EAST CENTRAL WISCONSIN

TRAIL WAYFINDING GUIDEBOOK

FALL 2017

alta PLANNING + DESIGN

East Central Wisconsin Regional Planning Commission ECWRPC

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INTRODUCTION

The introduction provides an overview of general wayfinding principles. It also highlights the process used to develop this Guidebook. The guidelines within this document can carry East Central Wisconsin through the implementation process now and into the future.

WHY CREATE THIS GUIDEBOOK?

Bicycle and pedestrian wayfinding signs help guide residents and visitors to regional points of interest. Wayfinding signs help identify safe, low-stress routes to encourage people to walk and bicycle to reach their destination.

This guidebook provides municipalities and agencies in East Central Wisconsin with tools to produce and install wayfinding signs on trails and in urban areas throughout the region. A unified sign family will create sign cohesion in East Central Wisconsin and a consistent and predictable source of information for people walking and bicycling traveling to major destinations throughout the region.

Best practices, technical information, and placement guidance are included in this plan to aid in future wayfinding installations. Fabricators should always review local, state, and national guidelines for placement and installation, particularly within state department of transportation rights of way.

The placement plan is a planning-level document that guides how signs relate to destinations, connect routes, and maintain consistency across the landscape. Prior to initiation, this placement plan should be vetted for clarity, changes in bicycle and pedestrian connectivity, safe routes, and sign schedule continuity to successfully guide people to destinations.

WHO SHOULD USE THIS GUIDEBOOK?

Although the wayfinding system is designed at a regional level, cities and towns should lead sign installation to give city and town leaders the flexibility to install signs in phases.

Members of the public, government agency staff, and advocacy groups can use this guidebook to learn more about the wayfinding system and to support its installation. The guidebook could not have been completed without the help of stakeholders throughout the region. Continued support will ensure the system is installed in a timely manner and continues to grow.

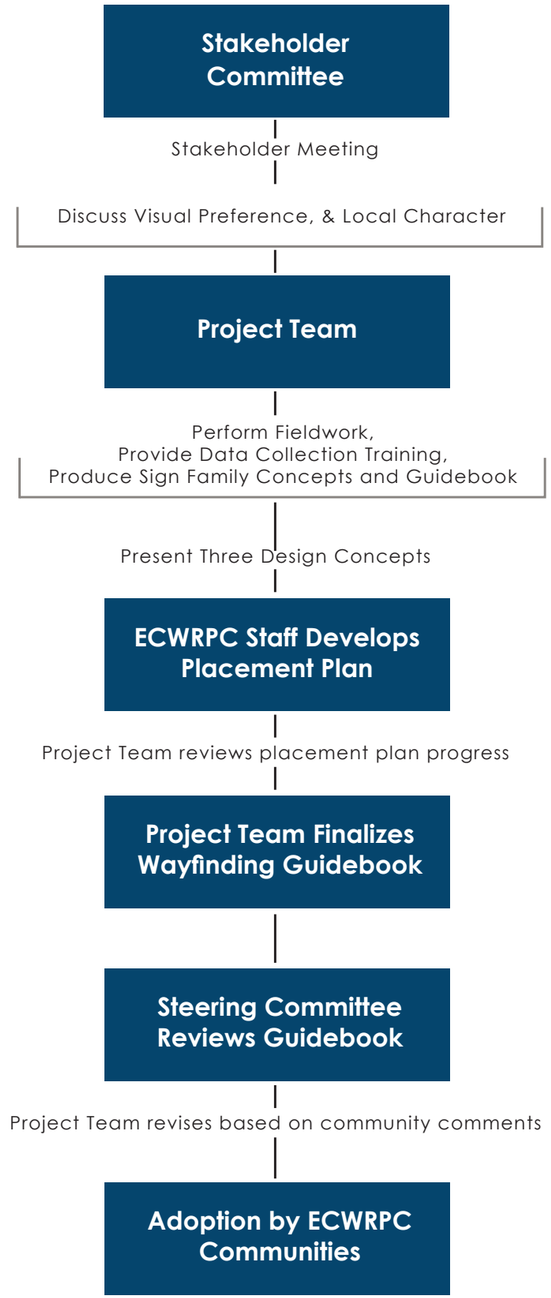
EAST CENTRAL WISCONSIN: CHARACTER AND WAYFINDING

The East Central Wisconsin Regional Planning Commission is composed of ten counties. Small and mid-size cities and towns make up the region. Residents are attracted to East Central Wisconsin due to the area's natural beauty, vibrant industry, and mix of downtowns and small communities.

The ECWRPC area is active throughout the year, from walking, bicycling, and sailing in the summer, to snowmobiling and cross-country skiing in the winter. Several communities in the area currently use wayfinding signs to help people navigate these recreational systems. Other agencies, such as Fox Cities Convention and Visitors Bureau, use wayfinding signage to drive tourism and help visitors reach regional points of interest.

PLANNING AND DESIGN PROCESS

A comprehensive planning process took place to develop the East Central Wisconsin Bicycle and Pedestrian Wayfinding Guidebook. This process included input from key stakeholders to direct the development of the wayfinding plan and sign package. The planning process is described in the chart at right.



FREQUENTLY ASKED QUESTIONS ABOUT THIS GUIDEBOOK

How do the sign concepts relate to actual sign construction?

The sign concepts show the intended appearance of a suite of signs. When a municipality is ready to install signs, design intent drawings typically are produced by a fabricator or an agency/ consultant responsible for implementation. Therefore, design intent drawings can be produced in-house or with the help of a consultant, but that this step would be needed before signs are produced.

What role will East Central Wisconsin play in the implementation of these signs?

The Wayfinding Guide offers design inspiration and guidelines to assist in the development of wayfinding signage for a consistent appearance across the region. While not required, East Central would be happy to assist in the review of sign concepts for implementation, but this step would not be necessary. We offer this from a technical assistance approach and to answer questions.

How do we implement this in our city if we already have wayfinding? Why should we choose this?

Regional wayfinding signage has the ability to unify the region with regard to wayfinding, but that does not mean that individual cities cannot continue to use their own local signage guidelines

For example: the City of Oshkosh may wish to keep its own wayfinding signage downtown, but in Stearns Park, which connects to other regional destinations, it would be advantageous to make use of the Wayfinding Sign Guide for connections to the Wiouwash Trail. The recommended suite of signs allows Oshkosh to make references back to their own signage through the use of customization and sponsorship placement on the signs

Can these be implemented in phases to minimize cost?

Yes. Some cities may wish only to use parts of the Wayfinding Guide for the development of directional signs, and some others may only wish to test out the Wayfinding Guide for a few kiosks at key locations. This would allow Cities and stakeholders to implement only the parts for which they are ready, or for which funding can be secured. This modular approach allows for Cities and stakeholders to develop at a scale that works for them.

Do these signs fit within the realm of what can be considered consistent with the MUTCD?

Yes, for items within the public right-of-way, directional and wayfinding signs follow guidance in the MUTCD.

Yes, for items not within the ROW, interpretive, directional, and wayfinding signs follow best practices guidance.

In many cases, installation of wayfinding signs will require a permit to install within another agency right-of-way (WisDOT, County, DNR), and in these cases, review of signs for compliance is expected to be a part of the permit review process. In the event that review or placement becomes a challenge, it is possible to revise placement as needed to avoid any specific concerns.

What is the plan for regional encouragement?

Some communities will be using this as their first foray into wayfinding placement. Others may choose this as a point to expand upon existing wayfinding. Municipalities, counties, or other public agencies may lead the implementation efforts. The lead agency will likely change on a project by project basis. Every implementation project will need coordination between multiple stakeholders. Wayfinding project may be coordinated with Complete Streets implementation throughout future project years (2018), and can be implemented on an as-needed basis.

Communities will continue hearing about the plan through newsletter postings, annual meetings, social media messages, and by meeting directly with communities. As mentioned above, these meetings or trainings can occur in conjunction with Complete Streets presentations or discussions.

What methods are available to produce the signs and how flexible are the recommendations?

The placement plan and Wayfinding Guidebook will allow Cities to scale the size of their procurement request based on need (e.g. if they want a contractor to do everything, they can; if they want to calculate quantities and provide a range of costs before releasing an RFP, they can.) The Guidebook provides the ability for the region to seek consistency while also allowing for local branding. Sponsorship panels and spaces for regional identifying marks are provided.

Where can this Guidebook be found online?

The placement plans, while static in the guidebook, will be available on the East Central Website to allow for more click-to-zoom detail. For more information, please visit the East Central Website: http://www.ecwrpc.org/programs/transportation/bicycle-and-pedestrian-planning/

Figure 1. The regional wayfinding placement plan directs residents and visitors to the region's many points of interest.

WAYFINDING ELEMENTS

The chapter discusses overall importance and principles of wayfinding and the basic sign types of bicycle and pedestrian wayfinding.

THE IMPORTANCE OF WAYFINDING

Wayfinding signage can boost community branding, create a sense of place, promote economic development, and safely communicate how to navigate to regional and local destinations. Wayfinding elements can enrich and enhance experiences in urban environments in the following ways:

- Define and communicate district or neighborhood boundaries and create a sense of arrival at a place
- Bring awareness to historical areas, landmarks, outdoor recreation, and natural areas
- Enhance the overall brand of the region and its communities
- Provide clear, legible navigation, to improve user comfort, mobility, and circulation efficiency
- Provide a cohesive, well-defined, and consistent sign system to encourage consistency throughout the region

WAYFINDING PRINCIPLES

The built environment should be designed so that people can intuitively locate destinations, identify routes, and recognize areas of different character. Wayfinding helps to make places easier to understand and navigate by enabling individuals to:

- Successfully find their way to a destination
- Understand where they are with respect to other key locations
- Orient themselves in an appropriate direction with little misunderstanding or stress
- Discover new places and services

To create a successful wayfinding system, the planning and design process begins with guiding principles to focus the intent of messaging and provide a framework for implementing a cohesive, easy to use network of routes and signs. These principles have been developed for pedestrian and bicycle focused wayfinding plans and are based on best practices from around North America. They are also informed by principles of social, economic, and racial inclusion.

PRINCIPLE 1: CONNECT PLACES

Effective wayfinding information helps both locals and visitors to travel between places and to discover new destinations that may be reached by walking and bicycling. The wayfinding system should support local economic vitality by encouraging locals to use services within their own neighborhood. The wayfinding system should identify destinations both within the community and priority destinations throughout the region. Navigation between local and regional destinations should be seamless to enhance active transportation network connections and improve the accessibility of bicycle and pedestrian routes. Finally, wayfinding elements should contribute to creating a deeper sense of place for the whole community and cultivate a sense of pride by reflecting community values and identity.

PRINCIPLE 2: PROMOTE ACTIVE TRANSPORTATION

Wayfinding should encourage active transportation by creating an accessible, clear, and attractive system that is intuitive to navigate by walking and bicycling. Whether directed towards people walking and bicycling or indirectly seen by passing vehicles, the system should integrate into the cultural environment and should be easy to understand. The presence of wayfinding signs should validate walking and bicycling as viable transportation options. Accessible formats of these signs should affirm that active transportation is promoted equitably.

Wayfinding should also expand the awareness and use of bicycle and pedestrian facilities by the whole community. The installation of wayfinding has the potential to increase walking and bicycling on existing facilities with low levels of use. This is an efficient use of active transportation investments on infrastructure already in place. Wayfinding also helps expand the use of the existing transportation network without costly infrastructure improvements. In many cases, streets with low speeds and volumes may be good candidates for walking or cycling routes and simply need the installation of wayfinding to raise the awareness of these route options.

PRINCIPLE 3: MAINTAIN MOTION

Wayfinding information should be presented in a way that is quickly understood. Walking and bicycling require physical effort, and frequent stopping and starting to check directions may lead to frustration. Wayfinding information that can be quickly and easily grasped contributes to a more enjoyable environment for walking and bicycling. Consistent, clear, and visible wayfinding elements allow active transportation users to navigate while maintaining movement.

PRINCIPLE 4: BE PREDICTABLE

Wayfinding should be predictable and consistent. When information is predictable, it can be recognized and quickly understood. Predictability should relate to all aspects of wayfinding placement and design (i.e., sign materials, dimensions, colors, forms, and placement). Design consistency also contributes to a continuity of experience as landscapes and context change along bicycling and walking routes. Once users trust that they will encounter consistent and predictable information, their level of comfort is raised and new journeys become easier to attempt and complete, thereby promoting an experience that is welcoming and friendly. Similarly, maps should employ consistent symbology, fonts, colors, and style. The system should be designed within local, state, and federal guidelines for a variety of reasons, including the ability to be funded through state and federal sources. Directional signs should use distance, rather than time, as a unit of measure. This approach keeps the signs legible and applicable to all modes of transportation.

PRINCIPLE 5: KEEP INFORMATION SIMPLE

Wayfinding should provide clear information in a logical succession, and not overburden users with excess information. Information should be presented in as clear and logical format as possible. Wayfinding signage should be both universal and usable for the widest possible demographic and with special consideration for those without high educational attainment, English language proficiency, or spatial reasoning skills. It is important to provide information in manageable amounts. Too much information can be difficult to understand; too little, and decision-making becomes impossible. Information should be provided in advance of where major changes in direction are required, repeated as necessary, and confirmed when the maneuver is complete.

TYPES OF WAYFINDING

Wayfinding tools can include web technology and communication (tourism websites, Google maps), experience technology (mobile apps), print media (brochures, banners, maps), the built environment (streetscapes, districts, landmarks, architecture), and signage. This guidebook focuses on physical signage, the core component of wayfinding. The main types of wayfinding signs include:

PEDESTRIAN

Pedestrian wayfinding defines neighborhood or district boundaries, directs people walking to destinations, and provides detailed information such as maps, transit routes, and local business lists. Pedestrian wayfinding is designed at a human scale with directional posts, information kiosks, and map panels positioned at eye level and scaled at smaller font sizes than vehicular signage. The recommended vehicular trailhead sign in this guidebook includes pedestrian scale elements to serve people walking to trailheads.

BICYCLE

Bicycle wayfinding confirms orientation and directs bicyclists to local and regional destinations. Bicycle wayfinding is typically placed along trails and on-street bicycle facilities. These types of signs are designed so that bicyclists can easily read signs while moving, quickly comprehend the information, and adjust direction of travel in advance of turns.

GATEWAYS

Gateways define the entry into a city, town, or district with a defined identity. They are the first communication and introduction to a physical place, and provide a feeling of arrival. Gateways exist at two basic scales: regional/city gateways and district/ neighborhood gateways. Gateways may be signs, landmark monuments, or physical gateways. Gateway designs are not included as part of this regional plan.

VEHICULAR

Vehicular wayfinding provides motorists arrival information such as gateways, and directional information to cities, districts, local destinations, and parking. Vehicular signage is designed to be seen at posted driving speeds in public rights-of-way, as regulated by departments of transportation. Vehicular signs inform the placement of bicycle and pedestrian signs. Because they are much larger than signs created for people walking and bicycling, pedestrian and bicycle signage may not be needed if pertinent information is legible via a vehicular sign. Inventory of existing signs and content helps reduce sign clutter and message duplication.

PEDESTRIAN WAYFINDING ELEMENTS

Pedestrian wayfinding elements include kiosks with detailed orientation maps and information, and directional signs with nearby destinations and directional arrows.

MAP KIOSK

Kiosks with area and/or citywide orientation maps can provide helpful navigational information for pedestrians as well as for bicyclists , particularly in locations where bicyclists may be stopping long enough to digest more information (i.e. transit stations or stops, busy intersections, or trail heads). Map kiosks should include circles illustrating the walking and bicycling time and/or distances to encourage exploration in urban areas. Additionally, orienting signs with respect to the audience's view (or, a heads up orientation) is more intuitive than maps where north is at the top. High contrast simple graphics or icons and the use of color coded areas or districts help make maps legible to a wide audience. Figure 2 shows a sample map kiosk.

For trail settings, map kiosks should contain trail information such as rules and regulations including allowed uses and emergency contact information. Interpretive or educational information may also be integrated into kiosks. Per the Americans with Disabilities Act (ADA) design guidelines, trailhead facilities built with federal funds shall include the following information:

- Length of the trail or trail segment
- Surface type
- Typical and minimum tread width
- Typical and maximum running slope
- Typical and maximum cross slope

DIRECTIONAL SIGN

Pedestrian directional signs include a list of major attractions and local destinations with directional arrows. Walking distances are included adjacent to the directional arrow. Pedestrian directional signs may be single panels, or may be configured as individual blades mounted in different directions on a post. Pedestrian directional signs may also incorporate colors or brand marks distinct to the identity of a particular neighborhood or district. Figure 3 shows a sample directional sign.

Figure 2. Pedestrian map kiosk with an orientation map that has color coded districts in Portland,OR.

Figure 3. Pedestrian directional sign with simple bold graphics and distinctive district pole topper in Charlotte, NC.

BICYCLE WAYFINDING ELEMENTS

The fundamental family of bicycle wayfinding elements include decision, confirmation, and turn signs. The function, content, and placement of each are described below and in Figure 4.

DECISION SIGN

FUNCTION AND CONTENT

Decision signs clarify route options when more than one potential route is available. Signs typically consist of a system brand mark, space for up to three destinations, distance in miles and/or time (based on 10mph or a 6 minute per mile travel speed). Decision signs may include a specific route or path name.

Per the Federal Highway Administration (FHWA) Standard Highway Signs Supplement to the Manual of Uniform Traffic Devices (MUTCD), the standard size for a three line bicycle destination sign (D1-3b, D1-3c) is 18 inches high by 30 inches wide, however many municipalities use a vertical format sign being 24 inches wide by 30 or 36 inches tall. This is accomplished by omitting the bicycle symbol from each separate line and instead having a single bike symbol at the top of the sign. Generally providing six inches of vertical space per destination line allows for the 2 inch minimum text height. Sign width is not standardized by the MUTCD. These dimensions apply to both on- and off-street bicycle facilities.

PLACEMENT

Decision signs should be placed before decision making points or intersections with routes having bicycle facilities. Sufficient distance prior to the intersection should be provided to allow for safe recognition and response to information provided. Based on guidance from the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities, decision signs for bicycle travel typically are placed 50-150 feet in advance of a turn to allow a bicyclist enough time to slow, change lanes, and prepare for any turns that may be necessary. Care should be taken so that the turn or options the sign refers to are obvious. Decision signs should not be placed near side or access paths that could be confused with the primary route.

CONFIRMATION SIGN

FUNCTION AND CONTENT

Placed after a turn movement or intersection to reassure cyclists that they are on the correct route. System brand mark (e.g. logo or city name) and route or pathway name may be included. A minimum size of 24 inches wide by 18 inches high should be used for bike route signs whether on-street or off-street.

PLACEMENT

Signs should be placed 50 – 100 feet after turns. Confirmation signs need not occur after every intersection. They should be prioritized at locations where a designated route is not linear as well as after complex intersections. Complex intersections include those having more than four approaches at greater or less than 90 degrees, roundabouts, or indirect routing.

TURN SIGN

FUNCTION AND CONTENT

Turn signs are used to indicate changes in bike route direction where only one route option is available. System brand mark (e.g. logo or city name), route or pathway name, bicycle symbol and directional arrow are included on the sign. Standard MUTCD D1-1 series signs may be used to indicate turns. Similar to decision signs, a minimum height of 6" should be used and width may vary according to destination length.

Standard turn arrow signs (M5 and M6 series) may also be used in conjunction with bike route signs to clarify turn movements.

PLACEMENT

Turn signs are placed in advance of turns to give cyclists adequate time to slow down or, if necessary, change lanes to prepare for a turn. Turn signs may be used in conjunction with a decision sign at complex intersections warranting additional information.

Figure 4. Fundamental on-street bicycle wayfinding elements.

WAYFINDING TECHNICAL GUIDANCE

A variety of standards and guidelines influence the design and placement of wayfinding elements. This section addresses wayfinding guidelines at multiple levels of governance.

MUTCD COMMUNITY WAYFINDING GUIDELINES

Community wayfinding signs allow for an expression of community identity and pride, reflect local values and character, and may provide more information than signs which strictly follow the basic guidance of the MUTCD. Section 2D.50 of the MUTCD describes community wayfinding signs as follows:

> *Community wayfinding guide signs are part of a coordinated and continuous system of signs that direct tourists and other road users to key civic, cultural, visitor, and recreational attractions and other destinations within a city or a local urbanized or downtown area.*
>
> *Community wayfinding guide signs are a type of destination guide sign for conventional roads with a common color and/or identification enhancement marker for destinations within an overall wayfinding guide sign plan for an area.*

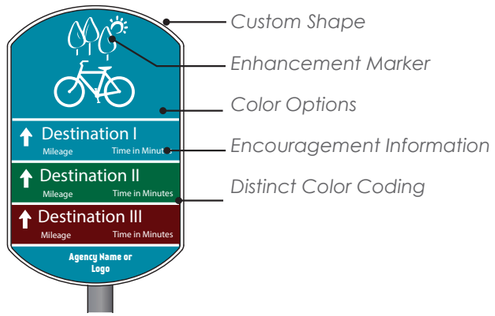


Figure 5. Flexible directional sign incorporating community wayfinding standards

The figure above illustrates design features of a community wayfinding sign. Enhancement markers may occupy up to 20 percent of the sign face on the top or side of the sign. The directional arrows shown provide clarity and are approved for post mounted guide signs in the MUTCD Section 2D.08. A number of cities in the United States use distance, expressed in miles, to provide an estimate to reach a destination. The region's recommended sign concepts use distance, rather than time, as a standard measures for simplicity and because this information is applicable to both walking and bicycling.

Per community wayfinding guidelines from the MUTCD, color coding may be used to distinguish destinations in different neighborhoods or subareas. Community wayfinding guide signs may use background colors other than green, though the MUTCD prohibits the use of some colors for wayfinding signs, known as "assigned colors." Assigned colors consist of the standard colors of red, orange, yellow, purple, or the fluorescent versions thereof, fluorescent yellow-green, and fluorescent pink. These colors shall not be used as background colors for community wayfinding guide signs in order to minimize possible confusion with higher-priority regulatory and warning signs already understood by road users.

The color wheel diagram below depicts colors which are already assigned specific meanings and cannot be used on community wayfinding signs. Green is the standard color for guide signs. Blue and brown are also used for traveler information including destination and street name signs. The remaining colors are eligible for use on community wayfinding signs as long as they are sufficiently different from the assigned colors.

FLEXIBILITY IN DESIGN

Both the FHWA and US Department of Transportation (USDOT) have made statements in recent years encouraging a flexible approach in support of facilities for biking and walking.

In 2010 the USDOT issued a policy statement on bicycle and pedestrian accommodation:

> *...DOT encourages transportation agencies to go beyond the minimum requirements, and proactively provide convenient, safe, and context-sensitive facilities that foster increased use by bicyclists and pedestrians of all ages and abilities, and utilize universal design characteristics when appropriate.*

The MUTCD Spectrum figure on the following page shows a range of wayfinding elements that have been implemented by municipalities around the nation. The range extends from rigid MUTCD on the left to the more flexible options on the right. Signs which adhere to the MUTCD basic minimum standards are readily understood by a wide audience, economical, and simple to fabricate and maintain. These signs also are eligible to be implemented utilizing federal transportation funding sources. Signs that follow the community wayfinding standards may be more costly to design, fabricate, and maintain, however they have the added benefit of reflecting local character and identity.

While the sign families developed for this guide fall within the acceptable range of colors and variations on wayfinding signs, sign concepts should be reviewed by WisDOT prior to installation.

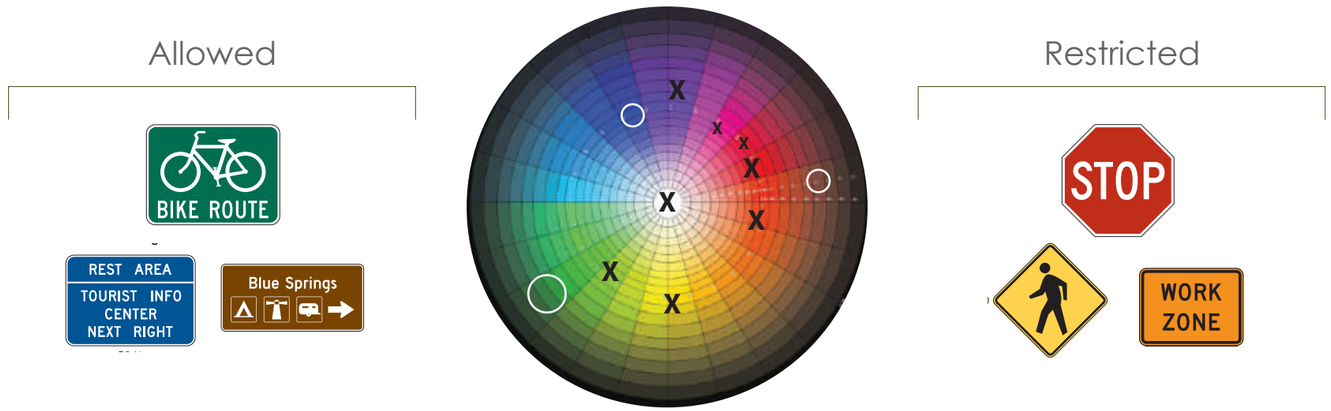


Figure 6. Allowed and restricted community wayfinding colors. Each of the colors depicted with an "x" are not allowed for use on community wayfinding signs.

- MUTCD standard
- Information is clear and consistent
- No regional or local identity modifications
- Some variation in size and shape
- No encouragement information

- Information consolidated into a single sign
- Variation in size and shape
- Travel times included

- Unique system or municipality identifiers or enhancement markers
- Custom color variations

- Custom sign post
- Variation in size and shape
- Decorative logo

- Monolithic structure
- Materials reflect the sign's context
- High-contrast graphic content
- Non-standard colors

Figure 7. Spectrum of wayfinding design to MUTCD standards. NOTE: Some elements of the signs shown above deviate from MUTCD standards. They are shown here as approximate examples of the MUTCD spectrum, but are not definitive examples of such signage

MUTCD ON STREET BICYCLE SIGN STANDARDS

The MUTCD specifies the standard for all traffic control devices installed on any street, highway, bikeway, or private road open to public travel. The MUTCD was established in order to achieve uniformity and consistency in traffic control devices (wayfinding signage is considered a traffic control device) so that information would be readily recognized and understood by travelers.

All on-street bicycle facilities are required to follow the standards within the MUTCD.

All of the standards listed in the *Wisconsin Manual on Uniform Traffic Control Devices* (WMUTCD) contain the standards, support, options, and guidance from the national MUTCD. While the WMUTCD and the MUTCD are largely the same, a key difference in Section 9B.22 is shown in Figure 8.

Per the MUTCD Section 1A.03, devices should be designed so that:

- Size, shape, color, composition, lighting or retro-reflection, and contrast are combined to draw attention to the devices; simplicity of message combine to produce a clear meaning;
- Legibility and size combine with placement to permit adequate time for response;
- Uniformity, size, legibility, and reasonableness of the message combine to command respect.

Many communities in the ECWRPC planning area install bicycle signage as well as snowmobile signage. Generally, snowmobile signage placement and design are separate from this guidebook. Nonetheless, interested communities should look to this section for guidance regarding sign attributes and design.

BICYCLE SIGNS (SECTION 9B)	
MUTCD SECTION	**ADDITIONAL GUIDANCE WITHIN THE WMUTCD**
Section 9B.01 Application and Placement of Signs	X
Section 9B.02 Design of Signs	X
Section 9B.20 Bicycle Guide Signs (D1-1b, D1-1c, D1-2b, D1-2c, D1-3b D1-3c, D11-1, D11-1c), including guide sign and plaque graphics and placement graphics	X
Section 9B.21 Bicycle Route Signs (M1-8, M1-8a, M1-9)	X
Section 9B.22 Bicycle Route Sign Auxiliary Plaques	Contains additional Guidance: *"Destination signs should be installed with Bicycle Route Guide signs and should also be installed with Bicycle Route markers."*
Section 9B.23 Bicycle Parking Area Sign (D4-3)	X
Section 9B.24 Reference Location Signs (D10-1 through D10-3) and Intermediate Reference Location Signs (D10-1a through D10-3a)	X
Section 9B.25 Mode-Specific Guide Signs for Shared-Use Paths (D11-1a, D11-2, D11-3, D11-4)	X
Section 9B.26 Object Markers	X
COMMUNITY WAYFINDING SIGNS (SECTION 2D)	
MUTCD SECTION	**ADDITIONAL GUIDANCE WITHIN THE WMUTCD**
Section 2D.50 Community Wayfinding Signs	Contains standards, support, options, and guidance from the MUTCD.

D1-3C

D11-1c

M1-8 and M1-8a

Figure 8. Comparison of MUTCD and WMUTCD regulations regarding wayfinding signage. Standard MUTCD bicycle wayfinding signs

MUTCD Section 2D also recommends the arrangement and amount of text, or legend, on each section of each sign:

- Guide signs should be limited to no more than three lines of destinations, which include place names, route numbers, street names, and cardinal directions.
- A straight ahead location should always be placed in the top slot followed by the destination to the left and then the right. If two destinations occur in the same direction, the closer destination should be listed first followed by the farther destination.
- Arrows shall be depicted for glance recognition, meaning straight and left arrows are to be located to the left of the destination name, while an arrow indicating a destination to the right shall be placed to the right of the destination name. The approved arrow style must be used.
- 19 characters (including spaces) in title case should be considered a maximum length for a single destination title. 10-14 characters (including spaces) in title case should be considered an ideal maximum length for a single destination title.
- In situations where two destinations of equal significance and distance may be properly designated and the two destinations cannot appear on the same sign, the two names may be alternated on successive signs.
- Approved fonts include the Federal Series (series B, C, or D), also known as Highway Gothic.
- A contrast level of 70 percent needs to be achieved between foreground (text and graphics) and background.

SIGN COLOR	SHEETING TYPE (ASTM D4956-04)				MOUNTING
	BONDED SHEETING			PRISMATIC SHEETING	
	I	II	III	III, IV, VI, VII, VIII, IX, X	
WHITE ON GREEN	W*; G ≥ 7	W*; G ≥ 15	W*; G ≥ 25	W ≥ 250; G ≥ 25	OVERHEAD
	W*; G ≥ 7	W ≥ 120; G ≥ 15			POST-MOUNTED

The minimum maintained retroreflectivity levels shown in this table are in units of cd/lx/m² measured at an observation angle of 0.2° and an entrance angle of -4.0°.

*This sheeting type shall not be used for this color for this application.

Figure 9. Minimum maintained retroreflectivity levels adapted from MUTCD Table 2A-3

All bicycle signs in the roadway intended to be viewed by motor vehicles and bicycles must be retroreflective to ensure nighttime visibility. The MUTCD specifies a minimum maintained retroreflectivity level, shown in Figure 9. Refer to MUTCD Table 2A-3 for additional color information. White retroreflectivity is shown here because a wayfinding sign's white elements are the areas designed to incorporate retroreflectivity.

Bikeway signs that are intended for the exclusive use by bicycles and pedestrians, such as off street signs, are not required to be retroreflective. This means that bicycle wayfinding signs do not need to be replaced if their retroreflectivity wears out, as long as the signs are consistent with the MUTCD at the time of installation. Refer to MUTCD Section 2A.08 Maintaining Minimum Retroreflectivity, for more information.

Although the MUTCD does not specifically address snowmobile wayfinding signage, snow mobile regulatory signage should be considered in trail development that allows for this use. Refer to this guidebook for wayfinding principles that can aid in the development of snowmobile wayfinding signage.

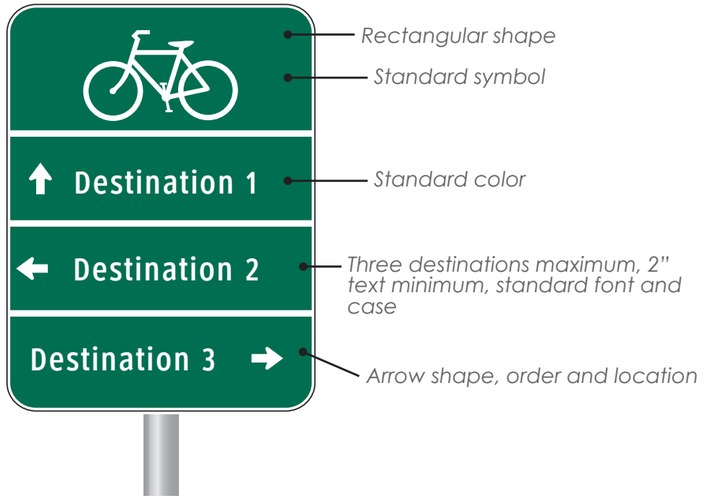


Figure10. Standard MUTCD Compliant Directional of Decision Sign

GENERAL POST AND FOOTING REQUIREMENTS

Signs located in the right of way need to have either breakaway posts or breakaway footings. This ensures that the sign breaks away at vehicle impact rather than affect the concrete base of a sidewalk or utility near a sign base. Wisconsin has post material and breakaway requirements as follows:

- Wood posts (4 feet by 6 feet) may be used if they are modified to be a breakaway post with two 1 1/2" diameter holes drilled into the face of the post perpendicular to the roadway centerline. Refer to Wisconsin Department of Transportation sign plate manual standard drawing A4-11.
- Steel tube is the standard post material for signs. 2 1/4 inch square telescoping tube steel posts may be embedded 3 feet into the ground per Wisconsin Department of Transportation sign plate manual standard drawing A4-9.
- Steel posts should have breakaway footings designed per Wisconsin Department of Transportation sign plate manual standard drawing A3-1.
- Standard sign posts embedment depth is 4 feet into the ground per Wisconsin Department of Transportation sign plate manual typical sign install standard drawing A4-3.

Figure 11. Breakaway footing on a sign post.

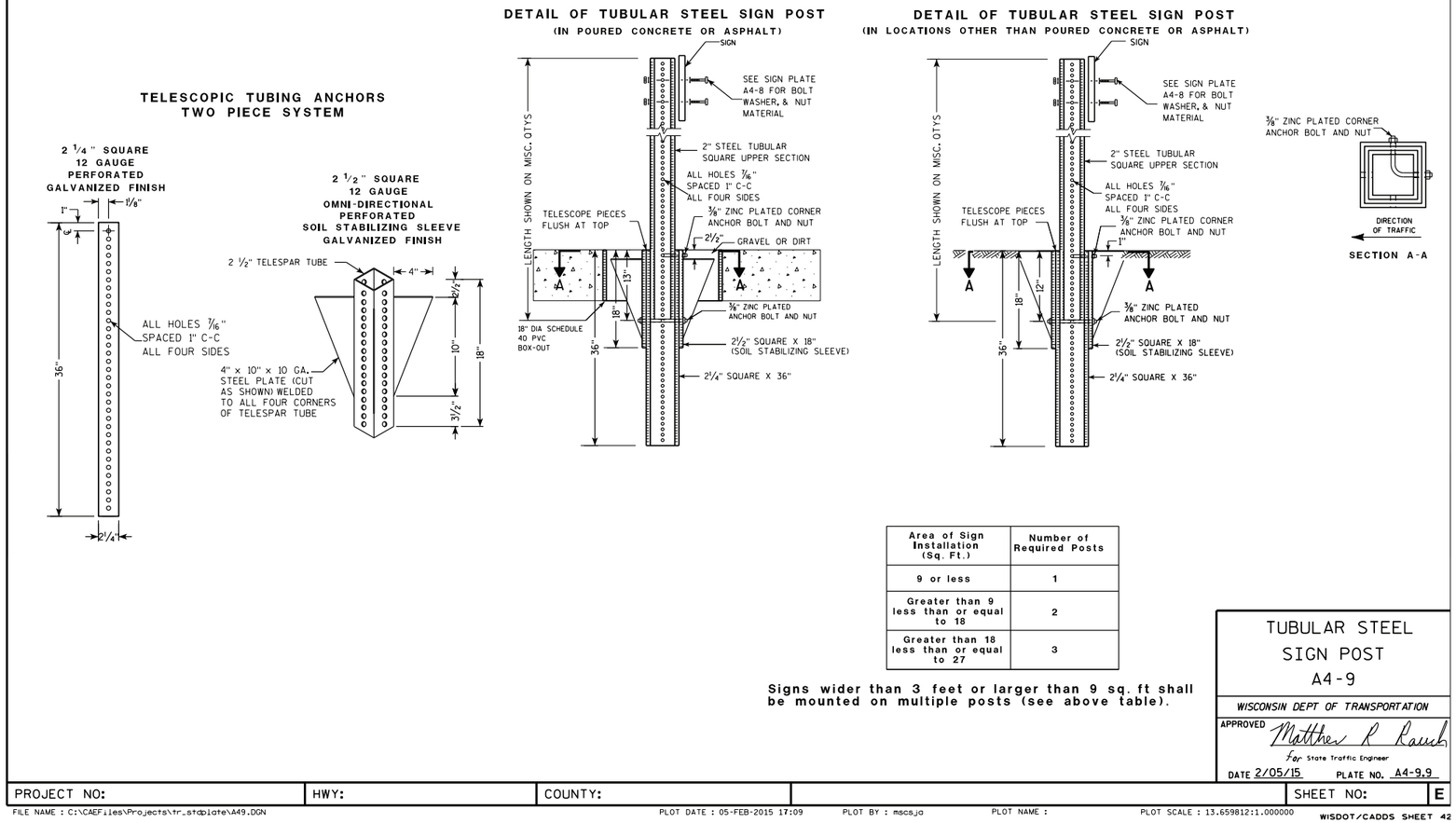


Figure 12. Wisconsin Department of Transportation sign plate manual standard drawing A4-9 for telescoping steel tube sign posts.

RECOMMENDED WAYFINDING ELEMENTS

This chapter recommends on and off street wayfinding elements for the ECWRPC planning area.

EXISTING WAYFINDING SIGNS IN THE REGION

The final on street and off street wayfinding sign family concepts were developed thanks to the involvement of stakeholders from across the region.

The photos and graphics on the following pages represent inspiration used to develop the sign families.

Please refer to the appendix for additional notes about the project's planning process and to view all sign concepts created for the project.

The signs shown below are examples of wayfinding signs found in the region today. As depicted in these examples, some communities are familiar with designing and installing signs to direct residents and visitors to local destinations on foot and by bicycle.

The sign families created for this plan wish to continue the region's innovative use of icons and color coding, its use of multiple signs to form a toolkit or "family" of wayfinding options, and its recognition of the needs of people walking and bicycling when designing signage or pavement markings.

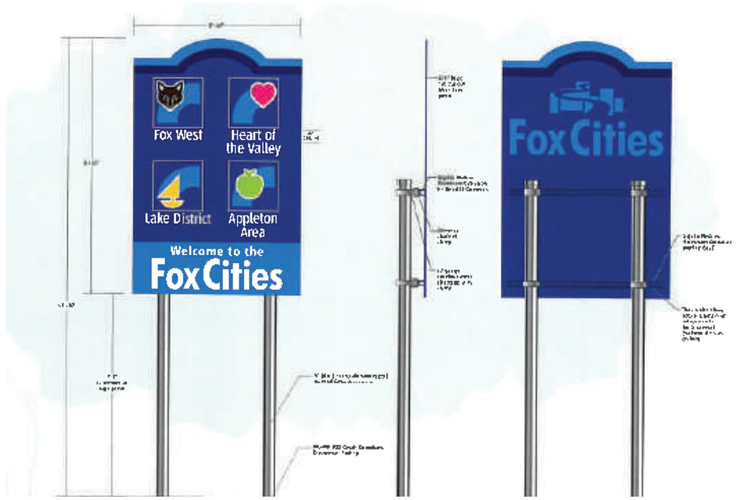


Figure 13. Signs throughout the Fox Cities use icons to direct visitors to areas of interest. Note: The signs above are selected examples from the Fox Valley Convention and Visitors Bureau's Wayfinding Analysis and Recommendations Document. Refer to the full document for additional sign types and guidance.

Figure 14. Omro uses pedestrian-scale signs to add attractive signage to public spaces. Note: The signs above are selected examples from the City's sign concept. Refer to the full concept for all sign types.

Figure 15. (Above) A newer map kiosk along the CE Trail. (Below) A Friendship Trail kiosk with map and historical information.

REPRESENTING THE REGION

The following pictures illustrate common scenes and events within the region. The wayfinding sign families created for this plan used stakeholder input to create signs and pavement markings that represent the area's unique heritage and promising future.

The images displayed here are from ECWRPC's online photo map (ecwrpc.maps.arcgis.com).

Figure 16. Gottfried Prairie, representing recreation opportunities and open space (Image: "Gottfried Prairie" by Nick Musson).

Figure 17 Bright gold colors, blue skies, and an agricultural past and present (Image: "Sunshine Barn").

Figure 18. Trails throughout the region encourage active living; the sunsets are beautiful (Image: "Newton Blackmour Bike Trail").

Figure 19. KC Mill, representing the region's past industry and current revitalization efforts (Image: "Historic KC Mill" by Eric Fowle).

Figure 20. Little Chute Windmill: Each town or city has its own local charm and landmarks (Image: "Little Chute Windmill" by Mike Zuege).

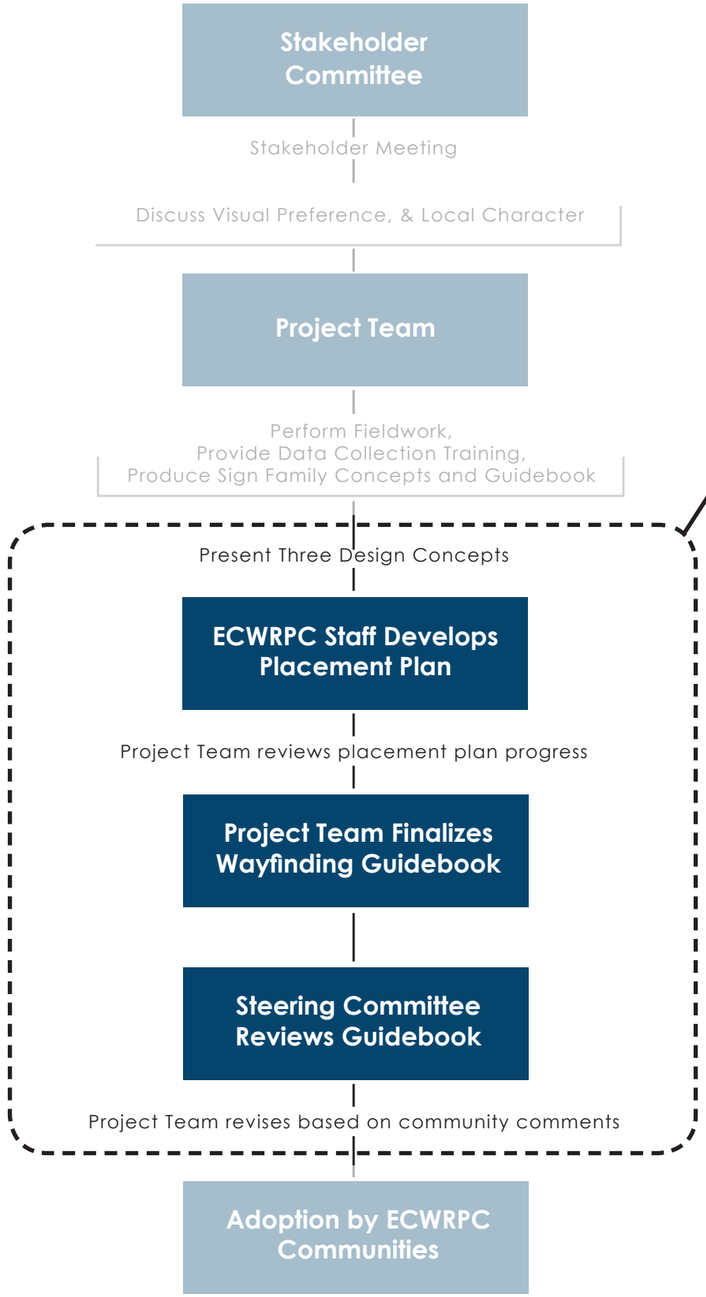
SIGN CONCEPT DEVELOPMENT PROCESS

The concepts shown in Figure 21 and Figure 22 represent the sign concepts selected for use throughout the ECWRPC planning region. Creative development began with a stakeholder meeting, including a visual preference survey (VPS). During the VPS, meeting participants voted on example signs that they felt could represent the region in terms of color, material, texture, shape, and other aesthetic features.

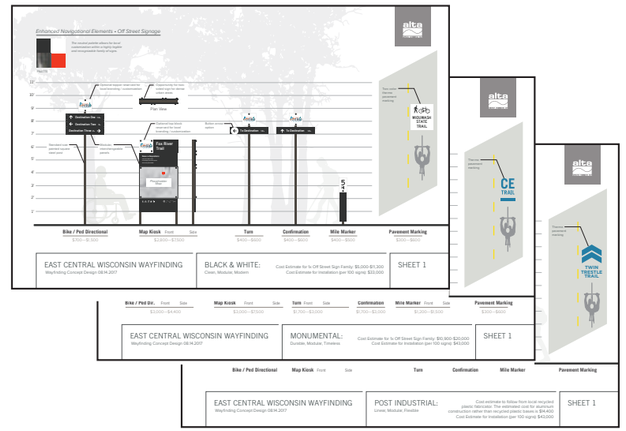
Prevailing themes from the meeting included:

- Signs should be modular, making it easier to change panels such as directional flags and maps
- Signs should be practical and able to withstand the elements
- Contrasting colors should be used to ensure legibility
- Accessibility for all users is very important. Signs should use symbols and words.
- Colors should be rich and should not clash with community colors.
- Materials should look at home in urban, small town, and rural areas
- Several communities already produce signs in their own sign shops. Sign elements (i.e., directional panels) should be able to be produced in local sign shops as much as possible

The project team developed three draft concepts after the VPS meeting, which are found in the Appendix. Stakeholders reviewed these concepts and provided comments to ECWRPC. ECWRPC and the project team synthesized the comments to produce the final sign conceptual designs illustrated in Figure 21 and Figure 22.



TEAM PRODUCES DRAFT SIGN CONCEPTS



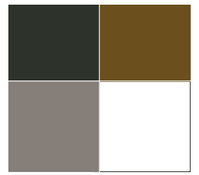
STAKEHOLDERS REVIEW AND SEND COMMENTS

TEAM LISTENS, DISCUSSES, AND PRODUCES FINAL CONCEPTS

RECOMMENDED WAYFINDING SIGNS: OFF STREET

The recommended wayfinding signs and pavement marking use a rich, neutral palette of dark slate and moss brown. The signs allow for local customization while staying highly legible and recognizable.

Modular panels provide flexibility and opportunities to add sponsor logos, community names, trail names, or other information. The foremost sign panels are made of recycled plastic and affixes to painted metal backing. This layering adds visual interest to the signs. Sign elements allow for multiple sign faces, which is appropriate for bidirectional trails.



The sign family's recommended color palette allows local agencies to add optional panels that invoke their city, town, or trail. The blue and teal panels and the Fox Cities icons, all shown in the sign family below, illustrate a few customization options.

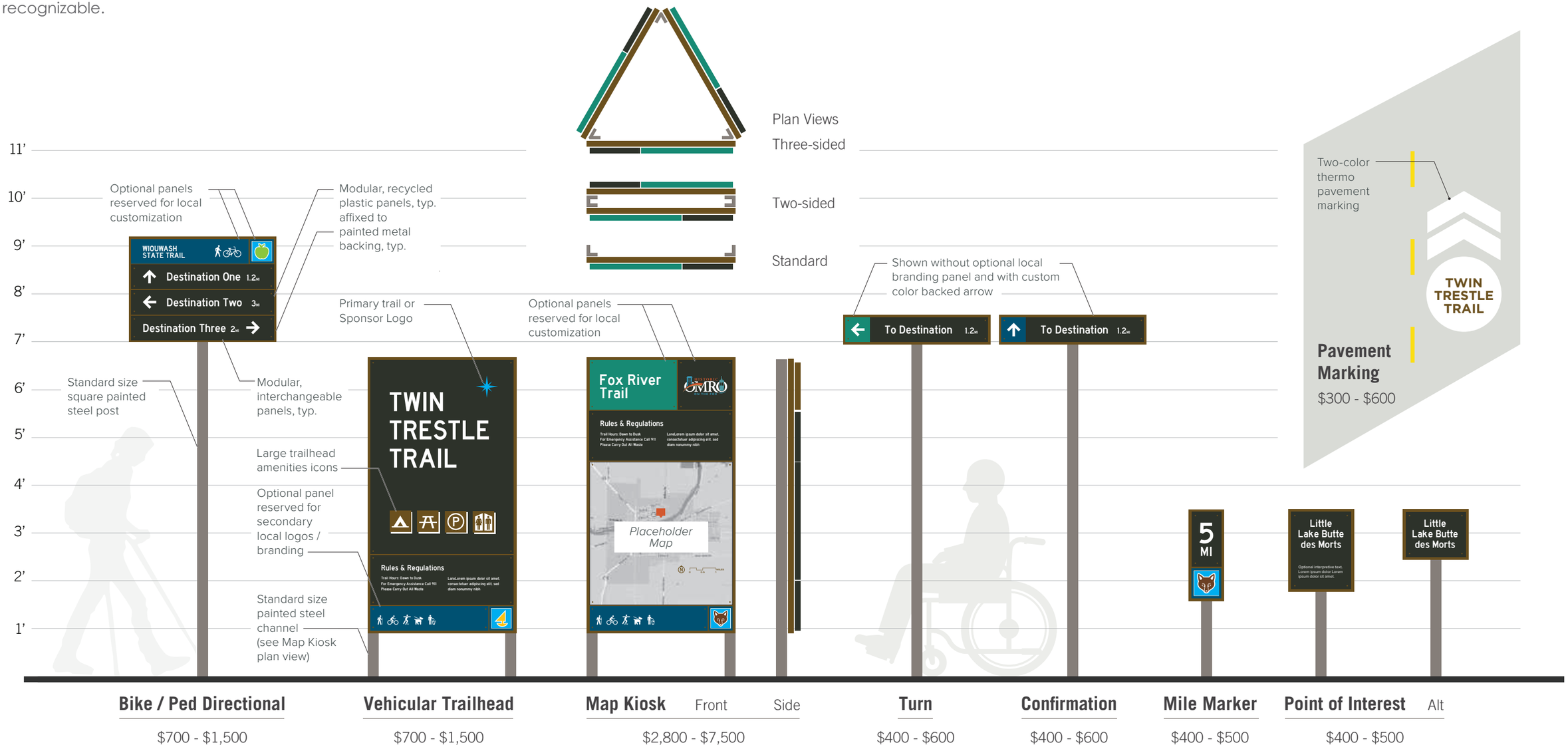


Figure 21. Off street sign family conceptual drawing.

RECOMMENDED WAYFINDING SIGNS: ON STREET

On street wayfinding signs use MUTCD consistent colors, while providing a place for City logos or other identifying information. The conceptual drawing shows standard square painted steel posts.

Guidance for placing the shared lane markings is available in the MUTCD and in the National Association of City Transportation Officials (NACTO) *Urban Bikeway Design Guide*.

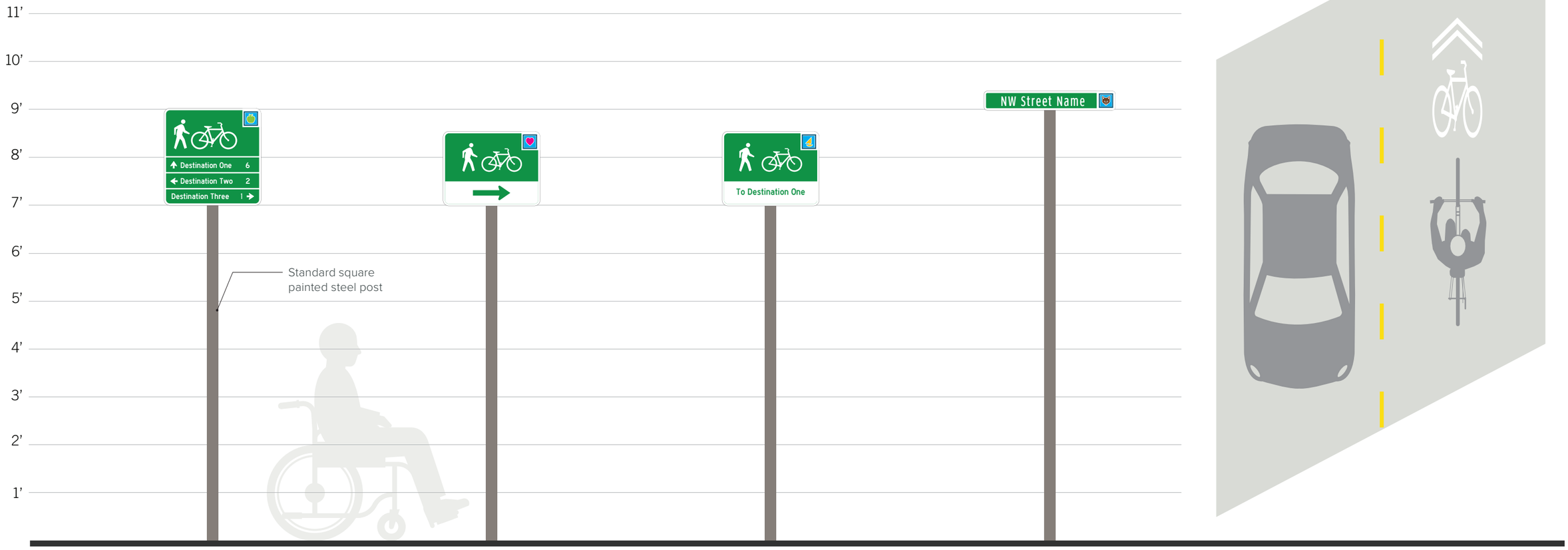


Figure 22. On street sign family conceptual drawing.

WAYFINDING PLACEMENT

There are a number of considerations when placing wayfinding signage including accessibility standards, MUTCD clearances, sign clutter, and the continuity of the wayfinding system. The following section outlines guidance and typical placement scenarios of wayfinding signs.

PLACEMENT PLANNING

Placement planning of wayfinding signs is a multi-layered process that includes evaluation and classification of potential destinations, as well as consideration of route continuity and safety. The steps below outline the process of determining sign content and location.

STEP 1: IDENTIFY KEY DESTINATIONS

Select destinations according to an established criteria.

STEP 2: ROUTE SELECTION

Select routes that are continuous, logical, and safe for people walking and bicycling.

STEP 3: KEY DECISION POINTS

Identify critical turning points and junctions where people walking and bicycling make decisions in route direction. Fieldwork discussed decision points in the region.

STEP 4: CAN I GET THERE SAFELY?

Some destinations may not be accessible by walking or bicycling, and should not be included on bicycle and pedestrian wayfinding signs. The wayfinding system should only sign to destinations that can be safely reached by people of all ages and abilities.

STEP 5: POTENTIAL MESSAGES

Determine which destinations should be used for each sign location based on the route direction, consistency in destination identification, and destination hierarchy.

STEP 6: REVIEW HIERARCHY OF DESTINATIONS

Select up to three destinations per sign and prioritize destinations of city-level or regional importance.

STEP 7: MESSAGE NAMING

Use MUTCD guidance and local naming conventions to limit the number of characters displayed in destination names to preserve sign legibility.

STEP 8: ROUTE TESTING

Review sign location, destination progression, and sign content along chosen routes with fieldwork.

DESTINATION SELECTION AND PRIORITIZATION

Following the guiding principle "connect places," the following section describes an approach for selecting potential destinations to which bicyclists and pedestrians may want to travel. Bicycle signs typically only allow for three destinations per sign so that information can be quickly understood and processed while in motion. Thus, a consistent approach to selecting destinations to be included on wayfinding elements is necessary given a multitude of possible destinations. Signs should follow the same approach throughout the East Central Wisconsin region so that the system is clear and predictable. Destination names and abbreviations should be consistently labeled on all relevant wayfinding signs.

DESTINATION PURPOSE

Destinations are used on directional signs to indicate the direction, distance, and walking or bicycling time to nearby local and regional attractions. Destinations also provide overall geographic orientation.

DESTINATION SELECTION CRITERIA

Potential community destinations can include: cultural destinations (i.e., museums, historic monuments), government facilities, tourist attractions, places of entertainment (i.e., shopping and dining districts), and parks and recreational amenities. Destination selection should start with a set of criteria used to determine the validity of each proposed destination. These criteria are outlined below:

- Publicly owned or not-for-profit
- Open to the public
- Have significant visitor interest
- Open year-round
- Give the local area a distinctive identity
- Reached by an easily identifiable and safe route

Commercial destinations or any destinations that are privately owned and for profit may be a destination on a digital wayfinding system, if ECWRPC decides to create one, but they should not be printed on physical signs.

DESTINATION PRIORITIZATION

Potential destinations for inclusion on signs are categorized into four levels. These categories and signing distances are summarized below and in Figure 23.

Level one destinations are city or regional destinations and should receive the highest priority on wayfinding signs. These destinations provide large scale geographic orientation. Pathways that extend beyond the region boundaries may include prominent destination cities outside of ECWRPC's planning area.

The next level of priority, level two destinations, includes districts or neighborhoods. This finer grain of navigational information should emphasize districts that are recognizable with distinct characteristics.

Level three destinations are significant landmarks such as transit stations or regional parks. These destinations should expect to generate a fair amount of pedestrian and bicycle activity.

Level four destinations are local destinations such as civic buildings, high schools, or shopping centers. Level four destinations should only be included on signs if there are no higher priority destinations to fill the destination slots on the sign.

SIGNING DISTANCES

Signing distances suggest the maximum distance destinations should appear on directional signs. This process ensures that information is presented in logical succession and does not overburden the user.

Level one destinations should appear on signs up to five miles away. Cities may choose to sign to a level one destination further than five miles in order to provide large scale geographic orientation. Level two destinations should be signed up to two miles away. Level three and four destinations are places of local interest and should be signed up to one mile away.

Distances may be measured to a destination boundary or center, for example level one and two destinations are better defined in terms of boundaries, whereas level three and four destinations are point locations. Signing distances should have a consistent approach for the wayfinding system.

DESTINATION ORDER

The order of placement from top to bottom on any sign shall be straight, left, then right. If more than one destination is displayed in the same direction, the name of a nearer destination shall be displayed above the name of a destination that is further away.

In situations where two destinations of equal significance and distance may be properly designated but two destinations cannot appear on the same sign, the two names may be alternated on successive signs.

LEVEL ONE

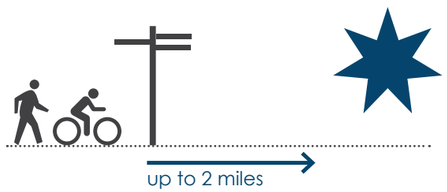
- Cities
- Regional Destinations

LEVEL 1 DESTINATIONS

TWIN TRESTLE TRAIL	CE TRAIL	FRIENDSHIP TRAIL	WIOUWASH TRAIL
Friendship Trail	N/A	CB Trail	UW Oshkosh
Menasha		Menasha	Allenville
			Friendship Trail
			Hortonville

LEVEL TWO

- Districts
- Neighborhoods

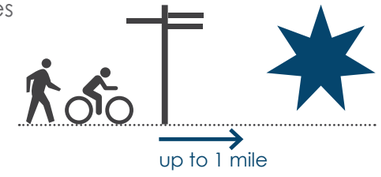


LEVEL 2 DESTINATIONS

TWIN TRESTLE TRAIL	CE TRAIL	FRIENDSHIP TRAIL	WIOUWASH TRAIL
Downtown Menasha	Heart of the Valley YMCA	Fox Cities Trestle/Little Lake Butte des Morts	Lake Winnebago
Downtown Neenah		Downtown Neenah	Little Lake Butte des Morts
Heart of the Valley YMCA			Downtown Oshkosh

LEVEL THREE

- Landmarks
- Major Tourist Venues
- Major Shopping Centers
- Regional Parks
- Civic Buildings

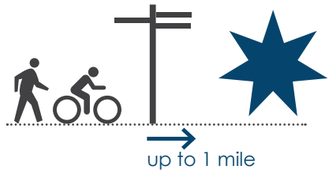


LEVEL 3 DESTINATIONS

TWIN TRESTLE TRAIL	CE TRAIL	FRIENDSHIP TRAIL	WIOUWASH TRAIL
Fritse Park and Fox Cities Trestle	Telulah Park	Umland Road Trailhead	Shopping and Dining (Hortonville)
Arrowhead Park	Combined Locks Memorial Park and Archery Range	Fox River Mall	
Neenah Historical Society	Jones Park	Fox Valley Technical College	
		Fritse Park	
		Arrowhead Park	
		Doty Island	
		Shopping and Dining (3rd Street)	

LEVEL FOUR

- Local Destinations
- Local Parks
- Recreation Centers
- Libraries
- Shopping Centers



LEVEL 4 DESTINATIONS

TWIN TRESTLE TRAIL	CE TRAIL	FRIENDSHIP TRAIL	WIOUWASH TRAIL
O'Hauser Park	Schaefer Park	O'Hauser Park	Alonzo Park- Hortonville Lion's Club
Shilft Park		Herb and Dolly Smith Park	Black Otter Lake
Herb and Dolly Smith Park		Pleasants Park	
Scanlan Park			

Figure 23. Destination prioritizaton and signing distances.

ABBREVIATIONS

Abbreviated destination names should be kept to a minimum. However, abbreviations may be used when insufficient space is available for full wording. MUTCD accepts abbreviations as included in Figure 24. Unless necessary to avoid confusion, periods, commas, apostrophes, question marks, ampersands, and other punctuation marks or characters that are not letters or numerals should not be used in any abbreviation.

MESSAGE	ABBREVIATION
Alternate	ALT
Avenue	AVE
Bicycle	BIKE
Boulevard	BLVD
Bridge	BR
Center (as part of a place name)	CTR
Circle	CIR
Court	CT
Crossing (other than highway)	X-ING
Drive	DR
East	E
Hospital	HOSP
Information	INFO
Junction/Intersection	JCT
Mile(s)	MI
Minute(s)	MIN
Mount	MT
Mountain	MTN
National	NATL
North	N
Parkway	PKWY
Pedestrian	PED
Place	PL
Road	RD
South	S
Street	ST
Trail	TR
West	W

Figure 24. Common abbreviations for wayfinding signage

PLACEMENT GUIDANCE

Placement guidance for pedestrian signage is limited, the Community Wayfinding section 2D.50 of the MUTCD specifies that pedestrian signage must not interfere with the visibility of vehicular signage and should be located as far as practical from the street. A series of methods are listed to reduce conspicuity of pedestrian wayfinding signs to vehicular traffic including:

- Locate signs away from intersections where high-priority traffic control devices are present.
- Face the pedestrian message toward the sidewalk and away from the street.
- Install a sign that hangs over the sidewalk if the pedestrian wayfinding sign is mounted at a height consistent with vehicular traffic signs.
- Remove the pedestrian wayfinding signs from the line of sight in a sequence of vehicular signs.

The AASHTO *Guide for the Development of Bicycle Facilities* largely defers to Part 9 of the MUTCD for guidelines related to the design and placement of signs for bicycles, however the AASHTO guide does provides general information on the type and application of guide signs needed to support bicycling facilities:

- Bicycle wayfinding signs should supplement other infrastructure improvements so that conditions are favorable for bicycling, as signs alone do not improve safety or rider comfort.
- Guide signs may be used to designate continuous routes that may be composed of a variety of facility types and settings.
- Wayfinding guidance may be used to provide connectivity between two or more major bicycle facilities, such as a street with bike lanes and a shared use path.
- Wayfinding may be used to provide guidance and continuity in a gap between existing sections of a bikeway, such as a bike lane or shared use path.
- Road/path name signs should be placed at all path-roadway crossings to help users track their locations.
- Reference location signs (mile markers) assist path users in estimating their progress, provide a means for identifying the location of emergency incidents, and are beneficial during maintenance activities.

The MUTCD specifies bicycle sign placement for off-road applications such as trails, and on-road facilities. Figure 25 illustrates the minimum sign clearances for signs on shared use paths, and Figure 26 illustrates sign clearances in business, commercial, or residential areas where parking or pedestrian movements are expected.

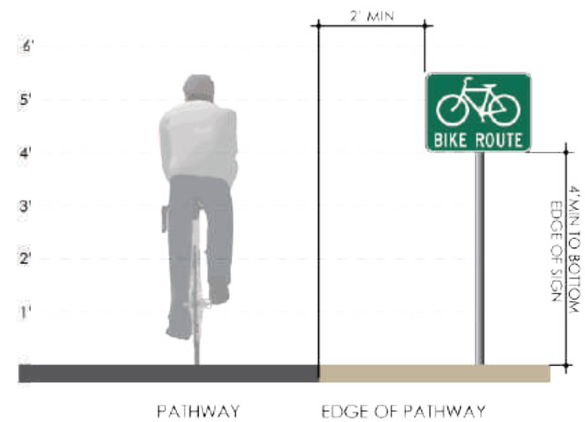


Figure 25. Minimum sign clearances on shared-use paths per MUTCD Figure 9B-1

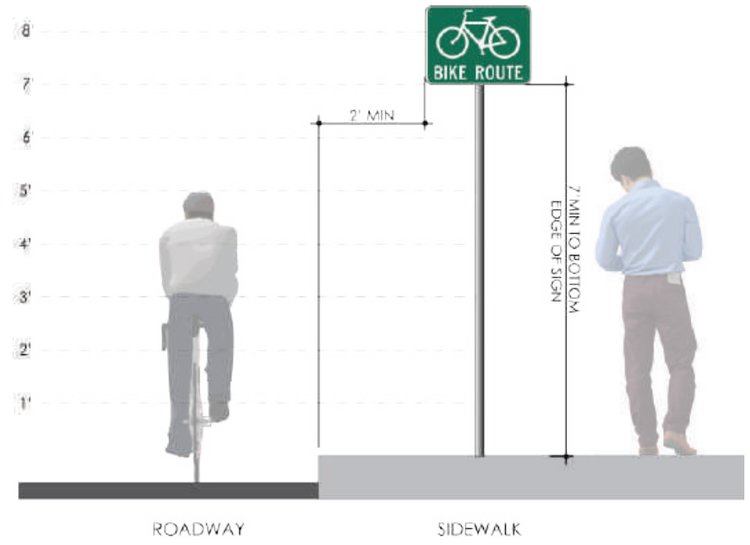


Figure 26. Minimum sign clearances on business, commercial, or residential roadways per MUTCD Figure 2A-2

ACCESSIBILITY GUIDELINES

As wayfinding systems often relate to accessible routes, it is important to consider technical guidance from the ADA so that signs and other elements do not impede travel or create unsafe situations for pedestrians and/or those with disabilities. The Architectural and Transportation Barriers Compliance Board provides guidance for accessible design for the built environment. Guidelines which should be considered when designing and placing wayfinding signs include the following:

VERTICAL CLEARANCE

Vertical clearance shall be 80 inches high minimum, or 27 inches maximum when signs protrude more than 12 inches from the sign post or support structure. See Figure 27.

POST-MOUNTED OBJECTS

Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches, the lowest edge of such sign or obstruction shall be 27 inches maximum or 80 inches minimum above the finish floor or ground. See Figure 28.

PROTRUDING OBJECTS

Objects with leading edges more than 27 inches and not more than 80 inches above the finish floor or ground shall protrude 4 inches maximum horizontally into the circulation path.

REQUIRED CLEAR WIDTH

Protruding objects shall not reduce the clear width required for accessible routes. Generally this requirement is met by maintaining four feet minimum clear width for maneuvering. This requirement applies to sidewalks and pedestrian circulation paths. It is also important to consider with respect to snowmobiles.

SHARED-USE PATHS

Accessibility guidelines for shared use paths are currently being developed. Proposed guidelines address post mounted objects as follows. Where objects are mounted on free-standing posts or pylons and the objects are 27 inches minimum and 80 inches maximum above the finish surface, the objects shall overhang pedestrian circulation paths 4 inches maximum measured horizontally from the post or pylon base. The base dimension shall be a minimum of 2.5 inches thick. Where objects are mounted between posts or pylons and the clear distance between the posts or pylons is greater than one foot, the lowest edge of the object shall be 27 inches maximum or 80 inches minimum above the finished surface. It should be noted that ADA guidance requires 80 inches clearance while Departments of Transportation require 7 feet or 84 inches.

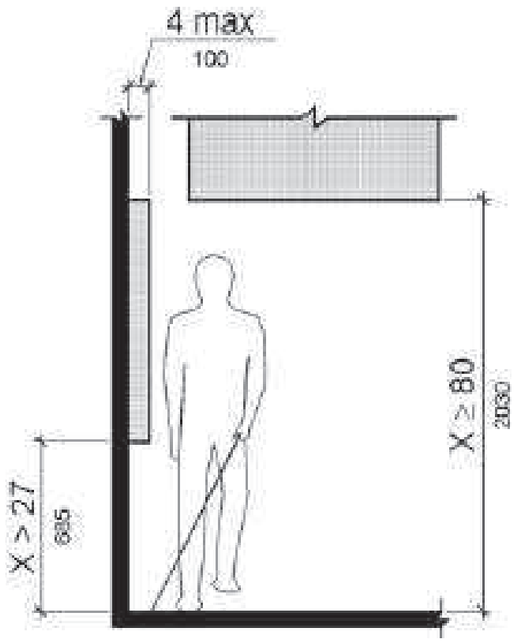


Figure 27. 2010 ADA Standards Figure 307.2 Limits of Protruding Objects.

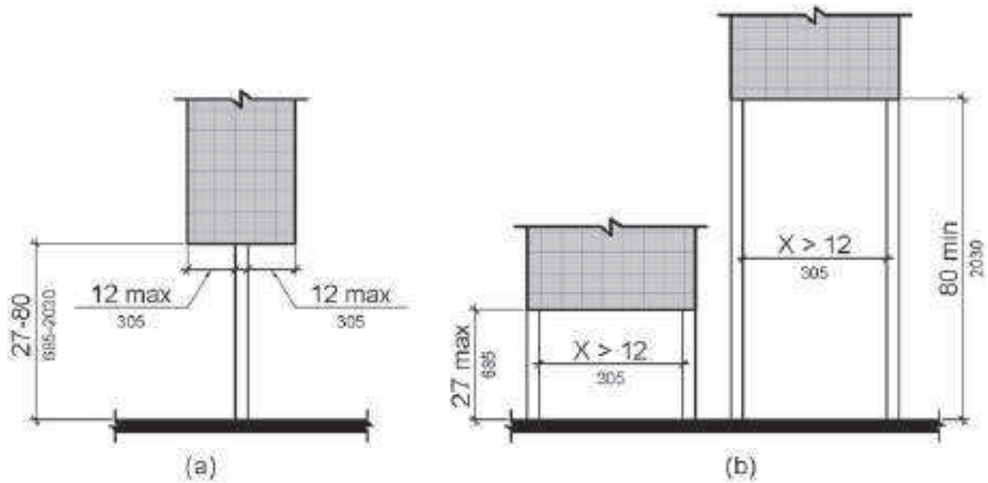


Figure 28. 2010 ADA Standards Figure 307.3 Post-Mounted Protruding Objects.

GENERAL PLACEMENT

Where two bikeways or pedestrian routes intersect, the general approach is to place a directional sign prior to the decision point followed by a confirmation sign or pavement marking after the intersection to confirm intended direction. While this approach provides redundant information, it ensures continuity in the wayfinding system, even if a particular sign is damaged.

See Figure 29 for typical sign placement at intersections. When higher priority, non-wayfinding signs are present, the suggested sign placement distances may adjust per the previous Minimum Suggested Sign Spacing table in order to not obscure other roadway signs.

- (C) Confirmation Sign
- [D] Decision Sign
- T Turn Sign
- (M) Mile Marker
- [S] Street Name
- K Kiosk
- G Gateway

The legend shown at left is used to describe the type of sign to be used at specific points along the region's off street and on street bicycling and walking system.

The diagrams are meant to help decision makers place signs within the region. They are not meant as prescriptive standards for sign placement, as local conditions may necessitate deviating from the placement scenarios outlined here.

TYPICAL PLACEMENT SCENARIOS

There are a number of typical sign placement scenarios throughout the East Central Wisconsin region. The following diagrams illustrate a standard approach to these scenarios. Note that the scenarios detail only wayfinding signage and do not include regulatory signage as required by the MUTCD and AASHTO standards. Regulatory signage will take priority over wayfinding signage, and placement may need to be adjusted if a potential wayfinding would interfere with visibility to a regulatory sign.

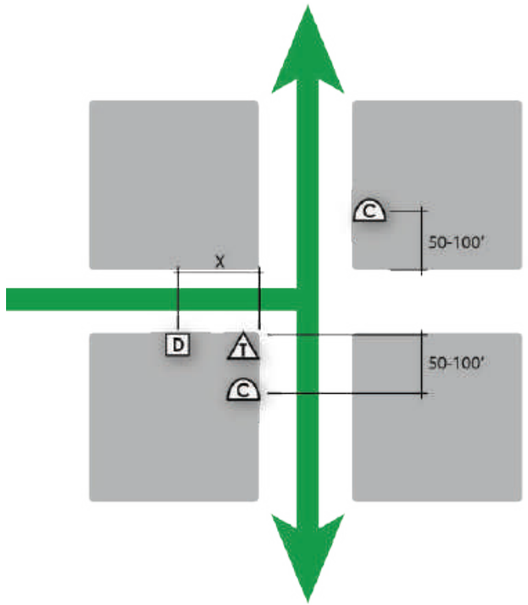


Figure 29. Typical Decision (D), Confirmation (C), and Turn (T) sign placement at the intersection of two routes.

SIDEPATH TO SHOULDER TRANSITION

Signage can be used at locations that transition from a shared use path on one side of the road to paved shoulders on both sides. This enables people walking and bicycling to continue traveling along either facility.

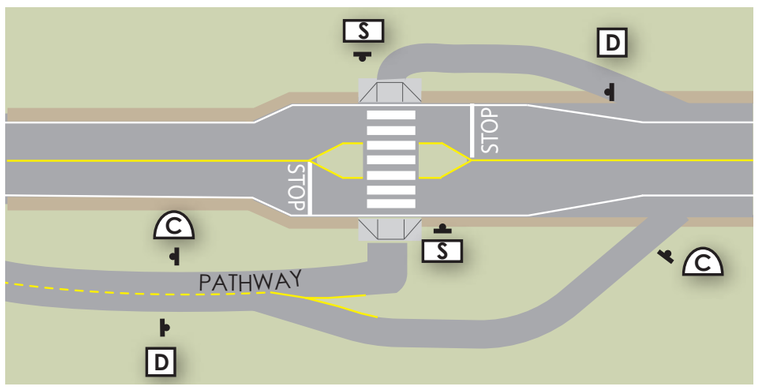


Figure 30. Signage helps people walking and bicycling navigate facility changes along their route.

TRAIL AT MIDBLOCK CROSSING

Where a trail crosses on-street bike or pedestrian route, decision signs should be placed on-street in advance of the trail crossing to advise on-street users of their route options. Decision signs should be also placed at the intersection facing the trail to alert trail users to the on-street network. Confirmation signs should be placed on-street after the trail crossing to reinforce that trail users have transitioned to a designated on-street facility.

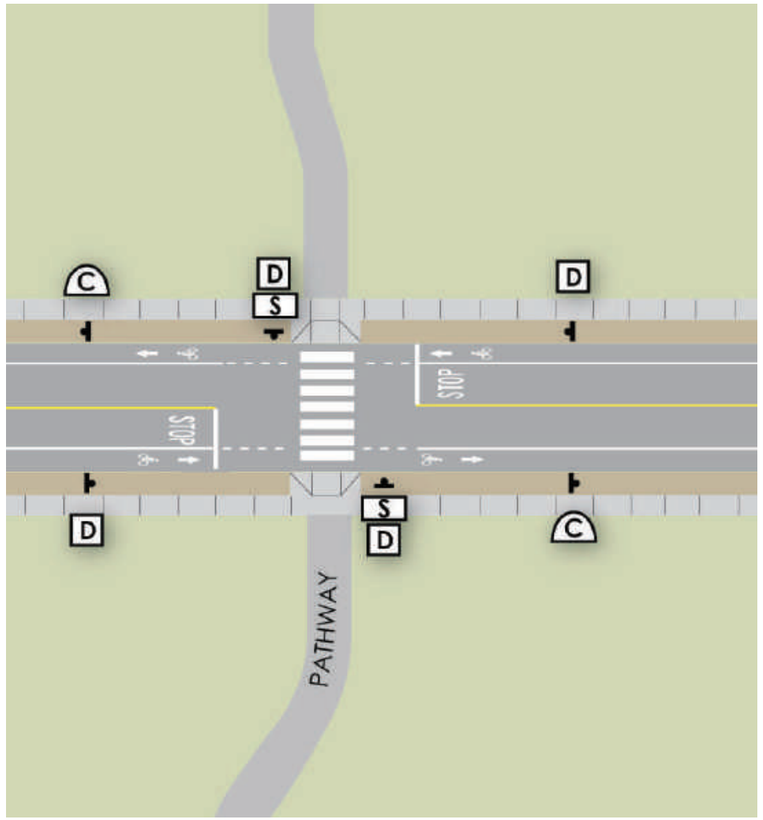


Figure 31. Typical Decision (D), Confirmation (C), and Street Name (S) sign placement where a trail intersects a roadway midblock and connects to on street bicycle or pedestrian routes.

TRAIL UNDERPASS

Connections and access points between the off-street and on-street network may result in path bifurcations. At such junctions, it is important to inform path users of where the alternative route option goes. This may be done via decision signs located at junctions.

Under crossings benefit from applying street name sign blades above pathways on bridge or tunnel infrastructure. These signs should be mounted to the bridge or tunnel structure, centered over the pathway. Street name sign blades should also be added to signs when paths meet roadways at-grade. If a stop sign is located at these facility intersections, a standard street name sign blade may be added to the top.

SPUR TRAIL TO TRAILHEAD

Where a trailhead is separated from a main trail by a short spur trail, decision signs should be placed on the main trail to alert trail users of the upcoming trailhead. For trail users entering from the spur trail, a decision sign should be placed to determine travel direction. Confirmation signs of the intended direction can be added to the main trail. Lastly, trailheads should have map kiosks with additional information of the trail system or surrounding area.

ON-STREET/OFF-STREET TRANSITION

Where transitions are made between on-street and off-street facilities, decision signs should be placed on the approach to the facility transition. Once on-street, confirmation signs should be placed after the pathway transition point to indicate a continuation of a designated route. Bike routes with regularly placed shared lane markings minimize the need for additional bicycle confirmation signs. Bike lane symbols and striping also serve as route affirmation for bicyclists.

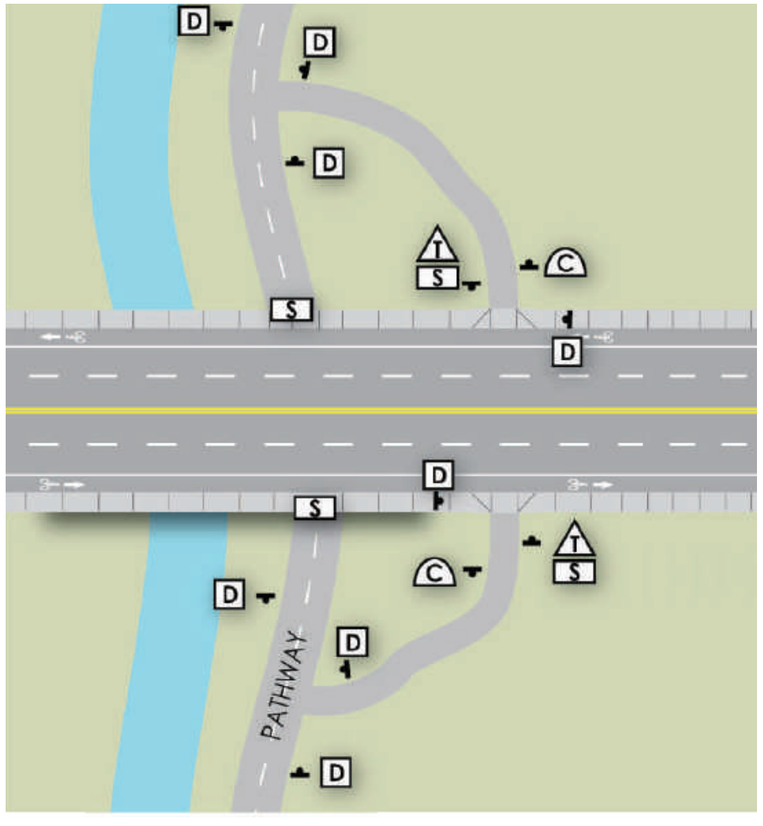


Figure 32. Typical Decision (D), Confirmation (C), Turn (T), and Street Name (S) sign placement at trail-roadway underpass.

Figure 33. Typical Decision (D), Confirmation (C), Turn (T), and Kiosk (K) sign placement at trailhead spur trails.

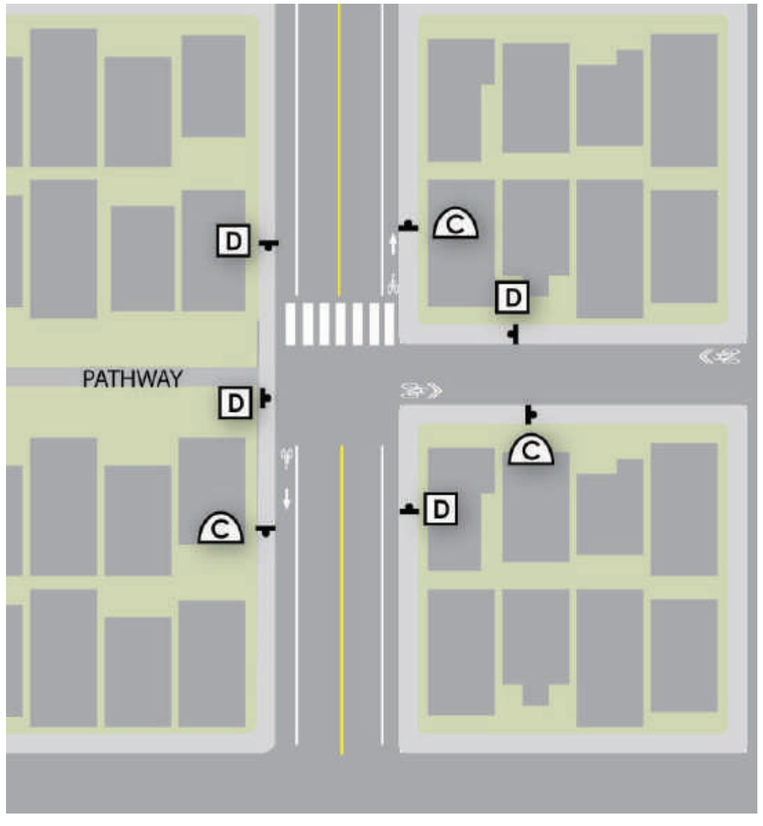


Figure 34. Typical Decision (D), Confirmation (C), Turn (T)sign placement at trail to on-street facility transition.

NAVIGATION FROM BIKEWAY TO DESTINATION

There may be destinations that will occur without direct connections to the bicycle network. Destinations off-network may be signed when a straight, safe bicycle connection or route is available. Engineering judgement must be used to determine whether the connecting route is suitable for bicycling.

MULTI-WAY INTERSECTIONS

Complex intersections having more than four approaches or non-right angle turns can be disorienting for users. Turn signs can be used in place of, or in conjunction with, decision signs at these intersections to clarify the direction of the bicycle or pedestrian route. Confirmation signs should be placed after these intersections to affirm intended direction.

CASE STUDY PLACEMENT SCENARIOS

The following locations were identified by the project team as key locations within the region that could serve as examples for future sign placement scenarios.

CE TRAIL AT RAILROAD STREET

After major roadway crossings, confirmation signs should be added to the trail to affirm user direction to a major destination. If the roadway crossing has bicycle or pedestrian routes to other destinations, decision signs should be added to alert users of these alternate routes in advance of the intersection.

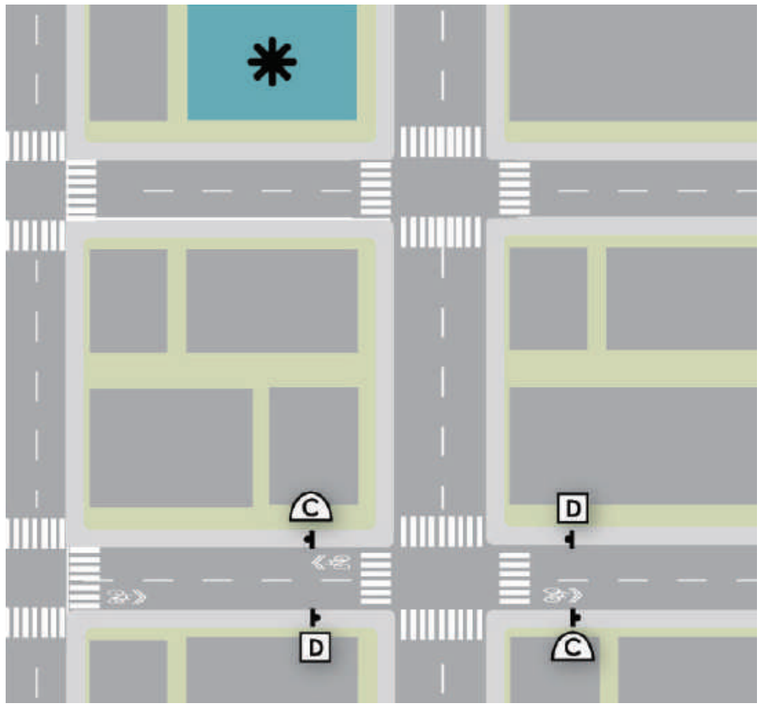


Figure 35. Decision (D), Confirmation (C) sign placement to a destination located off of the bikeway network.

Figure 36. Decision (D), Confirmation (C), and Turn (T) sign placement at a multi-way intersection.

Figure 37. Confirmation (C) sign placement after a trail crosses a major intersection.

CE TRAIL AT HEART OF THE VALLEY YMCA

Where a trail enters an underpass, street name signs should be posted above the trail on bridge or tunnel infrastructure to orient users to the street network above the trail. Confirmation signs can be placed after underpasses to confirm trail user direction. Where there are destination spurs off of the trail, decision signs should be posted in advance of the turn to the destination, and confirmation signs should be posted after the turn for users entering the trail from the spur. Resting areas along the trail are prime locations for informational kiosks or area maps with information about destinations in the surrounding area.

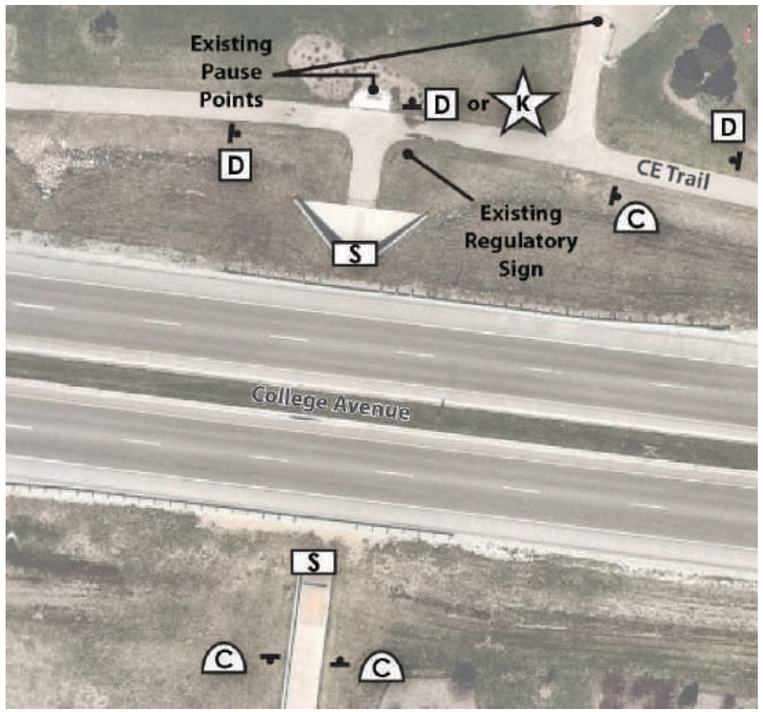


Figure 38. Decision (D), Confirmation (C), Street name (S), and Kiosk (K) sign placement at a trail underpass and destination spur.

WIOUWASH TRAIL AT HIGHWAY 10

Where two trails or bikeways intersect, decision signs should be placed on the approaches to the intersection, and confirmation signs should be placed following the intersection to affirm the direction chosen at the intersection. At trail underpasses, street name signs should be placed centered above the trail on the bridge or tunnel infrastructure. Confirmation signs can be posted after the underpass to confirm trail user direction.

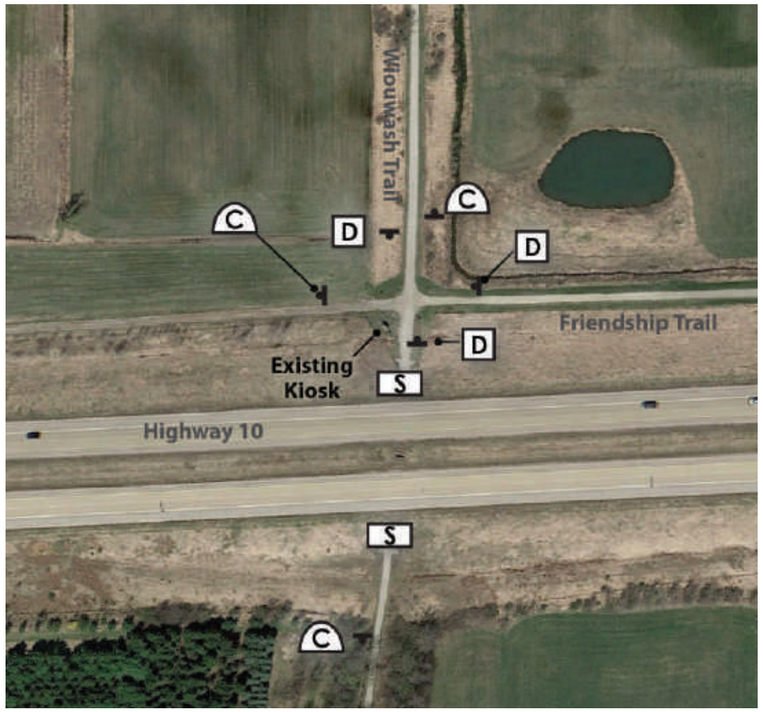


Figure 39. Decision (D), Confirmation (C),and Street name (S) sign placement at a trail underpass and trail intersection.

WIOUWASH TRAIL AT FAIRVIEW ROAD

At minor trail entry points such as the small parking area near Fairview Road, confirmation signs can indicate user direction on the trail if there are no other route options that would be more appropriately signed with a decision sign.

Figure 40. Confirmation (C) sign placement at a minor trail entry point.

HERB AND DOLLY SMITH PARK

Decision signs should be placed in advance of a turn to a destination, followed by confirmation signs. Where regulatory signs exist, they must take priority over the placement of wayfinding signs. In some instances, bicycle regulatory signs can act as a confirmation of the bike route. Kiosks are placed at the junction of pedestrian pathways and where there is ample space for gathering.

Figure 42. Decision (D), Confirmation (C), Gateway (G), and Kiosk (K) sign placement at a park destination.

FRITSE PARK

Decision signs should be placed in advance of a turn to a destination, and confirmation signs should be placed after the turn as well as in the straight direction for users exiting from the destination. Gateway signs should be placed at the entry point of a major destination such as a park or district to signify arrival.

Figure 41. Decision (D), Confirmation (C), and Gateway (G) sign placement at a park destination.

FRIENDSHIP TRAIL

For long, uninterrupted trail or bikeway segments where mile markers are not present, confirmation signs should be placed approximately every mile to affirm user direction. Confirmation signs can also be useful at trail transition points such as the end of a bridge or boardwalk.

Figure 43. Confirmation (C) sign placement along a lengthy trail.

ONLINE INTERACTIVE PLACEMENT PLAN

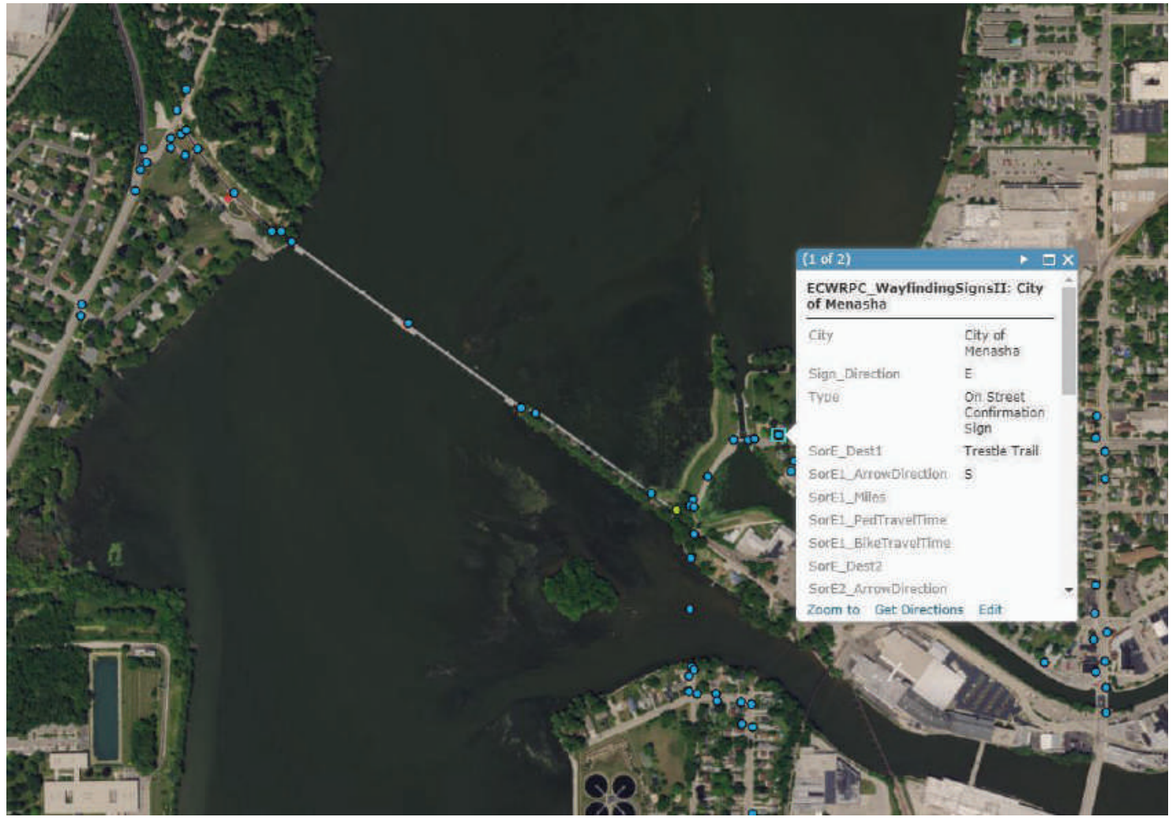
The project's placement plan focuses on four trails in the region, as well as comfortable on street routes that lead to major destinations. The placement plan is available online for ease of access and use.

Clicking on a proposed sign brings up information about the proposed sign type, the jurisdiction in which it is placed, destination information (destination name, arrow direction, mileage), and other notes.

VISIT THE ONLINE MAP!

Zoom in and out to see the recommended signs' placement throughout the region via ECWRPC's online map portal.

ecwrpc.org/programs/transportation/bicycle-and-pedestrian-planning/



PROPOSED WAYFINDING SIGNS

PROPOSED MILE MARKERS

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IMPLEMENTATION

This chapter discusses the final sign family's estimated cost and how to install the recommended wayfinding signs throughout the region.

IMPLEMENTATION

Implementing a comprehensive wayfinding system in East Central Wisconsin will require interagency collaboration and communication. For every regional recommendation, there must be local action. The visual preference meeting and stakeholder interviews completed throughout this guidebook's planning process represent a positive first step.

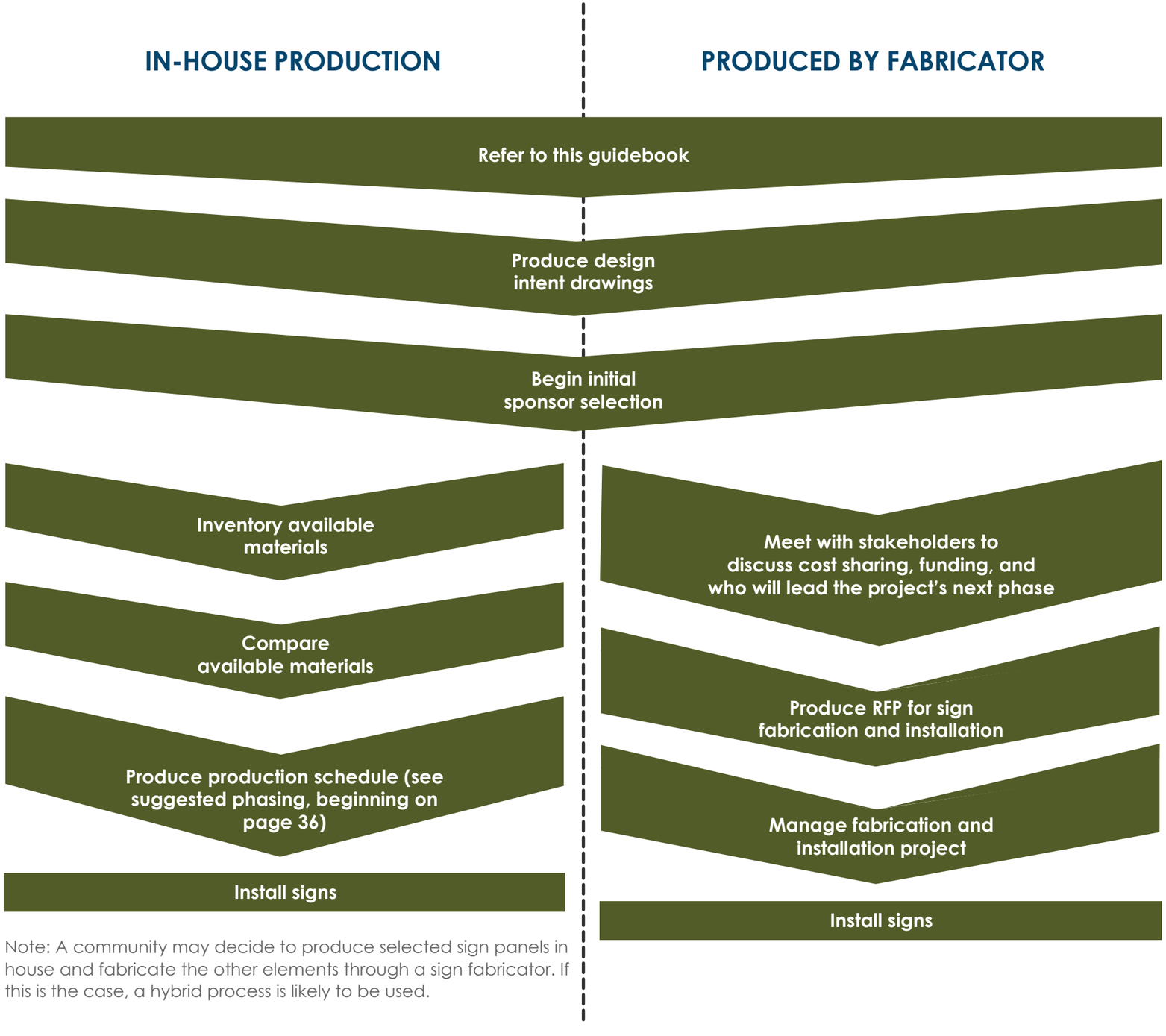
This chapter assists with implementation efforts by discussing the region's experience and preferences when it comes to installing a unified sign family. The chapter also discusses cost information and work flow for fabricating signs in local sign shops and with the help of a fabricator.

FABRICATION PROCESS

Sign fabrication typically occurs in one of two ways: fabrication within a local sign shop or fabrication by a professional sign fabricator.

In house fabrication has the potential to reduce signs' construction costs, especially when the sign shop uses materials in standard gauges and sizes.

Figure 44 illustrates two potential processes that communities can use for fabricating wayfinding signage.



Note: A community may decide to produce selected sign panels in house and fabricate the other elements through a sign fabricator. If this is the case, a hybrid process is likely to be used.

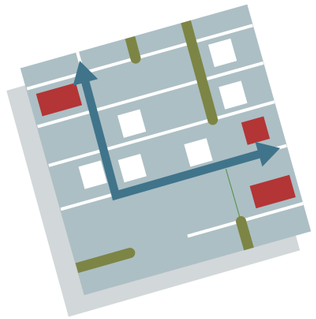
Figure 44. Communities can choose to fabricate signs within a local sign shop or with the help of a fabricator.

PREFERENCES FOR SIGN FABRICATION PROCESSES

Regional stakeholders provided feedback throughout this planning process to discuss local needs for sign production and implementation.

Key findings are displayed in this section. Thirteen stakeholder agencies completed the survey. Complete survey results are included in the appendix.

How Are Signs Inventoried?



Most stakeholders use Geographic Information Systems (GIS) technology, including:

- *SimpleSigns™ Inventory Program or a custom sign tracker system*
- *Trimble GPS*

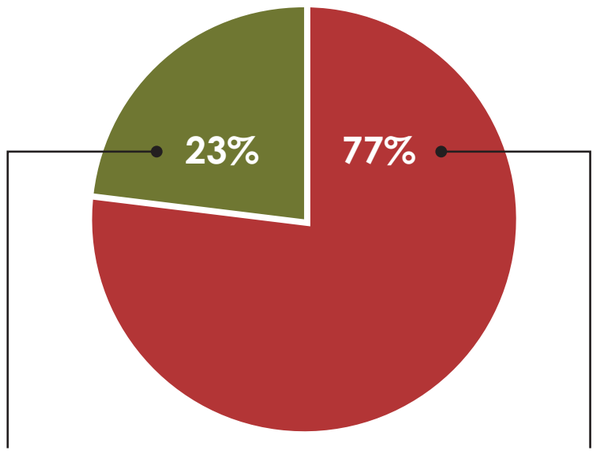
Where Would You Like to Direct People?

Parks and recreational spaces

Downtown and retail areas

Museums, points of interest, and civic buildings

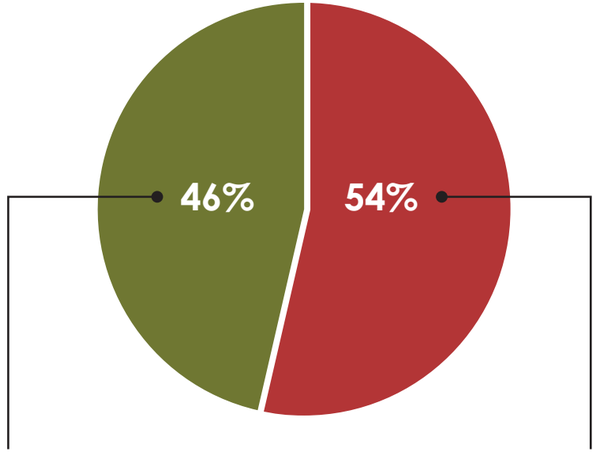
What Guidance Is Used to Create Signs?



The community uses:
- *Existing community brand guidelines*
- *Previously created signs*
- *Wisconsin Department of Natural Resources guidelines*

The community does not use unique signage standards beyond the Manual on Uniform Traffic Control Devices

How Do Communities Fabricate Signs?



Hire a sign fabricator

Produce signs through a municipal sign shop

SIGNAGE AND PAVEMENT MARKER COST INFORMATION

The wayfinding signs and pavement markers produced for this guidebook represent conceptual designs for signs to be installed throughout the region. Nonetheless, the concepts have been value engineered to consider potential cost saving during fabrication and installation. Notes on the final wayfinding family indicate best practices for producing affordable and highly attractive signs and pavement markers. Cost estimates do not include additional panels added to wayfinding signs (i.e., a stop signs recommended

SIGN TYPE	COST ESTIMATE (LOWER LIMIT)	COST ESTIMATE (UPPER LIMIT)
Bike/Pedestrian Directional Sign	$129,500	$277,500
Map Kiosk	$70,000	$187,500
Mile Marker	$16,800	$21,000
Point of Interest Sign	$11,200	$14,000
Regulatory Sign	$9,600	$14,400
Vehicular Trailhead Sign	$8,400	$18,000
Welcome Sign	$4,200	$9,000
Total	**$249,700**	**$541,400**

Figure 46. On Street Sign Cost Estimates

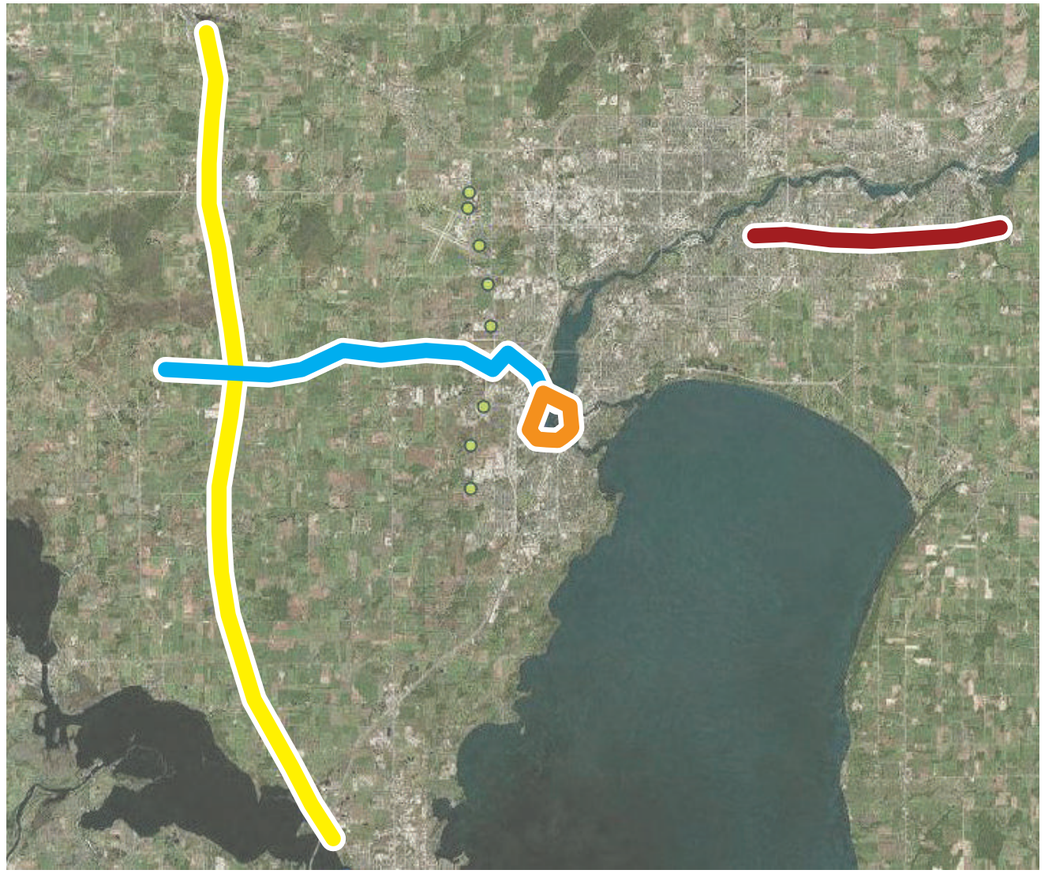
SIGN TYPE	COST ESTIMATE (LOWER LIMIT)	COST ESTIMATE (UPPER LIMIT)
Confirmation Sign	$20,000	$30,000
Decision Sign	$49,200	$73,800
Turn Sign	$60,400	$90,600
Total	**$129,600**	**$194,400**

WAYFINDING SYSTEM PHASING

The wayfinding element placement plan created for this plan covers four major trails in the ECWRPC planning area:

- Loop the Little Lake Trail
- CE Trail
- Friendship Trail
- Wiouwash State Trail

Adding signs throughout this system represents the first step to unified signage throughout the region's bicycle and pedestrian facilities.



TRAILS INCLUDED IN THE PLACEMENT PLAN

- Loop the Little Lake Trail
- CE Trail
- Friendship Trail
- Wiouwash State Trail

LOOP THE LITTLE LAKE TRAIL COST ESTIMATE

Figures 47 and 48, below, shows estimated costs for signing the CB Trail along the extents indicated in the signage placement plan.

Figure 47. Loop the Little Lake Trail Phase 1 Off Street Signage Cost Estimate

SIGN TYPE	ESTIMATED NUMBER OF SIGNS	COST ESTIMATE (LOWER LIMIT)	COST ESTIMATE (UPPER LIMIT)
Bike/Pedestrian Directional Sign	34	$23,800	$51,000
Map Kiosk	5	$14,000	$37,500
Mile Marker	2	$800	$1,000
Point of Interest Sign	9	$3,600	$4,500
Regulatory Sign	1	$400	$600
Vehicular Trailhead	1	$700	$1,500
Welcome Sign	3	$2,100	$4,500
Total	**55**	**$45,400**	**$100,600**

Figure 48. Loop the Little Lake Trail Phase 1 On Street Signage Cost Estimate

SIGN TYPE	ESTIMATED NUMBER OF SIGNS	COST ESTIMATE (LOWER LIMIT)	COST ESTIMATE (UPPER LIMIT)
Confirmation Sign	4	$1,600	$2,400
Decision Sign	8	$3,200	$4,800
Turn Sign	35	$14,000	$21,000
Total	**47**	**$18,800**	**$28,200**

CE TRAIL COST ESTIMATE

Figures 49 and 50, below, shows estimated costs for signing the CE Trail along the extents indicated in the signage placement plan.

Figure 49. CE Trail Phase 1 Off Street Signage Cost Estimate

SIGN TYPE	ESTIMATED NUMBER OF SIGNS	COST ESTIMATE (LOWER LIMIT)	COST ESTIMATE (UPPER LIMIT)
Bike/Pedestrian Directional Sign	56	$39,200	$84,000
Map Kiosk	6	$16,800	$45,000
Mile Marker	7	$2,800	$3,500
Point of Interest Sign	4	$1,600	$2,000
Regulatory Sign	0	N/A	N/A
Vehicular Trailhead	2	$1,400	$3,000
Welcome Sign	0	N/A	N/A
Total	**75**	**$61,800**	**$137,500**

Figure 50. CE Trail Phase 1 On Street Signage Cost Estimate

SIGN TYPE	ESTIMATED NUMBER OF SIGNS	COST ESTIMATE (LOWER LIMIT)	COST ESTIMATE (UPPER LIMIT)
Confirmation Sign	4	$1,600	$2,400
Decision Sign	20	$8,000	$12,000
Turn Sign	20	$8,000	$12,000
Total	**44**	**$17,600**	**$26,400**

FRIENDSHIP TRAIL COST ESTIMATE

Figures 51 and 52, below, shows estimated costs for signing the Friendship Trail along the extents indicated in the signage placement plan.

Figure 51. Friendship Trail Phase 1 Off Street Signage Cost Estimate

SIGN TYPE	ESTIMATED NUMBER OF SIGNS	COST ESTIMATE (LOWER LIMIT)	COST ESTIMATE (UPPER LIMIT)
Bike/Pedestrian Directional Sign	42	$29,400	$63,000
Map Kiosk	6	$16,800	$45,000
Mile Marker	11	$4,400	$5,500
Point of Interest Sign	3	$1,200	$1,500
Regulatory Sign	9	$3,600	$5,400
Vehicular Trailhead	6	$4,200	$9,000
Welcome Sign	2	$1,400	$3,000
Total	**79**	**$61,000**	**$132,400**

Figure 52. Friendship Trail Phase 1 On Street Signage Cost Estimate

SIGN TYPE	ESTIMATED NUMBER OF SIGNS	COST ESTIMATE (LOWER LIMIT)	COST ESTIMATE (UPPER LIMIT)
Confirmation Sign	41	$16,400	$24,600
Decision Sign	39	$15,600	$23,400
Turn Sign	39	$15,600	$23,400
Total	**119**	**$47,600**	**$71,400**

WIOUWASH STATE TRAIL COST ESTIMATE

Figures 53 and 54, below, shows estimated costs for signing the Wiouwash Trail along the extents indicated in the signage placement plan.

Figure 53. Wiouwash Trail Phase 1 Off Street Signage Cost Estimate

SIGN TYPE	ESTIMATED NUMBER OF SIGNS	COST ESTIMATE (LOWER LIMIT)	COST ESTIMATE (UPPER LIMIT)
Bike/Pedestrian Directional Sign	53	$37,100	$79,500
Map Kiosk	8	$22,400	$60,000
Mile Marker	22	$8,800	$11,000
Point of Interest Sign	12	$4,800	$6,000
Regulatory Sign	14	$5,600	$8,400
Vehicular Trailhead	3	$2,100	$4,500
Welcome Sign	1	$700	$1,500
Total	**113**	**$81,500**	**$170,900**

Figure 54. Wiouwash Trail Phase 1 On Street Signage Cost Estimate

SIGN TYPE	ESTIMATED NUMBER OF SIGNS	COST ESTIMATE (LOWER LIMIT)	COST ESTIMATE (UPPER LIMIT)
Confirmation Sign	1	$400	$600
Decision Sign	56	$22,400	$33,600
Turn Sign	57	$22,800	$34,200
Total	**114**	**$45,600**	**$68,400**

SPONSORSHIP

Wayfinding sign sponsorship programs make it possible for local entities to increase their visibility along well-loved and well-loved paths in the ECWRPC region. Sign sponsorship money in other cities typically goes towards signage costs such as fabrication, installation, and maintenance. Sponsorship could be set up on a per mile basis or per sign basis. The former is more appropriate for rural settings. The latter is more appropriate for urban or small town settings. Similar sponsorship rates cost between $400 and $1,000 per logo added, per side of sign. Some communities choose to enact renewable sponsorship term limits (i.e., two years).

WHO PARTICIPATES?

Public agencies, private businesses (i.e., restaurants near trails), advocacy groups, or other interested stakeholders may participate in the program. Stakeholders in the region may choose to operate the sponsorship program in tandem with an "adopt-a-trail" program, in which groups volunteer to perform simple, routine maintenance along an agreed upon section of trail. Directional signs installed throughout the region's active transportation system will continue to use generic terms for shopping, dining, and entertainment destinations, regardless of whether an establishment is a wayfinding system sponsor. This approach reduces costs and effort needed to change a sign due to the arrival or departure of specific businesses.

FLEXIBILITY

The preferred off street sign family conceptual drawing allows for sponsorship information to be placed at up to three locations per sign assembly.

Design intent drawings should also show multiple sponsorship locations per sign.

MAINTENANCE

Refer to specific products' warranties for additional maintenance information.

Design intent drawings should indicate that a contractor shall prepare a Maintenance and Operations Schedule for each sign type to be used within the region's wayfinding system. This guidance should include information about responses to common types of vandalism, common replacement parts or hardware, and fabricator warranties for painted surfaces and other products.

ADDITIONAL WAYFINDING TOOLS

Wayfinding tools in this section show examples of digital and print wayfinding elements that support motor vehicle, pedestrian, transit or bicycle wayfinding signs.

DIGITAL TECHNOLOGY

Digital information is a common wayfinding tool. Information presented through municipal websites, such as a local network map or tourism website, online map program like Google Maps, or smart phone applications, are used when someone plans a walking or bicycling trip.

CUSTOM MOBILE APPLICATIONS

Mobile phone applications can be created from open data feeds to provide information on walking and biking routes, connections to public transit, trailhead locations or parks that offer specific amenities (i.e. restrooms and drinking water), local events, and construction updates, among others. The apps could also be customized through private-public partnerships to create an application that is focused on specific users and needs.

Quick response codes, called QR codes, connect smart phone users with digital content if they take a picture of a two dimensional square bar code. QR codes are not recommended for use on wayfinding signs in the East Central Wisconsin Region. They can quickly become outdated and ineffective. Instead, agencies could consider providing a direct website or a text message number to provide short messages on locations. Transit agencies often use this approach to provide information specific to certain transit stops. A municipal or regional website can be added to wayfinding signage to direct users to maps or multilingual information.

BLUETOOTH BEACONS

Bluetooth transmitters or "beacons" are a way of providing wireless access to areas without an Internet connection. Bluetooth transmitters can provide guidance by means of small radio transmitters installed in the sign post. The transmitters contain small batteries that can last up to three years. When users approach the beacons they can be sent pre-recorded information, such as maps, trail emergency information, and guides.

Mobile applications can be created to detect beacons by their identifiers, allowing users to connect and communicate automatically when the application is installed. This type of technology is best used in areas with limited cell services (such as remote areas or in large buildings, such as hospitals).

NEAR-FIELD COMMUNICATION

Near-Field Communication or NFC technology allows data sharing between phones, tablets and laptops and other NFC-equipped devices. Based off radio-frequency identification (RFID) technology, which is used for security scan cards allowing key access to specific users, NFC has recently been used as a secure alternative to using a credit card through digital wallet services. The technology is capable of transmitting videos, contact information and photos between two NFC enabled devices. Unlike Bluetooth, NFC is limited to communication within 4 inches and devices do not need manual pairing or device-discovery. Once within range, the two devices connect and begin communicating and prompting users.

NFC is compatible with any device running Android 4.0 or later, Apple Watch, iPhone 6 and 6 Plus, iPad Air 2 and various Windows phones. NFC technology could be incorporated into kiosks at trailheads where users could hold their device up to the sign and download relevant information such as maps, current conditions, or local events occurring nearby.

APPENDIX: CREATIVE DEVELOPMENT

This appendix displays the draft sign families presented to the steering committee for review. The project team created these concepts based on feedback from key stakeholders. The final sign concept, shown in Chapter 3, was selected based on the creative development process.

CREATIVE CONCEPT SELECTION

The project steering committee met at key decision points to guide the project materials' creative development. This section serves as a record of steering committee decisions and project outcomes.

VISUAL PREFERENCE SURVEY (VPS) MEETING

This meeting coincided with fieldwork to trails contained within the project's scope. The meeting's purpose was to understand stakeholders' ideas and preferences for what the region's wayfinding elements might look like and how they should function. The team used findings from the visual preference survey to inform the first draft of unique wayfinding element concepts, as presented in this chapter.

Figure 56. Members of the stakeholder group expressing their thoughts about which types of signs might represent their region.

VPS RESULTS

The red boxes, below, show information that stakeholder group members provided about their communities.

What words describe your region?

- Water
- Clean
- Industry
- Planes
- The Ledge – the Niagara Escarpment
- Progressive
- Gorgeous sunsets
- Safe
- Growing
- Downtowns and a mix of small communities

When you think of the region what images come to mind?

- Sturgeon spearing
- Natural environments
- Water-driven events
- Staying active in each of the four seasons
- Lots of festivals and events
- Lakes
- Rivers
- I-41 as a transportation link
- Transforming brownfields

What colors do you think of?

- Blue shades (water)
- Black and white
- Green
- Red
- Colors found in agriculture
- Fall shades of orange

What are your friends and neighbors in the region like?

- Homegrown
- Active
- Friendly
- Practical and frugal
- Creative
- Working community
- Salt of the Earth

What events come to mind?

- Fairs
- Concerts
- Air festival
- 5ks, fun runs, the marathon
- Packers games (visiting teams stay in Appleton)
- Music events
- Future Bucks G-League stadium
- G-League
- Hunting events and seasons

DRAFT SIGN FAMILIES

The following sign families were created based on direction from the stakeholder group and project directors. The signs and pavement markings represent flexible, modern signage examples. They are designed to withstand all seasons with minimal maintenance needs. The designs emphasize modularity.

Stakeholders expressed interest in exploring design options involving recycled plastic, which would utilize a local fabricator. Stakeholders also discussed a desire to see one family that emphasizes black and white. All concepts provide for local branding and customization. Costs were included with each sign family to enable stakeholders a chance to reflect upon funding options.

DRAFT CONCEPT ONE: "BLACK AND WHITE" OFF STREET SIGNAGE

This sign family emphasizes black and white colors. It allows for local customization and includes modular directional panels and map panels.

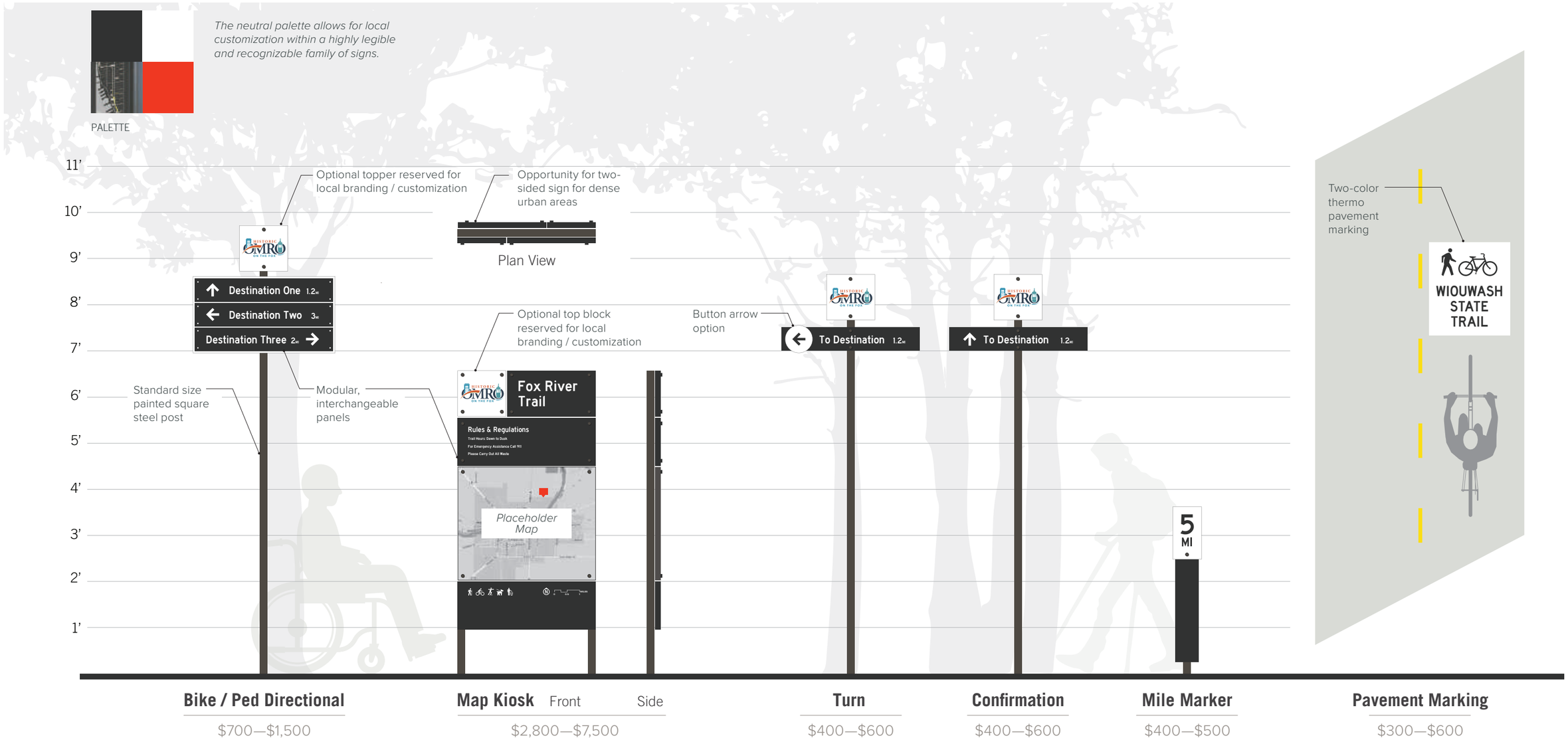


Figure 57. "Black and White" Off Street Signage Concept

DRAFT CONCEPT ONE: "BLACK AND WHITE" ON STREET SIGNAGE

This concept utilizes MUTCD consistent green on street signage in standard dimensions with a square, painted steel post.

Figure 58. "Black and White" On Street Signage Concept

DRAFT CONCEPT TWO: “MONUMENTAL” OFF STREET SIGNAGE

This concept uses bright colors and aluminum. The bases’ textured paint adds visual interest. Sign elements present opportunities to use icons in addition to text. The pavement marking uses trail names to orient trail users.

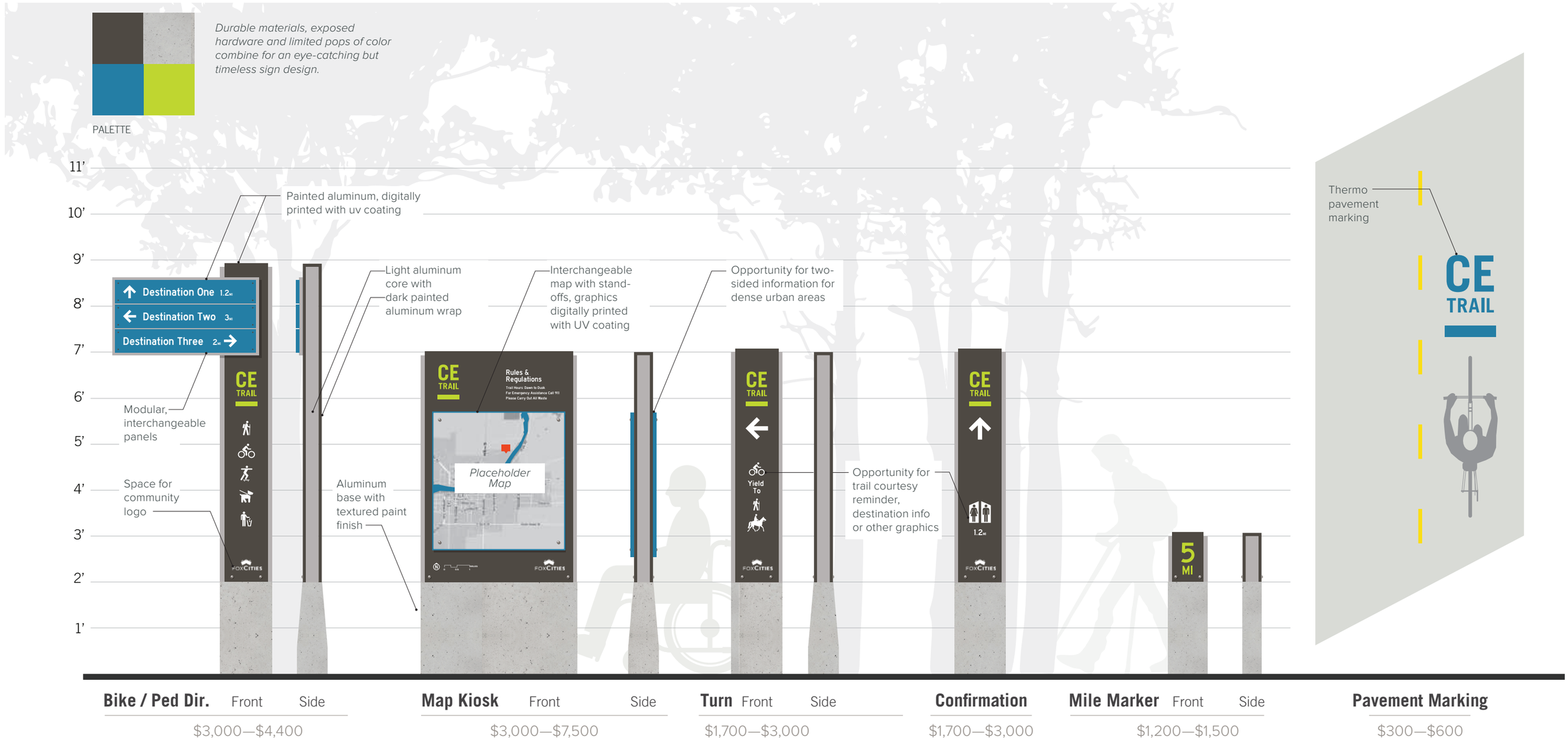


Figure 59. “Monumental” Off Street Signage Concept

DRAFT CONCEPT TWO: “MONUMENTAL” ON STREET SIGNAGE

Similar to Concept One: Black and White, the Monumental sign family reserves space for the trail name and branding elements. The blue color is bright and easy to see from bike lanes or quiet, bike friendly streets.

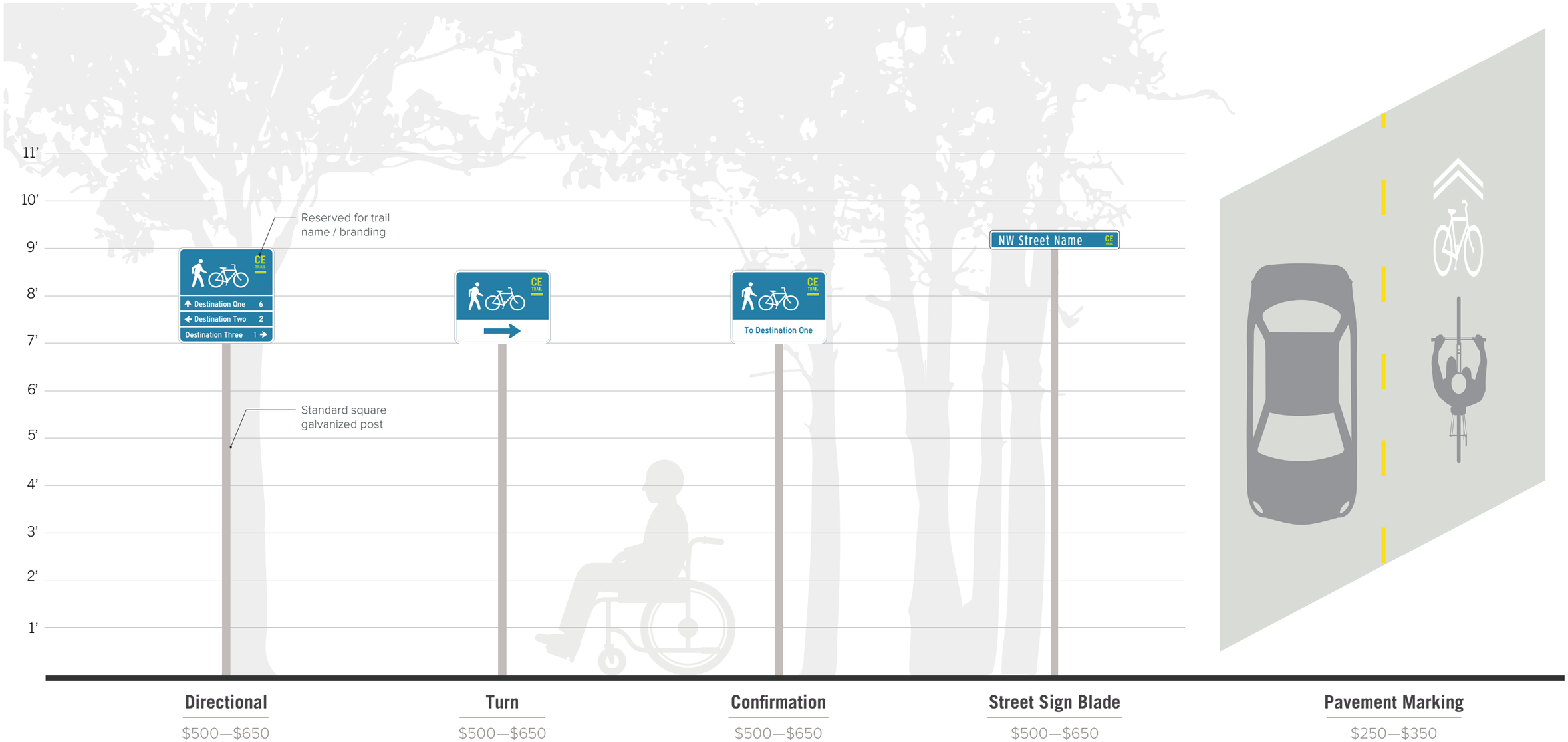


Figure 60. “Monumental” On Street Signage Concept

DRAFT CONCEPT THREE: "POST INDUSTRIAL" OFF STREET SIGNAGE

This concept was designed to incorporate recycled plastic from a local fabricator. The sign panels are interchangeable and show community branding elements near the base.

The pavement marking is in the shape of a chevron and the trail name. Cost elements for this sign family should be developed in tandem with local manufacturers.

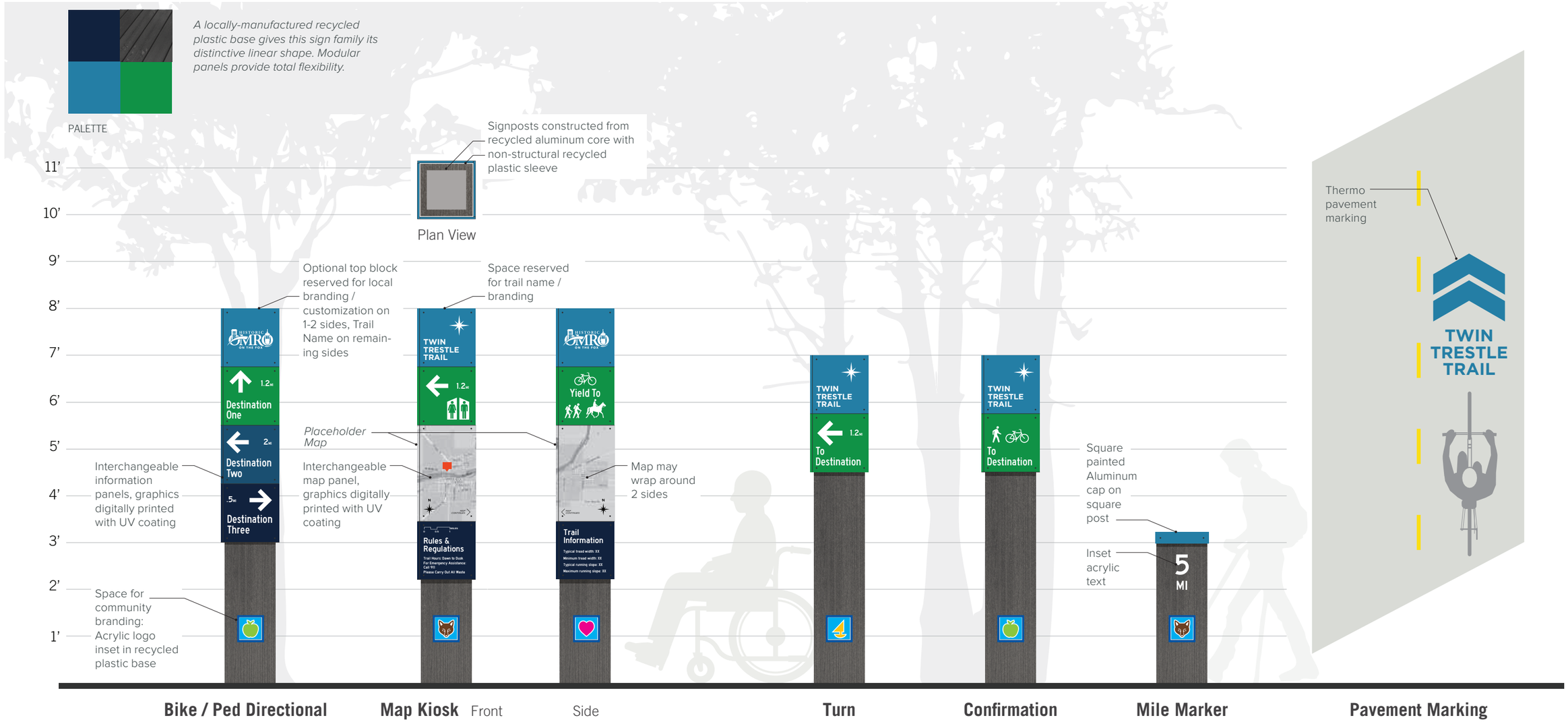


Figure 61. "Post Industrial" Off Street Signage Concept

DRAFT CONCEPT THREE: "POST INDUSTRIAL" ON STREET SIGNAGE

This concept uses dark navy sign faces with standard square galvanized posts. Like the other concepts, the signage reserves space for incorporating local logos and icons.

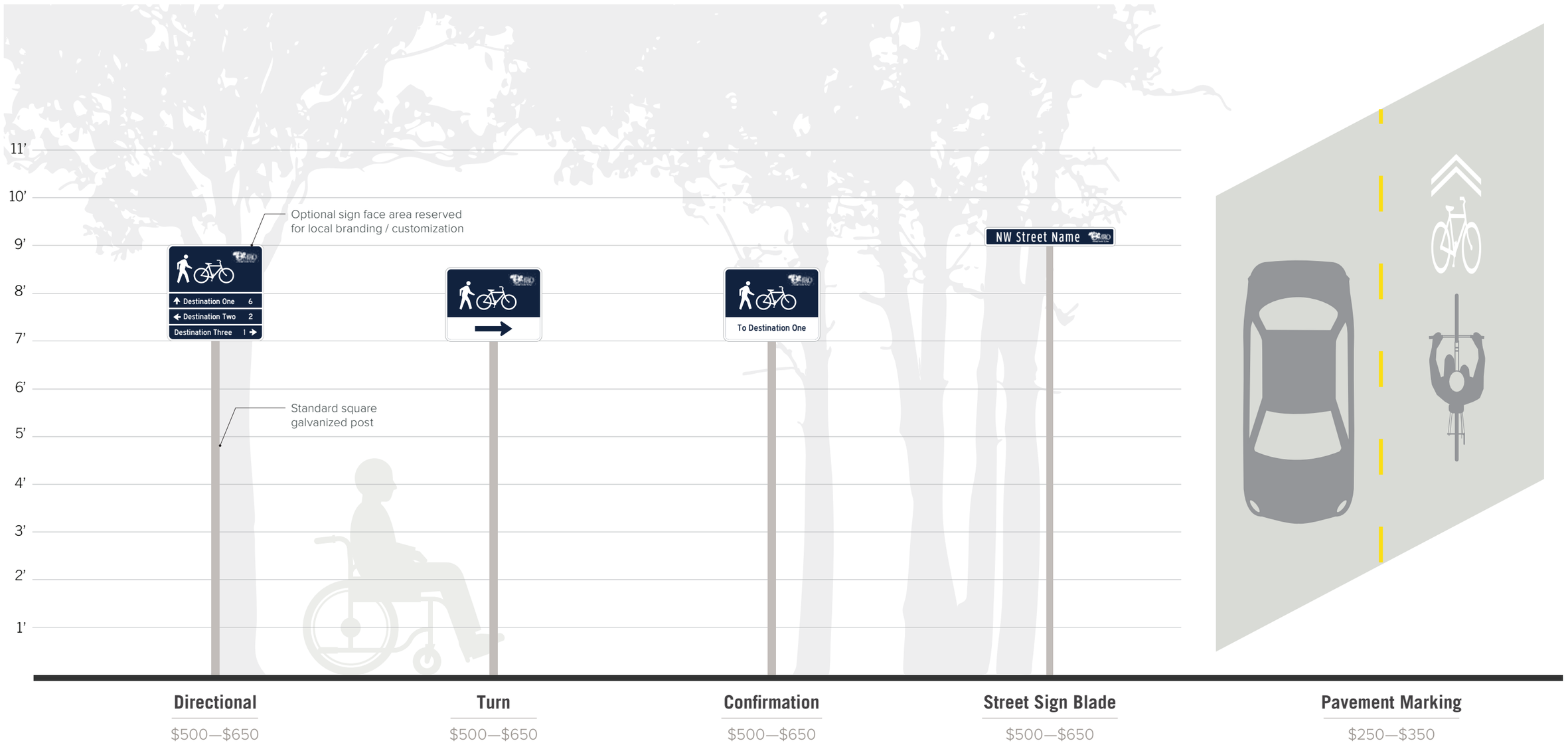


Figure 62. "Post Industrial" On Street Signage Concept