Shoreline Trail
Wayfinding Standards & Signage Maintenance Manual

Overview

As part of an on-going effort to promote, preserve and enhance the Shoreline Trail (ST), a comprehensive Wayfinding Master Plan has been developed. This effort includes an articulation of how visitors will be introduced to the ST and the manner in which orientation and direction-giving will be provided. User access and circulation throughout the ST will be facilitated by a standardization of signage and mapping as well as a consolidation of the nomenclature and circulation strategies rendered in print, electronic and environmental communications. Moreover, this Manual will articulate issues of overlapping identity among the various municipalities, Niagara River Greenway and parklands through which the ST passes as well as the tourism venues accessible from it.

The purpose of the Shoreline Trail Wayfinding Standards and Signage Maintenance Manual is to provide consistency in both the appearance of communication devices and the content of wayfinding information. With particular respect to environmental graphics, the drawings and specifications in this Manual aim to:

1. preserve the appearance of signage
2. standardize the specific materials and application technologies utilized in signage production
3. streamline the procurement of additional and replacement signage components.

In addition to this documentation, standards and practices will be articulated that aim to ensure the consistency of the messages being communicated to ST visitors and prospective visitors. These include:

1. usage standards for each signage category
2. nomenclature standards
3. circulation strategies
4. articulation of policies adopted for referencing destinations on orientation and directional signage
5. electronic artwork for logos and map graphics
6. recommendations for utilization of wayfinding references among print and electronic marketing tools

Formally, the Wayfinding Standards and Signage Maintenance Manual is comprised of the following sections:

1. History and Development
2. Strategy for Signage Implementation
3. Recommendations for Message Content
4. Nomenclature Standards and Circulation Theory
5. Listing of Signage Categories
6. Signage Format Usage Criteria
7. Signage Detail Drawings
8. Standards for Colors, Typography and Logo Usage
10. Recommendations for Wayfinding Reinforcement Among Related Communications
11. Signage Fabrication and Installation Specifications
12. Listing of Recommended Vendors
13. Maintenance Practices
1 History and Development

The Shoreline Trail is a system of connected, existing off-road and on-road trails through Niagara and Erie Counties that runs 70 miles along the Niagara River and east shoreline of Lake Erie from Fort Niagara in Niagara County to the southern boundary of Erie County. The initial project to explore signage design standards was conducted in 2005 and utilized a steering committee with representation of major stakeholders and municipalities along the ST. This effort explored alternatives to promote a consistent environmental identity for this trail system and produced schematic alternatives for graphic identity, signage standards and communication content.

This project also recommended a theory for organizing the sizable volume of information on the multitude of attractions along the ST. This manifested in a zoning theory that divided the ST into five sections (or zones). From the north to the south, these sections were designated:
1. Gorge View
2. Riverview
3. Riverwalk
4. Sunset View
5. The Beaches

After the designation of the Niagara River Greenway, these segments were modified as follows:
1. Greenway Upper River
2. Greenway Lower River
3. Greenway Headwaters
4. Sunset View
5. The Beaches

The rationale for subdividing the ST is:
1. The scale of the Shoreline Trail (roughly 70 miles currently) suggests divisions that have a relationship to geologic features, existing trail segments and municipalities.
2. The zoning formula permits the many attractions accessible from the ST to be associated with the five smaller-scaled sections. This will facilitate both marketing and wayfinding.
3. The initial funding, development and on-going trail maintenance can be better administrated around a zoned trail system.

See Section 3 – Recommendations for Message Content and Section 6 – Signage Format Usage Criteria for more information on how the zoning theory described above impacts the selection of signage categories and the content on such elements as orientation and directional signage.

As the three northern-most sections of the ST pass through the Niagara River Greenway (NRG), there is an important relationship between these two entities. In addition to providing current and possible future funding for trail development, the mission of the NRG Master Plan is mirrored in the goals for the ST. Most importantly, the ST will provide signage design standards that can lend themselves to a variety of applications throughout the NRG.
Initial Implementation and Standards Development

The first wayfinding implementation project has been administrated by Erie County’s Environment and Planning Department and funded by the Niagara River Greenway Commission. This project entailed a Demonstration Program of 50 signage elements fabricated and installed along the Headwaters and Upper River segments of the Shoreline Trail in Erie County between North Tonawanda and Squaw Island as well as several locations along Niagara Street in the City of Buffalo. As a general categorization, the project included 18 pedestrian orientation signs, 9 pedestrian directional elements, 1 vehicular directional component, 16 trailblazers and 6 warning/regulatory signs.

In addition to trail applications, the signage standards developed in this initial phase of work can be utilized by municipalities, NGOs, environmental organizations and civic groups that wish to develop environmental graphic applications throughout the NRG. This allows for replication of materials, construction details, graphic layouts and maps of those standards developed in the course of this project. It also permits these groups to capitalize on the vendor relationships and economy of scale established through this project. With completion of the initial project, detail drawings, specification and usage criteria from this Standards Manual have been made available to organizations through Erie County’s Environment and Planning Department.

The signage construction entails fabricated aluminum panels and aluminum posts, vandal-resistant fused resin graphics and faces engineered to be removable and intended to be updated every two to three years. The trailblazers, vehicular directional and warning/regulatory signs will utilize retro-reflective graphics in accordance with MUTCD-2009.
2 Strategy for Signage Implementation

The objectives for the Signage System documented in this Standards Manual are to provide wayfinding information and reinforce the identity of the Shoreline Trail. This will be achieved through the implementation of visual, content and location (positioning) standards.

Visual Design Standards

Despite the myriad of municipalities, parks and attractions through which the trail passes, it is of paramount importance to maintain the formatting standards for all signage. By maintaining this singular visual identity, the signage can underscore the autonomy of the ST. There are several strategies for maintaining the visual standards:

1. Utilization of consistent signage categories. This involves the usage of specific formats for the various kinds of messages that need to be communicated. See Section 5 – LISTING OF SIGNAGE CATEGORIES and Section 6 – SIGNAGE FORMAT USAGE CRITERIA to review the available formats for signage and recommendations for how they will be used.

2. Utilization of consistent color scheme. The combination of dark and medium green is arguably the most visible aspect of trail signage identity. See Section 8- STANDARDS FOR COLORS, TYPOGRAPHY AND LOGO USAGE for technical information about these colors.

3. Usage of consistent logos and typographic layouts. The ST logo is used at the top of most wayfinding signage categories. Its particular sizing and location is rendered for each signage format and is articulated in Section 7 – SIGNAGE DETAIL DRAWINGS. Similarly, the typefonts, layouts and sizing of text on the various signs are also shown on the Detail Drawings.

4. Usage of consistent map graphics. The graphic standards for legends, colors, graphic symbols, type sizing, location coding have been established in the artwork produced for the Greenway Headwaters and Greenway Upper River mapping developed to date. See Section 9- STANDARDS FOR MAP GRAPHICS, LEGENDS AND SYSTEMS DESCRIPTION to view the application of these standards.

Content Standards

In order to ensure consistency in wayfinding, content standards have been established for the graphics and messages used for the various signage categories. The utilization of these standards will not only provide information where it is needed, but also afford some predictability as to where this information is likely to be found on signs along the trail. The primary aspects of these content standards are:

1. Placement of specific kinds of information on accommodating signage formats. In essence, the signage formats have designed around the information they need to convey. Detailed orientation information, for instance, is placed on large signs where people can pull off the trail and spend as much time as they wish to study maps, legends or interpretive information. Directional signs, on the other hand, use arrow symbols and copy sizes that permit the whereabouts of nearby destinations to be seen without stopping. See Section 6 – SIGNAGE FORMAT USAGE CRITERIA to review the
available formats for signage and recommendations for recommendations on how these formats may be used.

2. Nomenclature Standards. These standards aim to reinforce consistency, not merely among signage categories, but also print and electronic communications that reference the trail and the destinations which may be accessed from it. These standards articulate the precise wording that is used to identify municipalities, neighborhoods, parklands, intersecting trails and points of interest. See Section 4 – NOMENCLATURE STANDARDS for specific information regarding the formal names applied to various venues as established in the Demonstration Program.

3. Rationale for Signage Content. This involves recommendations for what specific kinds of information may be placed on wayfinding signage. Given the sheer size of the Shoreline Trail and its many destinations, it is not functional to convey all of this information on any one sign. As such, a zoning rationale was established for both orientation and directional signage categories. This provides guidelines for what information may be utilized so that the signs can provide the necessary information and guidance without becoming excessively detailed or lengthy. See Section 3 – RECOMMENDATIONS FOR MESSAGE AND GRAPHICS CONTENT for more information on this rationale.

**Location Standards**

The consistent placement of signage along the ST and in parks and neighborhood adjacent to it can contribute to both the identity of the trail and the function of its signage to provide guidance. The “predictability” of signs at decision points and trailheads not only reinforces the fact that trail users are on the trail but also conditions them to look for and use the information provided. The standards for signage placement are:

1. Consistent with the MUTCD requirements for shared-use trails, no portion of any sign shall be closer to the edge of the trail than 24 inches. The standard adopted for the Shoreline Trail is placement of directional and regulatory signs at 30” from the trail and orientation signs at 48”.
2. Orientation signage (either Type A-1 or B-1) is generally located between the trail and the predominant user approach path (from parking lots, playgrounds, boat launch sites, etc.).
3. Where Directional Signage is directing trail users approaching from both directions, it is generally located as close as possible to the decision points. In the event a directional sign is directing visitors from only one approach, it is generally placed 20’ to 30’ in advance of the decision point.
4. Regulatory signage is placed consistent with directional signage. For single-post signage, no portion of the sign shall be closer to the trail than 24”.
5. Trailblazer signage shall be placed on the nearest light pole to the intersection in advance of where a turn is to be made.

**Shoreline Trail Autonomy**

Although the Shoreline Trail will pass through numerous municipalities, parks and historical areas, it is the intent of this program to maintain the ST signage standards at the various access and decision points along its entire pathway. As the trail approaches parks or historical areas, directional signage will call out these destinations at a reasonable distance in advance. When the trail crosses into such areas, trail signage will acknowledge these boundaries. In reciprocation,
we are hopeful that the signage within the parks and historical areas will acknowledge the whereabouts of the ST in their own design vocabulary.

The most fundamental caveat of this system is that those signs that appear directly adjacent to the ST should reflect a singular identity to underscore the autonomy of this trail system and provide visual continuity to its users. This standard is consistent with that employed along the Canalway Trail across New York State and the Genesee Riverway Trail in Rochester. The only limitations for signage standard usage among other organizations within the NRG will be that the two shades of green that characterize ST signage and utilization of its logo (as a primary identification device) will be limited to ST applications.

The use of the Shoreline Trail logo and two shades of green in the posts and panels are exclusive standards that define Shoreline Trail signage components and may be used only for trail signage.
3 Recommendations for Message Content

In order to establish communication consistency among the signage elements deployed along the ST, this section includes guidelines for the kinds of information that may be presented among key signage elements. These recommendations impact the two fundamental wayfinding tools used in trail signage – Directional and Orientation signage. In terms of Directional elements, the following guidelines are intended to create consistency in where such signs are placed along the trail, the types of destinations that are referenced and the relative distances from which various destinations may be referenced. For Orientation Signage, the recommendations entail criteria for placement, content for the two types of Orientation Kiosks and detailed information on the nature of maps and legends used. Also see Section 6 – SIGNAGE FORMAT USAGE CRITERIA for more information on the selection of specific signage formats.

Directional Signage

Proposed Criteria for Directional Signage Content and Placement

1. The purpose of directional signage will be to reinforce circulation along the ST.
2. It will be utilized at junctions/intersections with major roadways, intersecting trails or trailhead/access points.
3. Directional Signage categories will include:
   a. Vehicular Directional (Types C-1 and C-2 - Ground Mount)
   b. Vehicular Directional (Type D-6 and D-7 - Pole Mount)
   c. Trail Directional (Type D-1 – up to seven destinations)
   d. Trail Directional (Type D-2 – up to four destinations)
   e. Trail Directional (Type D-4 – special site limitations)
4. Directional signage will be as terse as possible and placed in areas adjacent to the trail where the viewer may read the messages on approach without having to stop.
5. The content on directional signs will be grouped under directional arrows in the sequence of left, right and straight ahead.
6. Should the content of directional signage at any decision point exceed seven items, it will be separated among two signage elements no closer to one another than 40 feet.
7. Directional Signage content will include references to neighboring Shoreline Trail (ST) segments (i.e. Greenway Lower River, Greenway Upper River, Greenway Headwaters, Sunset View and The Beaches), municipalities, parks, intersecting trails and points of interest.
8. The information rendered on directional signage will be limited to the municipalities, parks, trails and points of interest that are within the segment of the ST in which the sign is placed as well as those in adjacent segments within one-half mile of the section boundary. Destinations in neighboring sections beyond this point will not be referenced.

Destination Listing Recommendations
Following below are the recommendations for listing various destinations on directional signage.

<table>
<thead>
<tr>
<th>Type of Destination</th>
<th>Recommended Distance to Destination along Trail or Roadway/Trail leading to Destination</th>
<th>Recommended Distance from Trail (* - ST passes through or is adjacent to destination)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neighboring Trail Sections (Ex. Greenway Lower River)</td>
<td>3 Miles</td>
<td>*</td>
</tr>
<tr>
<td>Municipalities (Ex. Buffalo)</td>
<td>3 Miles</td>
<td>*</td>
</tr>
<tr>
<td>Trails (Ex. Two Mile Greenway Trail)</td>
<td>1 Mile</td>
<td>*</td>
</tr>
<tr>
<td>Parks/Preserves (Ex. Tift Nature Preserve)</td>
<td>1 Mile</td>
<td>One Mile</td>
</tr>
<tr>
<td>Neighborhoods (Ex. Blackrock)</td>
<td>One-half Mile</td>
<td>*</td>
</tr>
<tr>
<td>Points of Interest (Ex. Union Ship Canal)</td>
<td>One-half Mile</td>
<td>One Mile</td>
</tr>
</tbody>
</table>

Note: Distances may vary somewhat based on the density (or scarcity) of attractions in a particular area.

**Orientation Signage**

**Proposed Criteria for Orientation Signage Content and Placement**

1. The purpose of Orientation Signage will be to **provide an overview** of the course of the ST and the attractions that are accessible from it.
2. Orientation Signage will include:
   a. Primary Orientation Kiosks (Type A-1)
   b. Secondary Orientation Kiosks (Type B-1)
3. The content for Primary Orientation Kiosks will include:
   a. Directional information (Content criteria same as previous section)
   b. Key Plan Map of entire ST
   c. Section Map graphic and legend (this will reference parks, trails, municipalities and points of interest in proximity to the ST within the local trail section)
   d. Welcoming information and general information about the ST
   e. Description of the conditions that exist along the ST Local Section including segments on roadways, missing segments, portions under construction, hazards, and ADA-related information about trail accessibility
   f. Interpretive information
   g. Credits & acknowledgements
4. The content for Orientation Map Kiosks will include:
   a. Key Plan Map of entire Shoreline Trail
   b. Section Map graphic and legend (this will reference parks, trails, municipalities and points of interest along the ST within the local trail section)
5. Specific destination information rendered on orientation signage will be limited to the municipalities, parks, trails and points of interest that are **within** the segment of the Shoreline Trail in which the signage is placed.
6. Orientation signage may be placed at trail access points, junctions/intersections with major roadways or intersecting trails and areas where people frequently pass by or gather (e.g. restrooms, dining areas, observation areas, boat launches, etc.).
7. Orientation Signage will visible from the trail but be placed such that the viewer can safely stand off the trail and away from other pedestrian traffic areas in order to spend as much time as he or she wishes to read signage content.

Map Graphic/ Legend Content

1. The **Key Plan Map** graphic will represent the entire ST in Niagara and Erie Counties with the viewer’s section highlighted. The map will also include major municipalities and highways.
2. The **Section Map** graphic will include a detailed representation of this trail segment and include major roadways, municipalities, parks, intersecting trails, trailhead/access areas with parking facilities and key numbers that relate to points of interest referenced in the accompanying legend.
3. The **Section Map Legend** will include a listing of points of interest within various distances from the ST. These distances will be the same as indicated in the foregoing matrix for directional signage.
4. The organization of attractions will be broken out into six categories (compatible with the five-category grouping of attractions identified in the Niagara River Greenway Master Plan) plus an additional category for Visitor Centers and Family Interest.
Nomenclature Standards

To ensure consistency among the wayfinding elements used throughout the ST, the following formal nomenclature will be utilized on signage. These terms will be applied to orientation and directional elements as well as any print or electronic graphics developed as reinforcement. The terms will be revised and updated on a regular basis to accommodate additions, deletions and changes to the attractions referenced.

Upper River Destinations

The Landscape

Parks
Aqua Lane Park                     Buckhorn Island State Park
Clinton Park                        Eastern Park
East Niagara Park                  Fisherman’s Park
Gateway Harbor Park                Gratwick Riverside Park
Griffon Park                        Isle View Park
Jayne Park                         LaSalle Waterfront Park
Mario Park                         Niagara Falls State Park
Niawanda Park                      Sweeney Park
U’Ren Park                         Veterans Memorial Park

Trails
Two Mile Greenway Trail

Stories of Peace, War & Freedom

Chilton Avenue-Orchard Parkway Historic District    Fort Schlosser Site
Historical Society of the Tonawandas             North Tonawanda History Museum
Park Place Historic District                      Stedman House (Old Stone Chimney)
U.S. Navy Seabee & Marine Corps Veteran Memorial

The Bounty of Nature

City Market

The Wealth of a Region

Adams Power Plant Transformer House           Herschell Carrousel Factory Museum
Railroad Museum of the Niagara Frontier       Schoellkopf Power Station Ruins

Enterprise in the Arts

Visual & Performing Arts
Carnegie Art Center                          Ghostlight Theatre
Niagara Arts & Cultural Center               Riviera Theatre

Architecture
Carnegie Library                             Holy Trinity R.C. Church
James G. Marshall House                      Niagara Falls Armory
Niagara Hotel  Tonawanda Armory
United Office Building  Whitney Mansion

**Transportation Services/ Municipal Buildings**

Niagara Falls City Hall  Niagara Falls Post Office
North Tonawanda City Hall  North Tonawanda Post Office
Tonawanda City Hall  Tonawanda Post Office

**Visitors Centers/ Family Interest/ Recreation**

Fisherman’s Landing  Niagara Falls Public Library
Niagara Falls Attractions
Aquarium of Niagara
Cave of the Winds
Daredevil Museum
Festival Theater
Goat Island
Great Lakes Garden
Maid of the Mist Boat Tour
Niagara Gorge Discovery Center
Niagara Scenic Trolley
Observation Tower
Passport Voyages of Discovery
Three Sisters Island
Thrill Ride Niagara
Orin Lehman Visitors Center & Niagara Adventure Theatre
Niagara USA Official Visitor Center

**Headwaters Destinations**

**The Landscape**

**Parks**

Aqua Lane Park  Black Rock Canal Park
Broderick Park  Erie Basin Marina & Gardens
Front Park  Gallagher Beach
LaSalle Park  Riverside Park
Squaw Island Park  Tifft Nature Preserve
Tow Path Park

**Trails**

Industrial Heritage Trail  Scajaquada Pathway
Tifft Street Greenway

**Stories of Peace, War & Freedom**

Broderick Park (Underground Railroad)  LaSalle Park (Exploration Age)
Erie Basin Marina (Buffalo & Erie County Naval & Military Park)
(Irish Famine Memorial)
Michigan Street Corridor
(Underground Railroad)
(Nash House)
(Michigan St. Baptist Church)
Enterprise in the Arts

Architecture
Buffalo City Hall
Buffalo Savings Bank (M&T Bank)
C.M. Miller Livery Stable
County Hall
Frank Lloyd Wright Fontana Boathouse
Kleinhan's Music Hall
Trinity Episcopal Church

Buffalo Gas & Light Co. Works
Buffalo State Hospital (Richardson Towers)
Connecticut Street Armory
Electric Tower (Niagara Mohawk)
Guaranty Building (Prudential Building)
St. Paul's Cathedral
YMCA Central Building

The Wealth of a Region

Buffalo Transportation Pierce Arrow Museum
Grain Elevators (See Industrial Heritage Trail)

Canalside
Ship Canal Commons

Transportation Services/ Municipal Buildings
Buffalo City Hall
County Hall
Metro Rail (Erie Canal Harbor Station)

Buffalo Post Office
Federal Courthouse
NFTA Bus Terminal

Visitors Centers/ Family Interest/ Recreation
Black Rock Boat Launch
Buffalo Niagara Visitors Bureau
Edward M. Cotter Fireboat
Erie Basin Marina
(Buffalo Harbor Cruises)
(Chinaman's Lighthouse)

Buffalo and Erie County Public Library
Convention Center
HSBC Arena
Minor League Baseball Stadium
Small Boat Harbor
West Side Rowing Club

Circulation Theory

The Circulation Theory for the ST is an extension of the zoning philosophy that organizes destinations within the five zones (See Section 2 – STRATEGY FOR SIGNAGE IMPLEMENTATION). As the zones are used as an intermediate division of the entire trail, mapping and directional references for any particular orientation sign is generally focused on the zone in which that sign is situated. An orientation element in the Headwaters segment, for instance, will include a detailed map of the Headwaters as well as a listing of destinations within this zone.

As articulated in Section 3 – RECOMMENDATIONS FOR MESSAGE CONTENT, this theory manifests in the placement of destinations on directional signage as well. Here, there are standards for the reference of various kinds of destinations in the context of their proximity in miles to any given directional sign.

As new destinations are added to the areas and neighborhoods that may be accessed by the ST, it is important to determine where these elements should be listed and which existing directional signage elements should be updated in order to maintain standards for reference.
# Listing of Signage Categories

Included below is a listing of Shoreline Trail signage categories documented as of December 31, 2011. These are referenced by Category and Detail Drawing (See Section 7 – SIGNAGE DETAIL DRAWINGS).

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-1</td>
<td>Primary Orientation Kiosk</td>
<td>S-1</td>
</tr>
<tr>
<td>B-1</td>
<td>Secondary Orientation Kiosk</td>
<td>S-2</td>
</tr>
<tr>
<td>C-1</td>
<td>Vehicular Directional - Ground Mount</td>
<td>S-3</td>
</tr>
<tr>
<td>D-1</td>
<td>Pedestrian/ Bicyclist Directional Double–Post Ground Mount</td>
<td>S-5</td>
</tr>
<tr>
<td>D-2</td>
<td>Pedestrian/ Bicyclist Directional Double–Post Ground Mount</td>
<td>S-6</td>
</tr>
<tr>
<td>D-4</td>
<td>Pedestrian/ Bicyclist Directional Single–Post Ground Mount</td>
<td>S-8</td>
</tr>
<tr>
<td>D-6</td>
<td>Trailblazer – Existing Pole Mount</td>
<td>S-10</td>
</tr>
<tr>
<td>D-7</td>
<td>Trailblazer – Single-Post Mount</td>
<td>S-11</td>
</tr>
<tr>
<td>E-1</td>
<td>Hazard/ Warning Sign (Diamond) Single Post Mount</td>
<td>S-12</td>
</tr>
<tr>
<td>H-1</td>
<td>Stop Sign</td>
<td>S-20</td>
</tr>
</tbody>
</table>
### 6 Signage Usage Criteria

One of the fundamental objectives of this program is to maintain signage standards along the trail’s entirety. Through the standardization of design formats, nomenclature, wayfinding standards and map graphics, we will preserve the integrity of the trail system. These measures aim to maximize the visibility of the trail, alert users to changes of direction or trail surface and, most importantly, reinforce its continuity through the various kinds of environments through which it passes.

Outlined below are the criteria for utilizing each signage category listed in the previous section. Detail Drawings for each category appear in the following section.

<table>
<thead>
<tr>
<th>Category</th>
<th>Usage Criteria</th>
<th>Recommendations/ Restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-1</td>
<td>This format can be used on trails, in parks or other attractions where it is necessary to orient visitors trail/facility identification, directional, regulatory and interpretive information. The format is designed to receive one to four, vandal-resistant phenolic resin panels on each elevation. The usage protocol for the Shoreline Trail involves the utilization of identity graphics, directional information, Trail segment map graphics &amp; legend of destinations and regulatory information pertaining to trail usage, seasonal maintenance and accessibility. Interpretive and acknowledgments may also be incorporated. Sizing of copy and graphics shall follow the general guidelines illustrated in the detail drawings. This category may be located at primary trailheads, parking areas adjacent to trailheads, or primary public gathering points (e.g. Restaurants, restrooms, docking areas, playgrounds) or junctions with major access streets and other trails.</td>
<td>See Section 9 - STANDARDS FOR MAP GRAPHICS, LEGENDS AND SYSTEM DESCRIPTIONS for recommendations on mapping and directional content. As per MUTCD Section 9 - TRAFFIC CONTROL FOR BICYCLE FACILITIES, no portion of this sign may be closer to a shared-use path than 24&quot;. The Owner must furnish electronic artwork to the fabricator for any custom graphics such as maps, legends, logos, and interpretive information. Directional content may be furnished in the form of a message schedule. Regulatory content may be furnished on a message schedule providing typographic size, style and spacing information is specified.</td>
</tr>
<tr>
<td>B-1</td>
<td>The overall size, function and usage criteria for Type B-1 is very similar to the previous category. Its smaller format limits its content to identity graphics, directional information and Trail segment map graphics/ legend of destinations. This element may be used at secondary trailheads, residential community access points and secondary public gathering areas. Sizing of copy and graphics shall be the same as Type A-1.</td>
<td>Same as above.</td>
</tr>
<tr>
<td>C-1</td>
<td>This format satisfies the material, sizing and reflectivity requirements of the MUTCD Version 2009 for Community Wayfinding Signage recently adopted by the New York State Department of Transportation. Its typographic sizing is required on all community roadways with vehicle speeds in access of 25 MPR. This format is the preferred detail for directing visitors to trailhead parking facilities. The MUTCD requirements of this format include arrow configuration and spacing, typestyle, word and inter-letter spacing and graphics/ background reflectivity. A divider must be utilized between the header and directional groupings and between directional groupings.</td>
<td>See Section 2D-50 for more information about Community Wayfinding Guide Signage. Consult the vendor for options to achieve reflective background colors. Consult MUTCD for listing of colors that are prohibited for usage on community signage.</td>
</tr>
</tbody>
</table>
## Signage Usage Criteria

<table>
<thead>
<tr>
<th>Category</th>
<th>Usage Criteria</th>
<th>Recommendations/ Restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-2</td>
<td>This format is intended for usage in park and other similar environments where vehicle speeds are 25 MPH or less. It’s intended usage is to direct visitors to parking areas set aside for trail users. This format satisfies the material, sizing and reflectivity requirements of the MUTCD Version 2009 for Community Signage.</td>
<td>Same as above.</td>
</tr>
<tr>
<td>D-1 &amp; D-2</td>
<td>Types D-1 and D-2 shall be used to convey directional information along the trail. These formats meet MUTCD requirements for trail signage. They may be located at or slightly in advance of decision points and convey the whereabouts of neighboring trail segments, parks, municipalities, neighborhoods, intersecting trails and tourist destinations within a reasonable distance from the trail. Each format is designed to receive two vandal-resistant phenolic resin message panels on each elevation. The top section is reserved for trail identification and the lower section is available for directional content. The format selection shall be based on the amount of content required. Consult the Detail Drawings in the next section to assist in format selection.</td>
<td>See Section 3 - RECOMMENDATIONS FOR SIGNAGE CONTENT for recommendations on directional content. As per MUTCD Section 9 - TRAFFIC CONTROL FOR BICYCLE FACILITIES, no portion of directional signage may be closer to a shared-use path than 24&quot;. The Owner must furnish electronic artwork to the fabricator for any custom graphics such as logos. All other information may be furnished on a message schedule.</td>
</tr>
<tr>
<td>D-4</td>
<td>Type D-4 is a special directional format reserved for areas where there is not sufficient space to locate a Type D-1 or D-2 format. These should be positioned in accordance with the MUTCD requirements for location relative to the trail surface. This format lends itself to conveying information for up to four different approaches. As such, this sign will typically be located at the decision point. Content for this format is the same as the previous trail directional formats. Both the top and bottom segments of the sign will receive a single vandal-resistant phenolic resin message panel on each elevation. This format selection shall be based on a field determination that there is no opportunity to use the D-1 or D-2 formats.</td>
<td>This format will be used only when the siting conditions will not permit the utilization of the D-1 or D-2 formats. The recommendations on directional content are the same as above. The Owner must furnish electronic artwork to the fabricator for any custom graphics such as logos. All other information may be furnished on a message schedule. Take particular care to identify the content for each elevation of this sign.</td>
</tr>
<tr>
<td>D-6</td>
<td>The Type D-6 Trailblazer Sign is intended to provide off-site directional assistance for visitors on access streets and roadways in the vicinity of the trail. The placement of these signs will be along major vehicular circulation pathways in the neighborhoods adjacent to the trail. Although these may reinforce circulation (with a vertical arrow) in certain situations, it is particularly important to utilize trailblazers in advance of the decision points that involve turns. This format is intended to be placed on existing utility or light poles as allowed by the municipality.</td>
<td>Certain municipalities and/or utilities prohibit the placement of trailblazer signage on existing poles. Consult with the municipality and obtain clearance for these signs prior to initiating an order.</td>
</tr>
</tbody>
</table>
## Signage Usage Criteria

<table>
<thead>
<tr>
<th>Category</th>
<th>Usage Criteria</th>
<th>Recommendations/ Restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>D-7</strong></td>
<td>The Type D-7 Trailblazer Sign is used where permission can not be obtained for placement on a utility or light pole or none exists where the sign is required. The placement criteria for this format is, otherwise, the same as above.</td>
<td>Consult with the municipality and obtain clearance for these signs prior to initiating an order.</td>
</tr>
</tbody>
</table>

**E-1**
This format can be used for several messages of warning signs utilizing a “diamond” format with yellow background. These include messages warning trails of sharp turns and other trail irregularities, junctions, intersections, railroad crossings, narrowing of the trail and bridges. The format shown in the Detail Drawings is MUTCD format N5-4a.

Consult the MUTCD Section 9B.18 - BICYCLE WARNING AND COMBINED BICYCLE/PEDESTRAIN SIGNS to review the array of warning signs that may be selected for this format.

**E-2**
This format can be used for all square and rectangular signs (18” in height) that provide special regulatory information for shared-use trails. The format shown in the Detail Drawings is MUTCD format R5-3.

Consult the MUTCD figure 9B-2 - REGULATORY SIGNS AND PLAQUES FOR BICYCLE FACILITIES to review the sign messages that may be selected for this format.

**G-1**
The Type G-1 format can be used for free-standing interpretive signage in the vicinity of the trail. This sign utilizes a single phenolic resin panel and reinforced pedestal base. The content for these signs may include heading copy, text, graphic illustrations and photographs. Sizing of copy and graphics shall follow the general guidelines illustrated in the detail drawings.

The Owner must furnish electronic artwork to the fabricator for the entire graphic layout comprising the interpretive content.

**H-1**
This Stop Sign format shall be used on shared-use paths where bicyclists are expected to yield to the right of way to conflicting traffic. The format shown in the Detail Drawings is MUTCD format R1-1.

Consult the MUTCD Section 9B.03 - STOP AND YIELD SIGNS to review the requirements for this signage.
7 Signage Detail Drawings

The detail drawings on the following pages represent the Shoreline Trail signage formats developed through December 31, 2011. They should accompany any requisitions for new or replacement signs or the replacement of panels on existing signage. These drawings are required to guarantee that the materials, colors, graphics, formats and fabrication technology of new or replacement signage is consistent with the standards established in the initial program installation.

Any requisitions for new or replacement signs or panel replacements should also include the written specifications included in Section 11 - SIGNAGE FABRICATION AND INSTALLATION SPECIFICATIONS. The Specifications may require modification to coordinate with the specific signage products included in procurement.

This package of detail drawings may be used by organizations and municipalities in the Niagara River Greenway wishing to replicate the signage formats contained herein. These organizations should also consult Section 6 - SIGNAGE FORMAT USAGE CRITERIA in order to become acquainted with the rationale for usage of the various formats and Section 2 - STRATEGY FOR SIGNAGE IMPLEMENTATION for logo and color restrictions applicable to signage not associated with the Shoreline Trail.
NOTES:

1. Fabrication will include aluminum box panel core, Fused Resin changeable message panels and aluminum posts. Art for logo, logotype, map graphics and tourist information will be furnished in CorelDraw V10 format. Header and directional copy will be as indicated in message schedule.
2. See drawings S-1A and S-1B for fabrication details.

<table>
<thead>
<tr>
<th>Type A-1 Primary Orientation Kiosk</th>
<th>Shoreline Trail</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-1</td>
<td></td>
</tr>
</tbody>
</table>
1. Changeable Panels to be .250" Thick Fused Resin Graphics Panel as depicted above. All Panels will be inserted behind U-Channel around perimeter on front and back.

NOTES: 1. Changeable Panels to be .250" Thick Fused Resin Graphics Panel as depicted above. All Panels will be inserted behind U-Channel around perimeter on front and back.
**Type A-1 Top View with Cut Away on Panel Cap**

- 2" x 4" Aluminum Post
- Aluminum U-Channel Retainer
- .125" Thick Fabricated Aluminum Panel
- Counter-sunk Tamper-resistant fasteners in Panel Cap
- .250" Thick Fused Resin Graphics Panel
- Removable Panel Cap
- Overlaps front and back graphics panels 1/8" and painted to match C-2

**Type A-1 Front Elevation**

- Post and panel caps welded at this point.
- 3-1/8" x 4-1/4" x .125" Aluminum U-Channel on sides and bottom (Color to match C-2)
- 1" x 4" x .125" Aluminum U-Channel at bottom of sign panel (Color to match C-1)
- 2" x 4" Aluminum Post
- .125" Aluminum U-Channel (Color to match C-2)
- .125" Thick Fabricated Aluminum Panel
- 1" x 4" Aluminum Filler Panel below aluminum Panel (Painted to match C-2)
- .250" Thick Fused Resin Graphics Panel

**Horizontal Post/Panel Section**

- 4-1/4" x 3-1/8"

---

**Type A-1 Primary Orientation Kiosk Fabrication Details**

| Shoreline Trail | S-1B |
Installation Detail A

Four anchor bolts per post. Diameter to be determined by wind-load requirements of sign panel.

12” Square x 1/2” thick baseplate

3'-0” Post

Installation Detail B

Employ 1/2” thick steel flange with two slots on front and two on back for breakaway design. One flange will be welded to sign post and one will be welded to counter post embedded in concrete anchor.

Foundation Detail

Four 1/2” or 3/4” bolts, washers and nuts per post. Bolt diameter to be determined by wind-load requirements of sign panel.
NOTES:
1. Materials and fabrication same as Type A-1.
2. Logo and copy dimensions same as Type A-1.
NOTES:

1. Panel to be fabricated aluminum with C-1 (dark green) field, C-2 (light green) accents and C-3 (white) graphics and dividers. Posts to be 4" x 6" aluminum.
2. Copy and arrows to subscribe to the style (Standard Alphabet Series C), line-spacing and letter spacing standards in the MUTCD version 2009 and Standard Highway Signs and Marking (FHWA).
3. All panel graphics, borders, dividers and background shall be retroreflective. Copy to be 4" upper case and 3" lower case.
4. Arrows to be 9" x 11" and centered vertically on copy block.
5. Owner will provide art on disk for Shoreline Trail logo.
NOTES:

1. Use foundation detail shown above for Post and Panel sign type C-1 and D-7.
2. Unless otherwise indicated in message schedule, assume mounting surfaces are undisturbed soil.

<table>
<thead>
<tr>
<th>Post and Panel Details - Breakaway Base Mount</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Shoreline Trail</td>
<td>S-3A</td>
</tr>
</tbody>
</table>
NOTES:
1. Materials and fabrication same as Type C-1.
NOTES:

1. Fabrication to include perimeter retainer to secure fused resin graphic panels similar to Type A-1.
2. Colors, logo and typefaces same as Type A-1.
3. Owner will provide art on disk of all logos to be used on Directional Signage. Park logos to be 2-1/2".
4. See S-5A for installation detail.
5. Arrow orientation and message copy to be as specified in the Signage Schedule.

<table>
<thead>
<tr>
<th>Type D-1 Pedestrian/ Bicyclist Directional Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shoreline Trail</td>
</tr>
</tbody>
</table>
NOTES:
1. Solid composite phenolic graphics panel to be inserted behind U-Channel on front and back. Panel bottom will include U-Channel stop for graphics panel insert. All edges to be finished smooth and painted to match C-2.
2. Aluminum cap to be attached to fabricated aluminum panel with Tamper-resistant fasteners. All exposed edges and fastener heads to be painted to match C-2.

<table>
<thead>
<tr>
<th>Type D-1 Fabrication/Installation Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shoreline Trail</td>
</tr>
</tbody>
</table>
NOTES:

1. Materials and fabrication same as Type D-1.
2. Logo and copy dimensions same as Type D-1.
SHORELINE TRAIL

NOTES:
1. Materials and fabrication same as Type D-1.
2. Panels to be fabricated with central cavity for single post mount.
3. Consult message schedule for panel orientation.

Type D-4 Single Post Pedestrian/ Bicyclist Directional Sign
Shoreline Trail | S-8
NOTES:

1. Sign panel to be fabricated from .125" thick aluminum with retroreflective graphics and background. Paint back and edges to match face.

2. Use Band-It brand Stainless Steel strapping for attachment to existing utility poles.
NOTES:

1. Sign panel and post fabrication and mounting same as Type D-4. All exposed portions of panel and post will be painted to match C-2.

2. Graphics application to be the same as Type D-6.
NOTES:

1. Sign Post to be 3" Square Aluminum with angled planes fabricated as shown above.
2. Sign to be fabricated aluminum box panel with reflectorized graphics and background as per MUTCH Section 9B.01.
3. Attach Sign Panel to post with fasteners and post plugs similar to Type D-1.
4. Post to be direct embedded into 42" concrete anchor with minimum 12” diameter.

<table>
<thead>
<tr>
<th>Type E-1 Hazard/Warning Sign</th>
<th>Shoreline Trail</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-12</td>
<td></td>
</tr>
</tbody>
</table>
NOTES:
1. Materials and fabrication same as Type E-1.

| Type E-2 Hazard/Warning Sign | Shoreline Trail | S-13 |
NOTES:

1. Fabrication will include aluminum box panel core, Fused Resin interpretive panels and aluminum posts. Art for graphics will be furnished in CorelDraw V10 format by Owner.

2. Fused Resin Graphics Panel to be 24" by 36".
NOTES:
1. Sign Post to be 3" Square Aluminum with angled planes fabricated as shown above.
2. STOP Sign to be fabricated aluminum box panel with reflectorized graphics and background as per MUTCH Section 9B.01.
3. Attach Sign Panel to post with fasteners and post plugs similar to Type D-1.
4. Post to be direct embedded into 42" concrete anchor with minimum 12" diameter.

Type H-1 Stop Sign

| Shoreline Trail | S-20 |
8 Standards for Color, Typography and Logo Usage

Included below are standards for color, typography and logo usage as may be applicable for the development of new or replacement Shoreline Trail signage. Included with this Manual is a CD that contains jpegs of logos that are applicable to this project and should accompany any request for new signage.

Signage Colors

C-1 Dark Green (PMS 3308)
C-2 Light Green (PMS 354)
C-3 White
C-4 Red (Reflective Red)
C-5 Black
C-6 Yellow (Reflective Yellow)

Signage Typography

<table>
<thead>
<tr>
<th>SHORELINE TRAIL</th>
<th>Isle View Park</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gill Sans Bold</td>
<td>Arial Bold</td>
</tr>
</tbody>
</table>

Symbols and Logos

- Shoreline Trail
- Erie County Parks
- City of Buffalo Olmsted Parks
- City of Buffalo Municipal Parks
- Niagara River Greenway
- Directional Arrow
Standards for Map Graphics, Legends and System Descriptions

Included in this section are reduced maps, legends and descriptions of the Niagara River Greenway, Erie and Niagara County Park systems and the Upper River and Headwaters segments of the Shoreline Trail. These graphics are utilized in the development of Types A-1 and B-1 Orientation Signage. Included with this Manual is a CD that contains Corel Draw (V13) files of these graphics that may be used to make modifications to content as required for future updating.

**WELCOME TO THE NIAGARA RIVER GREENWAY!**

The Niagara River Greenway is a world-class network of parks and trails that celebrates and interprets our unique natural, cultural, recreational, scenic and historic resources. It provides access to and connections between these important resources while giving rise to economic opportunities for the region.

Extending the length of the Niagara River from the city of Niagara Falls to the City of Tonawanda, the Greenway features a world-class network of parks and trails that provide access to the river, scenic vistas, and historic sites. The Greenway includes four major sections: the Headwaters, Upper River, Lower River, and River Trail.

**THE SHORELINE TRAIL**

The Shoreline Trail is a multi-use trail and greenway that will eventually extend from the city of Niagara Falls to the City of Tonawanda. The trail will provide access to the Niagara River Greenway and will connect to the Erie and Niagara County Park systems. Once complete, the trail will be a major link in the Niagara Greenway system providing a unique opportunity for recreation, tourism, and economic development.

**ERIE COUNTY PARK SYSTEM**

The Erie County Park system is a substantial network that includes developed parks, waterfront properties, and extensive conservation lands, containing nearly 100,000 acres of land on 36 sites throughout the County. This includes seven large multipurpose parks, five undeveloped parks, three forest preserves, seven small special purpose parks, and two multi-use recreational trails.

**TYPE A-1 HEADWATERS HEADER PANEL**

**TYPE A-1 UPPER RIVER HEADER PANEL**
10 Recommendations for Wayfinding Reinforcement Among Related Communications

While this document primarily focuses on preserving the Shoreline Trail’s visual and content standards embodied in the development of signage, there are opportunities to extend this communication continuity beyond the bounds of the trail itself. These opportunities may take the form of electronic communications, promotional print graphics and special displays or exhibits. The recommendations included below are intended to capitalize on the equity that has been created with these standards and their potential to promote awareness and usage of this facility.

Identity Graphics

The overall identity of the Shoreline Trail can be substantially reinforced among other forms of communication with effective use of the current identity graphics. This would entail:

1. Exclusive usage of the ST logo and logotype
2. Usage of the dark green field (C-1) whenever possible
3. Usage of the lighter green (C-2) in motifs and as a high-lighting feature
4. Usage of Gill Sans as headline typography
5. Usage of graphic vocabulary as depicted in current map graphics (i.e. roadway graphics and labeling, trail marking and color coding, field colors, municipal demarcations, key designations and coding formula, map legends, etc.)

Content

Similarly, communication can be streamlined if specific references to the trail, its segments, destinations and attractions are made consistently with the information that appears on signage. This will entail:

1. References to the “Shoreline Trail” as opposed to its current segment names (e.g. “Riverwalk”)
2. Utilization of the Nomenclature Standards for destinations and attractions (Section 4)
3. Awareness and application of the zoning theory and terms used to articulate the five trail segments (Section 1)
4. Usage of maps that relate strongly to those used on the orientation signage along the various trail segments
5. Clear identification of map segments in the event multiple maps and legends are employed (each should be identified by its respective trail segment and the Key Plan Map should be utilized to show the location of the segments along the entire course of the trail)
6. Usage of the category distinctions in the legend of destinations and attractions (i.e. The Landscape, The Bounty of Nature, etc.)
7. Sharing the nomenclature and reference standards with municipalities and stakeholders who are likely to make references to the ST.
11 Signage Fabrication and Installation Specifications

Use the attached specification when ordering new or replacement signage elements. Included on the following pages are:

SECTION 02600 SITE RESTORATION
SECTION 03300 CAST-IN-PLACE CONCRETE
SECTION 10400 POST AND PANEL SIGNAGE

These documents will require modification to reflect the specific signage products and installation conditions of each new purchase.
12 Listing of Recommended Vendors

Included below is the current supplier of signage for the Shoreline Trail. Also included are signage companies who submitted bids on the Demonstration Project that demonstrated their understanding and compliance with the products and application technologies included in the project documentation.

Current Supplier:

ASI
2957 Alt Road
Grand Island, New York 14072
Contact: Andy Bernatovicz  716-775-0104
andy.bernatovicz@asisignage.com

Other Signage Companies That Demonstrated Understanding of Products:

SignArt
289 Whisper Lake Road
New London, North Carolina 28127
Contact: Frank Perry 336-461-3138
badinboy@rtmc.net

Park Place Inc.
2019 30th Street
Hannibal, Missouri 63401
Contact: Bill Baker  800-650-7275
bill@parkplacesign.com

Design Concepts
8438 Ridge Road
Gasport, New York 14067
Contact: Arnie Wolfe 716-514-4311
arniew@rochester.rr.com
13 Maintenance Practices

The Maintenance Practices for the Shoreline Trail signage elements are generally outlined in the document entitled *Erie County Riverwalk Maintenance Manual*, available in Erie County's Department of Environment & Planning. This document provides a detailed written representation of Erie County's responsibilities with regard to trail maintenance for the larger network of trails known previously as the Riverwalk. It identifies the specific responsibilities for each segment of the trail network. These responsibilities vary as the trail passes through various municipalities and was constructed in phases over many years.

The sections of this document that address the portion of this network that is part of the Shoreline Trail are as follows:

- **Section 3** Originally Riverwalk, Niawanda Section (Currently part of the Greenway Upper Rivers Segment)
- **Section 4** Originally Riverwalk, Isle View Section (Currently part of the Greenway Upper Rivers Segment)
- **Section 5** Originally Riverwalk, Riverview Section (Currently part of the Greenway Upper Rivers Segment)
- **Section 6** Originally Grand Island Bridge Overlook (Currently part of the Greenway Upper Rivers Segment)
- **Section 7** Originally Riverwalk, Erie Canal Section (Currently part of the Greenway Upper Rivers Segment)
- **Section 8A** Originally Riverwalk, Strawberry Island Section (Currently part of the Greenway Headwaters Segment)
- **Section 8B** Originally Riverwalk, General Motors Section (Currently part of the Greenway Headwaters Segment)
- **Section 9** Originally Riverwalk, City of Buffalo Section (Currently part of the Greenway Headwaters Segment)

This document includes specific mapping of the various sections itemized above as well as subsections that articulate the maintenance responsibilities of each party and supporting documentation (e.g. easements, maintenance agreements, memoranda of understanding, notice of ownership, etc.).

Each of the sections in this manual includes such specific routine maintenance responsibilities as:
- Tree/ brush clearing
- Mowing
- Trash Removal/ Litter Cleanup
- Flood Damage Repair
- Silt Cleanup
- Patching
- Bollard Repair/Maintenance
- Erosion Monitoring
- Planting/Pruning/Beautification
- Trail striping
- Resurfacing

The sections also reference the repair and maintenance of amenities including:
- Signage
- Benches
- Trash Receptacles
- Bicycle Racks

With particular respect to Signage along the portions of the Shoreline Trail in Erie County, the standards established in this Manual will be controlled by the Department of Environment & Planning. Where specific signs and sign components are designated in this Manual, these standards will be followed in all cases. Should any specific signage requirements exceed the size, content or material requirements in this Manual, this department will oversee the extrapolation of current design standards and coordinate the revision of the Manual to reflect the changes. It will also review policy issues that impact signage and wayfinding on the Shoreline Trail. These may include:

1. Requests for new signage formats or departures from the existing standards,
2. Coordination issues relating to what destinations are formally called and what pathways are used to guide visitors to access them,
3. Apparent or potential wayfinding conflicts with other media,
4. The coordination of temporary or short-term signage elements, or
5. The implications of new projects and the potential for multi-discipline design efforts to enhance wayfinding strategies.

With particular respect to signage hardware, the following maintenance schedule is recommended.

**Bimonthly (March – November)**

1. Order all new or replacement signage components.
2. Remove unauthorized signage.
3. Inspect all existing signage for wear and vandalism.
4. Repair or replace damaged signage.

**Semi-Annually (April and October)**

1. Update orientation and directional signage with respect to changes to nomenclature or circulation theory.
2. Review wayfinding standards to evaluate any needs identified for adjusting signage standards.
3. Review existing or planned projects to expand or upgrade the Trail and confirm that allowances are made to add or modify signage as required.