

Special Populations: Programmatic Accessibility Guidelines for Interpretive Media

National Park Service
Harpers Ferry Center

June 1999

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Contents
Statement of Purpose
Audiovisual Programs
Exhibits
Historic Furnishings
Publications
Wayside Exhibits

Statement of Purpose

This document is a guide for promoting full access to interpretive media to ensure that people with physical and mental disabilities have access to the same information necessary for safe and meaningful visits to National Parks. Just as the needs and abilities of individuals cannot be reduced to simple statements, it is impossible to construct guidelines for interpretive media that can apply to every situation in the National Park System.

These guidelines define a high level of programmatic access which can be met in most situations. They articulate key areas of concern and note generally accepted solutions. Due to the diversity of park resources and the variety of interpretive situations, flexibility and versatility are important.

Each interpretive medium contributes to the total park program. All media have inherent strengths and weaknesses, and it is our intent to capitalize on their strengths and provide alternatives where they are deficient. It should also be understood that any interpretive medium is just one component of the overall park experience. In some instances, especially with regard to learning disabilities, personal services, that is one-on-one interaction, may be the most appropriate and versatile interpretive approach.

In the final analysis, interpretive design is subjective, and dependent on both aesthetic considerations as well as the particular characteristics and resources available for a specific program. Success or failure should be evaluated by examining all interpretive offerings of a park. Due to the unique characteristics of each situation, parks should be evaluated on a case by case basis. Nonetheless, the goal is to fully comply with NPS policy:

"...To provide the highest level of accessibility possible and feasible for persons with visual, hearing, mobility, and mental impairments, consistent with the obligation to conserve park resources and preserve the quality of the park experience for everyone."

NPS Special Directive 83-3, Accessibility for Disabled Persons

Audiovisual Programs

Audiovisual programs include video programs, and audio and interactive programs. As a matter of policy, all audiovisual programs produced by the Harpers Ferry Center will include some method of captioning. The Approach used will vary according to the conditions of the installation area and the media format used, and will be selected in consultation with the parks and regions.

The captioning method will be identified as early as possible in the planning process and will be presented in an integrated setting where possible. To the extent possible, visitors will be offered a choice in viewing captioned or uncaptioned versions, but in situations where a choice is not possible or feasible, a captioned version of all programs will be made available. Park management will decide on the most appropriate operational approach for the particular site.

Guidelines Affecting Visitors with Mobility Impairments

1. The theater, auditorium, or viewing area should be accessible and free of architectural barriers, or alternative accommodations will be provided. UFAS 4.1.
2. Wheelchair locations will be provided according to ratios outlined in UFAS 4.1.2(18a).
3. Viewing heights and angles will be favorable for those in designated wheelchair locations.
4. In designing video or interactive components, control mechanisms will be placed in accessible location, usually between 9" and 48" from the ground and no more than 24" deep.

Guidelines Affecting Visitors with Visual Impairments

Simultaneous audio description will be considered for installations where the equipment can be properly installed and maintained.

Guidelines Affecting Visitors with Hearing Impairments

1. All audiovisual programs will be produced with appropriate captions.
2. Copies of scripts will be provided to the parks as a standard procedure.
3. Audio amplification and listening systems will be provided in accordance with UFAS 4.1.2(18b).

Guidelines Affecting Visitors with Learning Impairments

1. Unnecessarily complex and confusing concepts will be avoided.
2. Graphic elements will be chosen to communicate without reliance on the verbal component.
3. Narration will be concise and free of unnecessary jargon and technical information.

Exhibits

Numerous factors affect the design of exhibits, reflecting the unique circumstances of the specific space and the nature of the materials to be interpreted. It is clear that thoughtful, sensitive design can go a long way in producing exhibits that can be enjoyed by a broad range of people. Yet, due to the diversity of situations encountered, it is impossible to articulate guidelines that can be applied universally.

In some situations, the exhibit designer has little or no control over the space. Often exhibits are placed in areas ill suited for that purpose, they may incorporate large or unyielding specimens, may incorporate sensitive artifacts which require special environmental controls, and room decor or architectural features may dictate certain solutions. All in all, exhibit design is an art which defies simple description. However, one central concern is to communicate the message to the largest audience possible. Every reasonable effort will be made to eliminate any factors limiting communication through physical modification or by providing an alternate means of communication.

Guidelines Affecting Visitors with Mobility Impairments

Note: The **Americans with Disabilities Act Accessibility Guidelines (ADAAG)** is the standard followed by the National Park Service and is therefore the basis for the accessibility standards for exhibits, where applicable.

1. Height/position of labels: Body copy on vertical exhibit walls should be placed at between **36"** and **60"** from the floor.
2. Artifact Cases:
 - a. Maximum height of floor of artifact case display area shall be no higher than **30"** from the floor of the room. This includes vitrines that are recessed into an exhibit wall.
 - b. Artifact labels should be placed so as to be visible to a person within a **43"** to **51"** eye level. This includes mounting labels within the case at an angle to maximize its visibility to all viewers.

3. Touchable Exhibits: Touchable exhibits positioned horizontally should be placed no higher than **30"** from the floor. Also, if the exhibit is approachable only on one side, it should be no deeper than **31"**.
4. Railings/barriers: Railings around any horizontal model or exhibit element shall have a maximum height of **36"** from the floor.
5. Information desks: Information desks and sales counters shall include a section made to accommodate both a visitor in a wheelchair and an employee in a wheelchair working on the other side. A section of the desk/counter shall have the following dimensions:
 - a. Height from the floor to the top: **28 to 34 inches**. (ADAAG 4.32.4)
 - b. Minimum knee clearance space: **27" high, 30" wide and 19" deep** of clearance underneath the desk is the minimum space required under ADAAG 4.32.3, but a space **30" high, 36" wide and 24" deep** is recommended.
 - c. Width of top surface of section: at least **36 inches**. Additional space must be provided for any equipment such as a cash register.
 - d. Area underneath desk: Since both sides of the desk may have to accommodate a wheelchair, this area should be open all the way through to the other side. In addition, there should be no sharp or abrasive surfaces underneath the desk. The floor space behind the counter shall be free of obstructions.
6. Circulation Space:
 - a. Passageways through exhibits shall be at least **36" wide**.
 - b. If an exhibit passageway reaches a dead-end, an area **60" by 78"** should be provided at the end for turning around.
 - c. Objects projecting from walls with their leading edges between **27"** and **80"** above the floor shall protrude no more than **4"** in passageways or aisles. Objects projecting from walls with their leading edges at or below **27"** above the floor can protrude any amount.
 - d. Free-standing objects mounted on posts or pylons may overhang a maximum of **12"** from **27"** to **80"** above the floor. (ADAAG 4.4.1)
 - e. Protruding objects shall not reduce the clear width of an accessible route to less than the minimum required amount. (ADAAG 4.4.1)
 - f. Passageways or other circulation spaces shall have a minimum clear head room of **80"**. For example, signage hanging from the ceiling must have at least 80" from the floor to the bottom edge of the sign. (ADAAG 4.4.2)

7. Floors:
 - a. Floors and ramps shall be stable, level, firm and slip-resistant.
 - b. Changes in level between **1/4"** and **1/2"** shall be beveled with a slope no greater than **1:2**. Changes in level greater than **1/2"** shall be accomplished by means of a ramp that complies with ADAAG 4.7 or 4.8. (ADAAG 4.5.2)
 - c. Carpet in exhibit areas shall comply with ADAAG 4.5.3 for pile height, texture, pad thickness, and trim.
8. Seating - Interactive Stations/Work Areas: The minimum knee space underneath a work desk is **27" high, 30" wide** and **19" deep**, with a clear floor space of at least **30" by 30"** in front. The top of the desk or work surface shall be between **28"** and **34"** from the floor. (ADAAG 4.32, Fig.45)

Guidelines Affecting Visitors with Visual Impairments

1. Tactile models and other touchable exhibit items should be used whenever possible. Examples of touchable exhibit elements include relief maps, scale models, raised images of simple graphics, reproduction objects, and replaceable objects (such as natural history or geological specimens, cultural history items, etc.).
2. Typography - Readability of exhibit labels by visitors with various degrees of visual impairment shall be maximized by using the following guidelines:
 - a. Type size - **No** type in the exhibit shall be smaller than **24 point**.
 - b. Typeface - The most readable typefaces should be used whenever possible, particularly for body copy. They are: Times Roman, Palatino, Century, Helvetica and Universe.
 - c. Styles, Spacing - Text set in both caps and lower case is easier to read than all caps. Choose letter spacing and word spacing for maximum readability. Avoid too much italic type.
 - d. Line Length - Limit the line length for body copy to no more than **45 to 50 characters per line**.
 - e. Amount of Text - Each unit of body copy should have a maximum of **45-60 words**.
 - f. Margins - Flush left, ragged right margins are easiest to read.

3. Color:
 - a. Type/Background Contrast - Percentage of contrast between the type and the background should be a **minimum of 70%** .
 - b. Red/Green - Do not use red on green or green on red as the type/background color combination.
 - c. Do not place body copy on top of graphic images that impair readability.
4. Samples: During the design process, it is recommended that samples be made for review of all size, typeface and color combinations for labels in that exhibit.
5. Exhibit Lighting:
 - a. All labels shall receive sufficient, even light for good readability. Exhibit text in areas where light levels have been reduced for conservation purposes should have a minimum of 10 footcandles of illumination.
 - b. Harsh reflections and glare should be avoided.
 - c. The lighting system shall be flexible enough to allow adjustments on-site.
 - d. Transitions between the floor and walls, columns or other structures should be made clearly visible. Finishes for vertical surfaces should contrast clearly with the floor finish. Floor circulation routes should have a minimum of 10 footcandles of illumination.
6. Signage: When permanent building signage is required as a part of an exhibit project, the ADAAG guidelines shall be consulted. Signs which designate permanent rooms and spaces shall comply with ADAAG 4.30.1, 4.30.4, 4.30.5, and 4.30.6. Other signs which provide direction to or information about functional spaces of the building shall comply with ADAAG 4.30.1, 4.30.2, 4.30.3, and 4.30.5. Note: When the International Symbol of Accessibility (wheelchair symbol) is used, **the word “Handicapped” shall not be used** beneath the symbol. Instead, use the word “Accessible”.

Guidelines Affecting Visitors with Hearing Impairments

1. Information presented via audio formats will be duplicated in a visual medium, such as in the exhibit label copy or by captioning. All video programs incorporated into the exhibit which contain audio shall be open captioned.
2. Amplification systems and volume controls should be incorporated with audio equipment used individually by the visitor, such as audio handsets.

3. Information desks shall allow for Telecommunication Devices for the Deaf (TDD) equipment.

Guidelines Affecting Visitors with Learning Impairments

1. The exhibits will present the main interpretive themes on a variety of levels of complexity, so they can be understood by people with varying abilities and interests.
2. The exhibits should avoid unnecessarily complex and confusing topics, technical terms, and unfamiliar expressions. Pronunciation aids should be provided where appropriate.
3. Graphic elements shall be used to communicate non-verbally.
4. The exhibits shall be a multi-sensory experience. Techniques to maximize the number of senses used in the exhibits should be encouraged.
5. Exhibit design shall use color and other creative approaches to facilitate comprehension of maps by visitors with directional impairments.

Historic Furnishings

Historically refurbished rooms offer the public a unique interpretive experience by placing visitors within historic spaces. Surrounded by historic artifacts visitors can feel the spaces "come alive" and relate more directly to the historic events or personalities commemorated by the park.

Accessibility is problematical in many NPS furnished sites because of the very nature of historic architecture. Buildings were erected with a functional point of view that is many times at odds with our modern views of accessibility.

The approach used to convey the experience of historically furnished spaces will vary from site to site. The goals, however, will remain the same, to give the public as rich an interpretive experience as possible given the nature of the structure.

Guidelines Affecting Visitors with Mobility Impairments

1. The exhibit space should be free of architectural barriers or a method of alternate accommodation should be provided, such as slide programs, videotaped tours, visual aids, dioramas, etc.
2. All pathways, aisles, and clearances shall (when possible) meet standards set forth in UFAS 4.3 to provide adequate clearance for wheelchair routes.
3. Ramps shall be as gradual as possible and not exceed a 1" rise in 12" run, and conform with UFAS 4.8.

4. Railings and room barriers will be constructed in such a way as to provide unobstructed viewing by persons in wheelchairs.
5. In the planning and design process, furnishing inaccessible areas, such as upper floors of historic buildings, will be discouraged unless essential for interpretation.
6. Lighting will be designed to reduce glare or reflections when viewed from a wheelchair.
7. Alternative methods of interpretation, such as audiovisual programs, audio description, photo albums, and personal services will be used in areas which present difficulty for **visitors with physical impairments**.

Guidelines Affecting Visitors with Visual Impairments

1. Exhibit typefaces will be selected for readability and legibility, and conform with good industry practice.
2. Audio description will be used to describe furnished rooms, where appropriate.
3. Windows will be treated with film to provide balanced light levels and minimize glare.
4. Where appropriate, visitor-controlled rheostat-type lighting will be provided to augment general room lighting.
5. Where appropriate and when proper clearance has been approved, surplus artifacts or reproductions will be utilized as "hands-on" tactile interpretive devices.

Guidelines Affecting Visitors with Hearing Impairments

1. Information about room interiors will be presented in a visual medium such as exhibit copy, text, pamphlets, etc.
2. Captions will be provided for all AV programs relating to historic furnishings.

Guidelines Affecting the Visitors with Learning Impairments

1. Where appropriate, hands-on participatory elements geared to the level of visitor capabilities will be used.
2. Living history activities and demonstrations which utilize the physical space as a method of providing multi-sensory experiences will be encouraged.

Publications

A variety of publications are offered to visitors, ranging from park folders which provide an overview and orientation to a park to more comprehensive handbooks. Each park folder should give a brief description of services available to **visitors with disabilities**, list significant barriers, and note the existence of TDD phone numbers, if available.

In addition, informal site bulletins are often produced to provide more specialized information about a specific site or topic. It is recommended that each park produce an easily updatable "Accessibility Site Bulletin" which could include detailed information about the specific programs, services, and opportunities available for **visitors with disabilities** and to describe barriers which are present in the park. **A template for this site bulletin will be on the Division of Publications website for parks to create with ease, a consistent look throughout the park service. These bulletins should be in large type, 16 points minimum and follow the large-print criteria below.**

Guidelines Affecting Visitors with Mobility Impairments

1. Park folders, site bulletins, and sales literature will be distributed from accessible locations and heights.
2. Park folders and Accessibility Site Bulletins should endeavor to carry information on the accessibility of buildings, trails, and programs **visitors with disabilities**.

Guidelines Affecting Visitors with Visual Impairments

1. **Publications for the general public:**
 - a. **Text**
 - (1) **Size:** the largest type size appropriate for the format.
(preferred main body of text should be 10pt)
 - (2) **Leading** should be at least 20% greater than the font size used.
 - (3) **Proportional** letterspacing
 - (4) **Main body of text** set in caps and lower case.
 - (5) **Margins** are flush left and ragged right
 - (6) **Little or no hyphenation** is used at ends of lines.
 - (7) **Ink coverage** is dense
 - (8) **Underlining** does not connect with the letters being underlined.
 - (9) **Contrast of typeface and illustrations to background** is high (70% contrast is recommended)
 - (10) **Photographs** have a wide range of gray scale variation.
 - (11) **Line drawings or floor plans** are clear and bold, with limited detail and minimum 8 pt type.
 - (12) **No extreme extended or compressed typefaces** are used for main text.

(13) Reversal type should be minimum of 11 point medium or bold sans serif type.

b. The paper:

- (1) Surface preferred is a matte finish. Dull coated stock is acceptable.
- (2) Has sufficient weight to avoid “show-through” on pages printed on both sides.

2. Large-print version publications:

a. Text

- (1) Size: minimum 16 point type.
- (2) Leading is 16 on 20pt.
- (3) Proportional letterspacing
- (4) Main body of text set in caps and lower case.
- (5) Margins are flush left and ragged right.
- (6) Little or no hyphenation is used at ends of lines.
- (7) Ink coverage is dense.
- (8) Underlining does not connect with the letters being underlined.
- (9) Contrast of typeface and illustrations to background is high (70% contrast is recommended)
- (10) Photographs have a wide range of gray scale variation.
- (11) Line drawings or floor plans are clear and bold, with limited detail and minimum 14 pt type.
- (12) No extreme extended or compressed typefaces are used for main text.
- (13) Sans-serif or simple-serif typeface
- (14) No oblique or italic typefaces
- (15) Maximum of 50 characters (average) per line.
- (16) No type is printed over other designs.
- (17) Document has a flexible binding, preferably one that allows the publication to lie flat.
- (18) Gutter margins are a minimum of 22mm; outside margin smaller but not less than 13mm.

b. Paper:

- (1) Surface is off-white or natural with matte finish.
- (2) Has sufficient weight to avoid “show-through” on pages printed on both sides.

3. Maps:

- a. The less clutter the map, the more visitors that can use it.
- b. The ultimate is one map that is large-print and tactile.
- c. Raised line/tactile maps are something that could be developed in future, using our present digital files and a thermoform machine. Lines are distinguished by lineweight, color and height. Areas are distinguished by color, height, and texture.

- d. The digital maps are on an accessible web site.
 - e. Same paper guides as above.
 - f. Contrast of typeface background is high. (70% contrast is recommended)
 - g. Proportional letterspacing
 - h. Labels set in caps and lower case
 - i. Map notes are flush left and ragged right.
 - j. Little or no hyphenation is used as ends of lines.
 - k. No extreme extended or compressed typefaces are used for main text.
 - l. Sans-serif or simple-serif typeface.
4. The text contained in the park folder should also be available on audio cassette, **CD and accessible web site**. Handbooks, accessibility guides, and other publications should be similarly recorded where possible.
 5. The official park publication is available in a word processing format. This could be translated into Braille as needed.

Guidelines Affecting Visitors with Hearing Impairments

Park site bulletins will note the availability of such special services as sign language interpretation and captioned programs.

Guidelines Affecting Visitors with Learning Impairments

1. The park site bulletin should list any special services available to these visitors.
2. Publications:
 - a. Use language that appropriately describes persons with disabilities.
 - b. Topics will be specific and of general interest. Unnecessary complexity will be avoided.
 - c. Whenever possible, easy to understand graphics will be used to convey ideas, rather than text alone.
 - d. Unfamiliar expressions, technical terms, and jargon will be avoided. Pronunciation aids and definitions will be provided where needed.
 - e. Text will be concise and free of long paragraphs and wordy language.

Wayside Exhibits

Wayside exhibits, which include outdoor interpretive exhibits and signs, orientation shelter exhibits, trailhead exhibits, and bulletin boards, offer special advantages to **visitors with disabilities**. The liberal use of photographs, artwork, diagrams, and maps, combined with highly readable type, make wayside exhibits an excellent medium for visitors with hearing and learning

impairments. For visitors with sight impairments, waysides offer large type and high legibility.

Although a limited number of NPS wayside exhibits will always be inaccessible to visitors with mobility impairments, the great majority are placed at accessible pullouts, viewpoints, parking areas, and trailheads.

The NPS accessibility guidelines for wayside exhibits help insure a standard of quality that will be appreciated by all visitors. Nearly everyone benefits from high quality graphics, readable type, comfortable base designs, accessible locations, hard-surfaced exhibit pads, and well-landscaped exhibit sites.

While waysides are valuable on-site "interpreters," it should be remembered that the park resources themselves are the primary things visitors come to experience. Good waysides focus attention on the features they interpret, and not on themselves. A wayside exhibit is only one of the many interpretive tools which visitors can use to enhance their appreciation of a park.

Guidelines Affecting Visitors with Mobility Impairments

1. Wayside exhibits will be installed at accessible locations whenever possible.
2. Wayside exhibits will be installed at heights and angles favorable for viewing by most visitors including those in wheelchairs. For standard NPS low-profile units the recommended height is 30 inches from the bottom edge of the exhibit panel to the finished grade; for vertical exhibits the height of 6-28 inches.
3. Trailhead exhibits will include information on trail conditions which affect accessibility.
4. Wayside exhibits sites will have level, hard surfaced exhibit pads.
5. Exhibit sites will offer clear, unrestricted views of park features described in exhibits.

Guidelines Affecting Visitors with Visual Impairments

1. Exhibit type will be as legible and readable as possible.
2. Panel colors will be selected to reduce eye strain and glare, and to provide excellent readability under field conditions. White should not be used as a background color.
3. Selected wayside exhibits may incorporate audio stations or tactile elements such as models, texture blocks, and relief maps.
4. For all major features interpreted by wayside exhibits, the park should offer non-visual interpretation covering the same subject matter. Examples include cassette tape tours, radio messages, and ranger talks.

5. Appropriate tactile cues should be provided to help visually impaired visitors locate exhibits.

Guidelines Affecting **Visitors with Hearing Impairments**

1. Wayside exhibits will communicate visually, and will rely heavily on graphics to interpret park resources.
2. Essential information included in audio station messages will be duplicated in written form, either as part of the exhibit text or with printed material.

Guidelines Affecting **Visitors with Learning Impairments**

1. Topics for wayside exhibits will be specific and of general interest. Unnecessary complexity will be avoided.
2. Whenever possible, easy to understand graphics will be used to convey ideas, rather than text alone.
3. Unfamiliar expressions, technical terms, and jargon will be avoided. Pronunciation aids and definitions will be provided where needed.
4. Text will be concise and free of long paragraphs and wordy language.