# Cycling Wayfinding and Signage Strategy

**Fall 2024**

**Regional Municipality of Durham**


DURHAM REGION

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# Acknowledgements

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We extend our gratitude to staff from the Town of Ajax, Township of Brock, Municipality of Clarington, City of Oshawa, City of Pickering, Township of Scugog, Township of Uxbridge, and Town of Whitby, as well as additional external partners including the Ministry of Transportation Ontario, Metrolinx, Conservation Authorities, and Advisory Committee representatives. Their commitment and contributions have been essential in shaping the Cycling Wayfinding and Signage Strategy. The insights and expertise provided by the Cycling Wayfinding and Signage Strategy's Equity Steering Committee and the active participation of the public have also been crucial, providing valuable perspectives and feedback that have been integral to the project's success.

## Land Acknowledgement

The Region of Durham exists on lands that the Michi Saagiig Anishinaabeg inhabited for thousands of years prior to European colonization. These lands are the traditional and treaty territories of the Nations covered under the Williams Treaties, including the Mississaugas of Scugog Island First Nation, Alderville First Nation, Hiawatha First Nation, Curve Lake First Nation, and the Chippewa Nations of Georgina Island, Beausoleil and Rama.

We honour, recognize, and respect Indigenous Peoples as rights holders and stewards of the lands and waters on which we have the privilege to live. In our efforts toward reconciliation, we continue to build and strengthen relationships with First Nations, as well as the large Métis communities and growing Inuit communities here in Durham. We commit to learning from Indigenous values and knowledge, building opportunities for collaboration, and recognizing that we are all connected.

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# Chapter 1. Introduction

This chapter outlines the important role of wayfinding in enhancing the cycling experience and sets the foundation for a comprehensive strategy aimed at transforming Durham into a premier cycling destination.

## Why the Region Developed a Strategy

The development of a Cycling Wayfinding and Signage Strategy was first identified through the 2021 Regional Cycling Plan (RCP) to support a greater shift toward a more cycling-friendly culture. With the recent update to the RCP and the increase in cycling within Durham, the Region recognized a growing need for a cohesive, consistent, and well-designed region-wide wayfinding system to promote cycling, use of the Primary Cycling Network (PCN) as identified in the RCP and improve the overall experience and safety of cyclists.

## The Importance of Cycling Wayfinding

Cycling wayfinding is essential for facilitating movement and enhancing the overall cycling experience. It aids cyclists in finding places, planning their journeys, and obtaining orientation and directional information. With clear signage and route markers, cyclists can easily navigate their surroundings, confirm their direction, and stay on course throughout their journey. This helps cyclists feel more confident and empowered while cycling, ultimately promoting the use of bicycles as a reliable mode of transportation.

Cycling wayfinding differs from pedestrian wayfinding due to the nature of travel. Cyclists maintain higher speeds, directing attention to bike control while simultaneously processing route information. This requires concise, easily accessible directions that avoid disrupting focus. Cyclists, in contrast to pedestrians, need quick alerts for turns, intersections, and potential obstacles.

Cycling wayfinding systems are designed to encourage exploration and regular use of the cycling network by both residents and visitors. In doing so, it contributes to establishing a unique identity for the cycling network.

## Strategy Overview

The Cycling Wayfinding and Signage Strategy is meant to assist Regional staff, area municipal staff, and other partners with identifying best practices in the types and provision of wayfinding elements, locations, and overall guidance of how to implement and manage high-quality cycling wayfinding signage infrastructure across Durham Region.

The Cycling Wayfinding and Signage Strategy provides guidance on wayfinding elements and navigational features, including sign types, design and fabrication, sign planning, and placement, as well as costing, installation, and maintenance considerations. The guidance on wayfinding elements will help to assist the Region and its partners with implementing signage and wayfinding elements for cyclists that are intuitive to navigate and interpret, are cohesive and consistent in application, and include the types of information provided to users of the PCN.

## Study Area and Focus

The information contained in the Cycling Wayfinding and Signage Strategy is primarily focused on application along the PCN, which includes approximately 1,000 kilometres of existing and planned cycling routes on Regional roads across all eight area municipalities including:

- Town of Ajax
- Township of Brock
- Municipality of Clarington
- City of Oshawa
- City of Pickering
- Township of Scugog
- Township of Uxbridge
- Town of Whitby

It also takes into consideration the two-tier nature of the Region by incorporating guidance that is applicable to local cycling networks and plans, to help support the goal of cohesion and consistency in the availability and application of wayfinding for cyclists across the region.

## Strategy Focus

The Cycling Wayfinding and Signage Strategy has three main objectives:

**1. Establish Durham as a premier cycling destination.**

Implementing a region-wide cycling wayfinding system can help showcase the Region's cycling network and direct residents and visitors to key cycling attractions, amenities, and routes. This system will highlight a range of destinations that are less familiar or previously hard-to-reach by bike, making them more accessible to cyclists, and encourage the use of the PCN.

**2. Increase the number of residents and visitors in Durham that travel by bicycle.**

The Cycling Wayfinding and Signage Strategy focuses on actively encouraging cycling through a well-integrated cycling wayfinding system. By providing continuous and consistent signage that is easy to interpret and recognize, the cycling wayfinding system will make cycling a more appealing and convenient mobility option. Clear directions and route information will reduce barriers to cycling, making it easier for people to choose biking over other forms of transportation. The cycling wayfinding system includes elements that cater to different comfort levels and preferences, and cyclists with various levels of experience feel confident and motivated to bike more frequently in Durham.

**3. Enhance cycling safety.**

Clear, consistent, and intuitive signage, along with strategic placement of cycling wayfinding elements on safe and comfortable PCN routes, will guide cyclists efficiently. By promoting the use of existing cycling infrastructure on the PCN to reach destinations, this approach will enhance the overall cycling experience and contribute to a safer cycling environment.

## Project Timeline and Milestones

This project was initiated in spring 2023 and completed in fall 2024 through a six-phase process, as shown in Figure 1.

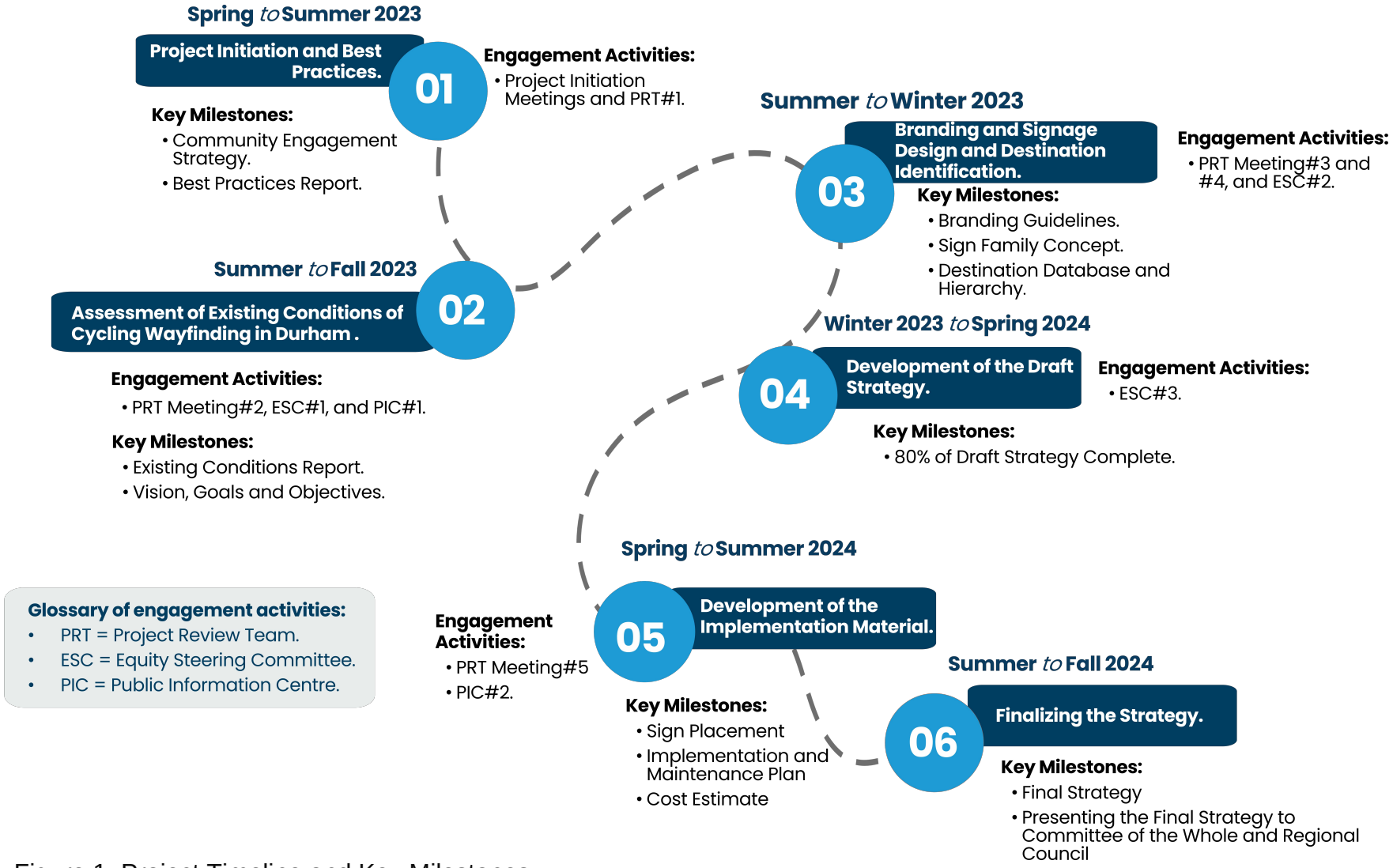



Figure 1. Project Timeline and Key Milestones.

## Vision, Goals and Objectives

The Region recognizes the importance of making cycling safer, easier to navigate, and more enjoyable through the establishment of a comprehensive Cycling Wayfinding and Signage Strategy. To achieve the outcomes for cycling wayfinding, a vision and set of goals and objectives were established. The following vision statement was shaped with input from stakeholders to guide the development of the Cycling Wayfinding and Signage Strategy:

**Establish Durham as a premier cycling destination, while simultaneously encouraging increased active travel among visitors and residents. This will be achieved through a distinctive and clear wayfinding system that seamlessly connects individuals to a wide range of attractions and destinations across Durham Region.**

## Guiding Principles

Guiding principles help inform and articulate how the project goals will be achieved. Through engagement with the project team, Project Review Team (PRT), Equity Steering Committee (ESC), and the public, seven core principles were identified for this strategy.

Table 1. Guiding Principles for Durham Region's Cycling Wayfinding and Signage Strategy.

| | |
|---|---|
| **Consistency** | Consistency and uniformity in content and presentation across all cycling wayfinding elements. |
| **Inclusivity, Equity, and Equality** | Accommodation of the needs of all user types and equal access to opportunities. |
| **Sustainability** | Consideration of full lifecycle costing and adaptability to change. |
| **Connectivity & Navigation** | Connecting places and enabling people to move seamlessly by incorporating efficient navigation elements. |
| **Local Identity** | Celebrating and promoting the Region's unique identity while empowering community input and participation. |
| **Simplicity** | Efficient wayfinding through clear and logical information presentation, minimizing user time and effort. |
| **Encouraging** | Promoting cycling as a sustainable transportation choice, replacing less sustainable modes of travel. |

## Goals and Objectives

Goals are specific, measurable milestones that contribute to realizing the Strategy's vision, guided by established principles. They set clear targets that direct the Strategy's activities and resources.

Four goals have been identified to shape the Cycling Wayfinding and Signage Strategy's development. These goals were established based on guidance from the RCP, industry best practices, discussions with the core project team, and alignment with the Cycling Wayfinding and Signage Strategy vision, as detailed in **Appendix A**.

Objectives were established for the project to help implement the goals identified. Table 2 documents the final list of goals and objectives for the Durham Cycling Wayfinding and Signage Strategy.

Table 2. Goals and Objectives.

| Goals | Objectives |
|---|---|
| **Goal 1: Regional and Primary Cycling Network Focus.** | 1. To develop a sign family for regional destinations.<br>2. To focus on signage for sections of the PCN. |
| **Goal 2: Maintain Consistency, Simplicity, and Local Identity.** | 1. Signage design and placement will not conflict with local wayfinding systems, only compliment, and uplift them.<br>2. Signage design, placement and application will be created to provide clear and consistent information (colours, fonts, icons, etc.).<br>3. The use of international symbols and locally distinct logos will be prioritized for the wayfinding signage family.<br>4. The signage family design, sign content, and recommended application will strive to keep the number of signs and total information in each location to a minimum. |

| Goals | Objectives |
|---|---|
| **Goal 3: Uphold Inclusivity and Equity.** | 1. Signage design will prioritize universal standards that display legible information for people of all ages and abilities.<br>2. Trip accessibility and associated information (including universal symbology) are to be integrated.<br>3. Information will be tailored to accommodate the cycling needs of a diverse population. |
| **Goal 4: Enhance Connectivity & Navigation.** | 1. Establish destination guidelines and a wayfinding signage family design that promotes seamless navigation between regional destinations, local municipalities, cycling routes, and facilities.<br>2. Utilize destination wayfinding to inspire and motivate further travel by incorporating nearby locations and aspirational destinations (e.g., distance to the next municipality), fostering an environment of exploration and adventure.<br>3. Integrate technology to facilitate efficient route planning before trips and maintain accurate, up-to-date information accessible through QR codes. |

Picture 1. Oshawa Waterfront (Source: Alta Planning + Design).

## Summary of Actions

The Cycling Wayfinding and Signage Strategy comprises a comprehensive set of findings, actionable steps, and well-considered recommendations designed to facilitate the implementation and alignment with the goals and objectives outlined in the Strategy. These serve as a practical guide for initiating the necessary actions of the Cycling Wayfinding and Signage Strategy. The summarized actions have been thoughtfully consolidated to serve as a valuable reference for staff, Council members, and other stakeholders responsible for implementing the various components of the Cycling Wayfinding and Signage Strategy.

### Chapter 2 - Wayfinding Best Practices

This chapter provides a summary of best practices gathered through a review of similar wayfinding strategies that identifies approaches, methods, and solutions that were used to inform and customize the Region's Cycling Wayfinding and Signage Strategy.

#### Action 2.1: Integrate Wayfinding Signage Enhancing Technology

Actively pursue the adaptive integration of evolving technological enhancements within its cycling wayfinding system.

**Action 2.1a:** Establish a framework for ongoing technology assessment that includes pilot testing, user feedback integration, and scalability planning.

**Action 2.1b:** Identify pilot routes along the PCN that can be used to test and evaluate the effectiveness and user receptiveness of new technologies in selected areas.

**Action 2.1c:** Based on successful outcomes and practicality, gradually expand these technologies across the PCN.

### Action 2.2: Review Cycling Wayfinding Best Practices and Standards

Regularly monitor and review industry standards and guidelines for cycling wayfinding signage and best practices such as OTM Book 2, OTM Book 18, and Transportation Association of Canada (TAC) Geometric Design Guidelines. Sign placement and design guidelines should be updated for the cycling wayfinding system to maintain signage compliance and consistency with existing industry standards and practices, which typically are updated every two years.

## Chapter 3 - Existing Conditions

This chapter summarizes the current state of cycling wayfinding in Durham Region and identifies current practices and gaps between jurisdictions.

### Action 3.1: Use the Cycling Wayfinding Signage Strategy as a Framework for Continued Collaboration and Partnership

Enhance inter-jurisdictional collaboration, using this newly developed Regional strategy as a guiding framework to further integrate and unify cycling wayfinding efforts across all area municipalities and relevant external organizations and agency partners.

### Action 3.2: Monitor and Track New Updates to Existing Wayfinding Practices and Policies

Continue to monitor updates to cycling wayfinding policy and system integration across local networks. This approach will promote consistency and allow for tracking of current trends, applications, and conditions of wayfinding in the region.

## Chapter 4 - Engagement and Stakeholder Involvement

This chapter summarizes the engagement and outreach activities completed for the Durham Region Cycling Wayfinding and Signage Strategy. It was critical that the Cycling Wayfinding and Signage Strategy reflect the needs of the community. To achieve this, a collaborative engagement process was developed and used throughout the project timeline to inform key project milestones.

### Action 4.1: Continue to Engage Audience Group Contact List and Expand Outreach

Use the database of contacts developed for the Project Review Team, Equity Steering Committee and those that subscribed to the project webpage as the basis for future outreach and partnership and monitor and update the contact information as needed.

### Action 4.2: Establish Feedback Collection Schedules and Channels for Continuous Input and Outreach from the Community

Establish an ongoing feedback mechanism, such as annual surveys and regular public forums, to gather continuous input from all user groups. This should be supplemented by a dedicated channel for the community and stakeholders to report issues and suggestions.

## Chapter 5 - Destinations and Sign Family

This chapter details the identification and selection of destinations and the preferred sign family for the Region's cycling wayfinding system. It outlines the types of destinations included and the sign types identified for the Cycling Wayfinding and Signage Strategy.

### Action 5.1: Maintain and Update Destination Hierarchy Database

Continuously review, monitor, and modify the Destination Hierarchy Database, as needed, to maintain its accuracy and adapt to the needs of cyclists and the development of the PCN.

**Action 5.1a:** Annually update the list of destinations and review categories with the Working Group to confirm accuracy of the destination list.

**Action 5.1b:** Conduct periodic community surveys after installing signage along specific routes to help audit the destination hierarchy, ensuring it continues to meet and reflect the needs of the cycling community.

### Action 5.2: Identify Interim Routes for Integration of Supplementary Wayfinding Elements

Continuously review the PCN for gaps in the network where signage does not exist on facilities, where facilities are identified for future enhancement, and where pavement markers could be installed temporarily.

## Chapter 6 - Design Concept

This chapter provides an overview of the brand development and sign design approach for the Cycling Wayfinding and Signage Strategy. It outlines essential elements related to sign family design and branding guidelines. The goal is to establish consistency and coherence in the application of signage across the cycling network, ensuring that signs are easily readable, understandable, and recognizable by all users.

### Action 6.1: Conduct Community Feedback on Design and Accessibility of Signs

Establish a process for consistently gathering and analyzing feedback on signage design and accessibility of signage through community surveys, Working Group meetings and in collaboration with the Region's Accessibility Advisory Committee and other local accessibility and disability groups to guide future design refinements.

### Action 6.2: Regularly Review and Update Design Intent Drawings and Branding Guidelines

Review design intent drawings and branding guidelines annually so that graphic assets and sign information is accurate and reflects any modifications to maintain consistent application and brand integrity.

### Action 6.3: Track Sign Dimension Best Practices and Off-the-shelf Inventory

Regularly scan signage best practices and standards as identified in industry standards and best practices such as Ontario Traffic Manual (OTM) Book 2: Sign Design, Fabrication and Patterns, and the Manual of Uniform Traffic Control Devices and with off-the-shelf sizes from vendors, for consistent application and timely implementation of cycling wayfinding signage.

### Action 6.4 Promote and Enhance Visibility and Familiarity of the Cycling Wayfinding System Branding

Utilize educational programs, communications campaigns and community engagement initiatives that promote the cycling wayfinding system. Incorporate wayfinding into Bike Month and other relevant activities, promote on Regional social media channels to engage the community and enhance the visibility and familiarity of the wayfinding system's branding.

## Chapter 7 - Implementation and Maintenance

This chapter delves into the strategic implementation and maintenance of the Durham Cycling Wayfinding and Signage Strategy. It offers a comprehensive guide on the plan for sign placement, intricate details of sign programming, and fabrication specifics for the wayfinding elements within the sign family. Additionally, it provides an overview of installation and maintenance cost estimates. A high-level cost projection for the proposed elements is also included.

### Action 7.1: Establish a Working Group for Consistent Implementation and Maintenance of Signage

Establish a Working Group to implement the cycling wayfinding system in a segmented approach for consistent and cohesive implementation and maintenance of cycling wayfinding signage and route implementation. The Working Group would meet annually, at a minimum, and comprise of staff from the Region, area municipalities, Ministry of Transportation of Ontario (MTO), conservation authorities and external agency interfaces, as applicable. Additional working group sessions may be arranged on an as needed bases, based on identified signage priority segments planned for implementation.

**Action 7.1a:** Staff from the Region's Transportation Planning section should lead the coordination of the Working Group to provide a consistent, one-window approach to coordination and implementation.

### Action 7.2: Establish Route Selection Criteria to Determine Priority Routes for Implementation where Signage Should be Installed

Collaborate with the Working Group to identify a set of route selection criteria to help determine priority routes for implementation of wayfinding signage on an annual basis.

**Action 7.2a:** Consider identification by the Working Group of a minimum of two routes per area municipality annually to program / schedule for implementation.

**Action 7.2b:** Work with area municipalities and school boards to identify locations where cycling wayfinding systems can be implemented to help support active and safe routes to schools.

**Action 7.2c:** Identify and prioritize routes that are located in areas with higher populations of equity deserving populations to provide more equitable access to cycling wayfinding systems and networks.

### Action 7.3: Integrate Sign Costs into Project Tenders

Integrate sign costs and implementation into project tenders and contract process during the detailed design phase for a holistic approach to integrating cycling infrastructure and supportive amenities.

**Action 7.3a:** Conduct a sign audit during the detailed design phase of scheduled projects on an annual basis for each identified segment, in collaboration with the Working Group.

### Action 7.4: Conduct a Sign Audit on Existing Segments of the PCN on Regional Roads

Conduct a sign audit on existing segments of the PCN to document existing sign types, locations, conditions, ownership, and maintenance history. This audit should be updated annually to maintain a consistent record of inventory and to keep signage consistently maintained across the PCN.

**Action 7.4a:** Establish and implement a GIS-based digital inventory management tool that documents the findings from sign audits and allows for regular updates and tracking of the signage database, including sign type, location, age, condition, and maintenance history that is managed by the Region.

**Action 7.4b:** Maintain compliance of signage with conspicuity and lifecycle guidelines identified in industry standards such as OTM Book 2, OTM Book 18, and Transportation Association of Canada (TAC) Geometric Design Guidelines.

**Action 7.4c:** Establish regular maintenance protocols that include inspecting, cleaning, repairing, and replacing existing wayfinding signage based on sign audit results, as needed.

### Action 7.5: Adopt and Integrate Sign Programming and Placement Guidance

The Region and its partners will commit to adopting and integrating the approach to sign programming and placement as identified in this Strategy.

**Action 7.5a:** Build on the Sign Placement Plan framework by establishing Sign Placement Criteria and to help identify and confirm sign type and placement of signs along PCN routes.

**Action 7.5b:** Develop a Sign Planning Database to document the sign type, sign ID, corridor location, sign orientation, mounting method, and sign information order to assist with consistent application and implementation of signage along respective routes.

### Action 7.6 Define and Communicate Roles

Review, confirm, and communicate the expected roles and responsibilities of all parties involved in the wayfinding system including but not limited to the Region, area municipalities, MTO, conservation authorities to facilitate and support implementation of cycling wayfinding signage.

### Action 7.7: Pursue Additional Funding Opportunities

Identify and pursue additional funding opportunities through grants and partnerships to further support the responsibilities for signage on both regional and local PCN routes.

### Action 7.8: Adopt the Proposed Approach to Costing-Sharing and Maintenance Responsibilities for Signage Implementation

Funding, implementation and maintenance of cycling wayfinding signs for on-road cycling facilities on Regional Roads will be the responsibility of the Region, and funding, implementation, and maintenance for all other cycling wayfinding signs on the PCN would be the responsibility of the area municipalities or other agencies, depending on cycling route jurisdiction.

**Action 7.8a:** Review and revisit the approach to cost-sharing and proposed responsibilities as part of the next update to the Regional Cycling Plan.

### Action 7.9: Investigate a Joint Procurement Process for Cycling Wayfinding Signage.

Investigate the feasibility of a joint procurement process for cycling wayfinding signage to help support economies of scale along the PCN.

### Action 7.10: Establish a Memorandum of Understanding between the Region and Area Municipalities

Initiate a Memorandum of Understanding between the Region and area municipalities to clarify roles and responsibilities and establish commitment to support of cycling wayfinding signage as a joint initiative in principal and commitment to installing cycling wayfinding signage on PCN routes.

# Chapter 2. Wayfinding Best Practices

This chapter provides a summary of best practices gathered through a review of similar wayfinding strategies that identifies approaches, methods, and solutions that were used to inform and customize the Region's Cycling Wayfinding and Signage Strategy.

## Cycling Wayfinding Principles

A cohesive, attractive cycling wayfinding system enhances navigation and enables individuals to:

- Easily and accurately locate their destination.
- Comprehend their location in relation to other significant places.
- Orient themselves correctly with minimal confusion or stress.
- Discover new places and services.

The following four cycling wayfinding principles are based on cycling wayfinding and signage strategies from municipalities across North America and have contributed to the development of the Durham Cycling Wayfinding and Signage Strategy:

**1. Connect Places**

An effective wayfinding system should help connect places residents and visitors want to go to at both the local and regional scale, allowing them to discover new destinations accessible by cycling.

**2. Keep Information Simple**

Wayfinding systems should provide information in a clear and logical sequence, minimizing information overload for users. It is crucial to provide information in manageable amounts to facilitate quick processing and effective decision-making. Wayfinding signage should be designed to be universally understandable through simple language and graphics that are easy to read and interpret by a range of ages and abilities, including individuals of various ages, educational backgrounds, and those with limited English proficiency or spatial reasoning abilities.

### 3. Maintain Motion

Wayfinding information should be presented in a way that allows it to be quickly understood by users to avoid disrupting the flow of cycling. Given the physical effort required for cycling, frequent stops to check directions can frustrate users and discourage use. Providing information ahead of major direction changes, repeating information (as needed), and confirming information once the maneuver is complete contribute to a smoother navigation experience for cycling.

### 4. Predictable

A successful wayfinding system maintains predictability and consistency in both design and placement. Predictable information allows for quick recognition by users. This predictability should extend across all aspects of wayfinding, including sign materials, dimensions, colours, forms, and placement. When users can trust that they will encounter consistent and predictable information, their comfort level increases, making new journeys easier to attempt and complete.

## Cycling Wayfinding Elements

Different wayfinding elements can help make it easier to navigate places by bike and increase the use of cycling networks. Wayfinding elements fall into three main categories: Access Elements, Fundamental Navigational Elements, and Enhanced Navigational Elements, as shown in Figure 2 and Table 3. Each category has a different purpose in guiding cyclists through the network.

### Access Elements

These elements are meant to guide users into the cycling network by marking physical entry points via trails, pathways, or other facilities or by offering information to new or potential cyclists. Access elements can be applied in a variety of contexts and while they are more commonly used in off-road trails and paths, they are also effectively implemented in downtown areas and in conjunction with transit hubs. Examples of access elements include gateway monuments, information kiosks, and secondary access signage such as location identification posts.

## Fundamental Navigational Elements

These elements form the foundation of the wayfinding system that guides cyclists to destinations by providing information about directions, confirms their route, and aids in decision-making at junctions or turns while in motion.

## Enhanced Navigational Elements

Enhanced navigational elements include pavement markers and other signage such as co-branding medallions that can improve navigation and user-friendliness, and support location identification. Table 3 provides more details on the cycling wayfinding elements. For a comprehensive overview of cycling wayfinding signage elements, please refer to **Appendix B**.

## Wayfinding Technologies

By integrating mobile technology with traditional signs, navigation has become easier and wayfinding signs are more effective. Apps like Google Maps and Apple Maps provide tailored guidance based on traffic and terrain, with real-time audible instructions, useful in cycling and pedestrian settings. QR codes offer additional information or audio content and can translate text into multiple languages. While durable and clear, they are susceptible to vandalism and require regular updates. QR code use is not applicable on signs needing immediate decisions due to the pause for scanning but are ideal for informational kiosks where users stop. These innovations, enhance traditional signs, making navigation easier for users.

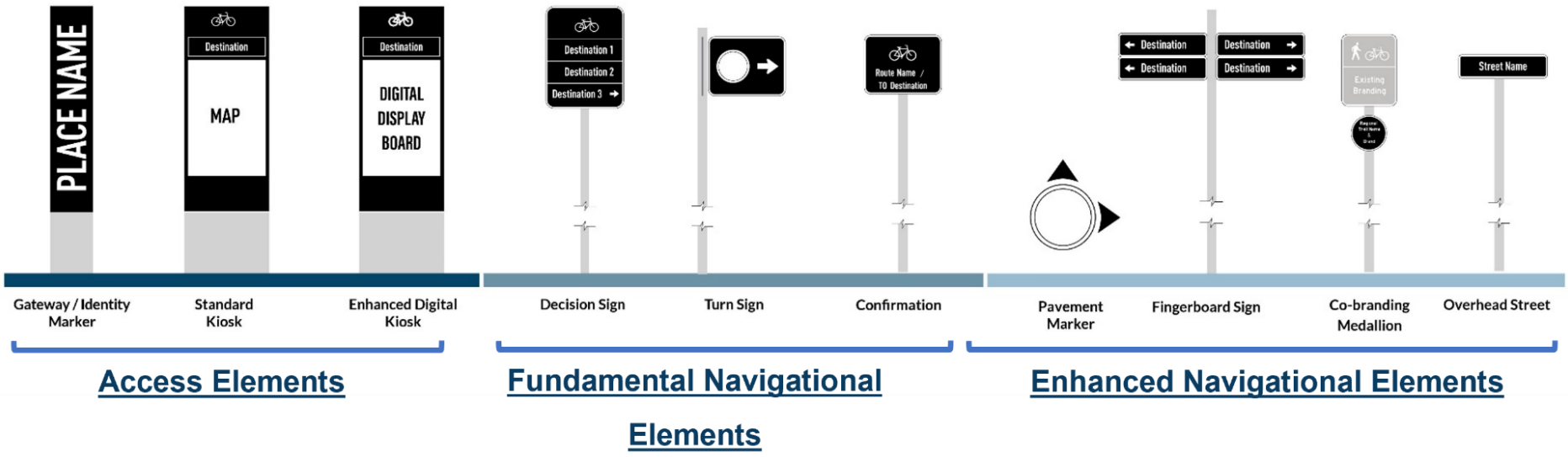
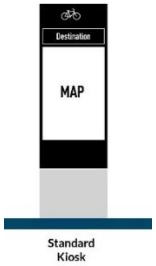


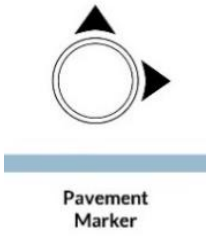
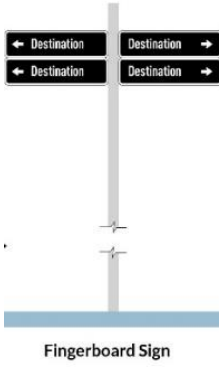

Figure 2. Cycling Wayfinding Typology (Source: Alta Planning + Design).

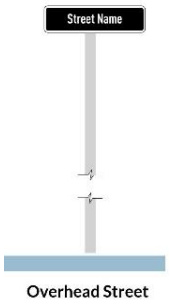
Table 3. Summary of Cycling Wayfinding Elements: Access, Fundamental Navigational, and Enhanced Navigational Components.

| Element | | Description and Key Characteristics | Placement & Application[1] |
|---|---|---|---|
| **Access Elements** | | • Guide users into the network; includes gateway monuments and information kiosks.<br>• Mark entryways and provides information to encourage use of active modes of transportation. | • Used for off-road trails, downtown areas, transit hubs, and multimodal transfer locations. |
| **Gateway Monuments** |  | • Mark the entrance to distinct areas and serves as first point of communication.<br>• Can include details such as the area name, historical context, a map, or directional signs, as well as unique architectural elements. | • Placed at main and secondary entry points. |
| **Information Kiosks** |  | • Provide navigational information and includes maps and community branding.<br>• Located in visible areas along primary routes. | • Highly visible locations. |

[1] Placement and application of the signs should be in compliance with the Accessibility for Ontarians with Disabilities Act (AODA).

| Element | | Description and Key Characteristics | Placement & Application[1] |
|---|---|---|---|
| **Fundamental Navigational Elements** | | • Provide signage for decisions, confirmation, and turns.<br>• Guide cyclists along designated facilities with information on routes and directions. | • Placed at strategic points along cycling routes for optimal navigation. |
| **Decision Signs** |  Decision Sign | • Mark junctions of bike routes and provide directions and distances to destinations through bike routes.<br>• Include destinations with distances, and directional arrows. | • Placed 40-50 metres (on-street) or 10-15 metres (off-street) prior to a decision point. |
| **Confirmation Signs** |  Confirmation | • Indicate that the user is still on the intended route to the destination and helps build cyclists' confidence in route selection to destinations.<br>• Include the closest primary destination ahead and do not indicate direction change. | • After decision points and at locations where routes are not linear. |
| **Turn Signs** |  Turn Sign | • Indicate where a route turns from one road to another to the closest Primary Destination.<br>• Use directional arrows; may include travel distance to destination. | • Near the turn, with a 0.6 metre lateral offset from path/curb edge. |

| Element | | Description and Key Characteristics | Placement & Application[1] |
|---|---|---|---|
| **Enhanced Navigational Elements** | | • Include pavement markers, kilometre markers, street sign toppers, etc.<br>• Provide additional wayfinding assistance and system branding. | • Applied along routes for improved user experience and information. |
| **Pavement Markers** |  | • Signal to other road users that cyclists are present or to be expected on the route.<br>• Used for lane positioning and to indicate bike route directions and names. | • On-road bike routes and trails, complementing standard signs. |
| **Fingerboard Signs** |  | • Provide direction to multiple destinations from a junction.<br>• Efficient for decision points approached from multiple angles. | • Best applied in pedestrian pathways or off-road trails at complex junctions. |

| Element | | Description and Key Characteristics | Placement & Application[1] |
|---|---|---|---|
| **Street Signs/Toppers** |  | • Located at trail and street intersections where different cycling routes bisect.<br>• Orient route users to their crossing points; alert motorists to expect cyclists. | • At trail and street intersections, especially with infrequent connections. |
| **Co-branding Medallion** |  | • Applied to existing signage or installed as standalone elements along a cycling network to indicate routes that are part of routes under different jurisdictions. The local brand would be most prominent. | • On existing signs. |
| **QR Codes** |  | • Digital matrix barcode that links to online resources.<br>• Enhances information accessibility by reading aloud or translating text. | • Ideal for signs where users can safely pause.<br>• Not recommended for decision signs requiring immediate actions. |

## Destination Selection and Hierarchy

Destinations are a key component of wayfinding systems, and include landmarks, parks, neighbourhoods, districts, and other destinations where people want to go.

Effective cycling wayfinding systems rely on a systematic approach to select and prioritize destinations. This process identification, selection, and hierarchical organization of commonly sought after destinations to simplify navigation for all users, especially those unfamiliar with the area.

### Selecting Destinations

The establishment of a database of potential destinations is important for developing a cycling wayfinding and signage strategy. This database includes information about the type of destination and available services, enabling the selection of appropriate destinations tailored to the size of the network being signed. This process involves refining existing geographic information system (GIS) data layers and the number of destinations by removing duplicated locations or naturalized green spaces not intended for public use.

### Destination Hierarchy

Establishing a hierarchy for destinations supports the implementation of signage and consistently selecting destinations to put on signage. This aids in determining the distance from which destinations should be signed to. Based on the review of best practices, a tiered hierarchy of destinations — primary, secondary, and tertiary — is typically used to provide this structure. Below is a sample of destinations that can be included as part of the destination hierarchy:

- **Primary destinations** include significant areas that attract people from longer distances and are relevant or desirable to a wider range of users. These destinations often include downtowns, districts, neighbourhoods, large arenas, and other municipalities.
- **Secondary destinations** include important locations such as transit stations, post-secondary campuses, community/district parks, healthcare facilities, major community centres and shopping districts.

- **Tertiary destinations** consist of local attractions like neighbourhood parks, community centres, conservation areas, municipal offices, and primary schools.

When selecting destinations to put on a sign, primary destinations would take precedence over secondary destinations. Secondary destinations would take precedence over tertiary destinations.

## Destinations Selection

Specific parameters oversee the selection and order of destinations on each sign and are identified below:

### Signing Distances and Measurement

Signing distances are determined so that information is presented gradually, aligning with users' immediate needs. Based on best practices the following distances are recommended for each tier:

- **Primary destinations:** These are typically signed up to 10 kilometres away, although they may be signed for longer distances if they have strong regional appeal.
- **Secondary destinations:** These are generally signed up to 3 kilometres away.
- **Tertiary destinations:** These local points of interest are signed up to 1 kilometre away.

When assessing distances for destinations that encompass an area, it is advisable to measure those distances to the boundary of the designated area. Alternatively, if preferred, measurements can be taken to the centre of the area. For instance, cities typically have clearly defined edges, making boundary lines the appropriate reference for measurement. In contrast, neighbourhoods often lack well-defined boundaries, allowing for measurements to be based on their centres or other widely recognized features such as streets or landmarks. When dealing with specific destinations like parks and schools, which typically have street addresses, distances should be calculated to the precise location point.

### Destination Order and Directional Arrows

The order in which destinations appear on decision signs is determined by their relative location to the route. These decision signs should not exceed three lines of destinations. A straight-ahead location should consistently occupy the top slot, followed by the destination to the left and then the right. Even if destinations to the right or left are closer physically, this approach serves two primary purposes. First, it adheres to a standardized format, enhancing predictability and simplifying navigation for cyclists. Second, it mirrors the natural progression of a cyclist's visual field and decision-making process when approaching an intersection—typically starting with straight ahead, followed by left, and then right.

In cases where two destinations lie in the same direction, the closer destination should be listed first, followed by the farther one. To facilitate quick recognition, arrows should be strategically placed: straight and left arrows to the left of the destination name, and right arrows to the right of the destination name.

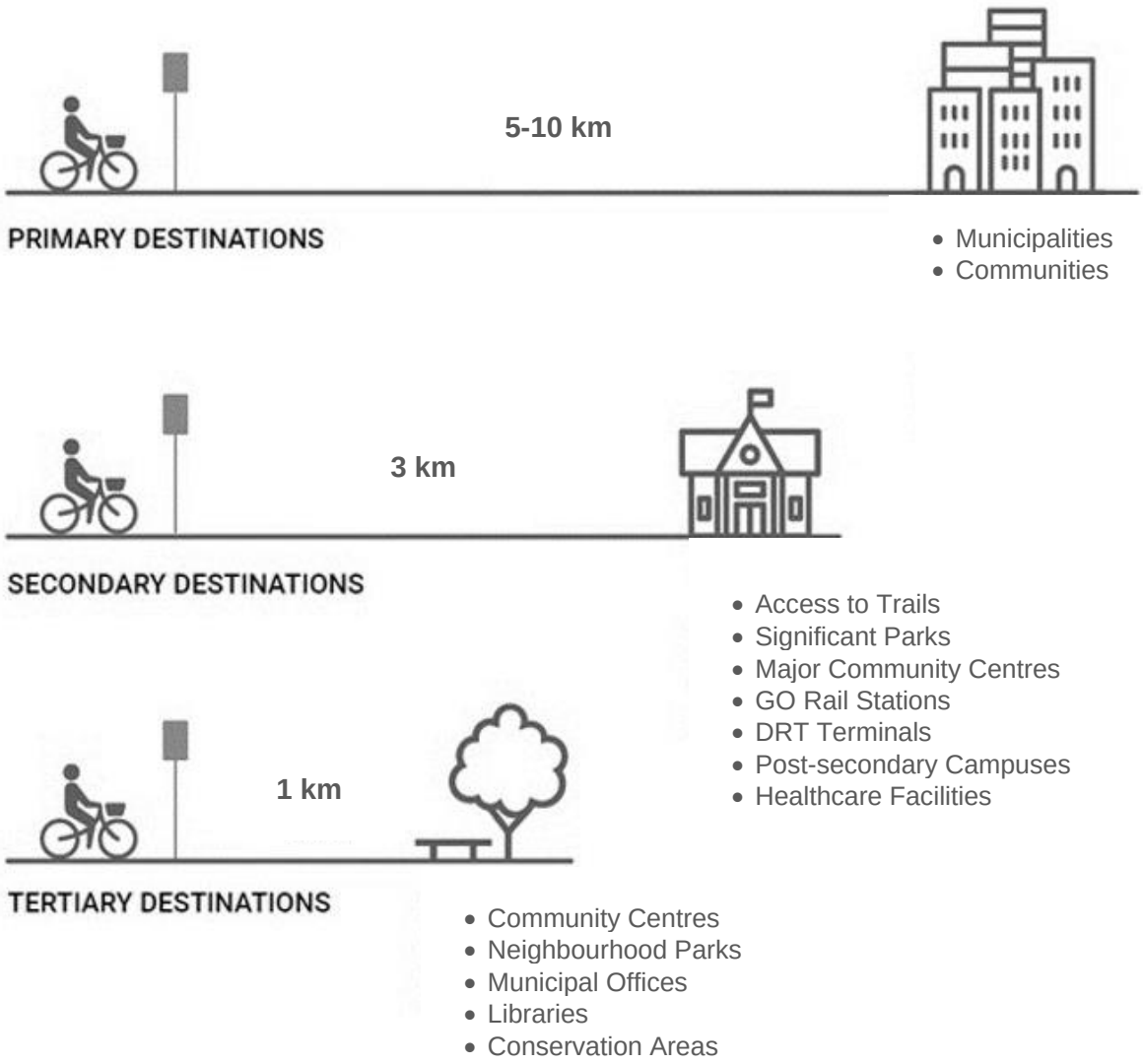



Figure 3. Destination Hierarchy and Signing Distances.

## General Placement Guidance

Consistent and appropriate placement of wayfinding elements helps in preventing the signage elements from creating safety hazards. Guidelines from Ontario Traffic Manual (OTM) Book 18 and the Transportation Association of Canada (TAC) Geometric Design Guide offer valuable insights into the physical infrastructure required to support cycling facilities. General principles for sign placement, applicable to both on and off-road contexts include:

- Position wayfinding guidance between two or more major facility types, such as a street with bike lanes and/or a multi-use path, to enhance connectivity.
- Place wayfinding signs at gaps between existing sections of a facility, like a bike lane or multi-use path, to aid navigation.
- Install road/path name signs at all path-roadway crossings to help users track their locations accurately.
- Along trails, incorporate reference location signs, such as kilometre markers, to assist users in estimating their progress. These signs also serve as valuable tools for identifying the location of emergency incidents and are useful during maintenance activities, particularly in areas where cross streets or other location identifiers may not be feasible.

### Signage Placement

Table 4 outlines established guidelines derived from best practices in OTM Book 18 and the TAC Geometric Design Guide. These guidelines enhance the visibility and effectiveness of wayfinding signage, making it accessible to cyclists and other pathway users while minimizing potential conflicts.

Table 4. Signage Placement Guidelines.

| Criteria | Guidance |
|---|---|
| **Sign Height** | OTM Book 18 recommends that all signage, regardless of type, should be mounted at a height of 1.5 metres, as that is considered eye-level and easily visible for people riding bicycles. |
| **Vertical Clearance** | Signage should not interfere with the clear path of travel. The vertical clearance for signage should be a minimum of 2.5 metres when impeding a sidewalk or on-street environment, as that is the operating height for people cycling based on OTM Book 18. |
| **Required Clear Width** | Protruding objects may not, in any case, reduce the clear width required for accessible routes. Generally, this requirement is met by maintaining 1.5 metres minimum clear width for people maneuvering mobility devices. This requirement applies to active transportation paths for both cyclists and pedestrians such as Multi-Use Pathways (MUPs) and trails. Signs should have a 0.6 metre lateral offset from the edge of a cycling facility so that they do not protrude onto the cycling facility. |
| **Vegetation** | Nearby vegetation grows, if not maintained, and can obscure signage. Vegetation planted directly adjacent to signage should be low-lying. Consistent trimming of bushes or trees over time should be considered when locating signage near taller vegetation with branches. |
| **Winter Maintenance Considerations** | Winter conditions can also impact the effectiveness of wayfinding signage. Snow accumulation on the ground can obscure lower sections of signs, rendering them less useful. Therefore, critical information should be designed to appear above anticipated snow levels. Moreover, snow should not be stored around kiosks and other sign elements to prevent obscuring information. Special attention should be given to signage placement, avoiding locations where snow is commonly stored during winter months. |

## Wayfinding Branding Best Practices

Wayfinding branding plays a crucial role as the visual identity that distinguishes one wayfinding system from another. A well-executed and visually appealing branded wayfinding system can markedly improve a location's readability and reinforce its unique character. This comprehensive approach encompasses elements such as logos, symbols/icons, typography, and colour schemes, all of which effectively convey the system's essence to its intended audience. Table 5 outlines essential considerations for wayfinding branding, informed by best practices observed across North America.


Picture 2. Wayfinding Signs Proposed for Downtown Waterloo, Iowa (Source: Craig Ritland Landscape Architecture).

Table 5. Key Branding Considerations Derived from Best Practices.

| Considerations | Description |
|---|---|
| **Colour** | The consistent use of colour distinguishes a wayfinding system's brand, making it stand out from other signage. Colours should be eye-catching and offer sufficient contrast for readability in various conditions. Usage of colours typically associated with traffic signage (red for stop, white for regulatory, yellow for warning, and orange for temporary conditions) should be avoided to prevent confusion. |
| **Typography** | Clear, consistent typography enhances legibility from a distance. Sans serif fonts like Clearview and Highway Gothic, common in transportation signage, are recommended. Wayfinding signage may employ different fonts to distinguish itself and align with local branding.<br><br>Destination Destination<br><br>**Clearview font** **Highway Gothic font** |

| Considerations | Description |
|---|---|
| **Icons, Symbols, and Logos** | Universally recognizable icons and symbols convey information quickly and can be understood regardless of language proficiency. Using symbols developed by organizations such as the American Institute of Graphic Artists and the National Park Service for communicative effectiveness. Logos help identify brands and should be balanced on signs to complement other information without dominating.<br>  <br>Example of universal symbology and iconography (Source: American Institute of Graphic Artists) |
| **Sign Panel** | The size, shape, and material of the sign panel contribute to the signage brand's distinctiveness and recognizability. Unique shapes (like the octagonal stop sign) increase recognition. Panels should be large enough for legibility from afar and made from glare-free materials. |

# Chapter 2 Recommendations

### Action 2.1: Integrate Wayfinding Signage Enhancing Technology

Durham Region should actively pursue the adaptive integration of evolving technological enhancements within its cycling wayfinding system.

**Action 2.1a:** The Region should stablish a framework for ongoing technology assessment that includes pilot testing, user feedback integration, and scalability planning.

**Action 2.1b:** Identify pilot routes that can be used to test and evaluate the effectiveness and user receptiveness of new technologies in selected areas.

**Action 2.1c:** Based on successful outcomes and practicality, gradually expand these technologies across the PCN.

### Action 2.2: Review Cycling Wayfinding Best Practices and Standards

The Region should regularly monitor and review industry standards and guidelines for cycling wayfinding signage and best practices (standard timeframe is every two years). The Region should then update sign placement and design guidelines for the cycling wayfinding system so that signage remains compliant and consistent with existing industry standards and practices.

# Chapter 3. Existing Conditions

This chapter summarizes the current state of cycling wayfinding in Durham Region, identifies current practices, and gaps between jurisdictions. For a comprehensive review of the process and outcomes of the existing conditions review, please refer to **Appendix C**.

## Introduction

When establishing a cycling wayfinding and signage system, it is important to understand current conditions and existing initiatives in order to complement and build upon existing practices to support a cohesive and coordinated approach and prevent unnecessary duplication of effort. A comprehensive review of existing conditions is provided in **Appendix C**.

## Methodology and Process

To establish a comprehensive understanding of the current cycling wayfinding landscape in Durham Region, site visits, desktop reviews and direct outreach to staff at the Region and all area municipalities was conducted. This methodology aimed to provide a detailed understanding of existing signage types and their deployment across the area municipalities and cycling route partners. The assessment covered the inventory of cycling wayfinding signage in each area municipality, including signage implemented by municipalities, external organizations including Metrolinx, MTO, the Greenbelt Foundation, Waterfront Regeneration Trust, Trans Canada Trail, Parks Canada, and conservation authorities.

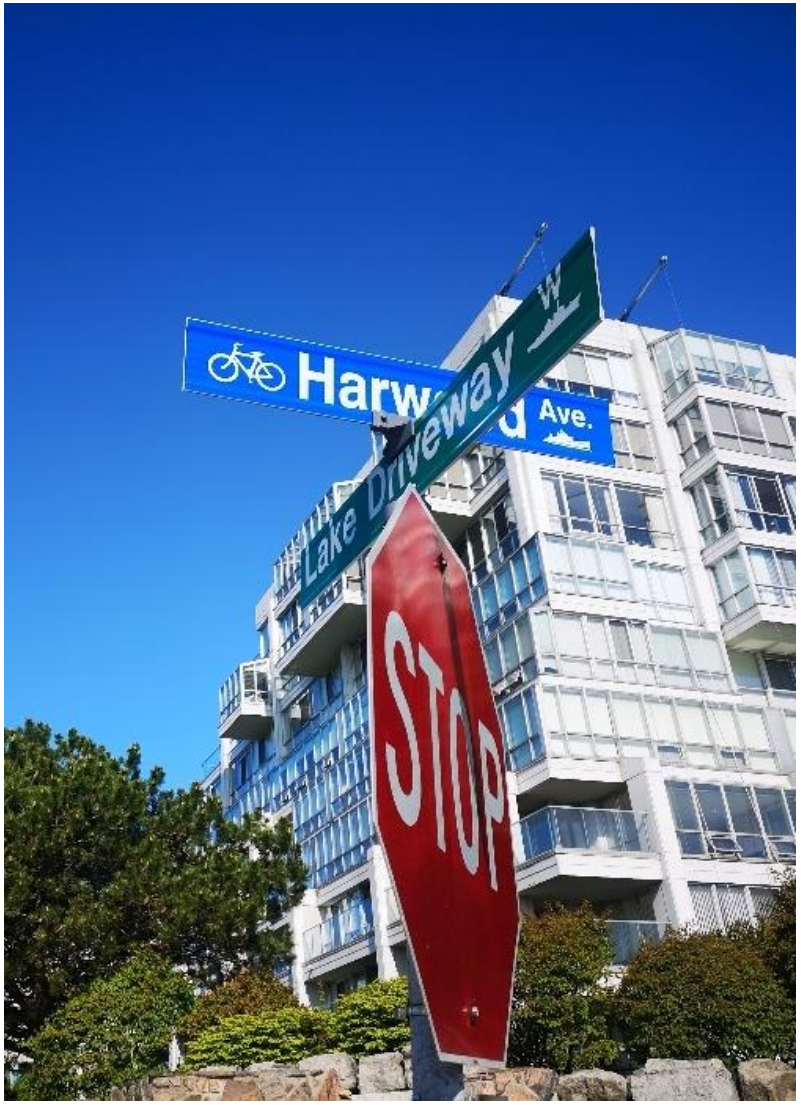
### Key Findings from the Existing Conditions Analysis

#### Variety and Inconsistency in Signage

Durham showcases an array of sign types, including information kiosk, decision, confirmation, and turn signs, along with other specialized signage. A wide variety of wayfinding signage across Durham's municipalities and organizations contributes to a varied landscape and leads to inconsistencies between jurisdictions, potentially complicating navigation for cyclists. The presence of

varied sign types highlights the importance of adopting a comprehensive strategy focused on branding, co-branding, and integration. Table 6 summarizes the existing sign types across Durham.


Picture 3. Existing Wayfinding Signs in Durham (Source: Alta Planning + Design).




Picture 4. Street Sign with Bicycle Emblem in Ajax (Source: Alta Planning + Design).

Table 6. Summary of Jurisdictional Signage.

| Existing Sign Types | | | | | |
|---|---|---|---|---|---|
| **Jurisdiction** | **Kiosk** | **Decision** | **Confirmation** | **Turn** | **Other Elements** |
| Town of Ajax | ● | ● | ● | ● | Street sign toppers, etiquette and caution signs, regulatory signs. |
| Township of Brock | ● | ● | | ● | Regulatory signs. |
| Municipality of Clarington | | | | | Wayfinding system strategy in development, regulatory signs. |
| City of Oshawa | ● | ● | ● | | Wayfinding only on trails, regulatory signs. |
| City of Pickering | | | | | Trail keys in some sections, regulatory signs. |
| Township of Scugog | | | | | Tourism Wayfinding Plan has sign family, regulatory signs. |
| Township of Uxbridge | ● | ● | ● | ● | Regulatory signs. |
| Town of Whitby | | | | | Accessible signage and wayfinding signage standard and design intent documents in development, regulatory signs. |
| Metrolinx | | | ● | | Directional signage to GO stations. |
| Greenbelt Foundation | | | ● | | Greenbelt Route signage. |
| Waterfront Regeneration Trust | ● | | ● | ● | Great Lakes Waterfront Trail signage. |
| Trans Canada Trail | | | ● | ● | Trail markers and navigational signage. |
| Parks Canada | ● | | | ● | Trailhead maps and directional signage. |
| Conservation Authorities | ● | | ● | | Nature trails and conservation area signage. |

## Policy Frameworks Underlining the Commitment to Cycling Wayfinding

Regional plans and policy documents such as the Durham Transportation Master Plan (TMP), the RCP and Vision Zero Strategic Road Safety Action Plan, have highlighted the critical role of an integrated cycling wayfinding and signage strategy in improving the user experience across the Regional network. By promoting consistency throughout the region, these strategic documents lay the foundation for a comprehensive strategy aimed at coordinating efforts across Durham Region.

Within the region, area municipalities are at different stages of developing their cycling wayfinding strategies. For example, Clarington is in the process of developing a wayfinding and signage strategy and Ajax has been implementing its wayfinding strategy for several years. Meanwhile, some municipalities have yet to initiate efforts in this area. This variation underscores the need for a regional strategy to promote consistency and maximize the effectiveness of wayfinding across Durham Region.

While the Region adopts a collective perspective supported by the mentioned plans, area municipalities should focus on localized solutions to implementing components of the secondary network. Not having a Regional strategy for cycling wayfinding and signage can potentially lead to more inconsistent signage and increased sign clutter, potentially making the cycling network less user-friendly.

# Chapter 3 Recommendations

### Action 3.1: Use the Cycling Wayfinding Signage Strategy as a Framework for Continued Collaboration and Partnership

Enhance inter-jurisdictional collaboration, using this newly developed Regional strategy as a guiding framework to further integrate and unify cycling wayfinding efforts across all area municipalities and relevant external organizations and agency partners.

### Action 3.2: Monitor and Track New Updates to Existing Wayfinding Practices and Policies

Continue to monitor updates to cycling wayfinding policy and system integration across local networks. This approach will promote consistency and allow for tracking of current trends, applications, and conditions of wayfinding in the region.

# Chapter 4. Engagement and Stakeholder Involvement

This chapter summarizes the engagement and outreach activities completed for the Durham Region Cycling Wayfinding and Signage Strategy. It was critical that the Strategy reflect the needs of the community. To achieve this, an extensive, collaborative engagement program was developed and used throughout the project timeline to inform key project milestones.

This approach highlights the importance of collaborative participation toward creating a wayfinding and signage system that is not only functional, consistent, and intuitive but also inclusive, promoting a stronger cycling culture.

Additional details on the audiences, approach, activities, and outcomes of engagement is provided in **Appendix D**.

## Stages of Engagement

At the core of the development of this engagement strategy is a human-centred design process, which includes steps like empathizing, defining, ideating, prototyping, testing, and implementation.

To streamline stakeholder engagement and communication, the engagement process was structured into four key stages (Figure 4), each with a distinct focus in the development and refinement of the Cycling Wayfinding and Signage Strategy:

1. Project Initiation
2. Shaping the Vision
3. Brand Development
4. Final Strategy

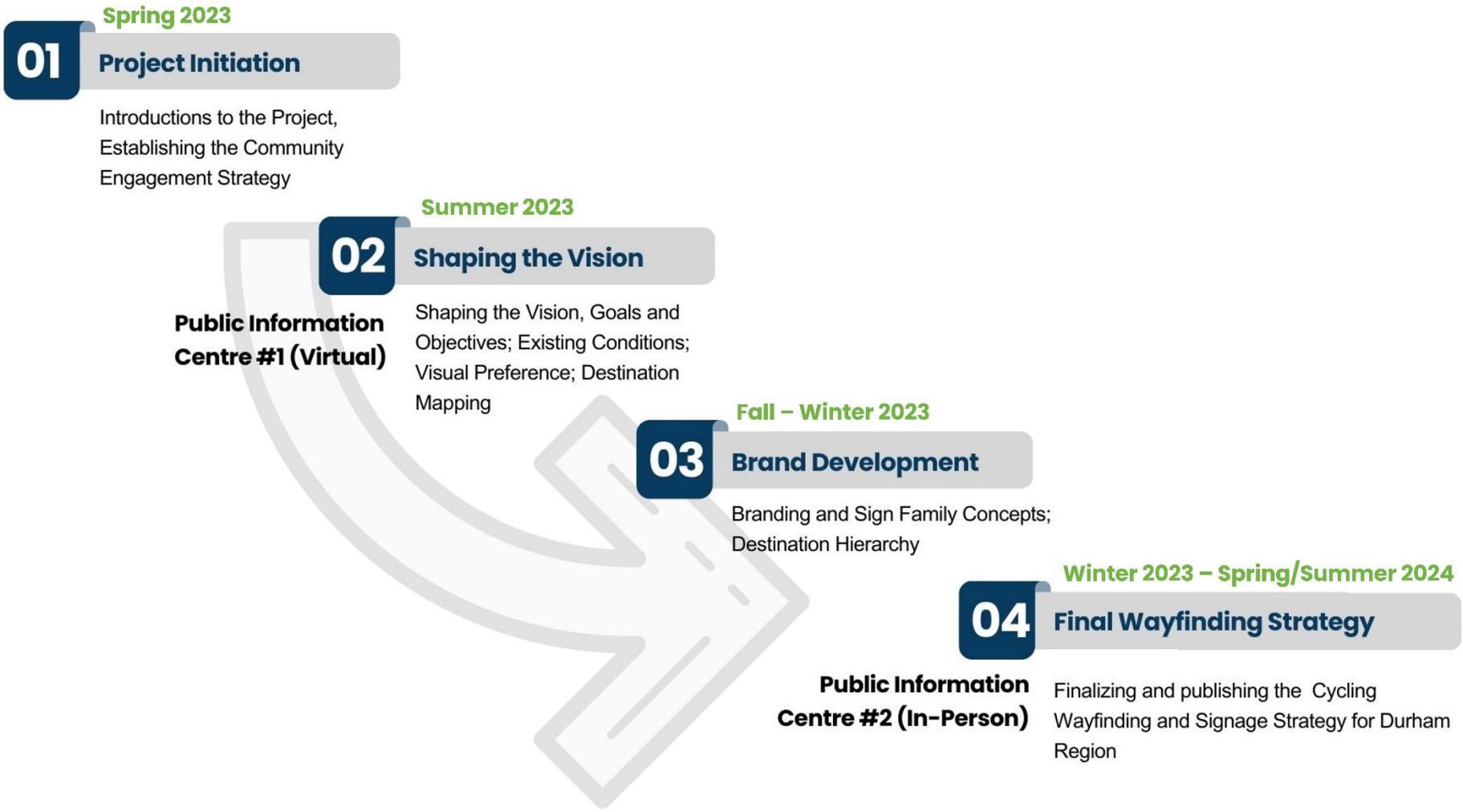



Figure 4. Stages of Engagement for Durham Cycling Wayfinding and Signage Strategy.

## Audience Groups

The following audience groups were engaged through the development of the Cycling Wayfinding and Signage Strategy, each offering unique perspectives and contributions to the project:

**General Public**: Essential for capturing the broader community's preferences and needs, in order to align the final strategy and signage system with public needs and preferences.

**Equity Steering Committee:** Consisting of representatives from equity-deserving groups, including Indigenous populations, to facilitate targeted feedback on the Strategy's accessibility and inclusivity.

**Project Review Team:** Comprising Regional and area tmunicipal staff, and technical experts including: Federal and Provincial government representatives, Conservation Authorities and trail partners, as well as Advisory Committee members. This group provided specialized input essential for the project's technical and functional aspects.

## Methods of Engagement

A variety of engagement methods were used to facilitate broad and effective stakeholder participation:

- **Virtual Engagement:** Utilized online meetings, visual preference surveys and mood boards, mapping exercises, social media, and a dedicated project webpage to facilitate wide-reaching engagement.
- **In-Person Engagement:** Organized to encourage direct interaction and collect detailed feedback.

## Meeting Sessions

Meeting sessions with each of the different audience groups served as key platforms for dialogue, feedback collection, and collaborative decision-making. Following is the list of meetings and work sessions that took place for this project:

- **Project Review Team Meetings:** Five meetings were held, providing an ongoing platform for technical and specialized feedback.

- **Equity Steering Committee Meetings:** The meetings were held three times over the course of the study, with the purpose of gathering feedback to better understand concerns and issues related to accessibility, inclusivity, and equity of wayfinding systems.
- **Public Information Centres (PIC):** Two sessions were organized to inform and engage the public. One session was conducted virtually on September 20, 2023, and the final session was hosted in-person on June 5, 2024. Here is a summary of engagement statistics from these two sessions:
- In total, 49 people attended the sessions with 572 people engaged with the project materials via social media messaging on Regional channels and the project webpage.
- The promotion of the first PIC on social media during the period of September 12 to 20, resulted in 8,700 impressions and 107 engagements with posts.
- The promotion of the second PIC on social media during the period of May 22 to June 5, generated strong interest and engagement with the project and resulted in 9,290 impressions and 102 engagements with posts.

Table 7 and Table 8 capture all the working sessions that were conducted for this project. For a summary of all three phases of engagement, refer to **Appendix D.**


Picture 5. Public Information Centre (PIC) #2 at Durham Regional Headquarters in Whitby (Source: Alta Planning +Design).

Table 7. Engagement and Outreach Activities.

| Group | Description of Audience Groups | Visual Survey | Mood Boards | Mapping Exercise | Social Media | Virtual Work Sessions | In-Person Events |
|---|---|---|---|---|---|---|---|
| **General Public** | A diverse mix of individuals who interact with and benefit from cycling wayfinding and signage system in Durham. This includes local residents who rely on cycling routes for their daily commute or recreational activities and visitors exploring the area. Essential for capturing the broader community's preferences and needs, to align the final strategy and signage system with public needs and preferences. | | | | ☑ | ☑ | ☑ |
| **Equity Steering Committee (ESC)** | Consisting of representatives from equity-deserving groups, including Indigenous populations, to facilitate targeted feedback on the Cycling Wayfinding and Signage Strategy' accessibility and inclusivity. | ☑ | ☑ | | ☑ | ☑ | ☑ |
| **Project Review Team (PRT)** | Comprising of Regional and area municipal staff and technical experts including Federal and Provincial government representatives, Conservation Authorities and trail partners, as well as Advisory Commitee members. This group provided specialized input essential for the project's technical and functional aspects. | ☑ | ☑ | | ☑ | ☑ | ☑ |
| **Project Team at the Region** | Project Management team at the Region. | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ |

Table 8. Summary of Engagement Sessions.

| Engagement Activity | Summary of the Session |
|---|---|
| **PRT Meeting** | Meeting #1 (Kick-Off Meeting): Discussed the work program, initial project goals, and objectives. |
| | Meeting #2: Drafted existing conditions; held a branding discussion and exercise. |
| | Meeting #3: Reported on PIC#1; reviewed visual style concepts; presented the draft list of destinations. |
| | Meeting #4: Reported back on the final list of destinations and sign placement; presented the branding guideline and Sign Family concepts. |
| | Meeting #5: Presented the first draft of the Durham Cycling Wayfinding and Signage Strategy. |
| **ESC Meeting** | Meeting #1 (Focus Group): Discussed the work program, initial project goals, and objectives. |
| | Meeting #2: Discussed final Goals and Objectives; conducted Visual Preference exercise; presented the list of proposed destinations. |
| | Meeting #3: Shared the logo selected by the Region and Sign Family Concepts; finalized the Destination Hierarchy and list of destinations. |
| | Meeting #4: Shared the full draft of the Wayfinding and Signage Strategy for feedback. |
| **PIC** | PIC#1 (Virtual): Introduced wayfinding, shared initial project goals and objectives, and visual style concepts to gather feedback. |
| | PIC#2 (In-person): Presented the full first draft of the Wayfinding and Signage Strategy. |

# Chapter 4 Recommendations

### Action 4.1: Continue to Engage Audience Group Contact List and Expand Outreach for Cycling Wayfinding and Signage

Use the database of contacts developed for the Project Review Team, Equity Steering Committee and those that subscribed to the project webpage as the basis for future outreach and partnership and should monitor and update the contact information as needed.

### Action 4.2: Establish Feedback Collection Schedules and Channels for Continuous Input and Outreach from the Community

Establish an ongoing feedback mechanism, such as annual surveys and regular public forums, to gather continuous input from all user groups. This should be supplemented by a dedicated channel for the community and stakeholders to report issues and suggestions.

# Chapter 5. Destinations and Sign Family

Building on the best practices discussed in earlier chapters, this chapter details the implementation of these practices within Durham Region. It outlines the types of destinations included and the sign types identified for the Cycling Wayfinding and Signage Strategy.

## Cycling Wayfinding Destination Mapping

Destinations play a pivotal role in effective wayfinding systems. They serve as critical points of orientation for users and contribute to the overall sense of place. Destinations act as geographic references and landmarks, aiding individuals as they navigate an area. Wayfinding signs, often featuring directional arrows, convey information about direction, distance, and occasionally travel time to these destinations. The decision to include specific destinations on a sign hinge on their significance within the context of the overall wayfinding system. A well-structured hierarchy framework assists in organizing sign programming across the entire system, ensuring that essential destinations receive appropriate visibility.

### Destination Selection

For the Durham Cycling Wayfinding and Signage Strategy, the selection of destinations was informed by a comprehensive review of the Region's GIS data and best practices identified in Chapter 2. This review identified a diverse range of potential destinations suitable for various trip types, including neighbourhoods, trails, parks, community services, transit stations, and other key regional landmarks. The criteria considered when choosing destinations included:

- Open to the Public
- Significant Public Interest
- Open Year-Round
- Accessible via the PCN

Engagement with stakeholders and the public was important to confirm which data layers should be included in the destination database. Additionally, data from other

jurisdictions, such as conservation area lands, were incorporated as needed.

## Destination Hierarchy

To optimize navigation with limited sign space for a broad array of destinations, the destinations were classified into a hierarchy. This framework assisted with prioritizing which destinations are selected and the order in which they should be implemented on the cycling wayfinding signs proposed for the Cycling Wayfinding and Signage Strategy.

The Cycling Wayfinding and Signage Strategy categorizes destinations into three key categories based on their importance and how they can be used to orient cyclists:

**Primary Destinations:** These are major landmarks and essential geographic references are signed from distances up to 10 kilometres away, serving to orient visitors from afar, as they are more significant reference points. Included are:

- Municipalities
- Communities (neighbourhoods, hamlets, villages)

**Secondary Destinations:** Important points of interest that are accessible via bike routes or trail systems, marked on signs within a 3-kilometre radius, that are more localized in their function. These include:

- Trail Access Points
- Significant Parks
- Major Community Centres
- Transportation Hubs (GO Rail stations and Durham Region Transit terminals)
- Post-secondary Campuses
- Healthcare Facility

**Tertiary Destinations:** Includes local attractions, institutions, and services accessed by active travel modes, signed from distances as close as 1 kilometre. These consist of:

- Community Centres
- Local Parks
- Municipal Offices
- Libraries
- Conservation Areas
- Museums

### Destinations Hierarchy Database

The culmination of these efforts has yielded an exhaustive catalogue of over 700 destination points. This list remains dynamic, necessitating periodic review and updates to accommodate new destinations and align with the evolving trends, needs, and contextual nuances of the Region. It is important to note that inclusion in this list does not guarantee immediate signage; rather, it signifies the potential for future signage. Additional detail regarding the integration and application of the destination hierarchy into the cycling wayfinding system is provided in Chapter 7. This comprehensive database list serves as the foundational groundwork for both the Region and its area municipalities as they advance in the development and implementation of cycling wayfinding signage. For a complete inventory of destinations, please refer to **Appendix E**.

## Sign Family

The methodology for selecting sign elements for the Cycling Wayfinding and Signage Strategy involved a preliminary sketching exercise on two sample routes offering access to significant locations like GO stations and showcasing a mix of existing and planned cycling infrastructure. This exercise aimed to determine the essential elements for the sign family, focusing on identifying the types of signs without delving into their placement or design specifics. From this process, five core sign types were identified:

- Information Kiosk
- Decision Sign
- Confirmation Sign
- Turn Sign
- Street Intersection Sign

**Appendix F** documents the details of the process for the development of the sign family.

## Supplemental Signage Components and Elements

As part of the sign family for Durham wayfinding, pavement markers and co-branding medallions were identified as supplemental signage components and elements. These elements enhance Durham's cycling wayfinding system by their:

1. **Cost Efficiency:** Pavement markers and co-branding medallions are cost-effective additions to enhance navigation in a cycling network. Their low production and installation costs make them an economical choice for expanding the wayfinding system across the Durham Region and its municipalities.

2. **Rapid Deployment:** These components can be quickly installed to immediately enhance navigation and safety and address urgent wayfinding needs.

3. **Flexibility for Developing Networks:** The cycling network across Durham is still developing and not consistently built out. Pavement markers and medallions are effective quick-build options that the Region and area municipalities can use to improve wayfinding temporarily or permanently. They provide essential navigation aids to bridge gaps in the network and wayfinding system until more permanent signs are installed.

4. **Enhanced Cohesion and Branding:** Co-branding medallions help in unifying the appearance of the PCN and a recognizable identity. This visual consistency is crucial for establishing a reliable wayfinding system that cyclists can easily follow across the Region.

5. **Complementary to Physical Wayfinding Elements:** While effective on their own, these elements are designed to complement physical wayfinding elements like decision signs. Integrating these supplemental components help with a more comprehensive coverage.

# Chapter 5 Recommendations

### Action 5.1: Maintain and Update Destination Hierarchy Database

Continuously review, monitor, and modify the Destination Hierarchy Database, as needed, to maintain its accuracy and adapt to the needs of cyclists and the development of the PCN.

**Action 5.1a:** Annually update the list of destinations and review categories with the Working Group to confirm accuracy of the destination list.

**Action 5.1b:** Conduct periodic community surveys after installing signage along specific routes to help audit the destination hierarchy, ensuring it continues to meet and reflect the needs of the cycling community.

### Action 5.2: Identify Interim Routes for Integration of Supplementary Wayfinding Elements

Continuously review the PCN for gaps in the network where signage does not exist on shared facilities, where facilities are identified for future enhancement, and where pavement markers could be installed temporarily.

# Chapter 6. Design Concept

This chapter provides an overview of the brand development and sign design approach for the Cycling Wayfinding and Signage Strategy. It outlines essential elements related to sign family design and branding guidelines. The goal is to establish consistency and coherence in the application of signage across the cycling network, ensuring that signs are easily readable, understand and recognizable by all users.

## Approach to Brand Development

To create a cohesive Regional branding and wayfinding system for Durham's PCN, a comprehensive six-step branding process was followed during the study, as shown in Figure 5. The process utilized and incorporated broad stakeholder feedback from area municipalities, Project Review Team (PRT) and Equity Steering Committee (ESC) members, and the public input throughout. The objective was to create a cohesive, accessible, and distinctive brand identity and signage family that seamlessly integrates with the existing branding and signage across the region.

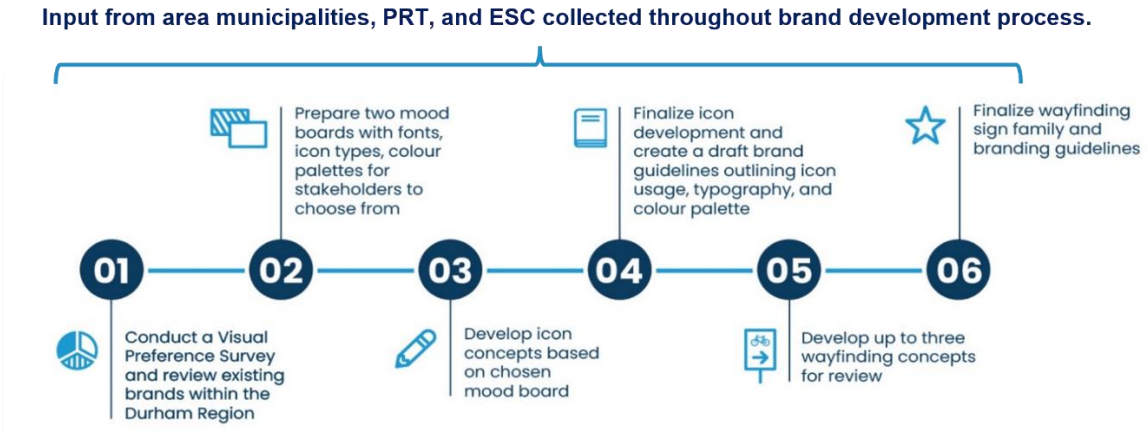



Figure 5. Branding Process.

## Branding Guidelines

Branding guidelines have been created to serve as a reference for the overall look and feel of the brand and maintain consistency in visual communications.

Establishing branding guidelines specific to the Region's cycling wayfinding system helps maintain consistent and recognizable signage throughout the area:

- Maintains a consistent visual identity across the network.
- Provides clarity in design elements, making signage easy to read and understand.
- Supports flexibility and customization in adapting signage to different environments and contexts, while still adhering to the visual identity for the brand.
- Provides coherence through rules and standards for design ensuring all elements work cohesively, enhancing the user experience.
- Preserves the integrity of the brand by preventing inconsistencies that could dilute the message or impact of the signage.

The branding guidelines include information about the colour palette, typography, and a unique icon created specifically for the Region's cycling wayfinding system. For the complete branding guidelines, refer to **Appendix G**.

### Typography

The branding guidelines identify primary and alternate typefaces to be used for the Region's cycling wayfinding signs, as shown in Figure 6. This helps enhance readability, making it quick and easy for cyclists to comprehend information on signs while in motion, while reinforcing the visual identity, personality, and recognition of the PCN brand, for a cohesive experience for PCN users.

**Poppins**, a sans serif typeface, was chosen as the primary typeface for the region's cycling wayfinding signage for its high x-height, geometric qualities, and compliance with Accessibility for Ontarians with Disabilities Act (AODA) accessibility standards and font variations. As the preferred typeface for the wayfinding along the PCN, it should be used whenever possible.

If the primary typeface is not available, the alternate typeface, **Arial**, is still suitable for accessibility. See **Appendix G** for font guidance.

## Primary Typeface: Poppins

Poppins Light
abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890!@#$%&*

**Poppins Bold**
**abcdefghijklmnopqrstuvwxyz**
**ABCDEFGHIJKLMNOPQRSTUVWXYZ**
**1234567890!@#$%&***

Poppins Regular
abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890!@#$%&*

***Poppins Bold Italic***
***abcdefghijklmnopqrstuvwxyz***
***ABCDEFGHIJKLMNOPQRSTUVWXYZ***
***1234567890!@#$%&****

## Alternate Typeface: Arial

Arial Regular
abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890!@#$%&*

**Arial Bold**
**abcdefghijklmnopqrstuvwxyz**
**ABCDEFGHIJKLMNOPQRSTUVWXYZ**
**1234567890!@#$%&***

*Arial Italic*
*abcdefghijklmnopqrstuvwxyz*
*ABCDEFGHIJKLMNOPQRSTUVWXYZ*
*1234567890!@#$%&**

***Arial Bold Italic***
***abcdefghijklmnopqrstuvwxyz***
***ABCDEFGHIJKLMNOPQRSTUVWXYZ***
***1234567890!@#$%&****

Figure 6. Primary and Alternative Typefaces Introduced in the Branding Guidelines.

## Colours

Colour is a primary means of visual identification. The colour palette, as shown in Figure 7 for the Region's cycling wayfinding system, draws inspiration from the RCP to maintain cohesion with existing Regional branding. Additionally, the palette adheres to AODA accessibility requirements by being colour-blind friendly.

The primary colour is designated for the signs themselves, serving as the main identifying colour. The secondary colours are meant to complement the primary colour without overshadowing the primary messaging, and are meant to be applied to communication and promotional materials developed for the Cycling Wayfinding and Signage Strategy.


Figure 7. Colours of the Cycling Wayfinding and Signage Strategy Signs.

## Icon Development

A unique icon has been developed, through extensive consultation, to represent the PCN and provide the network with a distinct brand identity that is easily recognized by its users. The icon helps support universal understanding and quick recognition by cyclists of all ages and abilities, which will help PCN users navigate cycling routes more efficiently.

The icon is meant to be used on all sign types as well as communication materials created to promote cycling wayfinding signage. The icon depicts a cropped bicycle illustration inside of the letter "D" for Durham. It is designed to be clear and simple in communication, with a focus on cycling.

Because of its recognizable nature, the icon, as shown in Figure 8, is intended to be used with or without the words "Primary Cycling Network." The Brand Mark is best used where space is limited, whereas the Primary Icon-Stacked is encouraged to be applied where more space is available, such as on kiosk signs. The design process of the icon and detailed information on icon usage, co-branding guidelines, as well as sizing and spacing specifications is provided in **Appendix G**.

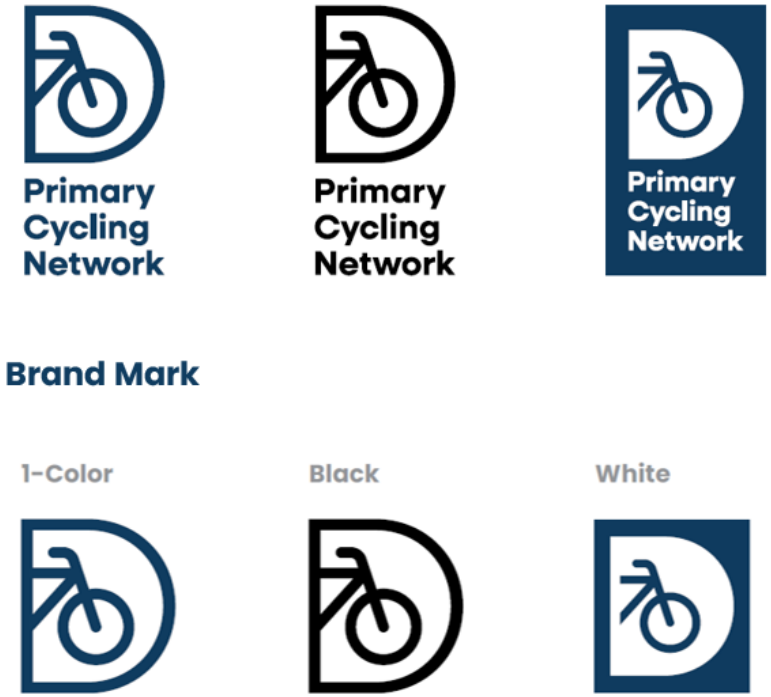



Figure 8. Primary Icon and Brand Mark for PCN Wayfinding.

## Sign Concepts

A suite of signs and wayfinding elements has been established for the Cycling Wayfinding and Signage Strategy through an exercise of sign placement on two pilot routes. These wayfinding elements enhance navigation of the PCN by bike, as shown in Figure 10. For more information and details on the selection process refer to **Appendix F**.

The minimalist design of this wayfinding sign family, as shown in Figure 10, focuses on maximum legibility to quickly orient users of the PCN. Each sign is slightly different in its design depending on its purpose. However, all signs share the same common attributes:

- Graphics are set on a navy blue background.
- White text is used for maximum legibility.
- The PCN icon is prominently placed.

Signs and elements like kiosks and co-branding medallion, also allow for co-branding. Kiosks serve as adaptable platforms for displaying various information, including partner and / or or existing branding elements, enhancing user engagement while maintaining visual coherence. Co-branding medallions provide opportunities to integrate other existing logos or identities into the cycling wayfinding system and existing signage, fostering collaborative relationships within the cycling wayfinding framework.

For more information, please refer to **Appendix G**.

### Accessibility

The cycling wayfinding signage design adheres to the established AODA standards. To meet accessibility requirements, the signs incorporate a minimum of 70% contrast between the text and background colours, utilize colours that are friendly to those with colour blindness and maintain a text height of at least 40 mm.

### Design Standards

For easy and cost-effective implementation, the wayfinding signage recommends usage of off-the-shelf materials and common sign sizes. The elements for this sign family are based on established best practices and guidelines from across North America, including OTM

Book 18: Cycling Facilities. Additionally, the signs adhere to the standard sizes specified in OTM Book 2 and the Manual of Uniform Traffic Control Devices for Canada Bike Lane Signs guidelines.

## Co-branding

The cycling wayfinding sign design accommodates flexible co-branding opportunities with the eight area municipalities, established trails and partners, as well as other cycling networks within Durham. The information kiosk design concept includes designated spaces for additional logos and branding, which can be tailored according to the location of each kiosk.

Additionally, the PCN co-branding medallion, can be added to existing signage. For more information on co-branding, please refer to the branding guidelines in **Appendix G.**


Figure 9 - Example of Co-branding Logos on Wayfinding Signage. (Source: Toronto Region Conservation Authority Webpage Courtesy of Gecko Group)

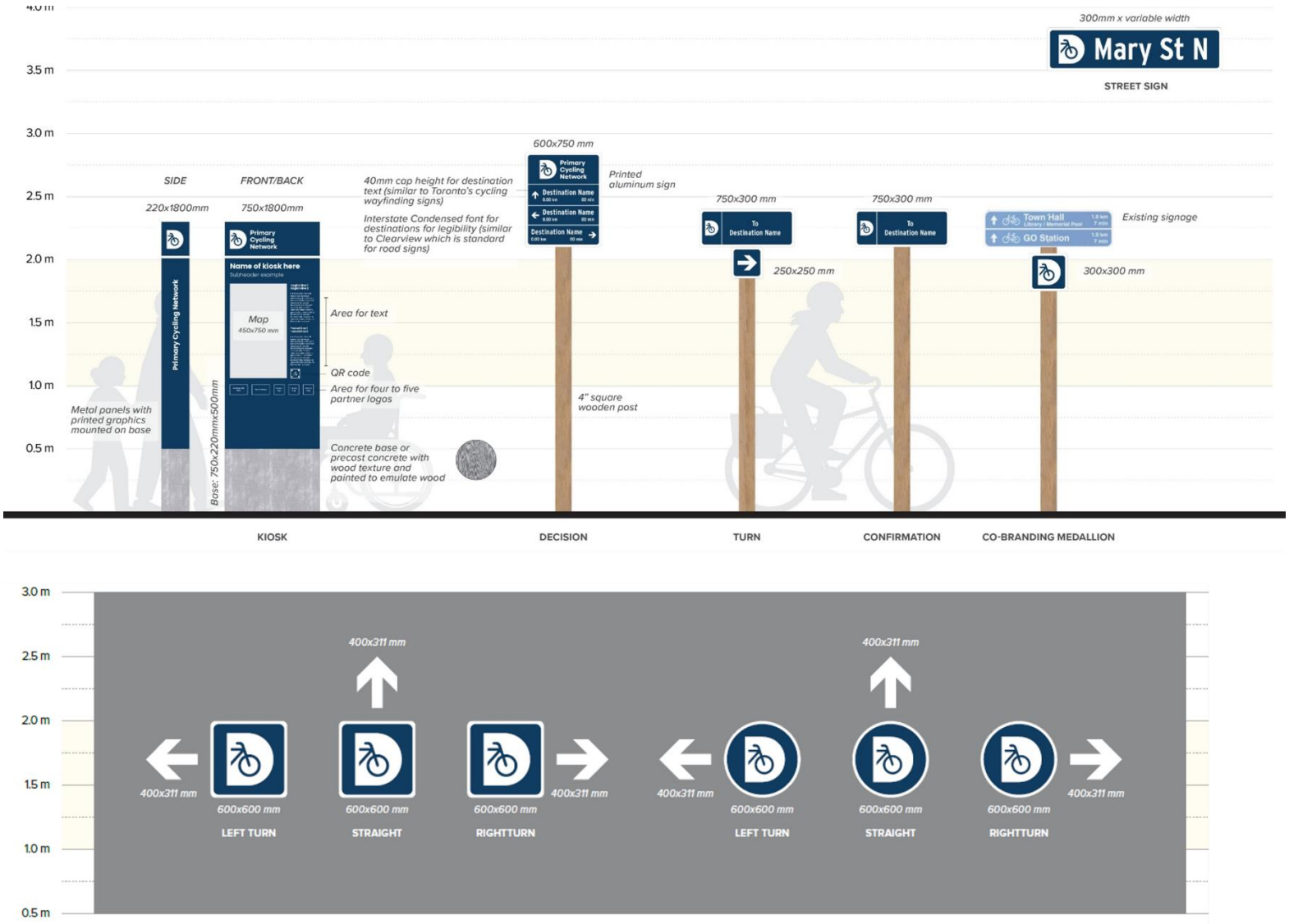



Figure 10. Cycling Wayfinding and Signage Strategy Sign Family and Wayfinding Elements.

## Sign Components

For each element of the sign family, various components including branding, destinations, distance to destinations, time directional arrows, etc. have been proposed for inclusion on the signs. Table 9 details these components and their purposes in more detail.

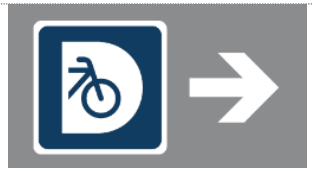
Including the distance in kilometre and the number of minutes it takes to arrive at key destinations along the PCN by bike can help:

- Provide clearer navigation and trip planning for cyclists by helping them determine how far they need to go and how long it will take to arrive at their intended destination, reducing the likelihood of delays or unexpected detours they may encounter.
- Improve the experience for PCN users who may be less familiar with PCN routes and improve planning and decision-making.
- Enhance safety for users by providing clear and accurate information, that may reduce the likelihood of cyclists getting lost or taking less efficient routes.

Table 9. Components Included on the Cycling Wayfinding and Signage Strategy Sign Family.

| Sign Types | Sign Images | Components Included on the Sign or Wayfinding Element |
|---|---|---|
| **Information Kiosk** |  | • **PCN primary logo**: Reinforces network branding.<br>• **Name/Location**: Specifies the location of the kiosk or route name.<br>• **Map**: Provides a visual reference of the area.<br>• **Text**: Offers additional context and details about the area and the information displayed on the map.<br>• **QR Code**: Enables quick access to more information.<br>• **Additional logos**: Includes local or jurisdictional branding. |

| Sign Types | Sign Images | Components Included on the Sign or Wayfinding Element |
|---|---|---|
| **Decision Sign** |  | • **PCN primary logo**: Reinforces network branding.<br>• **Up to three destinations**: Indicates the next destination.<br>• **Distance**: Indicates distance to the next destination.<br>• **Time to destination**: Provides the estimated time to each destination.<br>• **Directional Arrows:** Provides direction of the upcoming destination so cyclists can prepare. Arrows are included on the left or right to make it more intuitive for cyclists to quickly know which direction to turn to help maintain speed and motion. |
| **Confirmation Sign** |  | • **PCN Logo** without wordmark: Reinforces network branding.<br>• **Destination**: Indicates the next destination and confirms cyclists are still on a PCN route. |
| **Turn Sign** |  | • **PCN Logo** without wordmark: Reinforces network branding.<br>• **Destination**: Indicates the next destination.<br>• **Arrow medallion**: Provides directional guidance at turn points. |

| Sign Types | Sign Images | Components Included on the Sign or Wayfinding Element |
|---|---|---|
| **Street Intersection Sign** |  | • **PCN Logo** without wordmark. Reinforces network branding.<br>• **Street name**: indicates a local cycling facility intersecting with the PCN. |
| **Pavement Markers** |  | • **PCN Logo** without wordmark: Reinforces network branding.<br>• **Direction arrow**: Confirms direction along the route and at turn point if used. |
| **Co-branding Medallions** |  | • **PCN Logo** without wordmark: Reinforces network branding. |

## Application of Branding

Applying the branding elements to different types of wayfinding sign types involves careful consideration of visibility, readability, and clarity to provide effective guidance to cyclists along the PCN. Figure 11 and Figure 12 provide further details of how the range of branding elements for the Region's Cycling Wayfinding and Signage Strategy are to be applied for different sign types.

### Branding Application on Information Kiosk

For signs that users can pause to look at, such as wayfinding kiosks, multiple logos can be used; however, the PCN icon must be visually dominant over the partnering logos, as show in Figure 11.

The PCN icon must be at least twice the height of the other icons and visually separated from the icons. For example, the PCN icon is placed in the upper right area of the sign, while the partnering icons are placed in the lower portion.

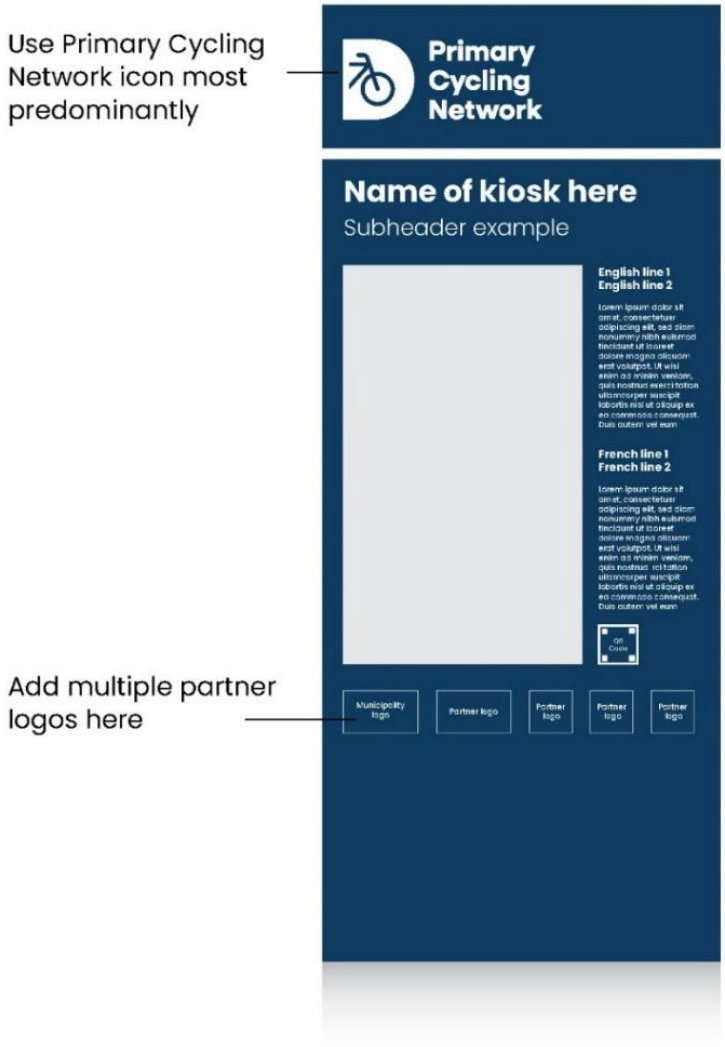



Figure 11. Branding Application on Information Kiosks.

## Branding Application on Decision and Turn Signs

For cycling wayfinding signs that people can use in motion, such as decision signs or confirmation signs shown in Figure 12, simplicity is key. The PCN icon should be used alone in these instances, without co-branding, given that users need to take in information more quickly in these instances.


Figure 12. Branding Application on Decision and Turn Signs.

## Co-Branding Medallions

A separate sign or medallion of the PCN icon as shown in Figure 13 can be added to existing signage on other cycling networks and routes to achieve a co-branded look and reaffirm to users that they are still using the PCN.

It is recommended that no more than three additional co-branding medallions, including the PCN icon be added to a sign for clear and consistent cues and recognition, while reducing clutter.


Figure 13. Branding Application on Co-Branding Medallion.

### 1. Branding Application on Street Sign

The PCN icon without the watermark has been added to street signs at intersections of a local cycling facility and a PCN route to reinforce network branding and indicate that the crossing street or trail contains a cycling facility.


Figure 14. Branding Application on Street Sign.

# Chapter 6 Recommendations

### Action 6.1: Conduct Community Feedback on Design and Accessibility of Signs

Establish a process for consistently gathering and analyzing feedback on signage design and accessibility of signage through community surveys, Working Group meetings and in collaboration with the Region’s Accessibility Advisory Committee and Active Transportation Committee (DATC) and other local accessibility and disability groups to guide future design refinements.

### Action 6.2: Regularly Review and Update Design Intent Drawings and Branding Guidelines

Review design intent drawings and branding guidelines annually so that graphic assets and sign information is accurate and reflects any modifications to maintain consistent application and brand integrity.

### Action 6.3: Track Sign Dimension Best Practices and Off-the-Shelf Inventory

Regularly scan signage best practices and standards as identified in industry standards and best practices such as OTM Book 2 and with off-the-shelf sizes from vendors, for consistent application and timely implementation of cycling wayfinding signage.

### Action 6.4 Promote and Enhance Visibility and Familiarity of the Cycling Wayfinding System Branding

Utilize educational programs, communications campaigns and community engagement initiatives that promote the cycling wayfinding system. Incorporate wayfinding into Bike Month and other relevant activities, promote on Regional social media channels to engage the community and enhance the visibility and familiarity of the wayfinding system's branding.

# Chapter 7. Implementation and Maintenance

This chapter delves into the strategic implementation and maintenance of the Durham Cycling Wayfinding and Signage Strategy. It offers a comprehensive guide on the plan for sign placement, intricate details of sign programming, and fabrication specifics for the wayfinding elements within the sign family. Additionally, it provides an overview of roles and responsibilities for implementation of the Strategy as well as installation and maintenance cost estimates. A high-level cost projection for the proposed elements is also included.

## Wayfinding Implementation

This section explains the process of implementing the signage strategy developed and presented in the preceding chapters. It explores the nuances of sign placement and programming, including applicable information related to sign fabrication.

The implementation of cycling wayfinding signage necessitates careful consideration for placement and programming. These considerations aim to achieve appropriate signage implementation, minimize sign clutter, and provide accurate and relevant information on the actual signage. This approach aligns with best practices in wayfinding and signage and is essential to enhance safety, improve navigation, and promote a seamless cycling experience.

Effective implementation impacts how well cyclists can navigate their environment. Properly placed and programmed signs contribute to safer and more enjoyable cycling routes by reducing the likelihood of navigation errors and promoting continuous movement without unnecessary stops. These factors are important for creating cycling infrastructure that supports increased usage and satisfaction among cyclists.

## Sign Placement

The Cycling Wayfinding and Signage Strategy employed a systematic approach to determine the optimal locations for signage. A comprehensive desktop analysis, leveraging aerial and Streetview imagery to gain an initial understanding of the landscape, was used to inform the pilot route selection and determine sign placement needs of the PCN.

It is important to note that the timing of the imagery can influence the accuracy of sign placement due to potential changes in the environment. Therefore, the date of the imagery and any subsequent changes to the streetscape should be considered and should be coupled with in-person site visits, when using this information to inform sign placement decisions.

To enhance the precision of sign placement and account for factors such as sightlines or other elements not evident from desktop analysis, an in-person site visit should be conducted before implementation. This approach allows for a more nuanced understanding of the environment for an optimal sign placement when moving forward with the implementation of the signs.

## Sign Placement Guidance

Sign placement should be intuitive and align with the type of facility and the direction of travel. It is essential to consider the nature of the facilities such as whether they are on-road or in-boulevard, and if they are designed for one-way or two-way travel. These factors play a significant role in determining the correct positioning of the signs.

In line with best practices, a sign placement plan, for the Cycling Wayfinding and Signage Strategy was developed using Geographic Information System (GIS) technology and programs to strategically place signs to direct cyclists and highlight key locations. Figure 15 illustrates how signs should commonly be placed along the PCN route.Table 10 serves as foundational guidance for placing signs effectively, providing details on the characteristics of each sign type/wayfinding element and placement to assist with establishing sign placement.

The placement of wayfinding signs is a complex process

that requires careful consideration of various factors and guidelines, which will make the cycling wayfinding system intuitive, efficient, and user-friendly.

Prior to installing signs, it is crucial to follow these steps so that cycling wayfinding signs are positioned appropriately within the network:

1. **Determine the appropriate sign type for the location:** Use the Sign Placement Characteristics and Criteria, as shown in Table 10, to determine the sign type(s) that are needed for the location based on the conditions and intended purpose.

2. **Assess Corridor Characteristics:** Assessing corridor characteristics involves conducting thorough assessments, both remotely and on site, to grasp the dynamics of the corridor. This process includes examining traffic conditions, speeds, natural features, obstacles, and visibility. It is important to look for opportunities for co-placement, positioning signs where cyclists can readily interpret information and make decisions while maintaining momentum and continuous movement. Additionally, signs should be placed alongside the cycling facility and oriented in the correct direction to optimize readability for users traveling along the route.

3. **Appropriate Height:** Signs should be placed at heights that allow for clear visibility and legibility for users, especially when in motion. This placement is important for visibility, particularly in the presence of potential sightline obstructions such as parked cars.

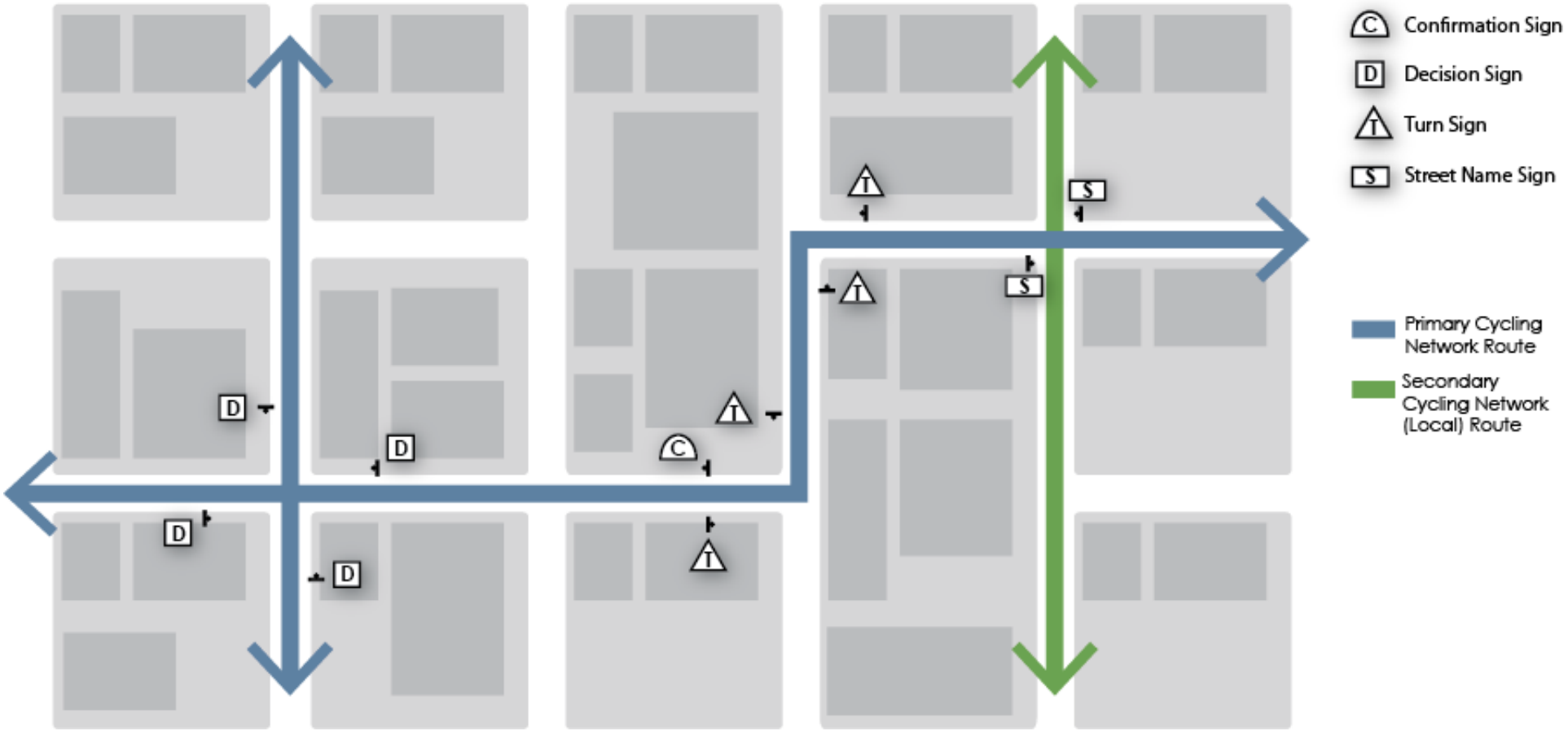



Figure 15. Diagram of Sign Placement Based on Sign Type

Table 10. Sign Placement Characteristics and Criteria.

| Sign/Element Type | Characteristics | Placement Criteria for Signs |
|---|---|---|
| **Decision Signs** | | |
|  <br>DECISION | • Mark the junction of two or more bikeways.<br>• Inform users of designated routes to access key destinations.<br>• Provide direction, distance, and travel time to destinations. | • For on-street applications, place signs 40–50 metres (0.04–0.05 kilometres) prior to a decision point; for off-street applications, place signs 10–15 metres (0.01–0.015 kilometres). These distances are adequate for cyclists to see and respond to sign messaging. Exact distances will vary depending on the context.<br>• Placed at the approach of junctions of PCN routes to indicate nearby destinations.<br>• Should have a maximum of three destinations.<br>• Should be placed approaching the junction of PCN routes.<br>• Should have a 0.5 metre minimum lateral offset from the edge of the path or from curb to the edge of sign to prevent clipping from traffic. |

| Sign/Element Type | Characteristics | Placement Criteria for Signs |
|---|---|---|
| **Confirmation Signs** | | |
|  <br>CONFIRMATION | • Confirm and mark the designated route.<br>• Do not indicate a change in direction.<br>• May have informational or branding content such as the name of the route.<br>• May include up to one destination (e.g., downtown). | • After decision points such as after decision and turn signs; placed to be visible from decision point (usually within 20–30 metres immediately following turns).<br>• Locations where a designated route is not linear as well as after complex intersections (e.g., intersections with more than four approaches, roundabouts, or indirect routing).<br>• Spaced periodically along a route; approximately every 2–4 kilometres, unless another type of cycling wayfinding sign (such as a turn, decision, or other bicycle regulatory sign) or pavement marker is present within the 2- to 4-kilometre interval.<br>• Should have a 0.5 metre minimum lateral offset from edge of path or curb to edge of sign to prevent clipping from traffic.<br>• Placed when there has not been another sign for over 500 metres to confirm that the user is on the correct route, or after a junction point to confirm the destination, they are travelling towards. |

| Sign/Element Type | Characteristics | Placement Criteria for Signs |
|---|---|---|
| **Turn Signs** | | |
|  | • Clear direction for cyclists to turn when a route transitions from one roadway or trail to another using directional arrows.<br>• In locations where there are two or more bike routes, a decision sign, rather than two turn signs, should be used to consolidate this information. | • Should be placed approaching a turn in the route.<br>• For on-street applications, place 40–50 metres prior to a decision point; for off-street: 10–15 metres. Exact distances will vary depending on context.<br>• Should have a 0.5 metre minimum lateral offset from the edge of the path or from the curb to edge of sign to prevent clipping from traffic. |
| **Street Name Signs** | | |
|  | • Clearly indicate that crossing street or trail contains a cycling facility.<br>• Include bike symbol to indicate that it is a bike route. | • Placed at intersections where street name signs would normally be located.<br>• Placed where a local cycling route connects to a PCN route.<br>• Post-mounted signs should have a 0.5 metre minimum lateral offset from the edge of the path or from the curb to edge of sign to prevent clipping from traffic. |

| Sign/Element Type | Characteristics | Placement Criteria for Signs |
|---|---|---|
| **Information Kiosks** | | |
|  <br>KIOSK | Support cyclists and trail users in planning trips and being notified of other important information. Serve as gateway or access point to the network. Typical elements to include on information kiosks are:<br>• Map, including cycling and pedestrian facilities, transit stations, micromobility stations, and common destinations.<br>• Community branding.<br>• Regulations, etiquette, and safety info.<br>• Trail name (if applied to a specific trail).<br><br>To enhance accessibility for users to make an informed decision about using the cycling route, information kiosks may also include:<br><br>• Length of the trail or trail segment (in kilometres).<br>• Surface type/firmness/stability:<br>  ○ Typical and minimum width.<br>  ○ Typical and maximum running slope.<br>  ○ Typical and maximum cross slope. | • Information kiosks should be placed with a lateral offset from the roadway, bike facility, or trail. They should be placed where there is space for people to stop and dismount their bike to read the information without blocking the route for other users who are not stopping.<br>• Placement and site design should comply with pedestrian accessibility requirements (AODA).<br>• Ideal locations to place information kiosks are at trailheads, rest areas, major access points or other decision-making points where there may be a need to provide more information, or other stopping points along routes. |

| Sign/Element Type | Characteristics | Placement Criteria for Signs |
|---|---|---|
| **Pavement Markers** | | |
|  | Pavement markers in cycling wayfinding systems serve as ground-level indicators that provide essential directional information to cyclists. They are the pavement versions of turn and confirmation signs.<br>• Confirmation markers typically indicate that cyclists are on the correct path, reinforcing their confidence in the chosen route. These markers may feature arrows pointing forward or symbols confirming the continuity of the cycling path.<br>• Turn markers are used to signal upcoming turns or intersections along the cycling route. Turn markers can include directional arrows, symbols representing turns, or even text indicating the direction to follow. | • Pavement markers are placed away from potential obstructions such as vegetation, parked vehicles, or other physical barriers.<br>• Turn markers should be located in the block immediately preceding the turn, approximately 5–10 metres in advance of a turning point.<br>• Confirmation markers should be placed within 20–30 metres immediately following turns to confirm designated cycling route.<br>• Placement of confirmation markers should be consistent across cycling facilities with a 2- to 4-kilometre interval. |

| Sign/Element Type | Characteristics | Placement Criteria for Signs |
|---|---|---|
| **Co-Branding Medallion** | | |
|  <br>CO-BRANDING MEDALLION | • The size of the co-branding medallions is optimized for visibility without being overly intrusive. They should be easily noticeable by cyclists passing by while blending with the other signs.<br>• Co-branding medallions should complement other wayfinding elements such as signage, markers, and directional indicators. They should not interfere with the readability or functionality of the overall wayfinding system. | • Applied to existing signage or installed as standalone elements along a cycling network to indicate PCN routes that are part of routes under different jurisdictions. |

For the Cycling Wayfinding and Signage Strategy, the following information was documented for planning sign locations to aid in management and implementation. This documentation is organized within the sign placement plan, formatted as a database using GIS. This approach enabled accurate and accessible tracking of each sign's details and placement throughout the project.

Sign Planning Database Criterion:

- Sign type
- Sign ID (unique code for sign)
- Corridor name/location
- Sign orientation (direction that sign is facing)
- Mounting method (i.e., on new or existing post or pole)
- Sign information order (first/second/third destination and accompanying information)
- Notes on sign placement considerations (i.e., opportunity for co-placement on existing pole or with other proposed signage)

### Sign Information Programming

Sign programming, a critical component of cycling wayfinding and signage strategies, involves the meticulous process of deciding the content to be displayed on each sign along a route. Each type of sign communicates specific information, necessitating careful planning and consideration, as shown in Figure 11.

The interconnected nature of navigational signs within the network is a key aspect of sign programming. The destinations displayed on one sign have a ripple effect, influencing the destinations that appear on subsequent signs along the same route.

The sign programming process should be a systematic and iterative approach. The signs for the Cycling Wayfinding and Signage Strategy consider user needs and the recommended signs are programmed to display information that is relevant, concise, and easy to interpret and understand by cyclists of all ages and abilities.

Additionally, the signs are programmed to maintain a clear visual hierarchy of information so that the most important details are prominent. The use of universally recognized symbols and clear typography on the proposed signs enhances readability and effectiveness for the Region's cycling wayfinding system.

Table 11. Sign Programming.

| Sign Type | Information to Program |
|---|---|
| **Decision** | Destinations, arrow direction, distance, and time to destination |
| **Confirmation** | Destination |
| **Turn** | Destination, arrow direction |
| **Street Sign** | Street name |
| **Information Kiosk** | Location, map, trail information, and additional text information |

For sign information programming, decision signs pose the most complexity as they convey crucial information such as destination, arrow direction, distance, and time to destinations.

Decision signs have space for three destinations, with destinations selected based on the destination hierarchy. This hierarchy prioritizes primary destinations for inclusion on the sign before secondary destinations, and secondary destinations before tertiary destinations. Only destinations within the established range are considered for inclusion on the sign:

- **Primary Destinations:** signed from 5 to 10 kilometres away from the sign location.
- **Secondary Destinations:** signed from 3 kilometres away from the sign location.
- **Tertiary Destinations:** signed from 1 kilometre away from the sign location.

It is most common for the three spaces to be occupied by primary and secondary destinations. Once destinations are identified, the following steps should be used to program decision signs:

- The order of destinations on the sign should be based on direction:
    - Starts with destinations that are straight ahead.
    - Followed by destinations to the left.
    - Lastly, destinations to the right (Figure 16).
- If there are two destinations in the same direction, they should be ordered by proximity, with the nearest destination first. It should be noted that destination hierarchy does not impact the order in which destinations are placed on decision signs.
- The distance from the sign along the cycling route to each destination should be measured and rounded to the nearest tenth of a kilometre.
- The time displayed on the signs should be calculated based on an average cycling speed of 16 kilometres per hour, which aligns with speeds used by other GPS navigation systems like Google Maps. This speed is comfortable for most adults and sets reasonable expectations for individuals using the signage for navigation.
    - The following formula should be used to calculate the cycling time, rounding to the nearest minute:

**Time (min) = (Distance (m) / 16 (km/h)) x 60**


Figure 16. Durham Cycling Wayfinding Decision Sign.

## Fabrication Overview

Sign fabrication generally includes information about the materials, typography, colours, symbols, and placement of signage.

Sign fabrication details help with addressing:

- **Accuracy:** so that signs are manufactured with precision based on design specifications for consistency and elimination of errors.
- **Legibility:** by specifying font size, contrast, and layout, so that signs are easy to read from different distances and speeds of network users.
- **Durability:** by selecting and specifying materials and production methods, so that signs can withstand environmental impacts like weather and vandalism.
- **Compliance:** so that signs meet existing standards and regulations for safety and accessibility.

Together, these details contribute to signs being designed and manufactured correctly and effectively to guide cyclists on their routes, maintaining consistency and uniformity in application and design.

Fabrication details for cycling wayfinding signs are guided by established standards. These signs are required to adhere to OTM Book 2 – Sign Design, Fabrication and Patterns. Roadside signs are typically constructed from adhesive sheeting that is screen printed with durable inks and coatings and includes a computer-cuttable overlay film. The OTM Book 2 mandates that signs providing essential directional information during night hours must be as conspicuous at night as they are during the day, with the colour appearing consistent in both conditions. This is achieved by retroreflective material, which reflects light back to its source. The Region and area municipalities should consider guidance in OTM Book 2 or any other existing municipal guidance on sheeting grades and lifecycle information.

These guidelines informed the development of the sign fabrication guidelines for the Cycling Wayfinding and Signage Strategy and are outlined in the Design Intent Drawings provided in **Appendix H**.

### Sign Materials

Sign fabrication also involves selecting materials for the components of the signs including:

- **Sign Face:** The visible surface of the sign where the content is displayed. This area typically features directional information, symbols, or branding and is crucial for the sign's visibility and readability.
- **Sign Panel:** The structural backing to which the sign face is attached. It provides stability and durability to the sign and is typically made from materials that can withstand various environmental conditions.
- **Printing Method:** The technique used to apply graphics and text to the sign face. Common methods include digital printing, screen printing, or vinyl lettering, each offering different benefits in terms of cost, durability, and appearance.
- **Support Element:** These are the posts, frames, or other structures that hold the sign in place. They must be strong enough to support the sign under all conditions and match the overall design for aesthetic consistency.

The materials chosen for each sign element must be consistent, durable, and cost-effective for both fabrication and maintenance.

A list of material options was developed and reviewed based on their durability, lifecycle, cost, and maintenance requirements. This list includes recommended material options, along with examples from the current material inventory for each part of the sign. It is important to note that the inventory of sign materials is continually evolving, with new materials being developed and tested for potential adoption during implementation. For a detailed list of possible materials, refer to **Appendix I**.

For the Durham Cycling Wayfinding and Signage Strategy, various material options were considered within the sign family concept alternatives. Following consultations with the PRT, ESC, and the project team at the Region, the materials for the recommended sign family outlined in this strategy were chosen based on their appearance, design, cost, durability, and alignment with regional practices. Finalizing the material selection is a necessary step for finalizing the sign family and preparing fabrication details for the signs. The selected materials for the sign family are included below and additional details are included in Figure 17:

- **Information Kiosk:** Metal panels with printed graphics mounted on a concrete base or precast concrete with a wood texture to emulate wood.
- **Other Signs:** All other signs use standard metal panels mounted on 4-inch (102 mm x 102 mm) wooden posts. The recommendation for 4-inch (102 mm x 102 mm) wooden posts aligns with the Region's current installation practices. As an alternative option, 2-inch (50.8 mm x 50.8 mm) metal poles are also proposed where feasible. Metal poles offer greater durability compared to wooden posts and require less maintenance.

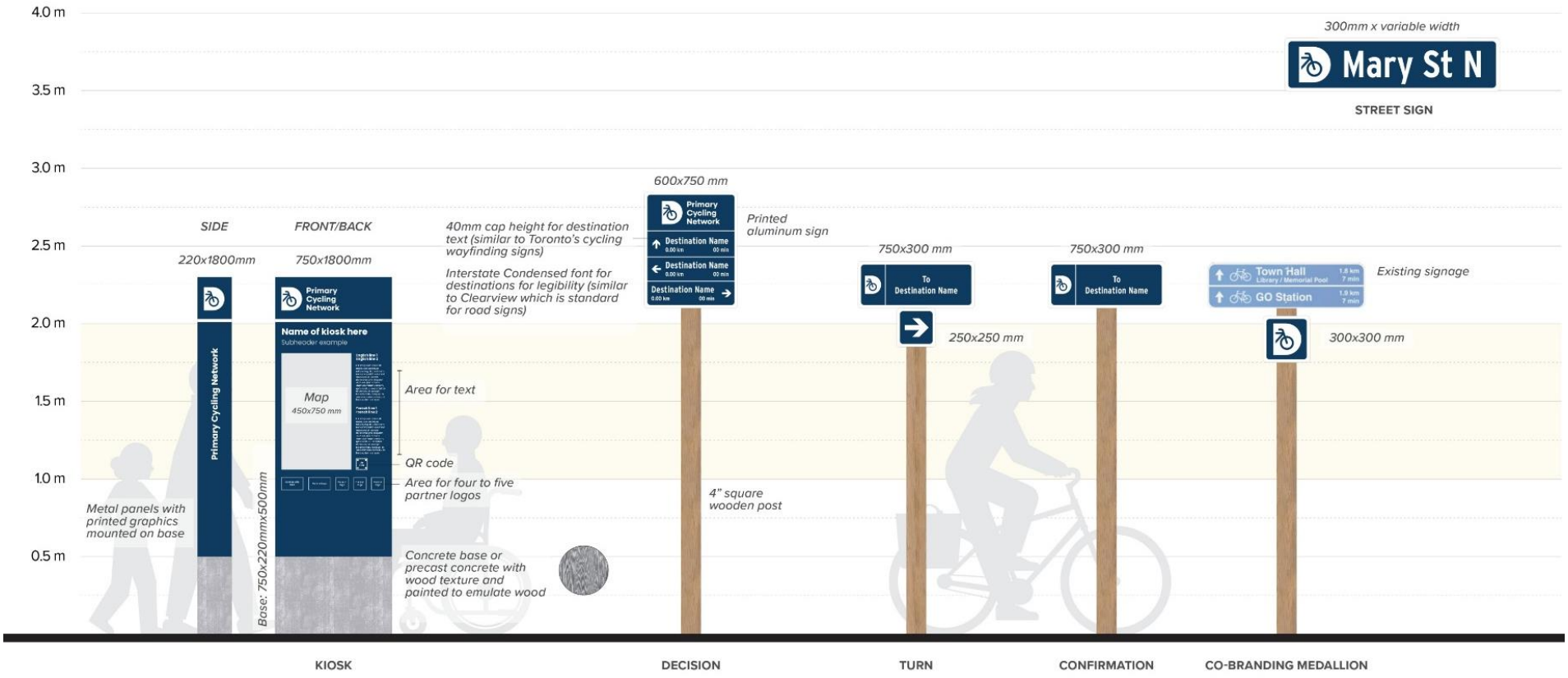



Figure 17. Recommended Materials for Sign Family of Durham Cycling Wayfinding and Signage.

## Installation

Signs will be installed using standard Regional and area municipal practices. The sample sign placement plan (see Figure 17) identified opportunities where signs could be placed on existing poles (co-placement). Co-placement should be used where possible to reduce costs for a standalone post and to reduce the clutter of posts in the public right-of-way (Picture 6).

Sound judgement is needed to avoid having too much information shown on a single pole, resulting in the sign not being clearly visible. Co-placement is generally discouraged near critical signs such as “Yield,” “Do Not Enter,” “No Parking,” and “Stop” signs where clear visibility and immediate comprehension are important. It is important to avoid placing signs near those with legal implications, such as compliance with traffic regulations, right-of-way instructions, and adherence to local ordinances, or that require quick decision-making by drivers or cyclists, to reduce the risk of misunderstandings or accidents.

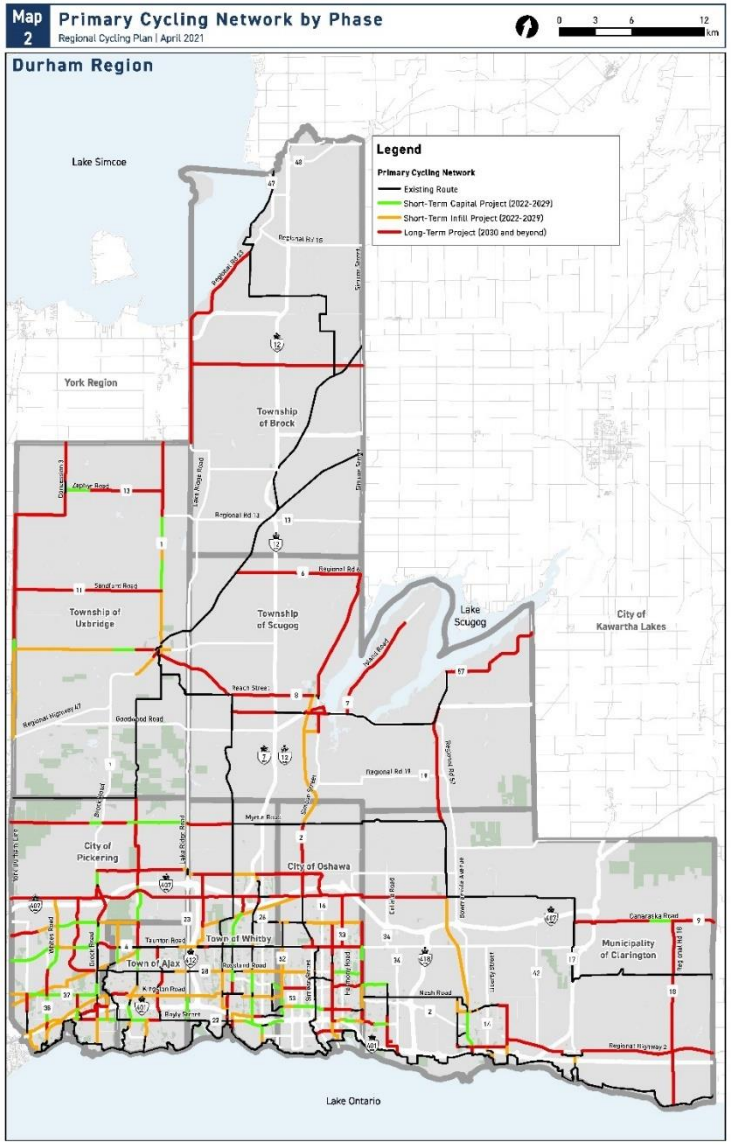

Picture 6. Example of a Sign Placed on an Existing Pole in Uxbridge (Source: Alta Planning + Design).

## Implementation Phasing

The goal for the implementation phasing of the Cycling Wayfinding and Signage Strategy is to align with the implementation timeline proposed in the RCP by focusing on existing PCN routes and those scheduled for implementation in the short-term horizon up to the year 2031.

Map 1 illustrates the phasing for the PCN as identified in the RCP. For more info on PCN phasing details please refer to the Regional Cycling Plan.

Signs are to be implemented where there are existing cycling facilities and incorporated into the design phase of new cycling facility installations. Wayfinding signage should complement, not replace, proper cycling infrastructure. Therefore, priority for implementation will be given to segments of the PCN with existing infrastructure and no signage in place, followed by routes with signage that is at the end of its lifecycle or in need of replacement, followed by new planned routes identified in the short-term capital and infill planning horizon.




Map 1. Durham Primary Cycling Network.

A set of route prioritization criteria is needed at the Regional level to prioritize existing routes for implementation. These criteria could include those listed in Table 12.

Table 12. Route Prioritization Criteria.

| Prioritization Criteria Examples | Details | Evaluation/ Assessment |
|---|---|---|
| **Destination Connectivity** | How many destinations does the route connect to? | Number of destinations are compiled and scored. The more destinations along a route, the higher the score in this category. |
| **Volume** | How many cyclists currently use this route based on cyclist count data? | The higher the number of cyclists along a proposed corridor, the higher it scores in this category. |
| **Popularity of Destination or Area** | How frequently the route is used for trips to/from specific destinations or areas (e.g., Waterfront Trail recreational route; neighbourhoods)? | Use Transportation Tomorrow Survey (TTS) or Strava data to show the frequency of trips to and from popular destinations. Higher trip frequency indicates greater popularity, resulting in a higher score. |

It is envisioned that a segmented approach to implementation be applied, to align with current practices, and that a Working Group will be established to help with identifying and confirming additional route priorities on an annual basis to implement cycling wayfinding signage.

The Working Group would consist of Regional staff from different departments including but not limited to Planning and Economic Development, Works (Rapid Transit Office and Traffic Engineering and Operations) and Finance; area municipal staff; the Ministry of Transportation of

Ontario (MTO); representatives from the Durham Active Transportation Committee (DATC) and external agencies such as Conservation Authorities, the Waterfront Regeneration Trust, or Parks Canada, where applicable.

Members of each Working Group will have defined roles related to the Durham Cycling Wayfinding and Signage Strategy and will meet as needed to assist with implementing, monitoring, and maintaining cycling wayfinding signage and to identify priority route segments to implement annually where cycling wayfinding signage can be applied. Staff from the Region's Transportation Planning section will be the lead coordinator of the Working Group for cohesion and coordination throughout the process.

For integration with existing wayfinding signs, a cost-effective approach could involve adding the co-branding element (medallion) on the existing signs when they need renewal or maintenance. For other signs, the Region should identify criteria for the selection and enhancement of existing signage.

This is an evolving practice, and the Region and area municipalities will need to coordinate opportunities and necessary budgets to implement signage as part of any newly constructed cycling facilities and expand implementation along adjacent existing segments.

### Implementation Phasing for the Sample Pilot Route

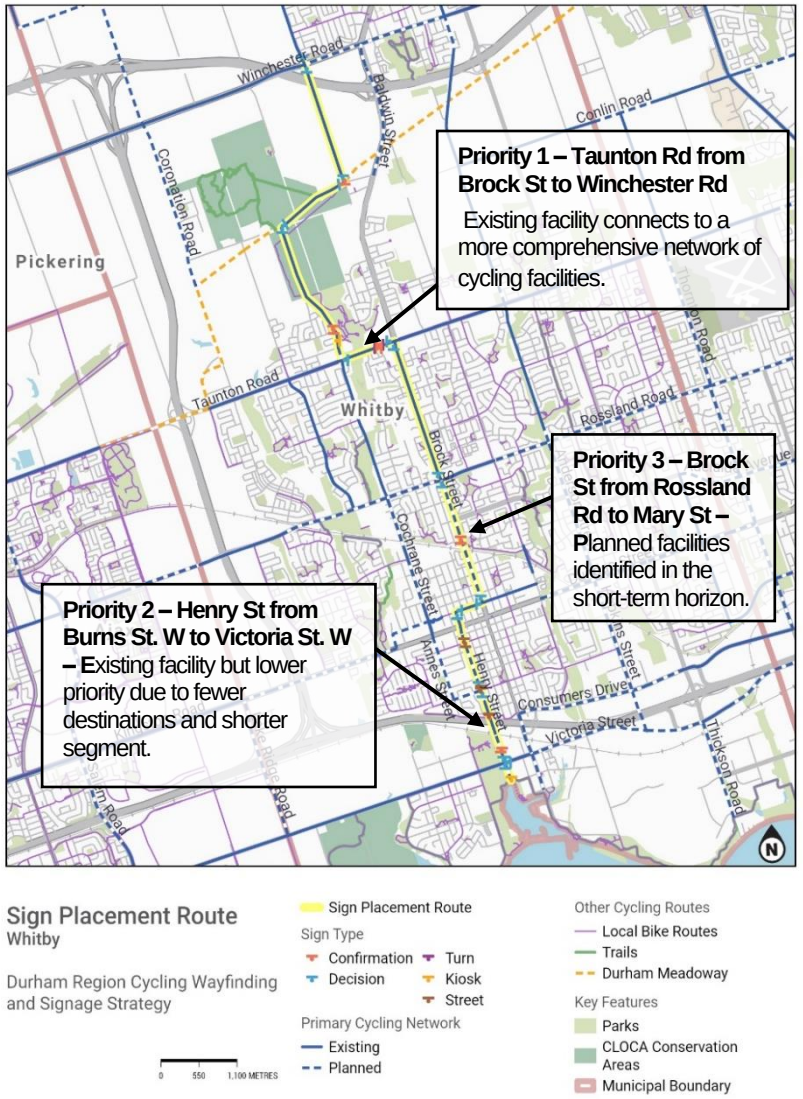
To demonstrate how wayfinding signage can be deployed, a pilot route in Whitby, shown in Map 2, has been created as an example to explore sign implementation and phasing. This route extends from Rotary Sunrise Lake Park on the Waterfront Trail to Winchester Road. It encompasses a mix of existing and planned PCN facilities, intersecting with local bike routes and trails.

The implementation priority for this route will focus on existing facilities. The segment from Taunton Road at Brock Street to Winchester Road is a priority among existing segments because it connects to a more comprehensive network of cycling facilities, enhancing the cyclist experience. The segment on Henry Street from Burns Street West to Victoria Street West with

existing facility is lower in priority due to fewer destinations and segment length but will help support future planned connections to facilitate additional connectivity and continuity for cyclists.

Subsequently, signage should be integrated into the short-term planned segments and then long-term planned segments along Brock Street aligning with the planned PCN timeline in the RCP.

Figure 18 illustrates the sign placement details for signs identified along the PCN near the intersection of Brock Street/Baldwin Street and Taunton Road in Whitby to help demonstrate the details and sign types to include and plan for during implementation.




Map 2. Sample Pilot Sign Placement Route.

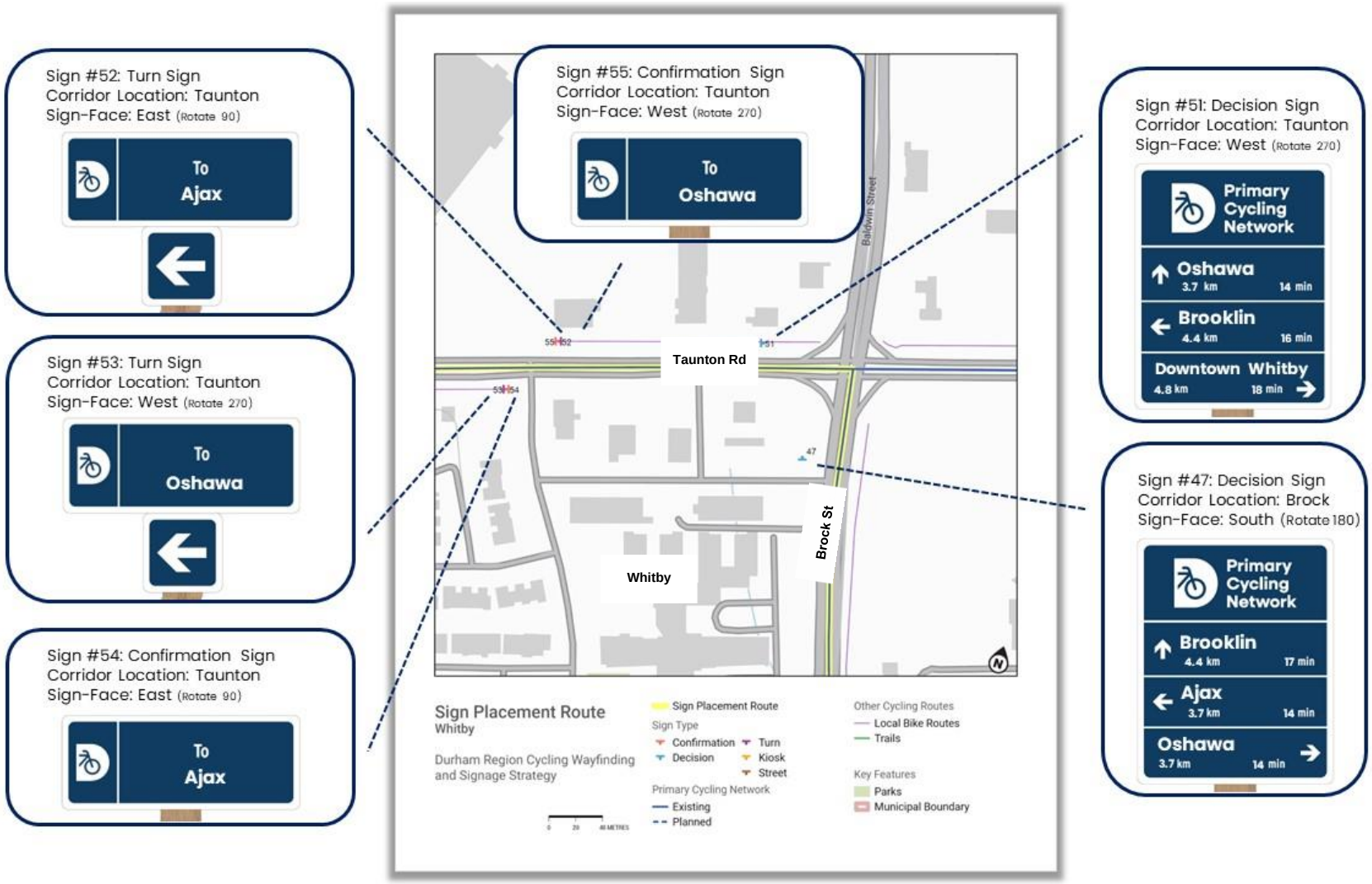



Figure 18. Sign Placement for the PCN at the Intersection of Brock Street/Baldwin Street and Taunton Road in Whitby.

## Maintenance

Maintenance considerations form a pivotal aspect of any implementation strategy. Integrating these maintenance considerations at the onset of signage development and implementation can yield significant benefits:

- **Longevity and Durability of Signage:** Regular maintenance helps that signs and their supporting structures remain functional and visually appealing over time. This regular upkeep can extend the lifespan of signage, reducing the frequency of replacements and associated costs.
- **Safety and Compliance:** Well-maintained signage significantly contributes to public safety by providing clear and accurate information. Regular inspections and maintenance play a vital role in ensuring that signs meet regulatory standards and remain visible to all roadway and trail users.
- **Cost-Efficiency:** Proactively addressing maintenance needs can prevent larger issues from arising, ultimately saving costs in the long run. Routine maintenance is often more affordable than emergency repairs.
- **Brand Image and Reputation:** Maintained signage reflects positively on the organization responsible for it. A well-maintained wayfinding signage system enhances brand image, fosters a positive perception of the environment, contributes to a sense of community pride, and supports positive experiences for users of PCN.

### Ongoing Maintenance Activities

Following the implementation of the wayfinding system, ongoing planning and evaluation will be necessary to respond to changing land uses and destinations within Durham and along the PCN. Three primary maintenance activities are necessary to promote the continued functionality of the wayfinding system:

1. **Ongoing Planning and Design:** This includes continuous assessment and adaption of the signage system so that it remains relevant and effective.

2. **Infrastructure Maintenance:** This includes regular inspections, cleaning, repairs, and replacement so that the signage remains in optimal condition.
3. **Education and Engagement:** This involves informing and involving the community in the maintenance process, fostering a sense of ownership and pride in the signage system.

## Ongoing Planning and Design

Durham is a rapidly growing region and will continue to evolve beyond the initial implementation of the wayfinding system. To keep pace with this growth and evolution, periodic updates will be necessary to guide cyclists to new destinations and accommodate new facilities, trail connections, or extensions. The proposed Working Group will play a key role in supporting the review, planning and maintenance of the signage system.

The Working Group will aid in helping to confirm and identify new destinations for inclusion in the wayfinding system and updating the destination hierarchy database. This strategy and the guidelines developed within it should serve as a foundation for these discussions, guiding the classification of new destinations and sign placement.

## Infrastructure Maintenance

Signs can become damaged, vandalized, or degraded due to weather and user interaction.

Table 13 provides guidance on estimated activities and frequencies required for maintenance of the wayfinding infrastructure.

A signage database should be created by the Region, and maintained by the Region and area municipalities, to document the inventory of each sign type to assist with monitoring and evaluating existing and planned inventory. The following details and considerations could be documented in the database:

**Type of Sign:** Document the specific type of each sign.

**Age of Sign:** Record the installation date (month/year) of each sign to track its age, which helps in predicting maintenance schedules and replacement needs.

**Current Condition:** The Region, in collaboration with the Working Group, needs to establish specific criteria for evaluating the condition of each sign, if not already in place. These criteria might include factors like structural integrity, visibility under various lighting conditions, and readability. Based on the established criteria, the current condition of each sign should be documented.

**Maintenance History:** Maintain a record of past maintenance activities for each sign to identify recurring issues or predict future maintenance needs.


Picture 7. Vandalized Sign in Oshawa (Source: Alta Planning + Design).

Table 13. Maintenance Timeline.

| Activity | Review Timeline Intervals | | | Responsible Agency |
|---|---|---|---|---|
| | 0–4 Years | 5–9 Years | 10–15+ Years | |
| **Management & Administration** | During installation, consider weekly coordination and inspection.<br><br>Transition to annual monitoring after installation.<br><br>Updating sign location inventory. | As-needed coordination between managing agency and sign fabricator.<br><br>As-needed monitoring based on citizen feedback or safety issues. | As-needed coordination between managing agency and sign fabricator.<br><br>As-needed monitoring based on citizen feedback or safety issues. | Durham Region responsible for maintaining a centralized data base of signs on Regional roads.<br><br>Area Municipalities to monitor signs installed on local PCN routes. |
| **Planning & Design** | Annual coordination to assess new facility development and destinations. | Evaluate the efficacy of the wayfinding system and identify significant changes to the plan, including updates to the destination database and other time-sensitive elements that require adjustments for efficiency. During this period, updates to the Cycling Wayfinding and Signage Strategy may be needed. | If the Cycling Wayfinding and Signage Strategy has not been updated at this point, a major update is recommended. | Working Group. |

| Activity | Review Timeline Intervals | | | Responsible Agency |
|---|---|---|---|---|
| | 0–4 Years | 5–9 Years | 10–15+ Years | |
| **Inspections** | Annual. | Annual. | Annual. | Durham Region and Area Municipality. |
| **Vandalism Response** | Repair, cleaning, or full sign replacement as needed. | Repair, cleaning, or full sign replacement as needed.<br><br>Contractor to provide additional guidance. | Repair, cleaning, or full sign replacement as needed. | Durham Region and Area Municipality. |
| **Materials** | Wear and tear maintenance anticipated.<br><br>Fabricator or contractor warranty may expire at 5 years. | General maintenance, repair, and replacement anticipated. | General maintenance, repair, and replacement anticipated. | Durham Region and Area Municipality. |
| **Painted Surfaces** | Contractor or fabricator warranty on some elements.<br><br>General maintenance may be required. | Contractor or fabricator warranty likely expires. Fading will occur.<br><br>Inspect individual signs for fading and general worn panels. Replace or repaint as needed. | Lifespan/lifecycle of sign panel is estimated to be 10–15 years. Replace. | Durham Region and Area Municipality. |

| Activity | Review Timeline Intervals | | | Responsible Agency |
|---|---|---|---|---|
| | 0–4 Years | 5–9 Years | 10–15+ Years | |
| **Fasteners and Brackets** | Contractor or fabricator warranty on some elements.<br><br>Inspect and maintain as needed. | Maintenance and repairs increase in this period.<br><br>Complete an inventory based on maintenance schedule and repairs.<br><br>Inspect welds, fasteners, and structural integrity quarterly. | Lifespan/lifecycle of fasteners and brackets is estimated to be 10–15 years. Replace. | Durham Region and Area Municipality. |
| **Pavement Markers** | Annual review to assess fading. | Potential replacement. | Likely replacement. | Durham Region and Area Municipality. |

## Education and Engagement

Education and engagement efforts are crucial components of any wayfinding strategy due to their continuous and iterative nature. They boost public awareness and contribute to the sustainability of the Cycling Wayfinding and Signage Strategy's efforts over time.

The branding developed through this strategy, particularly the PCN icon, should be integrated into and promoted at existing events such as Bike Month and other annual events hosted by the Region and associated communications materials such as brochures, promotional flyers, and digital banners. These occasions offer excellent opportunities to showcase the project, raise awareness about the signage network, and

introduce people to its branding. These promotion efforts should not be limited to one-time events. They should involve ongoing engagement across different channels such as social media, local newsletters, and community forums to share information and updates continuously.

## Roles and Responsibilities

The implementation and maintenance of the cycling wayfinding system require coordinated efforts across multiple agencies for efficiency and effectiveness. Many of the activities carried out by the Region, area municipalities, and conservation authorities will be supported through the establishment of Working Group, as recommended in previous section, to support with ongoing management and maintenance of the system. General roles and responsibilities of key stakeholders include:

### The Region

#### Leadership and Coordination

- Assumes the primary leadership role, coordinating between all agencies involved.
- Oversees the overall strategy and manages ongoing operations.
- Integrates the cycling wayfinding signage system into existing active transportation promotional campaigns and establishing communications activities and tools to promote and educate the public on the cycling wayfinding system.

#### Implementation Oversight

- Oversees quality control and adherence to wayfinding sign design standards during the installation process across the Region.
- Signage implementation and costing is integrated into the detailed design stage of tenders for Regional road projects that include active transportation facilities on Regional Roads and components.

### Maintenance Management

- Develops and maintains a signage database to track the sign types, location, condition, and maintenance history of each sign, including regular updates from the area municipalities.
- Coordinates regular maintenance activities, including inspections, cleaning, and repairs through the recommended Working Group.

### Funding and Budget Management

- Identifying funding for the initial implementation and ongoing maintenance of wayfinding signage along Regional Road on-road cycling infrastructure.

### Policy and Guidelines Development

- Develops and refines policies and guidelines as needed to keep the wayfinding system relevant and effective, using input from the Working Group to inform changes and updates.

## Area Municipalities

### Local Implementation

- Implement signage within their respective jurisdictions following regional guidelines and standards.
- Coordinate with the Region on location-specific considerations and challenges to achieve seamless integration of the wayfinding system across different areas.
- Signage implementation and costing is integrated into the detailed design stage of tenders for area municipal road construction projects that include active transportation facilities and components that are part of the PCN.
- Responsible for signage funding and implementation on all segments of the PCN that do not include on-road cycling facilities on Regional Roads Maintenance and Inspections.
- Conduct regular inspections and routine maintenance of signage within their jurisdictions to maintain compliance with the guidelines provided in this strategy and functionality.

- Responsible for signage maintenance on all segments of the PCN that do not include on-road cycling facilities on Regional Roads.
- Report any significant issues to the Region for coordinated responses to major repairs or replacements.
- Support the Region by contributing to the signage database updates, keeping accurate and current data.

### Community Engagement

- Engage the community and lead local educational and promotional activities to promote and educate communities on cycling wayfinding signage and etiquette related to cycling in conjunction with planned events. This will support the Region in establishing and reinforcing the branding developed for this wayfinding system and raise awareness.

## Conservation Authorities (CAs)

### Environmental Compliance and Advisory

- Advise on the environmental impacts of signage installation, particularly in ecologically sensitive areas if needed.
- Support the Region by contributing to the signage database updates, keeping accurate and current data.
- Implement signage within their respective jurisdictions following regional guidelines and standards.

## Tools and Groups for Enhanced Coordination

### Working Group

- A group comprising of members from the Region, area municipalities, Conservation Authorities, representation from Durham Active Transportation Committee and other stakeholders should be established.
- Facilitates regular communication and coordination among all parties involved.

### Digital Management Tools

- A centralized GIS database should be created and managed by the Region. This tool will manage the signage database, maintenance schedules, and community feedback, allowing for visualization of sign locations, tracking and analysis of signage information, and maintenance of detailed records. The Region will be responsible for updating the data.

## Cost Estimates

High-level cost estimates for the elements introduced as part of the sign family in this strategy have been identified based on high-level per unit cost quotes provided by local fabricators (see Table 14).

Table 14. High-Level Cost Estimates for the Elements Introduced as Part of the Sign Family.

| Sign Type | Size | Material | Printing Methods | Additional Considerations | Sign Cost | Installation Consideration (if required) | Installation Cost |
|---|---|---|---|---|---|---|---|
| **Information Kiosk** | 750 mm x 220 mm x 1,800 mm | Metal panels with printed graphics on a concrete base or precast concrete. | Painted blue with vinyl graphics | Non-Illuminated (non-reflective) | $4,620.00 | In-ground with concrete with single pole - inside sign. | $440.00 |
| **Decision Sign** | Panel: 2 mm x 600 mm x 750 mm<br><br>Post: 102 mm x 102 mm x 3.05-m post | Aluminum panel; wooden post. | Digitally printed | Illuminated (reflective) | $198.00 | 254-mm diameter hole, 1.22 m deep filled with concrete for the foundation /footing. | $550.00 |

| Sign Type | Size | Material | Printing Methods | Additional Considerations | Sign Cost | Installation Consideration (if required) | Installation Cost |
|---|---|---|---|---|---|---|---|
| **Turn Sign** | Panel: 2 mm x 750 mm x 300 mm<br><br>Post: 102 mm x 102 mm x 3.05 m post | Aluminum panel; wooden post. | Digitally printed | Illuminated (reflective) | $198.00 | 254-mm diameter hole, 1.22 m deep filled with concrete for the foundation /footing. | $550.00 |
| **Confirmation Sign** | Panel: 2 mm x 750 mm x 300 mm<br><br>Post: 102 mm x 102 mm x 3.05 m post | Aluminum panel; wooden post. | Digitally printed | Illuminated (reflective) | $198.00 | 254-mm diameter hole, 1.22 m deep filled with concrete for the foundation /footing. | $550.00 |
| **Street Sign** | 2 mm x 750 mm x 300 mm | Aluminum panel. | Digitally printed | Illuminated (reflective) | $120.00 ($198.00 if post needed) | 254-mm diameter hole, 1.22 m deep with concrete if post needed. | N/A |
| **Co-Branding Medallion for Existing Signs** | 250 mm x 250 mm | Aluminum panel. | Digitally printed | Illuminated (reflective) | $30.00 | N/A | N/A |

## Funding Responsibility

The approach to funding the implementation of this system aims to leverage existing approaches and mechanisms which have already demonstrated success and to propose new tools, where necessary to create an effective model that maximizes the return on investments in cycling wayfinding signage.

Durham Region currently manages the funding and implementation of signage of on-road cycling facilities on Regional Roads. It is recommended that this approach be maintained and that funding for cycling wayfinding signs, including maintenance and repair, for on-road cycling facilities on Regional Roads, be the responsibility of the Region. The level of investment will be subject to the Region's annual business planning and budget process and be considered in relation to other transportation projects.

Funding for all other cycling wayfinding signs on the PCN including maintenance and repair would be the responsibility of the area municipalities or other agencies, depending on cycling route jurisdiction. This approach is recommended to help streamline coordination and sign implementation processes.

Additional tools and tactics have been identified to help support implementation of cycling wayfinding signage along the PCN for the Region, area municipalities, conservation authorities and other PCN route partners. This includes the joint procurement of cycling wayfinding signage to help achieve economies of scale to support purchasing signs in bulk and ensure consistency in the quality, design and fabrication. It also includes the Region playing an active leadership role in grant monitoring and application to help generate potential cost savings for the Region and area municipalities and other PCN partner agencies to help accelerate the implementation of cycling wayfinding signage on PCN routes.

To further demonstrate commitment to collaboration and partnership as well as clarify roles and responsibilities, it is recommended that a Memorandum of Understanding (MOU) be established between the Region and area municipalities. The MOU would function to garner support of cycling wayfinding signage as a joint initiative in principal and commitment to installing cycling wayfinding signage on PCN routes.

# Chapter 7 Recommendations

### Action 7.1: Establish a Working Group for Consistent Implementation and Maintenance of Signage

Establish a Working Group to implement the cycling wayfinding system in a segmented approach for consistent and cohesive implementation and maintenance of cycling wayfinding signage and route implementation. The Working Group would meet annually, at a minimum, and comprise of staff from the Region, area municipalities, Ministry of Transportation of Ontario (MTO), conservation authorities and external agency interfaces, as applicable. Additional working group sessions may be arranged on an as needed bases, based on identified signage priority segments planned for implementation.

**Action 7.1a:** Staff from the Region's Transportation Planning section should lead the coordination of the Working Group to provide a consistent, one-window approach to coordination and implementation.

### Action 7.2: Establish Route Selection Criteria to Determine Priority Routes for Signage Implementation

Collaborate with the Working Group to identify a set of route selection criteria to help determine priority routes for implementation of wayfinding signage on an annual basis.

**Action 7.2a:** Consider identification by the Working Group of a minimum of two routes per area municipality annually to program / schedule for implementation.

**Action 7.2b:** Work with area municipalities and school boards to identify locations where cycling wayfinding systems can be implemented to help support active and safe routes to schools.

**Action 7.2c:** Identify and prioritize routes that are located in areas with higher populations of equity deserving populations to provide more equitable access to cycling wayfinding systems and networks.

### Action 7.3: Integrate Sign Costs into Project Tenders

Integrate sign costs and implementation into project tenders and contract process during the detailed design phase for a holistic approach to integrating cycling infrastructure and supportive amenities.

**Action 7.3a:** Conduct a sign audit during the detailed design phase of scheduled projects on an annual basis for each identified segment, in collaboration with the Working Group.

### Action 7.4: Conduct a Sign Audit on Existing Segments of the PCN on Regional Roads

Conduct a sign audit on existing segments of the PCN to document existing sign types, locations, conditions, ownership, and maintenance history. This audit should be updated annually to maintain a consistent record of inventory and to keep signage consistently maintained across the PCN.

**Action 7.4a:** Establish and implement a GIS-based digital inventory management tool that documents the findings from sign audits and allows for regular updates and tracking of the signage database, including sign type, location, age, condition, and maintenance history that is managed by the Region.

**Action 7.4b:** Maintain compliance of signage with conspicuity and lifecycle guidelines identified in industry standards such as OTM Book 2, OTM Book 18, and Transportation Association of Canada (TAC) Geometric Design Guidelines.

**Action 7.4c:** Establish regular maintenance protocols that include inspecting, cleaning, repairing, and replacing existing wayfinding signage based on sign audit results, as needed.

### Action 7.5: Adopt and Integrate Sign Programming and Placement Guidance

The Region and its partners will commit to adopting and integrating the approach to sign programming and placement as identified in this Strategy.

**Action 7.5a:** Build on the Sign Placement Plan framework by establishing Sign Placement Criteria and to help identify and confirm sign type and placement of signs along PCN routes.

**Action 7.5b:** Develop a Sign Planning Database to document the sign type, sign ID, corridor location, sign orientation, mounting method, and sign information order to assist with consistent application and implementation of signage along respective routes.

### Action 7.6 Define and Communicate Roles

Review, confirm, and communicate the expected roles and responsibilities of all parties involved in the wayfinding system including but not limited to the Region, area municipalities, MTO, conservation authorities to facilitate and support implementation of cycling wayfinding signage.

### Action 7.7: Pursue Additional Funding Opportunities

Identify and pursue additional funding opportunities through grants and partnerships to further support the responsibilities for signage on both regional and local PCN routes.

### Action 7.8: Adopt the Proposed Approach to Costing-Sharing and Maintenance Responsibilities for Signage Implementation

Funding, implementation and maintenance of cycling wayfinding signs for on-road cycling facilities on Regional Roads will be the responsibility of the Region, and funding, implementation, and maintenance for all other cycling wayfinding signs on the PCN would be the responsibility of the area municipalities or other agencies, depending on cycling route jurisdiction.

**Action 7.8a:** Review and revisit the approach to cost-sharing and proposed responsibilities as part of the next update to the Regional Cycling Plan.

### Action 7.9: Investigate a Joint Procurement Process for Cycling Wayfinding Signage

Investigate the feasibility of a joint procurement process for cycling wayfinding signage to help support economies of scale along the PCN.

### Action 7.10: Establish a Memorandum of Understanding between the Region and Area Municipalities

Initiate a Memorandum of Understanding between the Region and area municipalities to clarify roles and responsibilities and establish commitment to support of cycling wayfinding signage as a joint initiative in principal and commitment to installing cycling wayfinding signage on PCN routes.

## For more information please visit:

https://yourvoice.durham.ca/cycling-wayfinding-and-signage-strategy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