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Item No. 15.1
Community Planning and Economic Development Standing Committee
July 14, 2021

TO: Chair and Members of Community Planning and Economic Development Standing Committee

SUBMITTED BY: ***-Original Signed-***

Peter Duncan, Acting Executive Director, Planning and Development

-Original Signed-

Kelly Denty, Acting Chief Administrative Officer

DATE: May 13, 2021

SUBJECT: **Resourcing a Pedestrian Wayfinding Program**

ORIGIN

On July 20, 2017, the following motion of the Community Planning & Economic Development Standing Committee was put and passed:

> *"THAT the Community Planning & Economic Development Standing Committee request a staff report outlining the staff and financial resources necessary to create and implement an integrated HRM Wayfinding Strategy considering the various programs outlined in the March 1, 2017 Information Report on the Current Approach to Wayfinding."*

January 17, 2019 Community Planning and Economic Development Standing Committee agenda Information Item 2: Integrated HRM Wayfinding Strategy – Update

LEGISLATIVE AUTHORITY

Halifax Regional Municipality Charter
61 (3) The property vested in the Municipality, absolutely or in trust, is under the exclusive management and control of the Council, unless an Act of the Legislature provides otherwise.

89 (1) Subject to such authority as may be vested in the Minister, the Registrar or the Department, traffic authorities in regard to highways under their respective authority may cause appropriate signs to be erected and maintained designating business and residence districts and railway grade crossings and such other signs, markings and traffic control signals as may be deemed necessary to direct and regulate traffic and to carry out the provisions of this Act.

RECOMMENDATION ON PAGE 2

RECOMMENDATION

It is recommended that the Community Planning and Economic Development Standing Committee recommend that Halifax Regional Council address localized pedestrian wayfinding issues on an ad hoc basis as described in Option #2 of the Discussion section of this report.

BACKGROUND

The March 1, 2017 information report on the Current Approach to Wayfinding[1] included an overview of what wayfinding is and what HRM currently does or was planning to do to support wayfinding for people using various modes of transportation. That report concluded that there was:

- Enough wayfinding support for the motoring public
- An identified need for bicycle network wayfinding (*Integrated Mobility Plan* - IMP Action 75); and,
- No consistent approach or guiding policy direction for **pedestrian-specific** wayfinding.

Since 2017 two studies have been completed on wayfinding for people walking and bicycling. The first developed a wayfinding signage system for designated bicycle routes in response to IMP Action 75. The Bicycle Wayfinding Guide (Attachment #1) was a collaboration with Bicycle Nova Scotia and wayfinding on HRM's first four pilot routes will be installed in 2021 on multi-use paths and on-street bicycle routes.

The second study focussed on developing an approach to pedestrian wayfinding for HRM in response to the CPED request which originated this staff report. The results of that work are detailed in the Discussion.

DISCUSSION

Consultants *Form Media* (now called *Fathom*) were engaged to inform a response to Council's request to "outline the staff and financial resources necessary to create and implement an integrated HRM Wayfinding Strategy". This work was enabled by a $30,000 grant from the NS Department of Energy and Mines (Connect2 program) with matching funds from the municipal active transportation capital budget. Consultants developed a draft Pedestrian Wayfinding Strategy (Attachment #2) including high level implementation cost estimates. They were asked to "develop an approach to pedestrian wayfinding that is based on best practices; integrated with the municipality's other wayfinding and signage initiatives; and considers the different needs of HRM (i.e. urban, suburban and rural). This approach, and the resources required to implement it are described below as Option #1.

An alternative and less resource intensive approach has also been put forward by staff and is described below as Option #2.

Option#1 - "Legible Cities" Approach

Through best practice research and an understanding of HRM context, consultants recommended that a *Legible Cities* model was most appropriate. This has been effectively used in other cities, can create a sense of place, serve a range of users, and be accessible and sustainable.

Legible Cities is an approach rooted in how people make mental maps of the places they are in, shaped by landmarks, paths, and districts. It is pedestrian focused, and unlike highway wayfinding (designed to move people from point to point) opportunities for discovery are as important as the efficiency of travel. To achieve this, consultants recommended employing a combination of maps, directional signage, and local directionals (additional street name signs on the pedestrian network):

[1] https://www.halifax.ca/sites/default/files/documents/city-hall/standing-committees/170518cpedinfo2.pdf

1. **Maps**, located in kiosks or 'monoliths', would deliver a very large amount of information in a small space; orient visitors to their surroundings; reveal relationships between destinations, landmarks, and routes; suggest new things worth discovering; and require time to read and interpret.

2. **Directional signs** would use arrows and destination names to simply and clearly direct visitors to a small selection of high-level points of interest; providing wayfinding assistance only where needed (e.g. decision points, unclear paths, complex intersections, poor sightlines).

3. **Local Directionals –** including addition of more street name signs on parts of the pedestrian network that do not benefit from such signs on the road network (i.e. pathways between cul-de-sacs, park & open space paths, and trails that intersect streets).

One of the most contested parts of public wayfinding is deciding what destinations are worth including. A balance must be struck between the desires of destination owners to be highlighted, and the practical impossibility of including all of them without overwhelming the user. Guidelines for selecting destinations are included in the Bicycle Wayfinding Guide (Attachment #1) and could be adapted to a pedestrian wayfinding system.

Signage Costs

To estimate costs, consultants prepared preliminary signage plans for five study areas selected to represent a diversity of walkable conditions in urban, suburban, and rural areas of HRM. Areas were selected randomly and not meant to suggest any rationale for prioritization.

1. Urbanized areas (i.e. Quinpool district, or Downtown Dartmouth) would require more monolith and directional signs; signage costs were estimated at $125,000 and $160,000 per area.

2. Signage costs for less concentrated suburban or rural nodes (i.e. Musquodoboit Harbour village, or near Lacewood Terminal) were estimated at $21,500 to $50,000, as they require fewer signs.

3. Suburban areas have the most opportunities to add street name signs on the pedestrian network because their layouts include numerous connecting pathways, or entirely separate walking networks through greenspace and few sidewalks). Adding signs to about 3,400 locations where GIS data suggests a pathway/ trail intersects the street network in HRM would cost about $250,000 (assuming most signs are mounted to existing fences and poles).

In addition to helping gauge system costs, the draft strategy helped illustrate some of challenges and opportunities associated with different types of urban settlement, for example:

- Signage in urban and suburban areas will need to be integrated with transit and bicycle networks, and spatial constraints in the right-of-way may limit sign placement in denser areas.

- Rural areas have fewer pedestrian facilities (i.e. sidewalks, paths) so the program needs to consider the safe routes available for users, in addition to identifying destinations.

- In suburban areas, the sheer number of pathway/ street intersections makes the broad roll-out of even simple street name signs into a major project - locations should be prioritized to reduce cost.

- The main beneficiaries of wayfinding systems are tourists, and they are present in rural nodes as well as urban centres in the municipality.

Roll-Out Costs (including Staff) – Pedestrian Wayfinding Program

A comprehensive pedestrian wayfinding system would be an entirely new municipal program and the work of planning, implementing, and maintaining the system would need to be comprehensively managed and supported. Staff resources and time, as well as engagement of internal and external stakeholders and wayfinding experts will be required. As summarized below and described in detail in the draft strategy (Attachment #2), the consultant recommends three stages to bring the project to fruition in three years.

Their estimates assume signage is focused on downtown Halifax and Dartmouth, where tourist destinations are clustered. Expanding to other areas would require additional resources. The three stages are:

1. Hire Staff

   Full-time project manager - $70,000 per year ($210,000 for three years)
   Part-time technician - $35,000 per year ($105,000 for three years)

   Total staff costs for three years *$315,000*

2. Prototyping (Year One)

   Consulting/ design fees - $65,000
   Sign fabrication/ installation – $20,000

   Total prototyping cost *$85,000*

3. Full Roll-Out (Years Two & Three)

   Consulting/ design fees - $150,000
   Sign fabrication/ installation - $1,100,000

   Total roll-out cost $1,250,000

Three Year Project Total (Integrated Pedestrian Wayfinding) ***$1,650,000***

Maintenance Costs

Once installed, infrastructure must be maintained. The ongoing operating cost for the pedestrian wayfinding program is estimated to be $72,500 based on $55,000 per year for design/ fabrication/ installation/ cleaning assuming 5% of signs need annual renewal and no program expansion; as well as $17,500 per year for part-time staff (or ¼ full time equivalent) to maintain data and oversee the program.

Maintenance costs ***$72,000 per year***

Option #2 - Address Pedestrian Wayfinding Issues on an Ad Hoc Basis

It may be possible to address local pedestrian wayfinding issues without establishing a formal program. Applicable parts of the Bicycle Wayfinding Guide (Attachment #1) could be used to guide the approach, and projects could be carried out by the Tactical Urbanism or Active Transportation programs. For example, adding street name signs at the intersections of pathways and streets on an as-needed basis, assuming this can be done by existing staff, and that locations can be prioritized, is estimated to be a one-time cost of $85,000. However, if internal resources are limited (i.e. due to increased pressure from other programs), the work may need to be contracted out.

Need for Pedestrian Wayfinding

Implementing a pedestrian wayfinding program is one of many initiatives the Municipality could undertake to support walking for transportation, as well as tourism. However, it could be an entirely new program and Council needs to consider whether it should be considered a strategic priority, and whether the Municipality would be the right agency to lead it. To answer these questions, various Council approved plans and reports were reviewed and engagement with key stakeholders was undertaken.

Plan/Policy Review

A pedestrian wayfinding system was not specifically identified in either the Integrated Mobility Plan, the Halifax Economic Growth Plan 2016-21, the Halifax COVID-19 Economic Response and Recovery Plan, or the Halifax Regional Integrated Tourism Strategy. While the latter did note that "strategies to improve wayfinding and accommodation offerings will help travelers explore more of the region and extend their stay in rural communities", this finding was not necessarily related to pedestrian wayfinding or the type of systems described above.

Stakeholder Engagement

Discover Halifax (DH), the agency overseeing the recent Tourism Strategy, has confirmed that a pedestrian wayfinding program fits within the key themes of their plan: "make it easy to visit/ make it easy to get here". Though not specifically identified in the plan's short/medium/long-term priorities, the agency saw value in how the system could pull "diverse tourism districts into a common framework and help the consumer feel like they are in one system whether they are in the Eastern Shore, downtown Halifax, or the St. Margaret's Bay region". However, this benefit could only be realized with more extensive deployment than provided for in the budget figures above. While DH agreed it was not an immediate priority, they did note that such a program should be considered in phases or at least in the future. This agency does not develop infrastructure on their own and would not be able to directly oversee the program or any of its assets.

Develop Nova Scotia (DNS), the provincial crown corporation overseeing management of key sections of many provincial waterfronts, supplies multiple map-based wayfinding signs on the Halifax, Dartmouth and Bedford waterfronts. The maps include key destinations on and beyond each map and provide an existing pedestrian wayfinding service within these popular tourist destinations. A discussion with DNS staff revealed some additional wayfinding issues in these areas that could potentially be addressed by HRM installing signage further to the new Bicycle Wayfinding Guide (i.e. identifying the multi-use path on the Dartmouth Waterfront and differentiating it from park paths around the Alderney Ferry Terminal).

Because HRM's wayfinding consultants identified the downtowns of Halifax and Dartmouth as priority locations for deploying the strategy, staff reached out to the Downtown Halifax Business Commission (DHBC) and the Downtown Dartmouth Business Commission (DDBC) to get their thoughts:

> DHBC would have once seen value in municipal wayfinding initiatives, but now view analog systems as less critical due to the prevalence of GPS enabled apps and smartphones.
>
> While DDBC generally agreed with this, they strongly believed there to be some very localized wayfinding issues outside the Alderney complex that needed to be addressed with physical signage (i.e. connections from ferry terminal to the business district and from Dartmouth Cove to the Macdonald Bridge). They wondered if something less costly, or even tactical, could be done to address these concerns. They also believed the connection between Lake Banook and Shubie Park could be improved with wayfinding signage.

Conclusion

Based on the costs and staffing resources outlined in the strategy (Option #1), and given other Council Priorities, staff advise that developing an entirely new wayfinding system at this time is not the most efficient use of resources. While wayfinding does provide local benefits by improving the mental maps of residents as well as tourists, and thereby promoting walking, the *Integrated Mobility Plan* has outlined other infrastructure priorities to better increase the numbers of people walking as a mode of travel.

The *Legible Cities* approach is most commonly seen in larger urban centres with high tourist volumes and very complicated urban environments (e.g. Toronto CA, London, UK). Furthermore, based on stakeholder engagement, it appears that at least some of HRM's pedestrian wayfinding issues could be addressed by adapting the direction in the Bicycle Wayfinding Guide, and using these solutions as needed, where needed (i.e. an 'ad hoc' approach). Wayfinding at the intersections of pedestrian pathways with streets could also be addressed more cost-effectively by prioritizing locations instead of adding signage to each one. Finally, the idea developing a pedestrian wayfinding system could be revisited in the future, further to additional review and prioritization through the Tourism Strategy.

FINANCIAL IMPLICATIONS

A workplan and budget to address localized pedestrian wayfinding issues in an ad hoc manner, as described in Option #2 of the discussion section of this report will be developed and proposed for consideration in future capital budgets using existing staff resources. The financial implications are expected to be approximately $85,000 in one-time costs. If approved by Council, staff will program this budget into Capital account CT200008 – Tactical Urbanism during the 22/23 Capital Budget process.

RISK CONSIDERATION

This report recommends proceeding with an ad hoc approach which may result in issues related to program maintenance and oversight. However, the assets generated (signage) are not high value, and issues could be addressed in response to complaints. For these reasons, the risk of proceeding rates low.

COMMUNITY ENGAGEMENT

A description of engagement with key stakeholders is included in the discussion section of this report.

ENVIRONMENTAL IMPLICATIONS

No environmental implications were identified.

ALTERNATIVES

The Community Planning and Economic Development Standing Committee may recommend that Regional Council direct the Chief Administrative Officer to:

1) Prepare a business case for two new staff positions to lead and support a new pedestrian wayfinding system for HRM and identify $2 million in the multi-year capital program to support project implementation over a three-year period starting in fiscal 23/24. Ensure ongoing maintenance costs of the program, as described in the discussion section of this report, are also considered in the operating budget. This is not recommended for the reasons outlined in the report.

ATTACHMENTS

Attachment #1 – The Bicycle Wayfinding Guide

Attachment #2 – Draft HRM Pedestrian Wayfinding Strategy

A copy of this report can be obtained online at halifax.ca or by contacting the Office of the Municipal Clerk at 902.490.4210.

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BICYCLE WAYFINDING GUIDE

DRAFT

BICYCLE NOVA SCOTIA

Prepared for Bicycle Nova Scotia
by Upland Planning + Design Studio
2019

Contents

1

INTRODUCTION

1.1 Overview

Across Nova Scotia, communities are taking significant steps to improving and building new cycling and active transportation routes and interconnected networks that span municipalities and regions and are increasingly connecting the entire province. As the quantity, interconnectedness and complexity of these routes and networks has increased over the years, the need for quality and consistent wayfinding tools has also increased. Municipalities, provincial departments and volunteer community groups have independently taken various initiatives to improve bicycle wayfinding in their communities, resulting with varied degrees of success.

Concurrently, Bicycle Nova Scotia is the process of planning and developing a provincial cycling network called the Blue Route, which aims to incorporate 3000 kilometres of designated bicycle routes on rural roads, on-street bikeway facilities, pathways and trails. This ambitious project is advancing through the collaboration of Bicycle Nova Scotia, the Province of Nova Scotia, municipal governments and community trail management associations. Today, several hundred kilometres of the Blue Route have been designated on roads and trails.

Throughout these various initiatives, Bicycle Nova Scotia and its partners have recognized the need for guidance and coordination in the design, planning and implementation of wayfinding signs across bicycle route and trail networks in Nova Scotia. This guide and bicycle wayfinding signage system aims to satisfy that need by providing a systemic approach to bicycle wayfinding that can be used to support Bicycle Nova Scotia and its partners throughout their various projects.

While it is comprehensive and based on best practice in signage throughout the country, this guide is not intended to be a mandatory requirement for bicycle routes in Nova Scotia. Rather, it is intended to be a practical, useful resource and an example of best practice in bicycle wayfinding that can be used by Municipalities and community groups throughout the province.

1.2 Scope and Objectives

Scope

The Bicycle Wayfinding System was developed to improve **on-route, destination-based wayfinding along designated cycling routes throughout Nova Scotia**. As such, the network of designated on-road and off-road cycle routes across Nova Scotia is the primary focus of the wayfinding guidelines. On-road facilities include paved shoulders, bike lanes, local street bikeways and protected bike paths. Off-road facilities include multi-use trails, shared use trails and or dedicated bike trails.

While the Bicycle Wayfinding System offers significant wayfinding improvements on bicycle routes, it is important to acknowledge that, in many cases, route users will likely begin their "wayfinding experience" before embarking upon their journey along these routes. Pre-trip planning tools (online websites and maps/ brochures), and arrival/orientation tools (trailhead kiosks, route maps, etc) help route users develop a mental roadmap of the route that they intend to travel and develop an understanding of the local context.

While these tools are not included in the scope of this project, their roles are important to acknowledge. Pre-trip/arrival tools provide contextual information, such as:

- route network maps (including the location of nearby services and amenities);
- rules/regulations that apply to the network (if required);
- emergency contact information;
- historical/interpretive information; and
- any other information that needs to be communicated to route users.

Objectives

The Bicycle Wayfinding System enables cyclists to move conveniently, confidently and safely through parks, trails, municipalities and regions by identifying important destinations and appropriate cycling routes through easy to read and consistent signs and tools. More specifically, the system aims to accomplish the following objectives:

- Enable cyclists to easily, safely and comfortably navigate along Nova Scotia's bikeways;
- Encourage more people to consider cycling as part of their everyday commutes and trips;
- Increase awareness for bicycle routes that are hard to find or underexposed;
- Provide effective and consistent on-route, regional wayfinding information;
- Improve the experience for visiting cyclsts by helping them intuitively find destinations, attractions and services;
- Facilitate co-branding along inter-regional routes and networks; and
- Remain consistent with policy, legislation, and design conventions applicable to wayfinding signage in Nova Scotia on road and trails across federal, provincial and municipal jurisdictions.

1.3 Audience

These wayfinding guidelines aim to assist cyclists find destinations along designated bike routes. Depending on the context, the results of these guidelines will benefit different types of cyclists, such as:

Utilitarian cyclists
Utilitarian cyclists are locals who use their bikes to get to work, run errands, or other utilitarian purposes. They will likely have a basic understanding of local geographies and contexts but would benefit from consistent wayfinding information along their journey, particularly for medium or long distance trips.

Recreational cyclists
Recreational cyclists are those who use a bicycle network for fun or exercise. They may or may not have a specific trip or destination in mind, and may or may not be familiar with the area. As such, wayfinding signs will greatly benefit recreational cyclists by providing contextual network information and directions to nearby services and amenities.

Touring cyclists
Touring cyclists are those who are on vacation and visit an area by bike. They may have a general route planned ahead of time, but will almost always be unfamiliar with the area and will need on-site wayfinding tools to help them stay on their intended path. They may also look for additional places to explore while they are on-route.

Other users
The guidelines and design details of the proposed sign types have been created specifically for cyclists in mind. However, the presence of cycling wayfinding on shared paths will undoubtedly provide benefits for other users, particularly along off-road facilities such as multi-use and shared-use trails.

While it is necessary to acknowledge that each of these users will have different needs than another, it is also important to agree that these bicycle wayfinding signs can provide benefits to all trail users. If this fact is ignored, there is a risk of multi-use trails becoming flooded with different wayfinding signs for every different mode of transportation that is allowed on a given trail. As such, this wayfinding system will benefit anyone travelling at the typical average cycling speed of 15 km/hr or less.

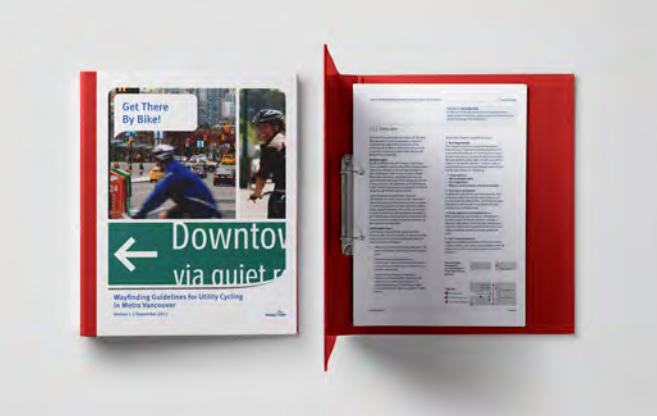
1.4 Legislative Framework

These guidelines provide advice and suggested design standards for bicycle wayfinding tools and approaches to be used throughout Nova Scotia. As such, it is important to note that they be used in conjunction with relevant legislation, regulations and provincial and municipal standards. This guide supplements national and provincial standards, providing additional details and solutions for bicycle wayfinding that are not covered by these resources, such as the:

- Manual of Uniform Traffic Control Devices for Canada;
- Bikeway Traffic Control Guidelines for Canada;
- Nova Scotia TIR Standard Specification Manual (www.novascotia.ca/tran/publications/standard.pdf);
- Nova Scotia Motor Vehicle Act, Traffic Signs Regulations (www.novascotia.ca/just/regulations/regs/mvtrafficsigns.htm); and
- Nova Scotia Schedule of Official Highway Signs (www.novascotia.ca/just/regulations/regs/MV-Tsigns.pdf).

1.5 Guidance and Precedent

Bicycle wayfinding systems, and wayfinding guides in general, are not new concepts for North American jurisdictions. There are several precedent projects that have been used across the country that provide useful advice and direction for bicycle wayfinding in Nova Scotia. In Canada, there are two bodies of work that have been heavily used as a reference for this guide, including the "Get There By Bike" guide, prepared by TransLink, and the "Exterior Signage Standards and Guidelines" manual prepared by Parks Canada.



Get There By Bike: Wayfinding Guidelines for Utility Cycling in Metro Vancouver

TransLink developed a guide for bicycle wayfinding in Metro Vancouver with the objective of encouraging more utilitarian cycling in the area. The Guide and Signage System is widely considered to be one of the most comprehensive bicycle wayfinding studies in the country. The 100+ page guide offers step-by-step instructions on how to develop a wayfinding system for bicycle routes and includes a systematic approach that determines which type of destinations cyclists need directions to.

Parks Canada Exterior Signage Standards and Guidelines

One of the most successful and widely implemented exterior signage programs in Canada is the Parks Canada Exterior Signage Standards and Guidelines. The signs utilize a layout grid that provides a framework on which the message elements and borders are arranged. The grid brings regularity and order to the sign and ensures that sign elements are consistently balanced and displayed. The guide provides a plethora of sign layout and design tools that have been developed and improved over several decades and have been comprehensively tested and analyzed.

In Canada, there is a growing movement toward utilizing the Parks Canada layout and approach to exterior signage for trails across the country. Recognizing this, the layout system for the Bicycle Wayfinding signs proposed in this guide have been adopted from the Parks Canada manual.

1.6 About this Guide

The objective of this guide is to provide instructive advice and support to all bikeway and trail route managers, with a focus on the Blue Route and other branded routes. The guide should help route managers collaborate, coordinate and plan their operations to provide an enhanced, user experiences through consistent wayfinding conventions. More specifically, the guide aims to accomplish the following objectives:

- Coordinate destination trail and bicycle route wayfinding practices across jurisdictions to promote consistent conventions;
- Offer best practices in signage fabrication, installation and maintenance.

This Guide is divided into several sections in order to facilitate the entire bicycle signage process—from sign planning through to installation and maintenance. The following provides a brief overview of each section.

Section 2: Wayfinding Sign Types
This section provides an overview of each wayfinding sign type—including the general purpose of each sign, when they should be used, where they should be placed, and any other important information describing the signage system.

Section 3: Sign Layout and Design
This section provides detailed information on how to lay out and design the bicycle wayfinding signs. It introduces the overall design approach and provides useful information on each sign element (arrows, text, symbols, etc) and layout requirements.

Section 4: Sign Planning
This section highlights the process in employing the sign types to create a sign plan for a specific route or study area. It provides essential information about the principles, tools and templates used to facilitate the sign planning process. This is a very important step in the overall process, as effective sign planning improves the user experience by effectively communicating wayfinding information.

Section 5: Fabrication
This section provides detailed technical information on the material and fabrication process for bicycle wayfinding signs. It includes information on fabrication techniques, sign post options and sign sheeting specifications.

Section 6: Installation and Maintenance
This section provides information on how to install signs in a consistent and effective manner. It includes information on installation techniques, sign heights and requirements. It also includes information and techniques on how to maintain signs to maintain their legibility and increase their overall lifespan.

2

WAYFINDING SIGN TYPES

The Bicycle Wayfinding System includes seven different sign types. The following section describes these types of signs and provides information about their function and situations when they should be used. Detailed design and layout specifications for each sign are provided in the Section 3.

Although the shape and function of each sign within the system differs from one to another, the style and aesthetic is consistent for all. All of the signs are blue and white and use the same typeface. They also use the same grid-based layout system to ensure graphic consistency. The layout and style of the signs are adapted from Parks Canada Standards, which are celebrated for their consistency and aesthetic quality.

2.1.1 Primary Signs

Within the overall Bicycle Wayfinding System, there are three primary sign types that are used in most situations. Wayfinding signs are required at key decision points, such as junctions and intersections, to help guide cyclists along a network to their destination. For these situations, sign planners can choose to use a combination of decision signs (Type D) and confirmation signs (Type C), or a single sign system using hybrid signs (Type H).

D Decision

Decision signs point the direction to destinations ahead of a turn or decision making point.

C Confirmation

Confirmation signs reassure cyclists of their intended direction and communicate distances to upcoming destinations.

H Hybrid

Hybrid signs convey directional information and distances on a single sign where space is limited for multiple sign posts.

2.1.2 Secondary Signs

In unique situations, other types of signs may be needed to describe more complicated turns or to convey important route information. These types of signs include turn fingerboards (Type T), waymarkers (Type W), and bikeway identification signs (Type ID).

T Turn fingerboard
Turn fingerboards can be used to highlight unusual turns or to provide directions to local destinations.

W Waymarker
Waymarkers are used to guide cyclists to or along a designated bike routes.

ID Bikeway Identification
Bikeway identification markers are used for routes that have regional or national designations (ie; Blue Route or Great Trail)

2.2 Decision Sign

D

Decision signs provide directions to destinations ahead of junctions to provide cyclists the time to make appropriate wayfinding decisions.

Decision signs (Type D) are used in conjunction with confirmation signs (Type C). Together, they communicate and confirm destinations and distances at important decision making points or junctions along a bicycle route. Decision signs are placed ahead of a decision making point to inform cyclists of upcoming turns and include directional information on the destinations that lay ahead.

After the decision making point, a confirmation sign is placed along the route to indicate that the cyclist has made the correct turn and is heading in the right direction. Details on Confirmation Signs are provided in Section 2.3.

2.2.1 Available Panel Sizes

There are three standard sign panel sizes available for Decision Signs. The standard size is 600 mm wide by 750 mm high. However, if there is not enough content to fill a standard sign panel, a smaller panel can be used, which is 600 mm wide by 600 mm high. Furthermore, if there is too much content for a standard size panel, a larger 600 mm wide by 900 mm high can be used.

Small
600 x 600 mm
(~24 x 24 in)

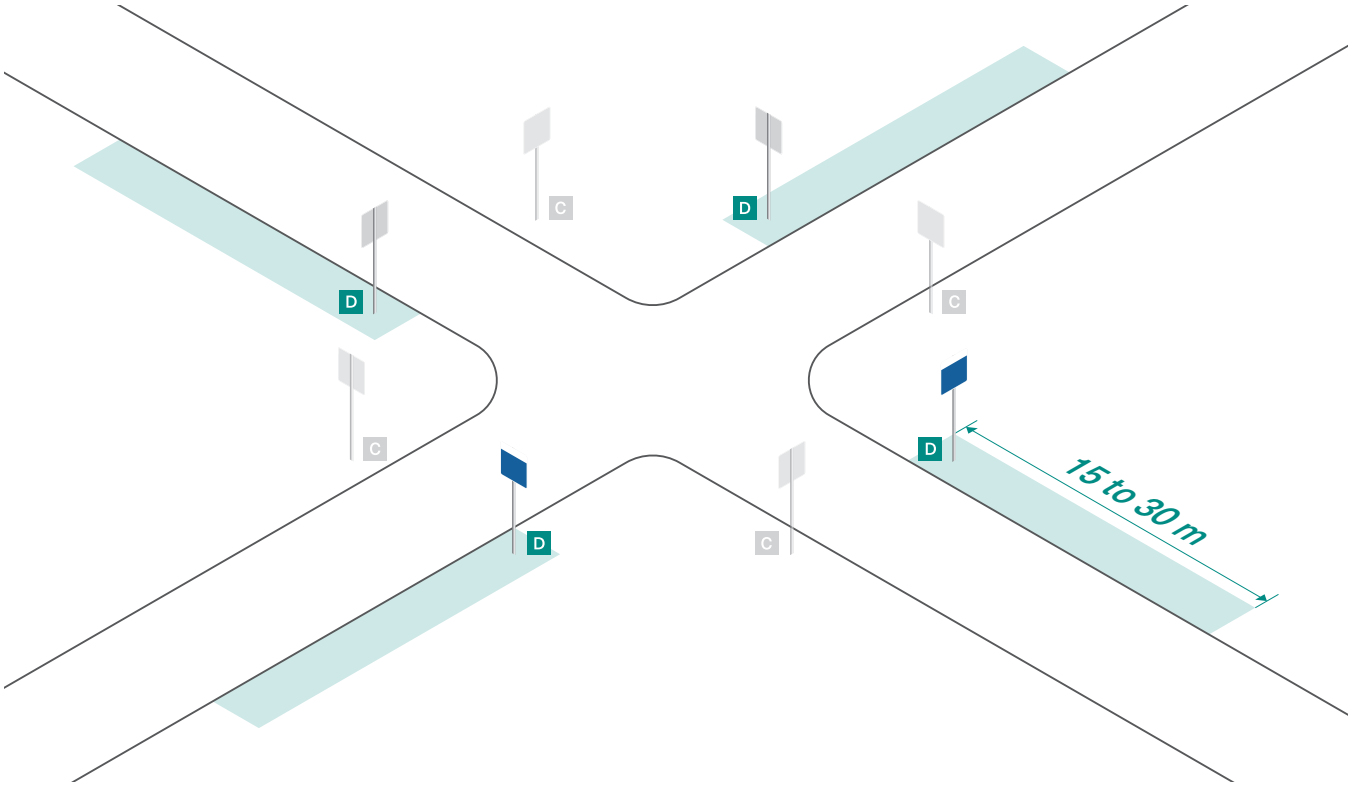
Standard
600 x 750 mm
(~24 x 30 in)

Large
600 x 900 mm
(~24 x 36 in)

2.2.2 Placement

Decision signs should be placed on designated bike routes at a safe stopping sight distance ahead of decision making points or junction. Safe stopping sight distances are a function of cyclist's travel speed and reaction time. Assuming a cyclist's travel speed of 20–40 km/hr, the safe stopping distance for a sign is 20–40 metres ahead of a turn. The Transportation Association of Canada's (TAC) Bikeway Traffic Control Guidelines for Canada manual includes charts and tables that specify minimum stopping sight distances for bicycles at different speeds.

It is important that decision signs are located so they are easily seen and obvious to cyclists. Signs should not be too far from the designated bike route, nor should they be close to other non-bike related corridors, lanes, or paths that could be confused with the bike route.



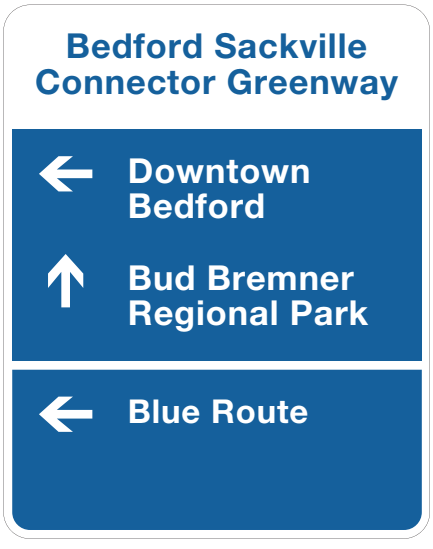
2.2.3 Diagrammatic Sign

In some circumstances, simple arrows and messages on a sign panel cannot adequately instruct cyclists on how to navigate a complex turn. In these cases, a diagrammatic sign can be employed. These signs use a simplified map or diagram to describe the turning movements required for a cyclist to get to their intended destination.

2.2.4 Route Directions

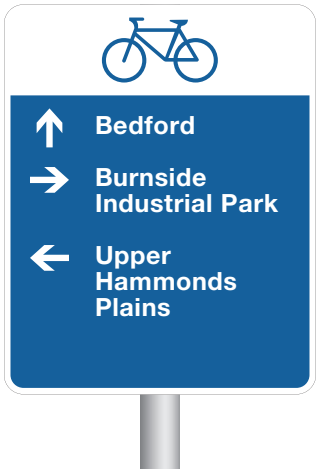
The bicycle wayfinding signage system is primarily a destination-based system; however, there may be situations where it is desirable to provide information about an intersecting route.

Destinations should always be prioritized over route information. If there is room on the sign, directions for routes can be provided at the bottom of the sign, but should be separated by a line to acknowledge the difference between destinations and routes.



2.2.5 Example Layouts

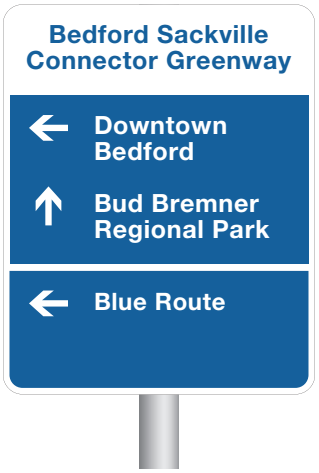
Below are typical decision sign layouts and common variations that can accommodate unique circumstances or additional information. More information about how to use the headers and footers is provided in Section X.X.



D1.1 Typical on-road decision sign

D1.2 On-road with route name
When an on-road route is named, it can be shown in the header section of the sign next to the TAC bike route icon.

D1.3 On-road with branded footer
When a route is along a municipal active transportation network, an optional footer can be used to display a brand or logo.

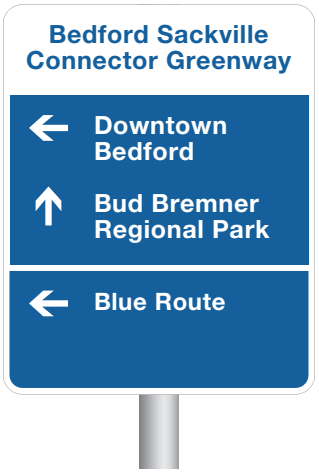


D1.3 On-road with route directions
When a bicycle route intersects with branded or designated route, directional route-based information can be added

D2.1 Typical off-road decision sign
Off-road routes should include the name of the trail in the header.

D2.2 Off-road with route name and logo
When an off-road route is named and branded, both the name and logo can be shown in the header section of the sign.

D2.3 Off-road with branded footer
When a route is along a municipal active transportation network, an optional footer can be used to display a brand or logo.



D2.4 Off-road with route directions
When a bicycle route intersects with branded or designated route, directional route-based information can be added

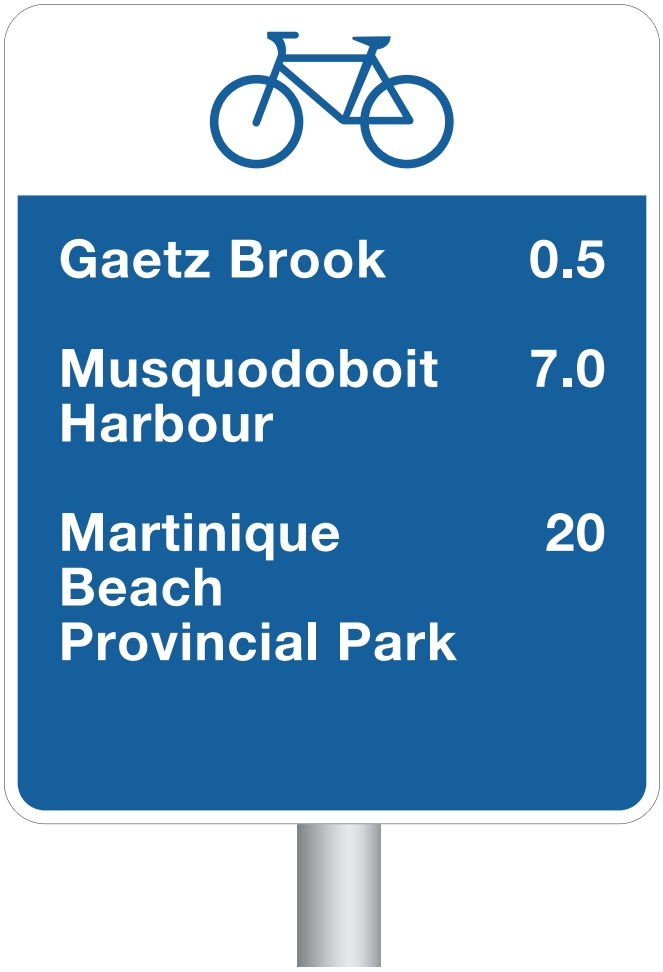
2.3 Confirmation Sign

C

Confirmation signs provide information about upcoming destinations and also help assure cyclists that they are on the right route to their intended destination.

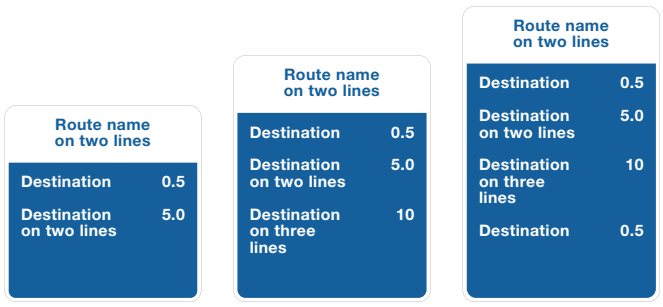
Confirmation signs (Type C) are used in tandem with decision signs (Type D). Together, they communicate and confirm destinations and distances at important decision making points or junctions along a bicycle route. Confirmation signs are placed after a decision making point to confirm that cyclists have made the correct turn and are on the correct route. They can also be placed along long section of a bike route to assure cyclists they are on the correct route.

After the decision making point, a confirmation sign is placed along the route to indicate that the cyclist has made the correct turn and is heading in the right direction. Details on decision signs are provided in Section 2.2.



2.3.1 Available Panel Sizes

There are three standard sign panel sizes available for confirmation signs. The standard size is 600 mm wide by 750 mm high. However, if there is not enough content to fill a standard sign panel, a smaller panel can be used, which is 600 mm wide by 600 mm high. Furthermore, if there is too much content for a standard size panel, a larger 600 mm wide by 900 mm high can be used.



Small
600 x 600 mm
(~24 x 24 in)

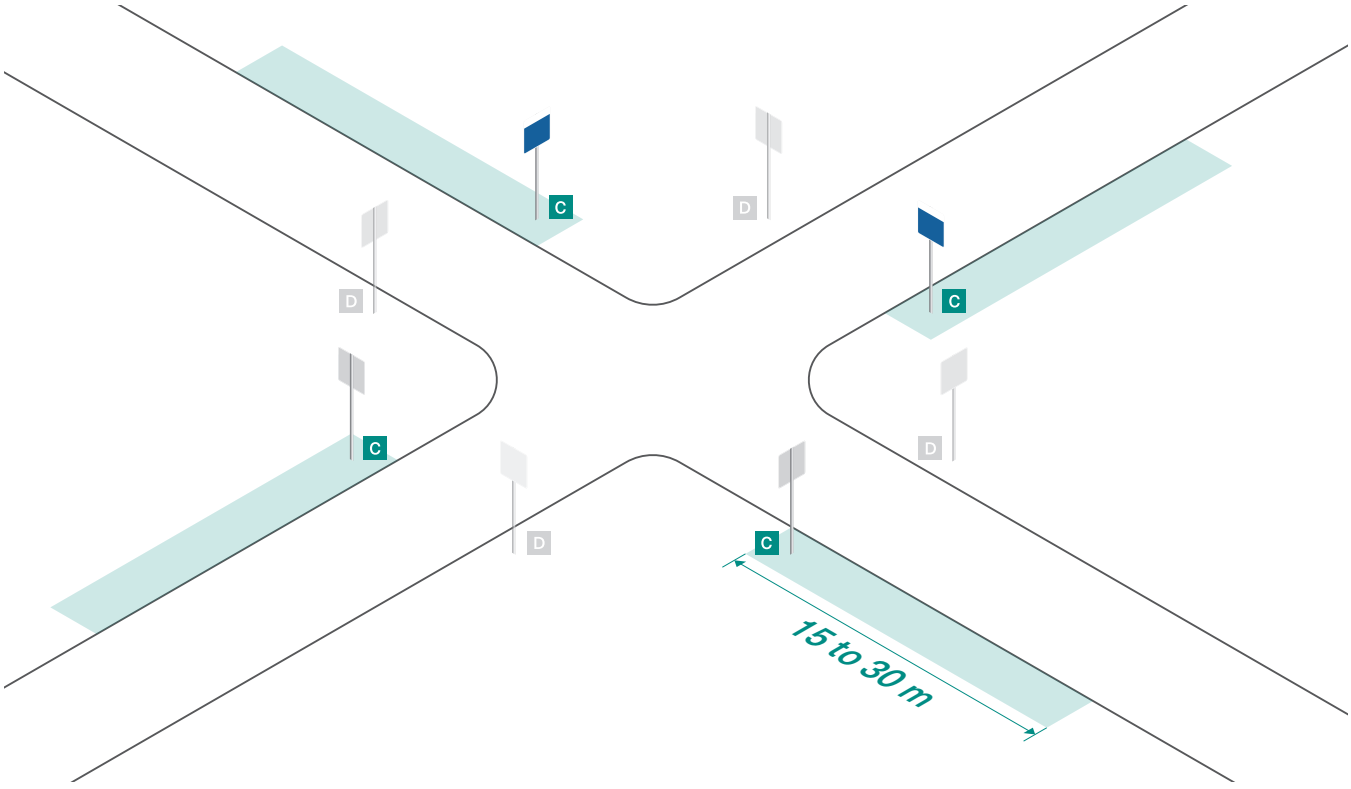
Standard
600 x 750 mm
(~24 x 30 in)

Large
600 x 900 mm
(~24 x 36 in)

2.3.2 Placement

Confirmation signs should be placed at 20–40 metres after a turn on designated bike routes.

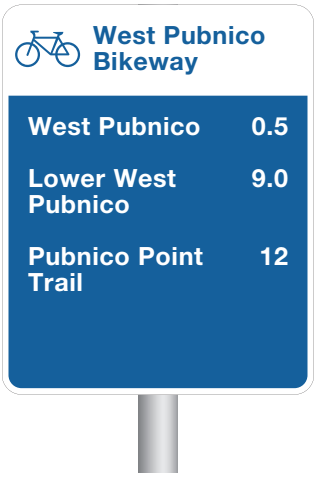
It is important that confirmation signs are located so that they are easily seen and obvious to a cyclist. Signs should not be too far from the designated bike route, nor should they be close to other non-bike related corridors, lanes, or paths that could be confused with the bike route.



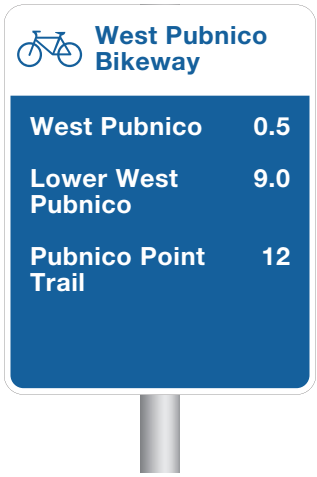
2.3.3 Example Layouts

Below are typical confirmation sign layouts and common variations that can accommodate unique circumstances or additional information.

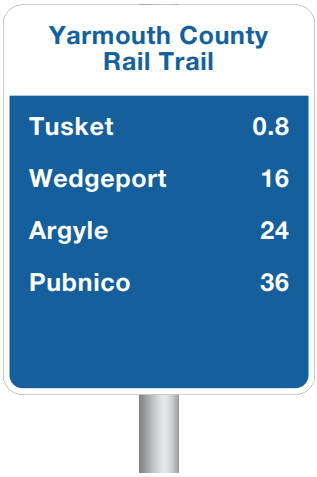
C1.1 Typical on-road confirmation sign



C1.2 On-road with route name
When an on-road route is named, it can be shown in the header section of the sign next to the TAC bike route icon.



C1.3 On-road with branded footer
When a route is along a municipal active transportation network, an optional footer can be used to display a brand or logo.



C2.1 Typical off-road confirmation sign w/ trail name
When an off-road route is named, it can be shown in the header section of the sign. If the off-road route is a bicycle only trail, a TAC bike icon can be used. If it is a multi-use trail, only the route name should be displayed.

C2.2 Off-road with trail name and logo
When an off-road route is named and branded, both the name and logo can be shown in the header section of the sign.

C2.3 Off-road with branded footer
When a route is along a municipal active transportation network, an optional footer can be used to display a brand or logo.

2.4 Hybrid Sign

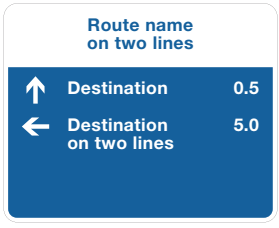
H

Hybrid signs provide directional, destination and distance information—all on one combined sign. These signs can be used in lieu of decision / confirmation signs in areas where space is limited.

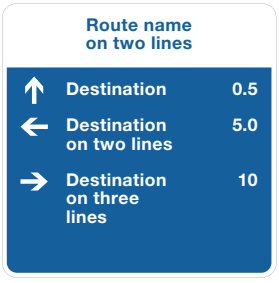
Hybrid signs (Type H) communicate directional information and confirm destinations and distances at important decision making points or junctions along a bicycle route. Hybrid signs are placed ahead of a decision making point to inform cyclists of upcoming turns and include directional information on the destinations that lay ahead. When hybrid signs are used, there are no confirmation signs placed after the decision making point to indicate that the cyclist has made the correct turn.

2.4.1 Panel Sizes

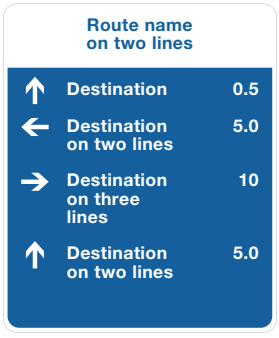
There are three standard sign panel sizes available for confirmation signs. The standard size is 750 mm wide by 750 mm high. However, if there is not enough content to fill a standard sign panel, a smaller panel can be used, which is 750 mm wide by 600 mm high. Furthermore, if there is too much content for a standard size panel, a larger 750 mm wide by 900 mm high sign can be used.



Small
750 x 600 mm
(~30 x 24 in)



Standard
750 x 750 mm
(~30 x 30 in)



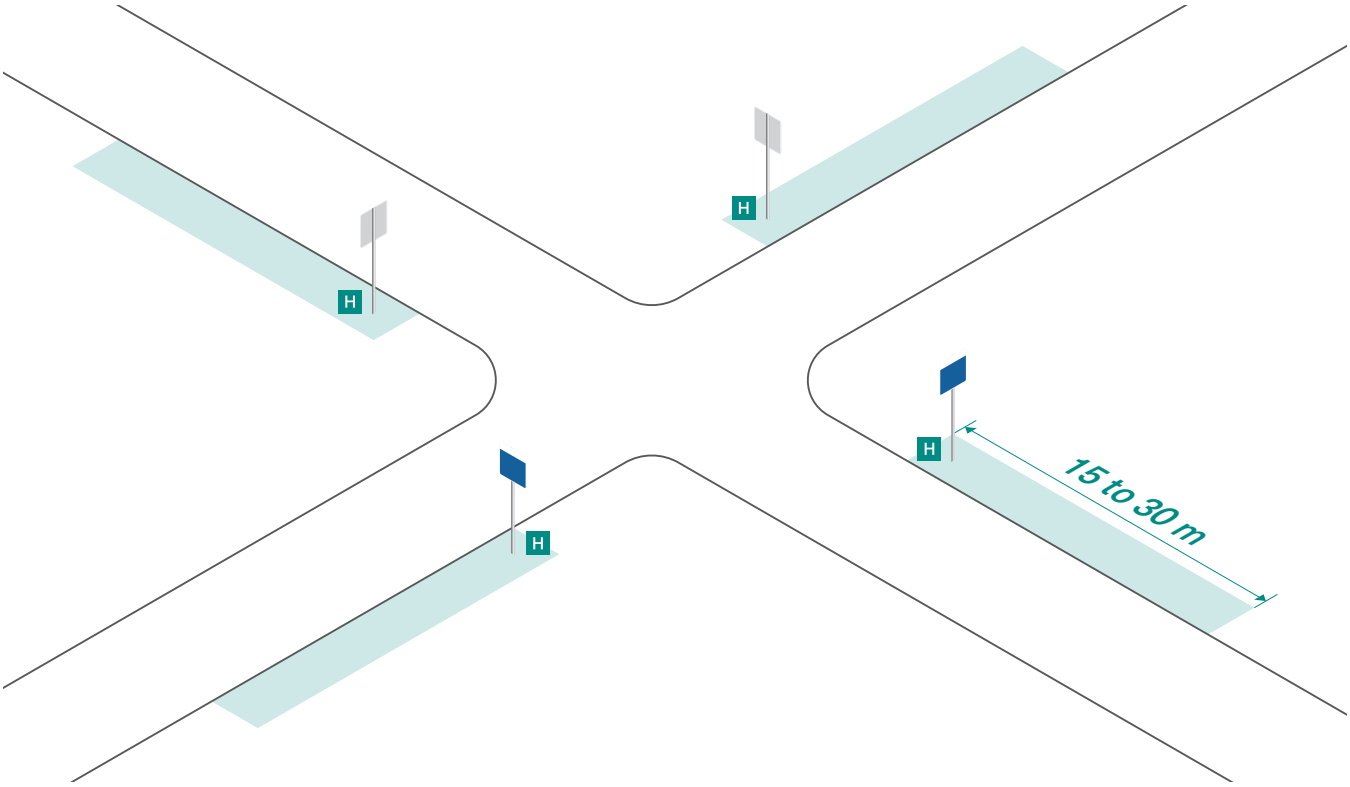
Large
750 x 900 mm
(~30 x 36 in)

2.4.2 Placement

Hybrid signs should be placed on designated bike routes at a safe stopping sight distance ahead of decision making points or junction. Safe stopping sight distances are a function of a cyclist's travel speed and reaction time.

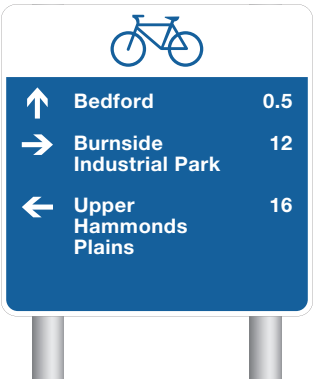
Assuming a cyclist's travel speed of 1520–4025 km/hr, the safe stopping distance for a sign is 1520–4030 metres ahead of a turn. The Transportation Association of Canada's (TAC) Bikeway Traffic Control Guidelines for Canada manual includes charts and tables that specify minimum stopping sight distances for bicycles at different speeds.

It is important that hybrid signs are located so that they are easily seen and obvious to cyclists. Signs should not be too far from the designated bike route, nor should they be close to other non-bike related corridors, lanes, or paths that could be confused with the bike route.



2.4.3 Hybrid Wayfinding Sign Examples

Below are typical hybrid wayfinding sign layouts and common variations that can accommodate unique circumstances or additional information.



H1.1 Typical on-road hybrid sign

H1.2 On-road with route name

When an on-road route is named, it can be shown in the header section of the sign next to the TAC bike route icon.

H1.3 On-road with branded footer

When a route is along a municipal active transportation network, an optional footer can be used to display a brand or logo.

H1.4 On-road with route information

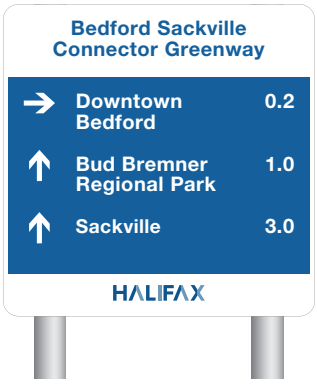
When a bicycle route intersects with a branded or designated route, directional route-based information can be added

H2.1 Off-road with route name

When an off-road route is named, it can be shown in the header section of the sign. If the off-road route is a bicycle only trail, a TAC bike icon can be used. If it is a multi-use trail, only the route name should be displayed.

H2.2 Off-road with route name and logo

When an off-road route is named and branded, both the name and logo can be shown in the header section of the sign.



H2.3 Off-road with branded footer

When a route is along a municipal active transportation, an optional footer can be used to display a brand or logo.

H2.4 Off-road with route information

When a bicycle route intersects with branded or designated routes, directional route-based information can be added

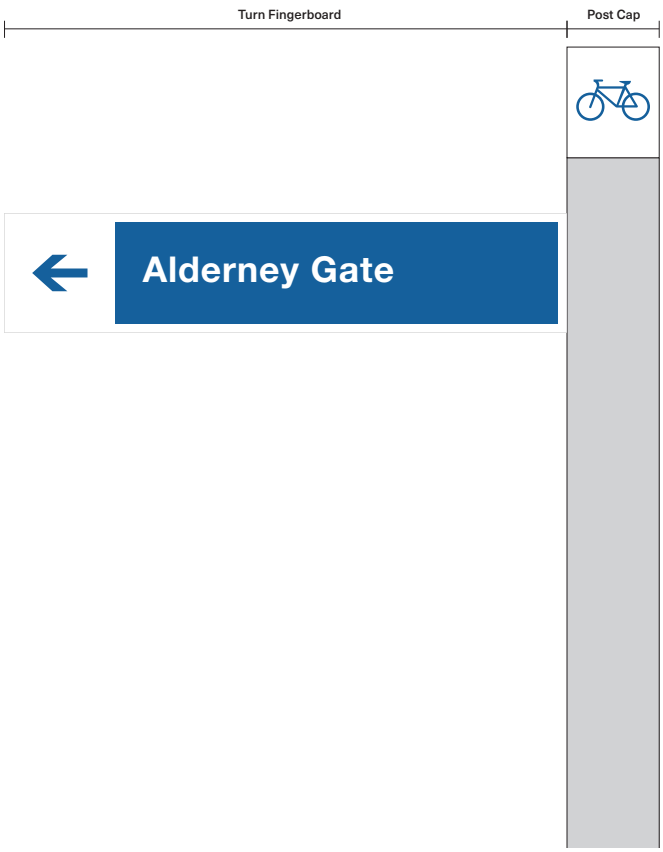
2.5 Turn Fingerboard

T

Turn fingerboards are optional signs used to highlight turns from one route to another. The fingerboard is useful for complex turns as its shape has the advantage of being inherently directional.

Turn fingerboards offer wayfinding information for single destinations at decision making points. These may be useful for complex turns or for providing wayfinding information to non-regional destinations (ie; places that aren't considered a Level 1–3 destination, as described in Section 4.X).

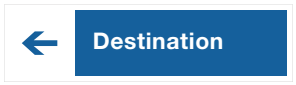
An optional post cap with bicycle icon or trail logo can be included for turn fingerboard signs to emphasize that the directional information is intended for cyclists or other trail users.



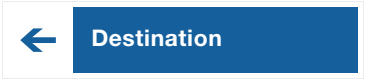
2.5.1 Panel Sizes

There are three standard sign panel sizes available for confirmation signs. The standard size is 600 mm wide by 750 mm high. However, if there is not enough content to fill a standard sign panel, a smaller panel can be used, which is 600 mm wide by 600 mm high. Furthermore, if there is too much content for a standard size panel, a larger 600 mm wide by 900 mm high can be used.

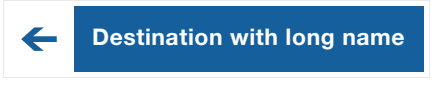
Small
162.5 x 609.6 mm
(~24 x 6.4 in)



Standard
762.5 x 162.5 mm
(~30 x 6.4 in)



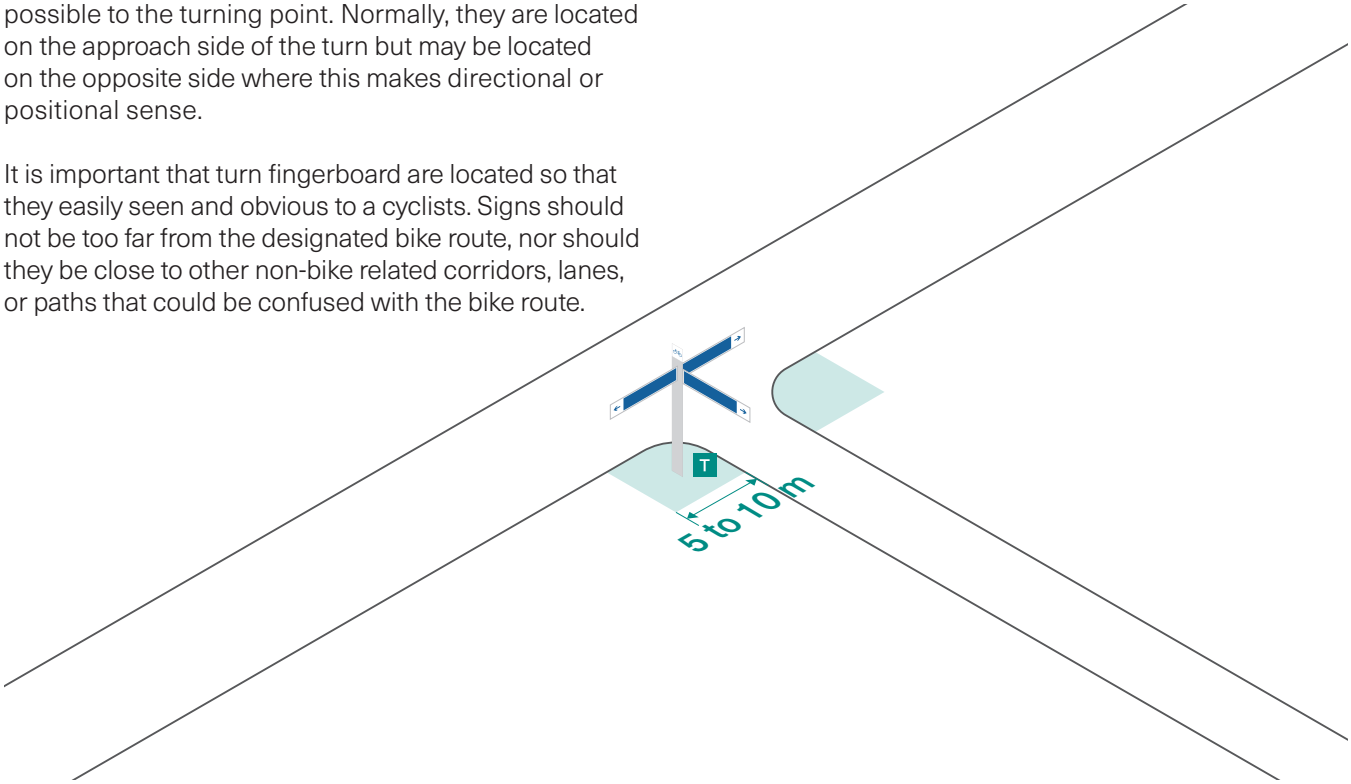
Large
900 x 162.5 mm
(~35 x 6.4 in)



2.5.3 Placement

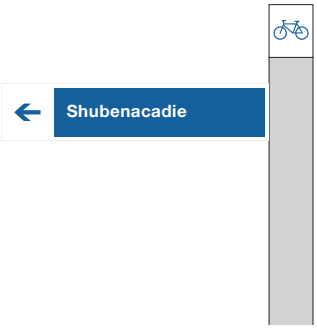
Turn fingerboard signs should be located as close as possible to the turning point. Normally, they are located on the approach side of the turn but may be located on the opposite side where this makes directional or positional sense.

It is important that turn fingerboard are located so that they easily seen and obvious to a cyclists. Signs should not be too far from the designated bike route, nor should they be close to other non-bike related corridors, lanes, or paths that could be confused with the bike route.

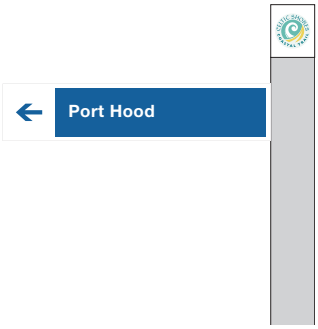


2.5.2 Turn Fingerboard Examples

Below are typical turn fingerboard wayfinding sign layouts and common variations that can accommodate unique circumstances or additional information.

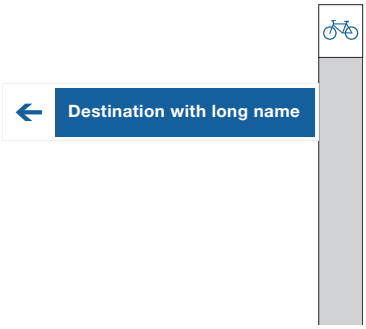


T1.1 Typical turn fingerboard



T1.2 Turn fingerboard with branded route name

When a turn fingerboard is on a branded route, the logo can be shown in the post cap area.



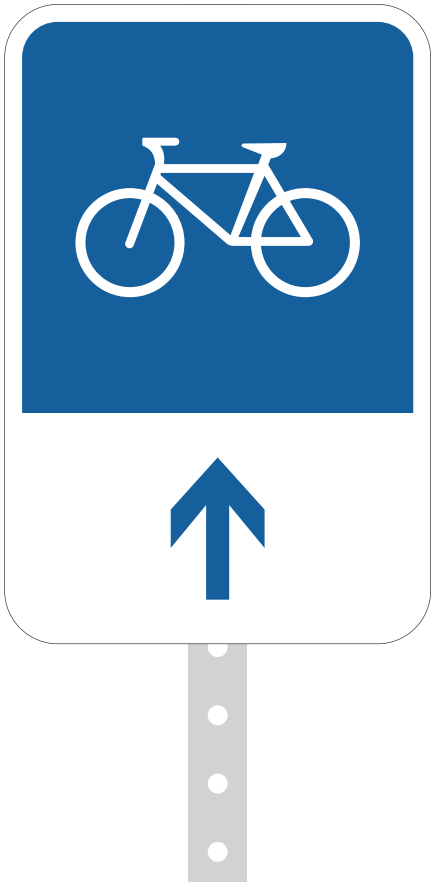
T1.4 Typical turn fingerboard sign with long name

W

Waymarker signs can be used to help guide cyclists along a route or through complex turns and decision making points. They can also be used to help direct cyclists onto a regional route

Waymarker signs do not provide directions to destinations. Rather, they supplement the wayfinding system by providing guidance along designated bicycle routes. They can be used at complicated turns, busy intersections, or along secondary routes that link into the main bicycle network.

Waymarker signs can also be used in tandem with decision/confirmation signs or hybrid signs to provide route guidance information for provincially or nationally designated routes, such as the Blue Route or the Great Trail. For example, if a trail goes in multiple directions, but only the Blue Route continues along one of them, a waymarker can be used to indicate this.



2.6.1 Available Panel Size

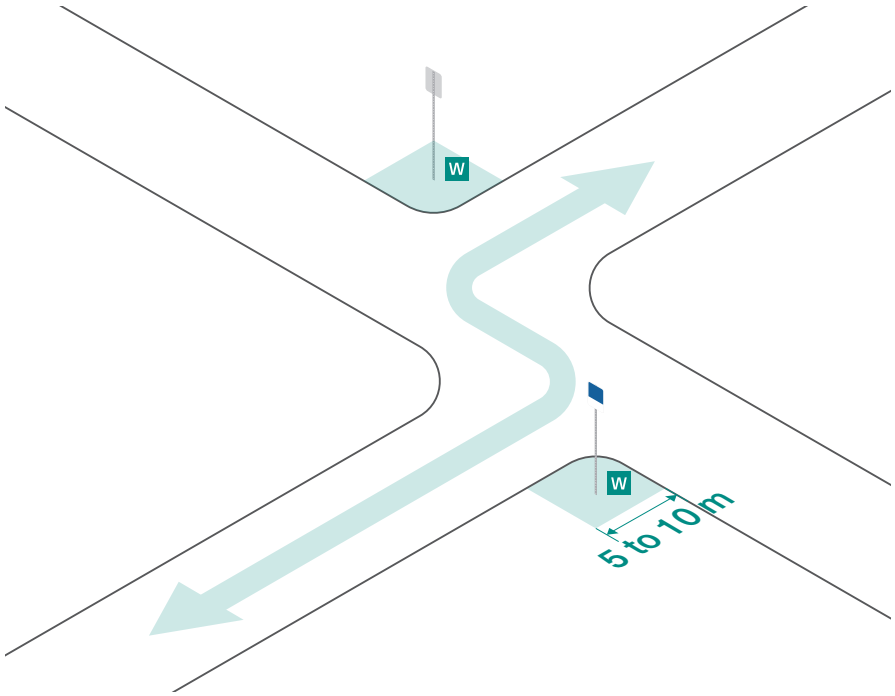
The size for a waymarker sign is 300 mm wide by 450 mm high.

Standard
300 x 450 mm
(~12 x 18 in)

2.6.2 Placement

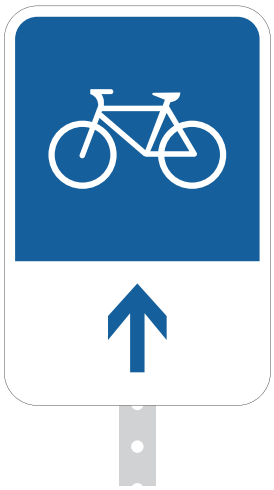
Turn fingerboard signs should be located as close as possible to the turning point. Normally, they are located on the approach side of the turn but may be located on the opposite side where this makes directional or positional sense.

It is important that turn fingerboard are located so that they easily seen and obvious to a cyclists. Signs should not be too far from the designated bike route, nor should they be close to other non-bike related corridors, lanes, or paths that could be confused with the bike route.



2.6.3 Waymarker Sign Examples

Below are typical waymarker wayfinding sign layouts and common variations that can accommodate unique circumstances or additional information.



W1.1 Typical on-road waymarker sign

W1.2 Typical off-road waymarker sign

W1.3 Typical off-road waymarker sign with logo

W1.3 Waymarker for Blue Route

2.7 Bikeway Identification

ID

Bikeway identification signs are used to indicate that the cyclist is on a provincially or nationally designated bicycle route, such as the Blue Route or the Great Trail.

Bikeway identification signs are to be used to offer supplementary wayfinding information to cyclists. They are used to indicate, remind or assure cyclists that they are on a provincially or nationally designated bicycle route, such as the Blue Route or the Great Trail. This will be useful information, particularly for cycling tourists who may have come to ride along one of these routes.

2.7.1 Available Panel Sizes

There are three standard sign panel sizes available for route identification signs. The standard size is 600 mm wide by 750 mm high. However, if there is not enough content to fill a standard sign panel, a smaller panel can be used, which is 600 mm wide by 600 mm high. Furthermore, if there is too much content for a standard size panel, a larger 600 mm wide by 900 mm high can be used.

Single
300 x 300 mm
(~12 x 12 in)

Double
300 x 600 mm
(~12 x 24 in)

Triple
300 x 900 mm
(~12 x 36 in)

2.7.2 Placement

Bikeway identification signs should be placed alongside designated bicycle routes every kilometre on urban routes and every four kilometres on regional, rural routes.

It is important that identification signs are located so that they easily seen and obvious to a cyclists. Signs should not be too far from the designated bike route, nor should they be close to other non-bike related corridors, lanes, or paths that could be confused with the bike route.

2.7.3 Bikeway Identification Sign Examples

Below are typical bikeway identification sign layouts and common variations that can accommodate unique circumstances or additional information.

ID1 Single identification

ID2 Route name and single identification

ID3 Double identification

ID4 Route name and double identification

ID5 Branded route name and double identification

3

SIGN DESIGN AND LAYOUT

3.1 Overview

This section provides an overview of how to design or layout a bicycle wayfinding sign. It describes the various graphic elements and components of the signs and describes the underlying principles of the layout system. It also provides details and dimensions for standard signs in the sign family.

3.2.1 Typeface

The Bicycle Wayfinding System utilizes Helvetica Neue LT Std as a consistent typeface throughout the entire family of signs. This typeface includes all characters commonly used in sign messages, including letters, numerals, typographic symbols and punctuation marks.

Helvetica Neue 75© is well known for its versatility and legibility. The typeface is also used by Parks Canada on all of their exterior signs. The organization conducted testing on Helvetica Neue 75©, which confirmed that the typeface meets acceptable legibility standards for vehicular signage when configured following the layout, fabrication and installation specifications described in this guide. Using Helvetica Neue 75© for bicycle signage will ensure a common look throughout the province and ensure consistency. The font can be purchased online from Linotype®, Adobe® and the FontShop®.

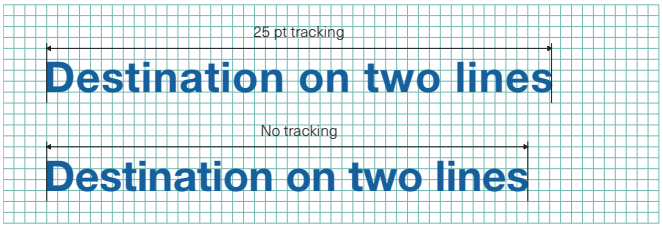
ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

1234567890. , : ; “ ” « » ? ! / ( ) $

3.2.2 Letterspacing (Tracking)

The spacing between letters and words affects the legibility of a text based message. In order to improve the legibility of text on traffic signs in general, the spacing between letters are often increased in a process known as letterspacing (or tracking).



For vehicular signs, tracking between letters and words is especially important in order to account for the effects of halation. Halation is a blurring effect that occurs when retroreflective signs are viewed at night and are illuminated by car headlights. This produces a halo effect around the edge of the text which can blur letters and words together. In order to reduce the effects of halation, letterspacing on vehicular signs is typically increased.

For bicycle oriented signs, halation is not as much of an issue as with vehicular signs. However, increased letterspacing is still desired to improve general legibility. For these purposes, letterspacing on bicycle signs is established at a value of 25 pt.

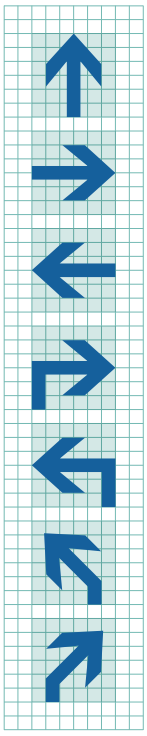
3.2.3 Character size

Text should be displayed at an x-height of 25 mm, which measures the height of a lower case character from the baseline to the top of the main body of lower case letters. When using points for sizing fonts, a 25mm x-height in Helvetica Neue 75 converts to 137 pt.

3.3 Arrows

The arrow is one of the most common elements in the Bicycle Wayfinding signage system. The arrow used in the signage family conforms with ISO standard 7001. Human factors research has confirmed that this arrow is appropriate for all signage applications, including highway vehicular signs. The directional arrow plays a key role in wayfinding and for this reason has been assigned the dominant left position on a sign.

The directional arrow always functions in conjunction with a message (text and/or symbol). The arrow can be used to indicate five standard directions and four advance turns directions. Occasionally, arrows may also need to point in two or three directions.



Through destination

Right turn

Left turn

Advanced sharp right turn

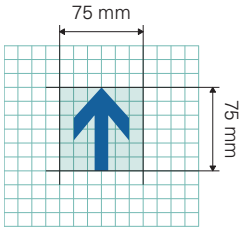
Advanced sharp left turn

Advanced left turn

Advanced right turn

3.3.1 Arrow Size

Human factors testing has confirmed that an arrow that is three times the x-height of text is the most comprehensible. Thus, arrows on standard size signs are 75 x 75mm.



3.4 Colour

Colour is a key component of the Bicycle Wayfinding Signage System. All signs in the family utilize blue and white sheeting, which ensures a common look throughout and ensure consistency.

Blue

The blue colour used in the wayfinding signs is based on the 3M™ ElectroCut Film 1175C Blue. This is a transparent, coloured, acrylic film often used to provide backgrounds and text for standard traffic retroreflective signs. For digitally printed signs, a Pantone equivalent (3015C) to the 3M 1175C Blue can be used.

PANTONE 3015 C

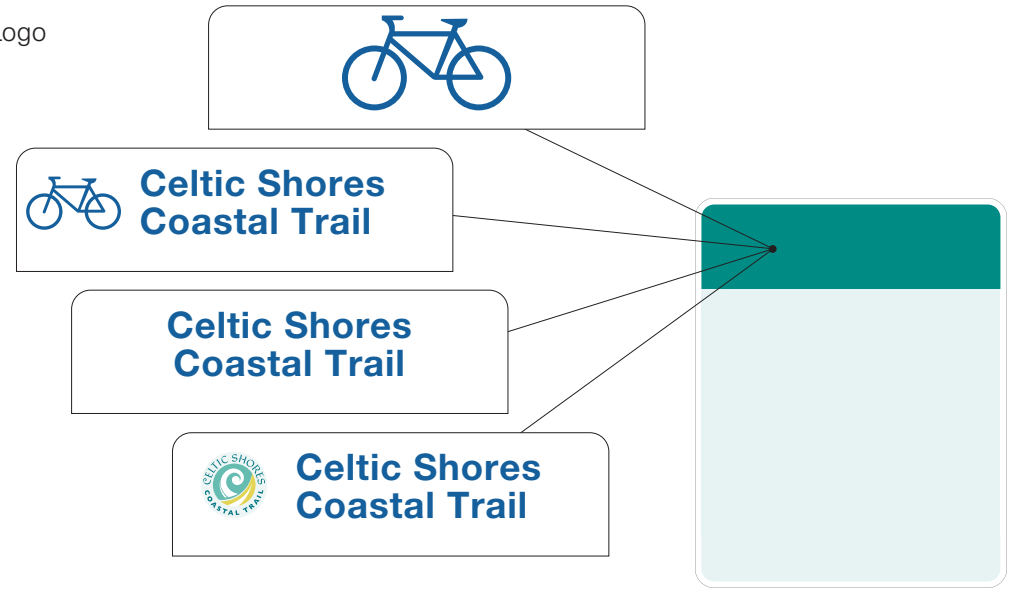
C 100 M58 Y21 K4

3.5.1 Header

The role of the header is to indicate that the route is an on-road or off-road designated bike route. For on-road facilities such as bike lanes and paved shoulders, the header will include a bicycle icon to indicate a bike route, with an option to include a name for the route (ie; Local Street Bikeway). For off road routes such as trails or multi-use pathways, the bike icon should not be included in the header because these types of routes are typically multi-modal. Instead, headers for signs on off-road routes will include the name of the trail, with an option to include a branded logo or wordmark.

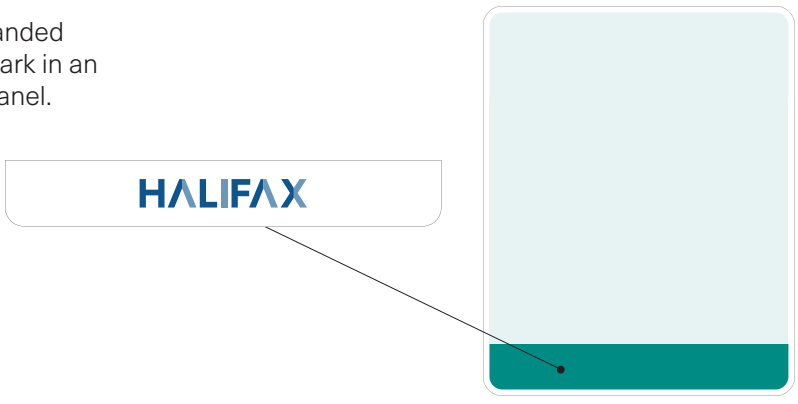
There are four different variations for headers:

- On-Road Bike Route
- On-Road Bike Route with Bike Icon
- Off-Road Bike Route
- Off-Road Bike Route with Logo



3.5.2 Footer

For municipally maintained bicycle routes or branded trails, decision signs can include a small wordmark in an optional white footer at the bottom of the sign panel.



3.6 Message Body

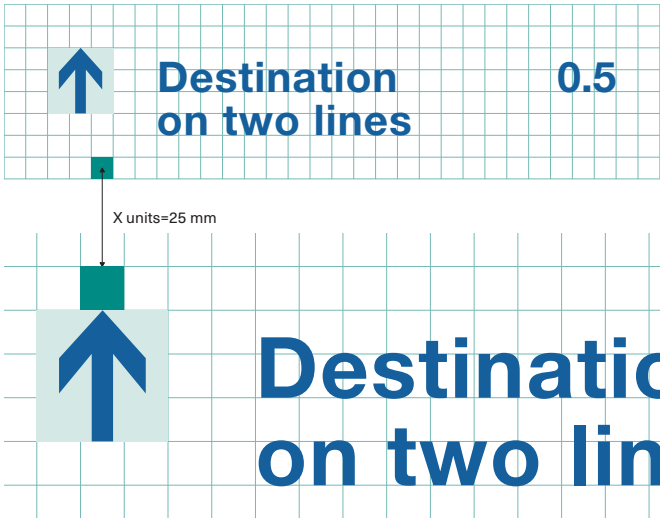
The objective of a wayfinding sign is to communicate decision making information to ensure cyclists navigate to their intended destination. This vital information is presented in the blue message body portion of the sign. Decision signs typically contain three destinations per sign but can include up to four in special circumstances. Long names may extend over two, or (at most) three lines.

At a junction, destinations should be provided for each direction that the bike route diverges to. For example, at a four way intersection, destinations should be provided for all three directions that a cyclist can travel along. Destinations should be sequenced according distance, with the closest destination on top and the furthest on the bottom.

3.7.1 Layout Grid

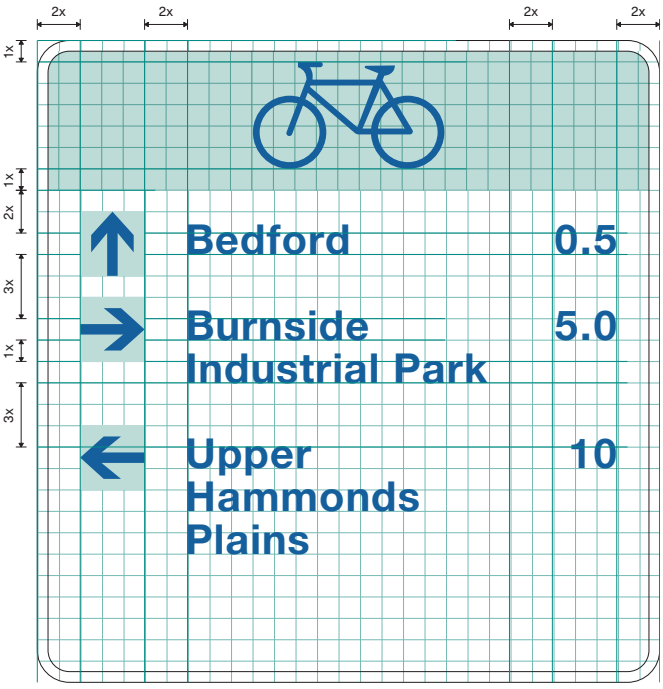
The Bicycle Wayfinding Signage System uses a layout grid to provide guidance for the consistent positioning and scaling of messages, directional arrows, other graphic elements element and the border. The fixed layout grid is composed of 25 x 25 mm square cells. Each cell is referred to as "x".

Although invisible on the finished sign, the layout grid is an integral component of the sign layout system. It provides the framework on which the message elements and border are arranged. The grid brings regularity and order to the layout and ensures consistency throughout the sign system.



3.7.2 Standard Spacing

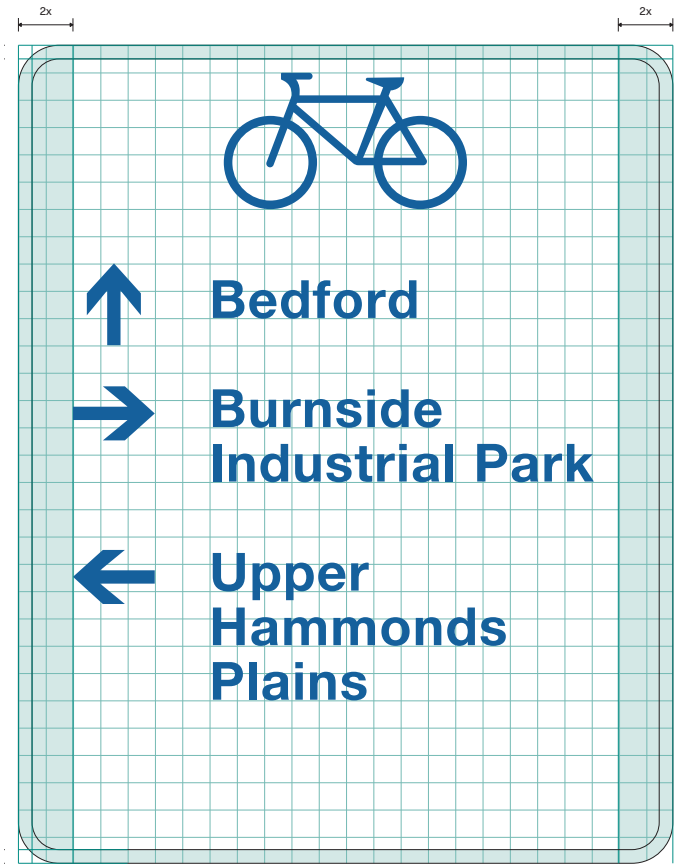
The example to the right illustrates the standard spacing between typical message elements on a sign. Each message element requires a predetermined space surrounding. All layout specifications reference the grid and are expressed in terms of “x”.



3.8 Margins and Border

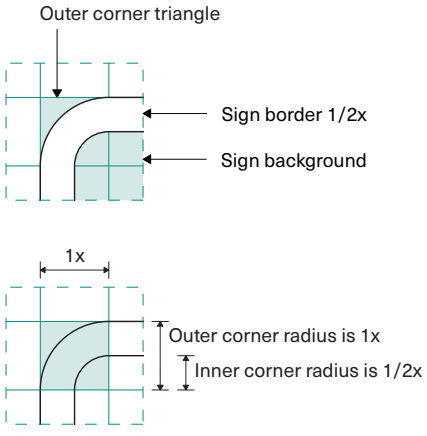
3.8.1 Standard Margins

A standard perimeter margin of 2x is maintained between the message elements and the sign edge.

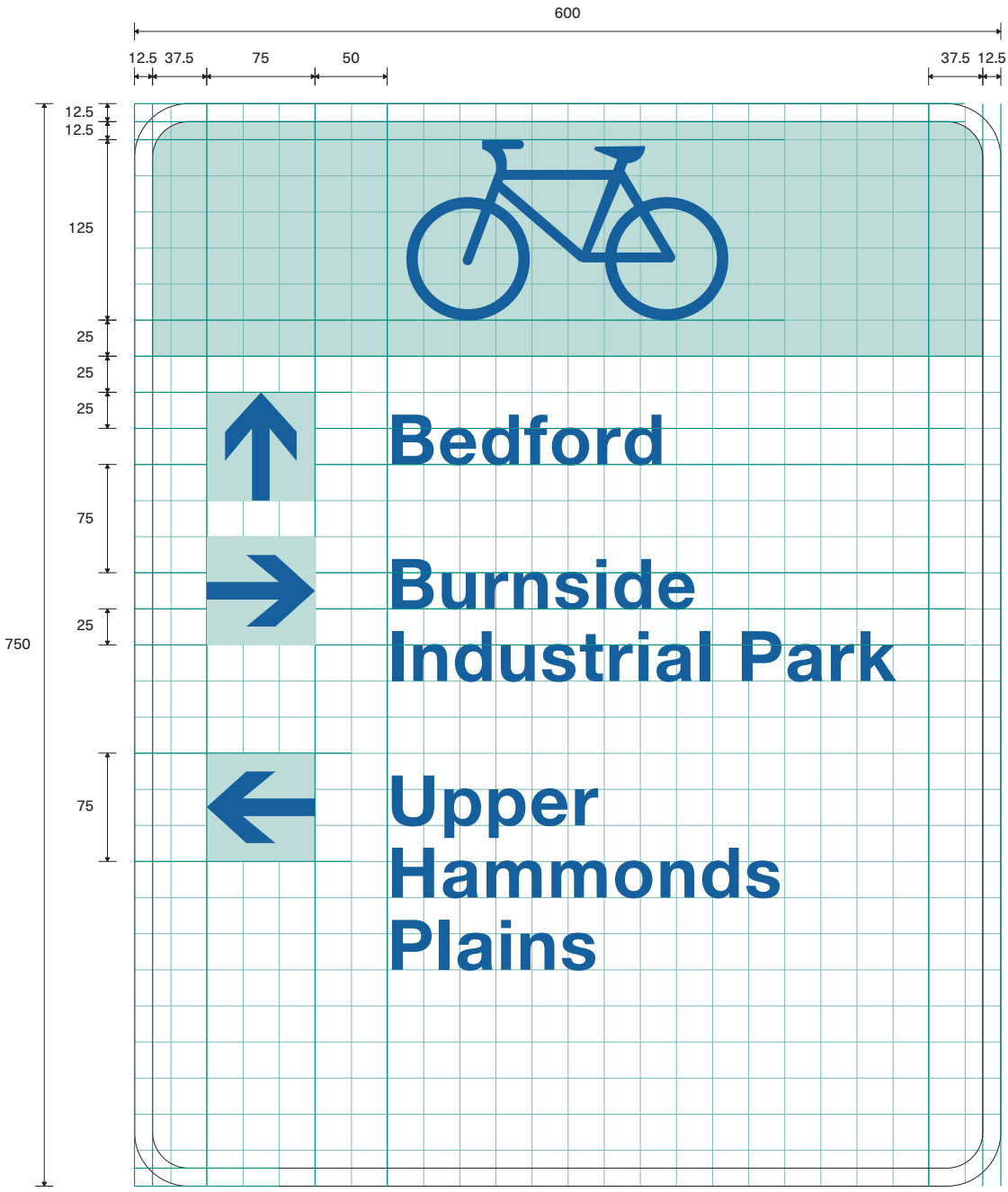


Sign Border

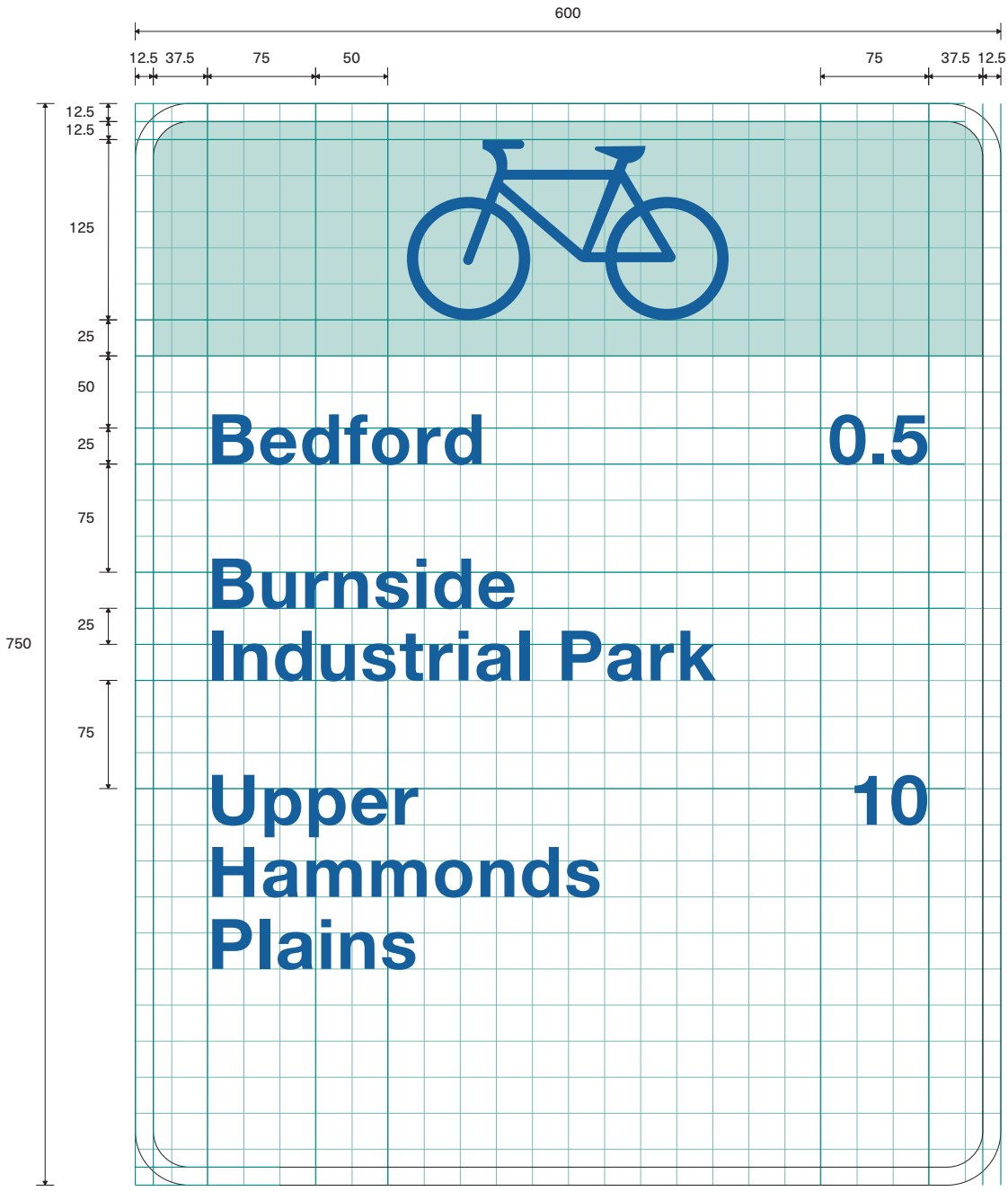
The perimeter of each sign contains a standard border which improves visibility, especially during the hours of darkness.



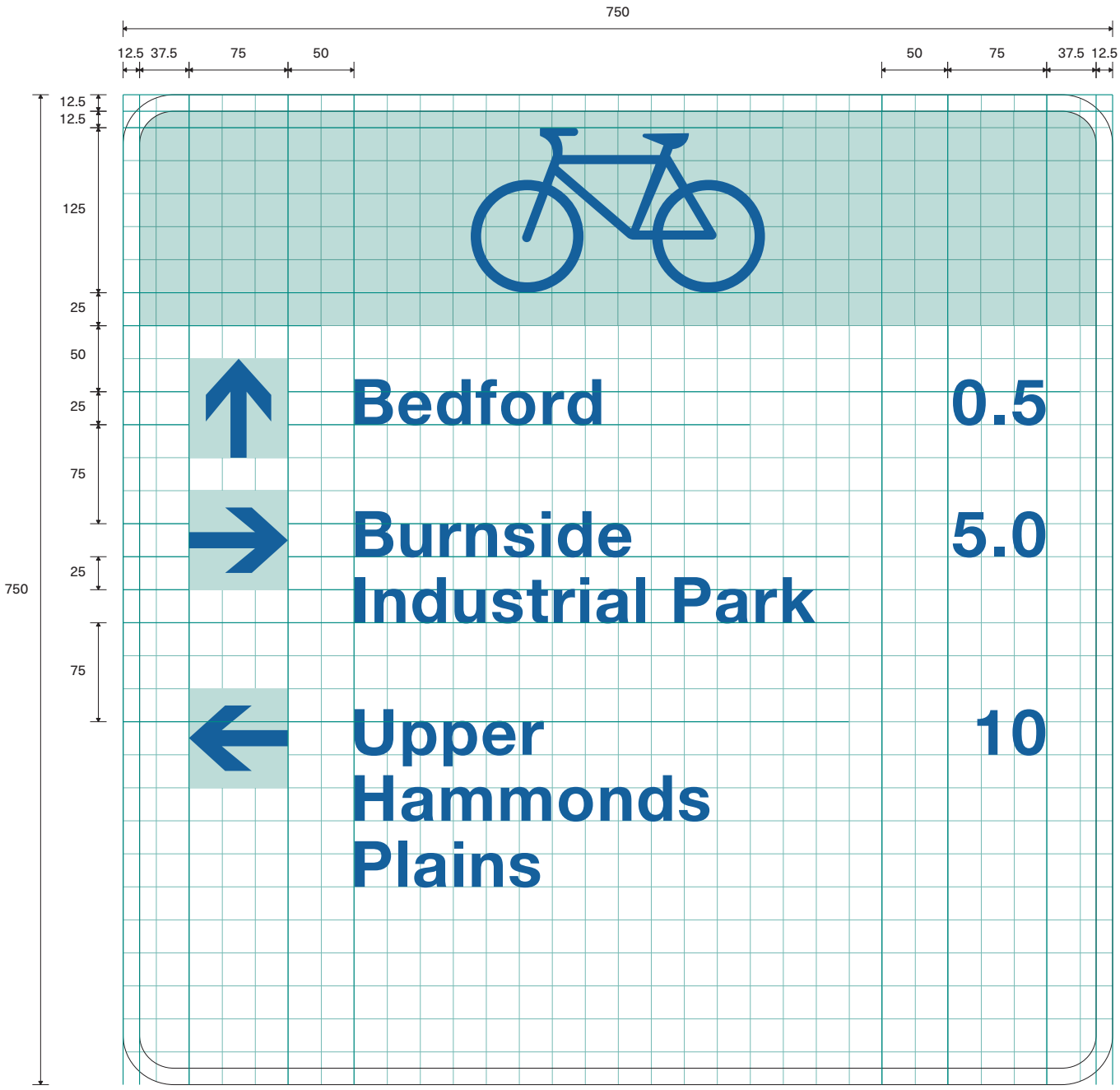
3.9.1 Decision sign



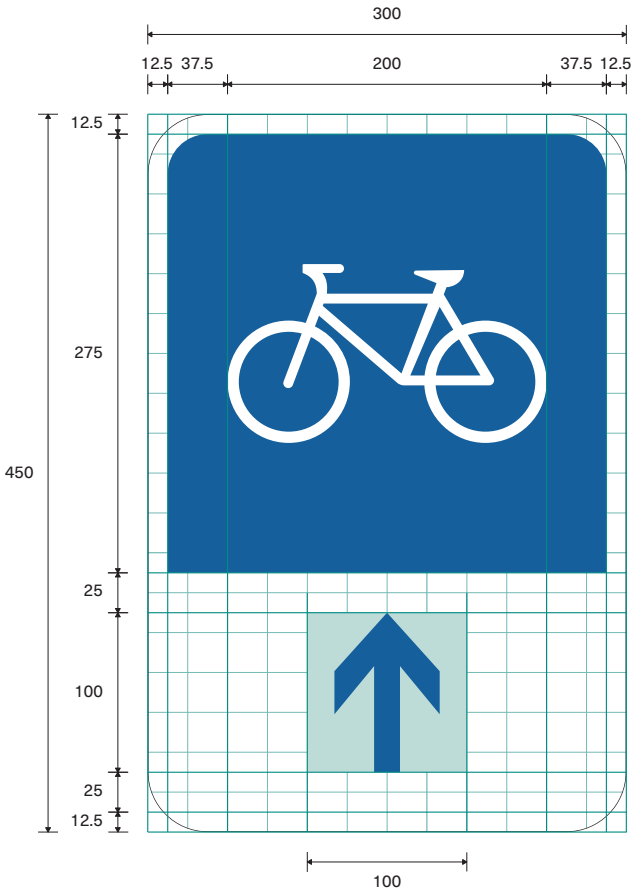
3.9.2 Confirmation sign



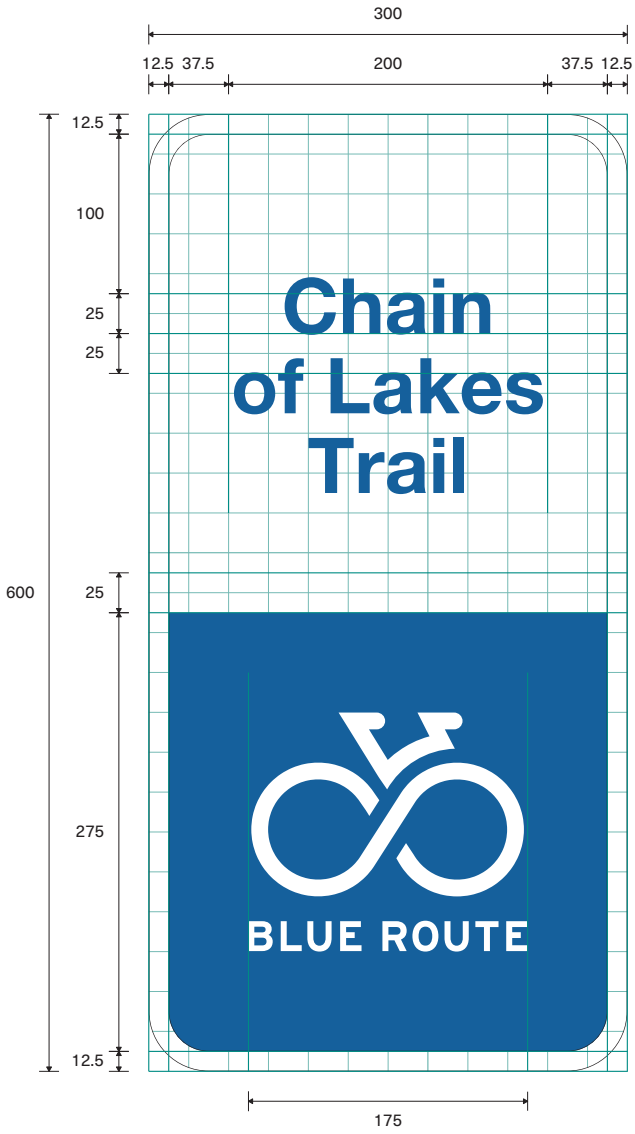
3.9.3 Hybrid sign



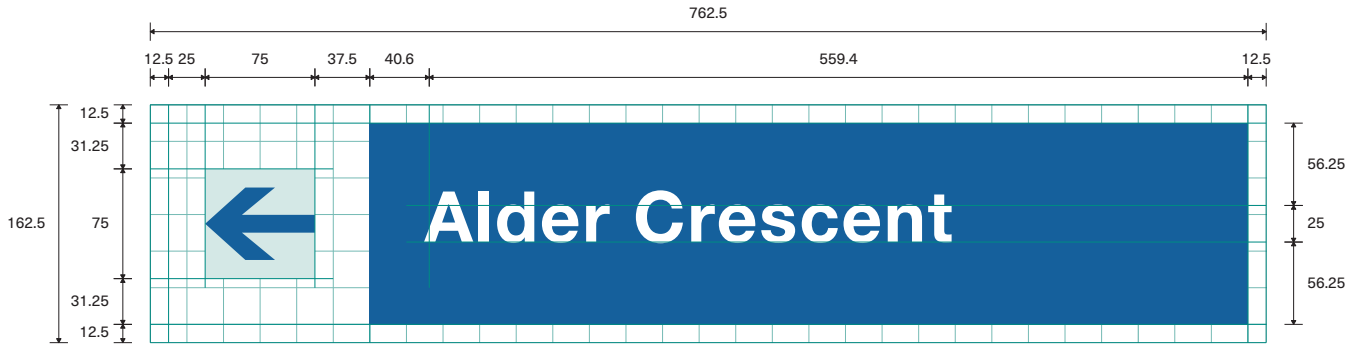
3.9.4 Waymarker sign



3.9.5 Identification sign



3.9.6 Turn Fingerboard sign



4

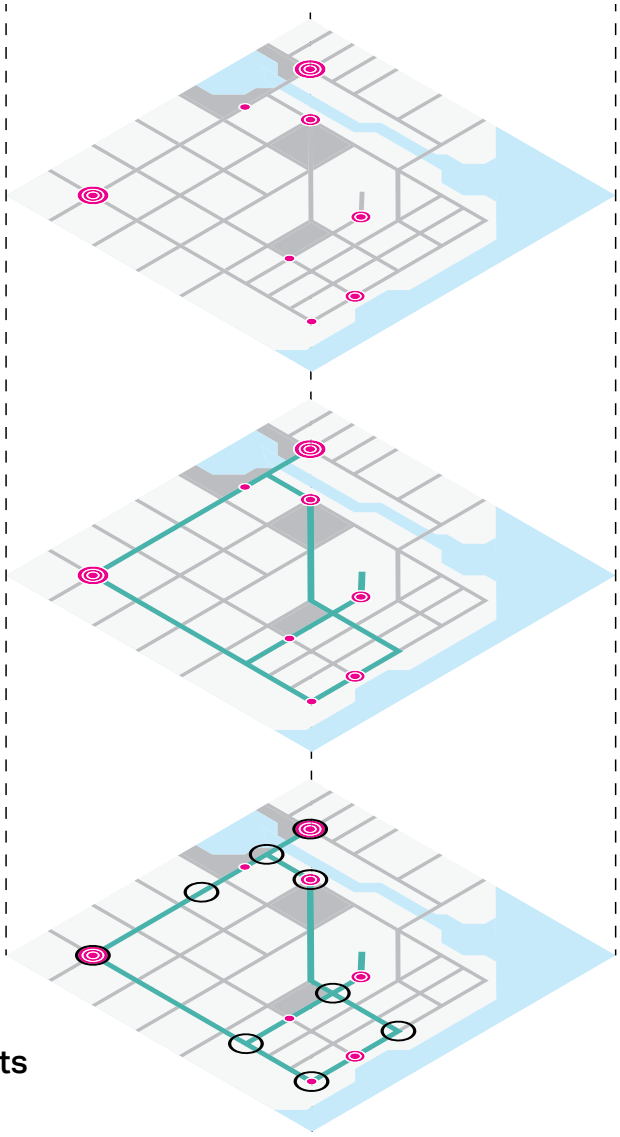
SIGN PLANNING

This section describes how to evaluate, design and plan a wayfinding project along a designated bicycle route. In order to ensure consistency and a positive experience, it is important that municipalities and route managers design sign plans using the same approach.

The approach includes the following steps:

1. Identify destinations
2. Identify designated bicycle routes
3. Identify decision making points
4. Prepare a sign plan

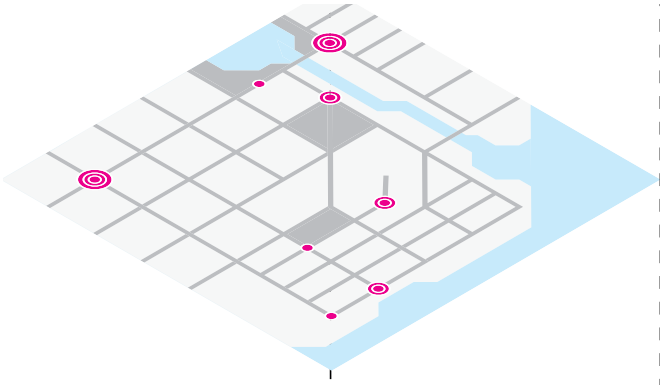
These steps will be described in greater detail in this section.



4.2 Identify Destinations

The first step in creating a signage plan is to identify the key destinations in an area that cyclists are travelling to. It is important to acknowledge that it is not possible to indicate all of the possible destinations in an area. Recognizing this, a hierarchy of destinations has been established to help prioritize destination that generate the most trips. Destinations need to be well defined and ranked so that the wayfinding system is organized, consistent, and predictable. This will also ensure consistency in wayfinding signage from one region to another.

The destination hierarchy includes three levels of destinations, including city centres, towns, communities or villages with a variety of services and amenities, common commercial districts, regionally significant parks or protected areas, important institutional facilities, major tourist attractions, and important multi-modal hubs such as transit terminals. Destinations that are considered in each level of the hierarchy are important bicycle trip generators and popular attractions that are well known and unambiguous. All destinations must be accessible by bike along a designated bike route.



4.2.1 Level 1 – Regional Destinations

Regional destinations are major activity centres, nodes or points located on a designated bicycle route. They offer a full range of attractions and services, and provide a primary geographic orientation points for regional cycling and are usually separated by a considerable distance. Regional destinations may be city or town centres, rural service centres, or national parks.

In urban areas, Level 1 destinations can be included on signs for up to 8 kilometres away. Along rural networks and regional trails (where the density of destinations is much lower), Level 1 destinations may be included on signs at much greater distances.

Nova Scotia examples:

- Amherst, Antigonish, Bridgewater, Cape Breton Highlands National Park, Chester, Kentville, Lunenburg, Sydney, Truro, Windsor, Yarmouth, etc

- Halifax Regional Municipality examples: Bedford, Dartmouth, Halifax, Hubbards, Lower Sackville, Musquodoboit Harbour, Porters Lake, Sheet Harbour, Upper Tantallon, etc

4.2.2 Level 2 – Key Points

Key points are destinations, nodes or points with sub-regional importance located along designated bicycle routes. They are useful wayfinding reference points, with a well-known, unambiguous, and distinct identity.

Key points include:

- significant communities;
- regional or provincial parks;
- national historic sites;
- downtowns; and
- other distinct districts (such as industrial/business parks and historic areas).

Level 2 destinations require local wayfinding guidance and should be included on signs up to 4 kilometres away in urban areas. In rural areas or along long distance regional routes, exceptions may be made.

Nova Scotia examples:

- Communities such as Bible Hill, Bridgetown, Judique, Martins River, New Ross, Wallace, etc.
- Major parks, provincial parks or national historic sites such as Cape Chignecto Provincial Park, Fort Anne National Historic Site, Victoria Park, etc.

Halifax Regional Municipality examples:

- Communities such as Cole Harbour, Eastern Passage, Fairview, Fall River, Timberlea, etc.
- Regional parks, provincial parks or national historic sites such as Halifax Common, Halifax Citadel National Historic Site, Hemlock Ravine Park, Sackville Lakes Provincial Park, Shubie Park, etc.
- Downtowns or distinct commercial districts such as Downtown Bedford, Downtown Dartmouth, Downtown Halifax, Hydrostone District, etc.
- Industrial/business parks such as Bayers Lake Business Park, Woodside Industrial Park, etc.

4.2.3 Level 3 – Nearby Destinations

Nearby destinations are places or nodes with local importance located along or in very close proximity to a designated bicycle route. Nearby destinations include:

- transit terminals;
- major tourist attractions;
- popular parks;
- recreation facilities;
- community centres;
- libraries;
- hospitals or health centres;
- schools; and
- post-secondary education institutions.

Level 3 destinations only require nearby wayfinding assistance, and as such should generally only be included on signs less than 2 kilometres away.

Nova Scotia examples:

- The Gorge Park, Lunenburg County Lifestyle Centre, Rath Eastlink Community Centre, Wolfville Memorial Library, Guysborough Memorial Hospital, Riverview High School, Acadia University, etc

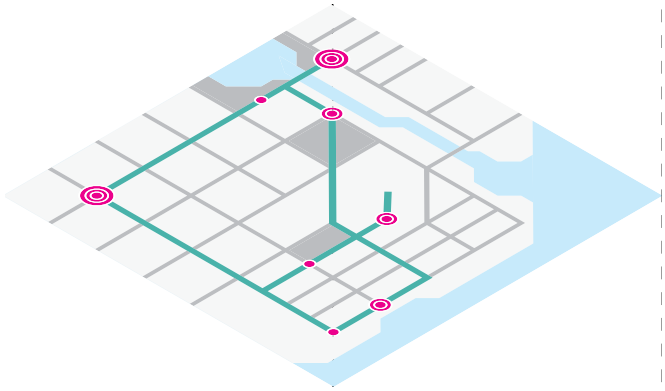
Halifax Regional Municipality examples:

- Mumford Terminal, Dartmouth Sportsplex, Keshen Goodman Public Library, North Woodside Community Centre, Cobequid Community Health Centre, Auborn Drive High School, St. Mary's University, etc

4.3 Identify Routes

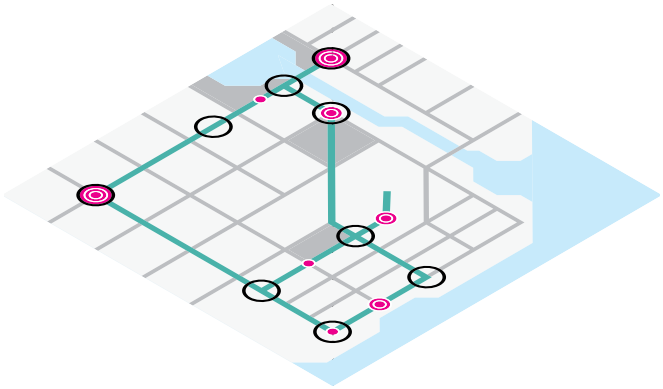
The next step in creating a signage plan is identifying the designated bicycle routes that connect the identified destinations. Designated bike routes are any route that is safe and appropriate for cyclists and has been designated as such by a Municipality or Town, the province, or a trail organization. Typical designated bike routes include bike lanes, signed bike routes, bicycle trails, or multi-use trails. Depending on the location and area that is being considered for the signage plan, the routes may be a network of routes or a long distance linear route.

During this process, designated bicycle routes that are named or branded should also be identified and recorded. Furthermore, if the route carries a regional or national designation (such as Blue Route or Great Trail designation), this should also be identified and documented.



4.4 Identifying Decision Making Points

With routes and destinations identified, the next step is to identify the key decision making points where cyclists must choose which designated route to follow to their destination.



Decision making points occur at an intersection, junction or complicated turn that requires additional information to ensure that cyclists find their way along the network.

At standard four-way and three-way intersections, either a Hybrid Sign or a combination of Decision / Confirmation Signs should be considered.

Where a designated route turns at an intersection, but there is no choice of an alternate designated route, standard TAC Bike route signage with an arrow tab (Sign Type R on page 17) may be sufficient.

There may also be points where a designated route intersects with the normal street network in a way that is confusing to follow. At these locations, Confirmation Signs or TAC Bike Route signage may be useful to guide and reassure cyclists.

Signing a four way intersection
At a typical four-way intersection, where designated bicycle routes go in all directions, a Decision or Hybrid sign should be used that includes destinations for all three directions.

Signing atypical decision making points
In some instances, wayfinding signs alone will not be adequate to guide riders through a complex decision point. Where these locations are identified in the planning stage, they should be highlighted for site assessment.

4.5 Preparing a Sign Plan

Once all of the destinations, routes and decision making points have been identified, the process of creating a Sign Plan can begin. A Sign Plan is a list of all the signs (and their messages and content) required at each decision making point along each route. This list can be completed as a form-based database or an illustrated map schedule and will be given to a sign fabricator to create the signs. A sample form for completing a Sign Plan is included in the Appendix.

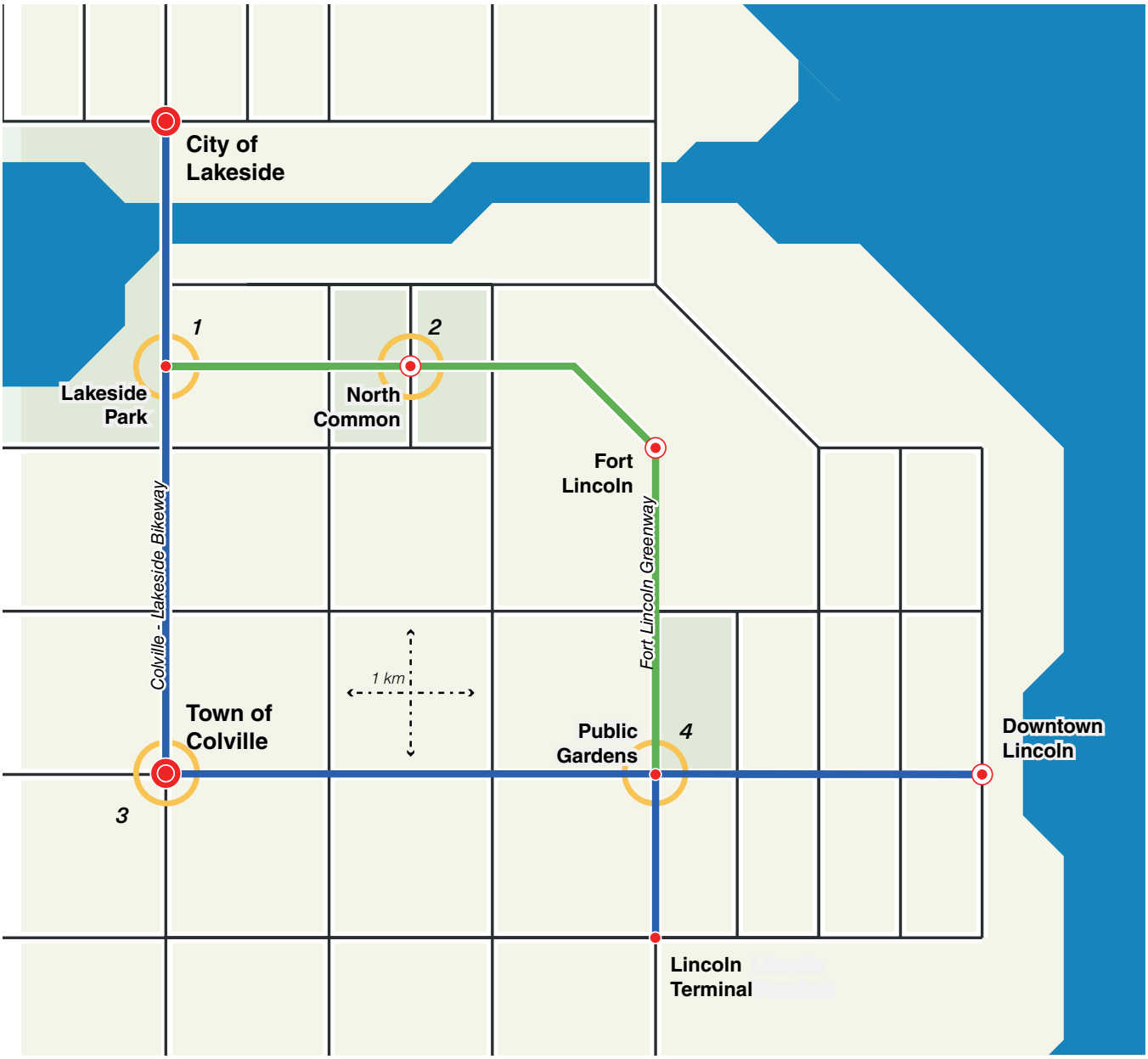
Preparing a Sign Plan requires a set of rules and logic that should be consistently applied through the route/ network:

Sign destinations continuously
Once a destination is included on a sign it must be signed continuously until that destination is reached. New destination information should not be introduced and then dropped out of the signage plan (ie, once a destination is introduced, it must be included on signs until the cyclist has reached that destination).

Manage information load
It is important to not overburden cyclists with too much information. Signs must be limited to what is only required at that point in the journey. This can be accomplished by limiting signs to four destinations per sign and limiting destinations to the suggested maximum distances (see Section 4.2).

4.6 Sign Plan Example

The following pages demonstrates the process of developing a Sign Plan through a sample exercise in the simulated Town of Lincoln.



Destinations

- Level 1 Destination
- Level 2 Destination
- Level 3 Destination

Routes

- On-Road Route
- Off-Road Route

Decision Making Points

- Intersection or Junction

1. Identify Destinations
The first step in preparing a Sign Plan for the Town of Lincoln is to identify all of the locations that are located on designated bicycle routes and require bicycle wayfinding signs.

Eight destinations have been identified within the study area that would be considered a Level 1-3 destination. As major regional destinations, the City of Lakeside and the Town of Colville are considered Level 1 destinations. Downtown Lincoln, Fort Lincoln and the North Common are key points in the Town and are considered Level 2 destinations. Finally, Lakeside Park, the Public Gardens and Lincoln Terminal are all important nearby destinations, and are considered Level 3 destinations.

Level 1 Destinations
- City of Lakeside
- Town of Colville

Level 2 Destinations
- North Common
- Fort Lincoln
- Downtown Lincoln

Level 3 Destinations
- Lakeside Park
- Public Gardens
- Lincoln Terminal

2. Identify Routes
Next, the physical bicycle routes need to be identified. If any routes are named or branded, they should be identified and documented.

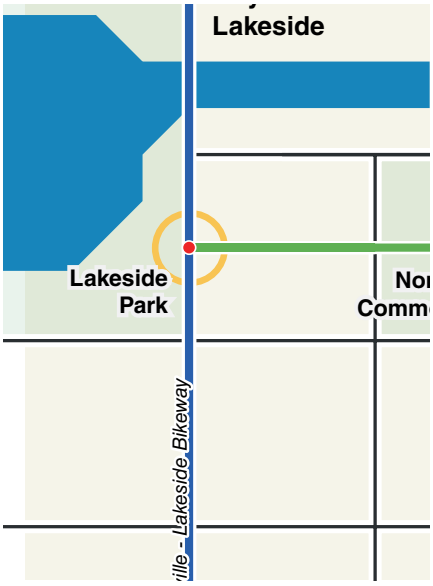
For the Town of Lincoln, bike lanes are provided throughout most of the Town. A dedicated cycle track connects the Town of Colville to the City of Lakeside and is named the "Colville - Lakeside Bikeway". A multi-use pathway connects Fort Lincoln to the North Common, and is called the "Fort Lincoln Greenway". The Fort Lincoln Greenway is a branded multi-use pathway and has a logo that needs to be included on signs. Other designated bike routes in the study area are standard bike lanes or signed bike routes.

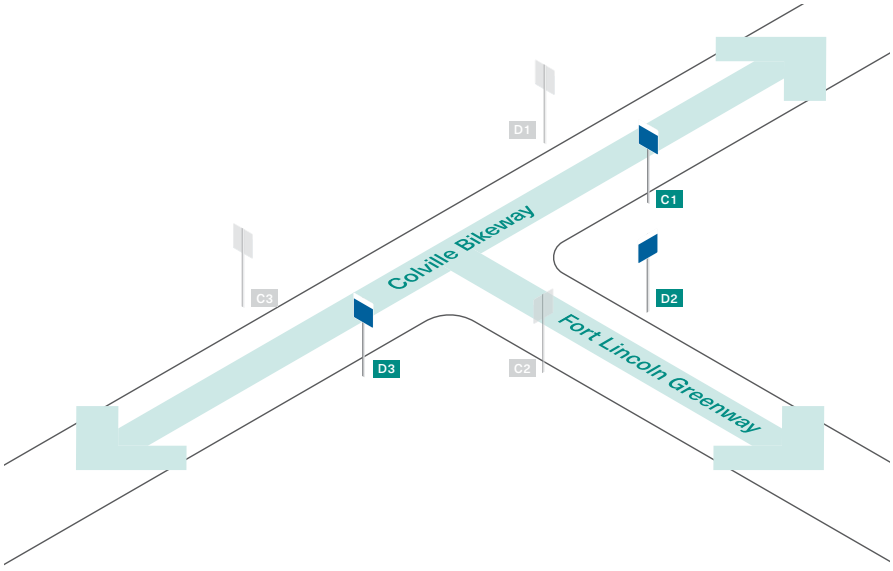
3. Identify Decision Making Points
The third step is to identify the key decision making points along the identified bicycle network. Any intersections, junctions, sharp turns or unusual situations should be marked and identified. Site visits should be conducted for all decision making points to take note of any obstacles or issues that may impact the placement of future signs.

In Lincoln, five key decision making points have been identified that will require wayfinding signs:

1. The Fort Lincoln Greenway terminates at the Colville - Lakeside Bikeway at a 3 way intersection.
2. The Fort Lincoln Greenway travels through a complicated intersection in the North Common.
3. A bike lane between the Town of Colville and Downtown Lincoln takes a sharp turn onto the Colville - Lakeside Bikeway.
4. The Fort Lincoln Greenway terminates at a three way intersection, creating a typical 4 way intersection.

4. Prepare a Sign Plan
The final step is to create a Sign Plan that identifies the content of each required sign and where they should go. This can be done by filling out a sign form or by creating a map-based Sign Plan. Both approaches are demonstrated on the following pages.





D1

Colville Bikeway

- North Common
- Fort Lincoln
- Colville

LINCOLN

D2

Fort Lincoln Greenway

- Lakeside
- Colville

LINCOLN

D3

Colville Bikeway

- Lakeside
- North Common
- Fort Lincoln

LINCOLN

C1

Colville Bikeway

Lakeside 1.5

LINCOLN

C2

Fort Lincoln Greenway

North Common 1.5

Fort Lincoln 3.5

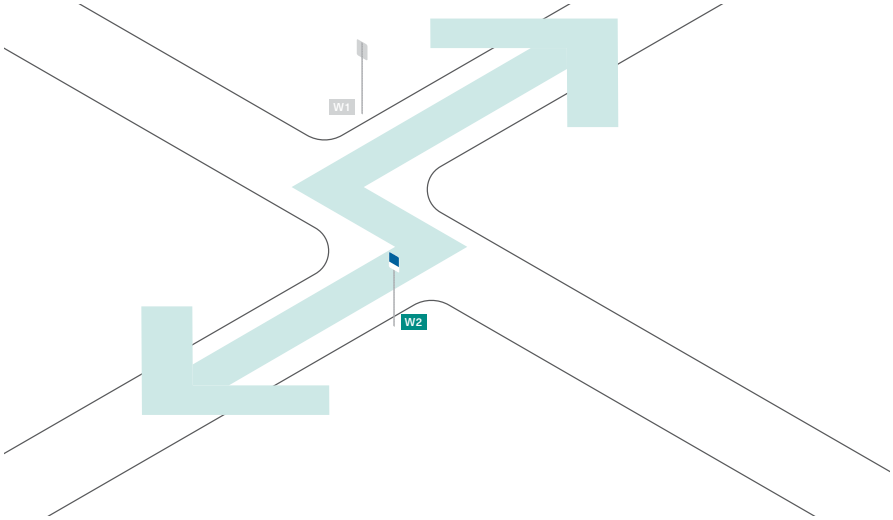
LINCOLN

C3

Colville Bikeway

Colville 2.5

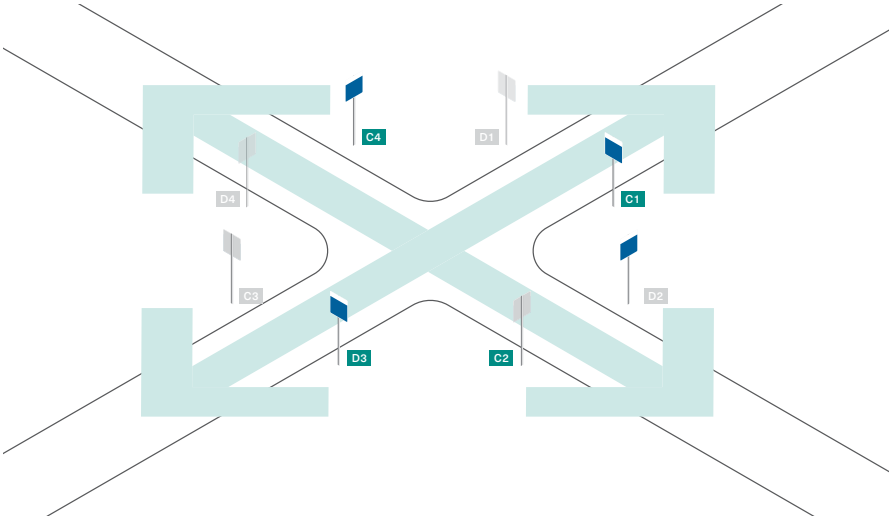
LINCOLN

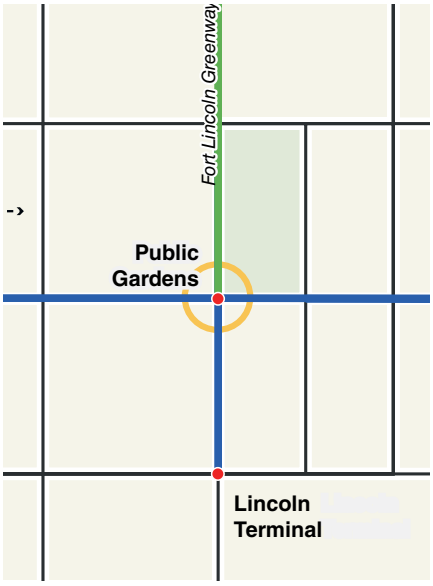

W1
W2


North
Common
Fort
Lincoln
Fort Lincoln Greenway
1 km

W1 **W2**


Fort Lincoln Greenway
1966





D1

Fort Lincoln Greenway

- Lincoln Terminal
- Downtown Lincoln
- Colville

LINCOLN

D2

- Lincoln Terminal
- Fort Lincoln
- Colville

LINCOLN

D3

- Colville
- Downtown Lincoln
- Fort Lincoln

LINCOLN

D4

Fort Lincoln Greenway

Fort Lincoln	2.0
North Common	4.0
Lakeside	7.0

LINCOLN

C1

Fort Lincoln Greenway

Fort Lincoln	2.0
North Common	4.0
Lakeside	7.0

LINCOLN

C2

Downtown Lincoln	2.0

LINCOLN

C3

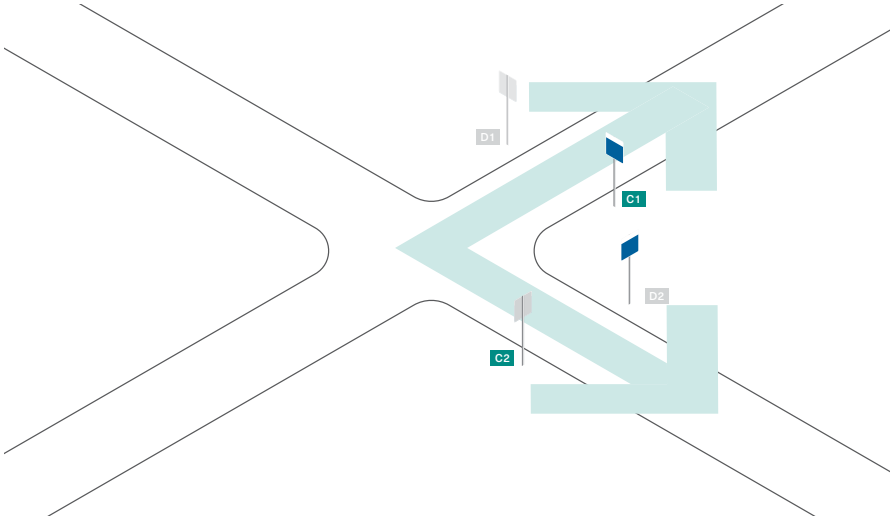
Lincoln Terminal	1.0

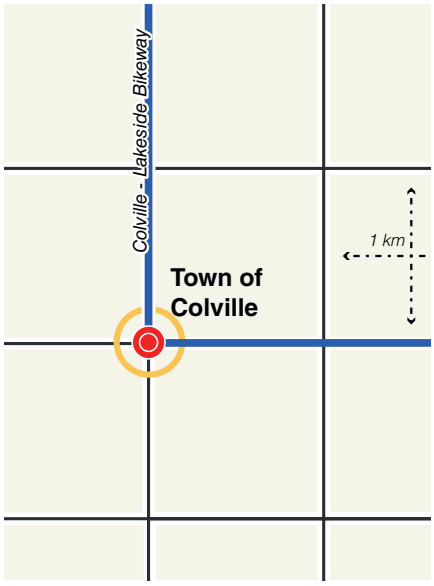
LINCOLN

C4

Colville	3.0
Lakeside	7.0

LINCOLN





D1

Colville Bikeway

- Public Gardens
- Fort Lincoln
- Downtown Lincoln

LINCOLN

D2

- Lakeside Park
- North Common
- Lakeside

LINCOLN

C1

Colville Bikeway

Lakeside Park	2.5
Lakeside	4.0
North Common	4.0

LINCOLN

C2

Public Gardens	3.0
Fort Lincoln	5.0
Downtown Lincoln	5.0

LINCOLN

5

FABRICATION

5.1 Overview

This section provides details on fabrication materials and processes for the bicycle wayfinding signs.The specifications in this section are based on best practice in exterior signage and will result in long lasting and environmentally conscious signage products. Specification sections are provided for sign panels and blades, graphics, sign posts and fasteners.

5.2.1 Sign Panels

The bicycle wayfinding signs are designed to fit standard, precut aluminum traffic sign blanks. These sign panels are fabricated on flat-sheet, tension-levelled, sign grade aluminum with a typical thickness of 3.0 mm (0.125”). All sign blanks should be degreased and ready for overlay sheetings and/or graphics.

The panel sizes of all signs in the Bicycle Wayfinding sign family conform to typical precut sign blank sizes and typically are mass produced before arriving to the fabricator's shop. If sign panels are created on site, they must be cut precisely to size, corner-punched and detailed with edges that are de-burred and made smooth. Surfaces and edges must be cleaned (conversion coating) prior to the application of graphics.

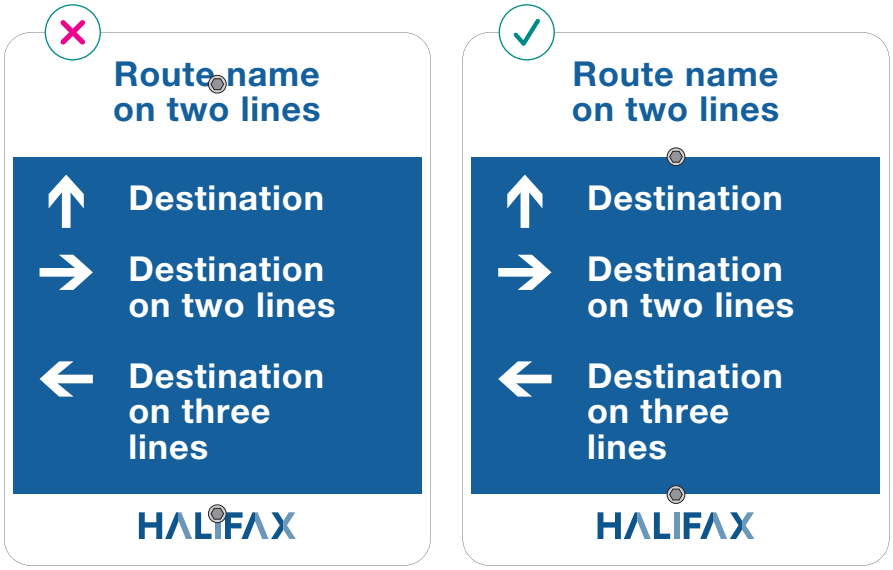
Key Holes

Most standard sign blanks include perforated key hole tabs that can be punched out to allow the panels to be mounted to sign posts. However, the standard location of these precut holes results in fasteners that may obscure the text or graphics of the wayfinding signs.

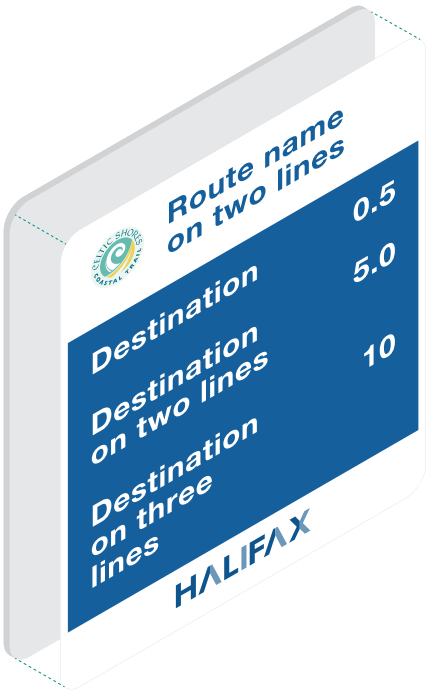
All sign panel faces must be redrilled with holes at the top and bottom of the sign panels to allow them to be mounted on the appropriate sign posts without obscuring text and graphics (see Figure X.X). The redrilled key holes must be finished to ensure all exposed edges and corners are smooth and cleaned to ensure that the aluminum is degreased, etched and made free of white rust prior to the application of graphics.

5.2.2 Sign Blades

Sign blades for turn fingerboards are fabricated on a standard street marker blade, which is a domestic aluminum alloy, Type 6061-T6 with a 0.250 edge and a 0.091 web and treated by Alodine 1200E process. Reinforced ribs must be 6.0 mm thick with a rounded bottom rib. The slope from the blade to the rib must be gradual enough to allow sheeting to be applied easily.



The required graphics for signs must be applied using standard industry practices via full colour digital imaging or a vinyl film cut approach. Both approaches are acceptable, however, digital imaging is emerging as the industry's preferred option because it is more durable, easier and faster to fabricate, and cheaper, however, it requires the appropriate printing equipment. Not all sign fabricators will have digital printing technology.



5.3.1 Full Colour Digital Imaging

Digital imaging involves printing all graphics directly onto a single self-adhesive vinyl surface via CRYK, UV resistant ink jet printers. Graphics are directly printed in full colour and all on one layer of white 3M 7930 Advanced Engineer Grade Prismatic Sheeting, or equivalent (meeting or exceeding ASTM Type 1) and applied to a pre-treated sign panel. When applied to sign panels, sheeting must not contain air pockets or trapped debris or have holes, tears, scrapes, compressed cells or patches.

A transparent protective anti graffiti over-laminate, such as the 3M 1170 protective, clear acrylic over-laminate, may be desired for signs in areas that are exposed to a high risk of vandalism or interaction with wildlife. The over-laminate must be 100% compatible with other sheeting materials.

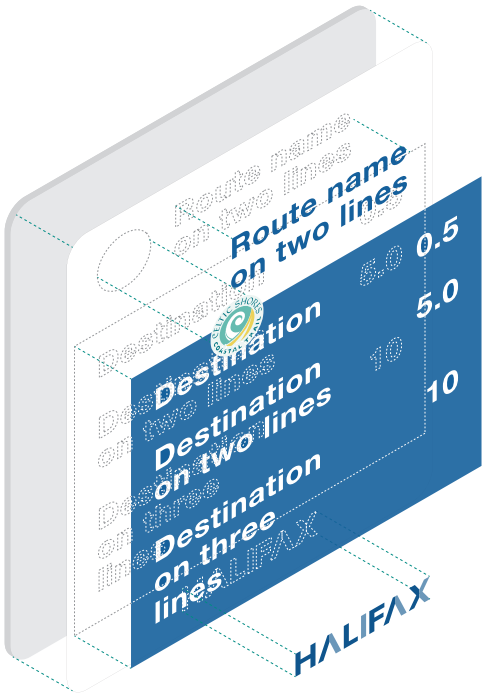
5.3.2 Cut Vinyl

The traditional ways of preparing traffic signs is by using different types of vinyl sheeting that is cut by computer into letter forms and other vector-based graphic elements, such as arrows and text. This approach requires multiple rounds of materials, heat, and processing, and is thus more time consuming and expensive, but is common practice for all sign fabricators.

All signs feature a retroreflective base layer, such as a white 3M 7930 Advanced Engineer Grade Prismatic Sheeting, or equivalent (meeting or exceeding ASTM Type 1), that improves legibility at all times of the day.

The graphics (text and arrows) for sign panels and sign blades are cut on blue 3M 1175C ElectroCut Film, , or equivalent - a transparent, acrylic film. This layer is applied on top of the retroreflective base sheeting and graphics are manually cut out. Other full-colour graphics, such as logos, must be digitally printed and applied separately.

Similar to digitally printed signs, a transparent protective anti graffiti over-laminate, such as the 3M 1170 protective, clear acrylic over-laminate, may be desired for signs in areas that are exposed to a high risk of vandalism or interaction with wildlife. The over-laminate must be 100% compatible with other sheeting materials.



Sign posts and supports are essential to the character and quality of the sign. Posts can be steel or wood, depending on sign type, location and preference of the route manager.

5.4.1 Steel Posts

Steel posts are either anodized structural aluminum or galvanized steel for the channel shape extrusion only.

Square Post

Square posts are square-profiled,powder coated aluminum with radiused corners. These sign posts feature a high architectural quality and durability, but are more expensive than other options. Aluminum square posts are 65 mm by 65 mm and features a 6 mm thick aluminum cap to prevent rust and water penetration.

Round Post

Round posts can be galvanized or powder coated aluminum and are 60 mm in diameter. The top of every post shall be sealed with a cap to prevent water penetration.

Square Perforated Post

Square perforated sign posts are galvanized steel tubes with perforated holes that run on one inch increments along the centre of all four sides, allowing sign panels to be placed on any side The posts are 50 × 50 mm (2 × 2 in) and are chemically treated to resist rust and corrosion. These sign posts are practical and affordable but not as aesthetically pleasing as square or round posts.

U-Channel Post

U-Channel sign posts are available in galvanized or green enamel coated finishes and allows for signs to be placed on two sides of the post. The “u-channel” shape creates a wide support area for larger signs to rest on, and smaller signs can be placed on the opposite side as well. U-Channel are affordable and durable, but not aesthetically pleasing. The posts are 80mm wide.

5.4.2 Natural Wood Posts

Wood posts are pressure treated fir, pine or spruce or rot resistant wood such as western red cedar or eastern white cedar. Natural wood posts are 100 x 100 mm (4 x 4 in). The tops of all posts shall be cut square and capped to prevent the absorption of water at the end grain. The cap is to be 3 mm stainless steel affixed in place with a full surface coat of silicone adhesive.

To ensure longevity of the wood posts, the in-ground portion, which is the most prone to decay, should be encapsulated with an epoxy system. The bottom and in-ground portion of the sign post, as well as 100 mm above grade, should be finished with two coats of a two part resin, e.g. West System Epoxy 105 resin with the 205 or 206 hardeners, or equivalent. Although this process requires additional time and materials, it can double the lifespan of wooden posts.

5.5 Sign Fasteners and Brackets

All bolts, screws, straps, nuts and washers must be stainless steel. Exposed sharp edges and corners of all fasteners (bolts, etc.) must be de-burred and smoothened. Protruding bolts projecting more than 6 mm (1/4 in) beyond the fastened nut must be cut and smoothened.

6

INSTALLATION AND MAINTENANCE

6.1 Installation Checklist

Prior to installing signs, it is important to ensure that all information related to installation is properly and accurately identified during the sign planning phase.

The following actions should be taken prior to installation:

- Conduct a site visit to ground truth the signage plan and review natural features, obstacles and terrain conditions that may require changes to sign locations.
- Ensure that the installation techniques are appropriate for the local conditions.
- Ensure that the locations of the proposed signs do not negatively impact natural and/or archaeologically significant environments or obstruct scenic views.
- When digging or minor excavation is required for sign posts, ensure that underground utilities are located, marked, and undisturbed.

After signs have been installed, the following actions should be taken:

- Ensure that signs are installed as per the signage plan and that messaging is clearly visible from the bicycle route.
- Ensure that the area is clean and any leftover waste or materials are removed appropriately.
- Restore and/or re-naturalize any disturbed landscape surrounding installed signs where necessary.
- Ensure that bolts, brackets or other fasteners are not protruding in an unsafe manner and that any edges are sanded down.

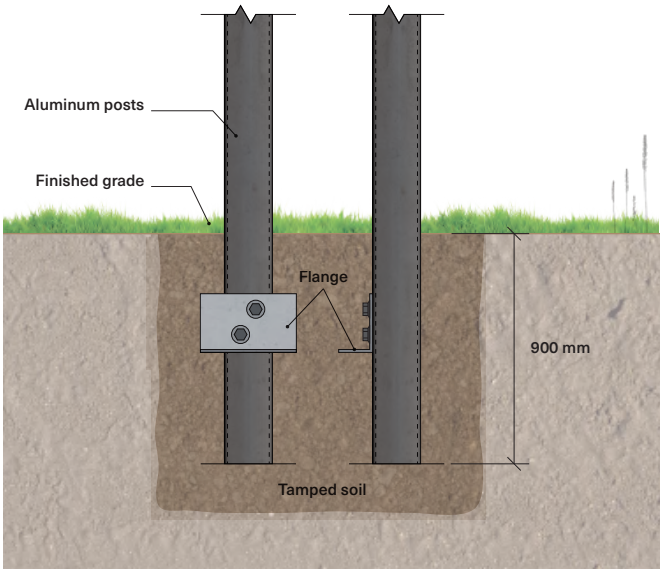
In most cases, the bicycle wayfinding signs will be installed using a wooden or aluminum sign post that is fixed to the ground. Depending on location, surface conditions, equipment requirements, sign size and location, sign posts can be installed using one of the following techniques.

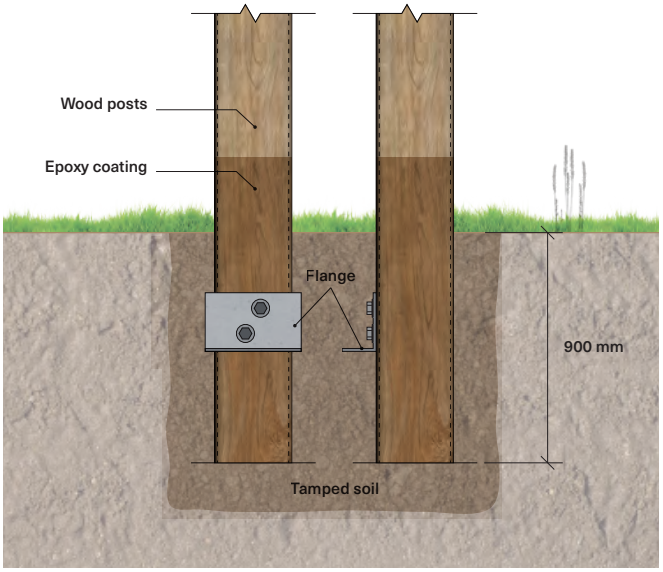
6.2.1 Direct embedment

Where soil depths are deep enough, most signs will be installed via direct embedment, which is the burial of sign posts directly into the ground. When using this method, the buried portion of the sign post should include a stainless steel, L-shaped flange, which will add extra support and stability and also make it harder to pull out of the ground.

Standard sign posts should be buried a minimum of 900 mm (~36 in) into the ground. For larger or taller signs that are placed in areas with high winds or softer soils, sign posts should be buried up to 1,200 mm (48 in).

Wooden sign posts that are installed via direct embedment should be coated with an epoxy system formulated for direct water contact for wood products which will increase the life cycle of wood posts considerably. Only the buried portion and the bottom 300 mm of the sign post need to be coated.





6.2.2 Concrete foundations

In some cases, extra strength and stability may be needed or shallow soil depths won't allow for direct embedment. In these cases, concrete foundations, such as poured-in-place or pre-cast concrete footings or sonotubes, may be used instead of direct embedment.

Poured in place concrete footing

Sign posts can be directly embedded into concrete foundations that are poured-in-place.

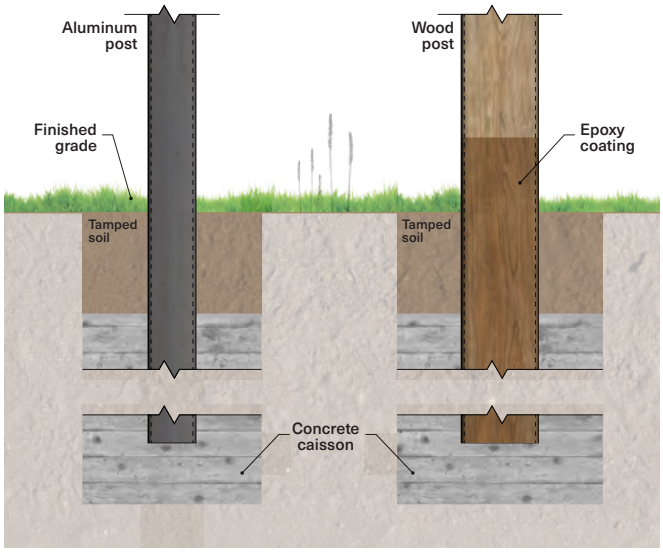
Pre-cast concrete footing

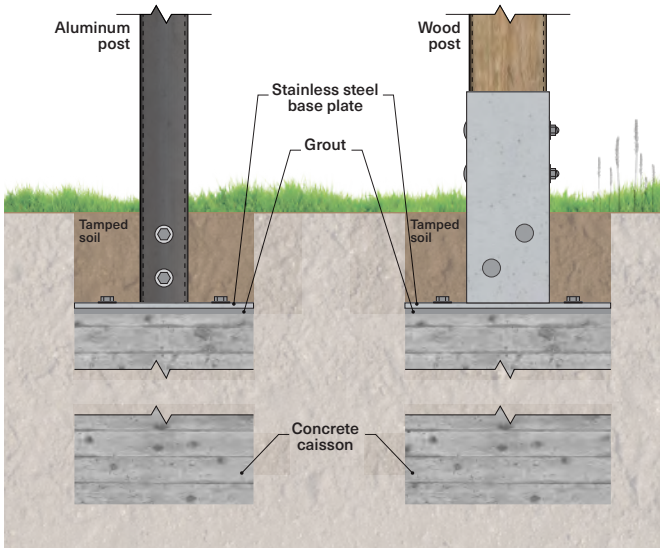
If a pre-cast concrete footing, or sonotube, is used, sign posts can be mounted onto the footing via a stainless steel base plate.

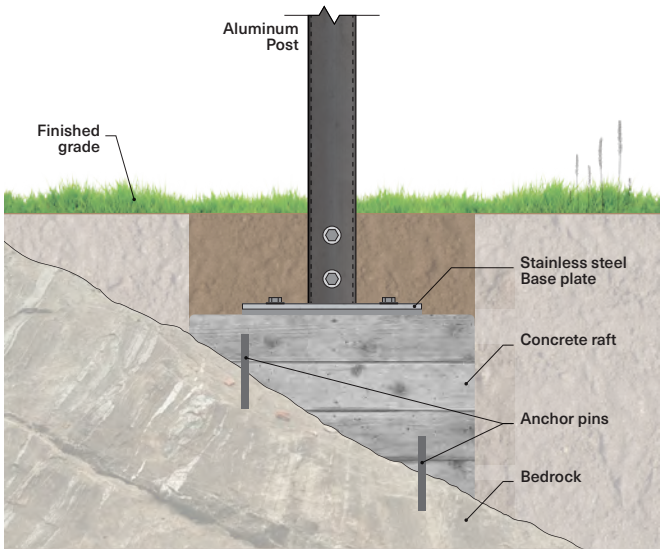
Poured in place bedrock foundation

In areas with shallow or exposed bedrock, sign posts may need to be fastened to a concrete footing that is poured and pinned/tied directly onto bedrock. Sign posts can also be directly fastened to bedrock is the surface is flat and the type of bedrock is suitable.

In situations where bedrock is encountered, it is possible that a slight adjustment in sign location may allow for an easier direct embedment.

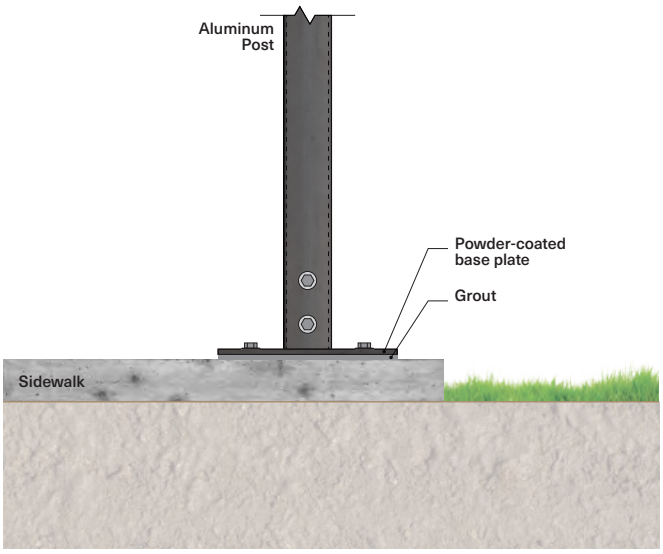






6.2.3 Surface mount

For on-street wayfinding signs, sign posts may need to be fixed onto existing concrete surfaces, such as sidewalks. For surface mounted sign posts, a base plate can be attached directly to a concrete surface.



6.2.4 Existing post mount

In urban areas, space may be constrained and adding new sign posts may not be possible. There may be utility poles or existing sign posts that can be utilized to mount sign panels or sign blades to. Signs can also be strapped to concrete light standards.

Signs should not be attached to living trees. They can damage the tree and would require ongoing maintenance to prevent the tree from obscuring messages.

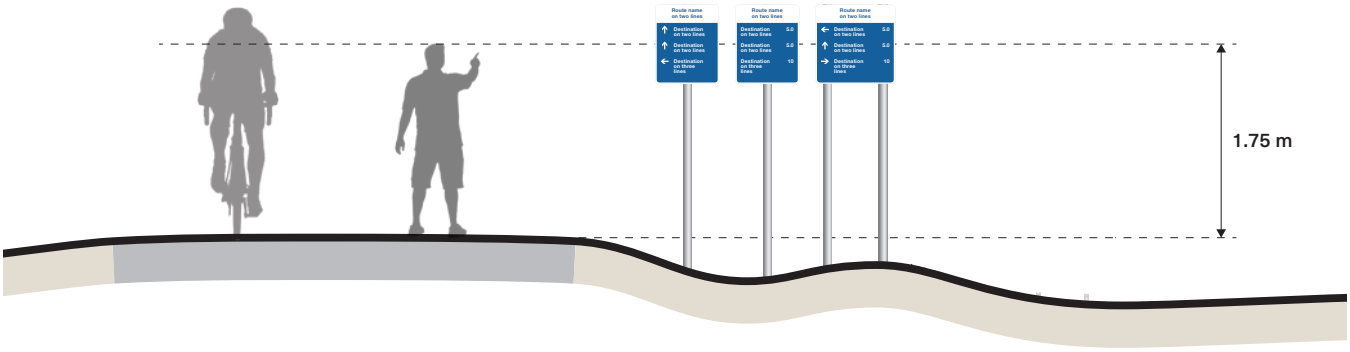
6.3 Sign Panel Height

The placement of signs relative to the travel path is very important to ensure legibility and that accessibility considerations are taken into account.

Bicycle wayfinding sign installation heights are determined by the centreline (distance from route surface to mid-height of sign). For overhead signs, the installation height is determined by the baseline.

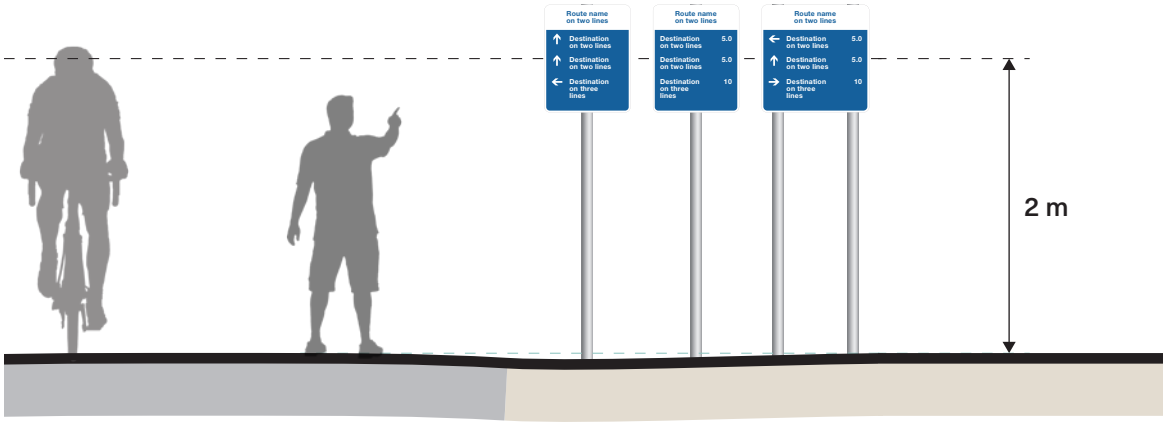
Off road signs

Off road signs mounted on a post should be 1.75 m from the centreline of the sign to the ground. No part of a sign panel shall protrude more than 0.3 m out from sign posts unless they are more than 2.0 m from the ground.



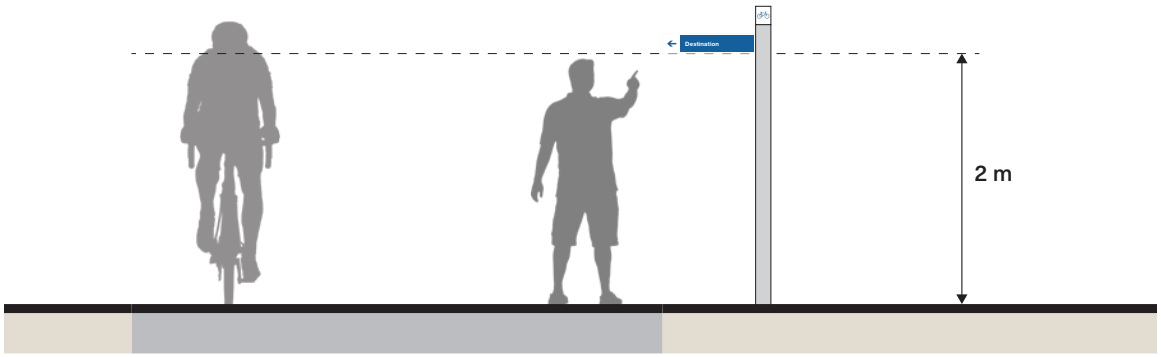
On road signs

On road signs mounted on a post should be 2 m from the centreline of the sign to the ground. On road signs are posted higher than off-road signs to account for parked cars or other obstacles that may obstruct sightlines.



Protruding fingerboard signs

Signs that are flag-mounted must be at least 2.0 m from the ground to the bottom of the sign.



6.4 Maintenance Program

Although the bicycle wayfinding signage system is designed to be low cost and low maintenance, regular ongoing maintenance will increase the life expectancy of signs and ensure that they are operating as intended. Well maintained and cleaned signs also help improve the user experience and overall impressions. As such, an annual maintenenace program is recommended to occur every spring that includes the following tasks:

- Ensure sign posts are vertical, properly fixed to the ground and in good condition;
- Ensure sign panels are clean to ensure good legibility and maximum reflectivity;
- Ensure sign panels are in good condition and aren't warped or bent;
- Ensure that vegetation around the sign panel is removed and that sight lines to the messaged are unobstructed and clearly legible; and
- Ensure that sign messaging and destination wayfinding is still relevant and logical.

Attachment B

Halifax Regional Municipality

PEDESTRIAN WAYFINDING STRATEGY

DRAFT: MAY 28 2019

FORM:MEDIA is a full-service design firm specializing in wayfinding and identity signage, interpretive planning and design, branding, and digital multimedia. For more than 20 years, major clients throughout the Atlantic provinces, across Canada, and abroad have commissioned Form:Media to solve complex problems while providing world-class service. Form:Media is owned by principal Rob LeBlanc and managed by John deWolf. Our studio unites communication designers, web and new media specialists, exhibit designers, interior designers, writers, and 3D animation experts. Together with our sister company, Ekistics, we co-operate with landscape architects, urban planners, and civil engineers under one roof.

Our work spans master planning and feasibility studies, interpretive planning and design, landscape interpretation, programming, signage and wayfinding, detailed exhibit design including content development, writing, graphic design, interior design, community and stakeholder consultation, and three-dimensional design for interior and exterior applications. Form:Media is well-versed in the requirements of technical design and detailing for interior and exterior installations.

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Table of Contents

Chapter 1

INTRODUCTION

PROJECT CONTEXT

Walking is a fundamental, if under-appreciated, part of urban life. Walking— whether to work or school, for relaxation or exercise, accomplishing the everyday tasks of life or exploring a place for the first time—defines how we experience a place.

But for something so fundamental, support and encouragement for travel on foot has not always been central to the urban design process. The changes brought on by the dominance of the car—low-density suburbs connected by roads, rather than high-density centres supported by a network of streets—have helped marginalize travel by foot.

Contemporary urban design puts environmental sustainability and citizen well-being high on the list of priorities. Encouraging people to trade private vehicles for walking and transit is a vital part of re-imagining our urban spaces. This encouragement takes many forms, but one element is to make the environment for walking legible and appealing. This is where wayfinding has a role to play. Wayfinding—the process of understanding a place and how to navigate it—is a part of every journey. This strategy sets out an approach to a pedestrian wayfinding system that will be one of many initiatives needed to make HRM a more pedestrian-friendly place for residents of all abilities.

WHY WALK?

From the first appearance of cities, walking was the dominant mode of transportation. It has been only in the last 100 years that the automobile has become the default for travelling within most communities. While the convenience and comfort of automobiles is real, the dominance of cars has had many negative effects: enormous environmental damage (cars are a major contributor to climate change), the use of vast amounts of land for automobile infrastructure like roads and parking, and the costs of owning and maintaining personal vehicles.

Much of the growth of personal car use has come at the expense of walking. Walking provides a range of benefits. Fewer journeys by car reduce greenhouse gas and pollutant emission. Walking as exercise improves physical health, and can contribute to improved mental health.[1] Other benefits are more difficult to measure but are widely accepted—from increased retail spending in pedestrian-friendly areas to fostering feelings of sociability.

A note about "walking": While we use terms like "walking" and "pedestrians" in this document, we consider people who use wheelchairs or other assistive devices as pedestrians. "Moving at walking speed" might be a better, if unwieldy, term to encompass both walking and wheelchair use.

1 https://www.thelancet.com/journals/lanpsy/article/PIIS2215-0366(18)30227-X/fulltext

WHY WAYFINDING?

Wayfinding is one tool to encourage walking, but wayfinding alone cannot move people from relying on cars to walking whenever possible.

Surface conditions, grade, weather, concerns for personal safety, circuitous or incomplete pedestrian routes can all make walking challenging. Distance between destinations is the largest barrier.

However there are many contributions wayfinding can make to reduce barriers to walking. Wayfinding for vehicles is a mandatory part of every modern road system; its necessity is never challenged. Wayfinding for pedestrians is no less important.

It is not sufficient to make walking possible; it needs to be made attractive. This means helping people find their way easily, to feel safe and confident in their choice of route, and to understand how to get to their destination efficiently.

PROJECT VISION

We see a future in which active transportation, combined with transit, is the preferred alternative to trips by personal vehicles. Walking is an enjoyable and attractive mode of travel for short journeys, and an integral part of journeys that also include transit and cycling. Halifax should be a place where people feel confident, safe and comfortable when walking.

Wayfinding helps people answer important questions: Where am I? Which way to my destination? How far is it? What is in the area?

BACKGROUND

HRM's Integrated Mobility Plan, approved by Regional Council in December 2017, provides a framework for implementing a sustainable transportation strategy by:

> providing a choice of integrated and connected travel options emphasizing public and community based transit, active transportation, carpooling and other viable alternatives to the single occupant vehicle;

One important objective is to:

> Encourage walking and bicycling by building complete and connected networks that respond to the needs of urban, suburban and rural communities, for all ages and abilities

https://www.halifax.ca/sites/default/files/documents/about-the-city/regional-community-planning/IMP_report_171220-WEB.pdf

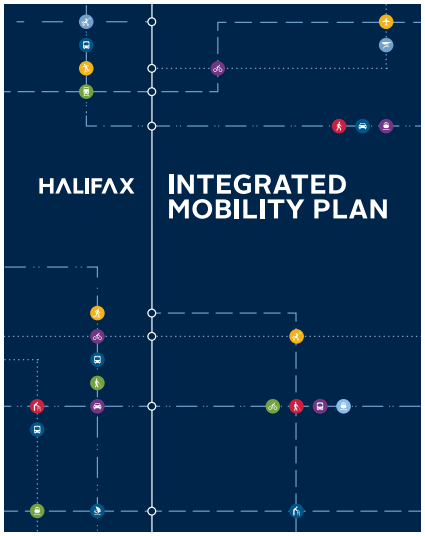
The Integrated Pedestrian Wayfinding Strategy project is a response to the objective of encouraging walking. The RFP for this project requested setting high-level objectives and recommending means to achieve them:

> The design documentation included as part of this [Pedestrian] Wayfinding Strategy will generally be conceptual, and will be presented to show information hierarchies, the range of recommended signage components, the relationships between various signage and non-signage elements of the system, and criteria for prioritizing locations for implementation.

SCOPE

As a wayfinding strategy (rather than an implementation project), the goals of this project are to create a framework for planning and designing future wayfinding projects. As opportunities—funding, streetscape upgrades, or new urban design projects—are identified, this strategy will serve as roadmap to implementing a coherent, municipality-wide pedestrian wayfinding system. It can be used even if wayfinding is implemented one project at a time rather than rolled out at once.

The pilot studies in this document are meant to validate the approach, provide models for future implementation, and help understand the costs of building pedestrian wayfinding into other urban design projects. Full location planning and message scheduling would be part of later implementations.



HRM's Integrated Mobility Plan (IMP) creates a regional vision for mobility and help to direct future investment in transportation demand management, transit, active transportation, and the roadway network.

PHASING

STRATEGY

A wayfinding strategy is about clearly defining wayfinding problems, identifying the outcomes and outlining the approach to wayfinding including the types of wayfinding tools—signs, maps, digital initiatives—to be employed. Specifics of visual design, messages, precise locations and program administration would be addressed in the later design and implementation phases.

This document deals with the "strategy" phase only.

DESIGN

If this strategy is approved, a wayfinding design process should pick up where this document leaves off.

Wayfinding design includes:

- Visual design—what the wayfinding system will look like
- Destination selection: choosing what destinations the system will include on maps and signs.
- Location strategy—setting out how to locate signs in the environment
- Cartography standards
- Structural design

Construction and installation details must be decided in the design stage as well. A wayfinding strategy can be developed without knowing the precise area that will be addressed, but design can only proceed when it is known where in the environment signs will go, and what messages will appear on them.

IMPLEMENTATION:

Unless all the areas that wayfinding will appear in are known during the system design phase—and in large-scale urban wayfinding systems this is rarely the case—much of the final design will occur during the implementation stage. Typically, the implementation phase includes creation of map artwork, selection of destinations, and deciding the final location of signs.

Once the final designs are complete, fabrication and installation may proceed.

Chapter 2

WAYFINDING

WHAT IS WAYFINDING?

Wayfinding is a set of environmental strategies to help point people in the right direction and identify when they've arrived.

People who return to the same places day after day, month after month, don't need much help finding their way. But travellers in an unfamiliar place will need some cues to get to their intended destination.

Wayfinding isn't just signs, though signs are often a big part of wayfinding projects. The road, the trail, the appearance of a building, the presence of landmarks, and other environmental cues are all very important to wayfinding.

The art of wayfinding is reading the landscape and anticipating the *decision points*: the places where a visitor may be required to make a decision of which way to go. At or near the decision points, interventions such as signs may be needed to guide the visitor on the right path. Decision points may be intersections, forks in a trail, or at some change of transportation mode (like a parking lot).

Then, when a visitor reaches the place they seek, they need to identify the place or destination to confirm that they have reached it. Finally, they may need to be directed further, to smaller-scale destinations— if they have reached a neighbourhood, they many need to find a street; if they have reached a street, they may need to locate a building, and so on.

HOW DO PEOPLE NAVIGATE?

The wayfinding process can be seen a series of stages which may be repeated as a journey progresses.

ORIENTATION

Where am I? What is nearby? What landmarks can I see in the environment?

Landmarks, signage, maps and technology like GPS are all ways that people orient themselves in the environment, as they seek to match what they see around them to their mental map of the area. In terms of signage, detailed maps showing people's current position is an effective way to help orient travellers.

ROUTE CHOICE

Which way should I go? What's the quickest way? What is the most pleasant way?

Supporting route choice means communicating the sense of a route—is it along a pedestrian-friendly commercial district, or an unpleasant high-speed road? People may not have a specific destination in terms of an address—they may be looking to complete a task—find a playground, get a meal, or spend a few minutes relaxing before a meeting. Good wayfinding provides choices by providing context, suggesting what kind of experience the journey will entail.

ROUTE MONITORING

Am I still on the right path? How far to my destination?

Some routes may benefit from reassurance signage—telling travellers that they are on the right path. But often, reassurance

Wayfinding helps people answer important questions: Where am I? Which way to my destination?

Users choose routes based on their characteristics: is the route wheelchair accessible? Steep? Scenic? Efficient?

does not need additional signs—keeping a landmark in sight, following clearly marked road, or tracing a path along a waterfront all provide reassurance without signs.

DESTINATION RECOGNITION

Have I arrived? Have I gone past my destination?

Users recognize they have arrived at their destination by one or more cues: seeing familiar surroundings, encountering visible landmarks, and finding the amenity itself. Destination recognition can be improved by identifying buildings and other features in a way which is visible to pedestrians. Signs located and scaled for vehicular travellers may not stand out to people on foot; they are often too high and too large.

Large destinations—parks, campuses and districts—may have many entrances, or no official entrances at all. Clearly showing when you have arrived can take the form of signage, banners, urban design or other cues in the landscape. People don't always arrive at a main entrance—a university campus may blend in with the surrounding district; it may not be obvious that you have arrived at your destination.

WHAT WAYFINDING DOES

When done well, wayfinding makes moving through a place seem effortless and welcoming. When poorly done or nonexistent, people leave feeling confused and frustrated. By making people more comfortable in public spaces, wayfinding may encourage more people to choose sustainable transportation modes (cycling, walking, busing) more frequently.

MAKING HRM LEGIBLE

The concept of "legibility" comes from Kevin Lynch's 1960 book, *The Image of the City*. Lynch sees cities not just as places to be planned, built, or inhabited, but to be understood. A place's *legibility* is the ease with which a place can be understood and remembered. Some places are inherently legible—traditional North American towns with a main commercial street surrounded by homes, or the regular grid punctuated by landmarks of Washington DC. Others are far less legible— the tangled passages of Barcelona's medieval *Barri Gòtic*, or the undifferentiated streets lined with identical houses of contemporary suburbs are difficult to navigate and understand. Much as people are uncomfortable with places they find unfamiliar or threatening, people are more comfortable when they know where they are, what is in the surrounding area, and how to get to the next destination.

These mental models of a space are often called "mental maps." Unlike cartographic maps, mental maps exist only in the mind of the user. A mental map of a place is based on memorable features—landmarks and routes— and relationships between them. These mental maps might be highly detailed and accurate, like "The Knowledge" the legendary memorization of the streets

Directing people to a destination starts the process, informing the user upon arrival completes the sequence.

of London required to drive a cab there. Or, they may be merely cognitive sketches—a visitor to Dublin may know the city is divided by a river, but know little else.

Imageability—the ease or difficulty of capturing a spatial understanding of a city in the mind—is a major contributor to strong mental maps. But other factors can support the spatial understanding of a place. A glance at a cartographic map may instantly clarify the relationship between two districts a person is familiar with. A compass direction may help someone orient a city in their mind. Making a local convention explicit—such as Manhattan's (roughly) North-South avenues and East-West streets—simplifies the mental model for the initiated. But as Kevin Lynch points out, landmarks, sounds, smells, and features of every kind contribute to mental models. Even a half-remembered song lyric might help shape a mental model:

> New York, New York, a helluva town
> The Bronx is up, but the Battery's down.
>
> *New York, New York*, Leonard Bernstein from On the Town

Wayfinding tools—maps and signs—are ultimately there to help build and support the mental maps that people use to navigate and understand their environment.

BUILDING A SENSE OF PLACE

Wayfinding can support a sense of place. Unlike the uniform world of online mapping, wayfinding is part of the urban experience; the distinctive street signs of Paris, the hallmark look of the London Underground, or the understated signage of an Apple Store all are powerful indicators of place.

Done well, wayfinding tools like signs and maps are a powerful, long-lasting part of a city's image. Unlike a logo or visual identity which is merely applied to objects in the environment, wayfinding is part of the urban fabric, just like roads, street-fronts and public spaces.

WHY SIGNS?

Are signs still necessary? Yes.

Digital wayfinding tools are a supplement to, not a replacement for, conventional media such as signage. Smartphone adoption continues to grow, and the availability of data connections and databases of points of interest continues to improve. But allowing people to navigate by observing their surroundings, instead of relying on devices, fosters appreciation of the urban environment in a way that digital wayfinding does not.

Unlike device-based wayfinding, which is dominated by technology giants Google and Apple , signage can be designed by municipalities for citizens, reflecting values of inclusion and civic orientation rather than the more commercially-driven approach of the tech giants.

We see digital mapping as serving a different role than a legible cities approach. Mapping apps are generally best at searching, while carefully curated physical maps are better at providing context.

The ultimate goal of a wayfinding system is understanding. When people have developed enough of a mental map of a place, they no longer need to refer to signs.

UNDERSTANDING USERS

People moving through a space may have many different goals and destinations. To understand the breadth of wayfinding objectives, we can look at some common scenarios.

EFFICIENT NAVIGATION TO KNOWN DESTINATION

The first wayfinding scenario that springs to mind is when someone knows *where* they want to go—a specific amenity, a community or a street address—but don't know the best route. In this case, their goal is to find a quick and reasonably pleasant route that gets them to their destination.

LOCATING A TYPE OF SERVICE WHEN YOU DON'T KNOW THE LOCATION

A different case might be when someone knows *what* they want to do but don't know where it is located. For example, someone might want to visit a library, relax in a park, or find a meal, but they do not know exactly where to go.

LOOKING TO EXPLORE

Some journeys are less task-driven, and are more of an *exploration*. Someone—visitor or resident—may want to explore a part of the city they don't know well, take a walk to relax, or just see the sights. In this case they may know they are looking for a varied, stimulating environment that is rewarding to walk though, without seeking out a particular amenity or destination.

EVALUATING DIFFERENT MODES OF TRANSPORT

Another scenario is evaluating what mode of transport to take. Does one walk or drive? Can you park and proceed on foot? Will multiple car trips be necessary? Which is quicker—walking to a transit terminal serving many routes, or waiting at a bus stop serving a few. Wayfinding is not just choosing a *route*—choosing a *mode* is just as important.

The existing pedestrian wayfinding in HRM is piecemeal, usually covering only a single area

Signage may address transit, or those on foot, but rarely both:

CURRENT CONDITIONS: EXISTING WAYFINDING

There is no comprehensive pedestrian-oriented wayfinding system implemented broadly across HRM. Existing wayfinding is either limited in geographic area, or aimed at motor vehicles rather than pedestrians.

DEVELOP NS

The closest that HRM gets to a planned wayfinding system has been implemented by Develop Nova Scotia (Formerly Waterfront Development Corporation). Map kiosks and directional signage are in place in multiple waterfront pedestrian areas, including Halifax, Dartmouth and Bedford. This system primarily serves the needs of visitors and recreational users of the waterfront. While of high design and fabrication quality, it does not extend beyond Develop NS's properties, limiting its usefulness. However, the basic approach—detailed maps, supplemented by directional signage as needed—aligns well with the strategy proposed in this document.

VEHICULAR SIGNAGE

Wayfinding signage directing motor vehicles is designed and implemented as part of the road network. Its role is primarily to sign routes and direct motorists to communities; a limited number of amenities—Parks Canada sites, parking, and hospitals are included as destinations, but these are rare.

BUSINESS IMPROVEMENT DISTRICTS

Some business improvement districts have implemented pedestrian-oriented wayfinding, but these have not been planned or maintained.

CYCLING

A utility cycling wayfinding project is progressing separately from the pedestrian wayfinding strategy. Its aim is to make cycling routes legible, and takes a similar "route and community approach" as motor vehicle signage. This initiative aligns with the Nova Scotia Blue Route cycling network project, currently under development.

TRANSIT CENTRES

Major transit terminals have limited wayfinding directing people to entrances and bus bays, and occasionally adjacent areas, but it is limited to the immediate area around the terminal, and rarely includes mapping or orientation tools.

CAMPUSES

University campuses and similar sites (such as major health care facilities) may have their own wayfinding, but it is typically limited to identifying buildings within the campus.

PARKS AND TRAILS

Wayfinding for parks and trails is varied; some parks (such as Point Pleasant Park) have basic wayfinding signage; others such as the Halifax Common have virtually none. Whatever wayfinding is present is usually limited to destinations and amenities within the park.

Chapter 3

APPROACH

BACKGROUND AND ANALYSIS

Having reviewed a range of wayfinding projects, both those designed by our firm and by others, we have identified the "Legible Cities" approach as one that fits with HRM's requirements.

The first implementation of the "Legible Cities" approach to wayfinding was in Bristol, UK in the late 1990s.

It is rooted in the urban design thinking of planner Kevin Lynch, whose book *Image of the City* explores how people develop mental maps of the places they find themselves in, shaped by paths, edges, districts, nodes and landmarks.

Since its introduction in Bristol, the "Legible Cities" approach has spread across the globe, adapted and extended to suit each location. While each implementation is different, they share a common approach:

THE FOUNDATION OF LEGIBLE CITIES

PRIMARILY PEDESTRIAN

The pedestrian is the focus of the approach. Those driving motor vehicles will not find the system useful until they get out of their cars and walk, but every journey—car, transit or cycle—involves walking at some point.

URBAN-ORIENTED

As the name suggests, the "Legible Cities" approach is best suited to urban areas of medium to high density. However, many of the concepts can be applied to walkable rural areas.

FOCUS ON UNDERSTANDING

Unlike highway wayfinding, which is designed to move people from one point to another, a legible city approach helps people build mental maps of their environment. Opportunities for discovery and appreciation of a place are as important as efficiency of travel.

RESEARCH

One advantage of the legible cities approach is that it has been widely studied. One of the most detailed post-implementation studies was done on the Legible London system in 2014[1]. Among the findings were:

HIGH USAGE

- Between 1 and 300 pedestrians per hour used the signs.
- Up to 1 in 20 people in Central London stopped to use a sign on weekends.
- Usage was lower in outlying areas of London—a smaller proportion of pedestrians used the signs, reflecting the lower number of non-residents who visit these areas.

HIGH SATISFACTION

- In over 600 interviews, satisfaction with signage grew substantially after pilot implementation.

Bristol Legible City

1 Steer Davies Gleave Legible London Evaluation 2013/14 Report 2014

Studies of a similar project— the Toronto360 wayfinding system— found similar results:

> % ↑↓ Pre- and post-implementation surveys were undertaken 12 months apart to measure change. After the pilot, rating for users to help finding their way around increased from 61% to 89%; to help making informed choices about walking routes increased from 39% to 83%; and, to learn about new and interesting locations or attractions increased from 44% to 82%.[2]

A mixed pedestrian/cyclist wayfinding pilot in Kailua, Hawai'i, supports wayfinding as promoting walking and cycling:

>  One-third (33.1%) of surveyed community residents agreed that seeing the wayfinding signs encouraged them to walk or bicycle more often in their community. Lastly, the majority of residents (82.6%) and non-residents (86.5%) thought the wayfinding signs were beneficial to the community. [3]

As many projects in the built environment do not receive the benefit of any post-implementation study, the body of research supporting this proposed approach provides a level of confidence.

Finally, while the connections between walkability, wayfinding and public health are complex, a literature review of 204 studies supported the assertion that features in the environment, such as poor wayfinding, may dissuade people from walking.

> “Wayfinding may indeed prove to be a vital link in walking and walkability, opening the door to a new generation of place-based strategies to enhance health and mobility in our population.[4]”

CRITERIA FOR SUCCESS

There are many factors that contribute to a successful wayfinding system. We point out the most important ones below.

EFFECTIVE

Obviously, a successful wayfinding system should help people find their way to their destinations. Improving people's ability to navigate is an essential goal of every wayfinding implementation.

CREATES A SENSE OF PLACE

A good wayfinding system doesn't just help people find the most efficient way to move from one point to another, it encourages them to explore and enjoy the places they inhabit.

SERVES A RANGE OF USERS

Many pedestrian wayfinding systems focus on visitors, or on people with time and money for recreation and travel. A good municipal wayfinding system should address the needs of all: visitors and residents, wealthy and disadvantaged, frequent walkers and those only walking occasionally.

ACCESSIBLE

Accessibility means designing for as wide a range of people as possible. In a wayfinding system, this has two components. The first is the accessibility of the system itself. This includes:

- type size and contrast for people with low vision
- use of colour for people with colour-deficient vision (colour blindness)
- placement/height for wheelchair users
- plain language for people with limited English comprehension
- using standard pictograms for meaning redundancy
- not placing unexpected obstacles in the path of people with visual impairments or travelling in wheelchairs

2 https://doi.org/10.1016/j.jth.2017.11.134
3 https://doi.org/10.1016/j.jth.2018.09.008
4 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5578416/

But there are also aspects of accessibility in the journeys we may recommend. For example, we want to make sure the routes we suggest are safe to travel—with pedestrian-friendly features like sidewalks and crosswalks. But there are other important issues surrounding accessibility. Not everyone can climb steep grades. Lack of curb cuts or ramps make some paths impassible by wheelchair users. A quick shortcut through a park may cut minutes off a journey in summer, but be a dead-end if there is no winter maintenance. These are problems that need to be solved in the built environment, but need to be taken into consideration in the wayfinding system.

SUSTAINABLE

Environmental sustainability is an essential part of every design discussion; sustainable design strives to create built work with the lightest ecological footprint. This means using materials and techniques that are long-lasting, minimizing the amount of energy and material used to fabricate signs. It also means choosing materials that are renewable, like wood, or recyclable, such as aluminum. Ecologically friendly painting and graphics techniques, such as powder coating and low-VOC paints, are especially important in signage projects. While signage can be lit, even high-efficiency LED lighting represents an ongoing use of energy; siting signs to use existing street lighting is generally preferred to internally lit signs.

Ease of update and repair is also important for sustainable signage.

As well-fabricated signage should outlast a municipality's visual identity, sustainable design principles suggest not tying design too closely to municipal visual brands. This reflects the way that street name and traffic regulation signs are not tied directly to municipal visual identities, so they do not need to be replaced or updated each time a visual identity changes.

For a project to be truly sustainable, design decisions must go beyond just ecological sustainability.

Cultural sustainability considers how to shape the built environment to improve human interactions and understanding. Sustainable design solutions strive to foster the culture of place, while improving the health and well-being for residents and visitors. A greater understanding of culture, heritage, and identity benefits everyone.

Economic sustainability is often excluded from the conversation until too late in the process, but it is as critical as the others. If there is no way to finance the work, then the project will never materialize. It is critical to consider how the project can be supported over the short- and long-term by a variety of stakeholders including community members, supporters, and funding agencies. Signs—especially map kiosks—need periodic updates and signs should be designed to be updated with minimum cost and waste. As with any object placed in the urban environment, there is always the risk of vandalism and accidental damage, so repairs should be possible without complete replacement.

Long-lasting materials: Olympic Park, London

ORGANIZING PRINCIPLES

Every city is different. Some are single communities with regular grids. Others are clusters of neighbourhoods. HRM is neither of these. Amalgamation brought a number of communities together under one administration, but strong ties to original communities remain. While HRM formally recognizes community boundaries, the names and boundaries of *neighbourhoods* are contested. Ask five people where Southdale begins, and expect five different answers. Compare this to the precision of boundaries of a neighbourhood like TriBeCa—the Triangle Below Canal street in Manhattan. HRM lacks such clear lines of demarcation.

What does this mean for HRM? As with every wayfinding project, it means dealing with some fundamental issues about how we understand a place.

NAMING

What do we call a place? As a general principle, using the names that people already use for places is preferred, but how do we define boundaries? Is "Alderney" a street? A building? A neighbourhood? Is it reasonable for a new resident to understand "the Willow Tree" when only a vestigial remnant of the former landmark exists?

LANDMARKS

The ocean acts as a natural landmark in much of the municipality, and will appear on most maps. The bridges, Citadel Hill, ferry terminals, town clock, and other prominent features, natural or built, are also prime landmarks.

COMPASS DIRECTIONS

Cities based on a regular grid system often use compass directions as an integral part of explaining a location. While maps will show compass directions, most streets in Halifax do not follow a regular grid pattern, and the notional "north/south" directions of the Halifax peninsula are closer to "northwest/southeast." For these reasons, visually compelling mapping, which clearly shows major routes and landmarks, will be the primary features, rather than a "distance and direction" approach.

PRESENTATION OF INFORMATION

Decisions on how information is provided should be based on sound principles. Again, the research on Legible Cities implementations provides some guidance.

TIME, NOT DISTANCE

Showing walking distances in time, rather than distance, makes journeys easier to contemplate. People on foot do not have the luxury of speedometers and few can accurately estimate their walking speed. While some people may walk more quickly or slowly than the average, using times rather than distances answers the fundamental question: "will I get there in time?".

Based on an average human walking speed of 85.2 m/minute[5]:

- 400m is about a 5 minute walk
- 800m is about 10 minutes
- 1600m is about 20 minutes

HEADS-UP MAPPING

Most conventional maps are "north-up" oriented; that is, north is at

5 https://www.physiology.org/doi/full/10.1152/japplphysiol.00767.2005

the top of the map, and users "mentally rotate" the map to match it to what they see. Ever since the first implementation in Bristol, detailed maps in Legible Cities systems have used a "heads-up" approach, where the map is rotated to match the user's orientation.

Heads up mapping is less effective for maps showing larger areas.

EMPHASIZE SHORTER JOURNEYS

While this strategy considers a 1600m radius (20 minutes) a "walkable distance," lack of direct paths and the city's many hills make this a challenging distance for many people. Distances of 400–800m (5–10 min) radius should be visually emphasized more heavily than those of 800–1600m (10–20 min).

SUGGEST OPTIONS FOR LONGER JOURNEYS

For longer journeys, directing people to transit is more practical than expecting people to walk long distances, especially when walking conditions are poor.

USE COMMON LANGUAGE

Use of vernacular names for neighbourhoods, features and destinations, as well as simple and clear language for all text, make messages understandable to the widest range of users.

LOCATION AND DISTANCE

Clear "you are here" indicators, and maps with approximate walking times indicated (by radius) help users quickly understand the walkabilty of a place.

APPROACH

Out of the Legible Cities cases, we recommend a two-pronged approach for wayfinding in HRM:

- directional signage, and
- maps.

Directional signage uses arrows and destination names to direct visitors to a small selection of high-level points of interest. Such signage delivers a small amount of information very clearly—which is why few destinations may be included.

Maps, by contrast, can deliver a very large amount of information in a small space. Maps on signs orient visitors to their surroundings, reveal the relationship between destinations, landmarks, and routes, and suggest new things worth discovering. Unlike directional signs, maps require visitors to spend more than a few seconds reading and interpreting.

The sign types recommended later in this report include either directional signs, mapping, or both in order to help visitors with navigation, orientation, and discovery.

DESTINATIONS

Both directional signs and maps require deciding what destinations are worth including. Many destinations may be communicated on a single map. Directional signs are very limited in what they can communicate, and only a very small number of high-level destinations can be included.

Choosing destinations is typically the most contested part of public wayfinding projects. A balance needs to be struck between the desires of destination owners to be highlighted in the system, and the practical

People reorient maps to match their perspective.

impossibility of including every conceivable destination in a wayfinding system. Any system that aims for completeness will result in clutter: too many signs, signs with too many messages, or maps highlighting too many things. The system must serve users' needs without overwhelming them. Below we set out criteria for deciding what destinations are worth considering for inclusion in a wayfinding system.

FUNDAMENTAL CRITERIA

To be included, destinations should meet certain fundamental criteria for appropriateness. The criteria below are not easily quantifiable, and they should not be treated as hard and fast rules; some judgement will always be required in their application. Destinations should be:

Broadly useful—has a useful or desirable function, enabling people to *do* something. A quiet residential street is not a broadly-useful destination, but a library certainly is.

Broadly usable—can be used by many people, rather than just a few. For example, a public beach is more broadly usable than a scuba diving site.

Broadly important—has a level of standing in the community. Stands out, by popularity, visual interest, usefulness or other significance. Individual restaurants are not broadly important or unique—but a neighbourhood with many notable restaurants might be.

Publicly accessible—visitors do not need to pay expensive or exclusive membership or user fees to enter or experience the destination. Simply charging a fee for access shouldn't exclude destinations from being included in the system, but high fees or requiring membership should.

Highly available—the destination is generally open. Year-round destinations with long hours are more highly available than those which are highly seasonal or open sporadically.

Stable—likely to perform same function in same place for a long time.

Universal—the audience is not just the wealthy and privileged. Social services and other aspects of human health and welfare should be included.

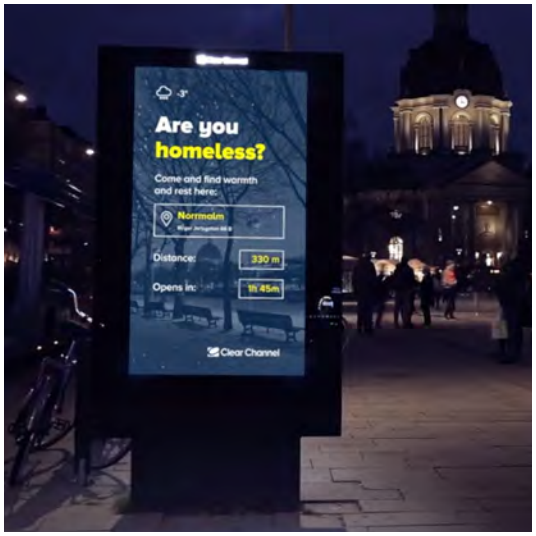
When considering what destinations to include, the following generalities should also be taken into account:

Clusters of destinations—it is more efficient to direct visitors to districts containing a high density of destinations, rather than to many individual destinations. Pedestrian-oriented retail streets are a perfect example of clustered destinations. Clusters are themselves destinations to which visitors may be directed (e.g. Portland Street in Downtown Dartmouth).

Connections are key—walking is often combined with other modes of transportation and so connections to those modes are vital.

Fair and open—pedestrian wayfinding is not marketing. Destinations should be included in the system based on their meeting many of the criteria above, and not on their ability or willingness to pay a fee to HRM in order to be included.

Responsive to community needs— smaller population centers may have multiple uses in a single space. For example, the local fire station may serve double duty as the community centre, or a retail store which also serves as a regional bus stop or community mailbox.



The pedestrian environment is complex and varied; journeys may be for work, education, relaxation, health care, or any other part of the human experience.

Landmarks—Landmarks are a special case. The inclusion of landmarks is based on them being visible, memorable and associated with destinations or routes. The Old Town Clock, for example, does not meet many of the criteria for destinations: it is not generally open, there is no experience or function to be had through visiting it. It is, however, an important landmark for navigating the city, and thus should be included.

FOR-PROFIT BUSINESSES

Improving the user experience of the city, rather than promoting businesses, is the system's reason for being. Wayfinding is not commercial advertising. For-profit businesses are a vital part of every city but no wayfinding system can accommodate every type of business.

Some businesses may be landmarks. Some may provide essential transportation services, such as parking or regional bus transport. Major sports or cultural venues may be for-profit businesses, or closely associated with for-profit tenants—and they should be included if they fit the fundamental criteria.

Users should be the beneficiaries of the wayfinding system—that is helping users find amenities they need, rather than promoting businesses. The proposed approach accommodates for-profit businesses in several ways:

Highlighting pedestrian-oriented retail streets rather than individual establishments—direct people to neighbourhoods with high concentrations of shops, restaurants or entertainment facilities. Once there, people can make choices about where to shop, rather than a wayfinding system playing favourites by choosing destinations. Malls may be considered indoor pedestrian-oriented retail streets, with responsibility transferring to the property owner once the user reaches the entrance.

Other measures are outside the scope of this project, but should be explored.

Consider commercial neighbourhood wayfinding—Business Improvement Districts exist specifically to serve the needs of their members, and some may have interest in commercial wayfinding, directing people to businesses within a BID.

These are often run on a "pay-to-play" basis, where businesses pay for commercial signage. The Tourism-Oriented Directional Signage (TODS) programs on highways in many provinces, including Nova Scotia, are examples of this kind of signage.

INCLUSIVITY

Some wayfinding systems are biased—inadvertently—to people with money to spend and time for recreation. Making sure that needs of all are represented should be a core value of the wayfinding system. This means considering people of all abilities and backgrounds, for example:

- someone arriving in HRM on Maritime Bus and needing to locate health or social services is as important as a wealthy traveller, and
- a container-ship crew member needing access to Missions to Seafarers is as important as a cruise-ship visitor looking for a tourist attraction.

AUDIENCE:

As a pedestrian-oriented system, the audience is pedestrians—people travelling on foot (which includes those using wheelchairs and

> "Making a city more understandable does not provide the prime reasons for people to frequent. Retail choices, tourist attractions, day or night life amenities are our destinations. Legible Cities provide connections and information about what is already there and create positive re-assurances to people that details are cared about."
>
> https://www.bristollegiblecity.info/old-site/c1.html

other assistive devices) for at least part of their journey. Those who travel on roads, or at faster than a walking pace, are not a key audience.

All cities are large and complex—few residents of HRM will ever get a clear mental model of the entire municipality. Residents become visitors when travelling through unfamiliar neighbourhoods. While this system is not primarily tourism oriented, tourism amenities are included as destinations as they tend to be broadly useful. The two main audiences are:

- residents of HRM, and
- visitors (anyone outside their home community).

In practical terms, this simply means that a broader range of destinations than just tourist attractions will be addressed in the system.

DESTINATION TYPOLOGY

This matrix shows the types of destinations that should be featured in the wayfinding system. All of the below destination types should be included in maps, and a very reduced set of destinations should appear on directional signs, as these are very limited in the messages they can carry. As the level of detail of maps increases, the number of destinations shown also increases.

Selecting destinations will require significant subjective determination during a future detailed design phase. There is no fully objective or quantitative criteria for deciding what to include and what to leave out, and the below matrix should be treated as a guideline for selection only.

TYPOLOGY	TYPE	INCLUDED ON MAPS	MAY APPEAR ON DIRECTIONALS	NOTE
Transportation				
	Transit terminals	Yes	Yes	may include bus, ferry, train, inter-city and other terminals, as well as groups of stops
	Public parking	Yes		
	Ferry	Yes	Yes	
	Maritime Bus	Yes		
	Airport	No		indicate transit links
	Water taxi	No		
	Bike rental	No		
	Car Share stations	No		
Infrastructure				
	Bridges	Yes	Yes	
	Rail	Yes		
	Trails/AT routes	Yes		including regional trails
	Cycling routes	Yes		
	Accessible routes	Yes		may indicate barriers
	Walkways/skybridges	Yes		
Food/retail				
	Pedestrian-oriented commercial streets (see p. 27)	Yes	Yes	
	Farmers' markets	Yes		
Entertainment				
	Major venues (see p. 28)	Yes	Yes	

> To be able to think like the everyday person is the most effective way to design for public places. The users of the systems of the city are probably very different than those that design it. They have different motivations and different levels of familiarity with the city and its modes of transport.

Bristol Legible City Concept Summary

TYPOLOGY	TYPE	INCLUDED ON MAPS	MAY APPEAR ON DIRECTIONALS	NOTE
Civic buildings				
	Fire stations	No		Discretion may be required in rural areas; if a fire station has other uses, it may be worth including.
	Police stations	Yes		
	Ambulance stations	No		
	HRM/fed/prov service centers	Yes		
Health+social services				
	Walk-in clinics	No		
	Hospitals	Yes	Yes	
	Frontline social service agencies	Yes		
	Public washrooms	Yes		
Tourism				
	Visitor Information Centres	Yes		
	Seasonal attractions	No		Involve Discover Halifax in determination of appropriate seasonal attractions.
	Hotels	No		
Parks				
	Parks with amenities	Yes	Yes	Amenities may include any major offering in a park, such as public washrooms, playgrounds, sportsfields,etc.
	Parks without amenities	No		Pocket parks and other small parks with few or no amenities should be left out. May be included as unlabelled green space, depending on map scale and complexity.
	Beaches	Yes	Yes	

TYPOLOGY	TYPE	INCLUDED ON MAPS	MAY APPEAR ON DIRECTIONALS	NOTE
Heritage/cultural				
	Major heritage buildings	Yes		e.g. Little Dutch Church
	All heritage buildings	No		e.g. Municipally-designated heritage houses, buildings with no public access
	Heritage or cultural districts	Yes	Yes	May include ad hoc or formally-recognized cultural districts.
	Theatres	Yes	Yes	Stable facilities only.
	Sports venues	Yes	Yes	
	Libraries	Yes	Yes	
	Galleries and museums	Yes	Yes	Galleries should include public institutions only, private galleries should be treated as retail.
Education				
	Universities and colleges	Yes	Yes	
	Primary and secondary schools	No		
Landmarks				
	Any major landmark	Yes		
General				
	For-profit businesses	No		

DESTINATION CRITERIA—DETAILS

Planning destinations for pedestrian wayfinding projects involves putting oneself in the shoes of the user and determining what destinations a user might seek out from any particular point. This requires making subjective choices. Most of the destination types are noted in the previous table, but some require additional consideration.

PEDESTRIAN-ORIENTED COMMERCIAL STREETS

Rather than directing people to specific businesses or depicting them on maps, direct visitors to *pedestrian-oriented commercial streets,* where people can find concentrations of restaurants, shopping etc. without emphasizing any specific business.

This raises the question, how does one determine what is such a street? There are several methods.

DENSITY OF ACTIVE STOREFRONTS

One method is to count the number of amenities/storefronts per linear measure of street. As an example, Portland Street between King and Wentworth Streets is 90.4 metres long, and has 7 active storefronts (including both sides of the street), therefore 7.7 storefronts per 100m. Ochterloney between King and Wentworth, just a few blocks away, has 3.2 storefronts per 100m (3 storefronts in 92.3 metres). If the minimum threshold was set at 4, then between King and Wentworth, the block of Portland Street would be included as an active area, but the block of Ochterloney would not. This method should apply equally well in rural, suburban, and urban areas, but there should be some flexibility to add areas which may not fit the threshold if the block is clearly an active area.

This method requires high-quality data on land use. Several challenges are associated with this method, including the different densities and scales of communities—what is considered an active area in a low-density rural community might not be considered one in a dense downtown. "Storefront" is a nebulous term—storefronts might include offices and other business that don't meet the principles of usefulness to the average user.

The City Observer http://cityobservatory.org/the-storefront-index/ has developed Customer-Facing Business Categories which could be used to determine which storefronts to include and which to leave out.

BUSINESS IMPROVEMENT AREAS/NEIGHBOURHOODS

Using the existing boundaries of Business Improvement Districts is another possible method. Not all commercial areas have BIDs (e.g. Burnside and Bedford), and the boundaries of a BID may not align well with wayfinding needs, but BID boundaries have the advantage of being officially demarcated.

OTHER EXISTING CLASSIFICATIONS

Another method is to base pedestrian-oriented commercial streets on other mapping systems' data. Google Maps, for example, refers to "areas of interest"—"places where there's a lot of activities and things to do" [6], a concept which aligns well with this system's idea of "active areas". But even Google, with all its data and computing power, needs to rely on human judgement to determine that most human of qualities, "interest":

> We determine "areas of interest" with an algorithmic process that allows us to highlight the areas with the highest concentration of restaurants, bars and shops. In high-density areas like NYC, we use a human touch to make sure we're showing the most active areas. Perhaps the human touch is needed elsewhere, too.

Google Maps data for active areas can't be simply downloaded and used; each area would have to be digitized and ground-truthed.

For wayfinding, we recommend employing all three methods to find relevant pedestrian-oriented commercial streets. Not all such streets should be included in wayfinding—context and subjective reasoning will be required.

ENTERTAINMENT VENUES

Entertainment venues are another challenging case. Major venues may appear as destinations, but what makes a "major" venue?

If we imagine a venue with a capacity of 20,000 people, that is clearly "major" even if it only hosts a few performances a year.

6 https://blog.google/products/maps/discover-action-around-you-with-updated/

But what about small venues that constantly have performances, such as a comedy club? Evaluation should consist of looking at:

- number of performances
- venue capacity
- breadth of programming
- community owned/for-profit
- primarily entertainment or primarily food/drink
- Public access vs. pay for access — free is preferred
- show-up-and-pay preferred over members-only
- facility longevity and stability

Venues which meet more of the above criteria should receive greater consideration in the system.

DESTINATION HIERARCHY

By creating a hierarchy of destinations, we can then assign destinations to wayfinding tools: mapping, signs and more. Users should be able to quickly develop expectations for what kinds of destinations, therefore journeys, the system will address, and which it will not.

There are two basic hierarchies in a wayfinding system: hierarchy of distance and a hierarchy of importance. The way these hierarchies are expressed is different in maps versus directional signage.

In the distance-based hierarchy, nearby destinations are more accessible and therefore more likely to appear.

In an importance-based hierarchy, the "importance"—how likely a user wants to seek out a destination— is the driving factor.

Maps are information-rich.

ASSIGNING DESTINATIONS TO MAPS AND SIGNS

MAPPING

The high information density of maps allows a large number of destinations, but more distant destinations are not as easily reachable on foot. On maps, the hierarchy is:

- 0–400m—most destinations shown
- 400–800m—most destinations shown, with unnecessary duplication removed (such as clusters of transit stops serving the same bus lines, only farther away)
- 800–1600m—only major destinations—transit nodes, major active areas, universities, hospitals, etc.
- beyond 1600m exceptionally important destinations—for example, it may be useful to show destinations not reachable on foot, along with an indication of how to get there (Metro Transit)

Maps can have many destinations, but need clear hierarchies to prevent destination overload. By making choices based on importance of destinations to users, and distance they have to walk to reach them, we can achieve the best balance between ease of comprehension and depth of content.

The design of maps for wayfinding in HRM will have to be a close collaboration between a cartographic designer, a GIS technician, and a wayfinding designer—along with the municipality's staff to advise on context-appropriateness.

DIRECTIONAL INDICATORS

Unlike maps, there is limited space on directional signs for destinations, walking time and directions. Only the most important destinations must appear as directional messages. More distant destinations will be served by signs providing guidance and reassurance, so for a distant destination, several directional indicators may be needed along the way. As with maps above, decisions on destinations will require close collaboration between a wayfinding designer and HRM staff.

DESIGN ELEMENTS

The core sign types of the system we propose includes map kiosks and directional sign elements.

MONOLITHS / MAP KIOSKS

Map kiosks, often called monoliths, are the core component of the system. They communicate several types of detailed information, including maps at multiple scales.

While a vehicular system may be content to guide people from one town, highway exit, or major artery to another, pedestrian wayfinding is much finer grained: how do you get to your final destination? That "last mile" of wayfinding is always going to be more complex than point-to-point vehicular travel, and that means that there will be many more destinations in pedestrian-oriented systems. With this larger number of destinations, providing directional guidance at every decision point is impractical—the number of signs needed would be overwhelming. Map kiosks, with a high information density, solve this by concentrating wayfinding assistance in a single place.

Unlike vehicular travellers, pedestrians can easily stop to orient themselves, plan the next segment of their journey, and pause to take in their surroundings. The goal of the monoliths is to help people create a stronger mental model of their environment, not to provide turn-by-turn guidance.

DIRECTIONALS

Sometimes, however, turn-by-turn guidance is exactly what is needed. Urban environments can be hard to read. Connections between areas may be unclear, routes hidden from view, a route that looks visually appealing may not be the correct one. In these cases, supplementary help is needed. This additional set of wayfinding tools—directionals—assist pedestrians when faced with unclear choices.

EXAMPLE | WILLOW TREE INTERSECTION

Multi-path intersections such as the Willow Tree in central Halifax are difficult to navigate even with a good mental map of the city. With less than 90 degrees between road directions, and poor sightlines, how do you know the best way to, say, the waterfront or Spring Garden Road? Directional signs provide this added level of assistance.

Directional signage at places where we anticipate confusion aids and reassures visitors, but its role is secondary.

LOCAL DIRECTIONALS

In many places in HRM, "pedestrian connections" provide a route between places not accessible to cars—connections between cul-de-sacs, alleyways, and other shortcuts. Such routes may be vital to pedestrian connectivity, but there may not be a named destination to direct visitors to.

In such cases, we propose local directionals, which communicate where a route goes, using a street or neighbourhood name as the destination. In less-dense areas, these may be the most effective and commonly used wayfinding sign.

ADDITIONAL COMPONENTS

Instead of using custom signs at street / trail intersections, signs similar to pole-mounted street signs may be used instead to name the trail. Standard street signs are reserved for motor vehicles in HRM currently.

OUT OF SCOPE SIGNAGE

Some important wayfinding elements are out of this project's scope.

STANDARD STREET SIGNS

Street signs are an important supporting element of any wayfinding system—HRM should ensure they are visible to pedestrians, pointing in the right direction, and in good condition.

NEIGHBOURHOOD AND COMMUNITY SIGNAGE

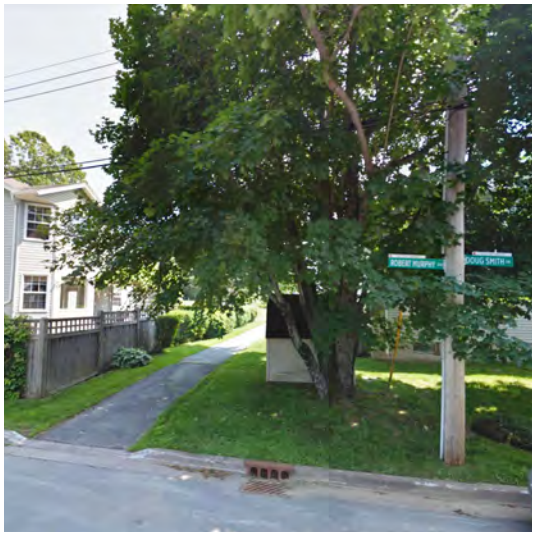
Some neighbourhoods and communities have identifying signage, but it often oriented towards vehicular travellers rather than pedestrians.

IDENTIFICATION SIGNAGE

"How do you know you are there?"

Identification Signage is not within the scope of this project, as it is typically the responsibility of the site owner to provide. Some HRM assets (such as rec centres) have a formal ID signage program; HRM Parks are in the process of implementing one, while other destinations such as libraries have different levels of ID signage. Commercial establishments generally have prominent, up-to-date ID signs, while non-commercial establishments often have far less visibility. Creating a clear sense of arrival is an important part of any wayfinding system.

Pedestrian directional signage



Where does this public path lead? An opportunity for "local directional signage"

NON-PEDESTRIAN SIGNAGE

Wayfinding for motor vehicles, cyclists and transit users (stops and route maps, etc) are not part of this strategy. However, pedestrian wayfinding signage is important at places where people change modes—bus to walk, bike to walk or car (parking) to walk, for example.

NON-WAYFINDING SIGNAGE

Helping people navigate is the system's primary goal. Regulatory information—rules and prohibitions— are not part of the strategy.

Interpretive information is also not part of the strategy; although there may be opportunities for interpretive content on monoliths, interpretation is best done elsewhere, typically at features to be interpreted.

Chapter 4

SCHEMATIC DESIGN

SIGN ELEMENTS

Signs are composed of different elements — messages such as destinations and directional arrows, features like maps, and elements that help users locate and use signs such as labels and distinctive visual features.

This chapter identifies each feature, and then shows how features are combined into various sign types.

Illustrations in this section are not fully developed sign types, but rather schematic designs that show size, ordering of messages,and relative sizing of messages. Design details would be part of future prototyping and implementation projects.

BEACON

Beacons are features that stand out from a distance, to notify or attract. The height of the monolith design is a response to the need to be visible at a distance above people's heads. The monolith's distinctive and highly visible upper section acts as a signal to pedestrians: here is where you can find wayfinding assistance.

Visible from all sides, this element has a colour distinctive to the system, and contrasts other elements of the sign. The combination of colour and a symbol are used to mark this as a pedestrian wayfinding sign.

Local directionals will appear in lower-traffic areas, and will not need to stand above vehicles or other pedestrians.

Beacons from other systems

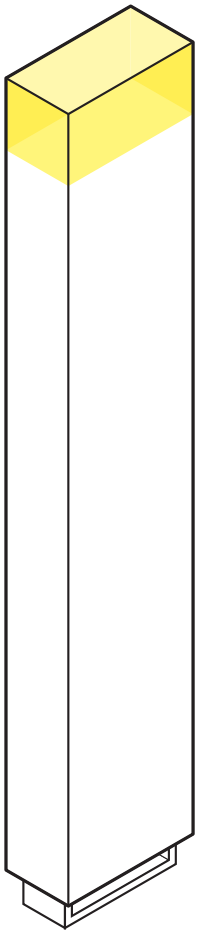
From left to right: Edmonton, London

The beacon element of the sign stands well over head-height to be visible from a distance.

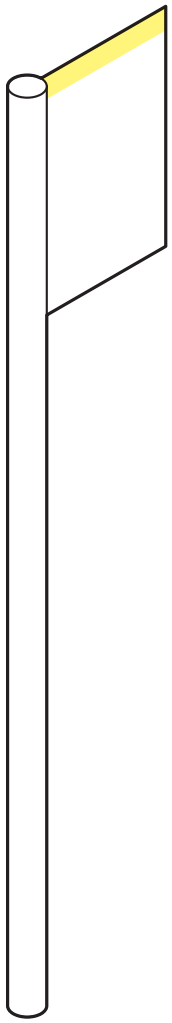
From left to right: London, Bristol

Element locations

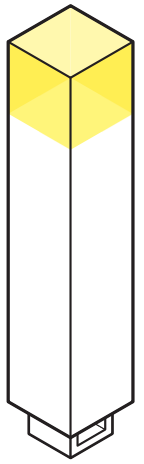
Monolith



Directionals



Local directional



CARDINAL DIRECTION

While the maps are aligned with the viewer's perspective in a "heads up" orientation, for some users it is still useful to provide compass directions as an element of assurance. For those who might use assisted directional devices (like mobile phones), the cardinal direction helps with navigation.

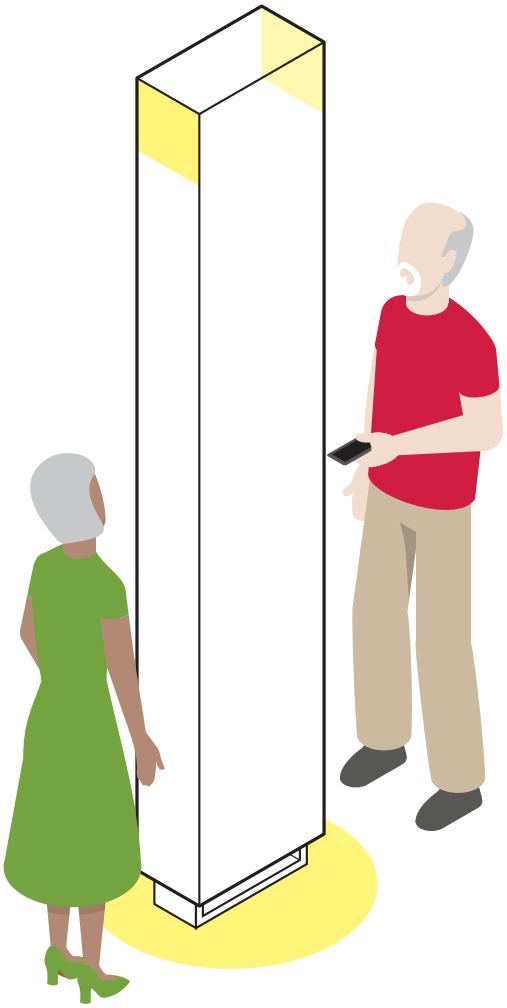
Generally a north and south directional aid will suffice. When used on the sign, the cardinal direction does not appear on the same side as the heads-up map. In-ground directions are also an additional subtle device that may be employed.

Types of cardinal directions used in other systems

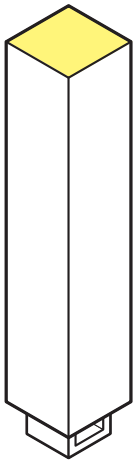
From left to right: Lunenburg, Fundy National Park (NB).

Element locations

Monolith



Local directional



COMMUNITY NAME/LOCATION NAME

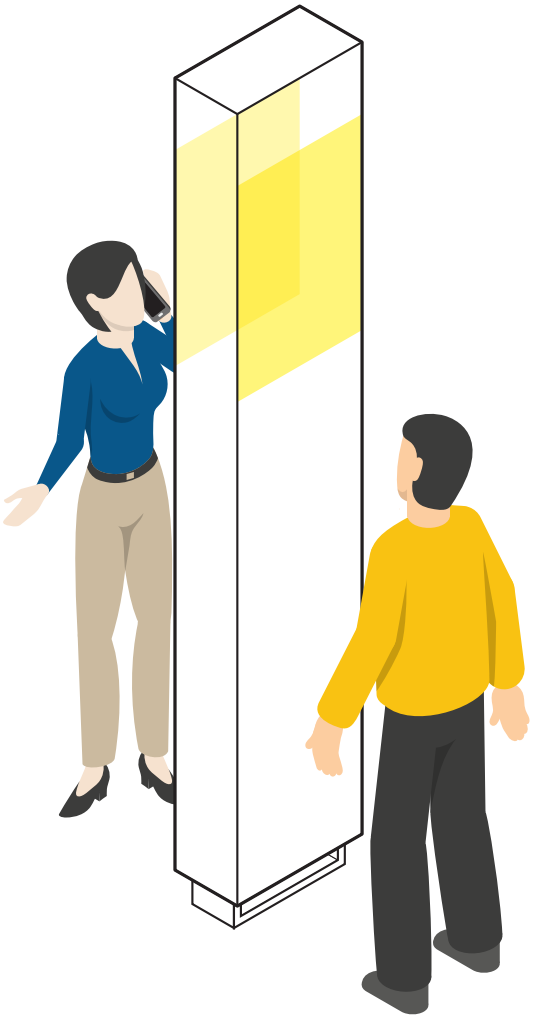
The location name should include a well-known community/area name and a location name. This reassures people that they are in the right area, and puts community names in the environment, where, unlike street names, they seldom appear. Location names should be based on what residents who live and work in the area call it. Consideration should be given to including original Mi'kmaq names for places as a tertiary element.

> The location element may be two tiered, for example: Spring Garden at Queen Street; or Alderney Landing at Alderney Drive and Portland Street..

> Community names images and note from legible city signage systems
>
> From left to right: New York, Edmonton

Element locations

Monolith



CRITICAL INFORMATION

As a public service, a panel is included to help people in moments of stress or emergency. In addition to information about when to call 911, it is important to include a street address for users who need to know their current location, in case of emergency or to communicate to others. Other information, such as the system brand or municipal brand, may also appear here.

Municipal Services and Information uses 311 as a direct connection. For example, a resident may call 311 to report a maintenance problem.

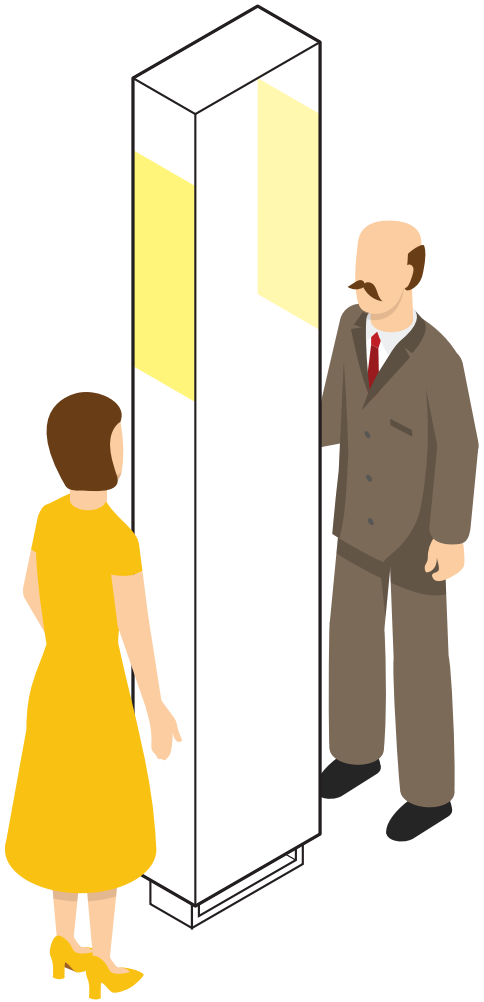
> The information panel is a discrete element, visible when required, unobtrusive when not.

> Typical examples of additional information.

From left to right: Toronto, Halifax

Element locations

Monolith



MAPS

The maps are the most information-rich component of the system. The monoliths feature three maps, at different scales.

LOCAL MAP

The local map shows the immediate neighbourhood, within a radius of approximately 400-600m (10–20 mins), in a "heads-up" orientation.

> Of the thee maps that appear on the pylon, the most prominent is meant to show what is reachable with a short walking distance.

CONTEXT MAP

The context maps show the full 1600m walkable distance (20 mins), and is used to encourage movement beyond the immediate area. At these distances, "north-up" orientation is preferred.

Typical local map images and note from legible city signage systems. From left to right: London, Langley

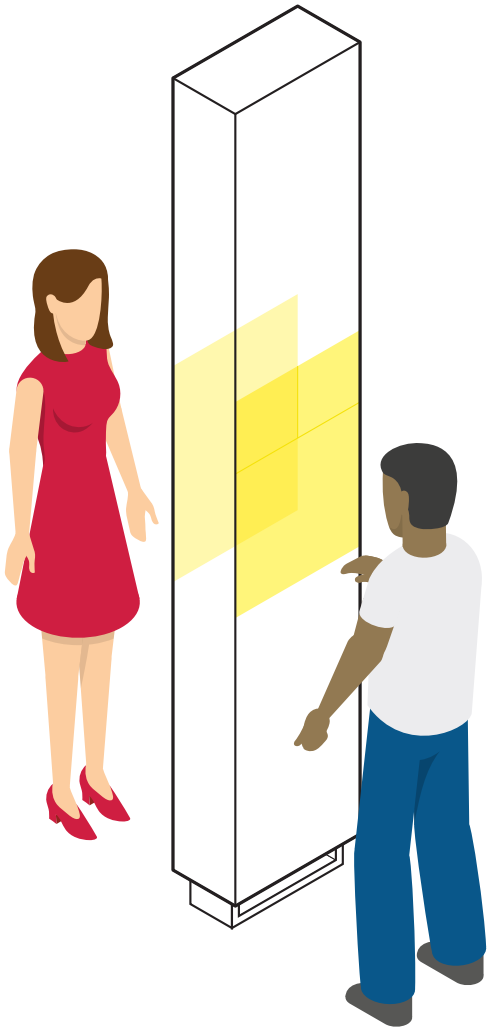
Heads up mapping. From left to right: London Stand, London Thames

Generally based on circle radiating from the location of the sign, square images make the most of the space and indicate what is just beyond.

From left to right: Reykjavik, Toronto

Element locations

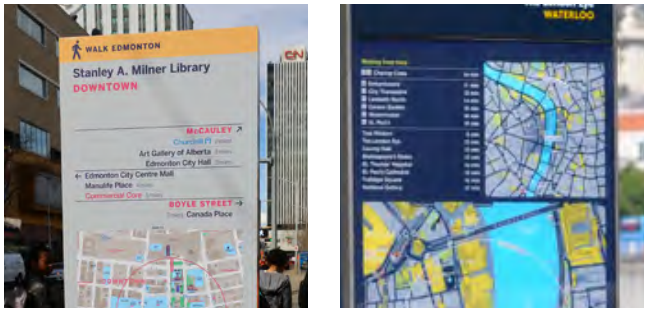
Monolith



DIRECTIONAL MESSAGES

Directional messages point users to specific destinations. On monoliths, they point out important local destinations. On directional signs, they are the only wayfinding message present. A directional message is made up of the destination name, a directional arrow, and the time it will take to walk there, based on an average speed of 4.5 kilometers per hour.

On local directional signs, typically only one directional message—the other end of the path—will be present. For very short pedestrian connections, where the other end of the path is clearly visible, the walking time can be omitted.

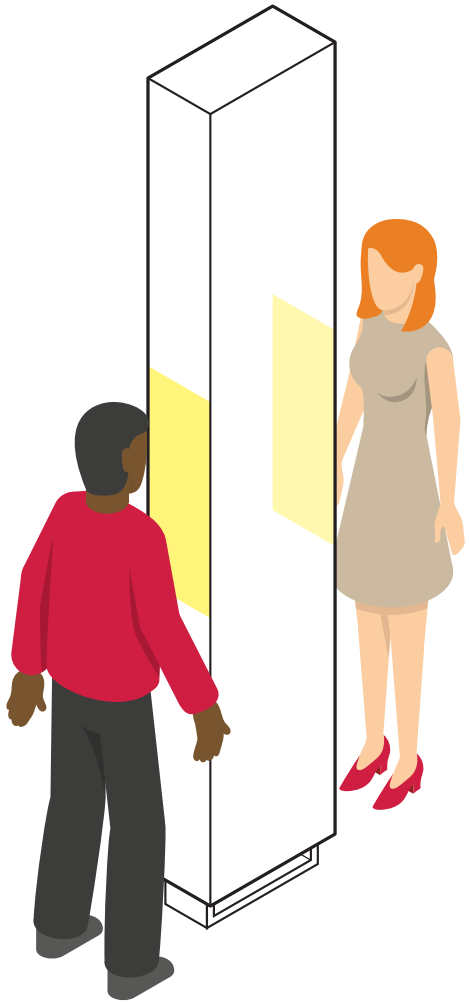


Typical directional information images and note from legible city signage systems

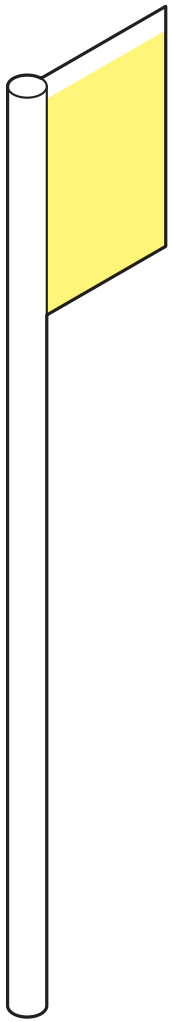
From left to Edmonton, London, Bristol

Element locations

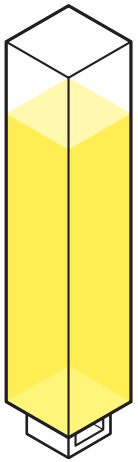
Monolith



Directionals



Local directional



SIGN FAMILY

This chapter illustrates content, function and information hierarchy for each sign type. Detailed design and content development would occur as part of an implementation project.

The Legible Cities approach is based on a limited number of sign types, each with a different function.

Different environments require different approaches to signage. The sign types are presented here based on the environments they are most likely to be placed: dense urban areas, less dense suburban areas, and rural population centres.

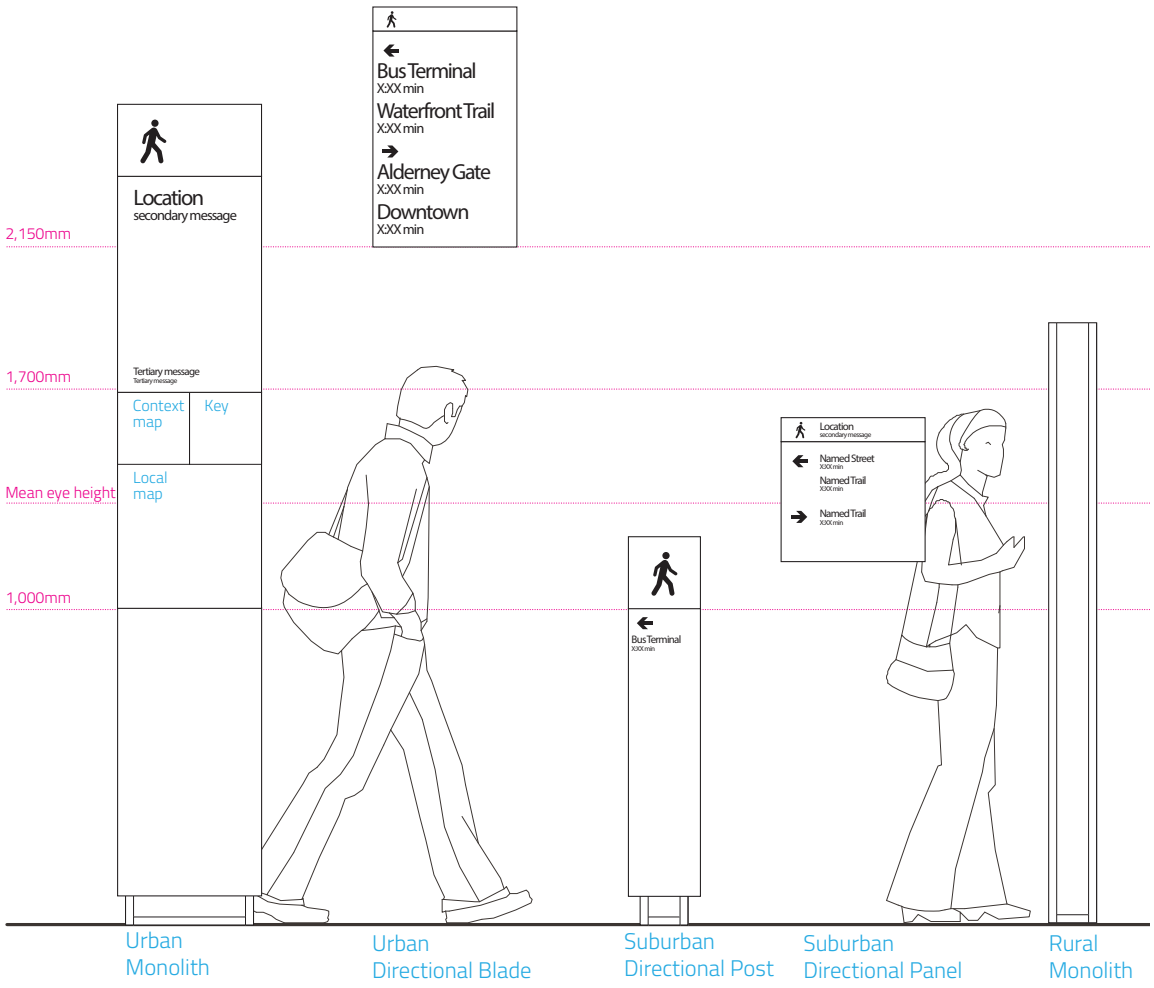
Map kiosks called monoliths are the most prominent sign type—they provide orientation to users via maps and selected directional messages.

Urban directional blades provide additional assistance where pedestrians on foot may need help in finding their way—unclear paths, complex intersections, or areas with poor sightlines.

Local directional posts and panels are intended for short pedestrian connections, such as between cul-de-sacs, in places where there is a pedestrian pathway but no road, or places where pedestrians should be encouraged to walk.

In rural population centers, smaller, lower-cost monoliths can be placed in the central area of a community to communicate walkable destinations in that community.

For each sign type we have provided an estimated cost for fabrication and installation. Design and program management fees are not included in this cost.



URBAN AREAS

MONOLITH ROLE

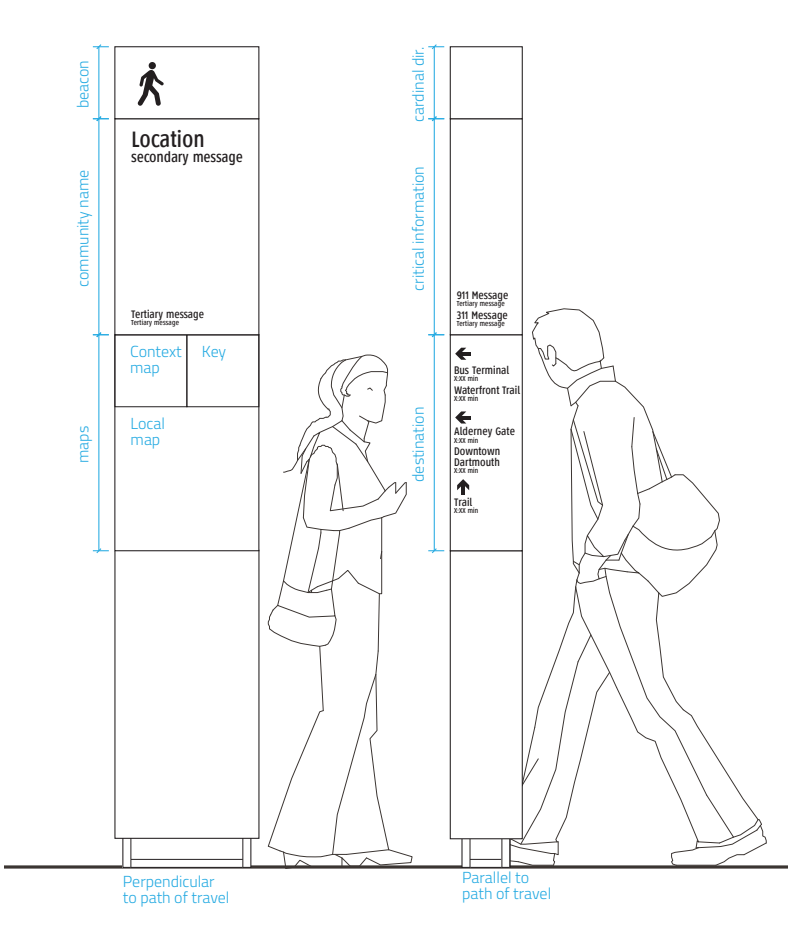
At monoliths, people pause and gather to orient themselves, plan their journey, and make decisions about routes and modes of transportation. Monoliths are the key elements of the system, and are placed in locations where large numbers of pedestrians pass through or congregate.

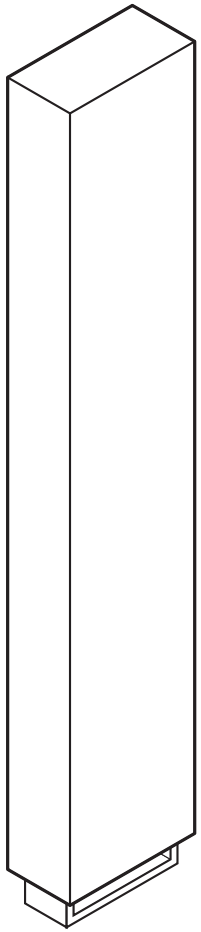
The footprint of a monolith is approximately 225mm × 450mm, but at least 1.5m of clearance is advised for people to congregate around monoliths, without impeding other pedestrians. Pedestrian plazas, bump-outs and other areas, rather than narrow sidewalks, are the best locations for wayfinding monoliths. Monoliths must not be placed within the pedestrian clearway, but may be placed immediately adjacent to it.

Each sign type is made up of a number of suggested elements. See 'Sign Elements' on page 35 for a detailed description.

ESTIMATED COST

Approximately $17,500 each to fabricate and install. Does not include design costs.





DIRECTIONALS

DIRECTIONAL BLADE ROLE

Directional signs provide additional assistance, making routes clear. These are supplementary tools, meant to clarify which direction to proceed at key decision points, or to provide reassurance that someone is on the right path on longer routes.

Unlike vehicular signage that needs to be located where it is clearly visible from the street, directional signs are meant to be viewed only by pedestrians, providing more flexibility in siting. They may be mounted on existing posts, but typically will require their own posts.

The footprint of a directional sign is approximately 150mm × 150mm.

Each sign type is made up of a number of suggested elements. See 'Sign Elements' on page 35 for a detailed description.

ESTIMATED COST

Approximately $1500 each to fabricate and install. Does not include design costs.

Urban Directional
(existing or new post)

SUBURBAN AREAS

LOCAL DIRECTIONAL ROLE

Local directionals are for short, point-to-point journeys, and are intended to make connections clear to pedestrians. They "give permission" for people to proceed on foot, tell them where they are, where the path leads, let them know the path is public space, and acts as a marker to help build pedestrian mental maps.

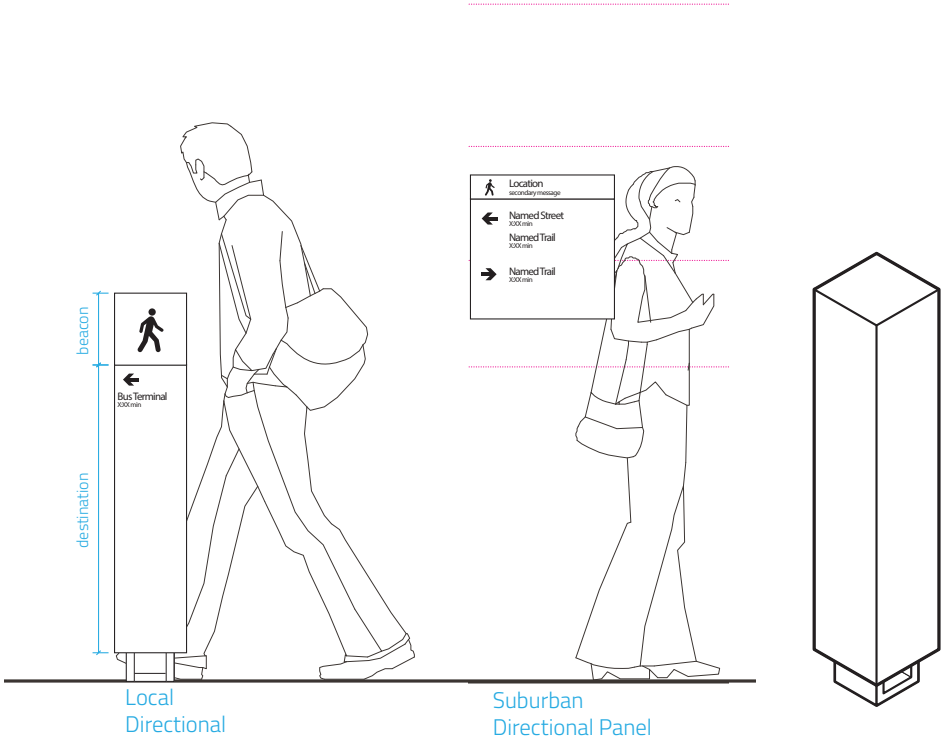
As point-to-point signs, they typically only contain a single destination—the other end of the pedestrian path.

Suburban areas have many cul-de-sacs connecting residential streets. For these, a low-cost panel sign may be attached to the fence separating most cul-de-sacs from neighbouring properties. The sign would show the current location and where the path leads.

Each sign type is made up of a number of suggested elements. See 'Sign Elements' on page 35 for a detailed description.

Local directional posts cost approximately $5,000 each to fabricate and install. Does not include design costs.

Suburban directional panels may be easily fabricated at low cost by HRM's sign shop and installed by HRM staff.



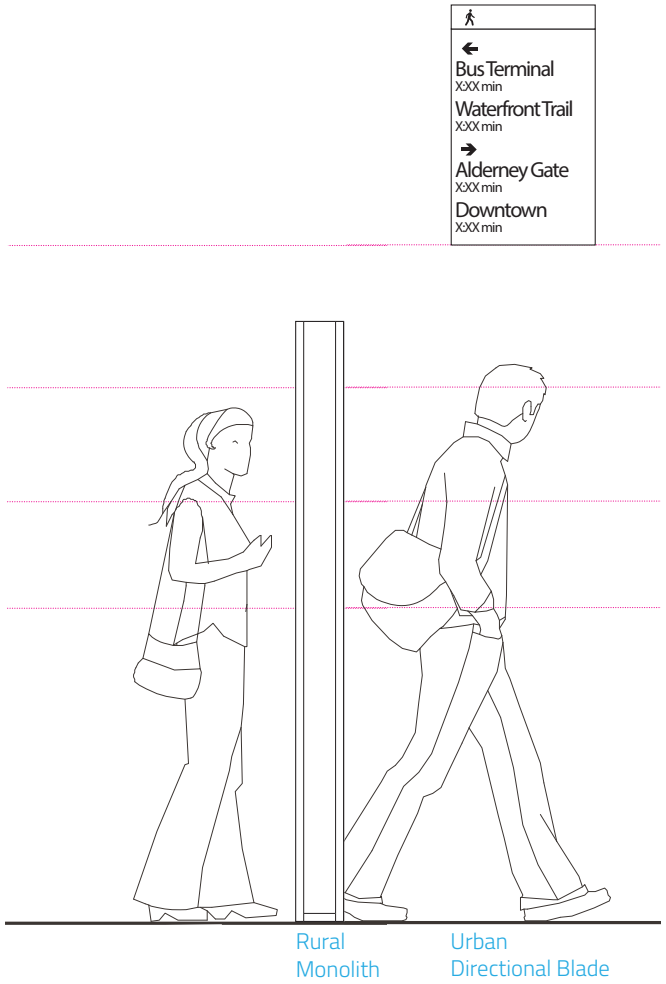
RURAL CENTRES

In rural population centres smaller monoliths, similar in content to the urban monoliths but scaled down, indicate walkable destination in the surrounding areas.

Directional blades, identical to those in urban areas, clarify unclear routes and mark decision points.

ESTIMATED COST

Approximately $8500 each to fabricate and install. Does not include design costs.



SIGN VARIANTS

PYLON DIRECTIONAL SIGN

The "blade directional" sign is durable, readily replaceable, and inexpensive, but it may not be the right choice in especially confusing or crowded places. We envisage a variant of that sign which provides a similar function, but with most of the sign at eye level, as in the monolith.

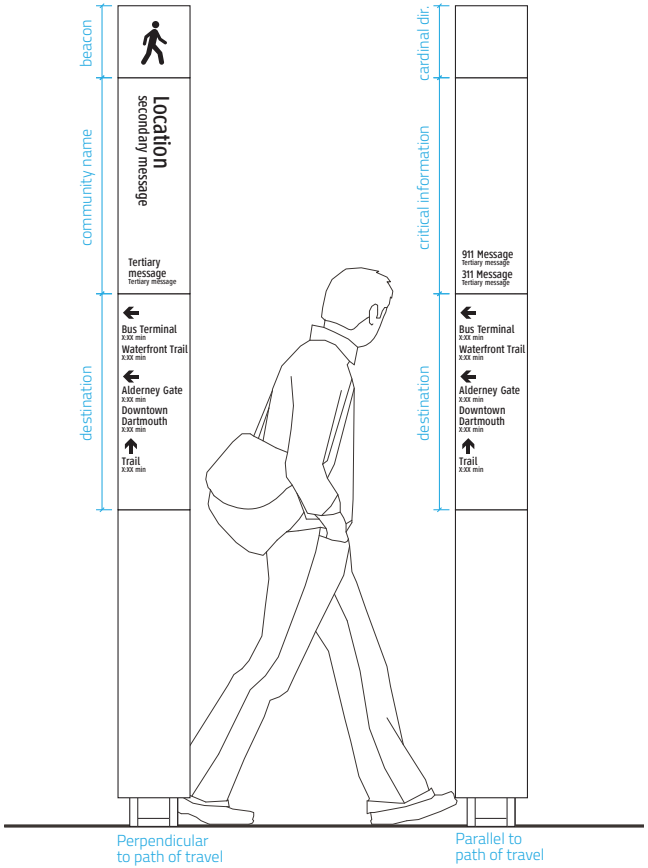
The "pylon directional" provides the opportunity to communicate directional information on up to four sides, possibly the most efficient and functional choice in tight urban environments.

FACE-MOUNTED MONOLITH (NOT SHOWN)

The monolith type is a freestanding, information-rich sign, ideal for being a focal point in public urban spaces where there is room for people to congregate on two sides. Nevertheless, there may be contexts where having a two-sided, freestanding sign is either impossible or undesirable.

To meet this need we considered that a single-sided variant of the monolith is possible, providing similar information, but mounted to such things as the facade of a public building, the glass wall of a bus shelter, or a retaining wall. This one-sided variant would have the side benefit of being much more inexpensive to produce and install, even though ideal mounting locations may be restricted. While using existing structures may save on cost or space, such considerations should never trump usefulness to the user—sign function must always be the top consideration.

There may be opportunities to co-locate these face-mounted monoliths by attaching to or incorporating into existing infrastructure in the right-of-way, such as parking pay stations. This would require further customization of the design, and support from parties responsible for operating and maintaining the existing infrastructure.

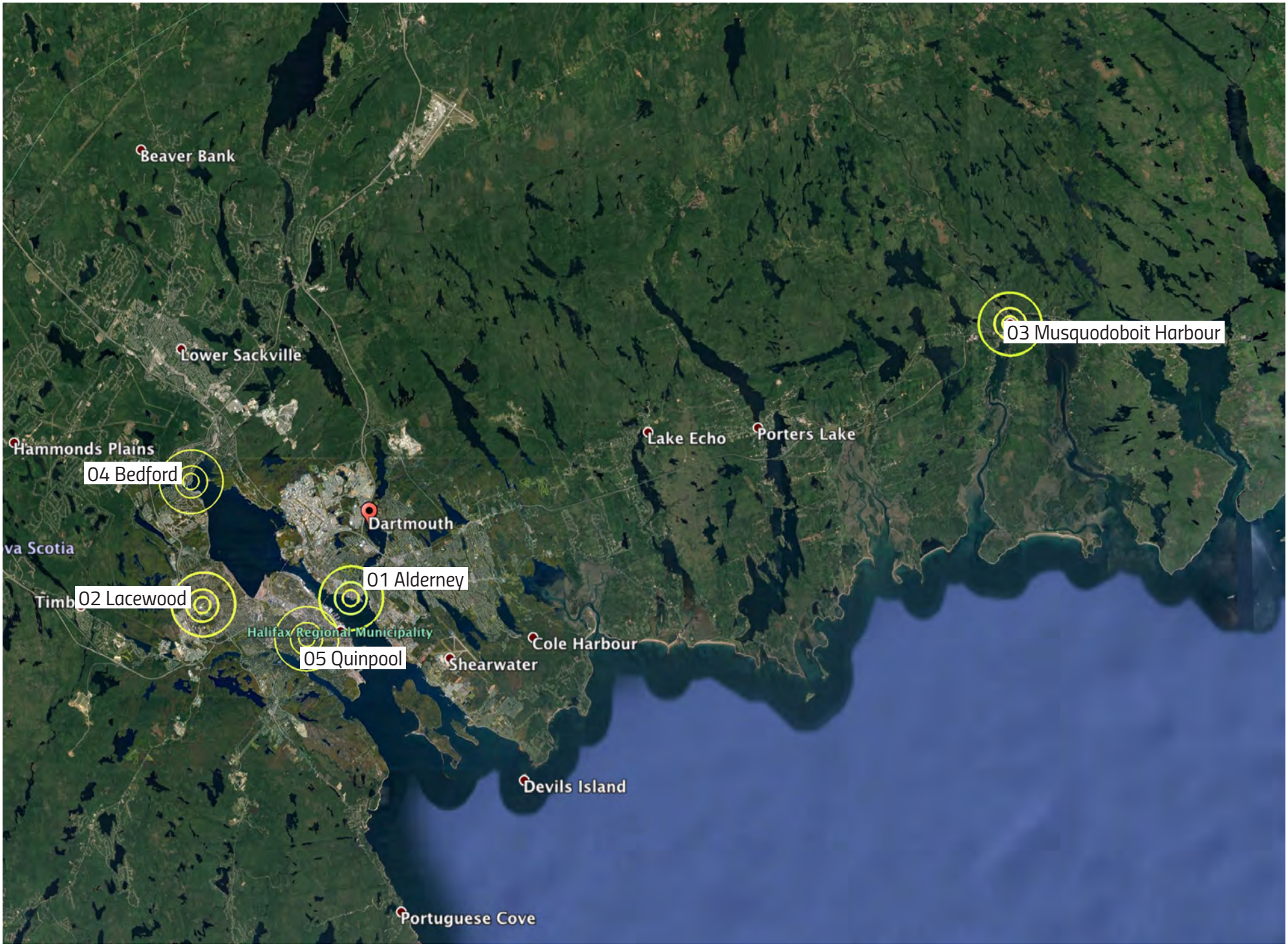

beacon
community name
destination
Location
secondary message
Tertiary message
Tertiary message
Bus Terminal
XXX min
Waterfront Trail
XXX min
Alderney Gate
XXX min
Downtown Dartmouth
XXX min
Trail
XXX min
cardinal dir.
critical information
destination
911 Message
Tertiary message
311 Message
Tertiary message
Bus Terminal
XXX min
Waterfront Trail
XXX min
Alderney Gate
XXX min
Downtown Dartmouth
XXX min
Trail
XXX min
Perpendicular to path of travel
Parallel to path of travel

Chapter 5

LOCATION STUDIES

STUDY AREAS

We selected study areas to visualize, validate and develop indicative cost estimates for the strategy. The sample plans on the following pages are purely indicative, and require development in a design development phase before implementation. They're only intended to check assumptions, and estimate quantities for initial budgeting, and should *not* be assumed to be priority areas for later implementation.


Beaver Bank
Lower Sackville
Hammonds Plains
04 Bedford
Dartmouth
va Scotia
Timb
02 Lacewood
01 Alderney
Halifax Regional Municipality
05 Quinpool
Cole Harbour
Shearwater
Lake Echo
Porters Lake
03 Musquodoboit Harbour
Devils Island
Portuguese Cove

METHODOLOGY

Five location study areas were selected for a diversity of conditions, representing walkable centres in urban, suburban, and rural areas of HRM:

- 01 Alderney (Dartmouth)
- 02 Lacewood (Clayton Park)
- 03 Musquodoboit Harbour
- 04 Bedford
- 05 Quinpool Road (Halifax)

They are not necessarily priority areas for implementation. Provisional locations for monoliths, directions and other wayfinding have been chosen to demonstrate sample applications of the system, for budget and planning purposes. Choosing specific locations would require land-ownership investigation, coordination with HRM departments for right-of-way approval and other requirements as part of a wayfinding program implementation not within the scope of this project.

Each location study includes a radius diagram showing "as-the-crow flies" distances from a central point in the study area. 400m, 800m and 1600m radii were selected as appropriate reference distances for walking.

A second distance diagram shows the difference in walking distance using the available road and trail network—in every case showing a significantly different result that is much closer to actual walking distances than radii. Challenges and opportunities for wayfinding signage are noted within each area.

Then, a provisional location plan and message schedule shows ideal locations and some preliminary sign content within each study area. Each sign location on the plan has a code (e.g. M1-01-001) which keys to the information in the message schedule table.

NOTES TO THE PLANS

We avoided siting monoliths beyond the 800m radius point in more densely built up areas, under the assumption that other study areas would overlap the outer 800–1600m ring. During design development, detailed location plans will have to address wider areas as a single plan.

While we recommended destination types and set out some initial criteria, a detailed selection of destinations is not in scope of this strategy. The sample destinations that appear in the message schedules that follow are provisional only.


01 ALDERNEY
N44°40'46.56"
Lake Micmac
Penhorn Lake
Oat Hill Lake
Sullivan's Pond
N44°40'20.64"
1600 m
Maynard Lake
800 m
400 m
N44°39'54.72"
W 63°35'42"
W 63°35'6"
W 63°34'30"
W 63°33'54"
W 63°33'18"
W 63°32'42"
N44°39'28.8"
N44°39'2.88"

ALDERNEY LANDING

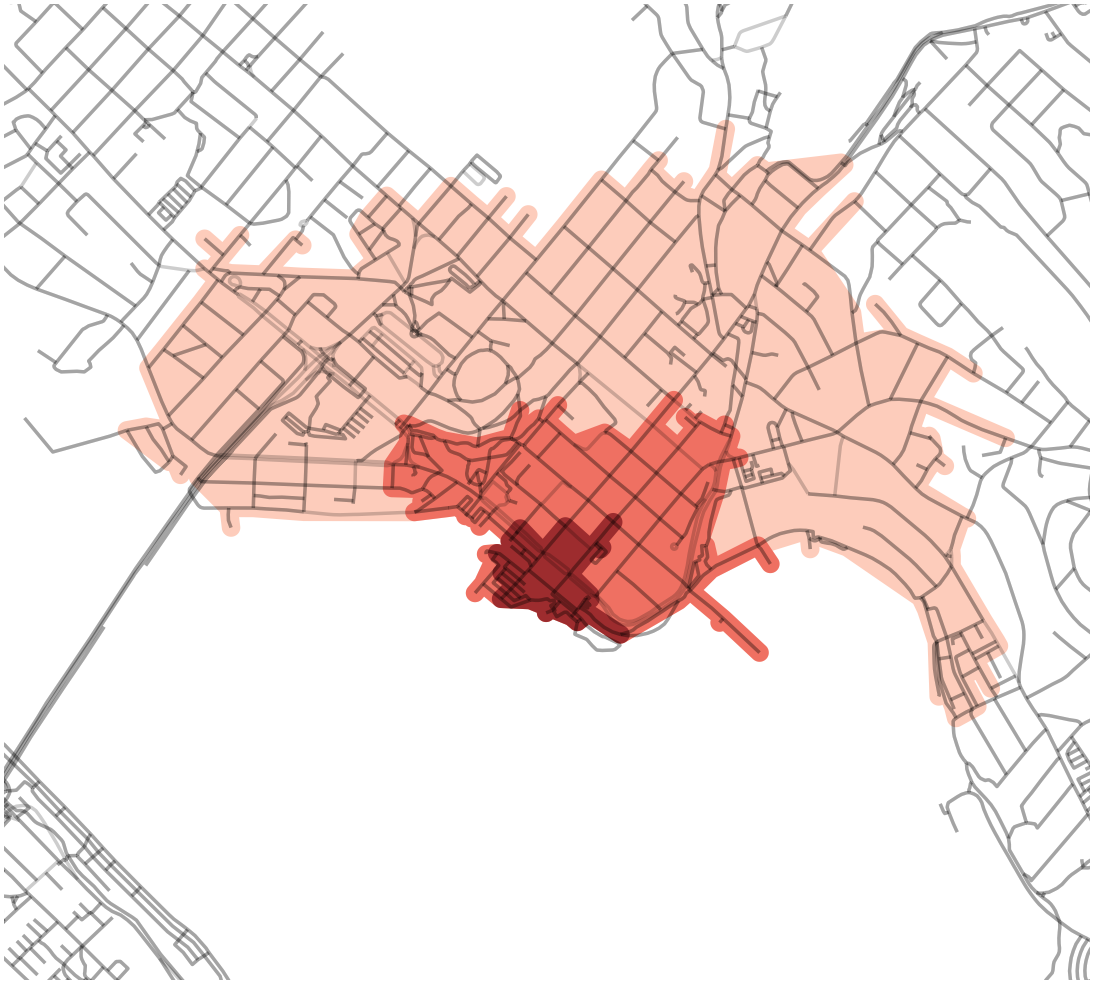
Dartmouth's Alderney Landing has all the key features of an important urban node: a confluence of routes for different means of transportation, amenities such as food and entertainment, and important social infrastructure such as a park and a library. This site is dense and complex.

CHALLENGES:

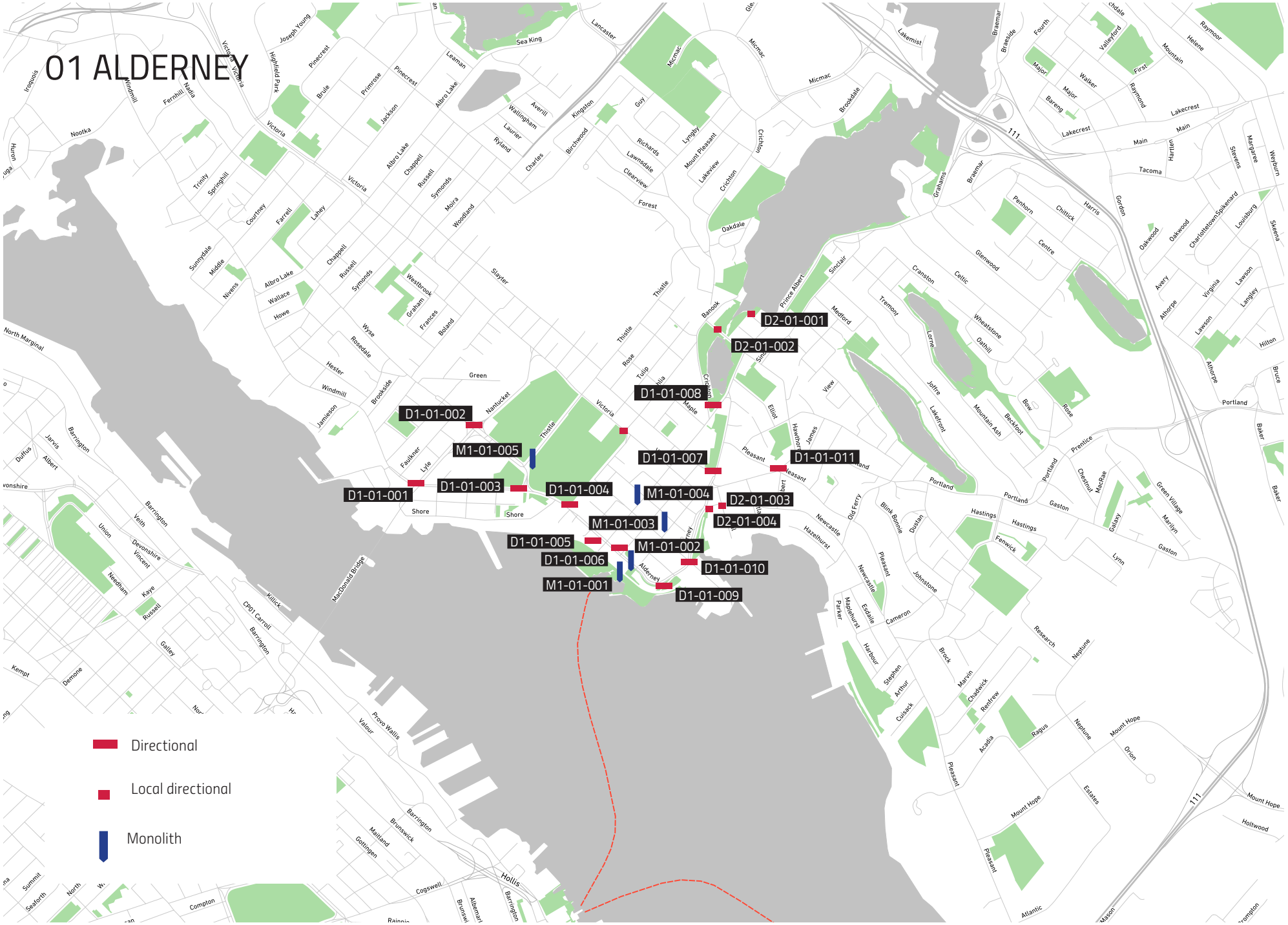
As a major urban node, there are a large number of destinations. Coordinating with transit and active transportation wayfinding will be important to provide smooth transitions from one mode to another.

OPPORTUNITIES:

Interior monoliths in Alderney Gate Ferry Terminal, Bridge Terminal, Alderney Gate transit hub.



01 ALDERNEY


D2-01-001
D2-01-002
D1-01-008
D1-01-002
M1-01-005
D1-01-007
D1-01-011
D1-01-001
D1-01-003
D1-01-004
M1-01-004
D2-01-003
M1-01-003
D2-01-004
D1-01-005
M1-01-002
D1-01-006
D1-01-010
M1-01-001
D1-01-009
Directional
Local directional
Monolith

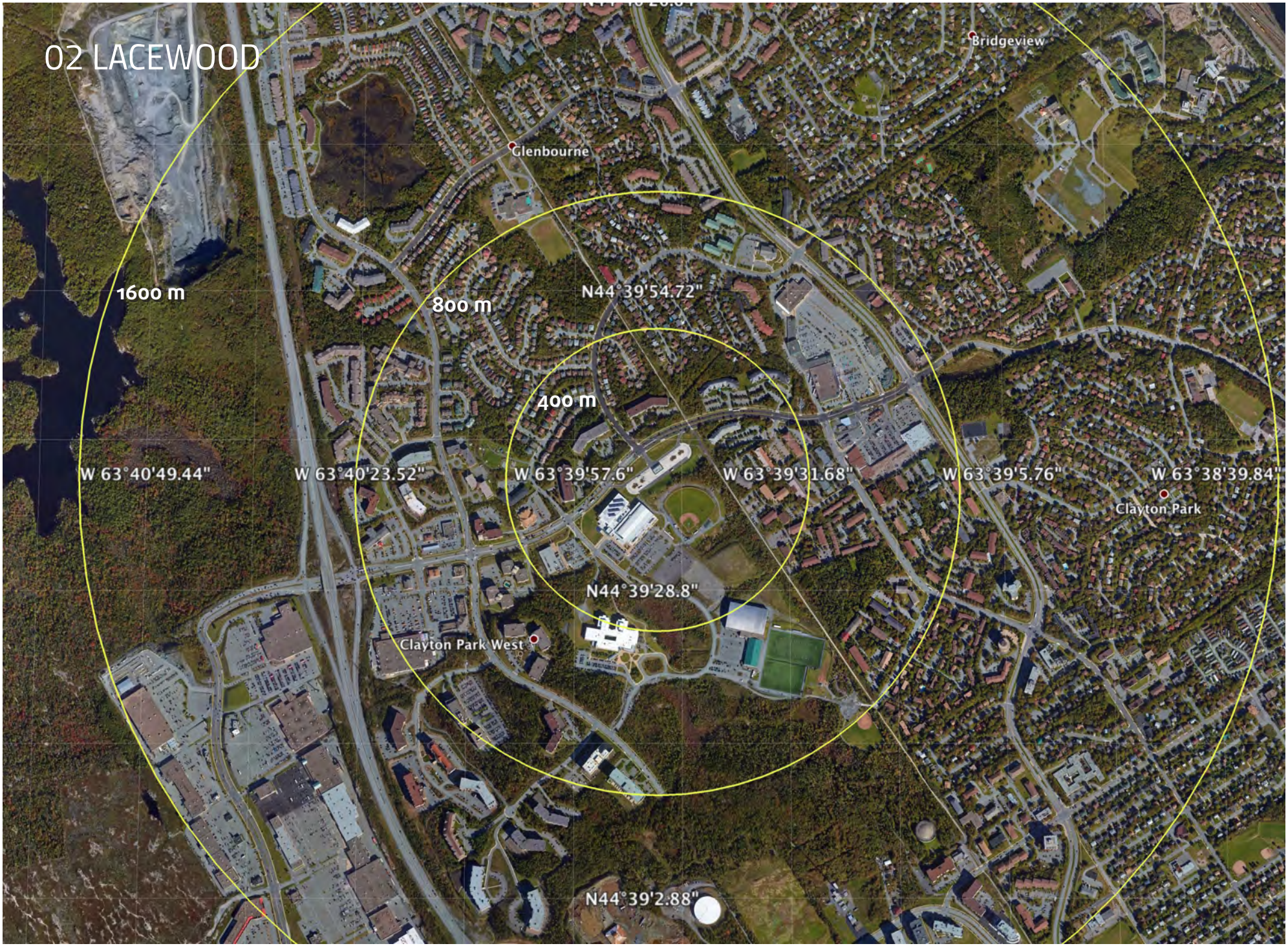
PRELIMINARY LOCATION PLAN

Sign	Type	Directional messages
M1-01-001	Monolith	Downtown Dartmouth Ferry Terminal Bus hub (Alderney Gate) Waterfront trail
M1-01-002	Monolith	Downtown Dartmouth Ferry Terminal Bus hub (Alderney Gate) Waterfront trail Shubenacadie Canal Greenway
M1-01-003	Monolith	Downtown Dartmouth Ferry Terminal Bus hub (Alderney Gate) Dartmouth Library Waterfront trail
M1-01-004	Monolith	Downtown Dartmouth Ferry Terminal Dartmouth Library/Alderney Gate Bridge Transit Terminal Bus hub (Alderney Gate) Dartmouth Waterfront

M1-01-005	Monolith	Downtown Dartmouth Ferry Terminal Dartmouth Library/Alderney Gate Bridge Transit Terminal Dartmouth Waterfront
D1-01-001	Directional	Lake Micmac Downtown Dartmouth
D1-01-002	Directional	Halifax via Bridge Downtown Dartmouth Lake Banook
D1-01-003	Directional	Bridge terminal Downtown Dartmouth
D1-01-004	Directional	Bridge terminal Downtown Dartmouth
D1-01-005	Directional	Downtown Dartmouth
D1-01-006	Directional	Downtown Dartmouth
D1-01-007	Directional	Downtown Dartmouth Lake Micmac
D1-01-008	Directional	Downtown Dartmouth Lake Micmac
D1-01-009	Directional	Ferry Terminal
D1-01-010	Directional	Ferry Terminal Canal Greenway
D1-01-011	Directional	Downtown Dartmouth

D2-01-001	Local directional	Sullivan's Pond
D2-01-002	Local directional	Lake Micmac
D2-01-003	Local directional	Shubenacadie Canal Greenway
D2-01-004	Local directional	Portland Street

Quantity	**Type**	**Unit price**	**Total price**
5	Monolith	$17,500	$87,500
11	Directional	$1500	$16,500
4	Local Directional	$5000	$20,000
Total			$124,000


02 LACEWOOD
1600 m
800 m
400 m
N44°39'54.72"
W 63°40'49.44"
W 63°40'23.52"
W 63°39'57.6"
W 63°39'31.68"
W 63°39'5.76"
W 63°38'39.84"
N44°39'28.8"
N44°39'2.88"
Bridgeview
Glenbourne
Clayton Park
Clayton Park West

LACEWOOD TERMINAL AREA

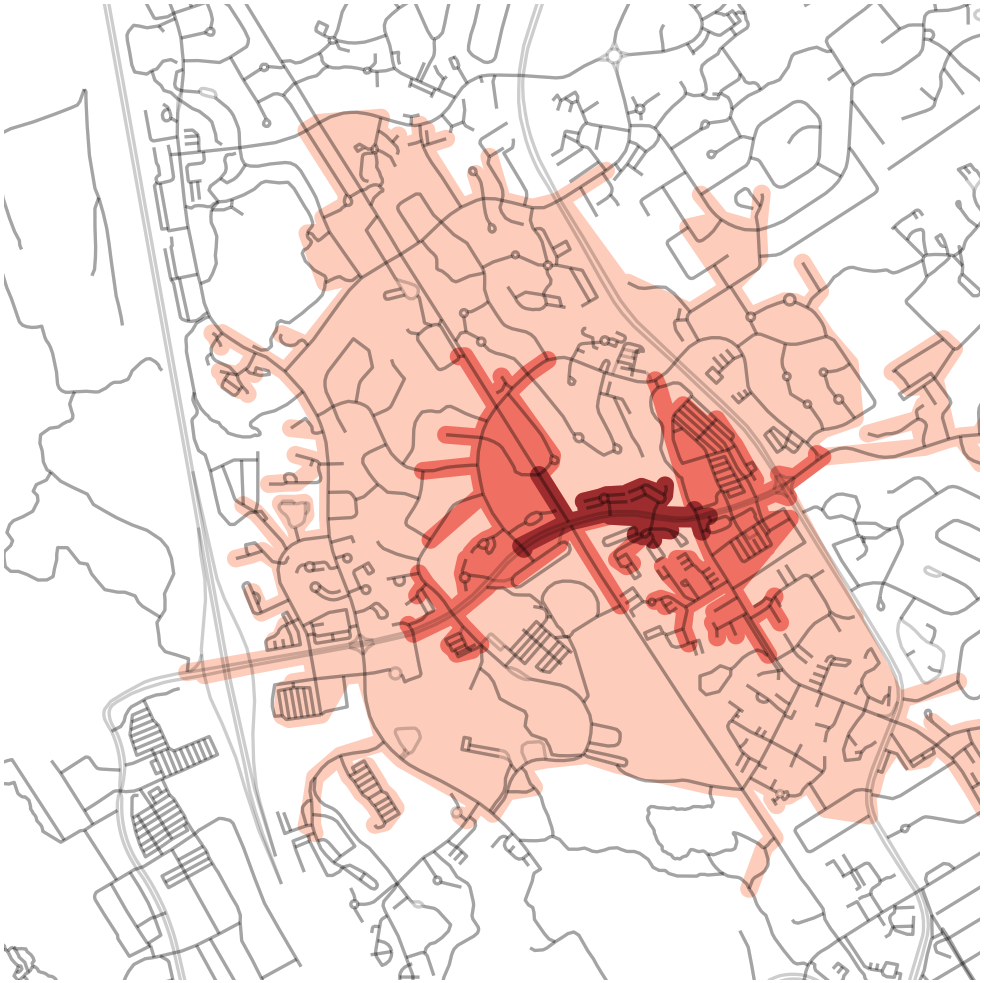
The area around the Lacewood terminal is typical of lower-density development. There are important destinations such as sports and fitness facilities, a library and performing arts center, and connections to trails and parks, but the high vehicle speeds and the primacy of vehicle-oriented roads rather than human-oriented streets makes for a challenging pedestrian realm. This example shows how pedestrian needs can be addressed in a car-oriented neighbourhood.

CHALLENGES:

The area is defined by trails, transit and open space. Encouraging people to walk rather than drive needs to acknowledge the importance of transit in an area with fairly low density.

OPPORTUNITIES:

Considering the large distances between destination nodes around Lacewood, and the many opportunities for recreation in the area, wayfinding could be integrated with encouragements for fitness: walk to the library, walk and swim, walk to warm up, and to cool down.



02 LACEWOOD


Directional
Local directional
Monolith
M1-01-001
M-02-002
D1-01-001
D2-01-001
D1-02-001
Thomas Raddall
D2-01-002
D1-03-001
Lacewood
Parkland
Fairfax
Stratford
Radcliffe
Lancaster
Lanshaw
Woodsmere
Langbrae
Red Fern
Glenbourne
Chipstone
Turnmill
Brackley
Warwick
Stockleigh
Barkton
Radcliffe
Willett
Lincoln
Nightingale
Flamingo
Canary
Swan
Seton
Sherbrooke
Bayview
Parmbelle
Gateway
Northcliffe
Hazelholme
Deepwood
Plateau
Woodward
Clayton Park
Dunbrack
Forestside
Hillwood
Glenforest
Glendale
Harlington
Westridge
Covington
Birkdale
Simcoe
Sybyl
Apollo
Convoy
Adelaide
Rufus
Regency Park
Greenpark
Solutions
Kraal
Main

PRELIMINARY LOCATION PLAN

Sign	Type	Directional messages
M1-02-001	Monolith	Halifax Mainland North Trail Library Canada Games Halifax West/Bella Rose Soccer Centre/ Mainland common/ Transit Terminal Dunbrack & Lacewood Retail
M1-02-002	Monolith	Library Canada Games Halifax West/Bella Rose Soccer Centre/ Mainland common/ Transit Terminal
D1-02-001	Directional	Transit terminal
D1-02-002	Directional	Transit terminal
D1-02-003	Directional	Soccer Centre/ Transit Terminal Library
D2-02-001	Local directional	Halifax West/Bella Rose Arts Centre
D2-02-002	Local directional	Transit Terminal/Library

Quantity	Type	Unit price	Total price
2	Monolith	$17,500	$35,000
3	Directional	$1500	$4500
2	Local Directional	$5000	$10,000
Total			$49,500

03 MUSQUODOBOIT HARBOUR

MUSQUODOBOIT HARBOUR

Musquodoboit Harbour is similar to many rural population centres in HRM. With a fairly small population and with many services located in larger nearby communities, it does not have the dense network of pedestrian destinations of a larger urban centre. The settlement pattern of homes and businesses dispersed along roads, and a lack of sidewalks is common in many rural population centres in HRM.

This site addresses issues of pedestrian wayfinding in rural communities, and of the suitability of the legible cities approach in smaller communities.

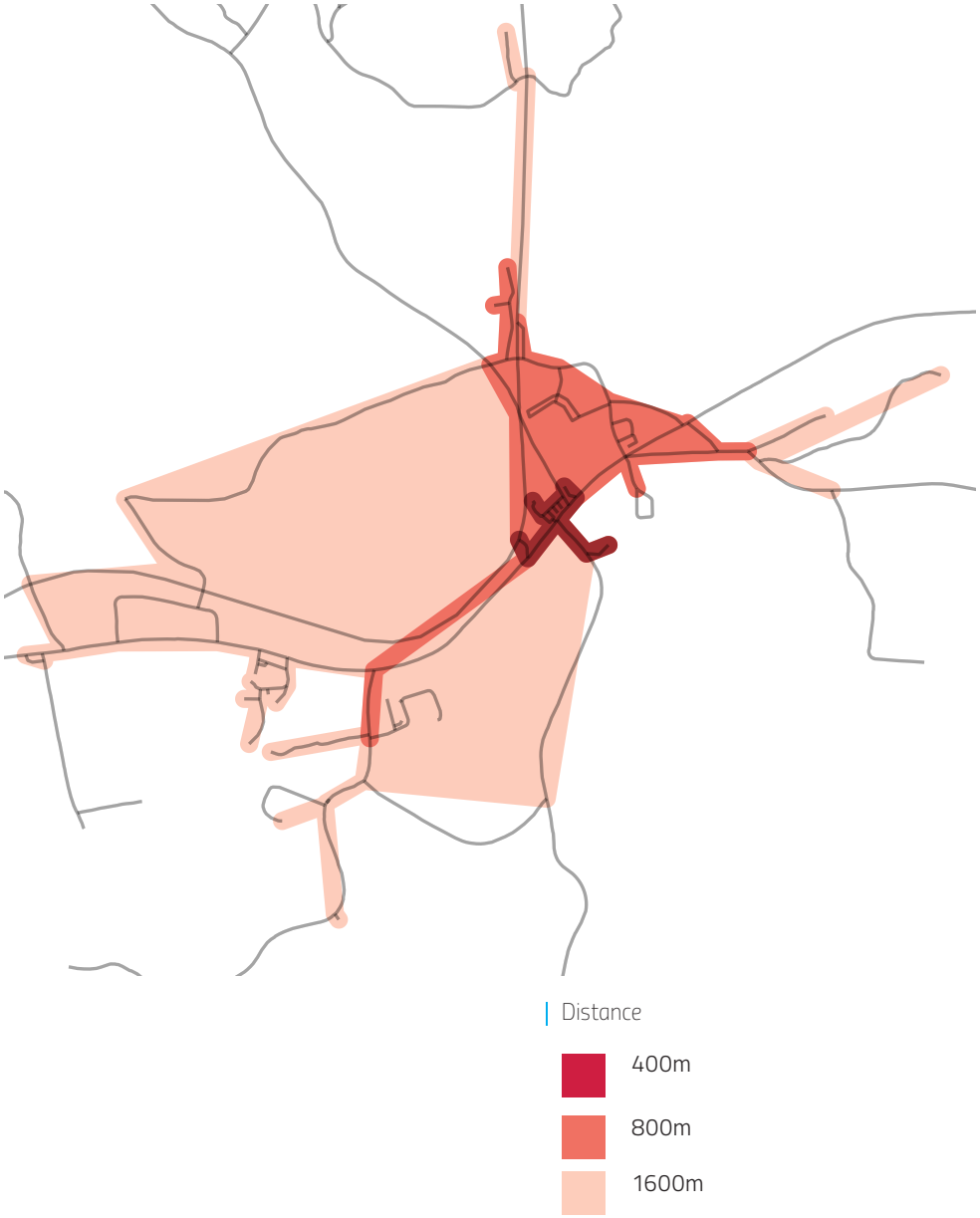
CHALLENGES

As is typical of rural population centres, low density and lack of pedestrian infrastructure make walking a challenge in Musquodoboit Harbour.

Community-based transportation options are infrequent and cannot be used without advanced planning by users. As such, including community transportation links on wayfinding may provide little benefit.

OPPORTUNITIES

There is a small range of amenities within walking distance, as well as a segment of the regional trail network.



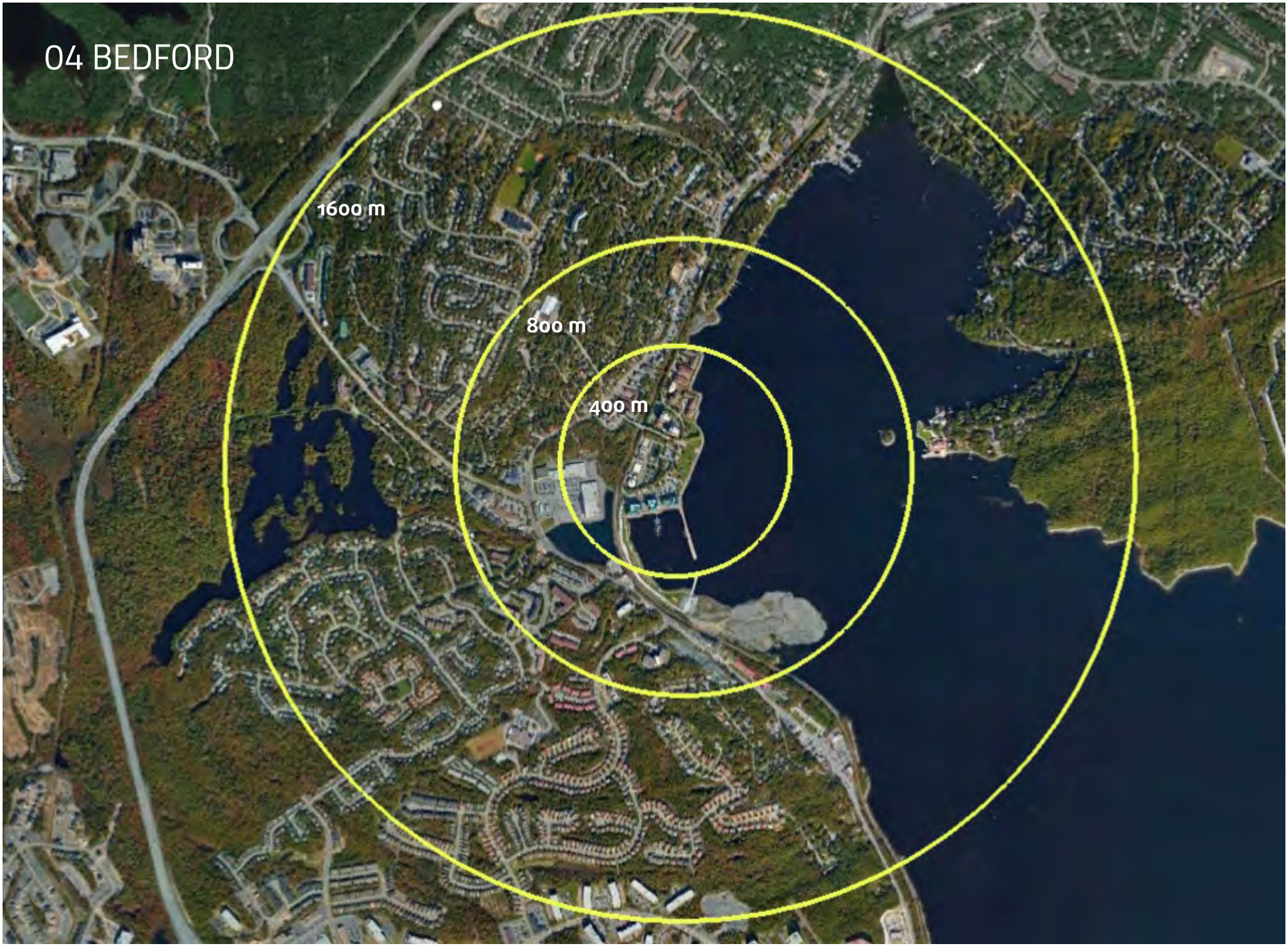
03 MUSQUODOBOIT HARBOUR

PRELIMINARY LOCATION PLAN

Sign	Type	Directional messages
M1-03-001	Monolith	Eastern Shore Community Centre Musquodoboit Trailway Trailhead Peace park
D1-01-001	Directional	Musquodoboit Harbour Public Library
D1-01-002	Directional	Eastern Shore Community Centre
D2-01-001	Local directional	Ball Diamond
D2-01-002	Local directional	Community Centre

Quantity	Type	Unit price	Total price
1	Monolith	$8,500	$8,500
2	Directional	$1500	$3000
2	Local Directional	$5000	$10000
Total			$21,500

04 BEDFORD



BEDFORD—DEWOLF PARK

The area centred on DeWolf park features a mix of vehicular and pedestrian routes, and adjacent commercial areas. Cut off from adjacent roads and services by a rail line with few crossings, it is hidden from view, and connections to other walking routes are unclear. As the area is managed by Develop Nova Scotia, it has existing wayfinding signage, similar to the signage on the Dartmouth and Halifax waterfronts.

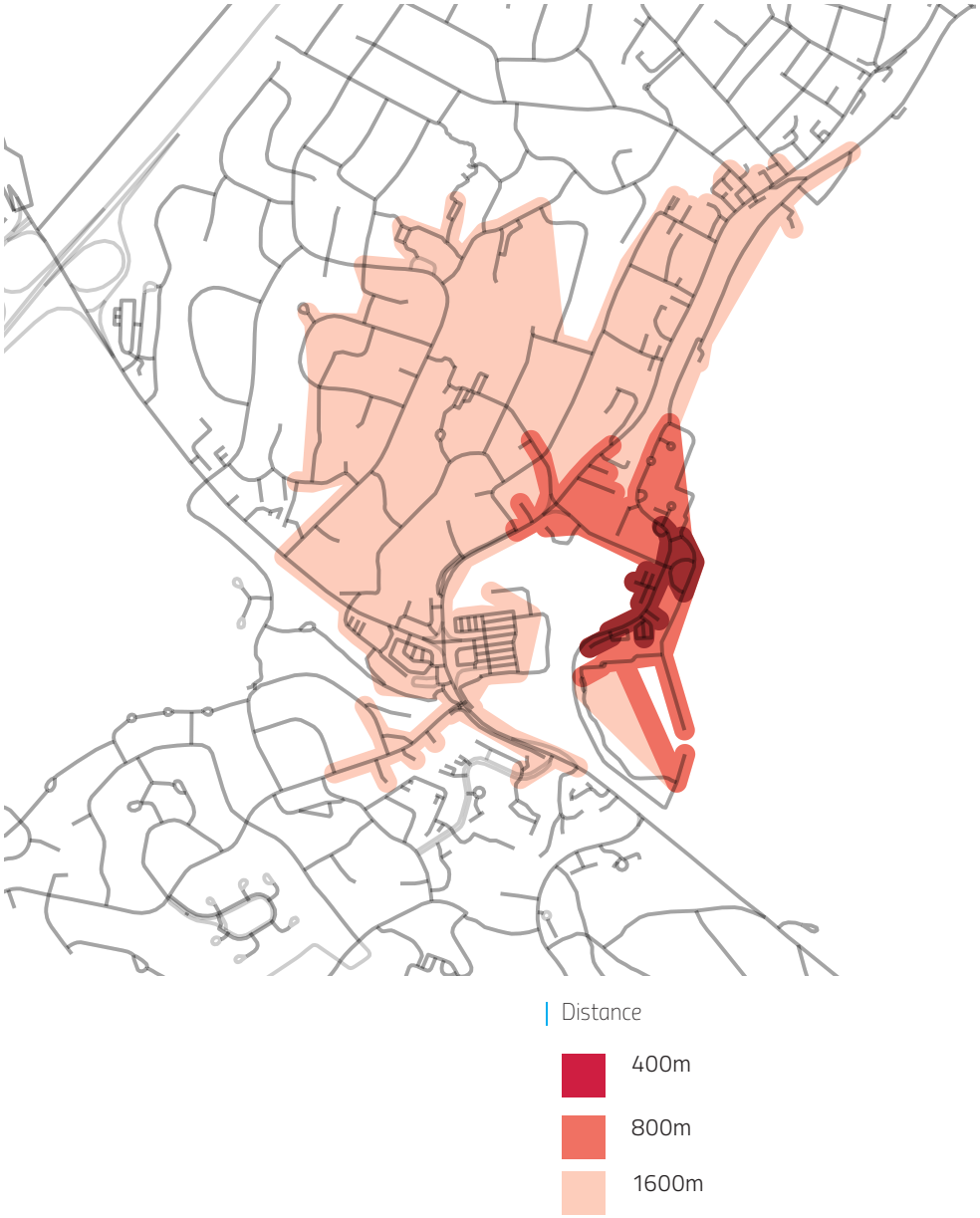
We are not suggesting replacing the Develop NS signage. Rather we suggest working closely with Develop NS to integrate or align the two systems together.

CHALLENGES

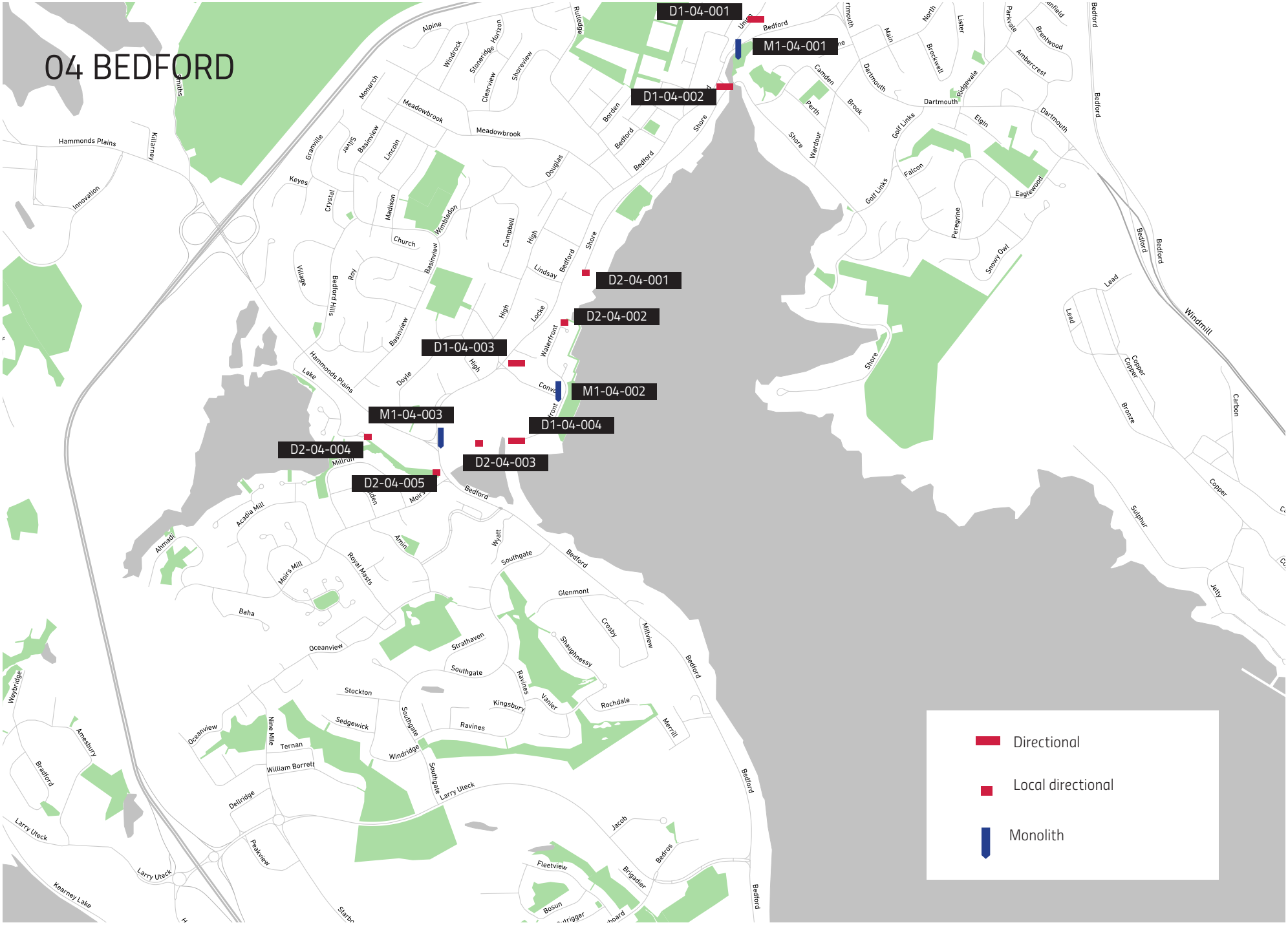
Many informal crossings of the rail line are clearly being used, but wayfinding signage cannot suggest these as possible routes, until sanctioned crossings have been provided.

OPPORTUNITIES

Development in the area may provide opportunities for additional pedestrian connections. For destinations clustered around multi use paths, a combination of bicycle/pedestrian signage could be considered. Refer to the AT wayfinding signage project which is currently underway.



04 BEDFORD


D1-04-001
M1-04-001
D1-04-002
D2-04-001
D2-04-002
D1-04-003
M1-04-002
M1-04-003
D1-04-004
D2-04-004
D2-04-003
D2-04-005
Directional
Local directional
Monolith

PRELIMINARY LOCATION PLAN

Sign	Type	Directional messages
M1-04-001	Monolith	DeWolf Park Lions Park Bedford Barrens Scott Manor House Bedford-Sackville Greenway Library
M1-04-002	Monolith	Fish Hatchery Park Lions Park Moirs Mill Park Bedford-Sackville Greenway Library
M1-04-003	Monolith	DeWolf Park Lions Park Moirs Mill Park Bedford-Sackville Greenway Fish Hatchery Park
D1-04-001	Directional	Bedford-Sackville Greenway Fish Hatchery Park
D1-04-002	Directional	Bedford-Sackville Greenway DeWolf Park
D1-04-003	Directional	DeWolf Park
D1-04-004	Directional	Moirs Mill park DeWolf Park
D2-04-001	Local directional	Waterfront Drive
D2-04-001	Local directional	Shore Drive
D2-04-001	Local directional	Moirs Mill
D2-04-004	Local directional	Moirs Mill
D2-04-005	Local directional	Mill Ct

Quantity	Type	Unit price	Total price
3	Monolith	$17,500	$52,500
4	Directional	$1500	$6,000
5	Local Directional	$5000	$25,000
Total			$83,500

05 QUINPOOL

QUINPOOL ROAD

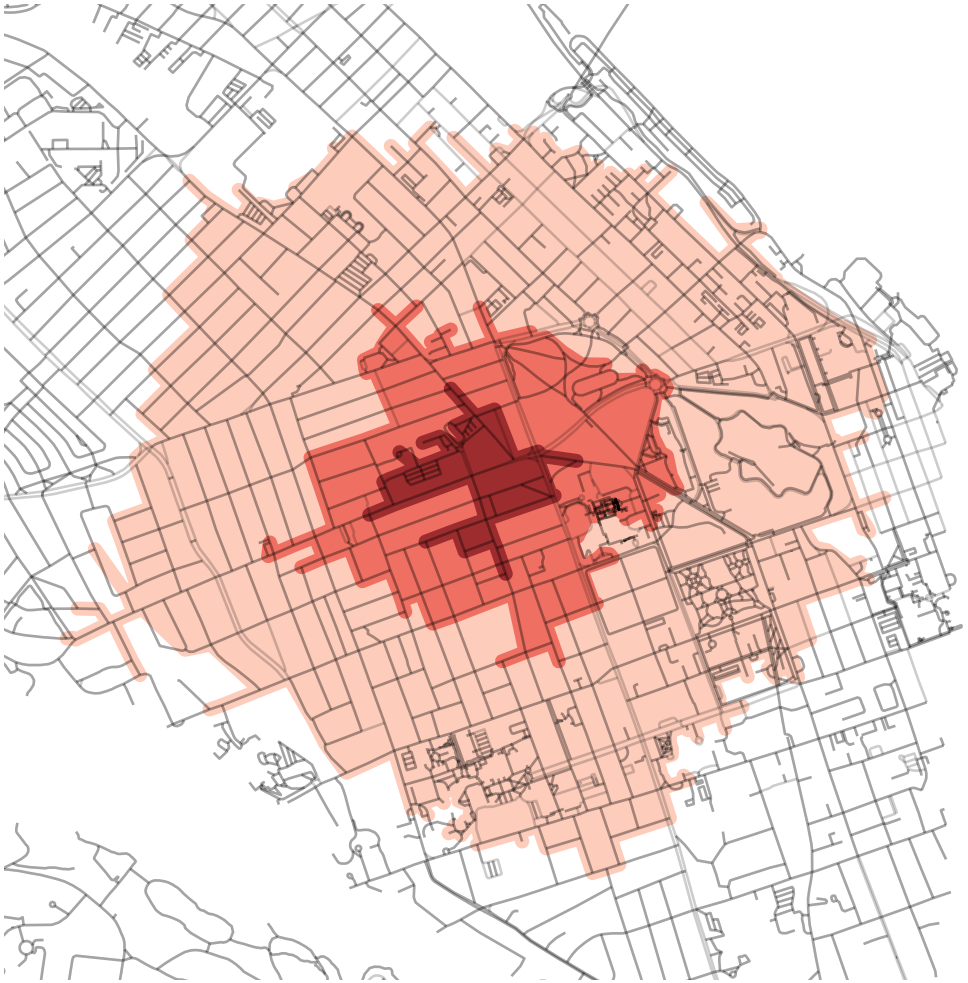
Halifax's Quinpool Road is a linear shopping and restaurant district surrounded primarily by single-family homes. A busy, animated, highly legible street, its relationship to other areas of the city is unclear due to lack of sightlines, confusing intersections, and complicated connections. This site is a good test case for directing people to more distant destinations, and connecting them to other areas of the city.

CHALLENGES

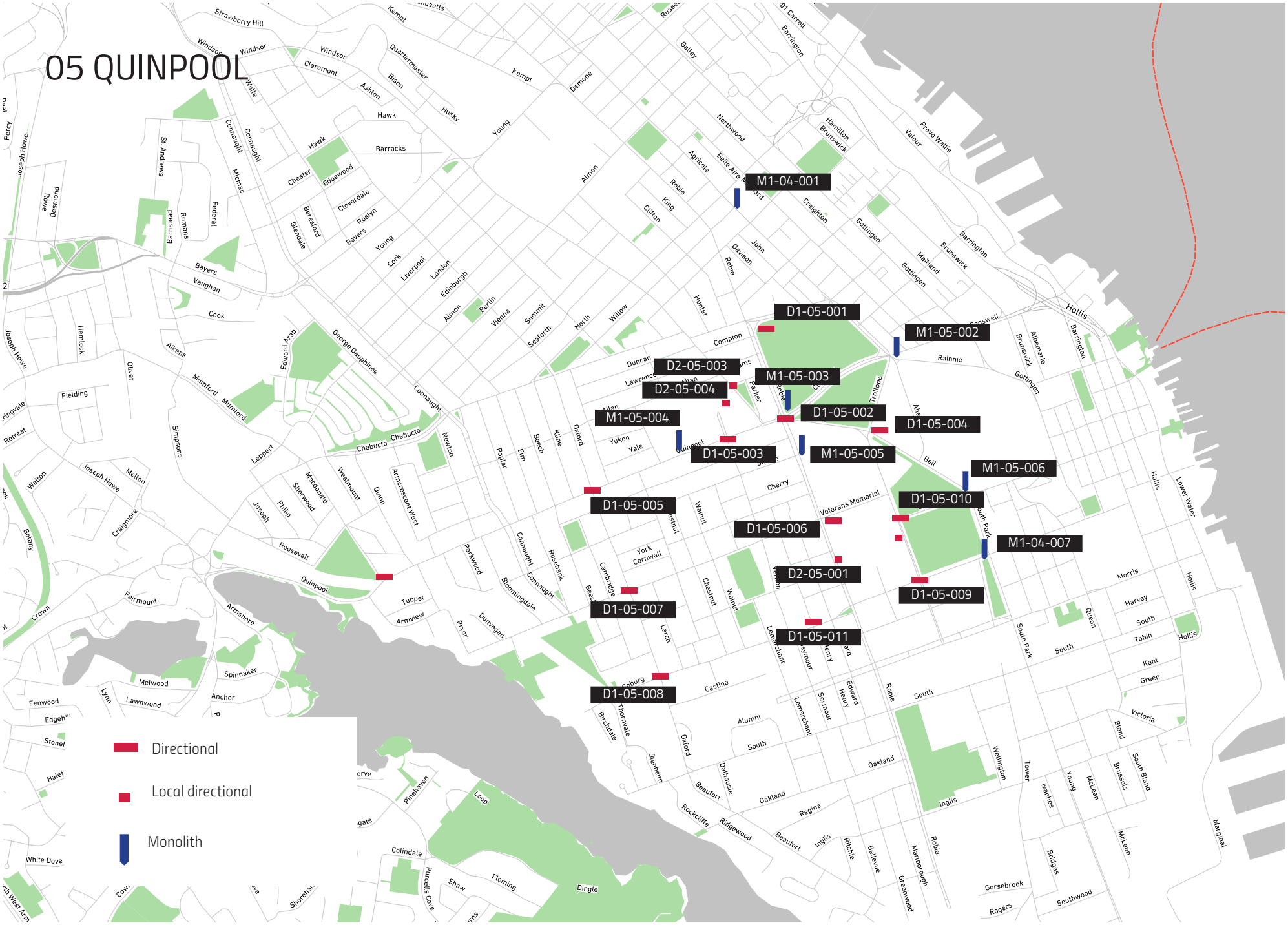
Many of the destinations reachable from the centre of Quinpool Road require traversing complicated intersections or residential neighbourhoods with streets that do not continue all the way to given destinations. More directional signs than typical may be required for this area.

OPPORTUNITIES

Quinpool Road has a number of commercial areas set back from Quinpool road itself and could be a test site for BID-sponsored commercial signage.



05 QUINPOOL


M1-04-001
D1-05-001
M1-05-002
D2-05-003
M1-05-003
D2-05-004
D1-05-002
M1-05-004
D1-05-004
D1-05-003
M1-05-005
M1-05-006
D1-05-005
D1-05-010
D1-05-006
M1-04-007
D2-05-001
D1-05-009
D1-05-007
D1-05-011
D1-05-008
Directional
Local directional
Monolith

PRELIMINARY LOCATION PLAN

Sign	Type	Directional messages
M1-05-001	Monolith	Halifax Common Spring Garden Road Halifax Waterfront Halifax Infirmary Quinpool Road
M1-05-002	Monolith	Spring Garden Road Dalhousie Saint Mary's University Halifax Waterfront Halifax Infirmary Quinpool Road
M1-05-003	Monolith	Halifax Common Spring Garden Road Dalhousie Saint Mary's University Halifax Waterfront Halifax Infirmary
M1-05-004	Monolith	Halifax Common Spring Garden Road Quinpool Road Dalhousie Saint Mary's University Halifax Waterfront Halifax Infirmary
M1-05-005	Monolith	Halifax Common Spring Garden Road Quinpool Road Dalhousie Saint Mary's University Halifax Waterfront

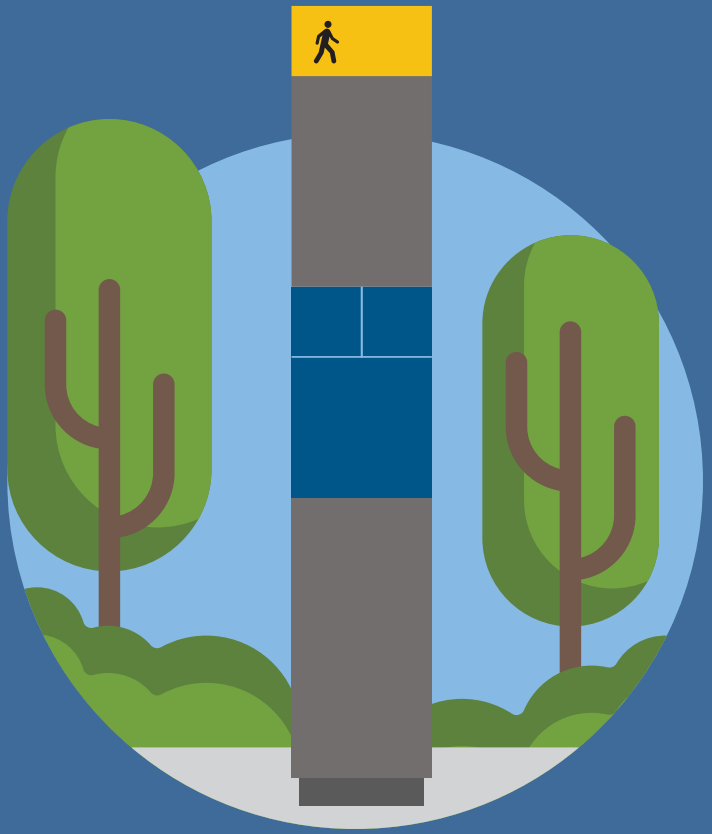
M1-05-006	Monolith	Halifax North Common Spring Garden Road Quinpool Road Dalhousie Saint Mary's University Halifax Waterfront Halifax Infirmary
M1-05-007	Monolith	Halifax North Common Quinpool Road Dalhousie Saint Mary's University Halifax Waterfront Halifax Infirmary
D1-01-001	Directional	Downtown Halifax
D1-01-002	Directional	Downtown Halifax Halifax Infirmary Spring Garden Road
D1-01-003	Directional	Dalhousie Quinpool Road
D1-01-004	Directional	Quinpool Road Spring Garden Road
D1-01-005	Directional	Saint Mary's University Quinpool Road
D1-01-006	Directional	Quinpool Road Spring Garden Road
D1-01-007	Directional	Saint Mary's University Quinpool Road

D1-01-008	Directional	Saint Mary's University Quinpool Road
D1-01-009	Directional	Quinpool Road Halifax Infirmary Halifax Common Dalhousie
D1-01-010	Directional	Quinpool Road Halifax Infirmary Halifax Common
D1-01-011	Directional	Dalhousie Quinpool Road
D2-01-001	Local directional	Summer St
D2-01-002	Local directional	Robie St
D2-01-003	Local directional	Quinpool Rd
D2-01-003	Local directional	Windsor St.

Quantity	**Type**	**Unit price**	**Total price**
7	Monolith	$17,500	$122,500
11	Directional	$1500	$16,500
4	Local Directional	$5000	$20,000
Total			
			$159,000

Chapter 6

IMPLEMENTATION AND RECOMMENDATIONS



Implementation

Implementing wayfinding signage across a municipality as large as HRM is not a simple process. Signs may be in the ground for 10–20 years, so it is worth doing well. It will require a large amount of resources, time, and the involvement of staff, internal and external stakeholders, and wayfinding experts. We recommend three stages of work to bring the strategies and schematic designs in this document into implementation.

1—HIRE A STAFF DEDICATED TO WAYFINDING

> Wayfinding hasn't had a home. It can belong to the marketing department, the visitor information team; is it a part of the streetscape manual? Projects are sometimes initiated by the heritage team, by local business organizations, or by developers. Should it be run by the transport authority or the city planners?
>
> https://segd.org/what-next-legible-cities

To ensure wayfinding is comprehensive, logical, and well done, at least one HRM urban design staff needs to be responsible for it, including the work of planning, implementing, and maintaining the system. The staff may be a planner, landscape architect, engineer or graphic designer with project management experience who can make decisions, build relationships, and manage a large multi-year process. Phase 1 may require 20 weeks to hire, establish relationships and make decisions required to develop wayfinding in HRM.

INTERNAL PARTNERSHIPS

The staff will need to to build relationships with several HRM departments to get input and involvement in the wayfinding process:

- IT
- rights-of-way
- communications
- maintenance
- parks and recreation.

EXTERNAL PARTNERSHIPS

The staff should establish links to other entities which do wayfinding, such as:

- Hospitals
- Universities
- Develop NS
- Bicycle NS
- Trail groups

The intent is to work with other entities to coordinate efforts, share resources, and promote seamless journeys within the city. For example, on trails and multi use pathways, pedestrian wayfinding will intersect with bicycle wayfinding. Always ensure that parallel wayfinding systems complement each other.

DEFINE POLICIES AND PROCEDURES FOR DESTINATION SELECTION

While this strategy contains a basic approach to destination selection, detailed criteria will be required to defend the integrity of the system. Inevitably, the municipality will be pressured by business operators and other institutions to get their destination included even when they are not appropriate for the system. The staff should establish and maintain criteria for decision-making on destinations.

DECIDE ON A PROTOTYPING PILOT AREA

The staff should select a small boundary in downtown Halifax or

Dartmouth for prototyping and testing in phase 2.

GIS INTEGRATION

Mapping workflow for wayfinding can be complex. Some legible cities programs use narrowly focused software to integrate with or supplement municipal GIS systems. Other implementations start with GIS-originated base maps and then refine them.

Deciding exactly how HRM's GIS database will result in the required mapping for monolith signs is important to the rest of the project.

2—PROTOTYPING

Instead of rolling out hundreds of expensive signs across HRM, we recommend beginning with a very small pilot implementation using temporary prototype signs.

Even though the rollout will be minimal, HRM will still need to do most of the necessary detailed planning and design of the entire system prior to prototyping. Phase 2 may require 20–50 weeks to develop.

DEVELOP CARTOGRAPHIC STANDARDS

Develop cartographic standards for how all maps will look on the monolith signs. Standards must address at least:

- How available GIS data will translate into finished maps on signs
- How different destination types will appear
- What and how basemap layers will appear (such as buildings, water, roads, and parks)
- Whether to highlight special routes such as recommended accessible or active transportation routes

These standards should be developed using the expertise of a "legible cities" consultant, or a graphic designer experienced in mapping of this type.

DETAILED SIGN DESIGN

Work with an experiential graphic designer (EGD) to design sign artwork templates.

DETAILED LOCATION PLANNING

The staff should develop the following,

- select primary routes through the study area

- select all destinations using criteria in phase 1
- programming—decide where signs will go (location plan) and what they will say (message schedule)

Location planning only needs to cover the prototype study area in this phase.

BASELINE DATA

Before prototyping, the staff should collect baseline data (via intercept surveys or other street methods) to determine what user issues exist in the study area.

PRODUCE AND MOUNT MONOLITH PROTOTYPES

Among the schematic sign designs in this document, the monolith is the only sign requiring testing, because of the large amount of information being communicated. We recommend printing and mounting signs on a durable but temporary material to be placed in locations in the study area. The artwork should look as the final monoliths will look, but printed on foam-core or other temporary material, and mounted on a temporary base or lashed to existing posts.

The life span of the prototypes would be short—3 to 4 months—and prototypes would be removed after the project.

WAYFINDING EVALUATION

Once the prototype monolith signs are installed, do another round of intercept surveys to test user response and collect feedback. Compare the data against the baseline to determine if the temporary monoliths are improving visitors ability to navigate within the study area, and note important feedback which should inform phase 3.

3—FULL ROLLOUT

With many of the details and designs having been worked out in the prototyping phase, phase 3 is for refining sign designs based on feedback, and planning a rollout of permanent signs in a wide area of HRM. Phase 3 may take as long as 2 years to plan and install.

IDENTIFY AREAS FOR INSTALLATION

Select boundaries for a rollout of signs. Avoid creating multiple "islands" of wayfinding and leaving visitors stranded—better to install signs in the most pedestrian-friendly and densest areas of the municipality first, and then to grow outwards from the centre to include more neighbourhoods.

REFINE SIGN DESIGNS

Employ an EGD to refine the designs developed and tested in phase 2, if required, based on user feedback. Design the sign structures and develop necessary details for sign site requirements.

COMPLETE LOCATION PLAN

The staff should develop the following with a wayfinding planner:

- select primary routes through the study area
- select all destinations using criteria in phase 1
- programming—decide where signs will go (location plan) and what they will say (message schedule)

Location planning at this point will need to cover the entire full-rollout area.

BUDGET

With designs detailed and sign quantities fully established, a class C budget may be prepared for the rollout. Phase budgets over a period if needed.

MAINTENANCE

Before a wayfinding system is implemented, a maintenance protocol must be developed, with a budget and delivery model decided on (such as HRM staff vs. contractor.)

TENDER AND INSTALLATION

Find a fabricator to manufacture and install the signs. A typical timeline from contract award to installation would be 10 weeks.

CONSTRUCTION ADMINISTRATION

While signs are being fabricated and installed, working with the EGD or wayfinding planner may be advised for construction administration. This may include assisting with evaluating tender bids, requests for information (RFI), reviewing shop drawings and samples, verifying final locations, and performing a deficiency review of the built and installed signs.

MAINTAIN, REFINE AND UPDATE AS NEEDED

Signs may be in the ground for 10–20 years. HRM wayfinding staff should ensure signs are maintained, that the visitor experience continues to work, and that signs are updated as the city grows and changes. The process does not finish when signs are installed: if no-one is responsible, wayfinding signs will quickly become dated, damaged, or non-functional.

Sign installations should be represented in a layer in the municipal GIS database in order to facilitate asset management. The database should include such things as sign type, sign messages, condition, base type, and other installation data.

Additional recommendation—suburban directionals

We suggest a process which may run in parallel with any of the other three phases. HRM wayfinding staff should develop and install signs to connect suburban paths between cul-de-sacs using suburban directional signs (see "Suburban Areas" on page 51).

The signs should be designed to match the appearance of other signs in the system, but should be simple enough to be manufactured in the HRM sign shop, and installable by HRM staff, as with standard road signs.

Once a template for the suburban directional sign is designed, these may be located and installed at any time. The HRM wayfinding staff may be involved in the process, or these may be installed as locations are identified by HRM parks and/or rights-of-way staff.

There are hundreds of locations that could benefit from signage, each requiring two signs, so this project will require a large number of signs to be produced and installed. Municipal Standards should updated to include requirements to supply such signage, and the work should be implemented incrementally over time, as staff and resources allow.

General considerations

On the preceding pages we recommend a method to roll-out wayfinding signs throughout HRM. The following are general considerations to keep in mind during the three implementation phases:

NEW ACCESSIBILITY STANDARDS

The provincial Accessibility Act, passed in 2017, mandates barrier-free design in the built environment, but standards have not yet been developed. The act "sets a goal of an accessible Nova Scotia by 2030". Detailed designs should follow established guidelines and best practices for signage accessibility, and attempt to anticipate upcoming provincial regulation where possible.

INDIGENOUS PLACE NAMES

As part of the ongoing process of reconciliation, consider including Indigenous place names and languages in signage where appropriate.

ADVERTISING

While some wayfinding systems are supported by advertising, we recommend against using advertising to defray signage costs, due to the amount of administration needed, and the addition of on-street advertising in areas where it may not be desirable.

NAME, BRAND AND PROMOTE THE WAYFINDING SYSTEM

Successful wayfinding systems have a name and a brand presence (e.g. Toronto 360, Legible London), and are accompanied by communications promoting the system's goals to the public. Don't just implement—name and publicize the system to improve visitor awareness.

CONSIDER WAYFINDING ASPECTS OF EVERY URBAN DESIGN PROJECT

Every urban design project should consider wayfinding at project inception. Including design and implementation in project scope and budget solves the frequent problem of wayfinding being left as an afterthought. Wayfinding should be designed into projects from the beginning to ensure that public spaces are welcoming, that pathways and streets make connections to destinations and districts in a clear way, and that urban and park designs consider the space and resources for signage (such as monoliths).

The Cogswell project is an example of where considering wayfinding early on would be highly beneficial—especially where the neighbourhood being created is a blank slate, an unfamiliar place for all HRM residents alike, at first.

Other projects

The following are not directly tied to the implementation of wayfinding signs suggested in this strategy, but are worth pursuing in parallel to improve overall wayfinding in HRM:

AUDIT STREET SIGNAGE

Street name signage is an important part of all wayfinding, but some street signage is damaged, missing or poorly sited for pedestrians.

AUDIT BUILDING IDENTIFICATION SIGNAGE

Municipal facilities will often be destinations or landmarks. An audit of identification signage would identify inaccurate, missing or poorly sited signs. Signs that may be suitable for vehicular traffic may have poor usability for pedestrians.

PROMOTE SEAMLESS JOURNEYS

Explore a "seamless journeys" working group to examine how to remove obstacles to those travelling on foot and wheelchair. Transit, accessibility of sidewalks, sidewalk closures and maintenance, and other obstacles to seamless journeys should be identified and solutions prioritized. Accessibility, in all forms, is an important part of this.

CONSIDER COMMERCIAL DISTRICT WAYFINDING

Explore district commercial signage as a separate initiative, working with BIDs.

INTEGRATE PARKING AND WALKING

Encourage "Park and Walk" initiatives to promote people parking and continuing journeys on foot or via transit.

WAYFINDING MANUAL

Develop a wayfinding manual to guide and promote wayfinding initiatives within HRM and with partner organizations. This would include fully developed sign designs and artwork templates, but also guidelines for locating new signs, for sign messages, and for placement within the urban realm. A wayfinding manual provides ongoing guidance about how to use the sign system, no matter who is involved in implementation.

CONSIDER DOWNTOWN HALIFAX LINK WAYFINDING

Explore a unified approach wayfinding in existing elevated and underground pedestrian passageways (Downtown Halifax Link) in Downtown Halifax and any possible future locations.

CREATE STANDARDS FOR WAYFINDING IN NEW COMMERCIAL AND RESIDENTIAL DEVELOPMENTS.

Develop pedestrian wayfinding standards for inclusion in new residential and commercial developments.

Budget

We show an indicative budget below, based on:

- expected consultant services for planning and design,
- expected quantities of signs and
- sign fabrication and installation unit costs.

Scope of work and process assumes the phasing and work elements suggested earlier in this chapter. The budget includes only costs external to HRM—it excludes staffing costs or resources required from various HRM departments who will need to be involved. For fabrication and installation costs, the budget assumes that signs will be installed across much of peninsular Halifax and areas of Dartmouth within the Regional Centre—sign quantities are roughly estimated based on the analysis "Location Studies" on page 56.

Phase	Name	Total price
1	Hire a dedicated wayfinding staff	-
2	Prototyping (consulting/design)	$65,000
3a	Full-rollout (consulting/design)	$150,000
3b	Full-rollout (fabrication and installation)	$1,100,000
Total		**$1,315,000**

There remain many unknowns and variables which would have large implications for the budget above:

- The expected project area could grow or shrink
- Sign quantities within the area could change based on functional requirements, number of identified destinations, or other factors
- Consultant costs could change if the project scope is altered, if new functional requirements are added, or a different balance of work between HRM staff and consultants is needed
- HRM may opt not to hire a staff to be responsible for wayfinding, which would require much higher consultant line amounts
- Unknown constraints may apply, such as requiring installation or maintenance to be done by HRM workers rather than sign fabricators

PHOTO CREDITS

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