









This Bridge to Bay Trail Wayfinding, Signage and Safety Plan is the result of a ninemonth process guided by Friends of the St Clair River, five local trail advisory groups and a steering committee with representation from local, regional and state agencies. Project funding was provided by the Ralph C. Wilson, Jr. Foundation, St Clair County Parks and Recreation Commission and St. Clair County Metropolitan Planning Commission.

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This document includes standard plans and details that can be incorporated into future trail construction projects by local agencies and into the Sign and Pavement Marking Plan.

1. Introduction

It Is All About the Water

The name and logo sum it up, the Bridge to Bay Trail is all about experiencing the water. The river and lakes are the main draw and act as the primary wayfinding aid when navigating the trail. In areas where the water is not visible, the trail needs to be obvious.

Out of town trail users will have the biggest economic impact on the area so wayfinding and marketing should go beyond promoting just the trail and promote the area as a whole.

For locals, the trail provides close to home tourism and quality of life enhancements. Wayfinding and marketing should focus on first time trail users and expanding transportation and recreation options for those who live nearby.



Target User Types

The wayfinding plan has a focus on family friendly trips. While the route will have some bicyclist who are comfortable riding with moderate traffic for long distances, the majority of the users will be making much shorter journeys and prefer to stick with trails. The wayfinding system should provide enough information for them to choose appropriate routes for their skill levels and desired trip distance.

Bicyclists



- Traveling Between Communities
- 8 to 40 Mile Distances
- 1 to 4 Hour Trips

Pedestrians



- Local Travel
- 1 to 5 Mile Distances
- 1/2 to 1-1/2 Hour Trips



Riverwalks

The riverwalks in St Clair County are great destinations along the Bridge to Bay Trail. They are a huge draw and many times on evenings and weekends, they are bursting with pedestrian activity, people fishing, scuba diving, and gathering in large groups. While they are a great destination for pedestrian activities, they do not provide a safe facility for mixing bicycles and pedestrians.

For safety reasons, bicyclists don't belong on most of the riverwalks in Algonac, St Clair, Marysville and Port Huron. The signage guide will focus on signing a simple route for bicycles through these areas. Bicycles will be guided down adjacent streets to the riverwalk where they can still see the water and have a similar experience.

2. General Wayfinding Approach

Nodes



Trail Towns



- Commercial Centers
- Food and Lodging
- Services
- Events



Major Parks



- Recreation Opportunities
- Rest Areas and Water
- Campgrounds

Connections



Trails

- Paved Pathways Separate from Road Traffic
- Bicycle and Pedestrians Together
- Family Friendly



Routes



- Bike Lanes or Paved Shoulders on Main Roads
- Shared Low Volume/Low Speed Local Roads
- More Experienced Bicyclists

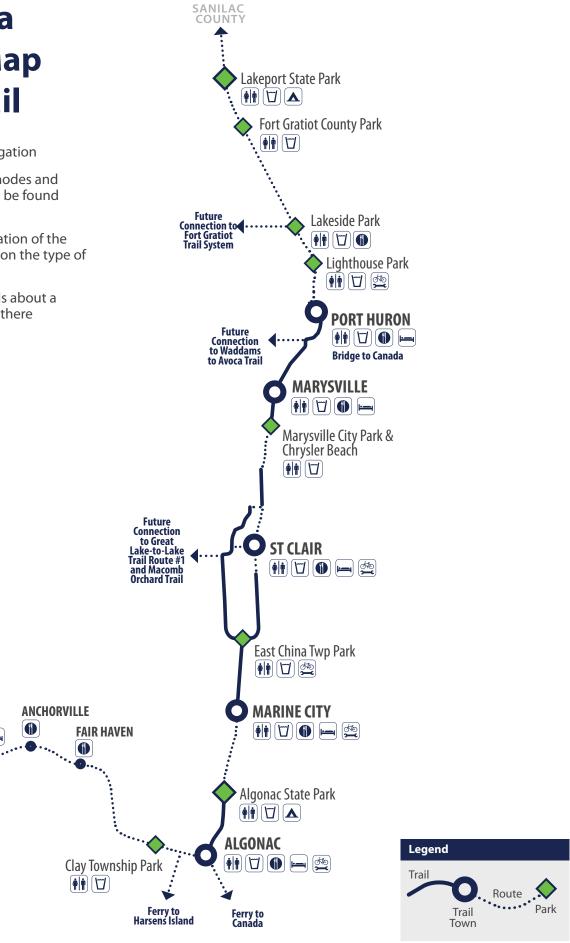
Building a Mental Map of the Trail

- Point-to-point navigation
- Identify the major nodes and what amenities can be found there
- Simply the presentation of the connections based on the type of experience
- Provide more details about a place once you get there

NEW

MACOMB COUNTY

BALTIMORE



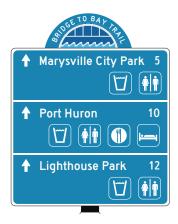
Overview of Sign and Marking Types

The following is an introduction to the six general types of sign and marking types that are discussed in more detail in the following sections.



Kiosks

- Key Reference Points Along the Trail
- Located in Trail Towns and Parks
- Trail and Local Information
- Two Types



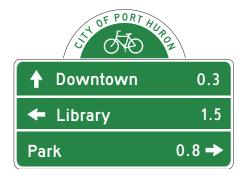
Destinations

- Head-up Navigation While On Trail
- Shows Next Three Trail Towns or Major Parks
- Lists Distances and Amenities
- **Used Sparingly**



Routes

- Branding
- Directions
- **Route Reinforcement**
- Many Different Types



Connecting Routes

- Local Bike Routes
- Directions to Nearby Regional Trails



Services

- Support Services Near the Trail
- Places to Access the Trail



Regulatory & Safety

- Signs and Pavement Markings
- Focus on Interactions Between Motorists and Trail Users
- Primarily at Intersections
- Many Different Types

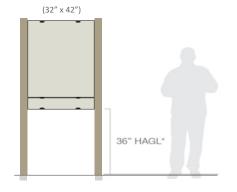
3. Kiosks

Two types of kiosks are recommended. The more substantial "Principal Kiosk" will be located in the Trail Towns and Major Parks indicated on the map. The "Secondary Kiosk" will be used in other points of interest along the way.



Principal Kiosk

- Large Roofed Sign
- 36"Tall x 48"Wide Modular Display Areas
- Single or Double Sided
- **Requires Footing**
- Terrabilt 2-Post Mini Kiosk



Secondary Kiosk

- Simple Two Post Sign
- 32" Wide x 42" Tall Modular Display Area
- Single or Double Sided
- **Direct Embedment of Posts**
- Terrabilt Double Post Outboard

The kiosks shown are manufactured by Terrabilt. Terrabilt kiosks are sustainability manufactured using reclaimed materials that are low maintenance and are long lasting. The sign panels are modular allowing individual panels to be replaced. A variety of panels may be used depending on the expected lifespan of the illustration. These panels may be manufactured by Terrabilt or by other companies.

See terrabilt.com for more information.

Kiosk Trail Map

- Used on Both Principal and Secondary Kiosks
- 32" Wide x 36" Tall
- Simplified Map of Trail
- Subway Type Sidebar Map with Destinations and Distances
- You Are Here Designation

Kiosk Trail Map

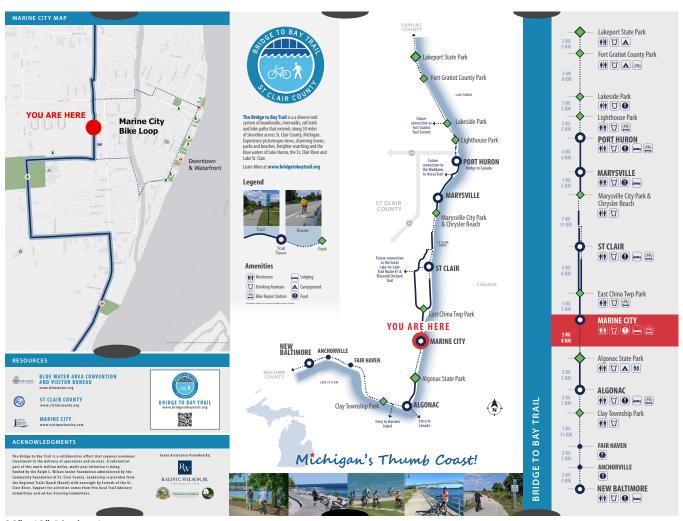


32"x 36" Map

This is a preliminary draft of the Kiosk Map. The final version may include different introductory language and/or photos of trail highlights. A web link should be provided for additional details about the trail and surrounding area.

Principal Kiosk Detail

The principal kiosk offers many opportunities for customization. The following is one option.



36"x 48" Display Area

Front Display Panel

The front display is comprised of three separate panels that can be replaced independently as information needs to be updated:

- Kiosk Trail Map (32" x 36") as described on the previous page
- Local Area Map (16" x 24") that shows the trail in context of the local community or major park with information such as local bike routes, parks, riverwalks, and commercial centers
- Resources and Acknowledgment Plaque (16" x 12") that recognizes agencies and organizations that have supported and funded the development of the Bridge to Bay Trail, including web links to additional resources



Location and Branding

- Name of the community or park where the kiosk is located may be added to the top crossbar of the kiosk
- The Bridge to Bay Trail logo is placed in the gable on both ends of the kiosk

Back Panel (Optional)

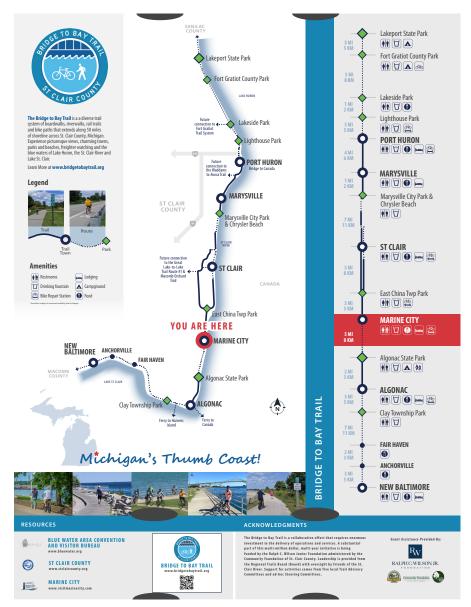
The back panel presents additional opportunities for a modular display system. Local communities could add encased bulletin boards, holders for brochures and sign panels that including information such as:

- Additional Community or Park Maps
- Cultural or Natural Interpretive Panels
- Water Trail Information
- Large Bridge to Bay Trail Logo

A concrete pad should be provided on both sides of the kiosk if a double-sided display panel is used.

Secondary Kiosk Detail

The secondary kiosk would be located at points of interest along the trail, such as parks, and offer opportunities for customization. The following is one option.



32" x 42" Display Area

Front Display Panel

The front display is comprised of two separate panels that can be replaced independently as information needs to be updated:

- Kiosk Trail Map (32"x 36") as described on the previous page
- Resources and Acknowledgment Plaque (32" x 6") that recognizes agencies and organizations that have supported and funded the development of the Bridge to Bay Trail, including web links to additional resources



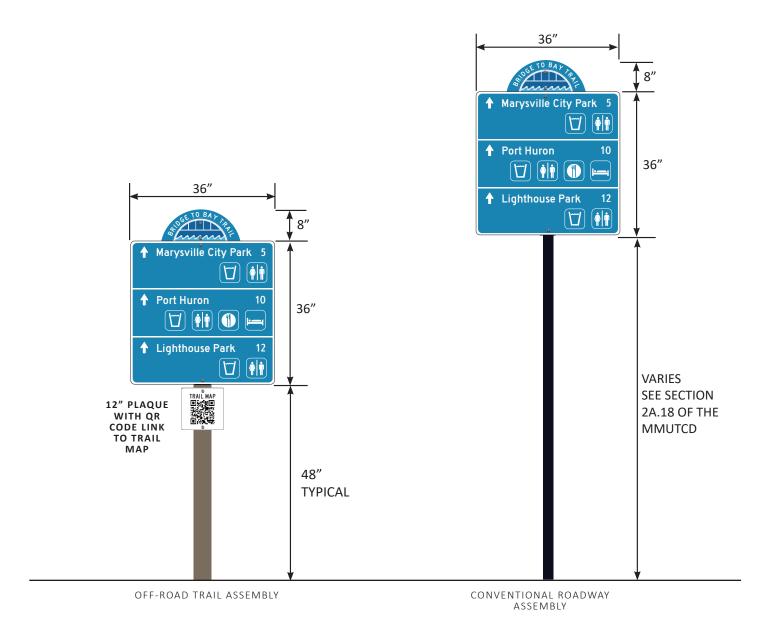
Back Display Panel (Optional)

The optional back panel display allows for modular sections that include a map of the local community or park accompanied by photographs and information on local points of interest. There are also options to include an encased bulletin board and a holder for brochures. A concrete pad should be provided on both sides of the kiosk if a double-sided display panel is used.

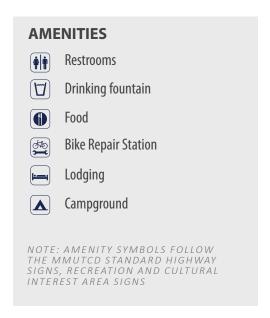


4. Destinations

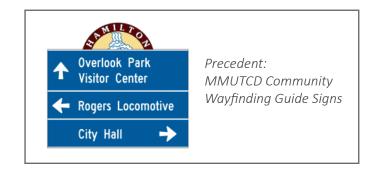
The Destination Signs list the distance to the next three major destinations along the trail and include the distance and key amenities. A plaque with a QR code that links to a trail map can be placed below the sign on off-road segments of the trail.





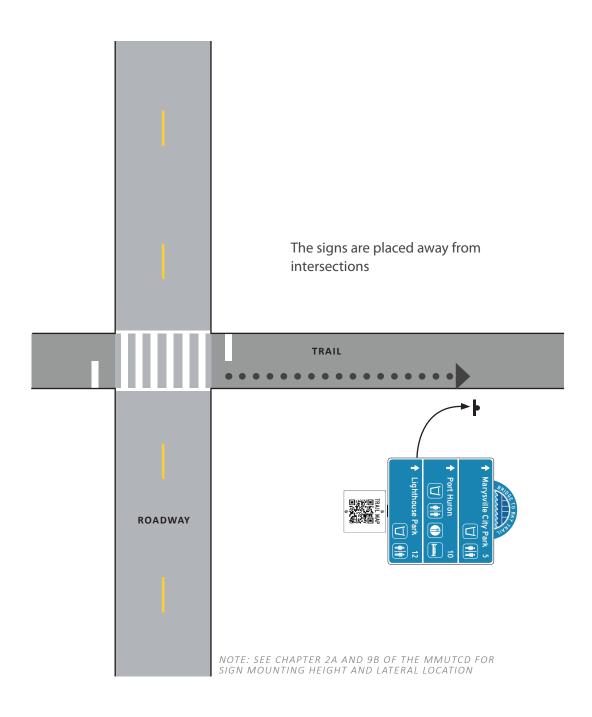


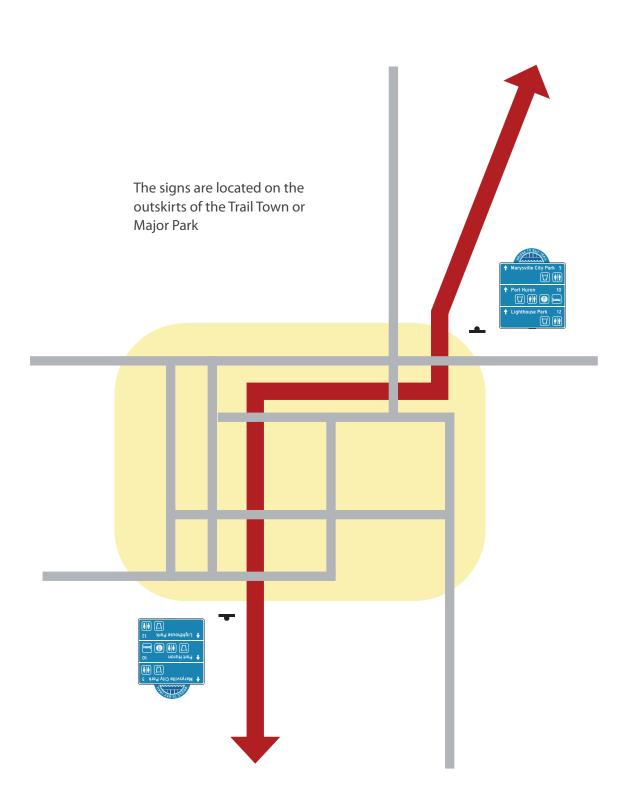
The destinations listed on the sign coordinate with the Trail Towns and Major Parks shown on the kiosk maps.



Destination Sign Placement

The Destination Signs will be placed when the trail appears to be leaving one node and is on its way to the next major destination. This will allow the trail user to make a judgment on if they want to continue.





5. Routes

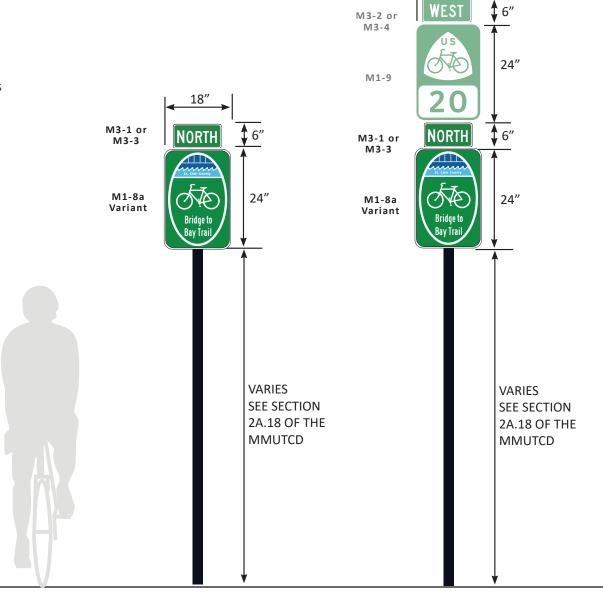
The bike and bicycle/pedestrian route signs are scaled differently depending on if they are adjacent to a trail or a roadway. When along a shared use pathway, the sign also includes the pedestrian icon.

When the Bridge to Bay Trail Route overlaps with the US Bike Route 20, or some other bike route, the signs may be stacked when appropriate. No more than two designations should be included on a single post.

STACK SIGNS SIDE BY SIDE IF MORE ROUTES NEEDS TO BE IDENTIFIED

On-Road Route Signs

Space signs two miles apart and at major intersection/decision points

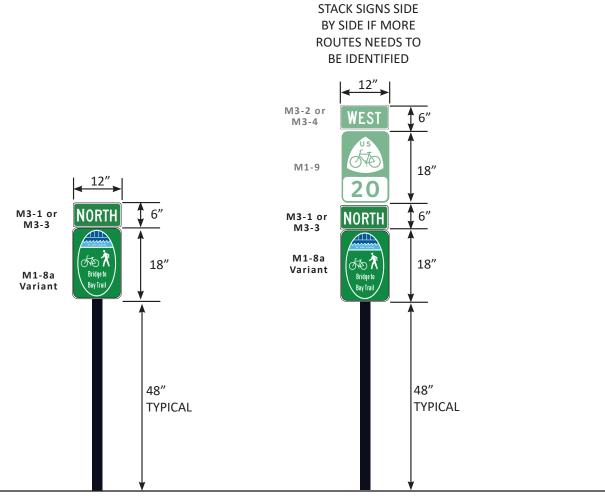


CONVENTIONAL ROADWAY ASSEMBLY



Precedent:
Variation of MMUTCD
M1-8a Custom Bicycle
Route Guide sign as
modified with the
pedestrian icon in the
phase one signing
project

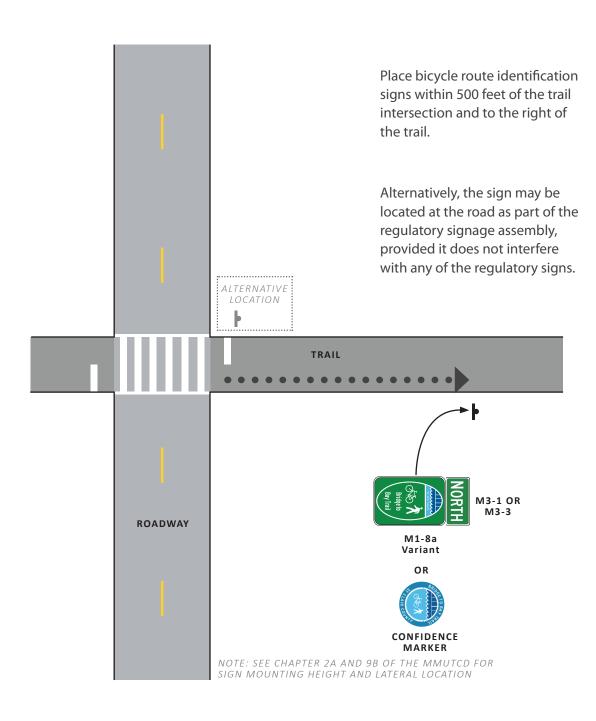
Trail Route Signs



OFF-ROAD TRAIL ASSEMBLY: MMUTCD SIGNS

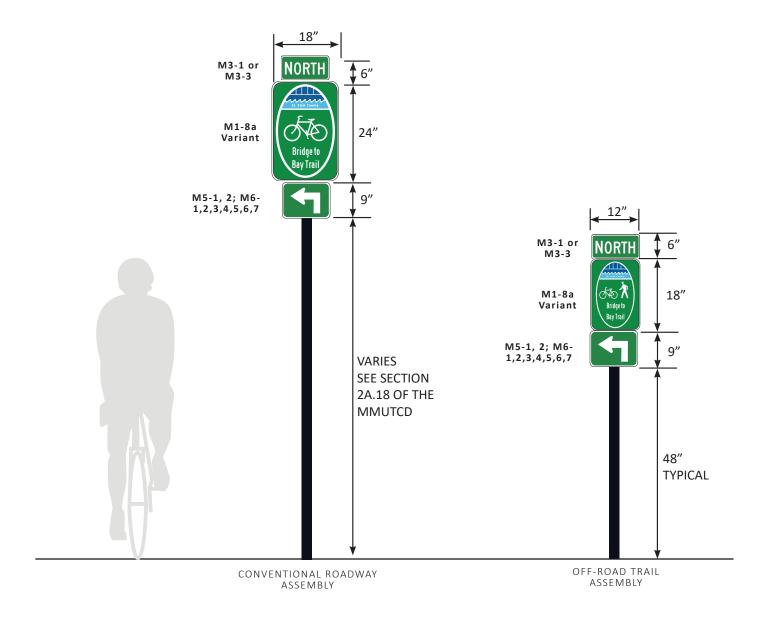
Route Sign Placement Along Trail

The bike and bicycle/pedestrian route signs are generally located away from a trail / road intersection to minimize sign clutter at that location. Although it may be appropriate to locate the route sign below the stop sign as was done in the first phase as select major roadways.



Route Change in Direction

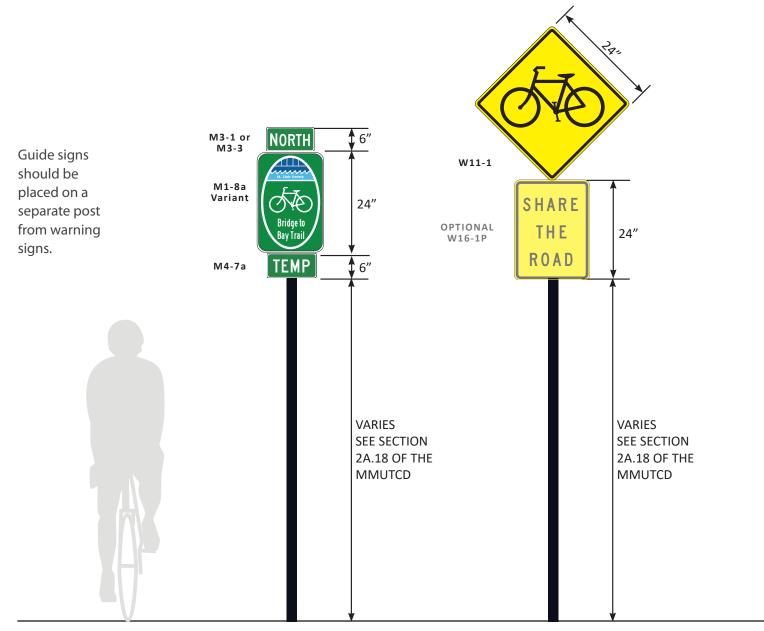
These would be placed in advance of an intersection that requires a change in direction to keep on the trail.



Temporary Routes

Where there is a gap in the trail, a temporary route should be identified that leads to the next completed section. As the temporary routes do not have any specific bicycle facilities, a shared roadway becomes the best alternative. The M1-8a Variant sign would be placed on a separate post to notify bicyclist that they are still on the Bridge to Bay Trail Route. If a sidewalk is not present, only the bike icon will be used on the sign.

A "Share the Road" (W16-1) sign may be used in conjunction with the W11-1 sign to warn motorists to watch for bicyclists traveling along the highway. Alternatively, the "Bicycle May Use Full Lane" (R4-1) sign, that was recently adopted into the MMUTCD, may be used as an alternative to the W11-1 sign when a bicycle lane is not present.

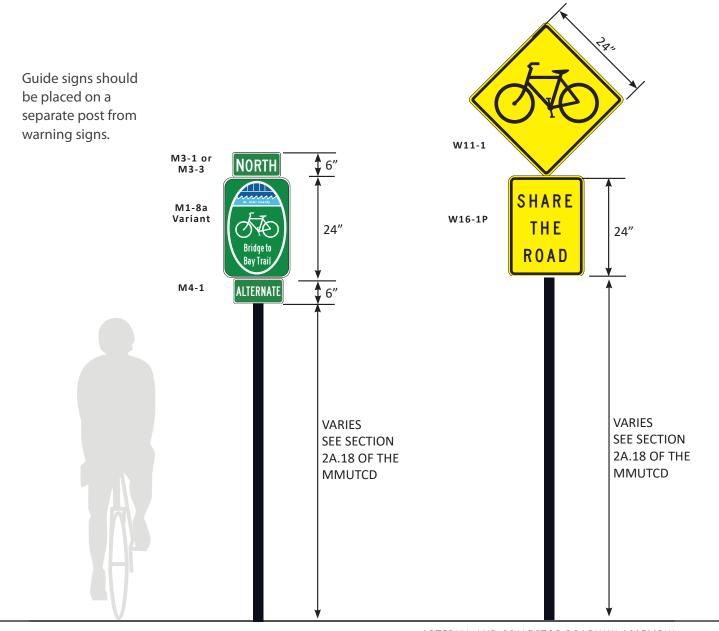


CONVENTIONAL ROADWAY ASSEMBLY NO DESIGNATED BICYCLE FACILITY

Alternative Routes

If the main route is unusable frequently due to issues such as flooding an alternative route should be designated. At the point where the alternative route begins, a temporary barricade or gate should be located with a regulatory sign stating that the trail is closed ahead, follow alternate route.

If a portion of the trail is expected to be closed for construction for an extended period of time the same approach may be used with a detour supplemental plaque. When no bicycle facility is provided a "Share the Road" (W16-1) sign may be used in conjunction with the W11-1 sign to warn motorists to watch for bicyclists traveling along the highway. Alternatively, the "Bicycle May Use Full Lane" (R4-1) sign, that was recently adopted into the MMUTCD, may be used as an alternative to the W11-1 sign where appropriate.



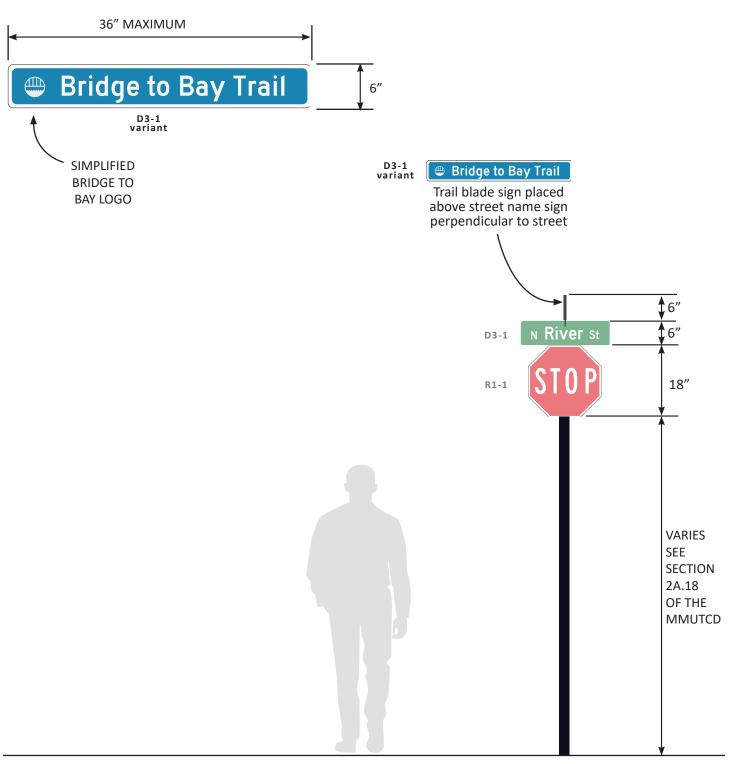
CONVENTIONAL ROADWAY ASSEMBLY

ARTERIAL AND COLLECTOR ROADWAY ASSEMBLY NO DESIGNATED BICYCLE FACILITY

Trail Blade Sign

Similar to a street blade sign (D3-1), the trail blade sign should be place above a stop sign to identify the trail at intersections. Text on sign should be abbreviated to fit a 36 inch blade, or increase the height of the sign to allow for two lines of text.

On routes under MDOT jurisdiction, street and trail blade signs should not be placed on top of stop signs and should be located on a seperate post.



Trail Blade Sign Placement

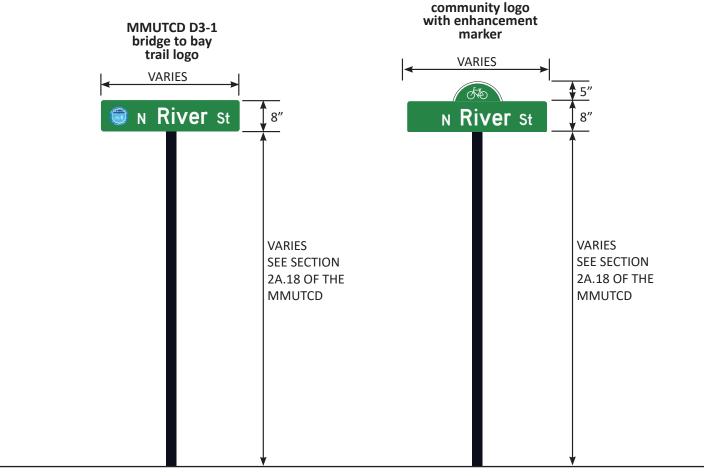
Place trail blade sign above trail stop sign at intersection parallel to the trail.

On local two-lane roads where the street name is clearly visable from the other side of the street, the Trail Blade and Street Blade Sign my be used on only one side of the street provided both signs are double sided. If desired by MDOT, street and trail blade signs may be located on a post seperate from the stop sign. D3-1 **ROADWAY** Alternative location for D3-1, and D3-1 Variant when intersecting roadway is under MDOT Bridge to Bay Trail jurisdiction D3-1 variant* TRAIL **Bridge to Bay Trail** D3-1 variant* R1-1 River st D3-1 NOTE: SEE CHAPTER 2A AND 9B OF THE MMUTCD FOR Note: SIGN MOUNTING HEIGHT AND LATERAL LOCATION *two-sided sign

Optional Street Blade Signs On Route

Street blade signs should be used at all trail/road intersections for basic wayfinding. When the Bridge to Bay Trail is part of an on-road route there is an option to add the trail logo to the beginning of the street blade sign on that street.

While MMUTCD permits the use of pictographs, such as a city logo or trail logo on street blade signs, a symbol such as a bike, is not permitted. If a community already uses a branding logo on the street sign, an enhancement marker may be added to the top of the sign. The enhancement marker would be used on streets where a bike route or on-road bicycle facility is present. These could include routes outside of the Bridge to Bay Trail if the community wanted to use them on a local bike route.

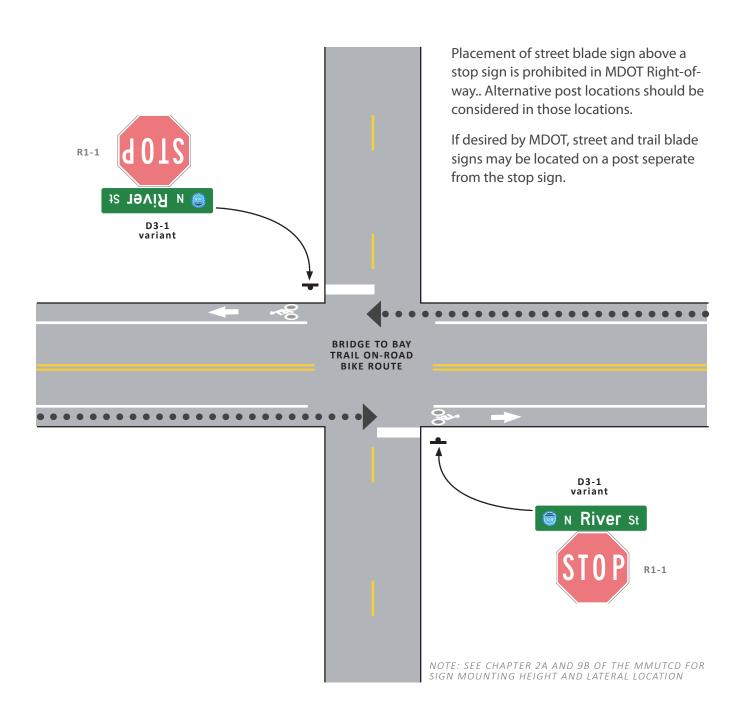


MMUTCD D3-1

CONVENTIONAL ROADWAY WITH BIKE ROUTE OR ON-ROAD BICYCLE FACILITY: MMUTCD D3-1 VARIANT

Street Blade Sign Placement

Place bicycle street blade sign above stop sign at intersection parallel to the street with the bicycle facility.

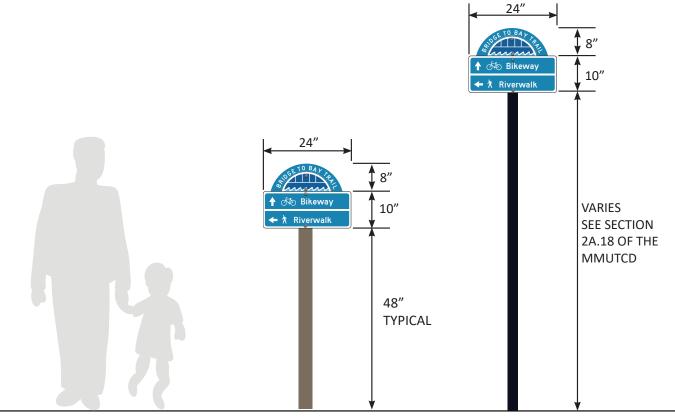


Riverwalks

When a riverwalk runs parallel to the Bridge to Bay Trail on-road bike route, a destinations sign to the riverwalk with a pedestrian symbol should be provided. The sign is blue to match the Trail Destination Signs and an enhancement marker is placed above the sign. Bicycle should be directed to stay on the main route.

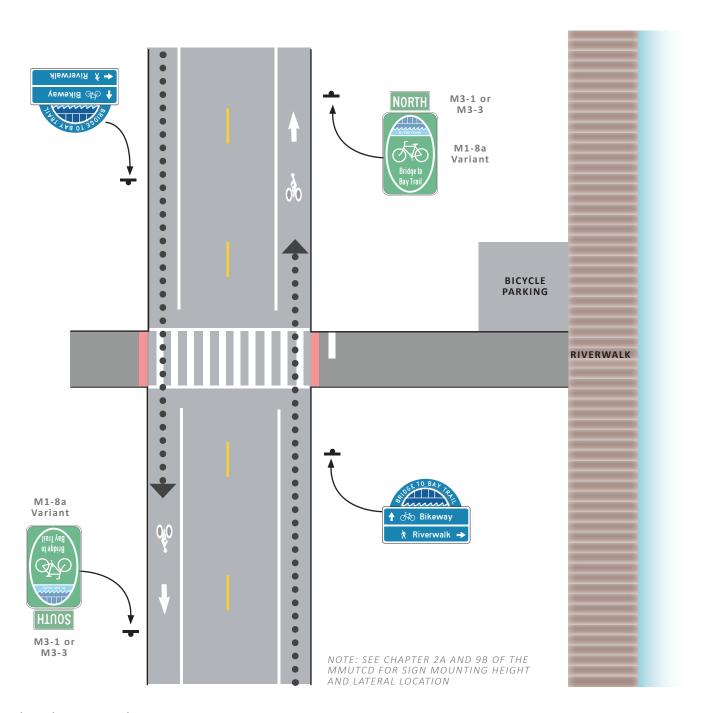






OFF-ROAD TRAIL ASSEMBLY

CONVENTIONAL ROADWAY



A bicycle route guide sign may be used to reinforce the bicycle portion of the route is on the roadway.

Confidence Markers

Confidence marker signs, stickers and stencils are designed to provide direction to users along off-road sections of the trail, such as a riverwalk or rail-trail. In special circumstances, they may be used along a sidewalk or sidepath in urban areas where typical bike route signs would cause unnecessary sign clutter. The M1-8a variant sign should be used for all bike route, bike lane and paved shoulder facilities in the right-of-way.

When used along a sidewalk or sidepath within the road right-of-way, confidence markers should be located to minimize their conspicuous to vehicular traffic. Signs should be located as far as practical from the street, such as at the far edge of the sidewalk. To further minimize their conspicuous to vehicular traffic during nighttime conditions, pedestrian wayfinding signs should not be retroreflective.

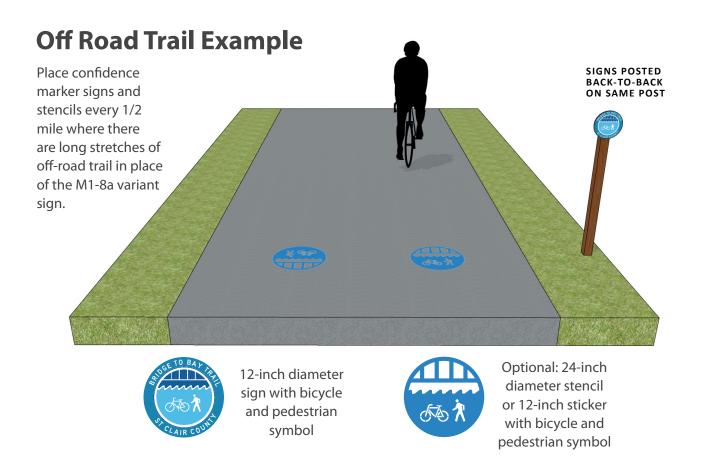
Confidence Marker Signs and Stickers



Confidence Marker Stencils

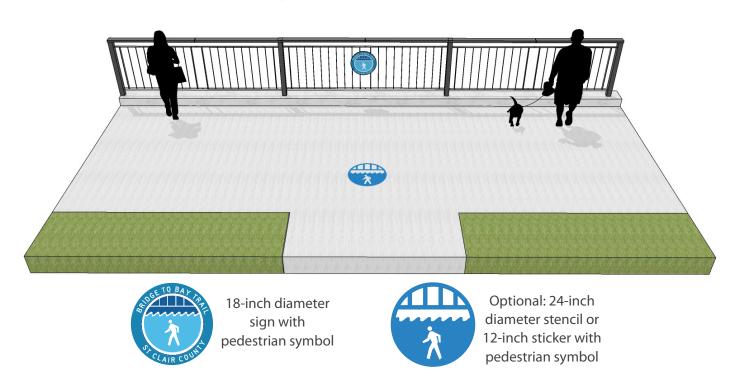
NOTE: OPTION TO REPLACE STENCIL WITH 12" DIA CONFIDENCE MARKER SIGNS APPLIED AS STICKERS TO THE PAVEMENT





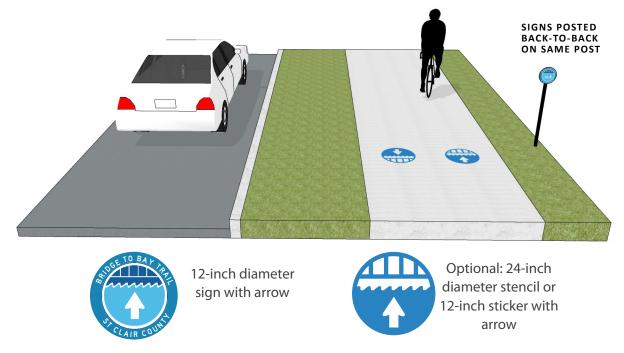
Riverwalk Example

Place confidence marker with pedestrian symbols at access points along the riverwalk.



Sidepath Example (Special Circumstance)

This application may be used in special circumstances where the trail in not easily distinguishable from other route choices, such as in urban areas where the trail blends in with surrounding sidewalks and would cause unnecessary sign clutter. Otherwise, the M1-8a variant sign should be used for typical applications.



Sidewalk Example (Special Circumstance)

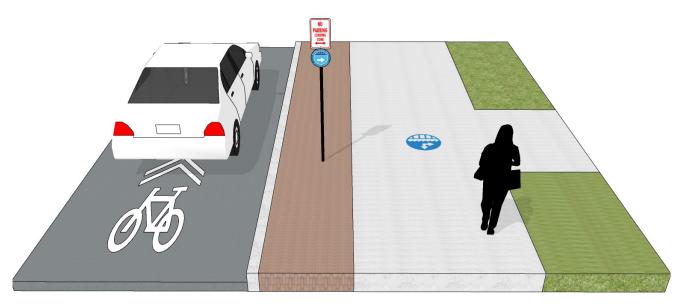
Use signs and stencils with pedestrian symbols on sidewalk routes.



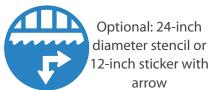
Sidepath/Sidewalk Changes in Direction Example (Special Circumstance)

Use signs and stencils to avoid sign clutter when guiding users through a number of short turns in an urban area.

Do not locate sign on same post as stop sign.



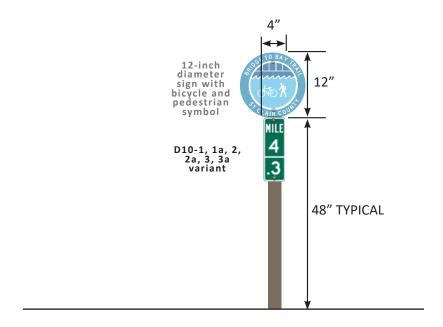




Trail Mile Markers

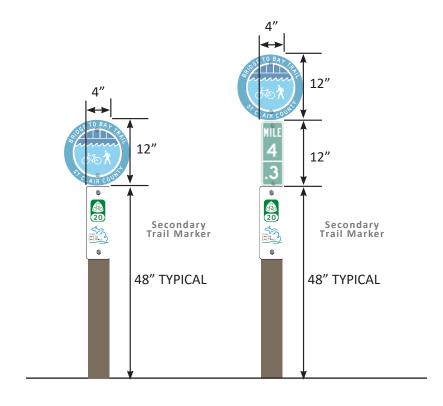
When the trail is complete enough to have a logical beginning and end point, mile markers should be included. Trail mile markers provide a uniform reference system that can be used in trail guides and by emergency responders. They also allow trail users to benchmark their distance traveled and reinforce the trail brand.

Mile markers should be placed every half mile along the off-road trail segments. It is recommended to put mile marker signs back-to-back on the same post. MMUTCD recommends a 6" wide sign blade, but a smaller scale sign may be used when appropriate.



Secondary Trail Markers

When more then one routes needs to be identified, multiple logos below may be placed below the confidence marker or mile marker sign.



6. Connecting Routes

Local Bike Routes

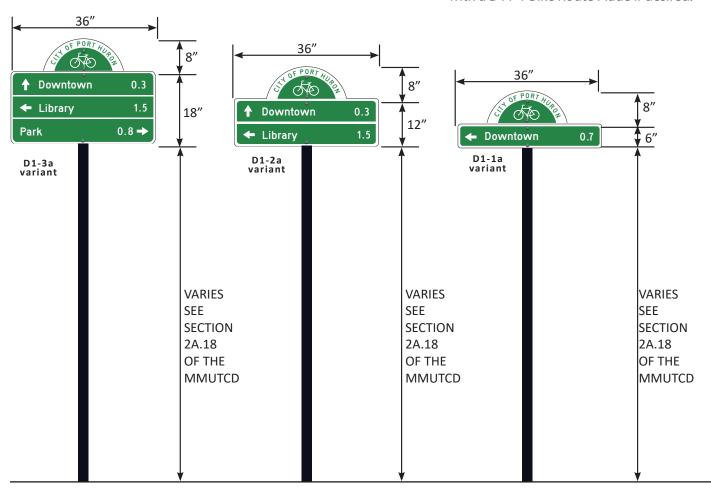
The Bridge to Bay Trail intersects with local bike routes and some communities are looking to use the local bike routes to direct people to commercial areas away from the trail. Bike Route Destinations Signs are placed at decision points along a bicycle route and identify distance and direction to key destinations, such as a downtown district or local park. These signs follow MMUTCD Standards (D1-1a, D1-2a, D1-3a) with an optional enhancement marker placed above each sign that includes a bike symbol and city or township name.

Bike Route Destination Signs placed along arterial and collector roads should use a 36 inch wide sign blade. Text within the sign should be abbreviated to fit within the 36 inches.

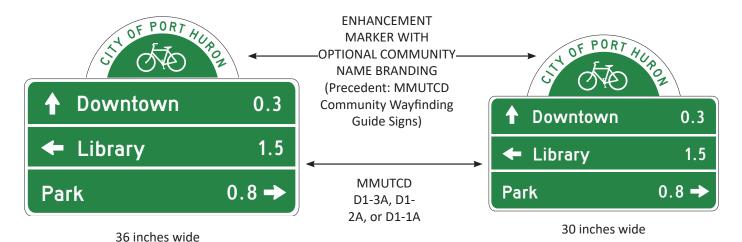
Bike Route Destination Signs placed along local and residential roads should use a 30 inch wide sign blade. Text within the sign should be abbreviated to fit within the 30 inches.

Bike Route Guide Signs on Major Roads

The bike route enhancement marker with community name branding may be replaced with a D11-1 Bike Route Plaue if desired.



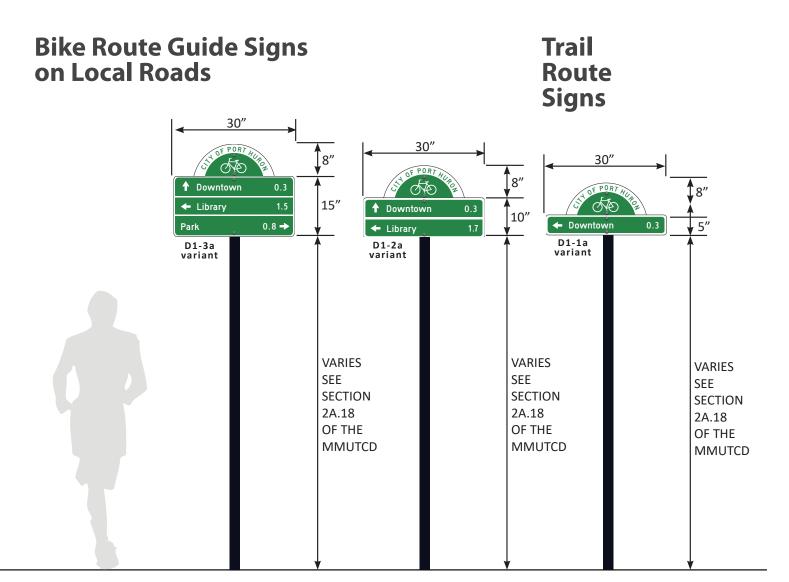
ARTERIAL OR COLLECTOR ROADS



Major Road Bike Route Guide Signs

Used along arterial and collector roads

Local Road Bike Route Guide SignsScaled down for use along local and residential roads



LOCAL ROADS AND TRAILS

Sign Variations

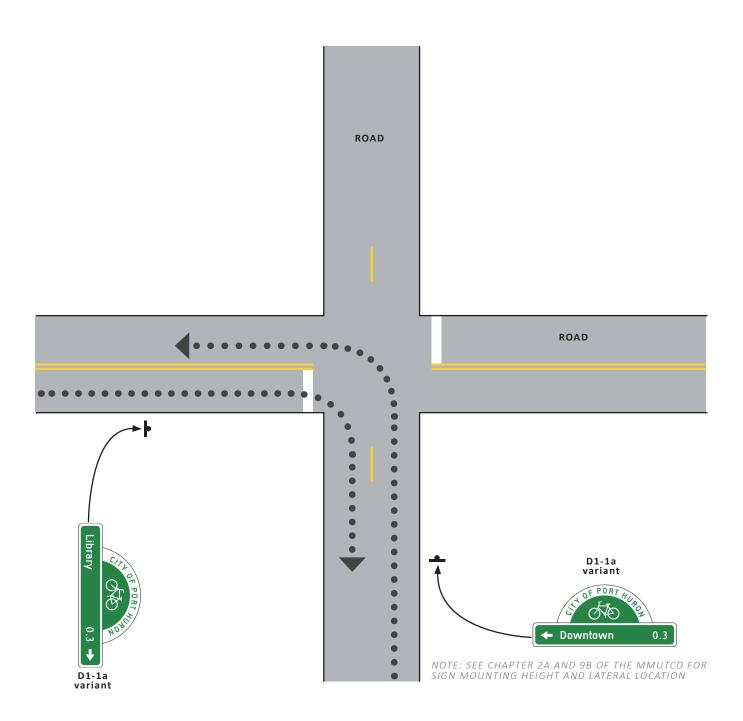
Marine City has a planned bike loop bicycle route with one primary destination. In cases like this, a single blade sign may be modified to allow for a more descriptive text.



D1-1a variant

Bike Route Destination Sign Placement

Bike Route Signs should be placed prior to a decision making point such as at an intersection with a roadway or an intersection with another bicycle facility. The sign should be placed in the right-of-way where cyclists can easily read the sign and position themselves to make a left or right turn if necessary. The sign should carefully be placed within the buffer zone along the right side of the road while providing clear lines of visibility between motorists, bicyclists and pedestrians. It may be placed on an existing sign post above the existing sign if applicable.



Regional Trail Guide Signs

Regional Trail Guide Signs are used to guide bicyclist to major regional trails. These signs are placed below the Bike Route Destinations Signs as a separate sign blade. In areas, where bike route guide signs may not be present, the sign should be placed under MMUTCD D11-1 Bike Route Sign.

In St Clair County, Regional Trail Guide Signs should be provided for the Bridge to Bay Trail, Wadhams to Avoca Trail, and The Great Lake-to-Lake Trail Rte 1.

An alternative to listing a regional trail as a separate brown plaque, the trail may be listed as part of the bike route sign.

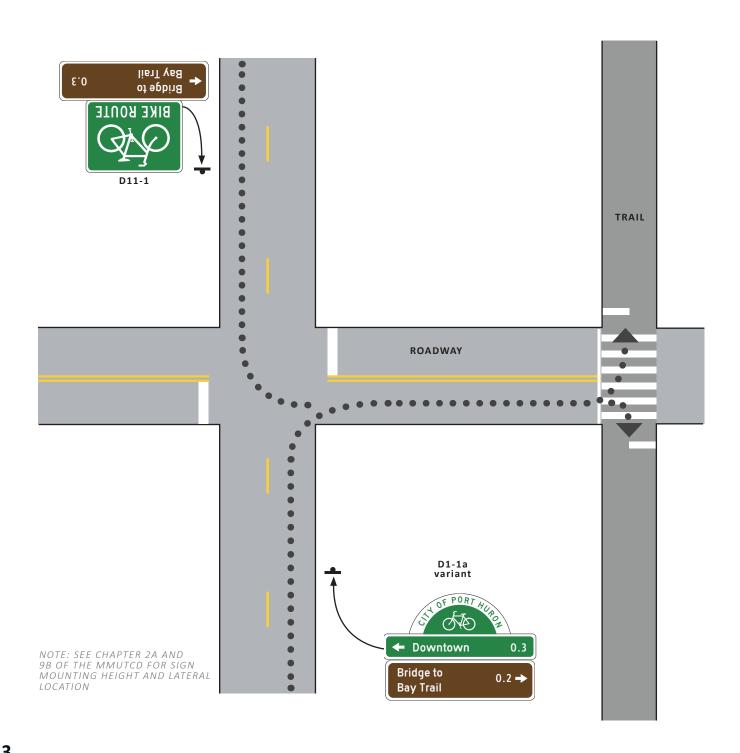


(Precedent: MMUTCD Recreational and Cultural Interest Area Signs)



Regional Trail Guide Sign Placement

Regional trail guide signs should be posted within 2-3 miles of the trail. Distance may vary if there is a key juncture. Place the sign below the Bike Route Destination Sign or D11-1 bike route sign prior to a decision point.



7. Services

Trail General Service Signs

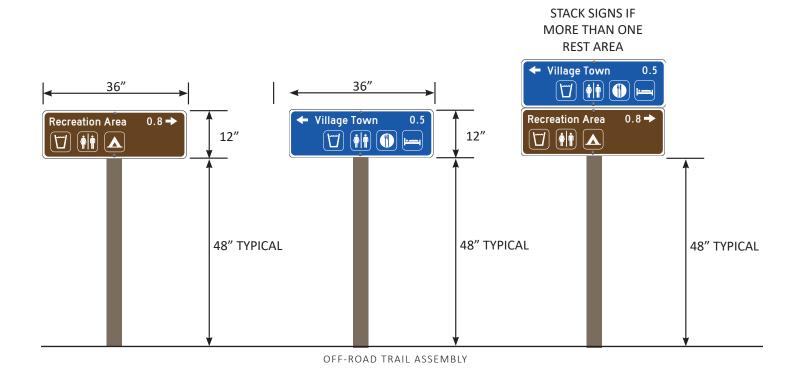
Trail general service signs identify amenities accessible along or near an off-road trail. Services that are applicable to the trail user should be displayed using standard icons. These include restrooms, water, food, lodging, camping and bicycle repair stations. A maximum of five services may be included.

When identifying amenities away from the trail, the sign should generally only be used for services within a mile of the trail. Discretion should be used when the route to the amenities is not supportive of bicycle traffic.

The signs may be used at key junctures to indicate distances to key amenities such as water and restrooms. These signs become more important when the trail support facilities are further than 5 miles apart.

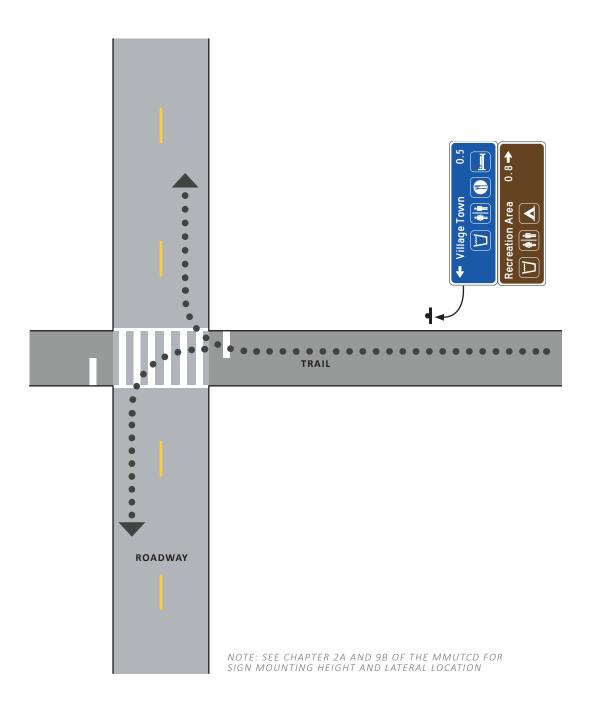
These signs are designed to be used on off-road segments of the trail. Careful consideration should be made if these signs are posted along a roadway, as they are a variation on what is allowed in the MMUTCD.





Trail General Service Sign Placement

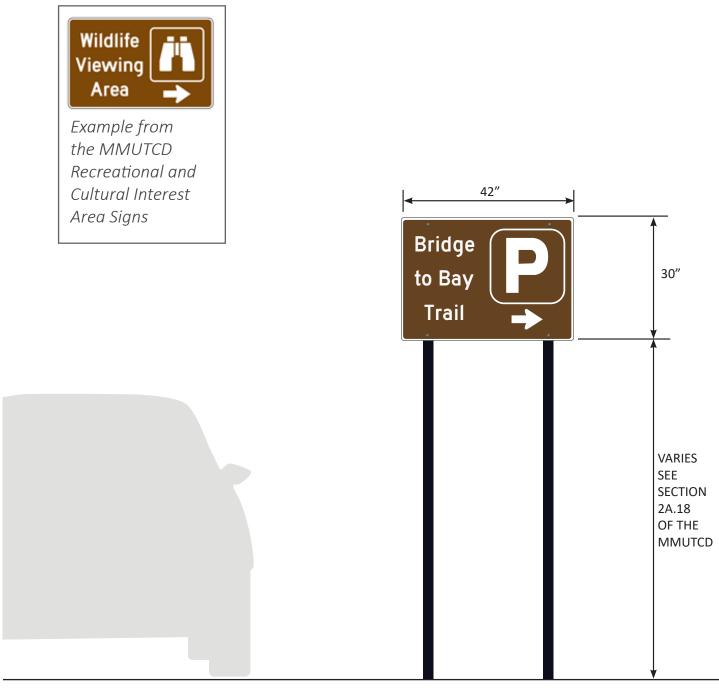
Place trail general service sign within 500 feet of the trail intersection and to the right of the trail. The sign should be located prior to the intersection. Additional signs may be needed to guide bicyclists from the trail to the recreation area or city center.



Trail Parking

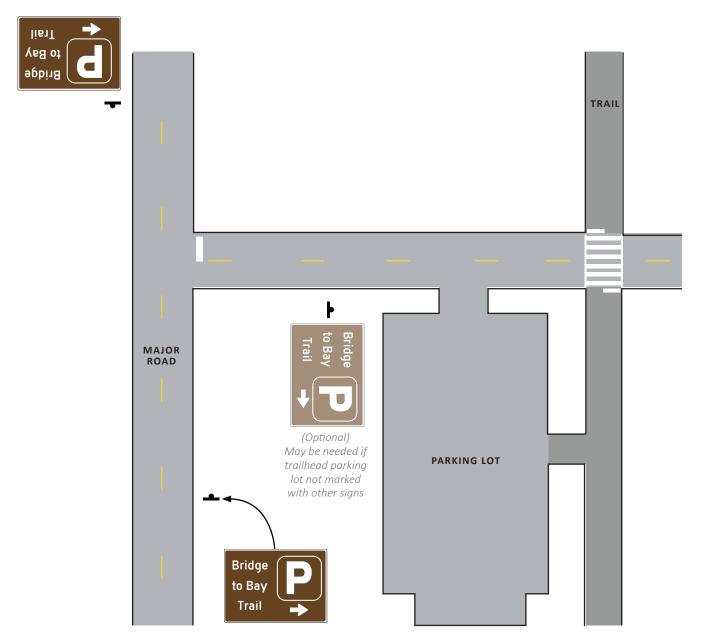
This sign is paced along conventional roadway to guide road users to trailheads with public parking on the Bridge to Bay Trail.

This sign follows the guidance of Chapter 2M. Recreation and Cultural Interest Area Signs in the MMUTCD.



CONVENTIONAL ROADWAY

Trail Parking Sign Placement

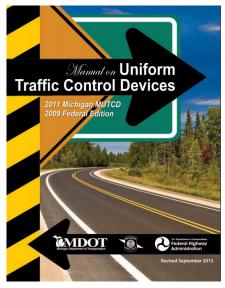


NOTE: SEE CHAPTER 2A AND 9B OF THE MMUTCD FOR SIGN MOUNTING HEIGHT AND LATERAL LOCATION

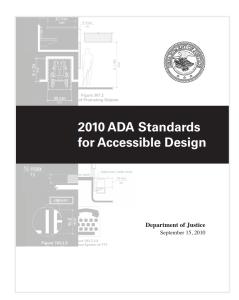
8. Regulatory and Safety

Introduction

The illustrations provide recommended best practices for signs and pavement markings at trail crossings and intersections. It is recommended that all signs and pavement markings follow these best practices for consistency. For reference, the word "REQUIRED" has been used to highlight which elements are required by Michigan Manual of Uniform Traffic Control Devices (MMUTCD), the Americans with Disabilities Act of 1990 (ADA), or should be used to meet minimum best practices.



ALL SIGNS PLACED IN ROAD RIGHT-OF-WAY MUST FOLLOW THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL **DEVICES**

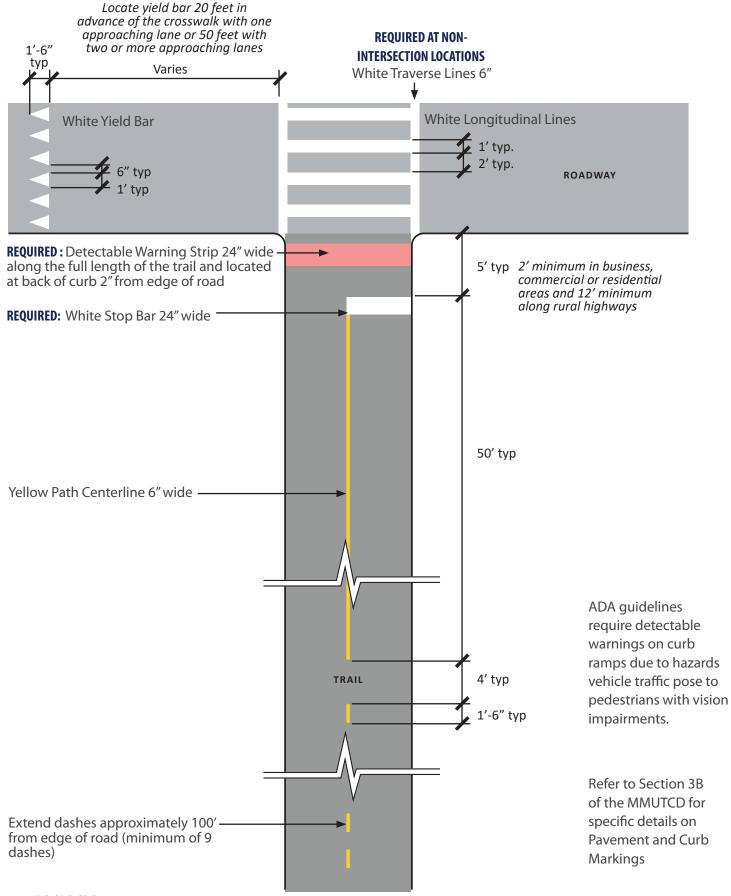


ADA REQUIRES EVERY PATH OF TRAVEL TO MEET SLOPE, WIDTH, RAMP, AND DETECTABLE WARNING REQUIREMENTS

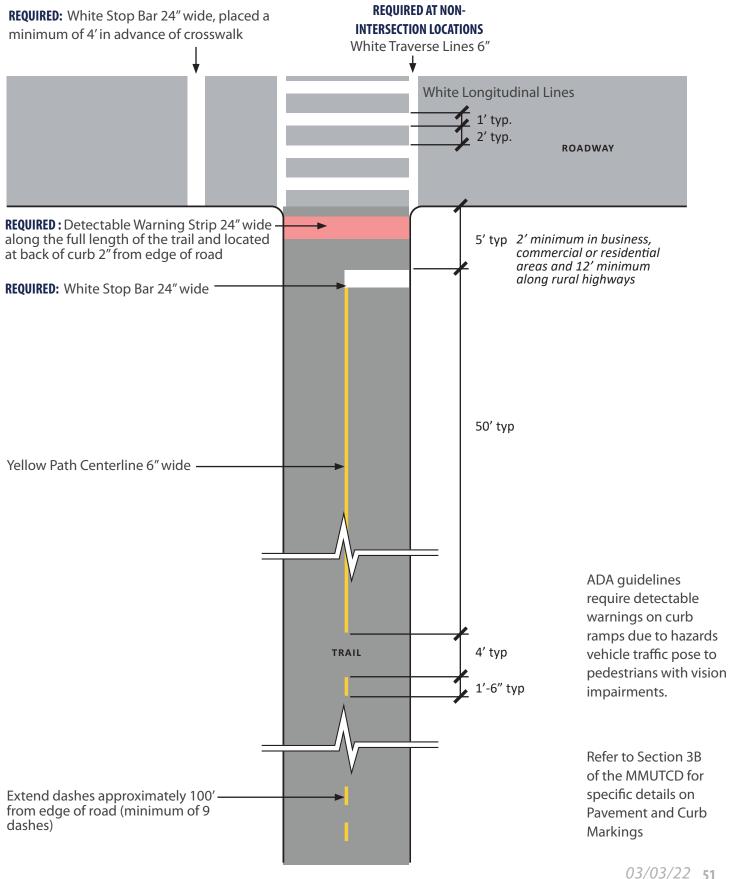
List of Illustrations:

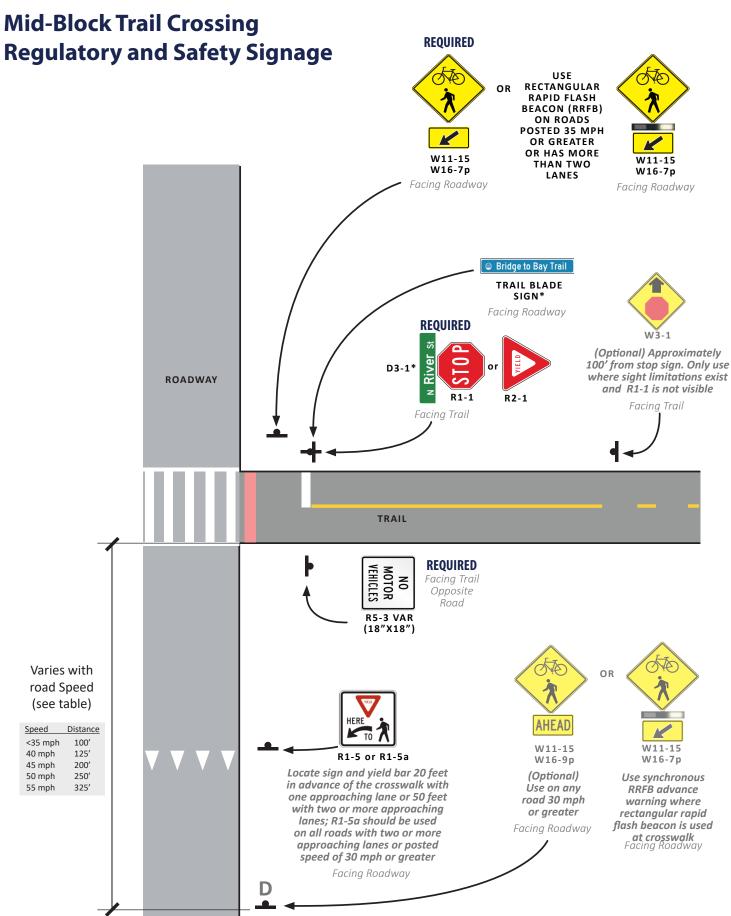
- Detectable Warnings and Typical Pavement Markings at Mid-block Trail Crossings
- Detectable Warnings and Typical Pavement Markings at a Controlled (Stop Sign) or Signalized Intersections
- Mid-Block Trail Crossing Regulatory and Safety Signage
- Sidepath Trail Crossing at Controlled Intersection (Stop Sign) Regulatory and Safety Signage
- Sidepath Trail Crossing at Signalized Intersection Regulatory and Safety Signage
- Trail Crossing at Private Driveway Regulatory and Safety Signage
- Sidepath Trail Crossing at Major Driveway or Local Road Regulatory and Safety Signage
- Sidepath Transition to Bike Route on Local Road Regulatory and Safety Signage and Pavement Markings
- Sidepath Transition to Bike Lane Regulatory and Safety Signage and Pavement Markings
- Trail Crossing at Railroad Regulatory and Safety Signage and Pavement Marking

Detectable Warning and Typical Pavement Markings at Mid-block Trail Crossings



Detectable Warnings and Typical Pavement Markings at Controlled (Stop Sign) or Signalized Intersections





NOTE: SEE CHAPTER 2A AND 9B OF THE MMUTCD FOR SIGN MOUNTING HEIGHT AND LATERAL LOCATION

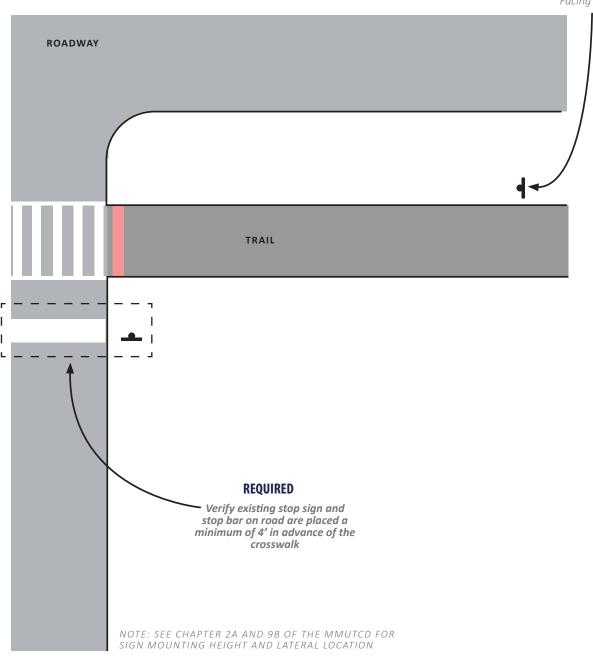
Sidepath Trail Crossing at Controlled Intersection (Stop Sign) Regulatory and Safety Signage



W3-1

Approximately 50' in advance of Major Driveway or Local Road

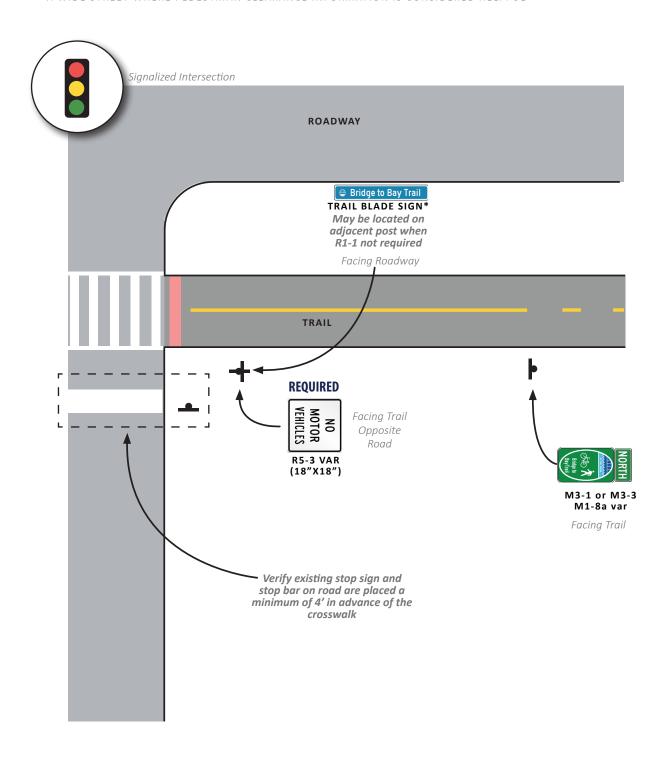
Facing Trail



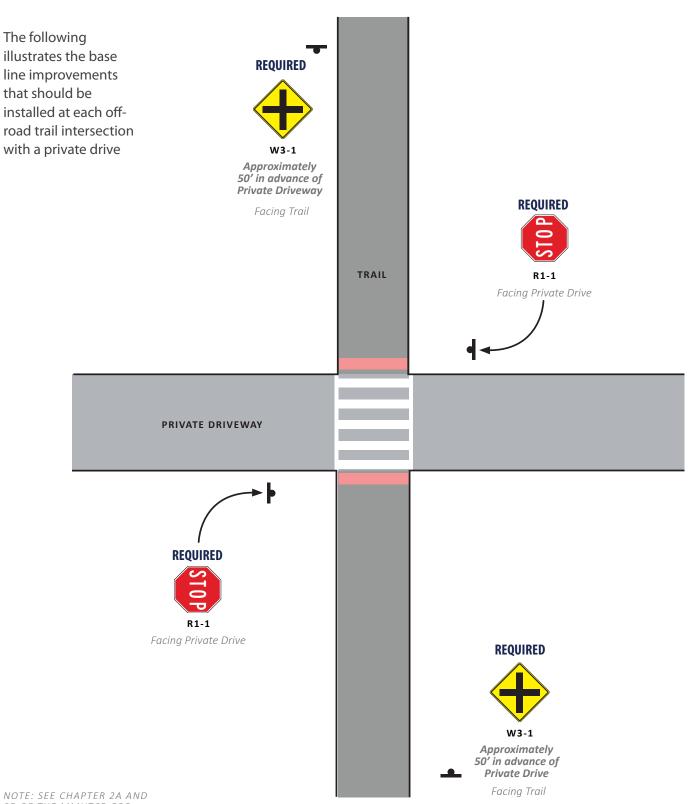
Sidepath Trail Crossing at Signalized Intersection Regulatory and Safety Signage

NOTE: IF THE INTERSECTING ROADWAY INCLUDES ANY OF THE FOLLOWING, A PEDESTRAIN SIGNAL IS LIKELY WARRANTED. REFER TO MMUTCD FOR APPROPRIATE APPLICATIONS.

- VEHICLES SIGNALS ARE NOT VISIBLE TO PEDESTRIANS
- SIGNAL TIMING IS COMPLEX
- AN ESTABLISHED SCHOOL ZONE CROSSINGS
- AN EXCLUSIVE PEDESTRAIN INTERVAL IS PROVIDED
- A WIDE STREET WHERE PEDESTRIAN CLEARANCE INFORMATION IS CONSIDERED HELPFUL

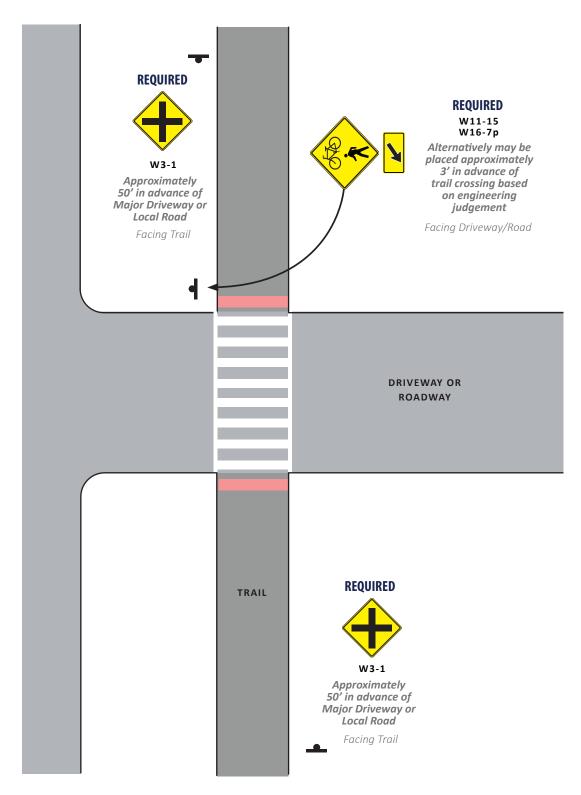


Trail Crossing at Private Driveway Regulatory and Safety Signage



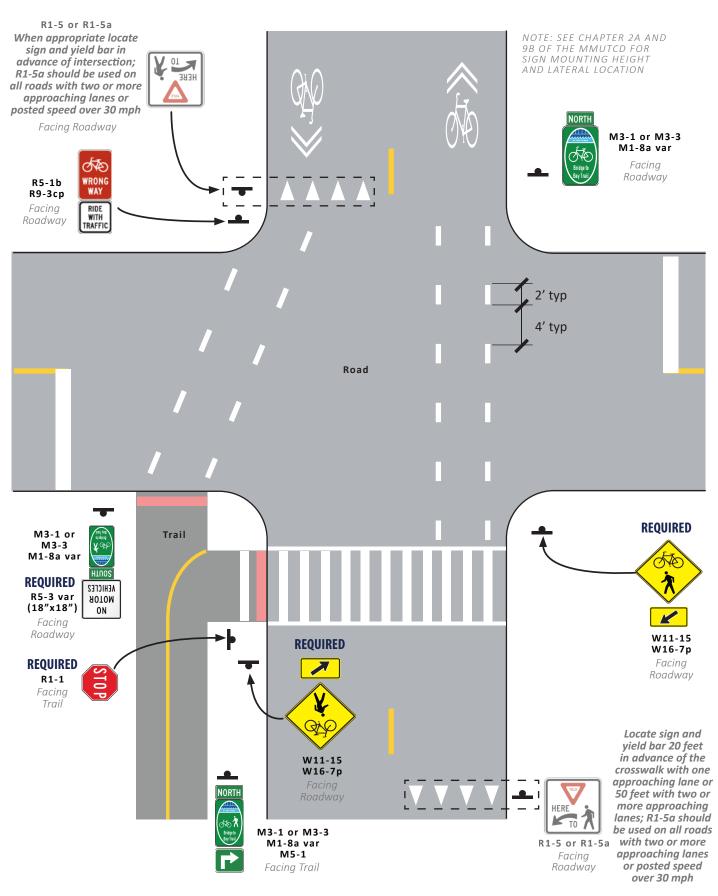
Sidepath Trail Crossing a Non Stop Controlled Intersection Regulatory and Safety Signage

The following illustrates the base line improvements that should be installed at each trail intersection with a commercial driveway or roadway where no traffic control device is present.

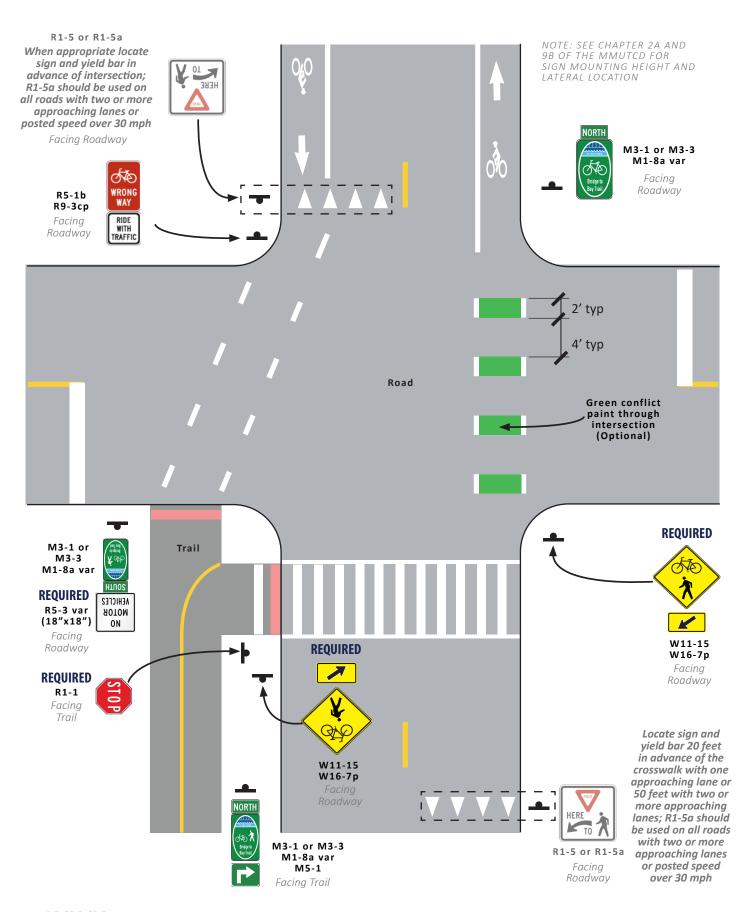


NOTE: SEE CHAPTER 2A AND 9B OF THE MMUTCD FOR SIGN MOUNTING HEIGHT AND LATERAL LOCATION

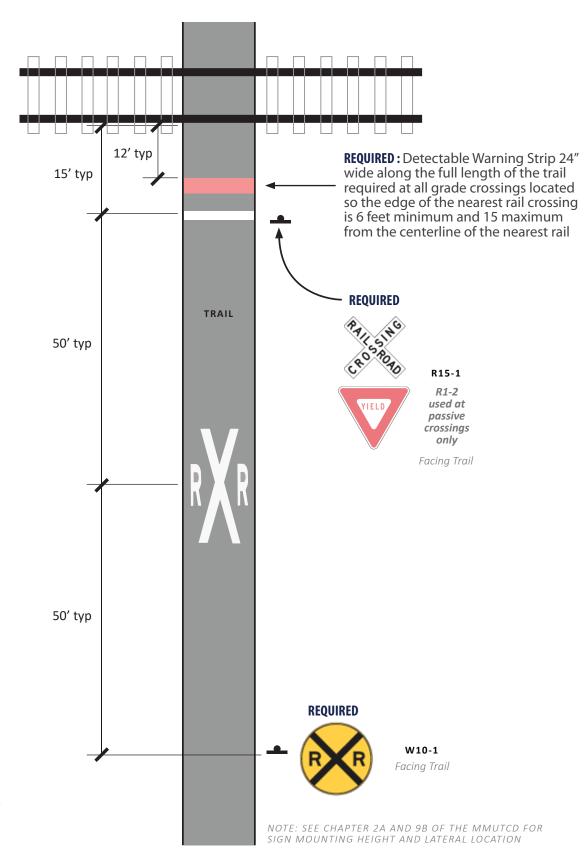
Sidepath Transition to Bike Route on Local Road Regulatory and **Safety Signage and Pavement Markings**



Sidepath Transition to Bike Lane Regulatory and Safety Signage and Pavement Markings



Trail Crossing at Railroad Regulatory and Safety Signage and Pavement Marking



Refer to Section 8D.06 of the MMUTCD for Active Traffic Control Systems for Pathway Grade Crossings