmont landscape. The trails beckon exploration and offer adventure.



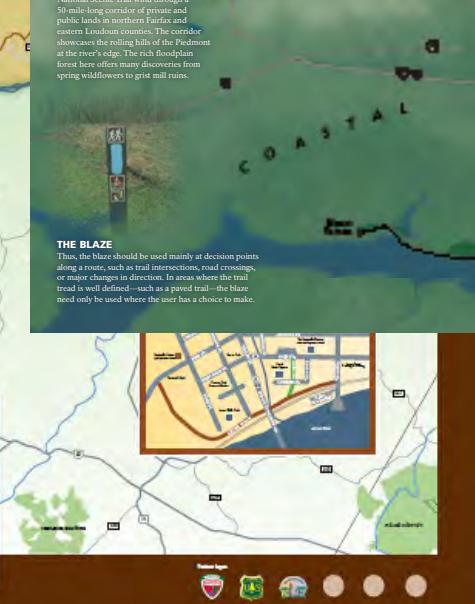
Potomac Heritage
National Scenic Trail

Trail segments here in Fairfax and Loudoun counties are part of the larger Trail network that traverses the District of Columbia, Virginia, Maryland, and Pennsylvania. The Trail network passes through five distinct landscapes, each the result of climatic effects on past and present geologic environments and each influencing the histories of people, Native Americans,



Water Tra

Miles of water trail on the Potomac River and Goose Creek allow paddlers to hug the safety and calm near the shoreline. Paddlers may surprise great blue herons, kingfishers, wood ducks, and even river otters. Historic features like Goose Creek Canal and George Washington's Patowmack Canal await your discovery.



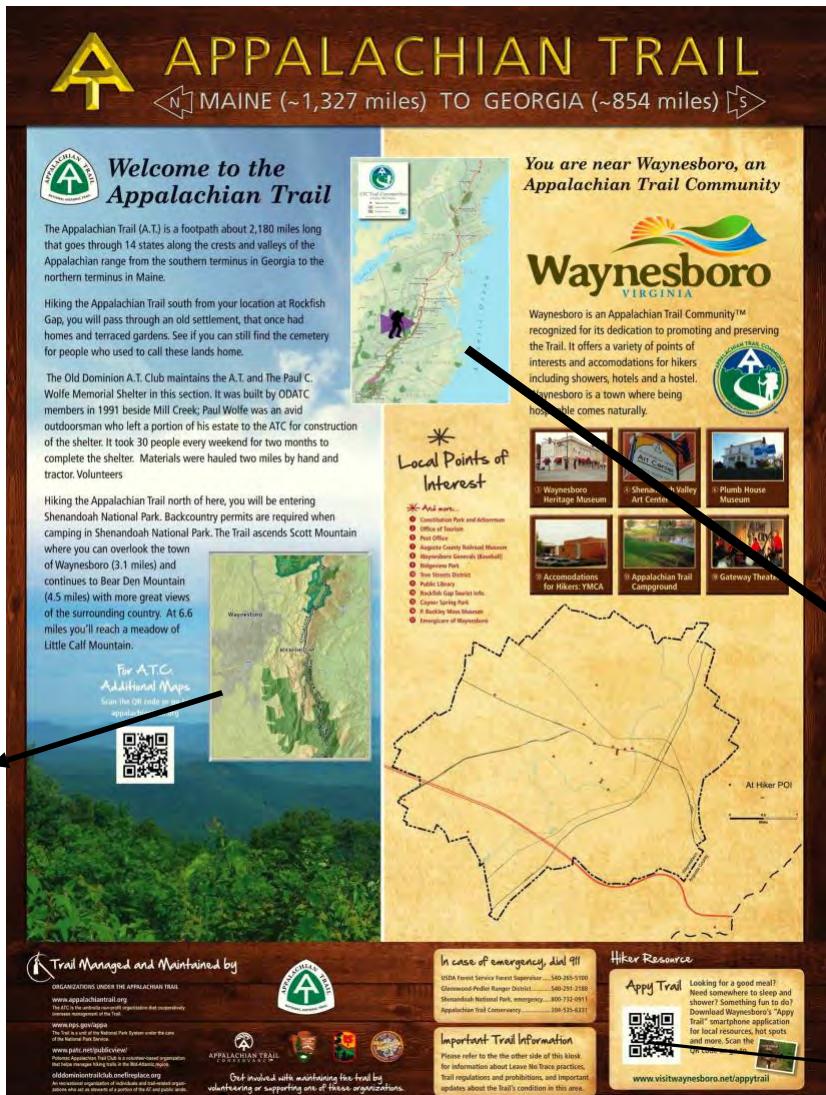
ANCHOR SITES

Anchor sites may be key historical locations, small towns, tourist destinations, or places where annual events are held that draw large numbers of people. Regional panels should be located at these junctions.

These trailheads are developed areas that provide, at a minimum, direct access to a state trail and include parking, multiple informational and interpretive panels, toilets, and a visitor contact person--either at a visitor center, library or supporting business. The signs at these trailheads should include a thumbnail map, a regional panel and a local experience panel.



APPALACHIAN TRAIL COMMUNITY SIGN



Area
A.T.
Map

Recommended: Who Manages the Trail
tells the story of the cooperative
management system and provides contact
information for the partners – Trail club(s),
ATC, and land-manager agency logos.

**Recommended:
APPALACHIAN
TRAIL Header** in
style presented,
with approximate
distances to
Springer and
Katahdin because it
tells the story of the
whole Trail and
serves as an
inspiration.*

Overview Map of entire
A.T. may be a NPS strip
map reproduced no shorter
than 36" or a simplified
and smaller version
available from ATC.

QR
Code



Harpers Ferry-Bolivar

VISITOR SERVICES

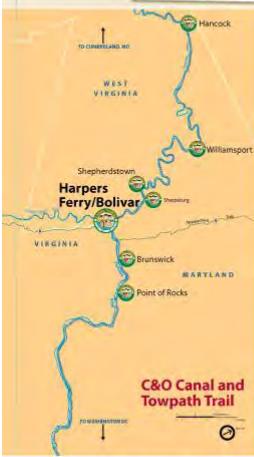
 

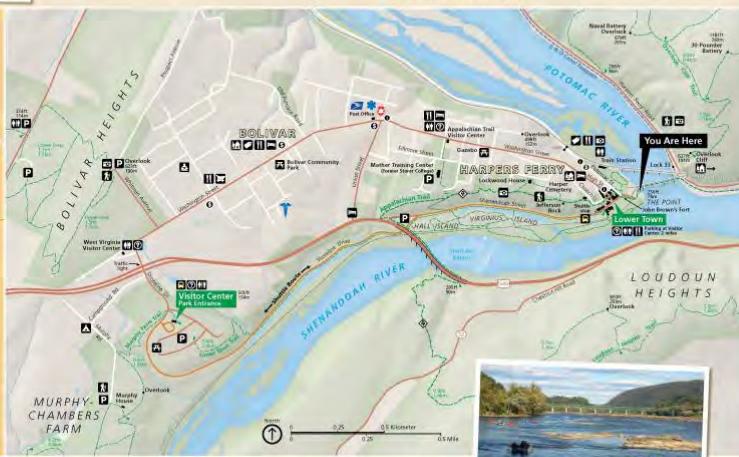
Robert Harper, Thomas Jefferson, Meriwether Lewis, John Brown, Stonewall Jackson, W.E.B. Du Bois, and Frederick Douglass all visited Harpers Ferry/Bolivar—and now you! We hope you enjoy your visit to our historic towns at this gap in the Blue Ridge. Take a hike or a bike ride, float down the rivers, visit Harpers Ferry National Historical Park, and explore our unique and friendly shops.

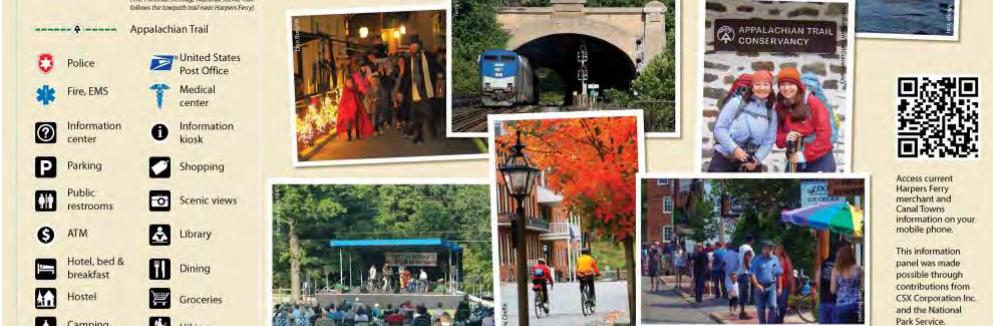
Dining and refreshments are available throughout the lower town and along Washington Street in Bolivar. A variety of accommodations is available for those staying overnight. The lower town has a historic inn, Bolivar has a hostel, and bed and breakfasts are sprinkled throughout the two towns. Motels and campgrounds are on or just off nearby US 340.

Outstanding trails, including the world-famous Appalachian Trail, offer memorable views and the opportunity to learn about our nation's history while getting some fresh air. Outfitters and guides in and around Harpers Ferry offer guided trips or rentals for those interested in fishing, horse or bike trails, zip lines, river trips, exploring our history, or even hearing about our resident ghosts!

More information for visitors is available at the Jefferson County Visitors Bureau in Bolivar, from the Appalachian Trail Conservancy in the upper town of Harpers Ferry, and from National Park information centers on US 340 and in the lower town. When you are ready to leave, Amtrak, the MARC commuter train, PANTRAN bus service, taxis, car rentals, shuttle services, highways and trails all provide connections to other places. But we hope you'll return to discover more of our towns and our beautiful region.







LOCAL EXPERIENCE

Navigational and related user information should be shown on a “local experience” map or panel that will often be accompanied by a regional orientation panel. The exact design and content of the local experience map or panel is flexible. The local experience panel should clearly indicate both the local trail and the statewide trail. Below is an example of a local experience panel. The map at left shows the local trail and the AT, but could have also shown the PHT, which follows the C&O Canal.



GATEWAYS

When trail users approach urbanized areas, they should be welcomed by a gateway that directs them to services they need, creates a sense of place, promotes trail-oriented events, and recognizes businesses that give back to the trail.

Gateways will typically provide long-range parking for trail users and have a choice of restaurants and lodging, with supporting businesses that will support shuttles, mail drops, vending machines and other services for trail users.

Gateway signs along the Great Allegheny Passage provide the following information:

- 1) Town identity and function of sign
 - 2) Logo for Trail Town Program (this would be replaced with the state trail logo in Virginia)
 - 3) A town map with numbered services that relate back to the directory in the left panel
 - 4) Directory
 - 5) Sponsor identification
 - 6) Photos that highlight appealing views, not specific businesses
 - 7) Photo captions

Note: Gateway signs erected within VDOT right-of-way must meet VDOT's requirements for Community Gateway signing.



Unless your sign is generating ad revenue, do not use specific business names. Opt for general categories like "lodging" and "food services" so your sign does not become dated when a business closes.

The image shows the front cover of the Connellsville Town Map and Directory. It features a circular logo with a figure holding a sword, labeled 'TOWN PROGRAM' at the top and 'CONNELLSVILLE' at the bottom. The title 'Connellsville' is in large white letters at the top right, with 'TOWN MAP AND DIRECTORY' below it. A blue circle with the number '1' is on the title, and a blue circle with the number '2' is on the logo. A red circle with the number '3' is on the map. A blue circle with the number '4' is on the map. A blue circle with the number '5' is on the right side. A blue circle with the number '6' is on the bottom left. A blue circle with the number '7' is at the bottom center. There is a small inset map in the bottom right corner showing a street view of Connellsville.

VISITOR SERVICES

Use of the following universal symbols for visitor services will help overcome language barriers.

Artwork for these symbols and others can be downloaded at this link:
www.aiga.org/symbol-signs/



Lodging



Restrooms



Parking



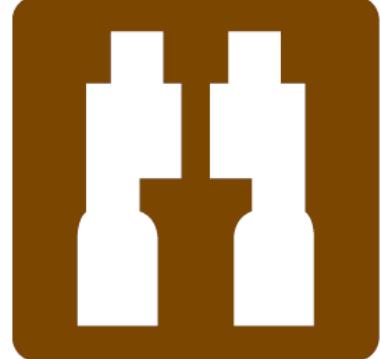
Hospital



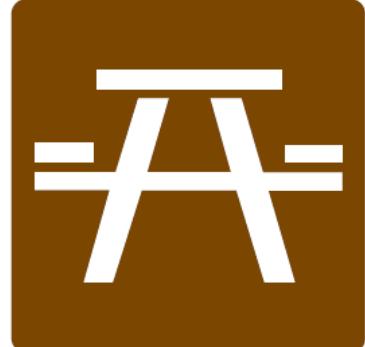
Drinking Water



Food/Restaurant



Wildlife Viewing



Picnic Area



Camping



Carry on Launch Area

CHAPTER 6

OTHER APPLICATIONS

Public Transit Hubs

Public transit hubs, such as Virginia Railway Express (VRE) and Maryland Area Regional Commuter (MARC) Stations, have an opportunity to serve as a location for visitors to enter the PHT trail network and should allow for the same level of signage and amenities as trailheads. A public transit hub that serves as a trailhead (and that is recognized on informational materials) may have bike lockers, safe pedestrian access to the Trail, and sidewalks and/or bike lanes along major motorized and nonmotorized access routes to the transit hub.



Temporary wayfinding signage to guide trail users - walkyourcity.org



The Department of Rail and Public Transportation's Multimodal System Design Guidelines designate seven modal emphasis options. Many routes will emphasize more than one. These options will have a significant impact on roadway cross section design.



Vision for Multimodal Transportation in Virginia

Virginia will have a coordinated system of roads, rails, ports, transit, bicycle, pedestrian and aviation resources that provides integrated and efficient options that meet citizen, visitor and business transportation needs.

- Governor's Multimodal Strategic Plan for the Commonwealth of Virginia, December, 2010.



"Gateway" branding concept for MBT entrances - Source: DCCAH

ENCOURAGING APPROPRIATE BEHAVIOR WITH ETIQUETTE SIGNS

Signs have an important role to play in raising awareness. Some visitors may not be aware of common courtesies, or need to be reminded. Pictograms can help overcome language barriers.



Welcome to State Park Name

For the safety and enjoyment of all park guests, Virginia State Parks recommend the following rules of conduct:

- Park properly and in designated areas only
- Ride on designated trails only
- Stay to the right when encountering other users
- Be courteous to other trail users at all times
- Place litter, human and equine in proper receptacles
- Please pay all fees. Fees paid in Virginia State Parks are returned to the parks for their upkeep and maintenance
- Proof of current testing for Equine Infectious Anemia (Coggins Test) is required





RESOURCE PROTECTION SIGNS



RESPECTED IS OPEN ACCESS

Riding on trails that are wet can damage trails. Rain softened surfaces are vulnerable to use immediately after rainfall events. Please allow trails time to dry before adventuring out. Ride on dirt roads or more durable surfaces and allow the trails to recover. Do your part by modeling appropriate behavior and best practices.

This PSA was made possible by the American Quarter Horse Association's STEP program.

**Rain? Rein go away.
Come again another day!**

tread lightly!®

ADDING VALUE

Trail signs can add value to the experience by educating users, some of whom may not be aware of conservation or historic preservation values.

Signs also are an opportunity to recognize the important funding streams or people that have made these special places possible.

Trail funds can also be raised by offering sign sponsorships.



Leave No Trace Outdoor Ethics

- **PLAN AHEAD & PREPARE**
"Know before you go!" Learn everything you can about the area you plan to visit and the regulations for its use.
- **TRAVEL & CAMP ON DURABLE SURFACES**
Use established campsites and trails, where available. Avoid sites just beginning to show impacts. Keep camps small and at least 200 feet from water, occupied campsites, and trails.
- **DISPOSE OF WASTE PROPERLY**
"Pack it in, pack it out!" Bury human waste in a cathole 6-8 inches deep and at least 200 feet from water. Wash yourself and your dishes at least 200 feet from water.
- **LEAVE WHAT YOU FIND**
Do not damage, deface, or remove natural objects or cultural artifacts. Leave them for others to enjoy. Don't build structures, dig trenches, or alter natural features.
- **MINIMIZE USE & IMPACTS OF FIRE**
Use a lightweight stove, instead of a fire. If you build a fire, use only small dead wood found on the ground and use existing fire rings.
- **RESPECT WILDLIFE**
Watch wildlife from a distance and never approach, feed, or follow it. Seal food tightly and store it out of reach. Control pets at all times or consider leaving them at home.
- **BE CONSIDERATE OF OTHER VISITORS**
Don't disturb others. Preserve the natural quiet. When you meet horses on the trail, step off the downhill side and speak softly as they pass.

Please help us protect the High Uintas Wilderness... LEAVE NO TRACE!

Great Allegheny Passage

Passing through the Mountains

The Great Allegheny Passage, a segment of the Potomac Heritage National Scenic Trail, is the longest rail-trail in the East. Using massive railroad bridges and tunnels, the hiking and biking trail passes through—not over—the Allegheny Mountains.

The trail system is complete between McKeesport and Meyersdale, Pennsylvania. When finished, the Great Allegheny Passage will extend 150 miles between Cumberland, Maryland, and Pittsburgh, connecting with the western terminus of the 184.5-mile Chesapeake and Ohio Canal Towpath.

More Information

Allegheny Trail Alliance
888-ATA-BIKE
www.atatrail.org



GREAT ALLEGHENY
PASSAGE

Potomac Heritage National Scenic Trail

District of Columbia, Maryland, Virginia, Pennsylvania

National Park Service
U.S. Department of the Interior



Connecting People and Places

The Great Allegheny Passage is a segment of the Potomac Heritage National Scenic Trail. An enterprise of many partners, the evolving Trail network celebrates the heritage of the Potomac and upper Ohio river basins and offers opportunities for hiking, bicycling, boating, horseback riding and cross-country skiing.



Information on federal roles

Potomac Heritage N.S.T. Office
National Park Service
304-535-4014
www.nps.gov/pohe
Post Office Box B
Harpers Ferry, WV 25425

RACK CARDS

Designed to fit in a brochure rack, these cards inform readers about the existence and location of trail segments and of an association with the trail network. They are used for promotion and public education and not for site-specific user information. Rack cards are a relatively inexpensive way to print and distribute information about a specific trails or the state trail network. Placed at visitor centers or museums, for example, rack cards will explain local connections to the state trail network as a whole. At public events and visitor centers away from the trail, cards invite visitation and public participation. With a minimal initial investment, rack cards can be easily updated.

Typically 3.75 inches wide by 8.5 inches tall, rack cards are printed on both sides. Side A of the card contains information about the local trail segment and key messages about the trail's relationship to the state trail network; optional elements include a major illustration. Side B features a regional, state or national trail map to place the trail in its larger context.



ELECTRONIC APPLICATIONS



Information Stations in Virginia State Parks

Terrain360 uses images taken at specified intervals along the trail to recreate the trail experience for potential visitors. Each waypoint measures elevation along with an accurate GPS location, so that a trail profile can be generated.



Beacon Technology

Both Android and Apple smartphones are compatible with current beacon technology known as BLE (Bluetooth low energy).

Proximity beacons in a simple wayfinding app can help direct people along the trail. Match-box size bluetooth devices placed along the route can trigger specific messages to smartphones within 300 feet.

This technology is affordable, efficient and easy to install and customize. Push notifications can be updated with podcasts, maps, photos, and special offers.

The technology also enables geo-fencing, a virtual fence created by GPS or radio signals to define geographic boundaries. This technology combines awareness of the user's current location with awareness of the user's proximity to other locations of interest.

The Department of Historic Resources is planning to use beacon technology to push historical marker content out to passing smartphones so that people don't have to pull off the highway to learn more.



Case Study

The East Coast Greenway Alliance is using technology to minimize the number of signs they need to place along the route. On their website, you can find a trip planner set up to help anyone design their own custom East Coast Greenway itinerary. The trip planner provides a first-class cue sheet, complete with map and elevation profile, that can be printed or saved as a .pdf.

A mobile app allows users to add shared data--for example--scenic photos or the locations of public restrooms or bike shops.

The Alliance uses these tools in combination with signs for a comprehensive wayfinding system. These tools have helped raise the profile of the East Coast Greenway Alliance, which has grown dramatically over the past few years.



CHAPTER 7

RESOURCES FOR TRAIL PARTNERS

Trail partners are encouraged to consult with each trail administrator for state trail sign projects. Agencies and organizations that manage trail segments may also contact DCR to request James River Heritage and Beaches to Bluegrass logo signs and artwork for signs, decals and stickers.

CONTACTS

FOR NATIONAL SCENIC TRAILS

Appalachian National Scenic Trail Office
P.O. Box 50
Harpers Ferry, WV 25425
304-535-6278
Appalachian Trail Conservancy
799 Washington Street
Harpers Ferry, WV 25425-0807
Phone: 304.535.6331
Fax: 304.535.2667
info@appalachiantrail.org

Potomac Heritage National Scenic Trail Office National Park Service
304-535-4016 or 4014
phnst@nps.gov
www.nps.gov/pohe
Website for the National Trails System Act of 1968 (as amended):
<http://www.nps.gov/nrc/nrc/programs/nts/legislation.html>



This kiosk provides space for statewide, regional and local experience content.

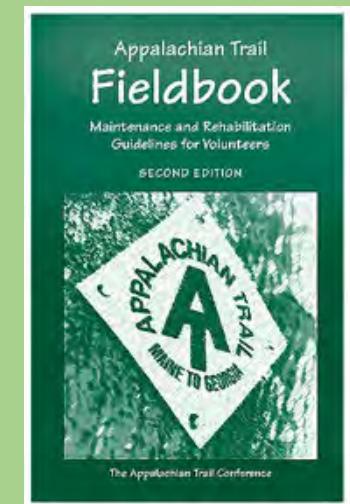
FOR STATE RECREATION TRAILS

East Coast Greenway Alliance
5826 Fayetteville Rd.
Suite 210
Durham, NC 27713
info@greenway.org
919-797-0619
www.greenway.org

Great Eastern Trail Association
Tom Johnson
118 Park Street S.E.
Vienna VA 22180-4609

James River Association
4833 Old Main Street
Richmond, VA 23231
804-788-8811
info@jrava.org

Beaches to Bluegrass Trail Association



DESIGN CRITERIA FOR TRAILS

Final Guidelines for Outdoor Developed Areas:

<http://www.access-board.gov/guidelines-andstandards/recreation-facilities/outdoor-developedareas/final-guidelines-for-outdoor-developed-areas>

Connecting our Commonwealth: The Virginia Greenways and Trails Toolbox: A How-To Guide for the Organization, Planning, and Development of Local Greenway and Trails Programs in Virginia

http://www.dcr.virginia.gov/recreational_planning/greentrailtools.shtml

DESIGN CRITERIA FOR ROUTES

Virginia Department of Transportation Road Design Manual, Appendix A, Section A-5:

http://www.extranet.vdot.state.va.us/locdes/Electronic_Pubs/2005%20RDM/RoadDesignCoverVol.1.pdf

Guidelines for Pedestrian Facilities in the Public Rights-of-Way:

<http://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/proposed-rights-of-way-guidelines>

American Association of State Highway and Transportation Officials (AASHTO) Guide for the Planning, Design and Operation of Pedestrian Facilities

provides guidance on dimensions, use and layout of specific pedestrian facilities.

The Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD) Chapter 9 is the primary source for traffic control for bicycle facilities: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/pdf_index.htm

ACCESS FOR EVERYONE

The Americans with Disabilities Act (ADA), the Architectural Barriers Act (ABA), and Outdoor Developed Area Guidelines for trailheads and trail signs ensure an accessible experience to visitors of all abilities. State and local jurisdictions are required to comply with ADA guidelines, while federally managed sites or projects using federal funds must comply with ABA.

The full set of guidelines can be found at the following links:

<http://www.access-board.gov/guidelines-and-standards/recreation-facilities/outdoor-developed-areas/a-summary-of-accessibility-standards-for-federal-outdoor-developed-areas>

<http://www.access-board.gov/guidelines-and-standards/recreation-facilities/outdoor-developed-areas>

<http://www.ada.gov/>

The check lists in the appendix are provided so that existing and proposed trailheads and trail signage can be evaluated for their compliance with **ABA and Outdoor Developed Area Guidelines**.



APPENDIX

CHECK LISTS

Trailhead Kiosks

Yes No N/A

The letters are in a readable type face of sans serif (Arial, Optima, Trebuchet, Frutiger, Helvetica, Tahoma, or Univers) or serif (NPS Rawlinson or Century). NPS standard fonts, Frutiger and NPS Rawlinson, are preferable.

Font size is 24pt (Helvetica) minimum.

Regardless of type size, there is sufficient space between characters, words, and lines. The default settings of Frutiger and NPS Rawlinson provide ample space.

Alignment is flush left and ragged right and hyphens are avoided.

Black or white type color is used or at least a 70% contrast is distinguishable (e.g., black text on any light colors, white text on dark colors.) Contrast of typeface to background is between 70% and 95%.

Understandable hierarchical patterns and layouts are used to simplify reading.

YES NO N/A

Purely decorative elements or graphics in the background are avoided so that text is presented clearly.

Italicized and underlined text is avoided.

Special effects to text are only on large display fonts or headers, not on secondary text.

All-caps text is avoided.

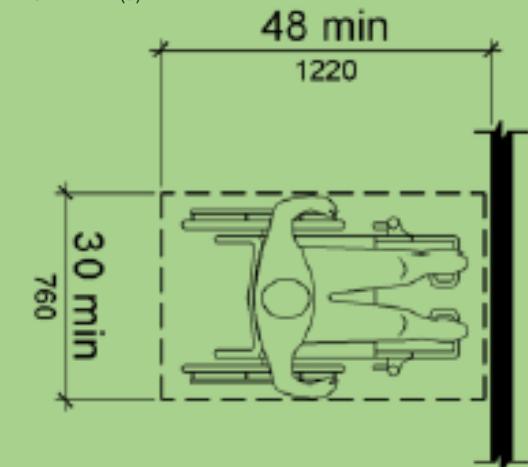
Graphics (photographs, diagrams, and maps) are enlarged accordingly without distortion, loss of detail, contrast, focus, or clarity of image.

Photograph or image content contrasts with surrounding content clearly.

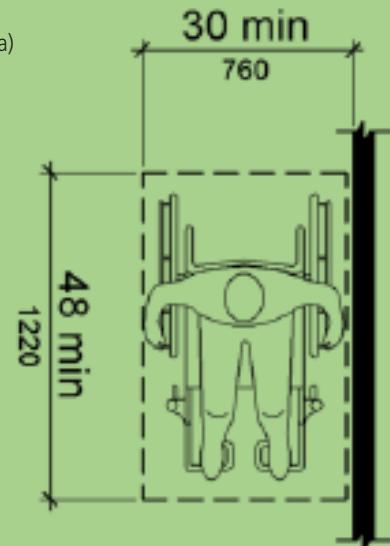
Line drawings are clear and bold with limited detail and a minimum type size of 16pt for labels.

Clear floor space is provided at kiosk, 2'6" x 4' (30" x 48") from a forward or parallel approach, with a 2% maximum slope in any direction on a firm and stable surface. See Figure 305.5.

FORWARD (a)



PARALLEL (a)



POSITION OF CLEAR FLOOR OR GROUND SPACE

Outdoor Constructed Features at Trailheads:

YES NO N/A

At least 20%, but no less than one, of each type of outdoor constructed feature provided at trailheads is accessible.

Unless otherwise specified, one full unobstructed side of the clear ground space adjoins or overlaps an outdoor recreation route or a trail, as applicable, or another clear ground space.

Openings in the clear ground space surface do not allow the passage of a sphere more than $\frac{1}{2}$ " in diameter.

A handheld shower spray unit is provided, with a hose at least 4'11" (59") long and at least one fixed position 1'3" (15") minimum and 4' (48") maximum above the ground. **EXCEPTION:** When vandalism is a consideration, a fixed showerhead mounted at 4' (48") above the ground is allowed in place of a handheld shower spray unit.

Operable parts of outdoor rinsing showers, such as handles or levers, are 1'3" (15") minimum and 4' (48") maximum above the ground. They are operable with one hand without tightly grasping, pinching, or twisting the rest, and with no more than 5 pounds of force. If self-closing devices are used, they remain open and allow water to flow for at least 10 seconds.

Benches:

YES NO N/A

Where provided, benches have companion seating clear space adjacent to the bench of 3' x 4' (36" x 48") adjoining an outdoor recreation access route or trail. The clear space does not overlap the trail and is a maximum 2% maximum grade in any direction. If necessary for drainage and the clear ground space is other than asphalt, concrete, or boards, a 5% maximum slope is allowed. 20%, but no less than one, of each type of bench provided at each location on the trail is accessible.

Best practice: Bench seat is 3'6" (42") long minimum and between 1'6" (20") deep minimum and 2' (24") deep maximum. Bench seat surface is 1'3" (17") minimum and 1'5" (19") maximum above the finish floor or ground. Additional clear floor space is provided parallel to the short axis of the bench, 2'6" by 4' (30" x 48") from a parallel approach, with a 2% maximum slope in any direction on a firm and stable surface. See Figure 305.5.

Trash and Recycling Receptacles:

YES NO N/A

Where provided, trash and recycling receptacles have a clear ground space of 3' x 4' (36" x 48") positioned for a forward approach to the receptacle opening OR 2'6" x 5' (30" x 60") positioned for a parallel approach to the receptacle opening. The clear ground space is a firm and stable surface with 2% maximum slope in all directions or 5% maximum where necessary for drainage and the surface is other than asphalt, concrete, or boards.

Operable parts of trash and recycling containers, such as handles or latches, are 15" minimum and 48" maximum above the ground. They are operable with one hand without tightly grasping, pinching, or twisting the rest, and with no more than 5 pounds of force.

Viewing Scopes:

YES NO N/A

Viewing scopes have a clear ground space of 3' x 4' (36" x 48") positioned for a forward approach to the viewing scope with a knee clearance of 2'3" (27") minimum and a toe clearance of 9" minimum. The clear ground space is centered on the eyepiece of the viewing scope. The clear ground space is a firm and stable surface with 2% maximum slope in all directions or 5% maximum where necessary for drainage and the surface is other than asphalt, concrete, or boards.

The eyepiece of the viewing scope used from a seated position is 3'7" (43") minimum and 4'3" (51") maximum above the ground surface. Other operable parts of the element, such as handles or levers, are located 1'3" (15") minimum and 4' (48") maximum above the ground and are operable with one hand without tightly grasping, pinching, or twisting the rest, and with no more than 5 pounds of force.

Trailheads:

YES NO N/A

Trailhead signage provides the following information: length of the trail or trail segment; surface type; typical and minimum tread width; typical and maximum running slope; and typical and maximum cross slope.

At least one outdoor recreation access route connects accessible parking spaces and other arrival points; the starting point of the trail; and accessible elements, spaces, and facilities within the trailhead.

Existing trailheads. Elements or spaces are altered but the circulation path to the altered space or element is not changed at existing trailheads. If so, the circulation path does not have to be altered to comply with the technical requirements of outdoor recreation access routes. If the circulation path to the trailhead is altered and a condition for exception does not permit full compliance with a specific provision in the technical requirements for outdoor recreation access routes, the circulation path must comply with the specific provision to the extent practicable.

Outdoor Exhibits and Maps:

Non-tactile Exhibits and Maps:

YES NO N/A

Objects are identified and it is communicated to visitors that the objects are NOT meant to be touched.

When possible, alternative formats such as audio descriptions and large print displays are provided for learning and understanding what the exhibits are meant to convey

Tactile and Interactive Exhibits and Maps:

YES NO N/A

Parallel Approach. Exhibit surface is 3' (36") long minimum and 3' (36") high maximum

Forward Approach. Exhibit surface is 2'-6" (30") long minimum and 3' (36") high maximum, with 2'-3" (27") minimum knee clearance space under the counter.

Objects are identified and it is communicated to visitors that objects are meant to be touched.

Tactile models, maps, reproductions, and other exhibits are available whenever possible.

YES NO N/A

The model is made of materials that are comfortable to touch, resistant to wear, and finished with a coating that allows for routine cleaning.

There are no applied or glued elements on the model, but instead it is cast, carved, or CNC (computer numerical control) routed as one piece.

Color and images are incorporated in the materials, spray applied, or ink-jet printed. There is no brush-painted detail or self-adhesive vinyl decals or type used.

Varieties of texture are used to differentiate features, such as topography and vegetation, on the model.

Details of the model are in the appropriate scale and are discernible by finger touch.

Clear floor space is provided at exhibits, 2'6" by 4' (30" x 48") from a forward or parallel approach, with a 2% maximum slope in any direction on a firm and stable surface. See Figure 305.5.

YES NO N/A

Reach ranges for tactile and interactive exhibits and maps from a forward approach that is unobstructed are between 1'3" (15") minimum and 4' (48") maximum. See Figure 308.2.1. If the reach is obstructed a maximum of 1'8" (20"), the reach may be 4' (48") maximum , while where the obstruction is between 1'8" (20") and 2'1" (25"), the reach may be 3'8" (44") high maximum. See Figure 308.2.2.

Reach ranges for tactile and interactive exhibits and maps from a parallel approach that is unobstructed no more than 10" are between 1'3" (15") minimum and 4' (48") maximum. See Figure 308.3.1. If the side reach is obstructed no more than 10" maximum in depth and 2'10" (34") maximum in height, the high side reach is 4' (48") maximum in height. See Figure 308.3.2. Where the reach depth is between 10" and 2' (24"), the high side reach shall be 3'10" (46") maximum for a reach depth of 2' (24") maximum. See Figure 308.3.2.

Interpretive Waysides:

YES NO N/A

Letters are in a readable typeface of sans serif (Arial, Optima, Trebuchet, Frutiger, Helvetica, Tahoma, or Univers) or serif (NPS Rawlinson or Century). NPS standard fonts, Frutiger and NPS Rawlinson, are preferable.

Font size is 24pt (Helvetica) minimum.

Regardless of type size, there is sufficient space between characters, words, and lines. The default settings of Frutiger and NPS Rawlinson provide ample space.

Alignment is flush left and ragged right and hyphens are avoided.

Black or white type color is used or at least a 70% contrast is distinguishable (e.g., black text on any light colors, white text on dark colors. Contrast of typeface to background is between 70% and 95%).

Understandable hierarchical patterns and layouts are used to simplify reading.

Purely decorative elements or graphics in the background are avoided so that text is presented clearly.

YES NO N/A

Italicized and underlined text is avoided.

Special effects to text are only on large display fonts or headers, not on secondary text.

All-caps text is avoided.

Graphics (photographs, diagrams, and maps) are enlarged accordingly without distortion, loss of detail, contrast, focus, or clarity of image.

Photograph or image content clearly contrasts with surrounding content.

Line drawings are clear and bold with limited detail and a minimum type size of 16pt for labels. Tactile signage should be used whenever possible.

Clear floor space is provided at work surfaces, 2'6" by 4' (30" × 48") from a forward approach, with a 2% maximum slope in any direction on a firm and stable surface. See Figure 305.5.

Interpretive waysides provide 2'3" (27") minimum knee clearance under the surface.

Event Announcements:

YES NO N/A

Event announcements are provided with information to contact the park (email and phone number) to request special accommodations that may be needed.

Event announcements are provided in a variety of formats including large print, audio, and/or accessible PDF to meet the needs of diverse audiences.

YES NO N/A

Black or white type color is used or at least a 70% contrast is distinguishable. Contrast of typeface to background shall be between 70% and 95%.

Graphics (photographs, diagrams, and maps) are enlarged accordingly without distortion, loss of detail, contrast, focus, or clarity of image.

Photograph or image content clearly contrasts with surrounding content.

Transcripts are available for videos in standard, large print format, and/or accessible digital documents (e.g., PDFs).

Audio-Visual Systems and Videos:

YES NO N/A

Videos include open and/or closed captioning. The captions display spoken dialogue as printed words on television screens, computer monitors, projection screens, captions boards, and other visual displays. Text should indicate identification of speakers and nonverbal sound effects. Subtitles refer to translation only. Captions display vocabulary relevant to the audience. Open captioning is recommended as a best practice, and NPS guidelines state that all new media must be open-captioned, i.e., on at all times. A black bar underneath text is also recommended as a best practice to increase readability for users.

Cell Phone Tours and Audio Programs:

YES NO N/A

Black or white typeface colors are used on cell phone tour indicator signage of at least a 70% contrast and are distinguishable. Contrast of typeface to background shall be between 70% and 95%.

YES NO N/A

Letters of cell phone tour indicator signage are in a readable typeface of sans serif (Arial, Optima, Trebuchet, Frutiger, Helvetica, Tahoma, or Univers) or serif (NPS Rawlinson or Century). NPS standard fonts, Frutiger and NPS Rawlinson, are preferable. Font size is 24pt (Helvetica) minimum and provides sufficient space between characters, words, and lines.

YES NO N/A

Transcripts are available for cell phone tours in standard, large print format, and/or accessible digital documents (e.g., PDFs).

YES NO N/A

If applicable, walking routes are accessible with 3' (36") minimum width and 5' (60") minimum diameter turning spaces.

YES NO N/A

Where stopping points are provided at elements, they allow 2'6" x 4' (30" x 48") clear space from a forward or parallel approach with a 2% maximum slope in any direction on a firm and stable surface. See Figure 305.5. If necessary for drainage, slip underneath elements may be 8.33%.

Conditions for Exceptions:

The conditions in AGODA 1019 are the basis for using the exceptions to the requirements for outdoor constructed features and trails. On trails, the exceptions apply only on the portion of the route where the condition applies. The trail is required to fully comply with the requirements in chapter 10 of the AGODA at all other portions of the route where the conditions do not apply.

YES NO N/A

This project will use an exception in AGODA 1019.2 for outdoor constructed features and trails.

Compliance is not feasible due to terrain.

Compliance cannot be accomplished with the prevailing construction practices.

Compliance would fundamentally alter the function or purpose of the facility or the setting.

Compliance is precluded by the:

Endangered Species Act (16 U.S.C. §§ 1531 et seq.)

National Environmental Policy Act (42 U.S.C. §§ 4321 et seq.)

National Historic Preservation Act (16 U.S.C. §§ 470 et seq.)

Wilderness Act (16 U.S.C. §§ 1131 et seq.)

Other federal, state, or local law the purpose of which is to preserve threatened or endangered species; the environment; or archeological, cultural, historical, or other significant natural features

