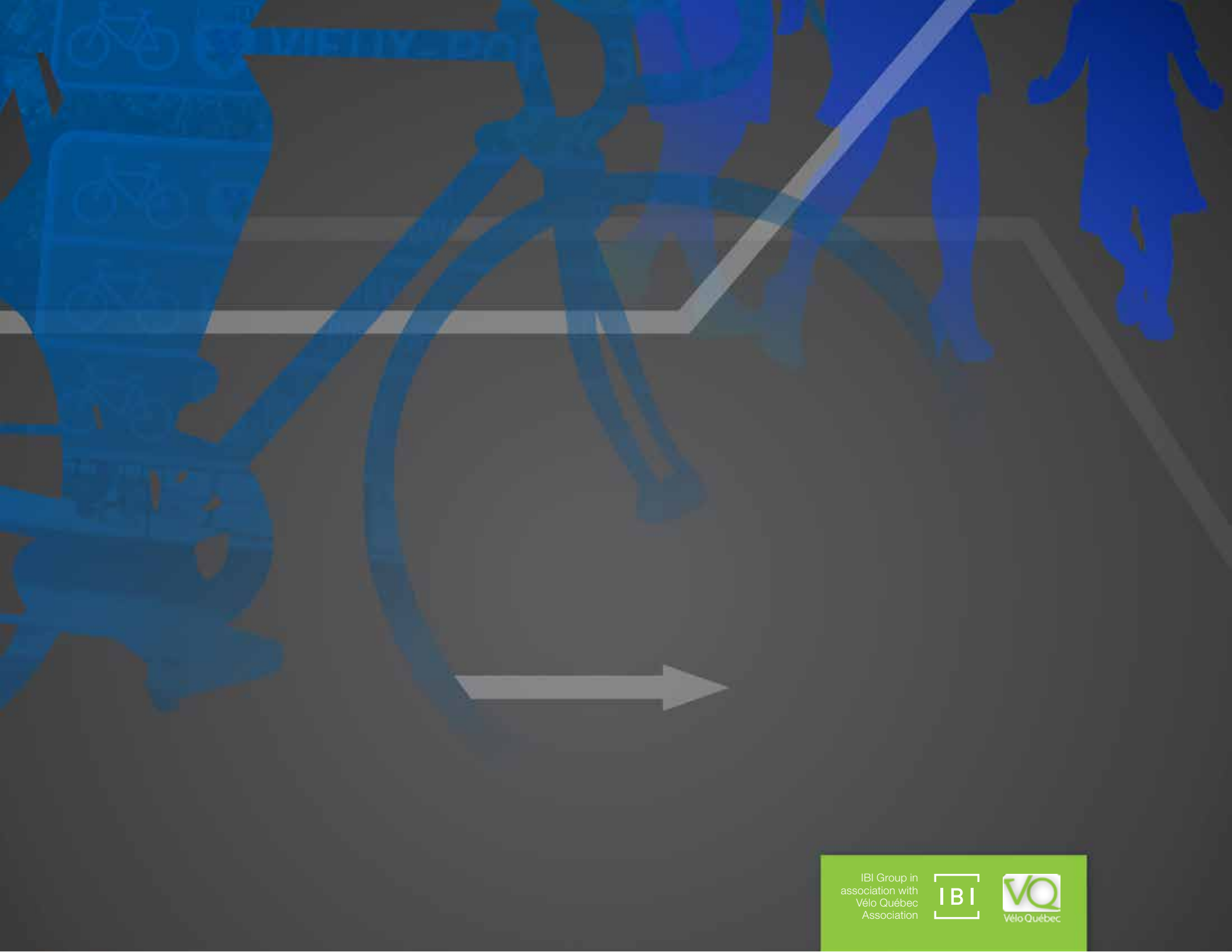
SUSTAINABLE MOBILITY WAYFINDING GUIDELINES

YORK REGION
Transportation Services

York Region



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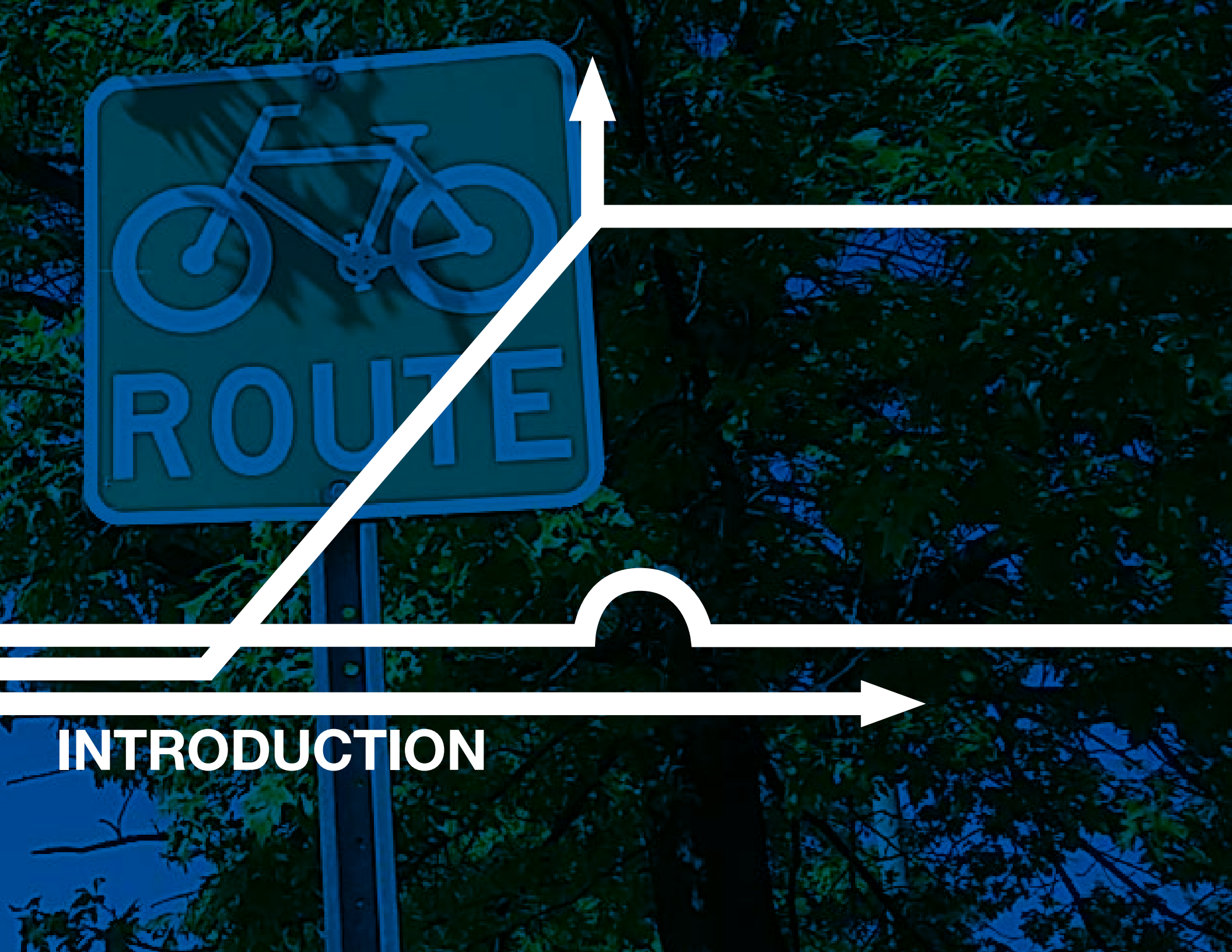


INTRODUCTION

1.0 Introduction

Wayfinding provides direction to help people navigate through space and among places. The design of wayfinding is more than signs - it also includes pavement markings, names, landmarks, maps and sometimes changes to the built environment all within a set of conventions that simplify communication. When wayfinding is successful, it goes beyond providing information, and supports place-making, enriching the public realm.

Wayfinding that highlights options for walking and cycling are important investments that help to build a multi-modal transportation system.

1.1 Purpose

These guidelines are a toolkit for wayfinding signage and pavement markings that may be used as a reference for walking and cycling practitioners in the cities, towns, and hamlets throughout York Region. The guidelines are intended to provide a coordinated system for both pedestrian and cycling wayfinding signage, and options for supportive pavement markings and trailhead signage.

1.2 Goals of Information Signing

As described by the Transportation Association of Canada's Bikeway Traffic Control Guidelines for Canada (2012), wayfinding signage indicates information for route selection, for locating off-road facilities, or for identifying geographical features or points of interest. Ontario Traffic Manual (OTM) Book 8 Guide and Information Signs (Volume 1, 2010) describes this family of signs as essential to:

- Direct users along roadways. For cyclists and pedestrians, they must direct them along bicycle routes, bikeways and trails
- Identify intersecting routes
- Provide direction on centres of population and other destinations

OTM Book 8 clearly identifies that guide and informational signs are an aid to users reaching their destination; they cannot be relied on as the only source of information for making a trip. Using maps and route planning are considered fundamental to making a trip.

City of Burlington's multi-use path and cycling network trailhead signs and destination direction signs

1.3 Wayfinding Specific to Cyclists and Pedestrians

Wayfinding describes how a person orients themselves and navigates through an area or space. It is about knowing:

- Where you are
- Where you want to go
- How to get there from where you are

People respond to their built environment. Each trip becomes a memory which informs how the world is understood around us. Routes that are frequently travelled become the default navigation choice, because we know how to reach a destination without getting lost and know approximately how far (or long) the trip is and what to expect along the way.

If trips are predominantly taken by motor vehicle, then the natural tendency for many people is to try to walk or cycle on the same route that they would drive, because this is the route they are familiar with. The problem with this approach is that the most efficient driving routes may not necessarily be the most desirable options for walking or cycling.

This issue can become most pronounced in areas where highways or arterials are used to travel between neighbourhoods within an urban area. In certain cases, neighbourhoods may be within a walking or cycling distance as the bird flies, but an overreliance on highways in order to plus a desire to avoid traffic has created a mental map that is spatially skewed.

This issue can become most pronounced in areas where highways or arterials are used to travel between neighbourhoods within an urban area. In certain cases, neighbourhoods may be within a walking or cycling distance as the bird flies, but an overreliance on highways plus a desire to avoid traffic has created a mental map that is spatially skewed.

The provision of pedestrian and cycling signage can therefore be understood as a way of encouraging people to reconsider their travel options, based on new information in order to challenge their unconscious assumptions about travel.

1.4 Intended Users

The system is intended for people who are walking or cycling of all ages and abilities. Cyclists can generally be divided into the following categories by trip purpose:

Photo Credit Shawn Smith

UTILITARIAN USERS

These are users who are undertaking destination-oriented trips to work, school, and services. They rely on consistent **information leading them along an efficient route to their destination**.

Photo Credit Shawn Smith

RECREATIONAL USERS

These are users who are undertaking experience-oriented trips for leisure, fitness or sport over typically shorter distances than tourists. They rely on **consistent information leading them along their route, but may also seek contextual information and directions to services**.

TOURISTS

These are users who are undertaking longer distance trips as part of a vacation or getaway experience. They rely on **consistent information leading them along their route, but may also seek contextual information, directions to services, and destinations** to explore on route. They are more likely to choose an **indirect route if it is scenic** over a more direct route.

Wayfinding must address all of the above types of cycling trips – providing information on direct bike routes and bikeways, indirect and scenic routes, and services and destinations.

There is also a need to distinguish wayfinding for pedestrians from cyclists. Pedestrians are more likely to stop along their route to read larger amounts of information on signage. Using comparable exertion, cyclists are able to travel at much greater speeds than pedestrians. As such, cyclists are more likely to rely on smaller amounts of information that can be seen from a greater distance allowing them to interpret it quickly and make a decision.

Accordingly, this report provides different wayfinding solutions for pedestrians and cyclists. This difference in requirements, however, does not preclude pedestrians from finding value in using signage designed for cyclists, to assist with their journey and vice versa.

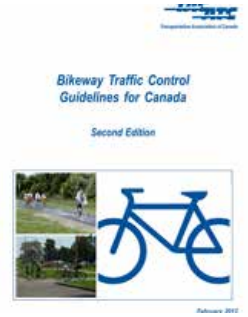
1.5 Guidance Context

This wayfinding guidance has been developed as part of the *Pedestrian and Cycling Planning and Design Guidelines for York Region*. Street typologies and detailed design drawings are components of the Design Standards for Pedestrian and Cycling Facilities toolkit, to provide the framework for the design and construction of great streets.

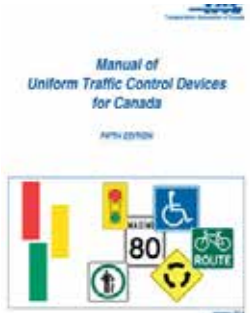
The Pedestrian and Cycling Planning and Design Guidelines for York Region are an update of the *2008 Planning and Design Guidelines* and directly supportive of the work of *York Region's Great Streets* context sensitive design manual and policy directions stemming from the recently updated Transportation Master Plan.

These guidelines focus specifically on pedestrian and cycling wayfinding applications. Planning, designing and implementing the applications will require reference to other manuals and documents with content on bikeways, bicycle signage and sign design in general, that address related topics in greater detail. These resources include:

Exhibit 1-1: Relevant Manuals



Transportation Association of Canada (TAC) Bikeway Traffic Control Guidelines for Canada, Version 2

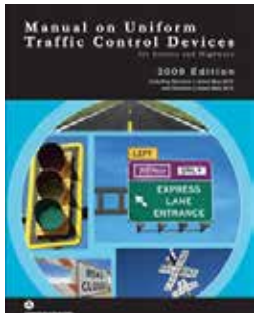


Transportation Association of Canada (TAC) Manual of Uniform Traffic Control Devices for Canada

Ontario Traffic Manual Book 18 - Cycling Facilities

Ontario Traffic Manual Book 8 - Guide and Information Signs

Ontario Traffic Manual Book 2 - Sign Design, Fabrication and Panels



Federal Highway Administration (FHWA) Manual of Uniform Traffic Control Devices, Chapter 2K Tourist-Oriented Directional Signs and Chapter 9B Bicycle Guide Signs

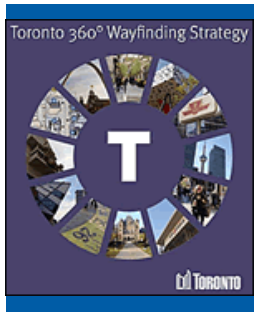
Metrolinx / GO Transit Static Signage Catalogue October 2011

In addition, these guidelines build upon the knowledge developed in the following cycling wayfinding guidelines:

Exhibit 1-2: Cycling-specific Wayfinding Guidelines from Other Jurisdictions

Wayfinding Guidelines for Utility Cycling in Metro Vancouver, September 2013

Capital Region District Interim Cycling Destination Wayfinding Guidelines, October 2014



Toronto 360° Wayfinding Strategy, August 2012

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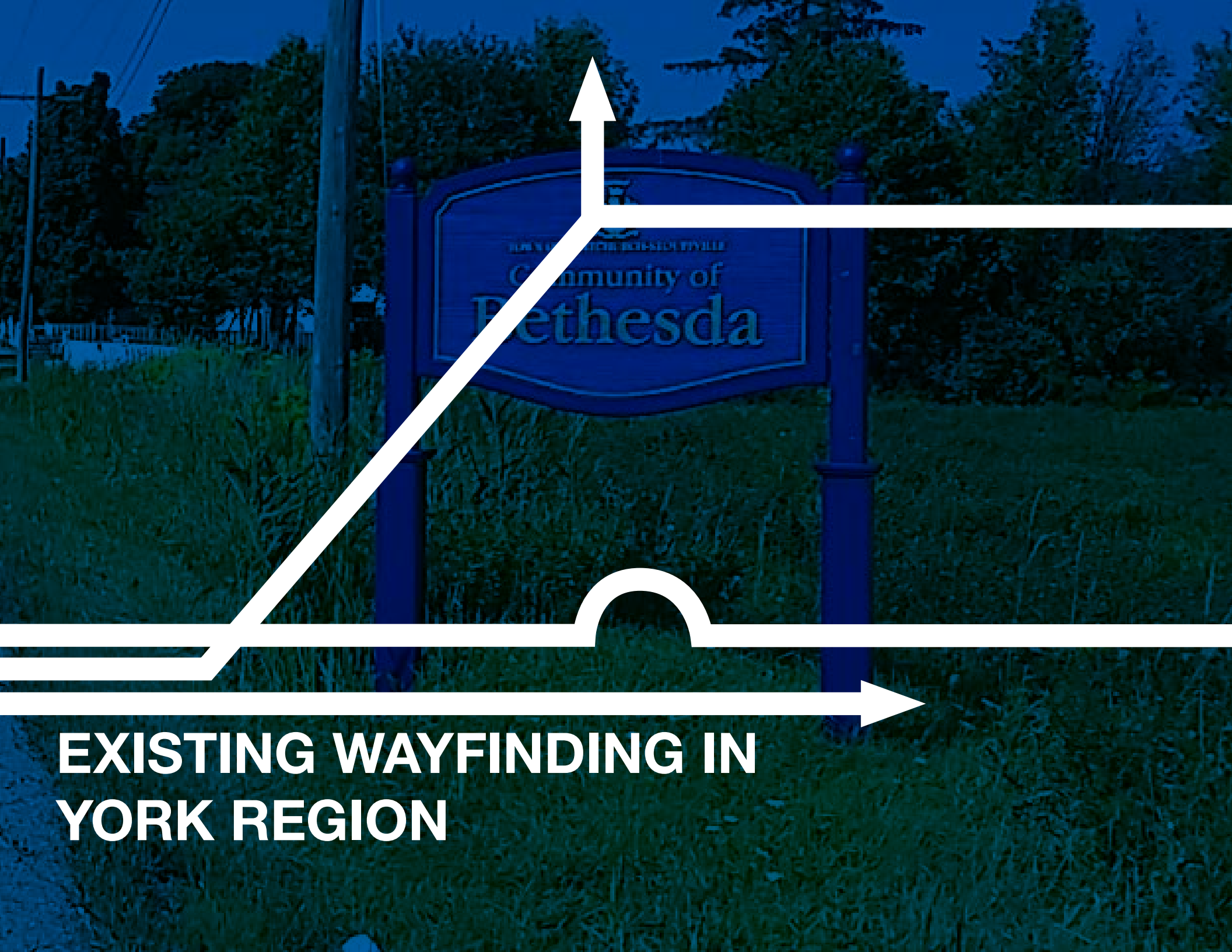


EXISTING WAYFINDING IN YORK REGION

2.0 Existing Wayfinding in York Region

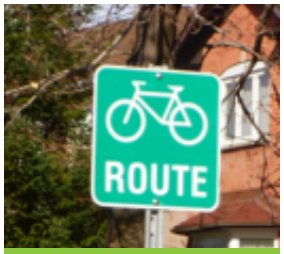
An inventory of existing signage in use in York Region revealed a variety of signs installed by various agencies to help people navigate the region as they walk or cycle.

2.1 Existing and Planned Assets

The current signs in place predominantly focus on trails. The Region publishes paper cycling maps, and is currently developing a cycling comfort map, which may further inform route choices being made by users.

Examples of existing wayfinding signs in York Region are provided in Exhibit 2-1.

Exhibit 2-1 - Existing Wayfinding Signs in York Region



Bicycle Route, Richmond Hill

Oak Ridges Trail


Nokiidaa Trail


Brownhill Tract (trailhead)

York Regional Forest

Greenbelt Route (cycling)


East Gwillimbury (trailhead)

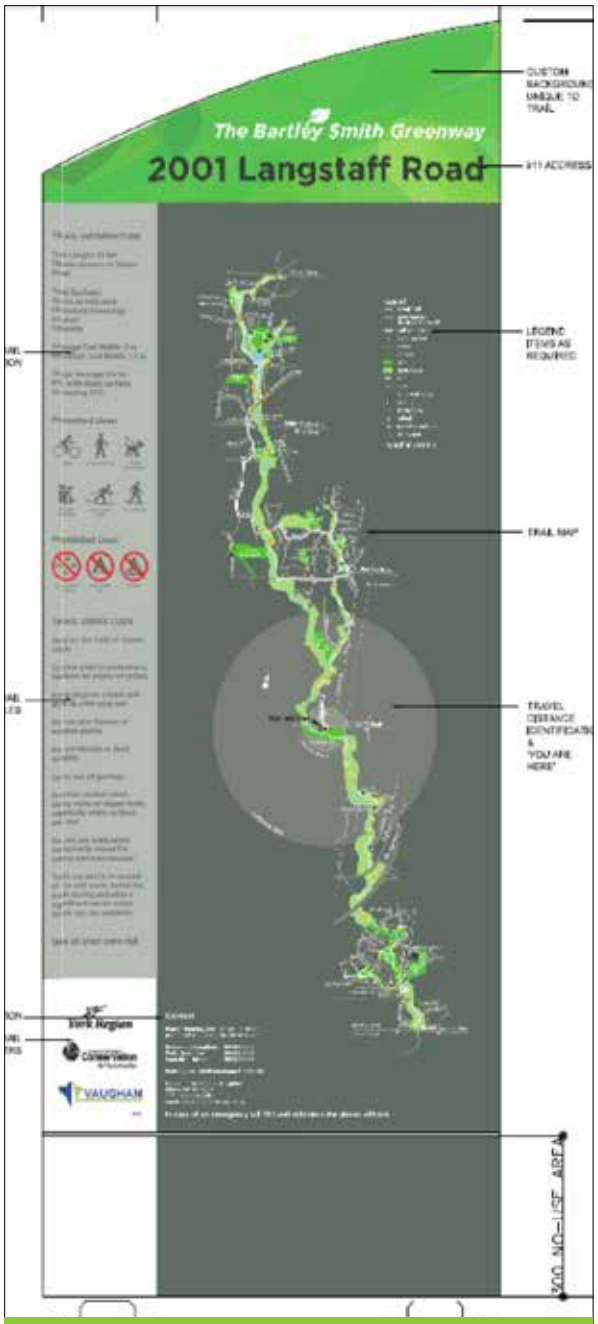
A number of municipalities in York Region have or are in the process of planning wayfinding assets to serve users in their area. This includes signage for the Bartley Smith Greenway Trail, Township of King Trail and the multi-jurisdiction Lake-to-Lake route, as illustrated in Exhibit 2-2.

Wayfinding signs used by other agencies of interest to York Region are illustrated in Exhibit 2-3.

Exhibit 2-3 - Examples of Other Agency's Signage

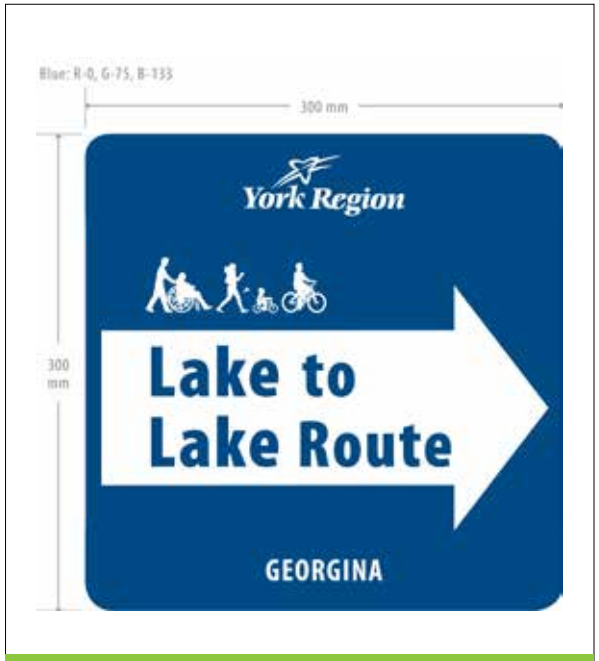
GO Transit / Waterfront Trail Wayfinding Signs

Exhibit 2-2 - Examples of Wayfinding Signage by Municipalities in York Region



Bartley Smith Greenway Trail

King City Trails



Lake to Lake Route

2.2 Opportunities

Based on the inventory of existing and planned wayfinding assets for walking and cycling, a number of opportunities to expand and enhance these investments were identified:

Unsigned Assets refers to existing walking and cycling infrastructure and destinations that have been established without the provision of wayfinding. There are a number of opportunities that exist within the Region where the addition of wayfinding signage would provide immediate benefit, destinations such as GO Train stations and popular public spaces.

Information is lacking in many crucial locations, such as at key decision points, or on local streets that may represent potential connections between existing trails or dedicated cycling infrastructure.

Continuity is needed where current routes (and information) end, as suggested connections may be difficult to identify in-situ and/or on maps. Connections between on- and off-street routes may be challenging without continuity across the system.

Cohesive Network Awareness is needed for cycling travel in particular, to create a system that is easy to recognize, especially for people new to cycling or those unfamiliar with an area. This also allows for users to discover easy routes that can be taken by cycling in place of busy routes taken by personal vehicles.

Promoting Destinations is a natural outcome of signing key civic landmarks. Information on wayfinding signs helps to build awareness about how the places people would want to walk or cycle to are distributed spatially, while also raising awareness of public assets such as parks, community centres, public libraries, civic buildings and landmarks.

Lake Drive East, Georgina, on the Lake to Lake Cycling Route, Photo Credit Shawn Smith

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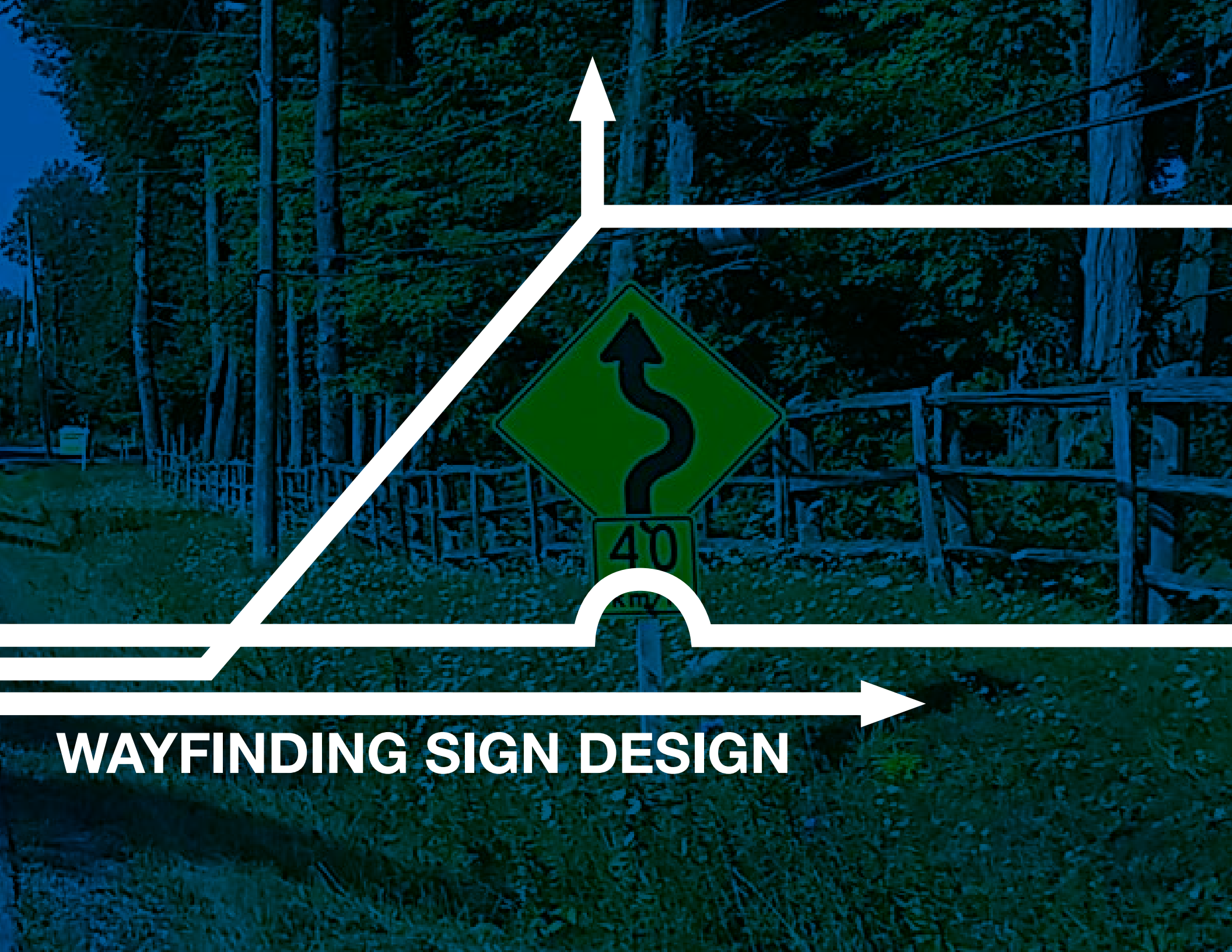


WAYFINDING SIGN DESIGN

3.0 Wayfinding Sign Design

Fundamental principles for wayfinding should be observed in order to establish consistency and efficiency of signage in York Region. Consistency and efficiency support the ability of users to collect, understand, make decisions about, and react to information obtained from signage. Wayfinding principles can also inform how information is communicated by third-party systems in privately owned public places.

Wayfinding Principles and General, Practical Applications

3.1 Principles

Conspicuity

The sign needs to attract the attention of the user. Conspicuity of design and placement is critical to ensure that signs are easily discerned by users.

- If roadway signs for motorists (e.g. Tourism Oriented Destination Signage) are also pertinent to cyclists and are visible from cycling facilities on the road or in the boulevard, the signage does not have to be repeated on the cycling facility.
- Where signs are intended for pedestrians and cyclists only, such as on trails, they may be scaled down in size.
- Minimum sign sizes are provided.
- Oversized signs are permissible where investigations show a need for emphasis or context-specific design speed. The excessive use of oversized signs is discouraged since it has the effect of deemphasizing the conspicuity and importance of standard-sized signs.
- Separation should be provided between wayfinding signs and between other regulatory and warning signs.

Simplicity

Signs must be legible and comprehensible, and not become overcrowded with information.

- The size of the sign depends on the length of the message, and the size and spacing of letters and symbols so that it is legible from a distance that allows for the sign to be read in full prior to riding past it without slowing down.
- Where practical, signs with symbols rather than words should be used to convey the message. A simple, conventional symbol like the bicycle is instantly recognized.
- Use of bilingual text should be consistent with legislation and policies in place in the applicable jurisdiction.
- Use the minimum number of signs to clearly convey the information and guidance required by users, thereby avoiding sign clutter.
- Referenced sign guidelines should be followed as they relate to colour, lettering, spacing, borders, standard symbols, illumination and reflectorization.

Predictability

Information should be communicated in a consistent manner. The hierarchy of information on the signs must be consistent, ensuring that people will be able to predict where to look on a sign for the information they want. This is particularly important for users taking unfamiliar routes to their destinations or on route to an unfamiliar destination.

- Naming of destinations and use of abbreviations must be consistent.
- On directional and destination signs for cyclists, the bicycle symbol should be to the left of the destination symbol and word legend.
- Arrows are placed on the side of the sign to which they are pointing: arrows pointing left or up should be on the extreme left side of the sign; arrows pointing right should be on the extreme right side of the sign.
- Symbols for destinations, when used, should be to the left of the word legend.
- Directional and destination signs in one assembly should all be the same width.
- Signs should be placed in consistent locations so users know where to look for information.

Progressive Disclosure

Information should be provided in a manageable amount for users. Providing too much information at once can be difficult to interpret quickly and remember. However, providing too little information can leave users unable to make the appropriate decision.

- In advance of decision points, only information needed for that decision should be provided. Information should be reiterated following a decision point, and repeated as needed. This is especially important for users who are not familiar with an area, and require ongoing confirmation that they are moving in the correct direction.
- Sign assemblies should present information in a descending order of importance.
- Sign assemblies should generally present the information about the through movement first, followed by the left, and then the right movement.
- At intersections, one destination is signed for each route leaving the intersection (three for a four-legged intersection, two for a T-intersection), selecting the major destination or the destination nearest the junction. Additional destinations can be added on subsequent directional or confirmation signs.
- Generally directional and destination wayfinding sign assemblies should not exceed four signs

Progression

Signs should be placed in a position allowing for users, cyclists in particular, to maintain movement.

- The size and placement of the sign must take into account travel speeds, visibility and the time it takes for the user to interpret the sign and make a travel decision to turn, stop or continue.
- Directional signs are placed in advance of and/or at intersections to notify cyclists of upcoming turns and changes in direction of cycling facilities or to find destinations.
- Advance signing of directional and destination signage is generally not necessary given the lower speed of cyclists, typically less than 40 km/h and more likely ranging from 15 to 35 km/h, unless the sign placement is not conspicuous.

Connectivity

The network of signs and paths should allow users to see walking or cycling as a means to mobility, used in place of motor vehicles.

- Identification signage of bikeways and trails is provided at intersections with the roadway network.
- Identification signage of bikeways and trails is provided at regular intervals along long stretches these facilities.

3.2 Text Case and Fonts

Upper case letters are more legible for unfamiliar words; mixed case (upper and lower case) is more legible for familiar words with the user recognizing the shape of the 'envelop' created by the unique patter of dots, letter ascenders and descenders before individual letters are recognized. Ontario Traffic Manual recommends mixed case for street name signs, and guide, destination and directional signs.

Pedestrian Wayfinding Signs

Ontario Regulation 413/12 of the Accessibility for Ontarians With Disabilities Act (2005) recommends characters that use a sans serif font. Helvetica is a widely used and available typeface that complies with AODA legislation, and may be implemented by most sign shops.

Other sans serif fonts may be used, such as Clearview or FHWA 2001 Canadian Edition / Highway Gothic that are standard typefaces used by facilities that fabricate signs for roadside installation.

Generally, the sign message is recommended to be at a height between 1.2 and 1.6 m above the ground for readability from an average viewing distance; however, in areas where the sign may be obscured by crowds, it is recommended to be more than 2 m above the ground. Note that for people with low vision, the viewing distance is generally 17.5 mm.

Helvetica

Cycling Wayfinding Signs

FHWA 2001 Canadian Edition (also known as Highway Gothic) is the preferred font for signs erected along public roadways in Ontario and intended for people who are cycling. This typeface has been specially designed in shape and form to ensure contrast and legibility when viewed while in motion. This is particularly important when approaching signs from a distance under conditions that threaten visibility such as inclement weather. Furthermore, it is a standard typeface used by facilities that fabricate signs intended for people travelling by motor vehicle, and will ensure a consistent look and feel for standalone cycling wayfinding signs, street signs that integrate the bicycle symbol and other roadside guide signs used by the traveling public. In general, most signs in York Region will use Highway Gothic C.

Highway Gothic C

3.3 Colours

Signs that are similar in function are typically designed to use the same colour combination for text, symbols, backgrounds and borders. Colour along with shape help to organize the messages. People can recognize sign colours and shapes at far greater distances than they can distinguish symbols or read sign text. Colours are identified first and are therefore the most effective way to help users locate particular signs quickly and understand their general function.

Cycling Wayfinding Signs

The Ontario Traffic Manual has assigned colours to various classes of signs. Guide signs used on Ontario's streets have the following colour combinations:

- **White** message and border on **Green** – recommended for route identification signs, street name blades, and destination signs including those for cycling wayfinding. Also used for specific traffic generator marker signs such as bus station, train station, airport, ferry, university / college,
- **White** message and border on **Blue** – recommended for specific destination markers such as hospital, emergency helipad, and public telephone, and for services such as picnic area, scenic lookout, and public boat launch
- **Black** message and border on **White** – used for some destination markers with regulations such as carpool lot (with green permitted circle)

Ontario's Tourism-Oriented Directional Signing (TODS) is white on blue; bicycle rental operations are included as an eligible service.

Colours on tab signs should be the same as on the primary sign

Sign borders frame the message content and make it easier to read when displayed as part of a sign assembly. Non-retroreflective borders, typically 10 to 15 mm wide, should be inset (i.e. black borders); retroreflective borders may be inset or edge borders.

Pedestrian Wayfinding Signs

Typically destination signs are white on green and service signs are white on blue, aligning with the recommendations for cycling wayfinding signs. However, these signs may vary in colour to reflect municipal and local branding or preferences.

Maps are recommended to be designed using high tonal contrast.

Ontario Regulation 413/12 of the Accessibility for Ontarians With Disabilities Act (2005) specifies for trailhead signs that the text has high tonal contrast with its background in order to assist with visual recognition.

Exhibit 3-1: Standard Print Colour Specifications as per OTM Book 2

COLOUR NAME	PANTONE® MATCHING SYSTEM (PMS)	PROCESS COLOUR			
		Cyan (C)	Magenta (M)	Yellow (Y)	Black (K)
Green	342	100	0	69	43
White	N/A	0	0	0	0
Blue	294	100	56	0	18.5
Black	426	0	0	0	100

3.4 Graphic Standards

Graphic standards should be based on:

- Ontario Traffic Manual, Book 2 Sign Design, Fabrication and Patterns including the Electronic Master Sign Library with files in Adobe® Illustrator® (ai) and Adobe® Acrobat® (pdf) format
- Transportation Association of Canada's Sign Pattern Manual that includes with files in Adobe® Illustrator® (ai) and Adobe® Acrobat® (pdf) format .eps and .pdf file formals, Encapsulated PostScript (eps) format
- Metrolinx / GO Transit Static Signage Catalogue, October 2011

3.5 Identifying Destinations

The major focus of these guidelines is how to guide cyclists along the cycling network to the places they want to go. In order to do this, a set of destinations and their names must be agreed regionally in order to meet the principles of simplicity and predictability. A hierarchy of destinations is necessary in order to prioritize which destinations to include when there are too many possible destinations than can fit legibly on a sign.

Destination wayfinding signs may be installed on "regionally significant" routes to guide cyclists to the following destinations:

- Major tourist attractions of Regional Significance as defined by regional tourism
- Public trails
- Municipalities
- Downtown areas, rural hamlets and BIAs
- Major public transit hubs / stations
- Bike shops / bike service centres / bike rental facilities / bike pumps or repair stations
- Public washroom facilities
- Schools and post-secondary institutions
- Major municipal or Regional roads
- Public community / recreational centres

When used on Trails, signs that provide information for services and amenities, distinct from on-street destination signs, may be useful including:

- Toilets
- Water
- Rest or picnic area
- Air pump
- Repair station
- Bicycle shops or rentals
- Transit stations

Exhibit 3-2 Sample Destinations

Markham City Centre

Unionville GO Station

Canada's Wonderland

Highway 7 Bicycle Lanes

One of the first steps in the development implementation of wayfinding signs for York Region, will be an exercise to identify and list assets that should be signed in each implementation area or along specific corridors. There will often be many destinations suggested as candidates to sign and it will be difficult or impossible to resource signing them all. For each area or corridor where destination wayfinding signs are to be installed, the following considerations can be reviewed in order to choose which destinations will be featured on the signage. These considerations may be used to narrow down an initial list of candidate destinations.

Demographics - Signage systems should be tailored to meet the needs of the area's demographics. For example, communities with a permanent population of elderly people will have very different needs to a neighbouring community that attracts a lot of tourists, but has a small permanent population. If local facilities attract users or visitors during the normal business season that do not reside in the area of the facility, then it can be considered for designation as a tourist destination.

Areas of interest - Identify schools, hospitals, shopping areas (including the location of main entrances in larger shopping complexes) and tourist attractions, as well as the major origins and destinations, and identify the type of transport or route people take to reach them.

Walking distances to public transport - Provide maps linking transport hubs with major activity centres (for example schools, universities and shopping areas).

Major walking, cycling and accessible routes (formal and informal) - Consider the condition and use of existing routes. Identify the areas where pedestrians, people with impaired mobility and cyclists might need help finding key destinations while avoiding obstacles (for example major intersections).

Potential journeys - Identify alternative routes that are quicker, safer, or more scenic.

Key crossing points over waterways, railways and major roads / freeways - Identify alternative routes to less comfortable routes that provide access to limited crossings of key barriers.

Existing signage - Review its location, condition and whether it needs to be upgraded or replaced.

Generally speaking, only public assets or institutions such as schools, hospitals, heritage sites or tourist attractions should be promoted on wayfinding programs that are publicly administered. Major shopping malls, or shopping or business districts may be considered if they function as a significant landmark in the area, but individual private businesses should not be promoted by a publicly-funded wayfinding system. It is recommended that a strong rational for regional significance be documented for why it is that any private for-profit destinations be included on publicly funded wayfinding signage, as other businesses will likely wish to receive the same treatment once they see that private businesses are being promoted.

Exhibit 3-3 Sample Destinations (cont.)

Historic Unionville

Joyride 150 Indoor Bike Park

McMichael Gallery

Pacific Mall

3.6 Displaying Destination Information

For Walking:

Destination signage directed to pedestrians may use the pedestrian symbol on the left of the destination symbol and word legend.

Distances should be displayed in metres.

Distances should be shown to the nearest 50 m when more than 50 m away from the destination, and the nearest 10 m if less than 50 m away.

Destinations should be signed up to 900 m away equivalent to a walking time catchment of 5-10 minutes at a walking speed of 1.5 to 3 m/sec (5 to 10 km/h).

For Cycling:

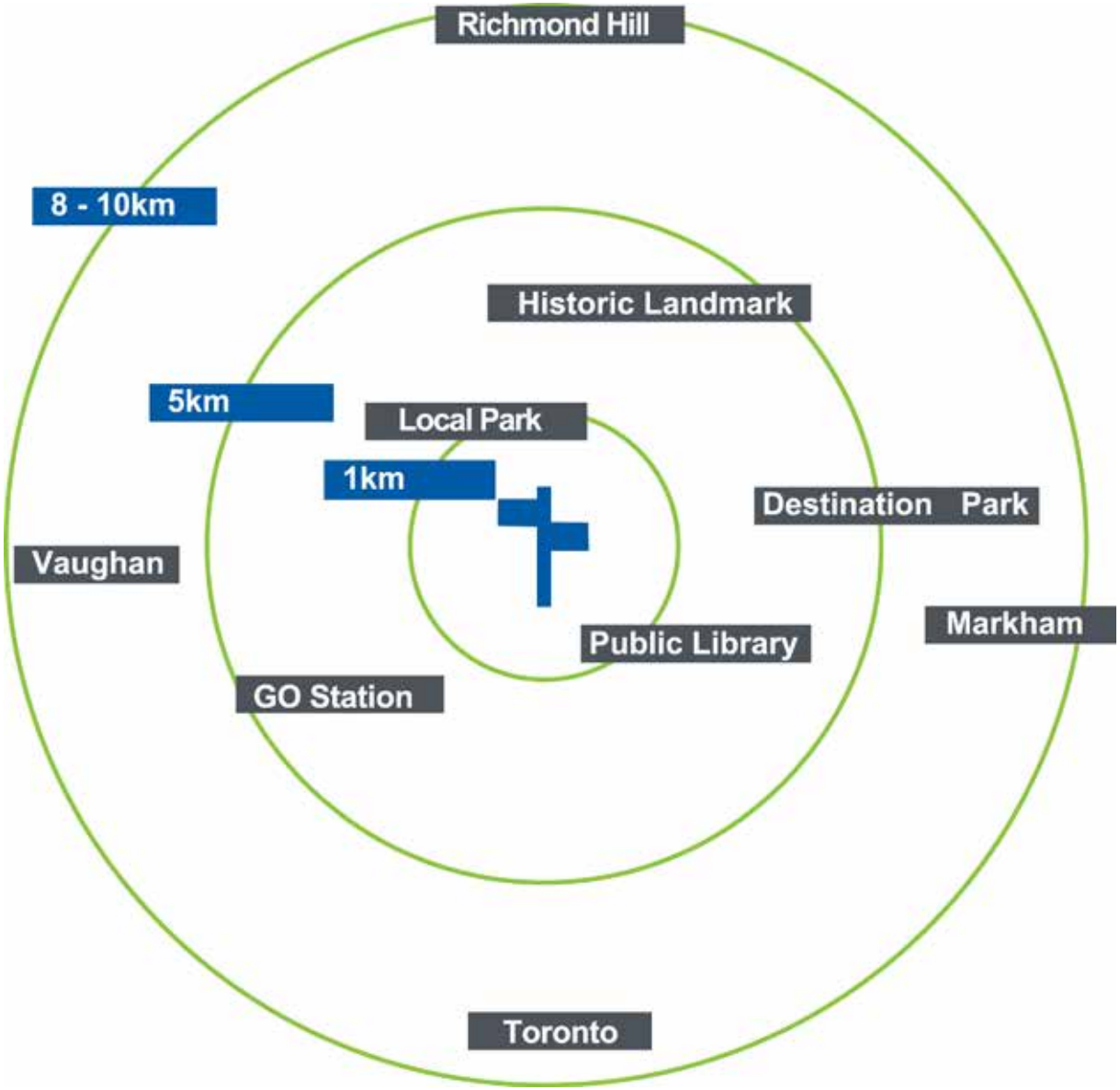
Destination signage directed to cyclists shall use the bicycle symbol on the left of the destination symbol and word legend.

Distances should be displayed in kilometers.

Distances should be shown to the nearest 1 km when more than 800 m or more away from the destination, to the nearest 0.5 km when between more than 300 m and 800 m away, and no distance is required if 300 m or less away.

Destinations should be signed up to 10 km away equivalent to a cycling time catchment of 25-40 minutes at a cycling speed of 15 to 25 km/h.

Exhibit 3-4: Travel Distances and Appropriate Destination Types for Cyclists



Destination hierarchy based on distance and destination type can be used to assess, select and prioritize primary, secondary and tertiary destinations. Longer, more continuous routes can focus on signing primary, secondary and tertiary destinations; shorter routes should focus on nearby destinations at the primary or secondary level depending on the length of the route.

The Exhibit 3-4 visualizes a conceptual distribution of different destination types for inclusion on cycle wayfinding signs. Destinations are distributed across three groups according to their distance from the decision point where the sign will be placed.

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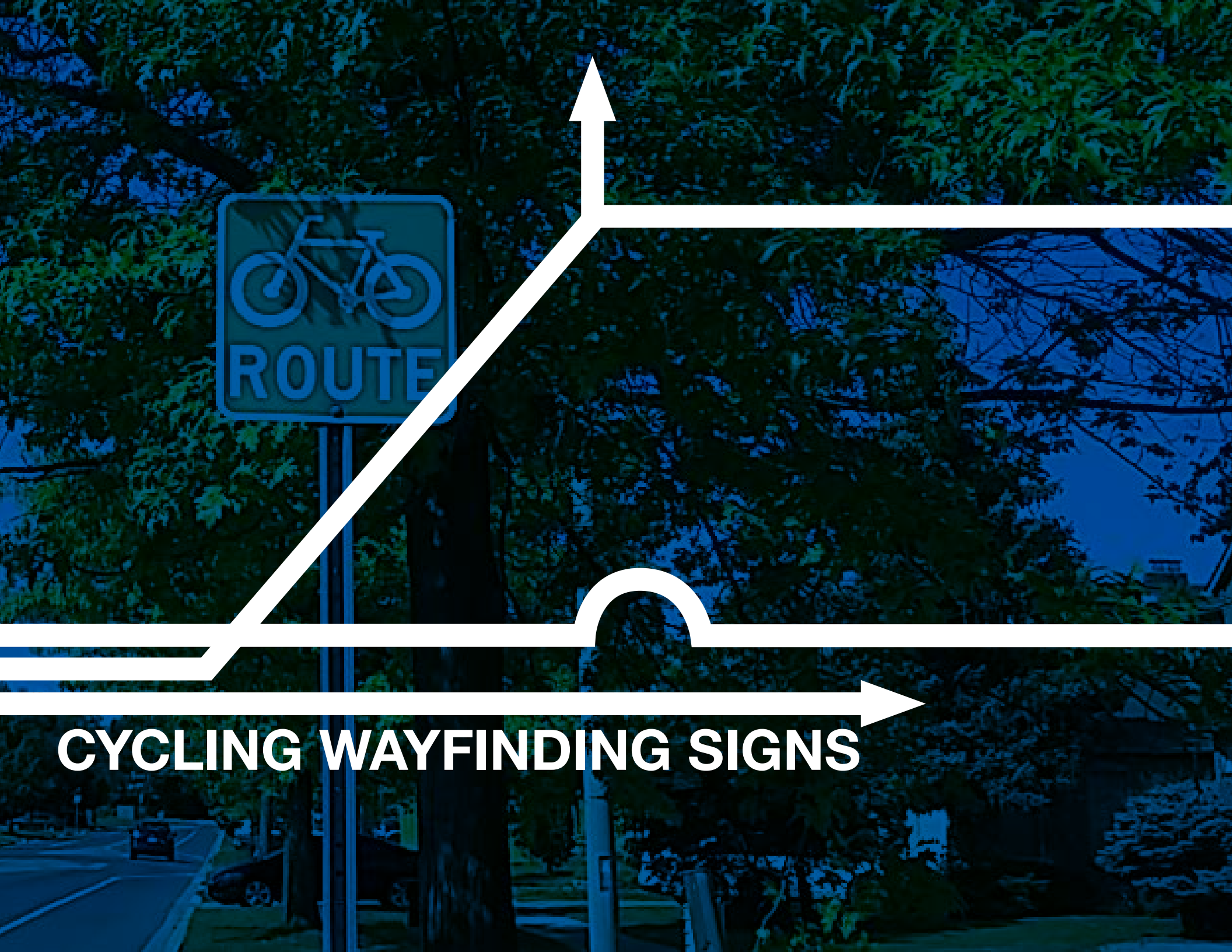


CYCLING WAYFINDING SIGNS

4.0 Cycling Wayfinding Signs

Cycling wayfinding will typically be used to help people follow routes that are part of a cycling network. This may include signs that identify quiet local streets, and connections to more obvious cycling facilities, such as painted bicycle lanes, cycle tracks or multi-use trails. Signage that describes distance and destination information can be provided along cycling routes of any type in order to help cyclists orient themselves to nearby destinations.

4.1 Principles

Bicycle Route Identification Signs

These signs assist users in locating and following along a particular cycling facility, which may require turns. They also confirm to users that they are still on a specific cycling route, particularly on longer sections, and have not lost their route. They are also used to identify off-road trails where they intersect roads.

Bicycle Route Directional Signs

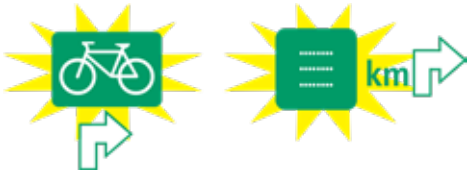
These signs inform users of changes in direction of a route, where to make turns, or inform the user that they are traveling ‘to’ another route or trail.

Destination Decision Signs

These signs show the direction and distance to nearby destinations at key decision points or intersections that are of interest to people cycling along the route.

Destination Confirmation Signs

These signs assure the user that they are on the correct route towards one or more destinations after making a turn or after a major intersection. There are also used along longer sections of a route to a destination, i.e. spaced 3 km, as assurance.



Advance Signs

When Bicycle Route Directional Signs or Destinations Signs at turn-offs are not conspicuous, Advance Signs are used to inform users of upcoming turn-offs to destinations. Advance signs are typically not required for people who are cycling because they are travelling at speeds less than 60 km/h.

Signing of cycling routes and destinations must consider if the routes are comfortable for a wide range of cycling abilities. Where traffic speeds and volumes are higher than 1,000 vehicles per day and traffic speeds are at or above 40 km/h, a dedicated cycling facility is desirable and may be designed to help cyclists follow the cycling route. Dedicated cycling facilities, such as bike lanes and paths in the boulevard will therefore be the preferred facility type for the majority of York Regional roads. Routes and destinations that cannot be reached by a combination of low volume / low speed streets, multi-use trails and dedicated cycling facilities on busier roads should not be signed.

A system of Destination Decision and Confirmation signs may be installed on a cycling route or network independent of the Bicycle Route Identification and Directional signs.

4.2 Bicycle Route Identification Signs

There are two types of Bicycle Route Identification signs:

- Integrated Bicycle Route Identification Street sign mounted on street sign posts
- Standalone Bicycle Route Identification signs

Post-mounted Integrated Bicycle Route Identification Street Sign

Exhibit 4-1: Integrated Route Identification Street Sign 600mm x 150mm

The Integrated Bicycle Route Identification Street sign (Exhibit 4-1) adds a bicycle symbol to the post-mounted Street Name signs. A system of these signs is recommended over a system of Standalone signs in order to minimize and simplify the number of signs. Because users are familiar with the standard location and placement of Street Name signs, they are more conspicuous than Standalone signs. Bicycle Route Directional signs, including turn-off and advance signs, are typically not required with the Integrated signs. The number of signs are minimized, and their placement and the users' expectations of where to look for them is simplified. It is an elegant approach that communicates information clearly with a minimum number of signs to manufacture, install and maintain.

The Integrated system of signs reduces the overall amount of sign "clutter" present in the public realm. Some Standalone signs may still be necessary to provide clarity if the cycling route deviates from the street network.

Where overhead, mast-arm mounted signs are used to identify street names, bicycle routes will be identified by separate post-mounted Bicycle Route Identification Street signs.

This integrated system is popular in Vancouver, and has been adopted within the GTHA by the Town of Ajax (Exhibit 4-2). Incorporating information into signage that road users are already in the habit of looking for allows for a more intuitive approach. These are then supplemented with destination signs at decision points in the cycling network.

Exhibit 4-2: Photo of Integrated Route Identification Street Sign in the Town of Ajax

Standalone Bicycle Route Identification Sign

Exhibit 4-3: Stand-alone Bicycle Route Identification Sign, (OTM sign M511)
450mm x 450 mm

Standalone signs (Exhibit 4-3) are useful when signing a route or cycling facility that is made up of a number of short segments of streets with numerous turns. These signs require an agency to support a separate cycling route signing system from the street name sign system, in terms of manufacturing, **installing and maintaining a separate set of signs. This sign is recommended in both TAC and OTM Book 18 with the word "ROUTE" included to improve comprehension.**

This sign is applicable to shared roadways with traffic speeds less than 1,000 vehicles per day and traffic speeds below 40 km/h, and paved shoulders. On roads with facilities for the exclusive use of cyclists, such as bicycle lanes and raised cycle tracks, the Reserved Bicycle Lane sign (OTM sign Rb-84 and Rb-84A) shall be used instead of the Bicycle Route Directional sign.

The Standalone Identification signs are typically supplemented with Bicycle Route Directional signs.

Bicycle Route Identification Signs may identify routes along multi-use paths. The paths may be identified by other local, regional, provincial or national route signage such as the Nokiidaa Trail, Greenbelt Route, etc. All applicable route identification signs should be placed on the same signpost. In order to ensure legibility and a coherent sign information hierarchy, the signs should be the same size. Route information should be positioned based on the significance of the route being communicated. The convention is to place National routes on top, followed by Provincial, Regional and then Local route information.

Exhibit 4-4: Example sign assembly for two overlapping routes with higher-order regional route on top of local route signage

4.3 Bicycle Route Directional Signs

Directional signs provide information about turn-offs and connections to cycling routes (Exhibit 4-5). They can be used with the Standalone and Integrated Bicycle Route sign systems.

Arrow tab signs are used to communicate when the cycling route or facility makes a turn. It is particularly useful with the Integrated Bicycle Route Street sign system when a cycling route ends on one street, turning onto another street.

The “TO” tab sign is used to communicate important connections to nearby cycling routes or facilities that are not made apparent by the Bicycle Route signs on their own. For example, the Integrated Bicycle Route Street sign may be installed on two parallel routes; the “TO” sign can be used to sign an important connection between the two. It must be used with the appropriate Arrow tab sign showing the direction in which the cycling route can be found.

The “BEGINS” and “ENDS” tab signs are used to communicate when a bicycle route begins or ends abruptly. Generally the cycling network should provide sufficient connections such that these signs are not necessary. However, when a cycling route begins or ends abruptly, particularly during interim conditions, these signs may be installed.

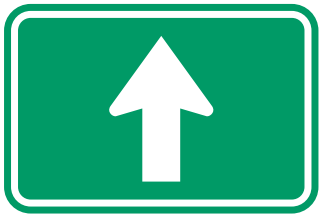
Arrow and “BEGINS” and “ENDS” tab signs are mounted below; “TO” tab signs are mounted above the Standalone Bicycle Route Identification sign. These sign assemblies are placed before the intersection where the turn will be made. They must be conspicuous enough that users can see, interpret and act upon the information. If they are not conspicuous at the turn, then an Advance sign should be installed (see Advance Signs).

If there is more than one Bicycle Route with turns at an intersection, then the signs are mounted as an assembly beside each other – one Standalone Bicycle Route Identification sign for each route with the appropriate Arrow sign mounted below each. The one with the left turn is located on the left side of the assembly, and the right turn on the right side.

All tab signs are the same colour as the main Bicycle Route Identification sign that they supplement, white on green.

Exhibit 4-5: Bicycle Route Identification sign (OTM sign M511) with sample Tab signs
Stand-alone side-mounted on road or trail:
450mmx450mm sign with
450mmx300mm tab above or below

Exhibit 4-6: Family of Directional tab signs
450mmx300mm tab
Straight Arrow tab (TAC IS-7)



Left and Right tab

TO Route tab (TAC sign IS-17)

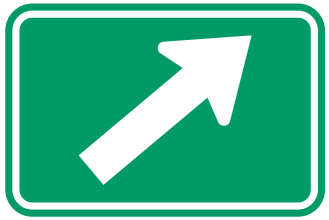
Left Arrow tab (TAC IS – 8L)

Left Arrow tab (TAC IS 9-L)

Route BEGINS tab (TAC IS-16)

Right Arrow tab (TAC IS-8R)

Right Arrow tab (TAC IS – 9R)



Route ENDS tab (TAC IS-15)

When communicating directions to named trails or routes, such as the Greenbelt Route or Lake to Lake Route, the “TO” and arrow tab signs can be combined with the named trail or route sign and installed at decision points on the cycling network, as shown in Exhibit 4-7.

Exhibit 4-7: Sample Bicycle Route Directional tabs combined with named trail / route signs

Exhibit 4-8: Bicycle Route Identification sign in the City of Vaughan

4.4 Destination Information Signs

Destination Decision signs (Exhibit 4-9) assist users in finding a route to destinations within a reasonable cycling distance. A person's decision to walk, cycle or drive may be made based on the distance to the destination and how much time they wish to spend travelling. The Destination Decision signs, therefore include distance. Decision signs are placed at decision points to notify cyclists of upcoming turns and changes in direction to find destinations in such a way that they can maintain movement and are able to make the appropriate turn. They can be supplemented by Destination Confirmation signs, and Advance Destination Decision signs if the sign is not conspicuous.

On shared rights of way, signing of destinations for motorists will generally fulfill the needs of cyclists. Separate signing is necessary only when cyclists are directed to cycling routes that differ from those of motorists, or for destinations that are of interest only to cyclists.

The sign is made up of the following elements:

- **Arrow** in the direction of the turn-off to the destination. Arrows pointing left and straight (up) should be located at the extreme left of the sign; arrows pointing right should be located on the extreme right of the sign.
- **Bicycle symbol** located on the left side of the destination name word legend.
- **Destination name**. Naming of destinations and use of abbreviations must be consistent.
- **Symbols** associated with the destination name, if used, should be to the left of it but to the right of the bicycle symbol.
- **Distance numerals** followed by the abbreviation 'km' shall be placed to the right of the destination name.

When more than one destination is signed at one time, then the following principles should be followed for sign assemblies:

- Generally Destination Decision wayfinding sign assemblies should not exceed four signs.
- Destination Decision signs in one assembly should all be the same width.
- Sign assemblies should present information in a descending order of importance. Sign assemblies should generally present the information about the through movement first, followed by the left, and then the right movement.
- At intersections, one destination is signed for each route leaving the intersection (three for a four-legged intersection, two for a T-intersection), selecting the major destination or the destination nearest the junction. Additional destinations can be added on subsequent directional or confirmation signs.
- Generally Destination Decision wayfinding sign assemblies should not exceed four signs.

Exhibit 4-9: Destinations Decision Signs
One location: 900 mm x 150mm
Two locations: 900mm x 300mm
Three locations: 900mm x 450 mm

Types of destinations to be signed are discussed in Section 3 Identifying Destinations and Section 3.2 Displaying Destination Information. **Destinations that cannot be reached by a combination of low volume / low speed streets, multi-use trails and dedicated cycling facilities on busier roads should not be signed.**

4.5 Destination Confirmation Signs

Confirmation signs provide users reassurance after a decision point that they have taken the correct turn towards their destination. These signs are placed within a short distance following a decision point, or at regular intervals along longer routes, i.e. spaced approximately 3 km apart.

The sign is made up of the following elements:

- **Bicycle symbol** located on the top of the sign or sign assembly.
- **Destination name**. Naming of destinations and use of abbreviations must be consistent.
- **Symbols** associated with the destination name, if used, should be to the left of it.
- **Distance numerals** followed by the abbreviation 'km' shall be placed to the right of the destination name.

Arrows are not required since the Destination Confirmation sign is placed on the route to the destination. If turns are required farther along the route, then another Destination Decision sign is placed followed by the associated Confirmation sign.

When more than one destination is confirmed at one time, then the following principles should be followed:

- Generally not more than four destinations should be listed on one sign.
- Destinations should be listed in ascending order of distance with the closest destination first.

Types of destinations to be signed are discussed in Section 3 Identifying Destinations and Section 3.2 Displaying Destination Information.

Exhibit 4-10: Photo of Destination Signs used as part of Route Verte system in Quebec

Exhibit 4-11:Destination Confirmation Signs
One location: 600 mm x 150mm
Two locations: 600mm x 300mm
Three locations: 600mm x 450 mm

4.6 Pavement Markings for Wayfinding

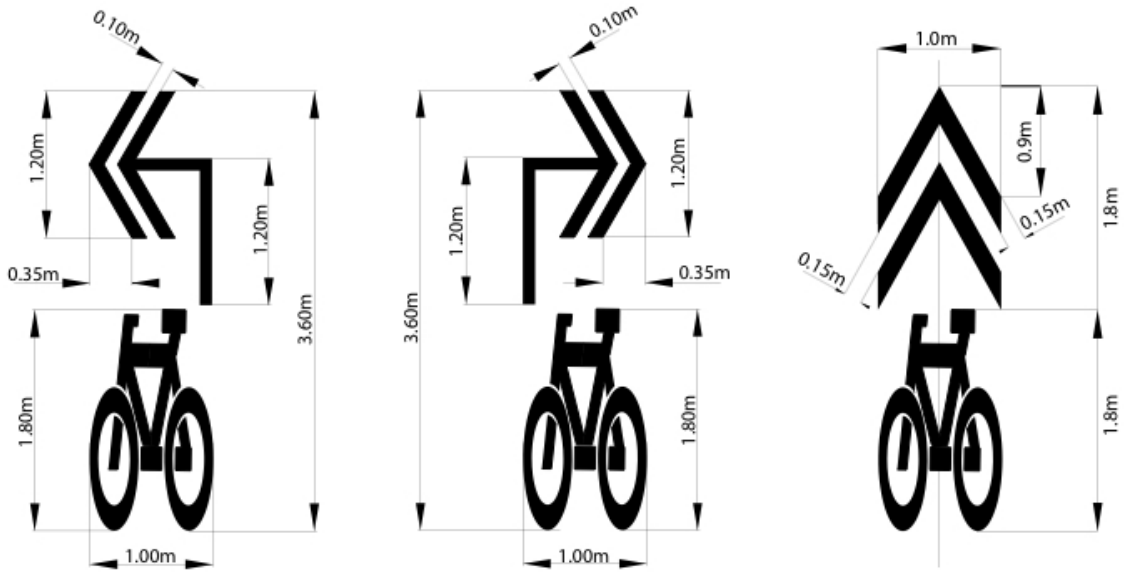
Pavement markings can complement wayfinding signs to facilitate navigation.

Shared Lane Pavement Marking or “sharrow” is a pavement marking that is composed of a bicycle symbol and two white chevrons. For cycling routes on quiet streets, this type of marking can support wayfinding signage, to ensure that turns are not missed. This type of marking is recommended for streets where the traffic volumes are below 1,000 vehicles per day and traffic speeds are at or below 40 km/h.

The Confirmation sharrow, as shown in Exhibit 4-12, can be used in 2 locations within the width of a roadway:

- Where there is sufficient width for a cyclist and motorist to share a single lane side-by-side, the Confirmation sharrow is placed with the points of the chevrons 1m away from the face of the curb, providing cyclists room to manoeuver and allowing them to avoid debris and catchbasin grates.
- Where there is insufficient width for a cyclist and motorist to share a single lane side-by-side, the sharrow is moved to the centre of the lane, indicating to both cyclists and motorists that cyclists are encouraged to ride in the centre of the lane.

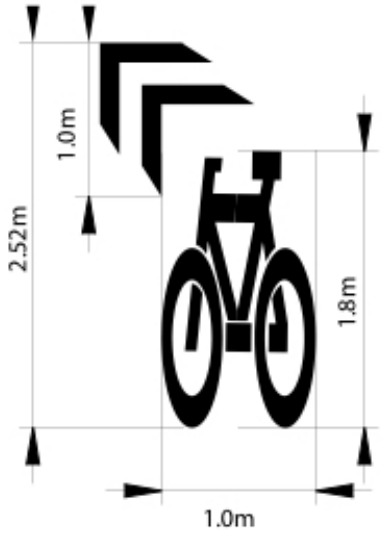
Exhibit 4-12: Left, Right and Ahead Confirmation Sharrows
Source: City of Toronto Wayfinding Guidelines



Left Turn Right Turn Ahead

Where there is a verge in the road (as opposed to a hard turn) a bear left / bear right sharrow pavement marking may optionally be used, instead of the turn left / turn right sharrow.

Exhibit 4-13: Bear Left Confirmation Sharrows
Source: City of Toronto Wayfinding Guidelines



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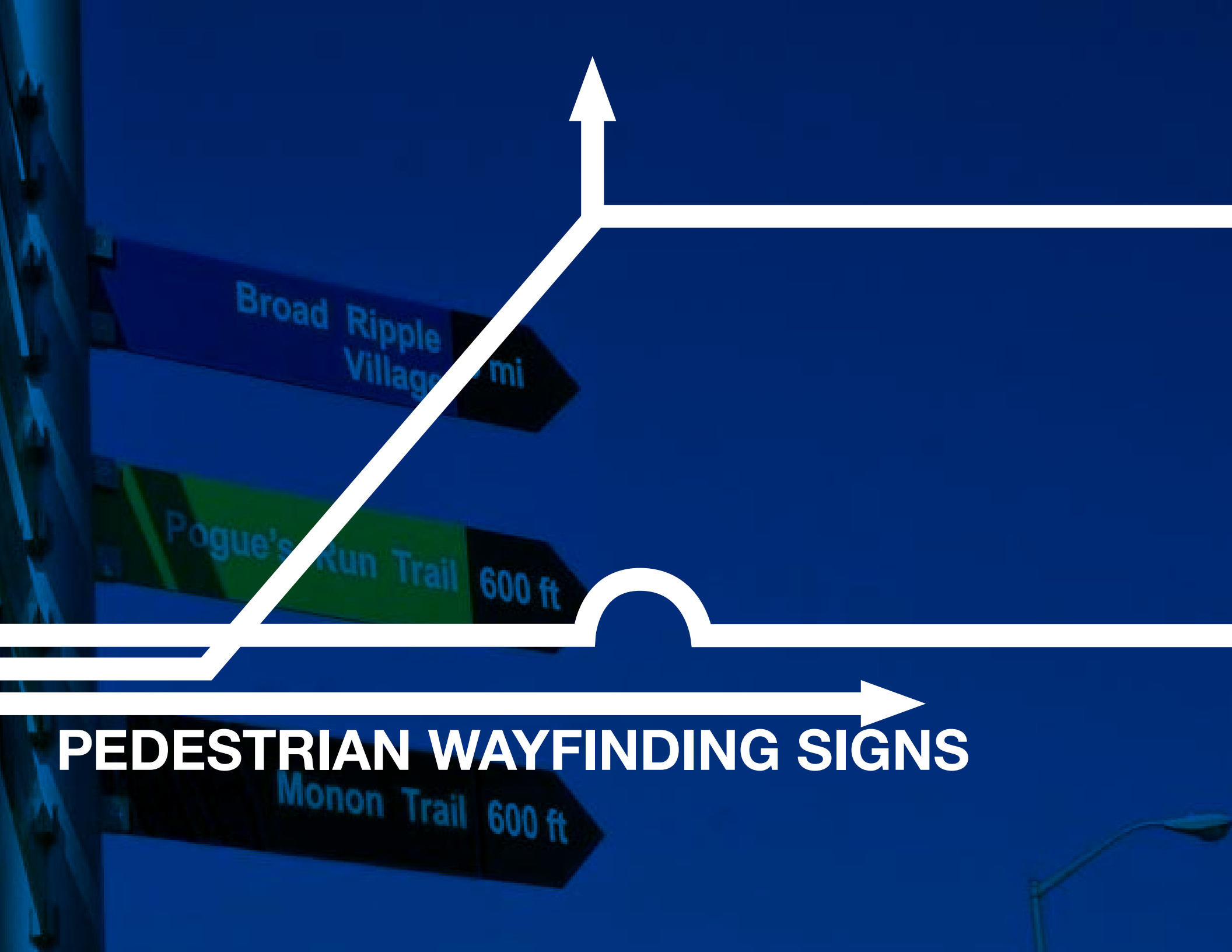
4 mi
Fountain Sq
3 mi
diana Avenue
2 mi
The Canal District
1.5 mi
Wholesale District
Mass Ave



PEDESTRIAN WAYFINDING SIGNS

5.0 Pedestrian Wayfinding Signs

Wayfinding signage designed for pedestrians helps to foster an environment where people wish to discover new places. The provision of information may help build people's confidence to walk in places and for distances that they have not tried before. The signage supplements their understanding of how to get somewhere on foot, replacing their reliance on driving, or overcoming indirect public transit route options.

Wayfinding designed for pedestrians generally focuses less on distinct routes, and more on highlighting areas and destinations of interest. Pedestrian wayfinding, therefore, predominantly focuses on destination signs.

5.1 Principles

Destination Fingerboards

These signs installed in pedestrian areas show the direction and distance to nearby destinations.

Map / Information Totems

Map totem signs are information-rich, wayfinding signs that can include a variety of information around a map about multiple destinations placed within a pedestrian area.

Trailhead Signs

Ontario Regulation 413/12 of the Accessibility For Ontarians With Disabilities Act (2005) specifies that a recreational trail must have at each trail head, i.e., where the trail begins or where major sections of the trail begin, signage that provides specific information about the accessibility of the trail. Additional information including a map, destinations, trail etiquette, etc. can be added.

5.2 Directional Signs

Destination Decision signs for pedestrians are in the form of one or more fingerboards mounting on a single post with each fingerboard pointing in the direction of the destination. They are intended for high pedestrian activity areas such as:

- Transit hubs
- Major pedestrian intersections in town centres
- Public plazas

The sign is made up of the following elements:

- **Arrow** placed at the end of the fingerboard farthest from the post. It points in the same direction as the fingerboard, i.e., if the fingerboard is mounted to the post on right side of the sign, a left arrow is located on the extreme left side of the sign; if the fingerboard is mounted to the post on the left, a right arrow is located at the extreme right side of the sign.
- **Destination name**. Naming of destinations and use of abbreviations must be consistent is recommended to be in a sans serif font.
- **Symbols** associated with the destination name, if used, should be to the left of it.
- **Distance numerals** followed by the abbreviation 'm' shall be placed to the right of the destination name.
- **Pedestrian symbol** is optional. If used it is placed on the right side of the sign to the right of the destination name.

This type of sign requires the information to be provided on both sides of the fingerboard to be seen by users traveling in all directions.

Pedestrians travel at a relative slow speed so are able to take in more information at one time and can stop easily to read more information. When more than one destination is signed at one time, then the following principles should be followed for sign assemblies:

- Generally Destination fingerboard assemblies should not exceed three to four signs pointing in any one direction to simplify the information and reduce sign clutter.
- Fingerboards in one assembly should all be the same width.
- Fingerboard assemblies should present information in a descending order of importance. Typically the major destination is signed first above minor destinations; however, if all destinations are of equal importance, than the nearest destination is on the top with distances to destinations increasing on subsequent signs below it.

Types of destinations to be signed are discussed in Section 3 Identifying Destinations and 3.2 Displaying Destination Information.

Exhibit 5-1: Destination Fingerboard
850mm x 215mm (colours used may vary based on corporate identity and/or preferences of the Town/City where the system is being installed)

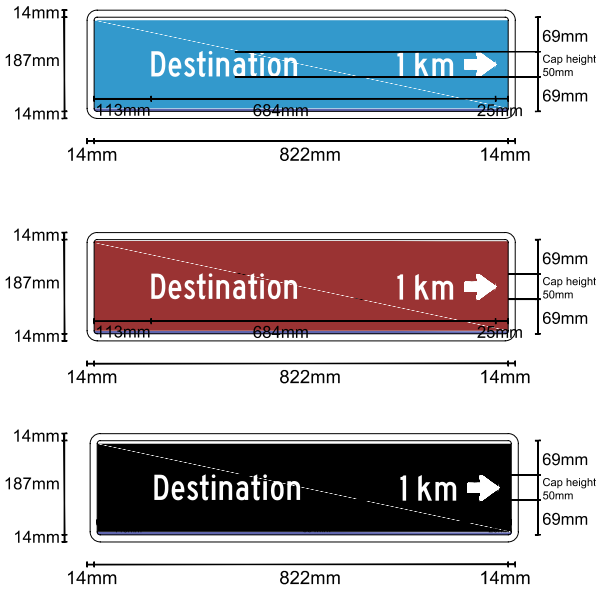


Exhibit 5-2: Sample assembly of Destination fingerboards on one post.

Exhibit 5-3: Pedestrian Destination fingerboard, City of Barrie

5.3 Destination Information Signs

Totems or panel signs are highly visual with information on destinations and services and include large, comprehensive maps. They illustrate information that helps pedestrians orient themselves within a neighbourhood or district so that they may walk short distances to nearby destinations. They are generally located in high pedestrian activity such as:

- Transit hubs
- Major pedestrian intersections in town centres
- Public plazas

They may standalone or complement nearby Destination fingerboards.

Essential elements on Map / Information totems include:

- **Name** of neighbourhood or district where it is located
- **One to three destinations with directional arrows and distance**. Average walking time is optional. Types of destinations to be signed are discussed in Section 3 Identifying Destinations and 3.2 Displaying Destination Information.
- **Main map** with “you are here” symbol and five minute walk radii
- Smaller **Context map** with “you are here” symbol.
- **Supplementary interpretive information** is optional, such as a description or photograph of nearby cultural, heritage or natural features.
- **Contact and emergency information**
- **Legend** on the bottom

The maps should include street name labels, plus named alleys, laneways and side streets with high tonal contrast between the mapped information and map background. Other map totems in the area can be included on the map. Once a map design is established, it should be reproduced in several places.

Exhibit 5-4: Sample Map / Information Totem

5.4 Trailhead Signs

Trailheads are established to provide access to trails, where they begin, intersect major roads or intersect other major trails. They typically have some amenities such as parking (for motor vehicles and or / bicycles), gateways, visitor kiosk, trash / recycling receptacles, benches, or picnic tables, etc. Trailheads and the associated trails are generally outside of the roadway rights-of-way so the signs will be independent of information signs on the roadways.

Ontario Regulation 413/12 of the Accessibility for Ontarians With Disabilities Act (2005) specifies that a recreational trail must have at each trailhead signage that provides the following information:

- **Length** of the trail.
- **Type of surface** of which the trail is constructed.
- Average and minimum **trail width**.
- Average and maximum **running slope and cross slope**.
- The **location of amenities**, where provided.

The Regulation also specifies that the text on the signs must have a high tonal contrast with its background in order to assist with visual recognition. A sans serif font is required. If other media, such as park websites or brochures, are used by to provide information about the recreational trail, beyond advertising, notice or promotion, the media must provide the same information as listed above.

Other information that may be included on the trailhead sign includes:

- **Map** illustrating the trail route and network, “you are here” symbol, nearby cycling facilities or network, location of amenities.
- **Supplementary interpretive information** is optional, such as a description or photograph of cultural, heritage or natural features in the area.
- **Trail user etiquette information.**
- **Contact and emergency information along with important location information** for first responders to locate the trail in case of an emergency.
- **Legend** on the bottom.

Exhibit 5-5: Sample Trailhead sign

Exhibit 5-6: Oak Ridges Corridor Conservation Reserve Trailhead

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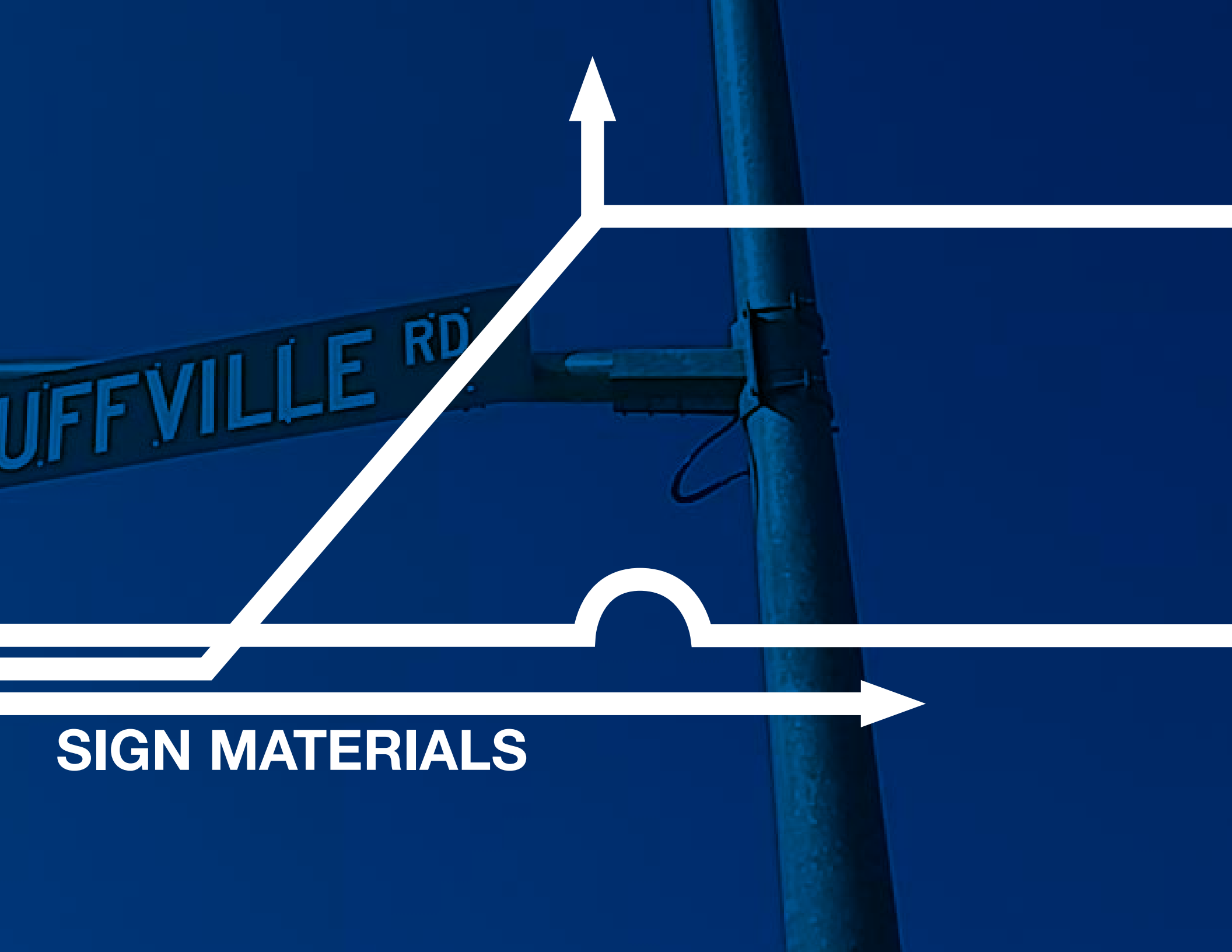

SIGN MATERIALS

6.0 Sign Materials

Sign fabrication considers the materials for sign face, sign substrate to which the face material is applied, and supports such as posts, structures and hardware. These materials should be consistent, durable to withstand the elements, and cost effective in terms of fabrication and maintenance.

Some of the options for sign materials are presented in these guidelines. Sign material technology is continually evolving. New materials may be used if they have been sufficiently tested to demonstrate that they meet or exceed the performance characteristics of materials currently in use.

6.1 Cycling Wayfinding Sign Materials

Wayfinding signs erected in the public right-of-way are recommended to be fabricated to meet the Ontario Traffic Book 2 fabrication standards. Roadside signs are generally manufactured of adhesive sheeting screen printed with inks and coatings and with a computer cuttable overlay film. The sheeting typically degrades before the substrate and other components of the sign. Material guarantees are typically 7 to 10 years, and service life has been reported to range from 7 to 20 years or more depending on the sheeting.

The Ontario Traffic Manual requires signs that convey essential directional information that is relevant during the hours of darkness to be conspicuous at night, as well as the day. The colour of these signs must also appear the same at night as by day.

Material that reflects light back to the light source, i.e. headlights, is retroreflective. It is achieved by using a reflectorized, adhesive sheeting applied to the rigid sign blank for roadside signs. The standard for reflectorization in the Ontario Traffic Manual is in ASTM Specification D 4956-01a and subsequent revisions.

Little research has been done on the conspicuity of retroreflective signs at night intended for cyclists. Cycling wayfinding signs may or may not be illuminated by the headlights used on bicycles, depending on their field of illumination and strength. In addition, ordinary street lighting does not meet the requirements for sign illumination for road users. As an alternative, external or internal illumination may be used for signs. This should be considered for wayfinding signs at critical decision locations.

OTM Book 2 recommends sheeting grades from Type I to Type IV for permanent signing meeting ASTM Specification D 4956-01a (or its subsequent revisions). Cycling wayfinding signs erected within the street right-of-way are recommended to meet the municipality's sign sheeting grades for other roadside guide and information signs to provide consistency in terms of conspicuity and life cycle.

6.2 Pedestrian Wayfinding Signage Materials

The substrate material to which the sign face material is applied is typically fabricated from aluminum, steel, or plywood. Other, newer materials such as fiberglass, plastic, composites, recycled materials continue to be developed and may be considered if they have been sufficiently tested to meet or exceed the standards of conventional materials. OTM Book 2 references Ontario Provincial Standard Specifications for metal and plywood substrates, with York Region generally using aluminium for the substrate (OPSS 2001 and subsequent revisions).

A standard Integrated Bicycle Route Street sign, Standalone Bicycle Route Identification sign, or single Bicycle Destination Decision aluminium sign is expected to cost in the range of $150 to $350 per sign (2018 Dollars) to supply and install with a life span of typically 10 years. Non-standard sizes will cost more.

Pedestrian wayfinding signs erected in pedestrian activity areas can be made of a wide variety of materials. In selecting materials, consideration should be given to consistency in visual appearance and conspicuity, durability, and maintenance along with cost-effectiveness. Durability is influenced by weather, humidity, impact resistance (if hit by a vehicle or other object), graffiti, etc.

Pedestrian Destination Fingerboard signs can be made of materials similar to cycling wayfinding signs. A single signs is expected to cost in the range of $150 to $350 per sign (2018 Dollars) to supply and install with a life span of typically 10 years. Non-standard sizes will cost more.

A variety of options for Map / Information Totem signs and Trailhead signs are available; three common options are described below.

Map / Information Totems and Trailhead signs will vary significantly in cost depending on size, graphic material development, materials, installation methods, and in-situ conditions such as surface and / or subsurface conditions for installation and availability of power sources if illuminated. For planning purposes only, the cost to supply and install a 2-sided totem or trailhead sign is expected to range from $6,000 to $10,000 per sign (2018 Dollars).

Digital Printing

Digital printing signage presents information through a digital screen, encased in smash-resistant polycarbonate screen (such as cabinet-style signs).

Advantages

- More adaptable than other options - content is easily replaced, if or when information needs updating.
- Maintenance costs
- Can be backlit and is effective in urban areas where many pedestrians use the signs at night

Disadvantages

- Higher capital costs than other options
- Less damage resistant - graffiti or scratching can deface the surface, making the sign illegible.
- For urban areas, digital printing that can be backlit is recommended for pedestrian wayfinding maps / information totems.

Aluminium panels

Aluminum panels present information on a vinyl sheet with printed graphics and steel structural framing.

Advantages

- More adaptable than vitreous enamel panels - can be updated by re-printing content
- Lower capital and maintenance costs than other options

Disadvantages

- Less damage resistant than other options
- Less adaptable and greater costs for updates than digital signage
- Requires separate lighting for night-time viewing – cannot be backlit

Vitreous enamel panels

Vitreous enamel panels on a steel frame present information on a panel which appears glass-like while retaining the strength and durability of steel.

Advantages

- Lower capital and maintenance costs than digital signage
- More damage resistant than other options - hard-wearing and graffiti-resistant

Disadvantages

- Less adaptable than other options - difficult to change content
- Requires separate lighting for night-time viewing – cannot be backlit

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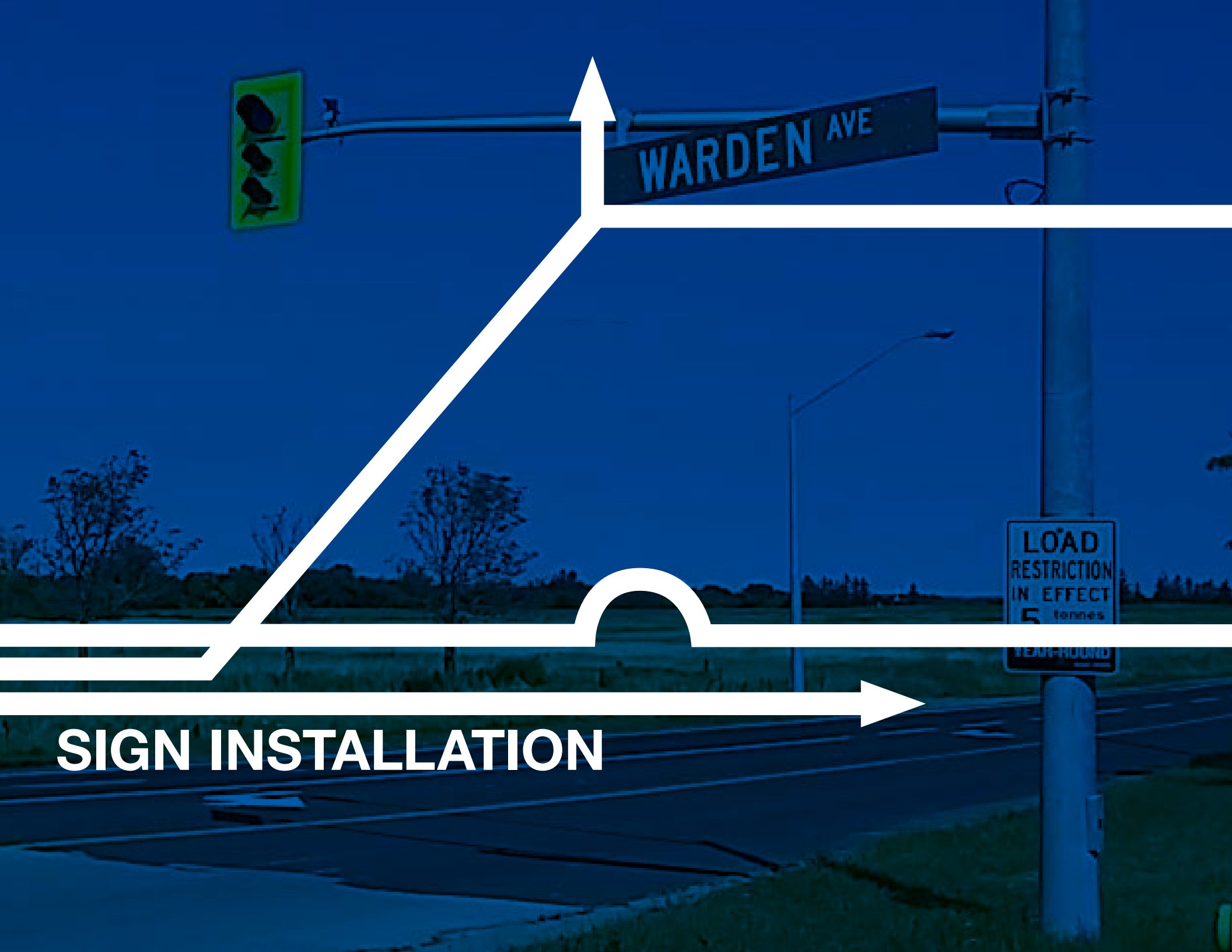


SIGN INSTALLATION

7.0 Sign Installation

Wayfinding sign installation considers:

- Vertical clearance or protrusion of the sign in relation to the ground.
- Lateral clearance of the sign in relation to the roadway, cycling facility or path.
- Longitudinal spacing of various types of wayfinding signs in relation to destinations, decisions points, intersections and other signs.

Local conditions, such as vegetation, other signs, and fixed objects (bus shelters, buildings, utility cabinets, etc.), must be considered when the signs are actually installed. Appropriate adjustments will need to be made to ensure their visibility during daytime and nighttime.

Wayfinding signs may be mounted on the same posts as other guide and information signs but must NOT be mounted on the posts for regulatory, warning or temporary condition signs

7.1 Lateral and Vertical Clearances

Lateral clearance is specified to provide a safe offset between the user and the sign that is a fixed hazard near their path of travel. Vertical clearance is specified to provide the height of sign for visibility.

If lateral clearances cannot be met, than vertical clearances to users of a facility are required.

Cycling Wayfinding Signs

Lateral and vertical clearances for mounting cycling wayfinding signs adjacent roadways follows the requirements for roadside signs. Clearances associated with signs mounted adjacent multi-use paths are smaller unless the sign protrudes into the lateral clearance, than a larger vertical clearance is required.

The lateral clearance and vertical clearances for cycling wayfinding signs mounted beside facilities are determined based on the type of facility as follows:

Exhibit 7-1 Summary of Lateral and Vertical Clearances for Cycling Wayfinding Signs

Facility				Lateral Clearance	
				Min.	Max.
Rural roadway Measured from the edge of paved shoulder to the near edge of the sign Exhibit 7-2	VERTICAL CLEARANCE	Min.	2.1 m	1.0 m	3.5 m
		Max.	2.5 m		
Urban street Measured from the face of curb to the near edge of the sign Exhibit 7-3		Min.	2.1 m	0.3 m	3.5 m
		Max.	3.0 m		
Multi-use Path Measured from the edge of the path to the near edge of the sign Exhibit 7-4		Min.	1.2 m	0.9 m	1.8 m
		Max.	1.5 m		
		Min.	2.5 m	If minimum lateral clearance to sign cannot be met; however, minimum 0.9 m lateral clearance to post is still required	

Exhibit 7-2: Vertical and lateral clearance for cycling wayfinding signs along rural roads

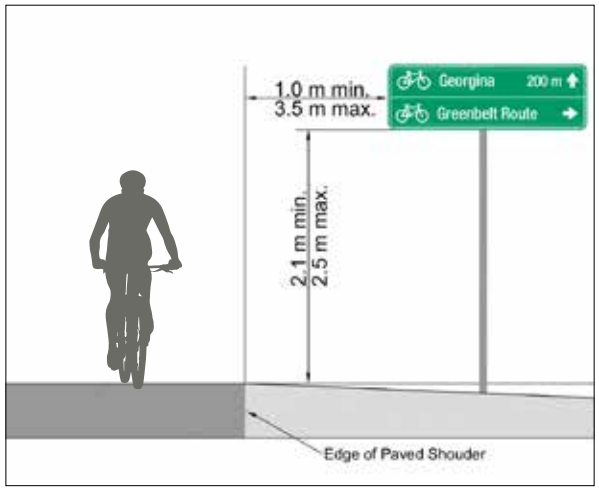


Exhibit 7-3: Vertical and lateral clearance for cycling wayfinding along urban road

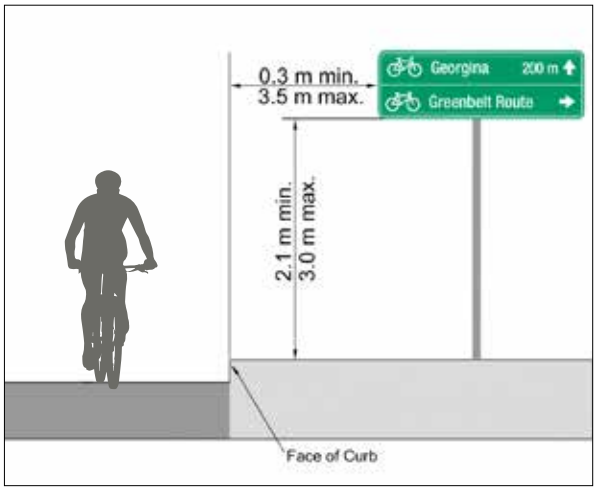
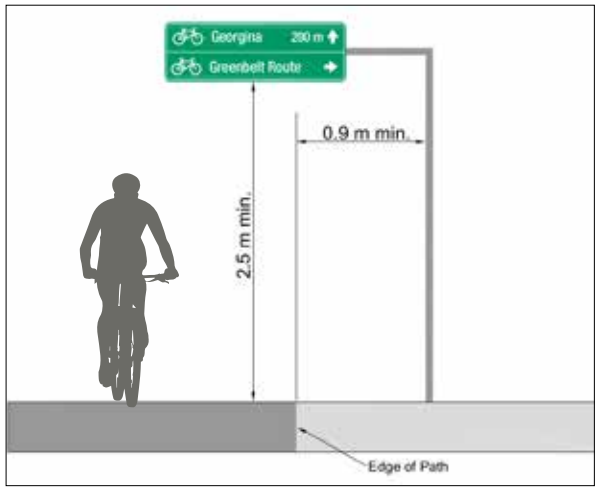
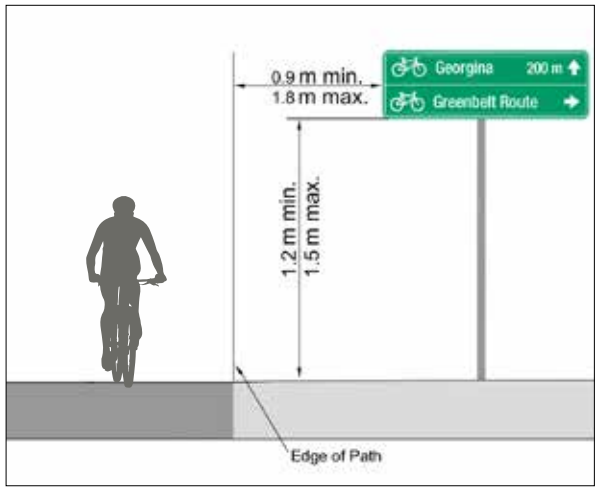


Exhibit 7-4: Vertical and lateral clearance for cycling wayfinding signs along multi-use paths





Pedestrian Wayfinding Signs

Objects that are more than 2.1 m high are generally over the heads of pedestrians. Pedestrians who use long canes will usually detect and avoid objects on the sidewalk that extend from the ground to 0.7 m above it. Therefore, signs installed in pedestrian activity areas must either provide 2.1 m of vertical clearance, or extend below 0.68 m from the ground. Signs that are within 0.7 m and 2.1 m must not protrude beyond the posts by more than 0.1 m.

The lateral clearance and vertical clearances for pedestrian wayfinding signs mounted in pedestrian activity areas facilities are determined based on the type of sign as follows:

Exhibit 7-5 Summary of Lateral and Vertical Clearances for Pedestrian Wayfinding Signs

Sign TYPE				Lateral Clearance	
				Min.	Max.
Destination Fingerboard Measured from ground to the bottom edge of the sign Exhibit 7-6	VERTICAL CLEARANCE	Min.	2.1 m	Not applicable – the post is detectable and the protruding sign is mounted above the heads of pedestrians	
		Max.	3.0 m		
Map / Information Totem		Not applicable – this type of sign is detectable because it is of a constant width and extends to the ground, so no clearances to pedestrian activity areas are required			
Trailhead Sign If located adjacent the path and outside of a pedestrian activity area Measured from the edge of the path to the near edge of the sign Exhibit 7-7		Min.	1.2 m	0.9 m	1.8 m
		Max.	1.5 m		
If located within a pedestrian activity area at the trailhead (must meet the clearances to the path noted above) Measured from the ground to near edge of sign Exhibit 7-8		Max.	0.68 m	Not applicable – the posts and protruding sign are detectable	

Exhibit 7-6: Vertical and lateral clearance for pedestrian Destination Fingerboard signs in pedestrian activity areas

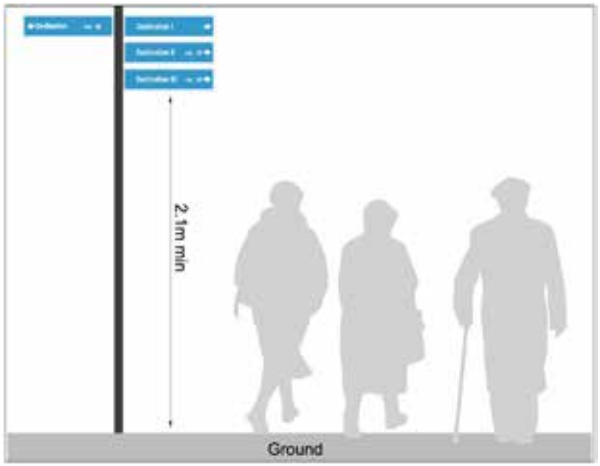


Exhibit 7-7: Vertical and lateral clearance for pedestrian Trailhead signs located near paths and outside pedestrian activity areas

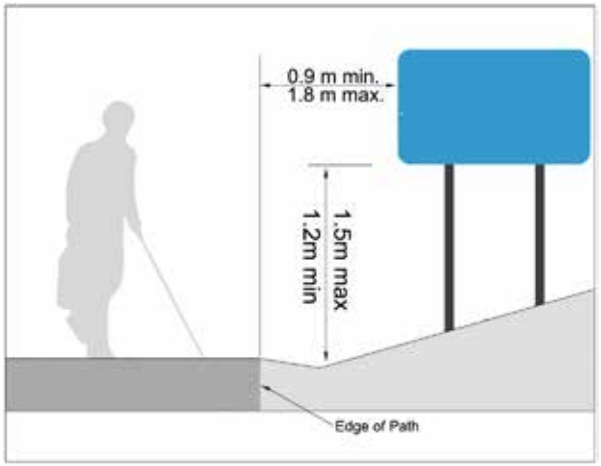
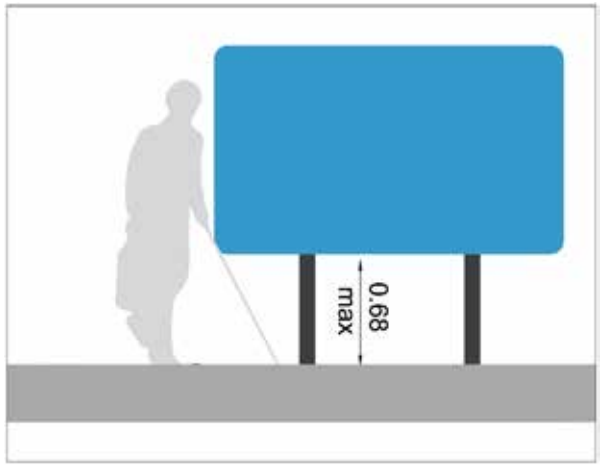


Exhibit 7-8: Sign clearance for pedestrian Trailhead sign located in pedestrian activity areas (but outside the path)



7.2 Horizontal Placement and Spacing

Cycling Wayfinding Signs

Destination signs for people who ride bicycles, including Decision, Confirmation, and Advance (if required) signs, are placed leading to a destination. As discussed in Section 3.0, the first sign will be installed a certain distance from the destination, as follows, and additional Decision and Confirmation signs will be installed along the cycling facilities or routes leading to it until the destination is within 300 m:

- **Primary Destination** (large districts) signs will start up to 8 km to 10 km away.
- **Secondary Destinations** (neighbourhoods and large transit hubs) signs will start up to 5 km away.
- **Tertiary Destinations** (local transit stations, libraries, other local destinations) may be signed when they are up to 1km away.

Placement and spacing of signs by sign type is as follows and illustrated in Exhibit 7-10 and Exhibit 7-11:

Exhibit 7-9 - Summary of Placement and Spacing Requirements

Type of SIGN	Decision Point or Intersection	Spacing*
Integrated Bicycle Route Identification Street sign	At intersection	Not applicable
Standalone Bicycle Route Identification sign	0 to 10 m on the far side of intersections	Rural areas: every 2 km Urban areas: every 400 to 800 m
Bicycle Route Directional sign Destination Decision sign	Stop-controlled intersection: 0 to 10 m on far side of intersection	Not applicable
	Free-flow intersection: 15 to 60 m in advance of intersection	Not applicable
	Traffic signal controlled intersection: 30 to 60 m in advance of intersection	Not applicable
Destination Confirmation sign	150 m following a decision point or intersection	Every 3 km
Advance sign only if Bicycle Route Directional sign or Destination Decision sign is not conspicuous from 60m away	30 m in advance of the inconspicuous sign	Not applicable

* All signs, including other road signs, should be spaced at least 25 m apart and in sequence where possible.

Exhibit 7-10: Sign placement and spacing for bike route identification signs

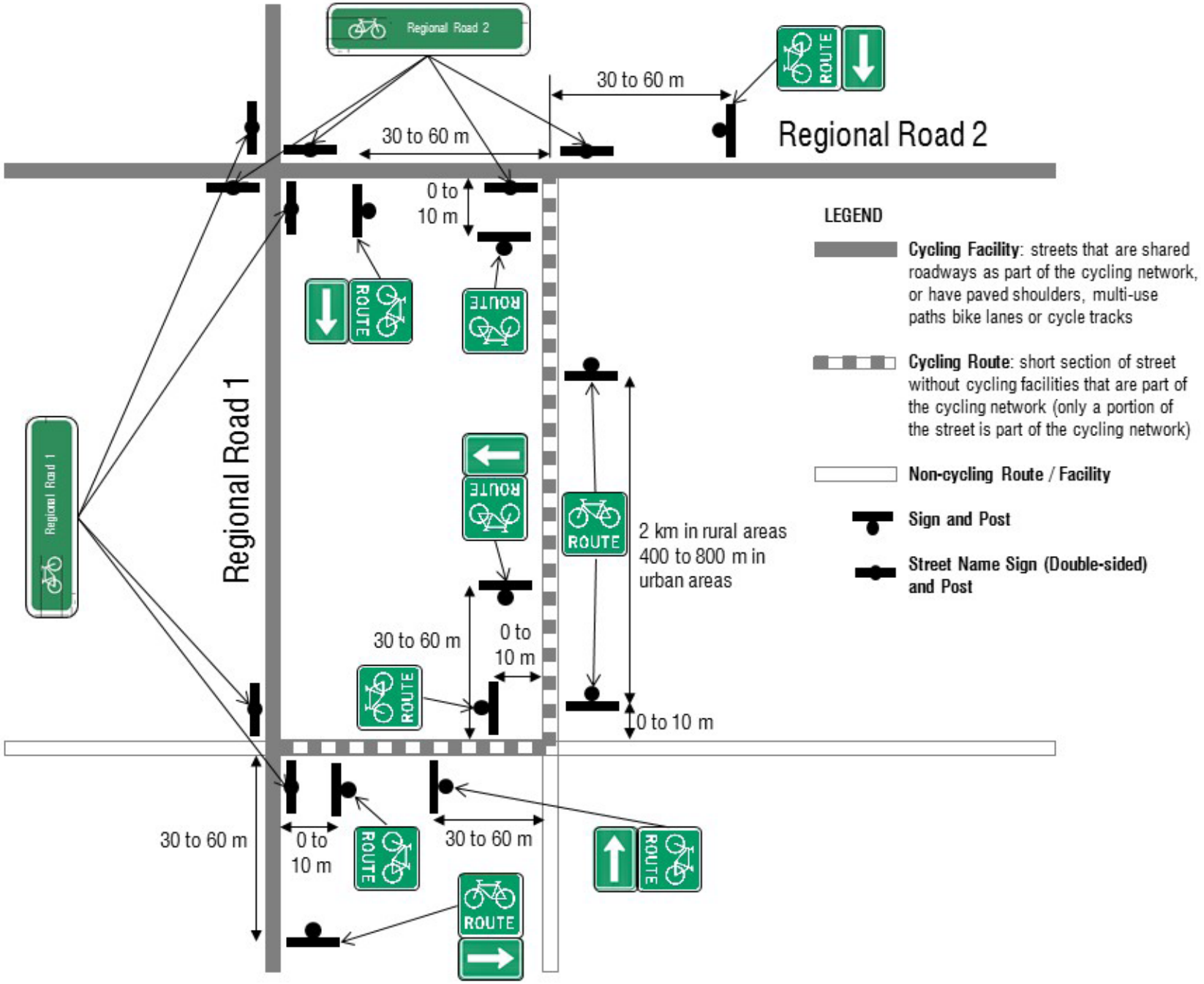
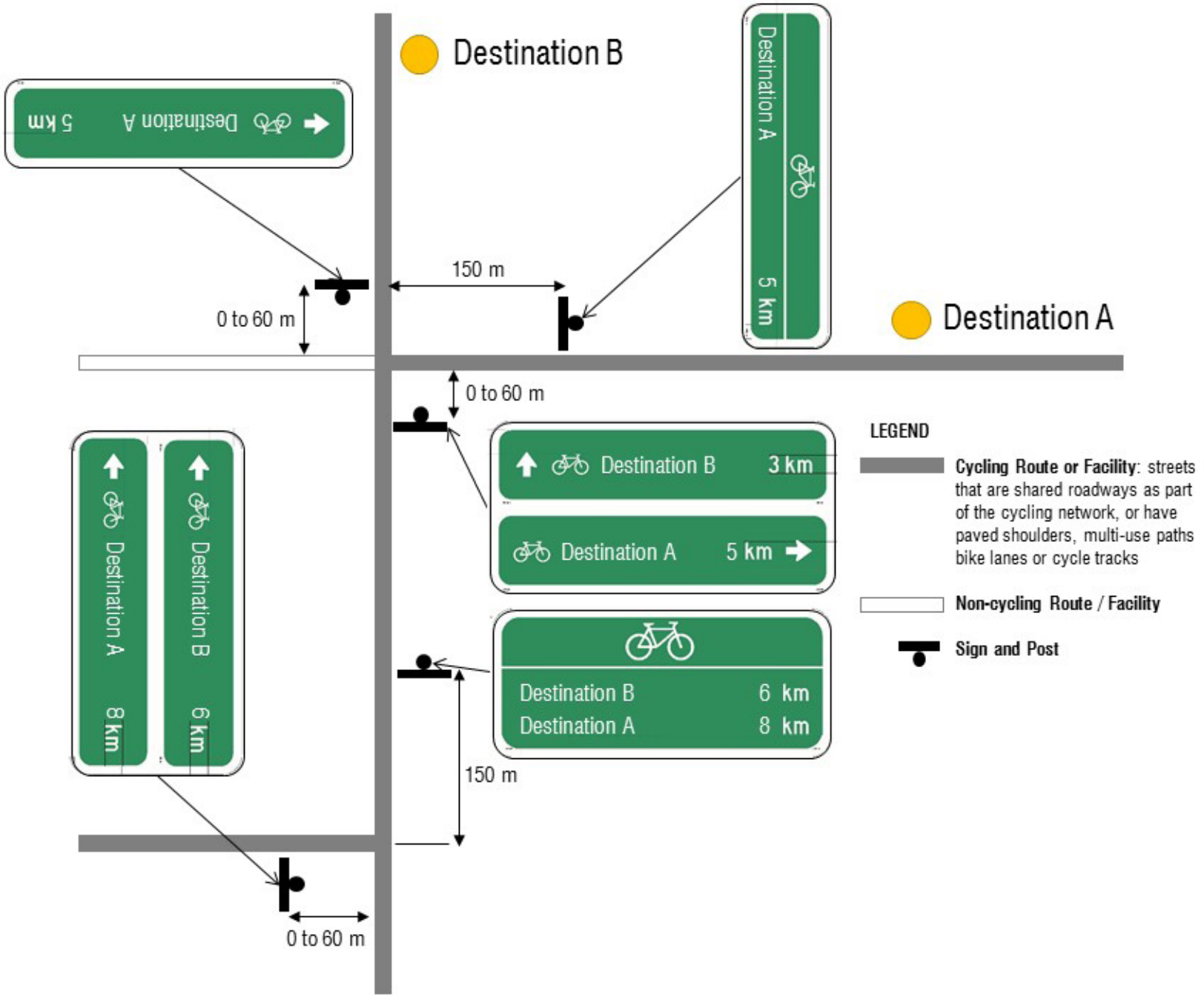
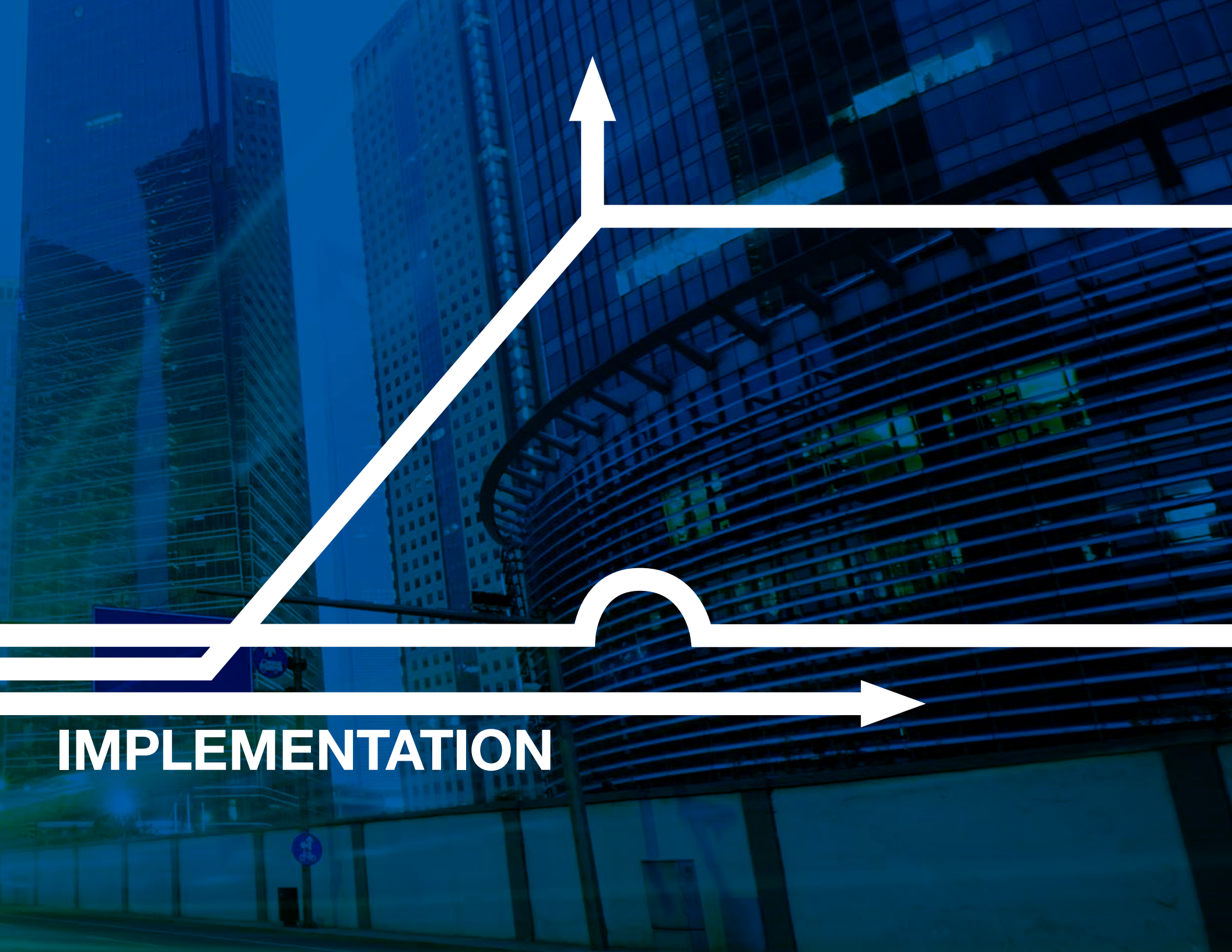


Exhibit 7-11: Sign placement and spacing for cycling destination signs



8.0


IMPLEMENTATION

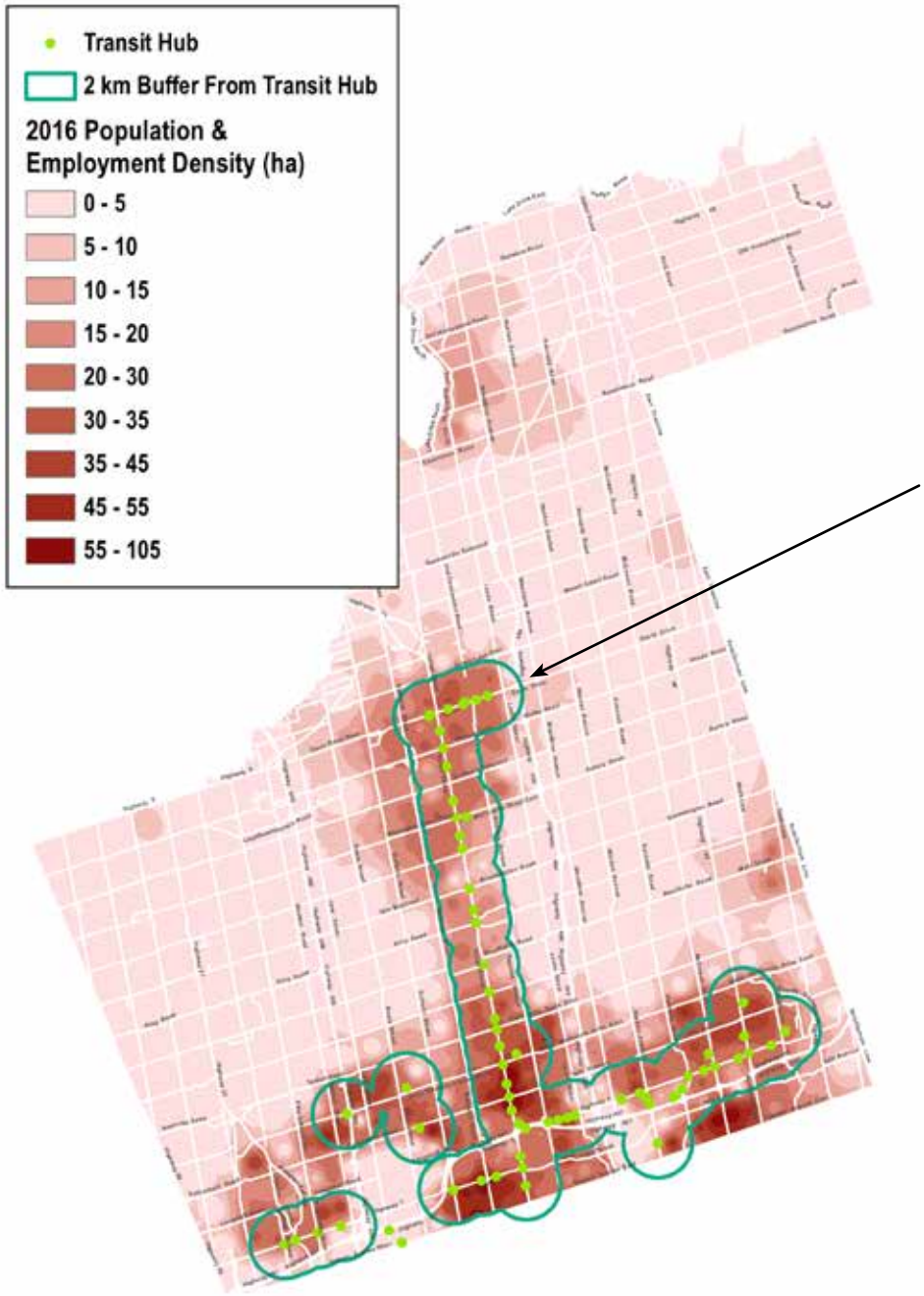
8.0 Implementation

Travel choices being made by the general public do not follow jurisdictional boundaries. Between origins and destinations are a combination of Regional and municipal roads, and people walking and cycling will use both. A key challenge for the design of wayfinding signage will be the coordination of implementation schedules between local and regional jurisdictions. A coordinated approach is important for pedestrian-focussed installations. It will be even more critical to ensure the cohesion of longer distance cycling routes, and for cycling destinations that are up to 10 km away.

8.1 Inter-Jurisdictional Coordination

The implementation program developed by York Region should ideally balance the resources available from different participating agencies, alongside the serving of areas that would best serve the general public. To this end, population centres and transit linkage opportunities have been mapped, as shown on Exhibit 8-1, to identify areas where investments in wayfinding signage and markings may yield the most benefit.

Exhibit 8-1: Opportunity areas for Sustainable Mobility Wayfinding



Warden Avenue is a popular cycling route from Highway 7 to Lake Simcoe, stretching the full north-south length of York Region. It can be improved with better wayfinding signage. It was selected as the pilot project to apply the recommendations of the Wayfinding Guidelines.

8.2 Regional Responsibilities

York Region's installation program areas include Regional roadways. York Region will fabricate, install and maintain all the signs necessary for approved wayfinding programs associated with on-road cycling facilities on Regional roads.

Wayfinding signage on trails associated with the York Regional Forests, including trailhead signage, are also be the responsibility of York Region.

The Region is exploring the possibility of manufacturing the signs at the Regional sign shop, in order to provide improved coordination with municipalities.

8.3 Municipal Responsibilities

Installation program areas that are located on roads under municipal jurisdiction are the responsibility of the local municipality.

In addition, local municipalities are responsible for any wayfinding signage associated with facilities in the boulevard along Regional roads including boulevard trails and sidewalks. The Region will explore partnership opportunities to support installation of wayfinding signage within the boulevards of Regional roads, whenever possible.

Wayfinding signage on any off-road trails or trail segments of regional significance is the responsibility of the municipality having jurisdiction over the corresponding trails or trail segments.

8.4 Other Agencies

Assets that may be under the jurisdiction of other agencies may be involved in the wayfinding signage program, such as trails under the jurisdiction of the Lake Simcoe Region Conservation Authority, Toronto region Conservation Authority, Ontario Parks, etc., or cycling routes along Ontario Highways. Cooperation and co-ordination are encouraged to install and maintain a system of signs that meet the sign design principles presented in this guideline.

8.5 Identifying Cycling Implementation Priorities

Generally speaking, "regionally significant" cycling routes (not owned by the Region) should meet the following conditions to be considered for signing in accordance with these guidelines:

- The cycling route should connect between more than one municipality within the Region.
- The route should be of sufficient length to attract users and provide connectivity. Five kilometres is considered to be an appropriate minimum length. Shorter links could be considered where they provide a direct connection between longer trail systems, including designated named cycling routes or trails.
- Cycling facility surface should accommodate utilitarian cycling. Either a paved or stone dust course is preferred. Trails that are largely made up of wood chip or dirt surfaces are inappropriate as cycling routes for the general population, i.e. they may be only suitable for the mountain biking segment of the population.
- The cycling route may provide access to key destinations such as municipal centres, key tourist attractions or major community facilities (e.g., major public transit hubs, educational institutions)
- The cycling route may have branding or region-wide recognition

Signing of cycling routes and destinations must consider if the routes are comfortable for a wide range of cycling abilities. Where traffic speeds and volumes are higher than 1,000 vehicles per day and traffic speeds are at or above 40 km/h, a dedicated cycling facility is desirable and may be designed to help cyclists follow the cycling route. Dedicated cycling facilities, such as bike lanes and paths in the boulevard will therefore be the preferred facility type for the majority of York Regional roads. **Routes and destinations that cannot be reached by a combination of low volume / low speed streets, multi-use trails and dedicated cycling facilities on busier roads should not be signed.**

8.6 Maintenance Program

Provisions for maintenance will follow the same coordination structure as for the project's installation. The Region will be responsible for the maintenance of signs for facilities operated by the Region, while local municipalities will be responsible for roadways under their jurisdiction, as well as boulevards, sidewalks and multi-use trails along Regional roadways.

An inventory of all signs erected for pedestrian and cycling wayfinding should be maintained including information on the type of sign, contents, material, size, type and size of post, and location.

Ontario Regulation 239/02 of the Municipal Act (2001) prescribes minimum maintenance standards including inspection and replacement requirements for regulatory and warning signs; it does not apply to information / guide signs. However, the jurisdictional body that erected the signs should develop an inspection and replacement program for pedestrian and cycling wayfinding signs to maintain these assets in good working order. Early spring inspections before the higher spring / summer / fall cycling season are recommended every one to two years. Any signs that do not meet retroreflectivity requirements of the Ontario Traffic Manual, or are illegible, improperly oriented, obscured or missing are recommended to be replaced within 30 days. Agencies should also respond to any reports of signs missing or in poor condition within a 30-day period.

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