

Trailhead Signage Annotated Examples:

Outdoor Developed Areas

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# Background

On November 25, 2013, legal requirements for federal outdoor developed areas were mandated. As described by the United States Access Board, the “provisions address access to trails, picnic and camping areas, viewing areas, beach access routes and other components of outdoor developed areas on federal sites when newly built or altered.”[[1]](#endnote-1) These requirements were incorporated into the Architectural Barriers Act Accessibility Standards (ABAAS).

# Purpose

This document provides additional graphic design guidance on the application of trailhead signage requirements through annotated examples. For comprehensive information about outdoor developed areas requirements, go to the U.S. Access Board’s Webpage: [About the Standards for Outdoor Developed Areas](https://www.access-board.gov/guidelines-and-standards/recreation-facilities/outdoor-developed-areas).[[2]](#endnote-2)

# Examples

The examples in this document represent an evolution of graphic design options with one of Harpers Ferry Center’s most recently produced trailhead signs presented first. As technologies, fabrication materials, production techniques and a better understanding of effective communication evolve, so too will these examples.

# Baseline Requirements for Trailhead Signage

1. Length of the trail or trail segment
2. Surface type
3. Typical and minimum tread width
4. Typical and maximum running slope
5. Typical and maximum cross slope

# Pertinent ABAAS References and Requirements

**F216.13 Trailhead Signs**. Where new trail information signs are provided at trailheads on newly constructed or altered trails designed for use by hikers or pedestrians, the signs shall comply with 1017.10.

**Advisory F216.13 Trailhead Signs.** New trail information signs are required to comply with 1017.10 regardless of whether the newly constructed or altered trails comply with 1017. If trail information signs designate the name of the trail, only the name of the trail is required to comply with 703.5. See F216.2. Tactile characters are not required on exterior signs. Trail information signs are not required to display the International Symbol of Accessibility.

**1017.10 Trailhead Signs.** Trail information signs at trailheads shall include: (1) Length of the trail or trail segment; (2) Surface type; (3) Typical and minimum tread width; (4) Typical and maximum running slope; and, (5) Typical and maximum cross slope.

# Abraham Lincoln Birthplace National Historical Park (ABLI)



Figure 1. ABLI trailhead panel, Harpers Ferry Center

To date, this example is the most comprehensive approach to effectively communicating trailhead information. In addition to required information, information is delivered multi-modally. The upright panel provides information visually. The horizontal panel provides the same information tactilely, with braille and textures to differentiate areas. Speakers on the front edge deliver audio description on demand to provide information aurally.

The tactile panel was developed for 3-D print production. At the time of the project (2016), only one-color printing was available. If multi-colored 3-D printing is possible, future designs might consider presenting all information on a single panel. Regardless, the tactile panel must be placed horizontally or at a low angle for use by people who are blind or have low vision. Maintenance of panels must also be planned as replacement every few years is anticipated.

## ABLI Trailhead Signage: Detail of Graphic Panel



Figure 2. ABLI trailhead upright panel, Harpers Ferry Center

Certain color combinations and shades of color may not be discernable for people who are color blind, including red and green combinations. Make sure that you are knowledgeable about color blindness and design techniques for applying different shades and saturation of colors before you create color combinations. While this map includes red and green combinations, when tested through a greyscale filter, the contrast was effective. Each trail was also identified by a unique patterned line to further differentiate each trail.

## ABLI Trailhead Signage: Detail of Tactile Panel

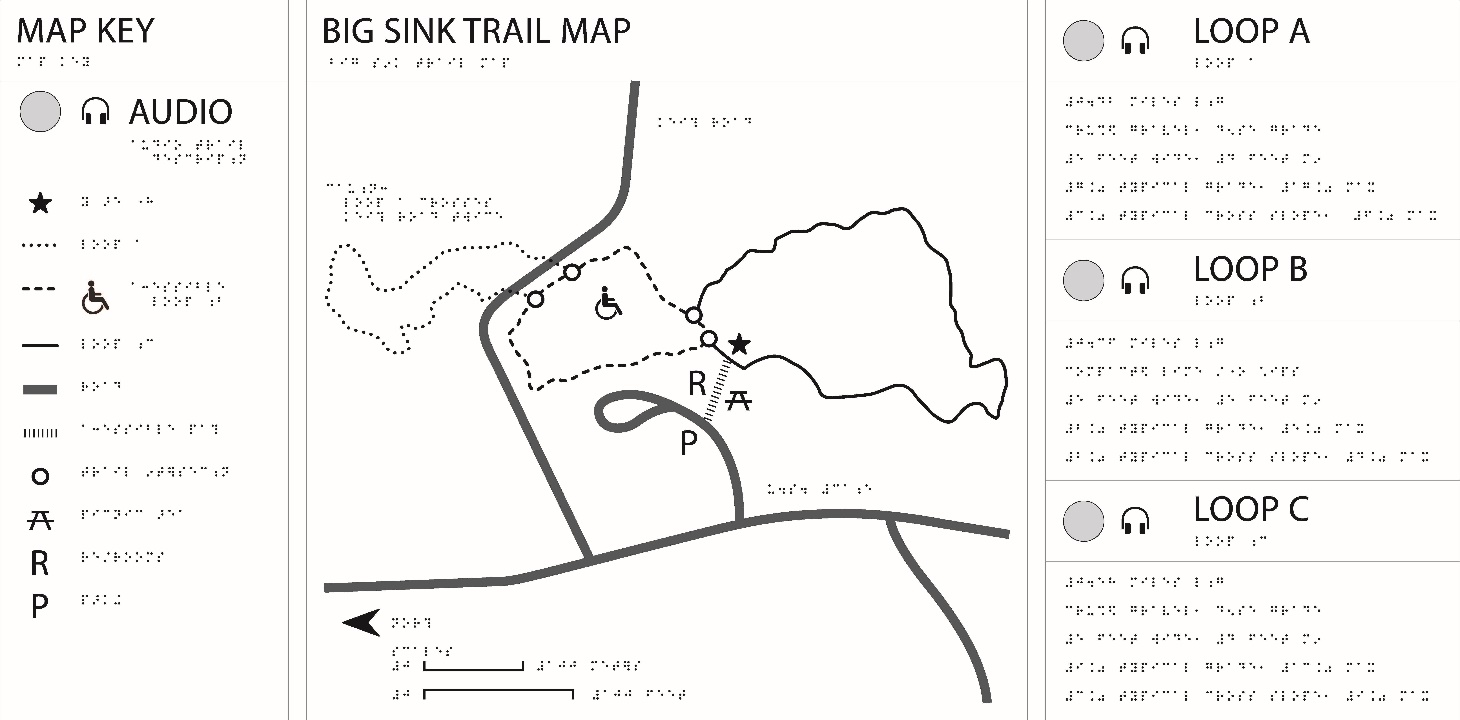


Figure 3. ABLI trailhead horizontal tactile panel, Harpers Ferry Center

Textual information was conveyed in braille with a limited use of words produced as raised characters. Four audio buttons were added. The button on the left plays the description for the Map Key and Big Sink Trail Map. The three buttons on the right play the information under each loop of the trail.

# Sitka National Historical Park (SITK)

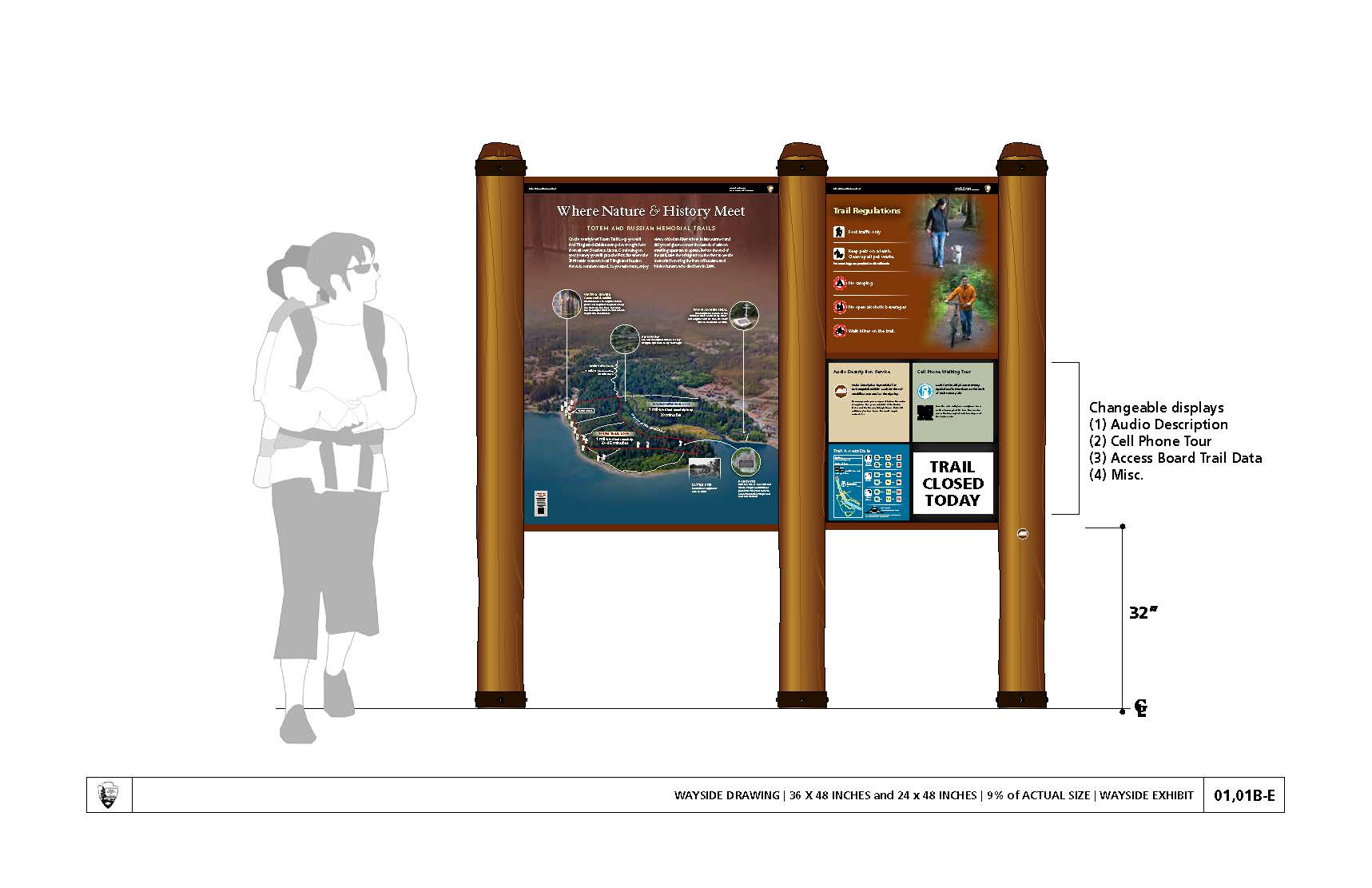


Figure 4. SITK upright interpretive and trailhead panel, Harpers Ferry Center

Trail information is not always static. This conceptual upright panel provides interpretation and trail information. It was designed for flexibility with changeable displays. This makes updating trailhead information easier. Following are two design approaches to trail access data prototyped for Sitka.

## SITK Trailhead Characteristics Option One

On a blue background, white text delivers trailhead access data for three trails on the graphically designed panel. The title is “Trail Access Data.” Underneath text reads, “All three trails are flat and easy. The sections near the river vary most. There you may find small tree roots.”
On the top right, text reads “Tread Width,” “Grade” and “Cross Slope.” Each has an icon next to it. Underneath is information about the three trails that address this data and more. Each trail is within a color banner. Measurements are in feet, noted as “ft,” and meters, noted as “m.” In addition to the required data, each section also contains a “tip.” Text reads:
Totem Trail Loop. One mile (1.6km) roundtrip. Elevation Gain: 0 ft. Surface: Compacted gravel. Typical tread width 5 ft, 1.5m; minimum 3 ft, 1 m. Typical grade 2%, maximum 7%. Typical cross slope 1%, maximum 3%. Tip: Hike to the river and turn around for the flattest, shortest route. 
Russian Memorial Loop. One mile (1.6 km) roundtrip. Elevation Gain: 0 ft. Compacted gravel. Typical tread width 5 ft, 1.5 m; minimum 3 ft, 1 m. Typical grade 2%, maximum 7%. Typical cross slope 1%, maximum 3%. Tip: Take the Totem Trail and make the first left for the quickest and easiest access.
River View Trail.  One mile (1.6 km) roundtrip. Elevation Gain: 0 ft. Compacted gravel. Typical tread width 5 ft, 1.5 m; minimum 3 ft, 1 m. Typical grade 4%, maximum 11%. Typical cross slope 3%, maximum 7%. Tip: When you reach the stairs you are at the end of the trail.
At the bottom of the panel, text reads: Note: trail conditions can change at any time. Last update: June 2013.


Figure 5 SITK trailhead graphic panel example one, Harpers Ferry Center

In addition to listing requirements, a sentence or two about the trail may help individuals understand this data. This panel states when this information was last updated. This can be useful, especially if weather and other factors may change trail conditions.

## SITK Trailhead Characteristics Option Two

On a blue background, white text delivers trailhead access data for three trails on the graphically designed panel. The title is “Trail Access Data.” On the left is a color-coded line map with text. On the right is the trail data. Measurements are in feet, noted as “ft,” and meters, noted as “m.”
Below the title on the right, text reads: “Surface: Compacted gravel.”  Under the subheading “Obstructions” is the following a color bars and text. A green bar to the left of the text “none.” A yellow and orange bar is to the left of the text “Possible tree roots and vegetation.” Below this is a compass rose with North pointing up. Next to the compass is the distance measurement. Each inch on the map represents almost .1 miles or .1 kilometer.
The map has a blue line running through the center which represents water. At the upper section, the trail starts on the west side of the river. The very top tip is orange and then turns yellow. About one third of the way down, the trail crosses the river to the east side and also continues south on the west side. On the west side, one part of the trail parallels the river. At the bottom it starts to loop back. At this point the trail color is green. Also at the bottom is another short trail that makes a short loop off of the green section of the trail This short section is yellow and connects back up with the green section. It is less than .1 miles. The green section of the trail continues up almost to where the trail crosses the river. On the east side of the river the trail cuts horizontally across the river and travels east to a dead end. The last section of this part of the trail is green. The trail also continues south to a tip. The very tip is orange. It loops back around to the north. This section of the trail is green. The trail crosses the horizontal section that dead ends and makes another loop around to the south. Half of this section of the trail is orange.
On the right side of the panel is the trail data access in three rows starting with tread width, then grade, then cross slope. The data for each of the colors is provided.   
Starting with Tread width the text is: Typical width for green sections are 9 ft, or 2.7 m. Minimums are 6 ft or 1.8 m. Typical width for the yellow sections are 5 ft, 1.5 m. Minimums are 3 ft or 91 cm. Typical width for orange sections are 3 ft or 2.7 m. Minimums are 3 ft or 91 cm. 
For Grade the text is: Typical grade for green sections are 0%. Maximums are 3%. Typical grade for the yellow sections are 4%. Maximums are 7%. Typical grade for orange sections are 11%. Maximums are 15%. 
For Cross Slope the text is: Typical cross slope for green sections are 0%. Maximums are 3%. Typical cross slope for the yellow sections are 2%. Maximums are 7%. Typical cross slope for orange sections are 6%. Maximums are 7%. 
Underneath is a small line drawing with three lines representing the steepness of the grade. The text reads “Grade Gauge.” The line which is almost parallel to a horizontal line is identified with the text 8.3%. 50%  is noted with a steeper incline and 100%  is noted with the steepest incline that makes the line drawing look like the outline of a mountain. 
At the bottom, text reads: Warning: trail conditions can change without notice. Last trail assessment: October 2013. 


Figure 6. SITK trailhead graphic panel example two, Harpers Ferry Center

If trails have significant changes in grade or slope, pointing this out through text and/or visually may be helpful. Obstructions, such as tree roots, may also have an impact on a person’s ability to use the trail. This information is conveyed through the map and color. Please note, the lengths of the trails are not listed because this information is provided in the interpretive wayside section of the upright panel.

# Grand Canyon National Park (GRCA)

This long rectangular panel includes a combination of a line drawn representation of the trail, text and associated symbols. The background is shades of light and medium brown and the text is black. The title in the upper left corner is white and surround by a black bar. Text reads “Hermit Road Greenway Trail.” Next to the text on the right is the National Park Service arrowhead and the park name. Most of the text is too small to read. Following is general description of the panel layout. 
A little less than half of the panel has a line-drawn trail. It starts our yellow, but the majority is the color green. It is a meandering upwardly-arched curving line. Following close to the shape of the trail is a medium brown line representing a road. Various symbols such as the wheelchair symbol are placed along sections of the trail. There is a map legend, a distance gauge and a compass rose with north point up. 
Below this, is a section called “Trail Accessibility.” It has a block of text, various icons, such as the wheelchair, a bicyclist and binoculars symbols. The right section includes text for trail access data including grade, cross slope tread width and surface. 
Below this is another section titled “Trail Profile.” This is represented by a yellow drawn line that quickly turns into a green line. While the line dips, it is on an upwards trajectory and has three points that identify shuttle stops.
Underneath, the last section is titled “Trail Information.” Along with various associated symbols, the text provides more information, such as the need to carry water and the possibility of slippery surfaces. 

Figure 7. GRCA trailhead panel, Harpers Ferry Center

This example presents another approach to graphically representing trail information through text, the visual shape of the trail, and by providing a trail profile.

# Sleeping Bear Dunes Draft (SLBD)

This long rectangular panel includes a combination of a line drawn representation of the trail, associated symbols and text. Most of the text is too small to read. Following is general description of the panel layout. 
At the top of the panel, white text on medium brown reads “Sleeping Bear Heritage Trail.” The majority of the panel is a simple color map of Sleeping Bear Dunes National Lakeshore. Lake Michigan is represented in blue and takes up the upper left corner of the map. The park is green and follows the coastline of the portion of Lake Michigan shown on the map. The rest of the land, which is not part of the park, is represented in a light brown. Between the park and non-park lands are a few smaller lakes. If the panel was divided diagonally from the lower left to the upper right, the non-park land would take up most of the right half of the diagonal section. Within that section is a box with the title “Bar Lake Road Trailhead.” Underneath that are the symbols and associated text for trail access data as well as a distance gauge. Underneath that are additional symbols for trail amenities, such as restrooms and parking.
The trail itself is identified with a drawn line that changes from red to green. Text and symbols are scattered all along the length of the trail.
Across the entire panel underneath the map are seven symbols. From right to left they are of a bicycle, a person walking, a person in a wheelchair, a car with a line through it, a person on a horse with a line through it, a tent with a line through it and the National Park Service arrowhead logo within an upside down brown triangular shape. 
Underneath the symbols is the subheading “Trail Etiquette which six bulleted points of text.
Lastly, underneath this is the subheading “Stories of the Silent Dunes” and a symbol of binoculars to the left of the title. Following the title is a paragraph of interpretive text about the park. It reads: Look around. The dunes have stories to tell. These seemingly silent hills speak volumes when you look carefully. The irregular shapes of the dunes were formed by ancient lakes. These wave-cut bluffs took shape over 12,000 years ago after the glaciers receded forming Lake Algonquin, Lake Nippissing and what is now Lake Michigan.”  
This map combines both interpretation and information in a single panel and map. Because of the area and shape of the site, trail data fit nicely within the landmass outside of the park. This design was a prototype. Some revisions could include the use of upper and lower case instead of all caps and a different approach to the red/green combination used on the trail itself.

Figure 8. SLBD trailhead panel prototype, Sleeping Bear Dunes National Lakeshore

# Conclusions and Additional Considerations

* There is no single way to graphically present required data. The length, complexity and uniformity of a trail or trail system should be considered within the graphic design approach.
* Consider illustrating trail conditions through photographs.
* If audio description of waysides or other features is available along the trail, the trailhead signage is a good place to note this, especially if the visitor needs to check out equipment.
* Tactile maps and audio description are not specified within ABAAS’s Outdoor Developed Areas Standards. The National Park Service, however, has a legal obligation to effectively communicate and provide opportunities for visitors with disabilities to participate in and benefit from our programs and services, which includes these products. Design, location, and materials may vary, but it is important to incorporate tactile experiences and maps within our products. Audio description should also be incorporated. Both techniques contribute to effective communication and accessibility for people who are blind, have low vision, have print disabilities or diverse ways of learning.
* Consider testing your designs to ensure that the information is understandable to people with and without disabilities.

# More Information

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1. United States Access Board Webpage: “About these Standards.” URL: <https://www.access-board.gov/guidelines-and-standards/recreation-facilities/outdoor-developed-areas>. Accessed March 22, 2017. [↑](#endnote-ref-1)
2. Ibid. [↑](#endnote-ref-2)