TECHNIQUES, MATERIALS AND TRENDS IN OPEN AIR INTERPRETATION IN U.S. NATIONAL PARKS

Interpretation: An educational activity which aims to reveal meanings and relationships through the use of original objects, by firsthand experience and by illustrative media.

History of National Park Interpretation

In 1916, the U.S. Congress established the National Park Service (NPS) as the guardian of the diverse cultural and natural resources contained in the national parks, monuments and historic sites. Today the NPS administers 376 separate sites throughout the U.S.

National Park Museums

From its inception, interpretation has been central to the NPS mission. In 1926 the first of several national park museums was established in Yosemite National Park in California. However, based on the philosophy that “the real museum is outside,” small “trailside museums” and “nature shrines” were also constructed to “render the out-of-doors intelligible.”

Visitor Centers

In the 1950’s studies indicated that the museums were not adequately serving the growing public needs. Park visitors were described as “driving almost aimlessly about the parks without adequate benefit and enjoyment from their trips”. A new facility, the “visitor center” was established to better serve the public. A visitor center was described as “the hub of the park interpretive program” where trained interpreters helped the visitor start his or her trip with the aid of exhibits, relief models, audio-visual programs and publications. Most museums were closed and in a ten year period between 1956 and 1966, 117 new visitor centers were opened.

Visitor centers have been widely adopted in the U.S. and internationally to serve the needs of the traveling public. Today these interpretive centers number in the thousands and incorporate interactive devices that help visitors learn

(2) B. MACKINTOSH, Interpretation in the National Park Service, A Historical Perspective, Historic Division, National Park Service 1986, p. 10.
about the site and plan their visit. A visitor center is described as providing service at four levels. This is illustrated in the Everglades National Park visitor center, opened in 1997. (Photos for figures 4-8 and 10 by the author):

Level I: Visitor Orientation.
Answers question, “Where am I?” Offers basic needs such as toilets and water.

Level II: Visitor Information.

Level III: Visitor Appreciation.
Answers question, “What does this mean?” Offers media and programs that lead to awareness and understanding of the site.

Level IV: Visitor Commitment.
Answers question, “How can I learn more?” Sales areas provide take-home publications and videos.

Contemporary visitor center design stresses the compatibility of architecture with the site. Design must “honor the spirit of place” by reflecting the unique natural and cultural landscape character of each site. This “visual compatibility” is carried forward through all aspects of site development.

Fig. 2 – Early nature shrine in Yellowstone National Park (National Park Service, Historic Photo Collection).

Fig. 3 – Yosemite National Park, 1966. One of the first visitor centers in the national parks (National Park Service, Historic Photo Collection).

Fig. 4 – Entrance to Everglades National Park visitor center. To the right is an open air orientation pavilion. To the left is the restroom pavilion.
Fig. 5 – Orientation pavilion.

Fig. 6 – In the visitor center, a touch screen video unit offers information in several languages.

Fig. 7 – A visitor information specialist answers visitors’ questions and offers park publications.

Fig. 8 – The exhibit area uses interactive media to develop thematic interpretation of the park.
Fig. 9 – The sales area offers books and videos about the park for take-home learning (photo by Donna Zimmerman).

Fig. 10 – Wayside exhibits develop the themes introduced in the visitor center. The architecture of this pavilion reflects that of the visitor center.
HARPERS FERRY CENTER

In 1970 the Interpretive Design Center for the National Park Service was established in Harpers Ferry, West Virginia. The Center designs and prepares interpretive media such as publications, audio-visual programs, interpretive exhibits and wayside exhibits for the entire park system. Through the years the Interpretive Design Center has developed Servicewide standards to ensure quality and consistency, and have performed research and development on new methods and materials for media production.

Wayside Exhibits

VALUE OF WAYSIDE EXHIBITS

Currently, wayside exhibits are assuming a greater role in national park interpretation. They continue the story introduced in the visitor center. Because they are located outdoors, close to the features they interpret, wayside exhibits can answer visitors’ questions and can nurture curiosity by asking additional questions. By engaging visitors at the times and places they want information, visitors’ experiences become more meaningful and rewarding. Wayside exhibits are a good interpretive media choice because:

– they are on duty 24 hours a day, every day of the year, year after year;
– their low-tech, user-friendly nature makes them appealing to a wide range of park visitors;
– current technologies allow the presentation of large, full-color illustrations, photographs and maps;
– they are durable, easy to maintain, and inexpensive to plan, design and fabricate.

LIMITATIONS OF WAYSIDE EXHIBITS

Although wayside exhibits are frequently an excellent interpretive media choice, they are not always appropriate. Wayside exhibits cannot:

– replace a knowledgeable and articulate interpreter;
– deal with multiple topics or abstract subject matter;
– be made invisible. A wayside exhibit will always, to some degree, intrude on a park’s visual landscape.

Figs. 11-12 – Panel heights and angles and surface materials are designed for accessibility by all ages and disabilities (Fig. 11: photo by National Park Service, Harpers Ferry Center; Fig. 12: photo by Jim Peters).
TABLE 1: RECOMMENDATIONS FOR WAYSIDE EXHIBIT DEVELOPMENT

– Respect the “spirit of place”. Wayside exhibits can be a contemporary intrusion on a historic site and a manufactured intrusion on a natural site. If it is judged that wayside exhibits detract too greatly from the site, alternative media such as publications may be substituted.
– Keep text as short as possible. Use photos and drawings to help communicate.


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Numerous studies have documented that people will not read long inscriptions on wayside panels.

- Use quotations, questions, analogies, metaphors, active verbs and nouns to engage interest and involvement.
- Use personal pronouns to relate to the reader. Avoid technical jargon.
- Organize text in a message pyramid which creates a descending order of message importance. This is known as the “3-30-3 Rule” whereby each panel communicates a 3 second message, a 30 second message and, if detail is required, a 3 minute message. Readers can choose the depth of information they would like.
- Design the panel so there is a visual sequence from a focal point.
- Create universally accessible exhibits (see table 2). In 1990 the U.S. Congress made this law through The Americans With Disabilities Act.

**Table 2: Accessibility Guidelines for Wayside Exhibits**

*For Mobility-Impaired Visitors*

- Install at heights and angles favorable for viewing by most visitors, including those in wheelchairs. For low-profile exhibits, angles should be between 30 and 45 degrees and the height 32 inches (83 centimeters) from the bottom of the panel to the finished grade. For upright exhibits and bulletin boards the height is 24-28 inches (62-72 centimeters) from the bottom to the finished grade.
- Install on level, hard-surfaced exhibit pads.
- Offer clear, unrestricted views of park features referred to in the exhibits.

*For Visually-Impaired Visitors*

- Use legible and readable typefaces and sizes. Minimum point sizes should be 60-72 for titles, 40-48 for sub-titles, 24 for body text, and 18 for captions. Helvetica is a legible sans-serif typeface.
- Choose colors that reduce glare and provide good readability under field conditions. Provide strong contrast between the background and text.
- Offer non-visual interpretation such as audiostations, tactile models and relief maps.

*For Learning-Impaired Visitors*

- Avoid unnecessary complexity, unfamiliar expressions, technical terms. Provide pronunciation aids and definitions where needed.
- Wherever possible, substitute easy-to-understand graphics for text.
- Keep text concise, free of long paragraphs and wordy language.

**Wayside Exhibit Panel Imaging**

The National Park Service Harpers Ferry Center Wayside Exhibit Division provides wayside exhibit production services for all the national parks.

(7) TRAPP 1994, p. 69.
Fig. 15 – Direct Digital Imaging is a recent development. When durability and image resolution are improved, this product will replace other panel materials (photo in Yellowstone National Park by author).

Fig. 16 – Post mounted (photo in Arches National Park by National Park Service, Harpers Ferry Center).

Fig. 17 – Wall mounted (photo in Key Biscayne National Park by the author).

Fig. 18 – Rail mounted (photo in Rocky Mountain National Park by Ron Zimmerman).

Fig. 19 – Wall mounted (photo in Saguaro National Park by the National Park Service, Harpers Ferry Center).

Fig. 20 – Bulletin case (photo at Martin Luther King National Historic Site, by the National Park Service, Harpers Ferry Center).
At present, about 50% of wayside exhibits are imaged in porcelain and about 50% are fiberglass embedments. Research and development of direct digital imaged panels may lead to their replacement of fiberglass embedment.

**Porcelain Enamel**

Porcelain enamel panels are made by fusing ground glass (that has been colored with mineral oxides) to steel sheets at very high temperatures. Because of its long life expectancy and excellent graphic capability, this panel is selected wherever long term, durability is required. The positive and negative aspects of porcelain enamel include:

+ Allows the reproduction of fine resolution, full-color photographs and finely detailed illustrations and maps.
+ Resistant to weathering (guaranteed against fading for 25 years).
+ Excellent resistance to scratching.
  - It can chip and rust.
  - Initial cost and replacement cost is relatively high ($4,000 per panel).
  - Production is complex and uses toxic materials.

Fig. 21 – Kiosk (photo in Key Biscayne National Park by the author).
Fiberglass Embedment

Fiberglass embedded panels are made by screen-printing graphics, maps, and text onto archival-quality paper, and embedding the print in protective layers of fiberglass. The positive and negative aspects of fiberglass embedment include:

+ Allows the reproduction of high resolution color graphic images.
+ Multiple prints can be made to keep replacement costs low.
+ Moderate resistance to weathering and scratching.

– Initial costs of production are relatively high ($3,000 per panel).
– Lower image quality and resistance to weathering and scratching than porcelain.
– Production is complex and uses toxic materials.
Direct Digital Imaging

Panels are created on computer files and directly imaged with large format electrostatic printers. The Harpers Ferry Center uses Scotchprint (TM), a 3M Company product which is applied to a sheet of aluminum and covered with an ultraviolet and scratch resistant 15 mil vinyl overlay. This is a particularly attractive panel option where short-term use is required. The positive and negative aspects of direct digital imaging include:

+ Production steps and toxic materials associated with other imaging techniques are eliminated.
+ Costs are relatively low ($375 per panel).
+ Easily modified and reprinted.
– Lower image quality with present electrostatic printing.
– Life expectancy outdoors only 1 to 4 years.

WAYSIDE EXHIBIT BASES 9

The Harpers Ferry Center has developed several base options to mount wayside exhibits in a variety of site and viewing conditions. Bases are welded aluminum extrusions coated with polyurethane-enamel paints. Several options are illustrated in figures 16-24.

The Wayside Exhibit Division, Harpers Ferry Center, maintains a page on the world wide web at www.nps.gov/waysite.

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