



NATIONAL CAPITAL COMMISSION
COMMISSION DE LA CAPITALE NATIONALE

Capital Pathway Strategic Plan

October 2020



Canada

National Capital Commission
202-40 Elgin Street, Ottawa, Canada K1P 1C7

Capital Pathway Strategic Plan
Catalogue number: W93-30/2020E-PDF 978-0-660-36247-2

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VERSION	DESCRIPTION	DATE
2	APPROVED BY BOARD OF DIRECTORS	OCTOBER 6, 2020
1	ISSUED FOR BOARD OF DIRECTORS APPROVAL	OCTOBER 6, 2020

Message from the Chief Executive Officer



I am pleased to present this new edition of the Capital Pathway Strategic Plan. It updates an earlier plan from 2006 with a bold new vision for the Capital's world-class network of multi-use pathways, based on clear principles, carefully considered strategies and well-defined goals.

Residents of Canada's Capital Region are passionate about active mobility and sustainable transportation and, in response, the NCC has spent the past 50 years developing the Capital Pathway. What was once a few kilometres of bike path along the Rideau Canal is now an expansive network of more than 200 kilometres of multi-use pathways throughout the region that teem with people of all ages engaging in a wide variety of outdoor activities through every season.

This network connects us from neighbourhood to neighbourhood, past landmarks and iconic national institutions, through the Capital's incredibly diverse

range of landscapes — built, natural and cultural. The Capital Pathway is undeniably the greatest way to experience the best that Canada's Capital Region has to offer. It is a resource in which the NCC takes immense pride.

Still, we need to be nimble and adapt to new challenges, such as the effects of climate change and extreme weather. A notable increase in the number of people who use the pathway network, the demands created by more diverse use, and a genuine desire on the part of residents for more all-season access are just a few other examples.

This revised plan addresses these challenges. It is the result of an extensive collaborative effort, including a robust series of public consultations. We are grateful to all those individuals and partners who provided comments, feedback and ideas on the draft plan as it evolved.

Its innovative and wide-ranging approach will guide how we manage the pathway network on a day-to-day basis, and how we plan for its future over the next 30 years. And it will result in a Capital Pathway that is more durable and resilient, more connected both within the Capital and to regional networks, more adaptable to evolving demands, safer, more easily accessible and navigable, and managed in a collaborative way that recognizes the network's importance to so many people in the Capital.

I would like to thank the NCC staff who have worked on this project. Their dedication and creativity are evident on every page that follows. I invite you to read this plan and get involved in realizing the vision it describes.

I'll see you on the pathway!



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1 Introduction

The Capital Pathway is a network of over 200 kilometres of off-road, multi-use pathways in Canada's Capital Region. It forms a series of popular discovery routes that provide a means of accessing a range of destinations, passing through diverse settings that include dense urban landscapes, suburbs, pastoral rural surroundings and wooded areas. Because of its extensive scale and varied setting, it offers residents and visitors a range of experiences that reflect the immense diversity and symbolic importance of Canada's Capital Region and cultural heritage.

This plan represents an opportunity to create a bold vision for the future and to think strategically about the actions needed to offer the best possible multi-use pathway network for Canada's Capital Region. This work presents an opportunity to build on and improve the connectivity of active mobility across the region in collaboration with municipal partners.

1.1 Terminology

Throughout this plan, the term *(the) Capital Pathway* refers to the official brand of the NCC multi-use pathway network, as depicted and defined in this document. Not all multi-use pathways in the Capital Region form part of this network. Unless specified otherwise, the terms *pathway(s)*, and *pathway network* should be considered synonymous with the term *Capital Pathway*.

A glossary of key terms and definitions can be found in Appendix 7.1 of this plan.

1.2 Purpose

The Capital Pathway Strategic Plan serves as the National Capital Commission's (NCC) primary reference tool for the planning and management of the Capital Pathway network. The purpose of this plan is to provide policy direction and support in the planning and stewardship of the Capital Pathway, for the NCC and its partners and stakeholders who share a common interest in the pathways of the National Capital Region.

This plan presents an opportunity to build on and improve the connectivity of active mobility with municipal partners. The focus of this plan is to provide direction with respect to the NCC lands that comprise the pathway network and to detail partnership objectives where applicable. The NCC will continue to foster close collaboration with municipal partners to ensure that this plan guides and supports decision making for pathway segments within their respective jurisdictions.

1.3 Scope

The NCC's planning mandate is established under the *National Capital Act*, giving it the unique responsibility to prepare plans for and assist in the development, conservation and improvement of Canada's Capital Region, specifically federal lands. The Capital Pathway traverses a variety of landscapes and locations. This document provides guidance on the day-to-day management of NCC lands, and direction regarding partnership objectives with the Ville de Gatineau and City of Ottawa for the municipally owned sections of the pathway. The plan lays out detailed directions to guide the planning, design and management of the pathway network over a 10-year horizon, until 2030.

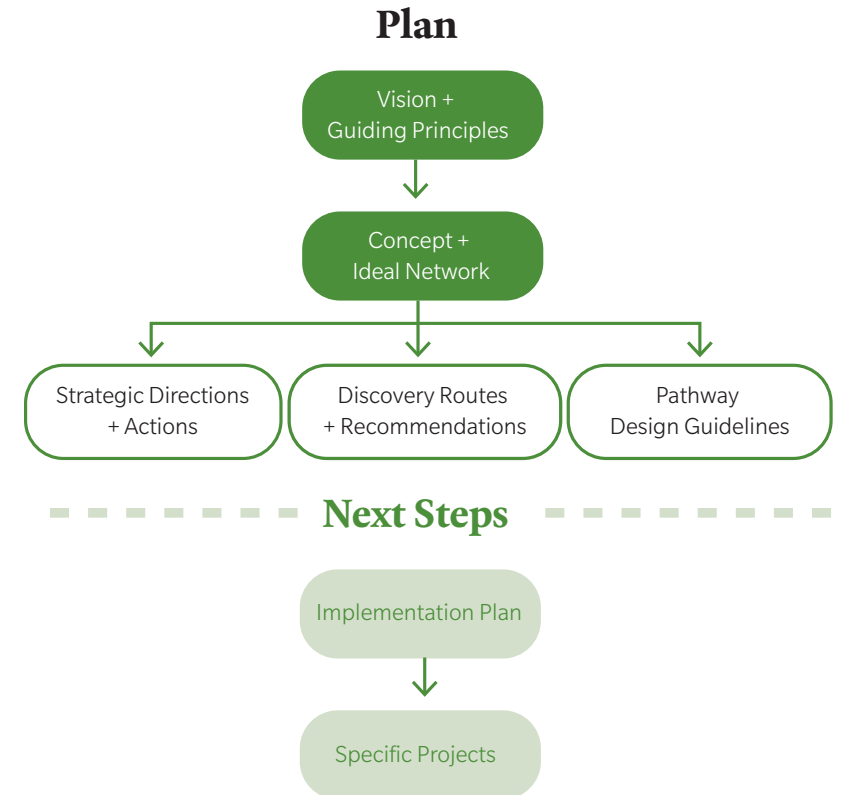
1.4 Capital Planning Framework

This plan forms part of the NCC's Capital Planning Framework for federal lands. As such, it must be considered in conjunction with other relevant documents.

The NCC lands that comprise the Capital Pathway are subject to the policies of the Plan for Canada's Capital, 2017–2067, and the respective master plans. These include the Capital Urban Lands Plan (NCC, 2015), the Greenbelt Master Plan (NCC, 2013), the Gatineau Park Master Plan (NCC, 2005, under review) and the Core Area Sector Plan (NCC, 2005, under review). In addition, there are several area-specific plans, such as the Ottawa River North Shore Parklands Plan (NCC, 2018) and the Ottawa River South Shore Riverfront Park Plan (NCC, 2018), that provide direction on site-specific pathway considerations.

1.5 Structure of the Plan

The structure of the Capital Pathway Strategic Plan is intended to position the document as an easy-to-navigate resource for those working on the planning and management of the Capital Pathway. The document provides the following key pieces of information.



1.6 Indigenous Engagement

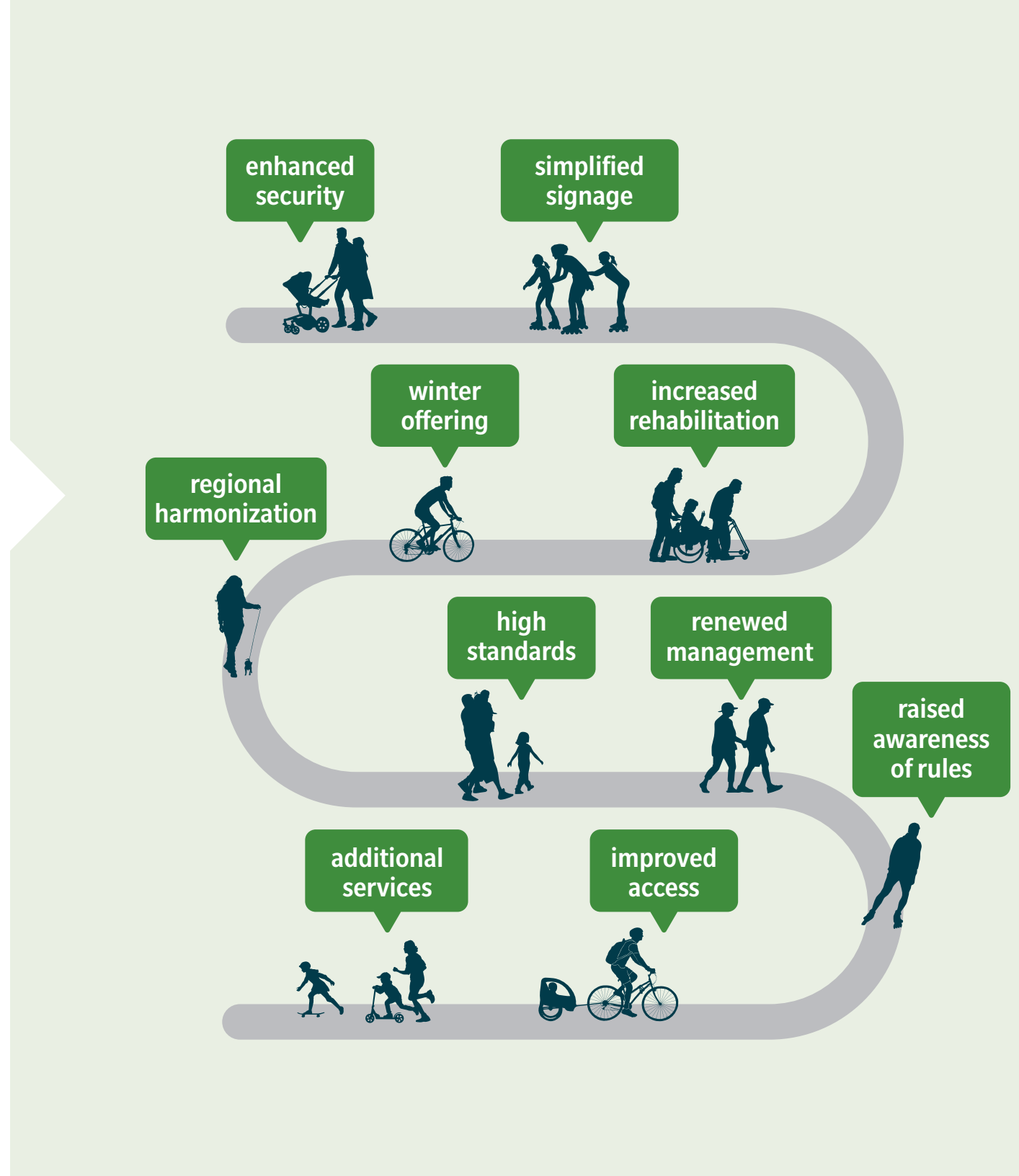
The Capital Pathway is located on the traditional territory of the Algonquin Nation. The NCC has a long-standing relationship with the communities of the Algonquin Nation. With respect to this plan, Kitigan Zibi Anishinabeg and the Algonquins of Pikwakanagan were informed about the process and invited to comment on and participate in the plan's development. The NCC will continue its ongoing dialogue with the Algonquin Nation, and will provide opportunities for further dialogue on specific projects or initiatives stemming from this plan.

1.7 Public Engagement

A broad range of stakeholders were consulted as part of the planning process, including the City of Ottawa, the Ville de Gatineau, municipal first responders, federal stakeholders and various non-governmental organizations whose activities relate to the Capital Pathway. Feedback from the NCC's Advisory Committee on Planning, Design and Realty and the NCC's Board of Directors was also sought throughout the project.

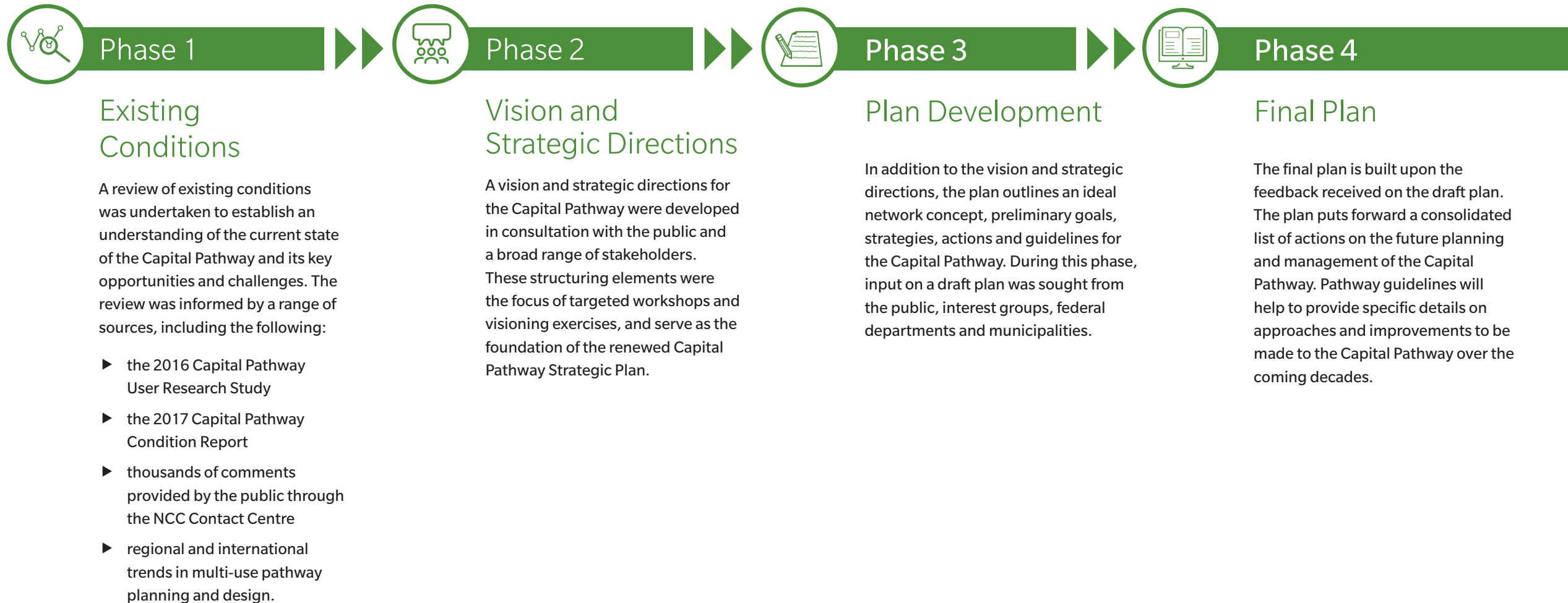
Full summaries of the following public engagement activities are available under separate cover:

- ▶ A workshop on key topics related to the Capital Pathway (February 2018)
- ▶ An online survey on the preliminary vision, strategic directions and big ideas (June–July 2018)
- ▶ An online consultation on the draft plan (May–June 2020)



1.8 Planning Process

The Capital Pathway Strategic Plan was developed over four phases, supported by extensive consultation with the public and stakeholders.



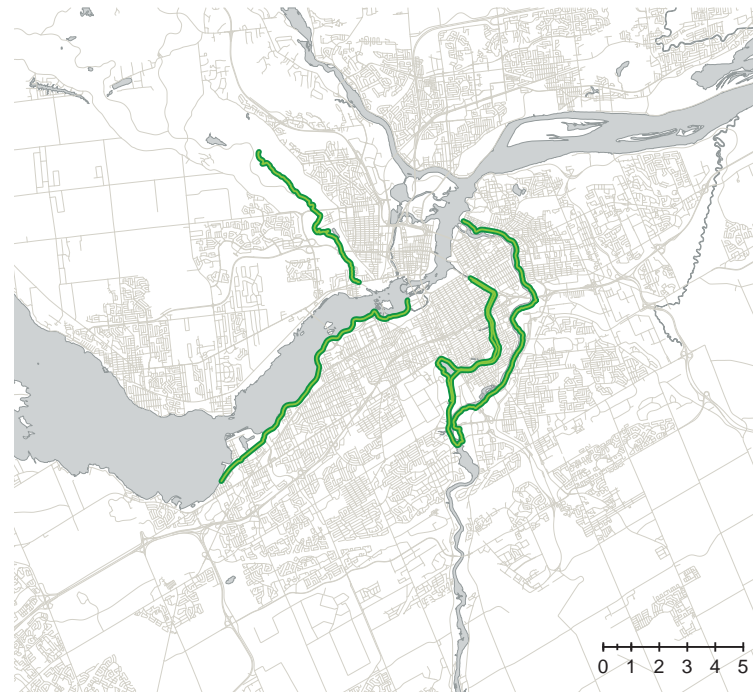
1.9 The Evolution of the Network

The Capital Pathway is one of the most extensive pathway networks in North America. It currently comprises over 200 kilometres of multi-use pathways passing through dense urban landscapes, suburbs, pastoral rural surroundings and wooded areas in Canada's Capital Region.

This plan follows a rich tradition of pathway planning, including the following key NCC plans:

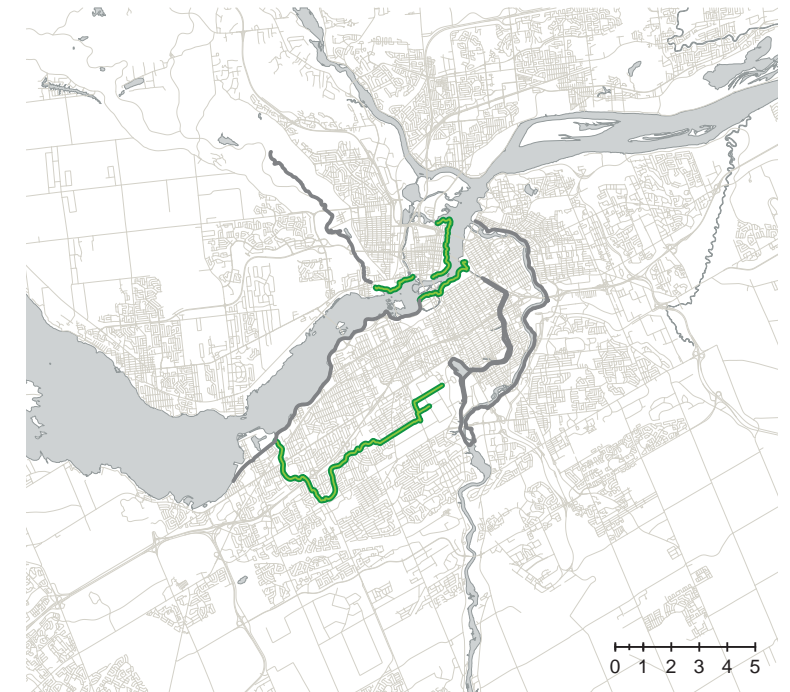
- ▶ Recreational Pathways in the National Capital Region (1986)
- ▶ Integrated Network of Recreational Pathways for the National Capital Region (1994)
- ▶ Pathway Network for Canada's Capital Region (2006)

The evolution of the pathway network is summarized in the following five images.



1970 to 1973

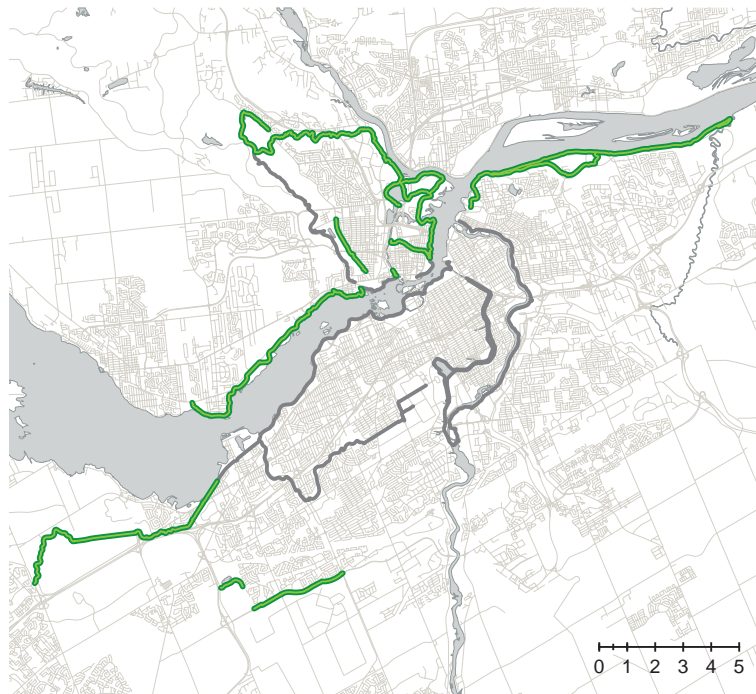
In 1970, the NCC launched a program to build scenic bikeways. Four years later, the first 40 kilometres of the region's pathway system was complete. The first of the five major routes followed the Rideau Canal, on the east side from Wellington Street to Mooneys Bay, and on the west side from Wellington Street to Dows Lake. The existing pedestrian walks along the Rideau Canal were incorporated into the new pathway system. The construction of other major pathways included a route adjacent to the Ottawa River from LeBreton Flats to Graham Bay, and a Rideau River pathway connecting Hog's Back Falls and Mooneys Bay to Montreal Road. On the Quebec side, a pathway was built through the wooded slopes of Gatineau Park to link the former City of Hull with Pink Lake.



1974 to 1982

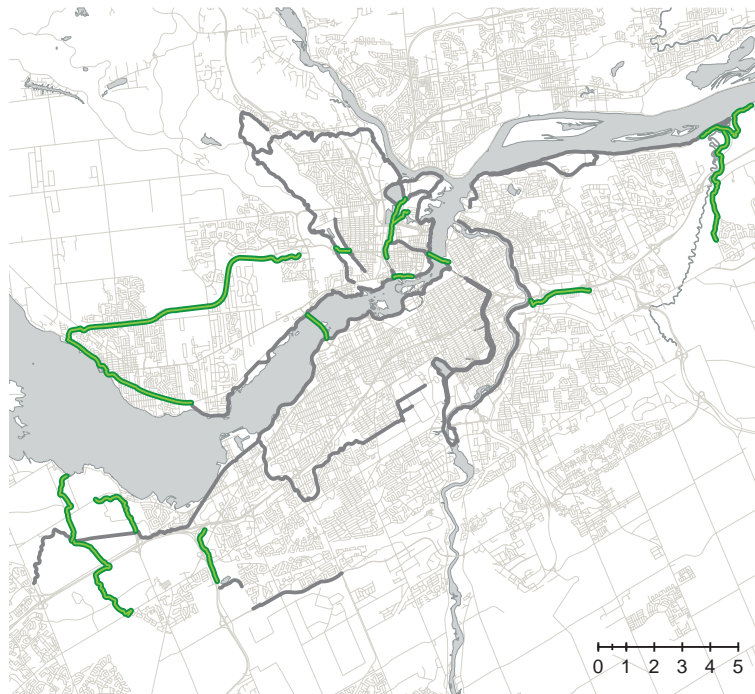
The main thrust from 1974 to 1982 was to upgrade and widen the pathways to cope with their tremendous popularity. During this period, the notion of exclusive bicycle paths was dropped in favour of wider, multi-use pathways. Of particular note, the two Rideau Canal pathways were widened and upgraded.

A total of 25 kilometres of new pathways were added to the network, including pathways within the Central Experimental Farm and on both sides of the Ottawa River near Parliament Hill. Local municipalities also began their own pathway systems, frequently making use of roadway edges and tying into the NCC pathways where convenient.



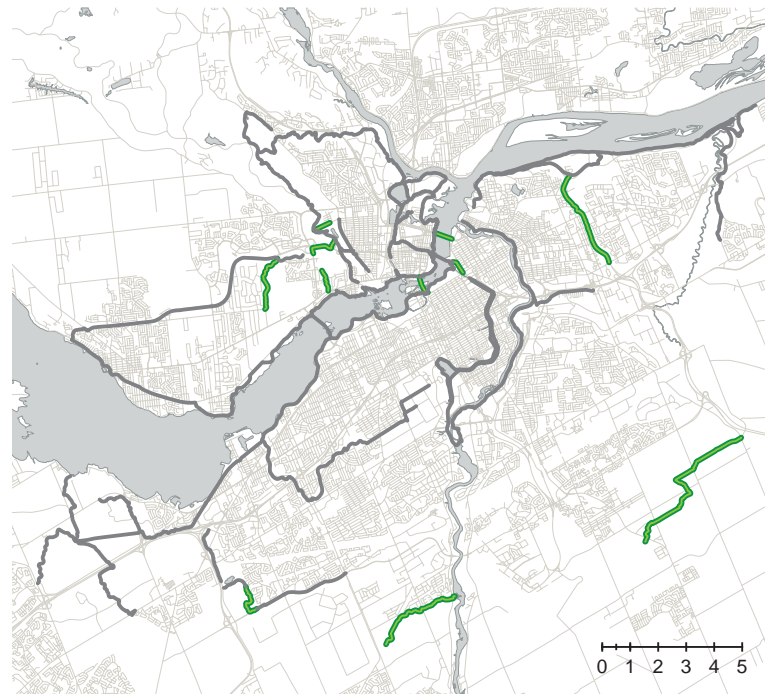
1983 to 1994

By 1985, there were approximately 100 kilometres of pathways in the network. Newer pathways built during this period included a link between Graham Bay and Kanata along the Ottawa River, a link leading to the eastern community of Orléans along the Ottawa River, a pathway along Leamy Creek and the Gatineau River, and a link between the Hull and Aylmer sectors of Gatineau.



1994 to 2005

Approximately 50 kilometres of new pathway segments were completed between 1994 and 2005, largely focused on completing key missing links. Some of the most notable new segments of the Capital Pathway included a six-kilometre stretch of the Pionniers Pathway along Boulevard des Allumettières and a 2.6-kilometre segment of the Ruisseau-de-la-Brasserie Pathway.



2006 to 2018

Since the approval of the last plan in 2006, approximately 20 kilometres of new pathway segments have been constructed. They include the Greenbelt Pathway East between Albion Road and Russell Road, the Champlain Corridor Pathway, the Moore Farm Estate Pathway, and the Aviation Pathway between Montreal Road and Ogilvie Road.



1.10 Opportunities and Challenges

There are several factors that present challenges to the effective management of the Capital Pathway. These circumstances will influence the choice of strategies and actions to be carried out to improve the pathway network over the coming decades. These challenges also present opportunities for innovation in the planning, design and management of pathways going forward.

■ Increased Pathway Usership

A 2016 NCC survey revealed an increase in the number of users and the frequency of use of the pathway network. At certain locations and times of day, the pathways experiences high levels of traffic. Congestion and violations of the Capital Pathway code of conduct can have an impact on the experience of pathway users. An increase in the demand for active mobility and recreation infrastructure calls into question the need for pathway widening, as well as additional services or amenities along the pathway network.

■ Awareness of the Code of Conduct

“Share the Path” is the code of conduct developed in the 1980s by the NCC and surrounding municipalities to promote the respectful use and sharing of the pathway network. Recent user surveys reveal increasing concerns about pathway safety and user behaviour. These concerns arise between pedestrians and cyclists, and include a concern about excessive speed. Solutions through pathway design, signage and education are required to ensure that the pathways are safe and enjoyable for all users.

■ Climate Change Adaptation

In recent years, extreme weather events such as flooding and windstorms have had a significant impact on the condition of the pathways and access to the network. These events have resulted in degradation of some pathways, notably in the development of cracks and erosion of soil under sections of pathway near the shorelines. The accumulation of debris and pooling of water also make some portions of the pathway inaccessible. These challenges require new approaches to ensure more resilient pathway infrastructure, strategic maintenance responses and more dependable access.

■ Public Safety

The NCC has consulted paramedic, fire and police services from the City of Ottawa and Ville de Gatineau on the topics of public safety and security. Access for emergency vehicles and locating persons in need on the pathway network have been noted as specific concerns. Vision Zero has also been a consideration of this plan review.



■ Harmonizing a Regional Approach to Pathway Management

Although the pathway network is located primarily on federal lands, some corridors cross municipal properties. At times, this results in different design and management practices, which means that the pathways do not always present consistent wayfinding, lighting (as required) or a unified brand identity. The owners responsible for the various pathway segments would benefit from improved collaboration to ensure a harmonized approach to improvements and future construction across the pathway network.

■ Winter Experience

There is significant potential for winter use of the pathway network. Presently, there are some pathways that are either plowed or groomed for use in the winter season. Public consultations reveal a strong demand for winter use of the pathways, and varied desires among potential users. Cross-country skiing, snowshoeing, winter fat-biking and conventional cycling are the most frequent requests. Some activities require a snow-covered surface, while others require a completely plowed pathway. A formal approach to winter use on the pathway network is needed, to direct the prioritization of winter maintenance efforts across the network.

■ Social Media and Changing Technologies

Social media and the sharing of GPS data online have increased the potential for sharing information about the pathways, both by the NCC and by external partners and the public. Opportunities exist to provide and collect real-time information on navigation, pathway condition, pathway user statistics and maintenance updates.

■ Completion of Expansion, Connection and Repair Works

Between 2006 and 2016, the NCC added 20 kilometres of new pathway segments and connections. The addition of new pathways remains an ongoing process, and the completion of the Greenbelt Pathway is a milestone identified in the Plan for Canada's Capital, 2017–2067. However, public surveys indicate that improving the existing pathways is valued over new expansion projects. Other priorities include connections throughout the network and links to other active mobility networks (e.g. more complete connections to cross the Experimental Farm and the Rideau Canal).

■ Modernizing Management of the Capital Pathway

There is a need to modernize the management processes for the Capital Pathway program, to review its governance structure, and to facilitate access to stable and recurring funding. A new management approach will permit the organization to establish more efficient and effective stewardship of the pathway network.

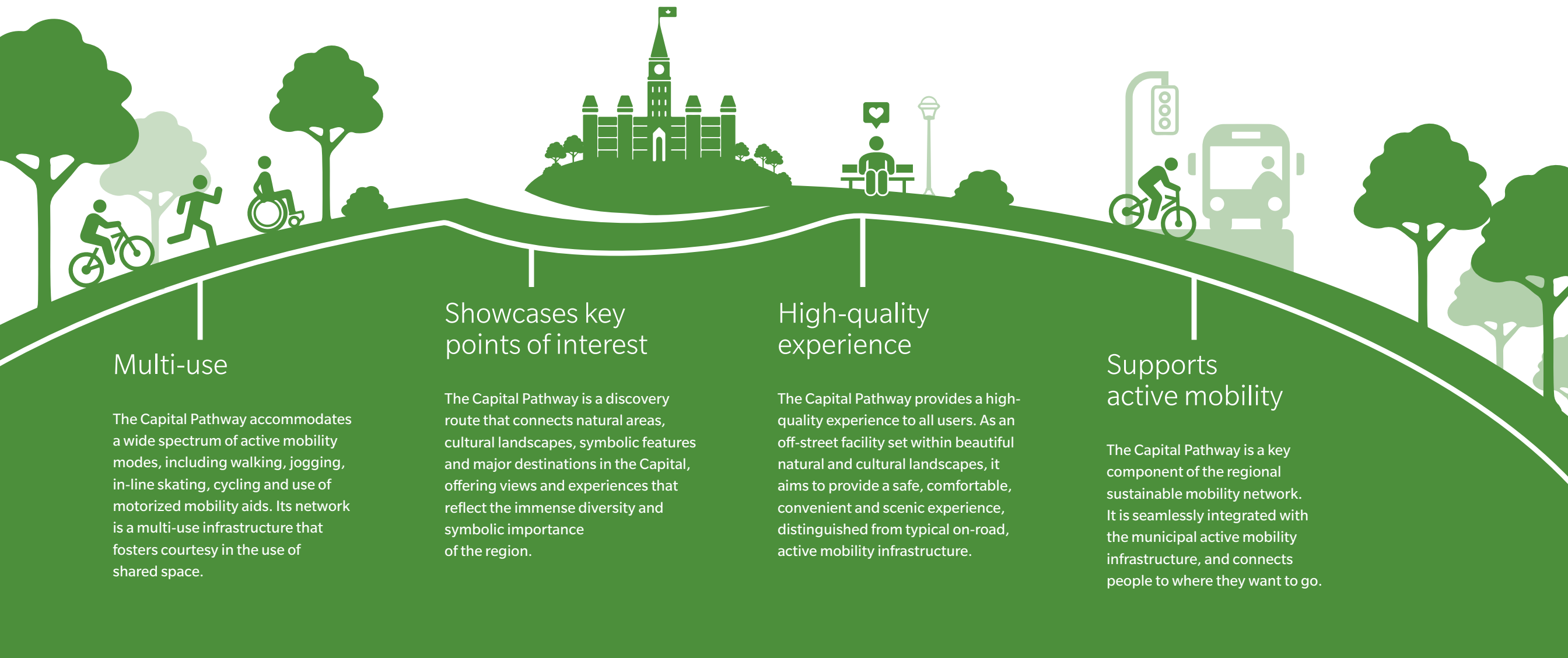


2 Vision and Concept

This section provides an overarching philosophy for the long-term development and management of the Capital Pathway, a defining feature of the National Capital Region. The pathway network stretches over a vast territory and, for this reason, requires a strong conceptual framework to support effective decision making about its future.

2.1 Fundamental Premises

The role of the Capital Pathway is based on four fundamental premises, which constitute the basis for the planning, design and management of the network.



Multi-use

The Capital Pathway accommodates a wide spectrum of active mobility modes, including walking, jogging, in-line skating, cycling and use of motorized mobility aids. Its network is a multi-use infrastructure that fosters courtesy in the use of shared space.

Showcases key points of interest

The Capital Pathway is a discovery route that connects natural areas, cultural landscapes, symbolic features and major destinations in the Capital, offering views and experiences that reflect the immense diversity and symbolic importance of the region.

High-quality experience

The Capital Pathway provides a high-quality experience to all users. As an off-street facility set within beautiful natural and cultural landscapes, it aims to provide a safe, comfortable, convenient and scenic experience, distinguished from typical on-road, active mobility infrastructure.

Supports active mobility

The Capital Pathway is a key component of the regional sustainable mobility network. It is seamlessly integrated with the municipal active mobility infrastructure, and connects people to where they want to go.



“An exceptional pathway network where all can enjoy invigorating and inspiring experiences in the heart of magnificent Capital landscapes.”

2.2 Vision

Through public and stakeholder consultation, a vision statement and guiding principles were developed to guide the future planning and management of the pathway network. The vision for the Capital Pathway is as follows:

“An exceptional pathway network where all can enjoy invigorating and inspiring experiences in the heart of magnificent Capital landscapes.”

This aspirational statement will guide the management and development of the pathway network over the next decade. It comprises the following key elements.

The Capital Pathway

- ▶ is an exemplary, world-class infrastructure, embodying excellence in planning, design and management
- ▶ fosters the enjoyment of all users
- ▶ offers the opportunity for inspiring, active outdoor experiences
- ▶ connects key landmarks, and is set within the Capital Region’s beautiful natural and cultural landscapes.

2.3 A New Paradigm

This plan presents a new vision for the Capital Pathway. Historically, the Capital Pathway was referred to as a network of “recreational pathways.” Under this vision, trip purpose was featured as a key criterion of the network’s purpose. Cyclists, for example, were characterized as either “recreational” or “commuter.” These two groups were deemed to have inherently different needs and behaviours based on this distinction. The pathway network’s role was focused on serving the needs of “recreational” users, and actively sought to divert problematic “commuter” users from the pathways.

This plan, by contrast, proposes an approach centred on the notion of user experience. Trip purpose of individual users is varied, and user motivations are not mutually exclusive. Both “recreational” and “commuter” cyclists include a diversity of user profiles; and associating distinct behavioural patterns or needs to the entire group is problematic. For example, recreational cyclists include families on a leisurely ride, sport cyclists training for competitive events and cycle tourists covering large distances, while commuters include cyclists of all ages and abilities travelling to a variety of destinations such as school, work and shops. The same can be said of walkers, runners and tourists. Within each of these categories, there exists a wide spectrum of abilities, travel speed, trip frequency and trip distance.

This plan promotes a pathway network that is open to all, by fostering an environment of sharing and respect for its most vulnerable users. All users are expected to adopt a careful and respectful attitude toward others, with particular regard for more vulnerable users such as pedestrians, people using motorized mobility aids and, in general, slower or less experienced users. This approach is inclusive and conciliatory, encouraging pathway sharing, and reinforcing the values of respect and courtesy. All users will have the opportunity to enjoy the safe, comfortable, convenient and scenic Capital Pathway.



2.4 Guiding Principles

The vision is supported by 10 guiding principles that articulate the key values and aspirations for the Capital Pathway. All decisions regarding the pathway network should be made in keeping with the spirit of these principles.

■ Distinct

The Capital Pathway is a signature network that is purposefully and consistently branded. It is distinct from the municipal network, and is characterized by exemplary design that contributes to the Capital experience at both a regional and a national level.

■ Resilient

The Capital Pathway is resilient to change and can maintain or regain functionality in the face of unanticipated stresses and disturbances, including weather impacts, demographic and social changes, and evolving active mobility technologies.

■ Connected

The Capital Pathway is a continuous network that links points of national interest and complements the municipal active mobility and transit networks. It also provides access to a range of complementary amenities that enhance the user experience.

■ Inclusive

The Capital Pathway is accessible and comfortable for a broad range of users, regardless of factors such as age, skill level, mode of travel, trip purpose, ability, socio-economic status, ethnicity and gender.

■ User-Friendly

The Capital Pathway is legible, intuitive and easily navigable, fostering a sense of comfort and enjoyment.



■ Safe

The Capital Pathway offers a safe experience for all users. Risks to personal health and safety are mitigated, and hazards are prevented to the extent possible.

■ All-Season

The Capital Pathway supports a range of activities throughout the year, providing opportunities for people to spend time outdoors.

■ Environmentally Sustainable

The Capital Pathway is an integral part of the green space and waterway networks of Canada's Capital Region, connecting people to nature. The Capital Pathway minimizes impacts to sensitive natural environments, and contributes to the preservation of green space corridors and ecosystem connectivity.

■ Responsibly Managed

The Capital Pathway is managed and maintained in an adaptable, nimble and financially sustainable manner.

■ Collaboratively Planned

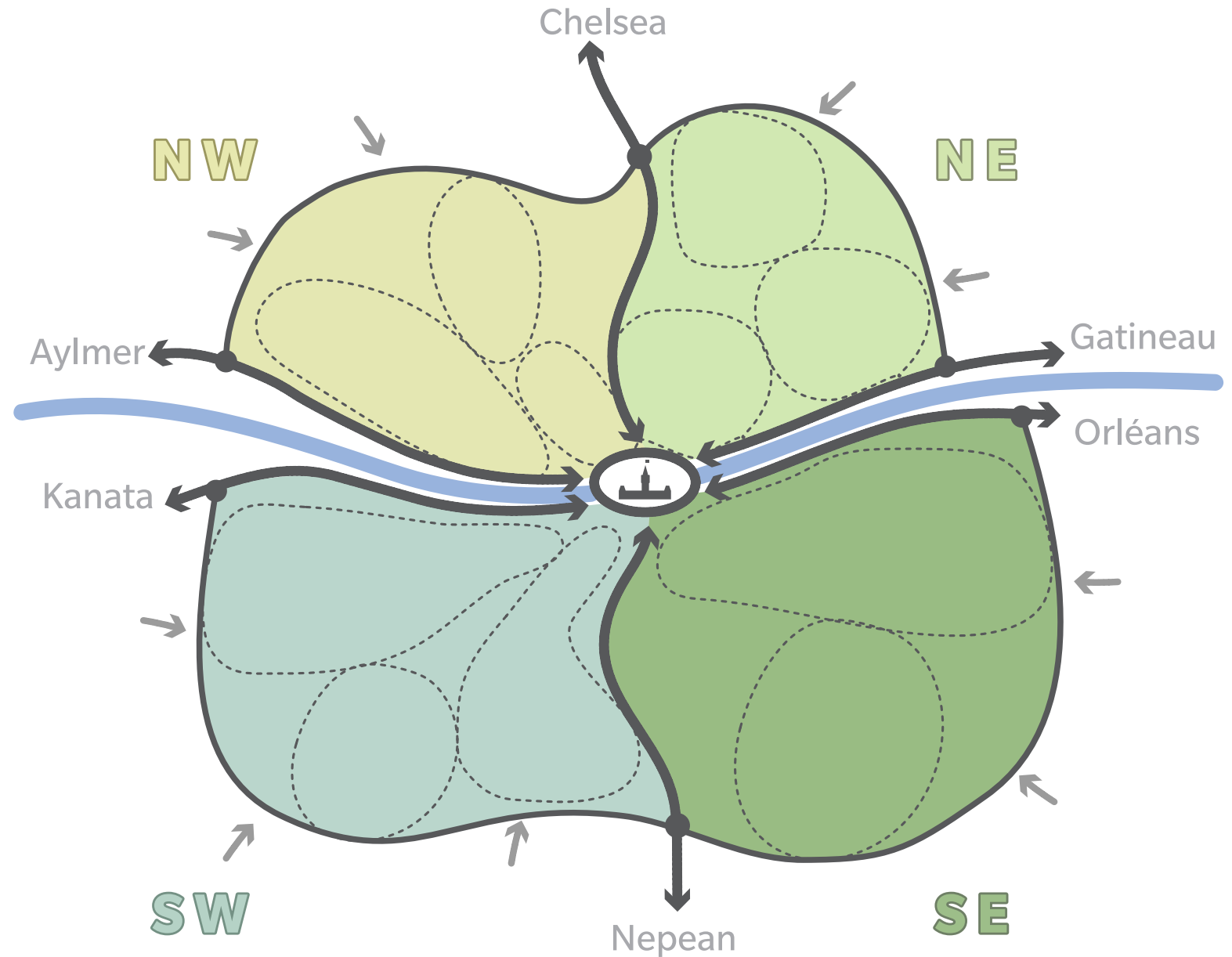
The public and stakeholders are empowered to be active participants in the planning, development, and stewardship of the Capital Pathway.

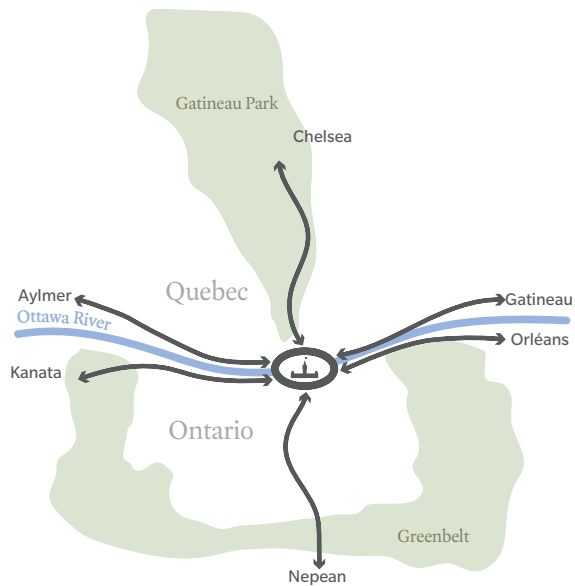
2.5 The Concept

The Capital Pathway will become an interconnected greenway network, forming a series of unique discovery routes that traverse the varied landscapes and lead to various destinations in the Capital. The Capital Pathway will act as the pre-eminent pathway network, with the finest attention to detail and user experience. Together, the discovery routes will form a cohesive network that promotes a sustainable, healthy and active Capital experience.

The Capital Pathway's configuration follows a **hub and spoke arrangement**, layered with **loops** that connect key destinations, and offer a seamless web of movement. To create a coherent overall system, it is imperative that the Capital Pathway be closely linked to the municipal active mobility networks. The Capital Pathway acts as a spine to finer-grained networks and, together, these components provide an integrated and complementary experience.

The structural components of the Capital Pathway network are described on the following page.

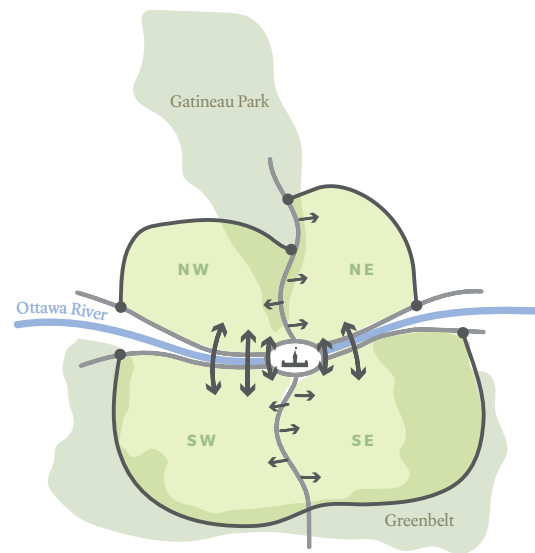




Hub: The hub of the network is anchored in the central Capital landscape around Parliament Hill. The Capital Pathway connects the core area of the Capital to a multitude of surrounding destinations and points of interest.

Primary corridors: Six primary corridors radiate out from the centre, like the spokes of a wheel, acting as main thoroughfares, and providing connectivity across the region.

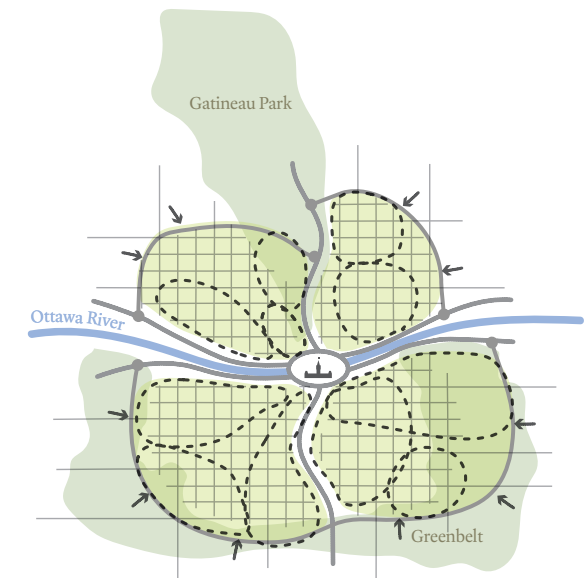
- The northern corridor connects the hub to Gatineau Park and the municipality of Chelsea.
- The southern corridor connects the hub to the southern area of the Greenbelt and to the Barrhaven and Riverside South communities.
- The eastern corridor consists of two parallel routes extending along both shores of the Ottawa River, in the north, linking the hub to the Gatineau sector (Quebec) and in the south to the eastern area of the Greenbelt (Ontario) and Orléans.
- The western corridor consists of two parallel routes extending along both shores of the Ottawa River, in the north linking the hub to Aylmer (Quebec) and, in the south, to the western area of the Greenbelt (Ontario) and Kanata.



Interprovincial connections: Vital linkages are provided across the interprovincial bridges over the Ottawa River, connecting the northern and southern portions of the network.

Peripheries: Long perimeter pathway segments (such as the Greenbelt Pathway East, Greenbelt Pathway West, the Leamy Creek Pathway, and the Pionniers Pathway) define the exterior boundaries of the pathway network.

Quadrants: The primary corridors and exterior boundaries of the pathway network create four independent quadrants, that cover large geographic regions of the Capital.



Loops: Inside the quadrants, a series of smaller, interconnected loops compose the finer grain of the network. These loops provide a diverse and adaptable matrix of routes and experiences.

Municipal networks: Lastly, integration with municipal active mobility and transit systems offers a seamless web of movement and supports an effective, regional mobility network.

Inter-regional links: Existing and future inter-regional routes (such as The Great Trail of Canada, Route verte and Prescott-Russell Recreational Trail) extend out beyond the National Capital Region. They connect to the peripheries of the pathway network, and provide linkages to adjacent regional networks.

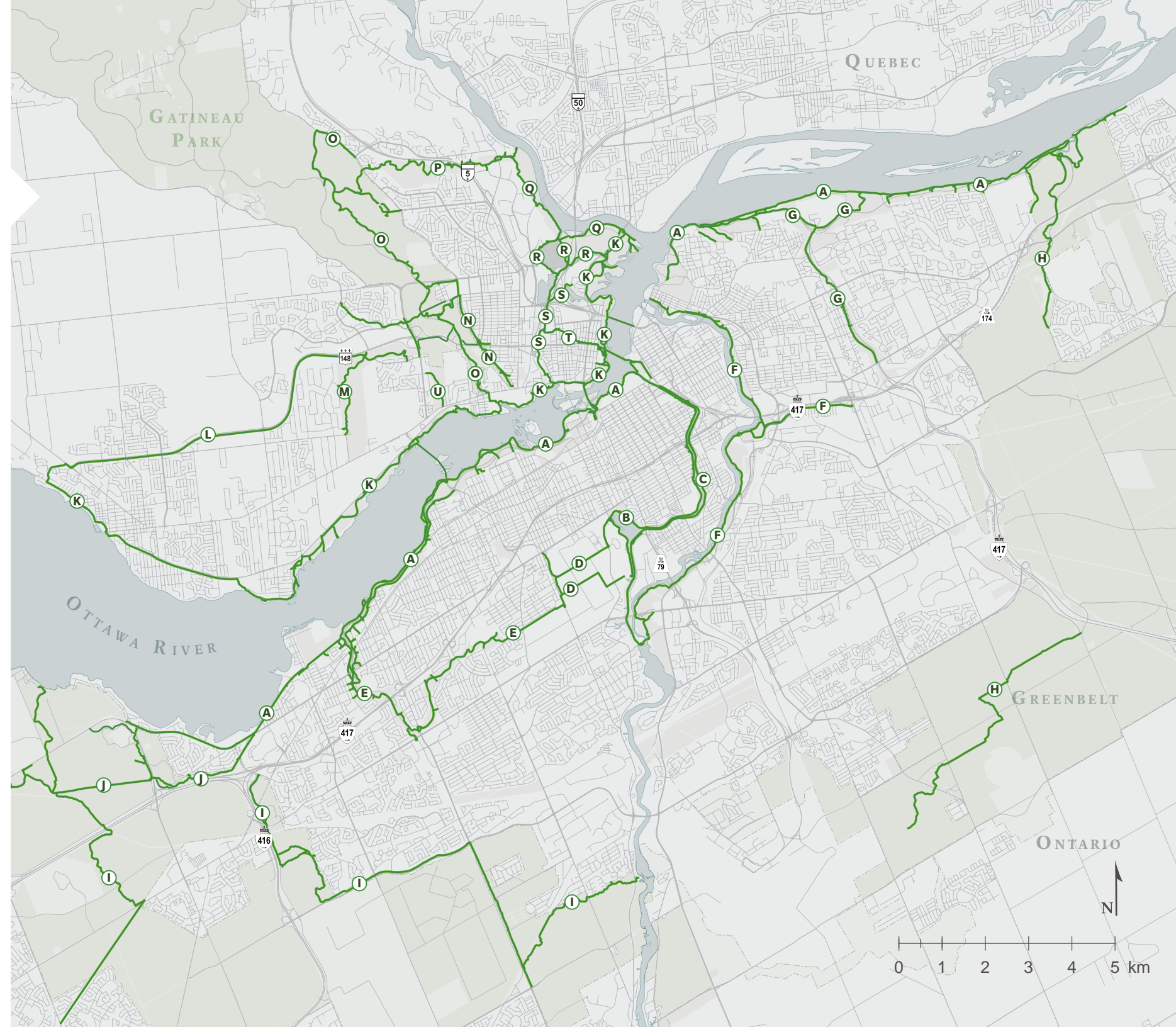
2.6 Current Network

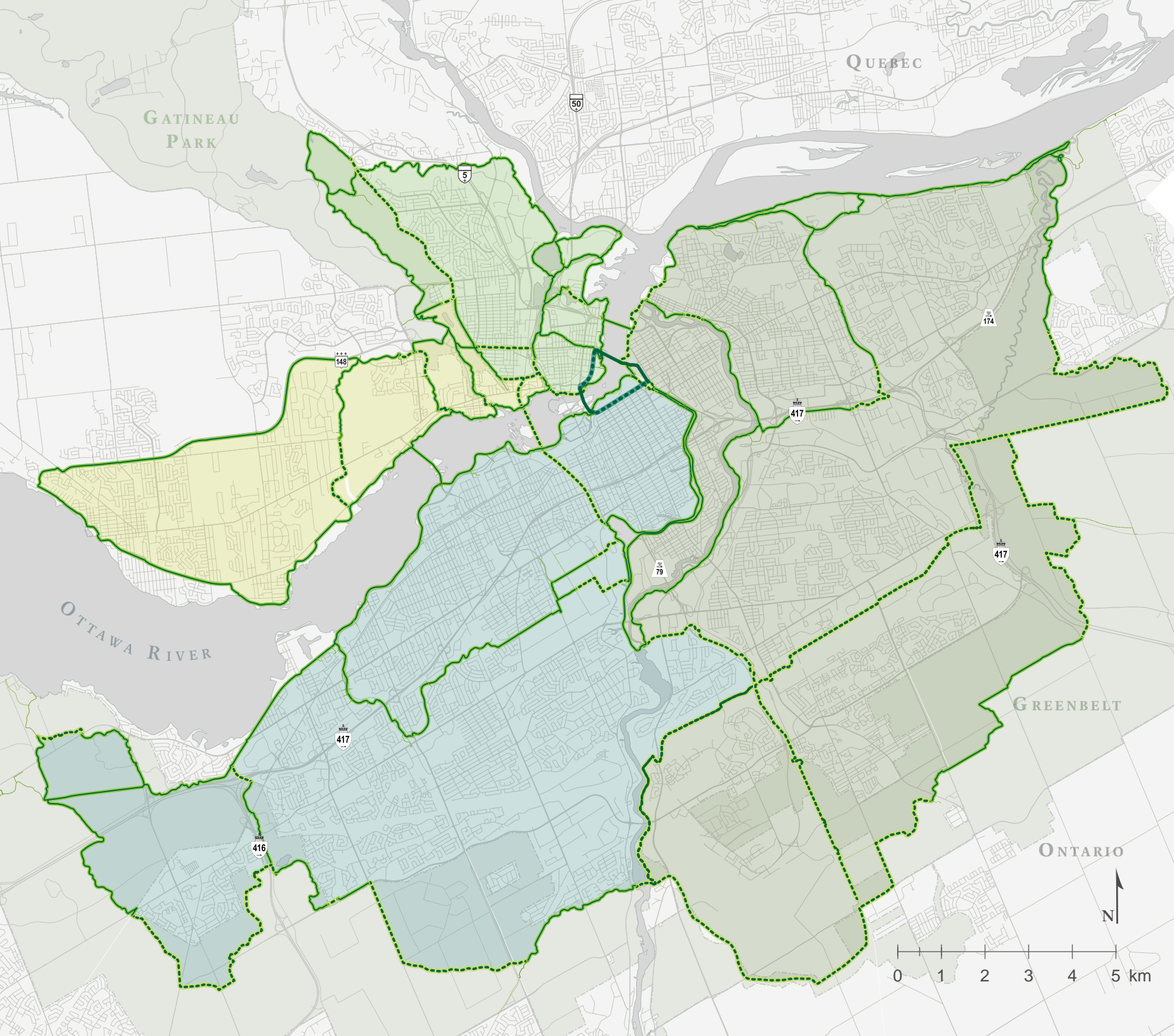
The current Capital Pathway network consists of approximately 220 kilometres of pathways, which are located primarily on NCC lands, with some segments located on municipal lands or other federal lands.

Unlike preceding plans, this document has a targeted scope which focuses specifically on the Capital Pathway, rather than on all multi-use pathways throughout the region. Therefore, a key outcome of this plan is to formally set out the scope of the Capital Pathway network; in other words, to confirm which segments officially form part of the network, going forward.

The following figure identifies the current configuration. The Capital Pathway currently consists of over 21 individual pathways:

- | | |
|--|--|
| A. Ottawa River Pathway | K. Voyageurs Pathway |
| B. Rideau Canal Western Pathway | L. Pionniers Pathway |
| C. Rideau Canal Eastern Pathway | M. Champlain Corridor Pathway |
| D. Experimental Farm Pathway | N. Lac-des-Fées Pathway |
| E. Pinecrest Creek Pathway | O. Gatineau Park Pathway |
| F. Rideau River Eastern Pathway | P. Leamy Creek Pathway |
| G. Aviation Pathway | Q. Gatineau River Pathway |
| H. Greenbelt Pathway East | R. Leamy Lake Pathway |
| I. Greenbelt Pathway West | S. Ruisseau-de-la-Brasserie Pathway |
| J. Watts Creek Pathway | T. De l'Île Pathway |
| | U. Moore Farm Estate Pathway |





2.7 Ideal Network

The ideal network is a physical representation of the concept, and translates the various conceptual elements into an ideal, real-world configuration. It thereby serves as a long-term road map for the evolution of the pathway network.

While some aspects of this concept can be achieved in the 10-year horizon of this plan, other initiatives will be carried forward into future iterations of this document.

The configuration of the ideal network provides a simple and comprehensive view of what the Capital Pathway is intended to become. The ideal network represents approximately 330 kilometres of pathways and feeder links, and includes approximately 118 kilometres of new pathway segments.

The ideal network illustrates the following:

- ▶ the overall reach and configuration of the Capital Pathway
- ▶ the location of existing and proposed pathway segments
- ▶ the distinction between discovery routes and feeder links

Existing	Proposed
Hub	Hub
Discovery routes	Discovery routes
Feeder links	Feeder links



Temiscaming

Mont-Laurier

QUEBEC

Shawinigan

North Bay

Maniwaki

Mattawa

Joliette

Petawawa

Pembroke

National Capital Region

Sorel-Tracy

Gatineau

Montréal

Renfrew

Ottawa

Granby

ONTARIO

Cornwall

Salaberry-de-Valleyfield

Parry Sound

Huntsville

Smiths Falls

Midland

Bricebridge

Brockville

ST. LAWRENCE RIVER

Orillia

Barrie

Peterborough

USA

Belleville

Kingston

Quinte West

Oshawa



24

Toronto

LAKE ONTARIO



2.8 Inter-regional Context

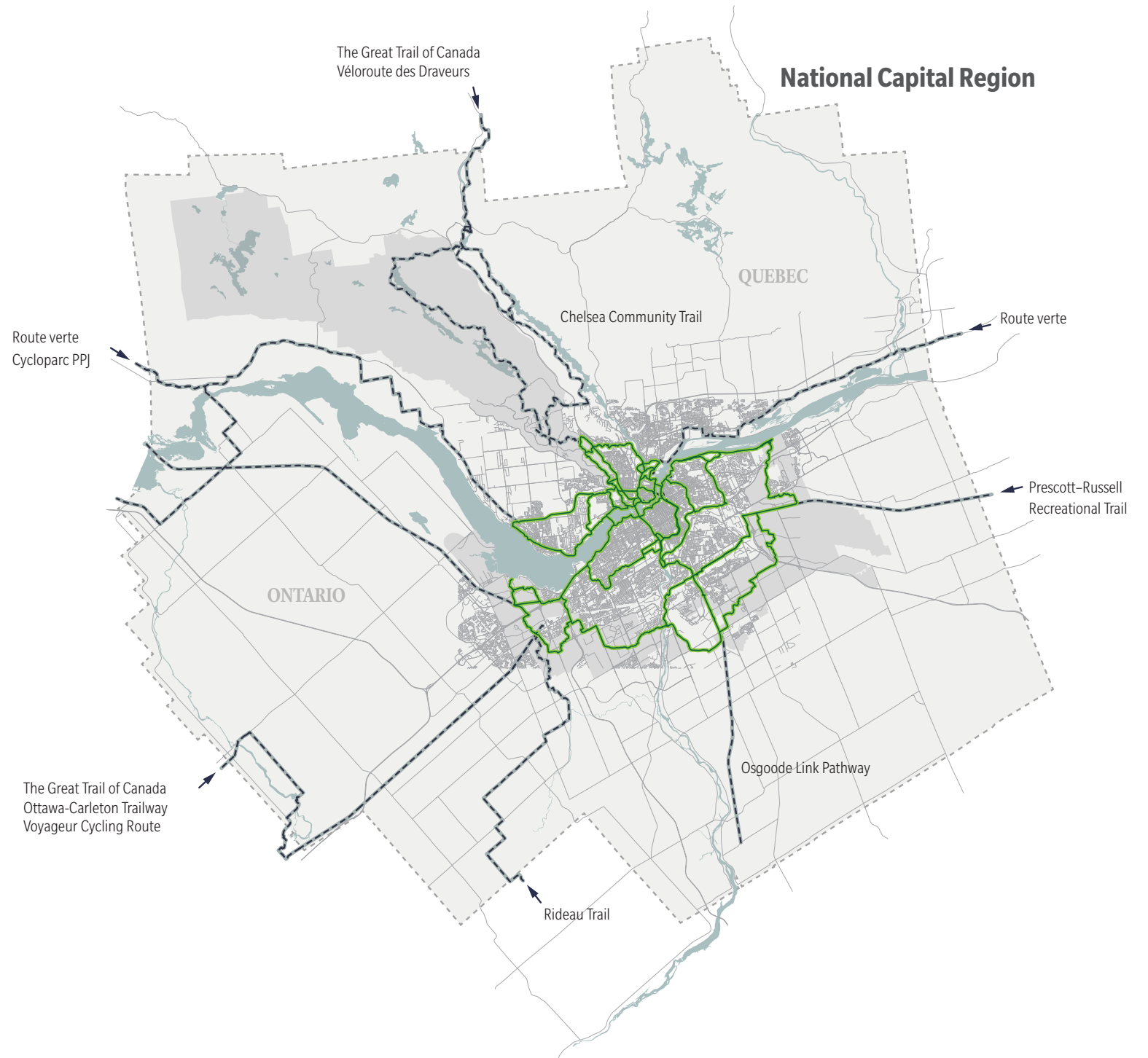
At a regional scale, the Capital Pathway will be connected to surrounding towns, villages and landscapes by long-distance inter-regional trails that extend beyond the National Capital Region.

Although not formally part of the pathway network, these complementary facilities will support long-distance active transportation alternatives and eco-tourism opportunities. These pathways may include dedicated multi-use facilities (such as rail-to-trail corridors), or inter-jurisdictional discovery routes such as The Great Trail of Canada (formerly the Trans Canada Trail) or Route verte. By focusing efforts on consolidating existing pathway segments into a completed ideal network, the Capital Pathway will become an anchor network in the broader landscape of inter-regional trails and pathways.

The pathways shown here are for information purposes only. Some alignments include planned or projected segments that do not currently exist. These pathways are not owned or managed by the NCC. Please refer to information from their respective managing agencies.

Inter-regional trails:

- The Great Trail of Canada
- Route verte
- Ottawa-Carleton Trailway
- Osgoode Link Pathway
- Rideau Trail
- Prescott-Russell Recreational Trail
- Cycloparc PPJ
- Véloroute des Draveurs
- Chelsea Community Trail
- Voyageur Cycling Route (Ottawa to Sudbury)





3 Strategic Directions

This chapter lays out a framework of strategic directions for the planning and management of the Capital Pathway over the coming decades. These directions point the way forward to an improved pathway network, and serve as the rubric for the evaluation of progress. These directions will focus the decision making and prioritization of all works on the Capital Pathway.



Integrated and Resilient Network

The Capital Pathway acts as a unifying element that connects the National Capital Region's active mobility networks and natural features. The pathway network will be continuous and interconnected, and adaptable to environmental and social change.



Safe and User-Friendly

The Capital Pathway provides a safe, comfortable and convenient experience for all users. It promotes an enjoyable and pleasing user environment, shared by all.



Adapted and Co-Creative Management

The Capital Pathway is collaboratively managed. Partnerships with municipal and federal agencies, stakeholder groups, and the public at large are a key component of its future success. It builds synergies and promotes innovative management arrangements to provide a stimulating array of user opportunities.



High Standards of Design and Maintenance

The Capital Pathway strives for high-quality and long-lasting infrastructure that creates unique opportunities, and showcases the Capital's diverse points of interest. The pathway network is an iconic public asset that complements its surroundings, and is a source of pride for residents and visitors in the Capital.

3.1





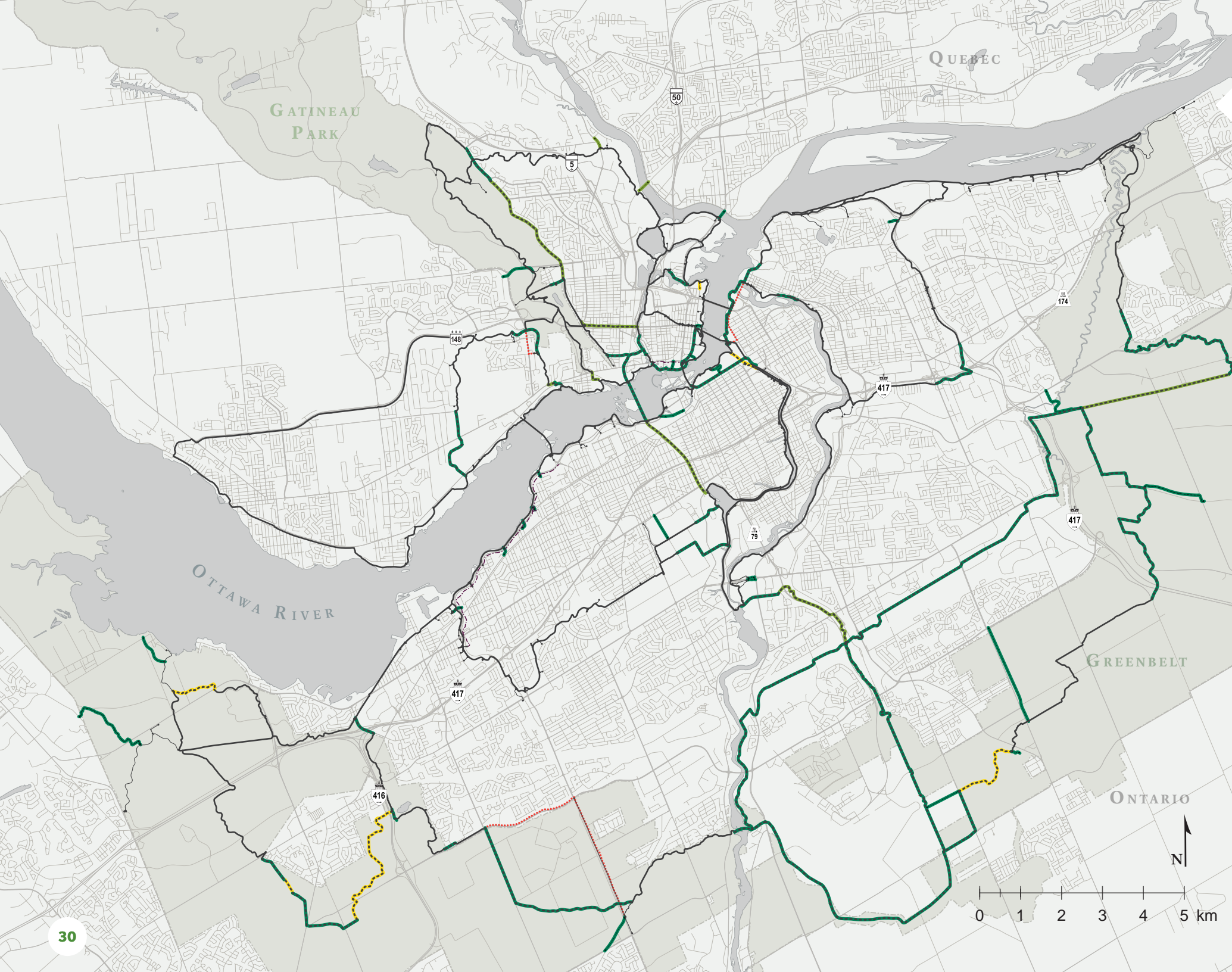
3.1 Integrated and Resilient Network

The Capital Pathway will act as a unifying element that connects the National Capital Region's active mobility networks and ecological corridors. The pathway network will be continuous and interconnected, and adaptable to environmental and social change.

This section includes the following strategies:

- 3.1.1 Complete and consolidate the ideal network
- 3.1.2 Integrate with the regional active mobility network
- 3.1.3 Create adaptable and sustainable infrastructure
- 3.1.4 Anticipate social and technological change



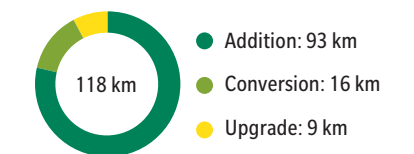


Legend 3.1.1

- Existing pathway
- - - Proposed pathway
- Existing feeder link
- - - Proposed feeder link
- █ Addition
- █ Conversion
- █ Upgrade
- █ Temporary link
- █ Reclassification

Metrics

There are a total of 118 km of proposed pathways and feeder links to complete the ideal network. The graphs below show the breakdown of these segments by type of intervention required.



3.1.1 Complete and consolidate the ideal network

CONTEXT

The Capital Pathway consists of numerous off-street multi-use pathways. The extensive nature of the pathway network is one of the key features that contributes to the high-quality user experience. Covering a large geographical area, it allows for an uninterrupted experience through a variety of places and landscapes. However, some gaps in the network create stumbling blocks in the movement of users, and some important areas of national interest in the region are currently not accessible via the Capital Pathway. Over the long term, the Plan for Canada’s Capital, 2017–2067, commits to four milestone projects over the next 50 years that directly relate to the expansion of the Capital Pathway:

- ▶ the renewal of Confederation Boulevard and its access roads
- ▶ the completion of a continuous Greenbelt pathway system from Shirleys Bay in the west to Green’s Creek in the east, along with connecting pathways to the inner urban area, and the outer communities of Kanata, Bells Corners, Barrhaven, Riverside South, Findlay Creek, Blackburn Hamlet and Orléans
- ▶ the completion of a multi-use promenade from the Rideau Canal east to Rideau Falls
- ▶ improved interprovincial transportation, including a potential initial element consisting of a project by the City of Ottawa to create a multi-use pathway across the Prince of Wales railway bridge connecting Ottawa and Gatineau

ACTIONS

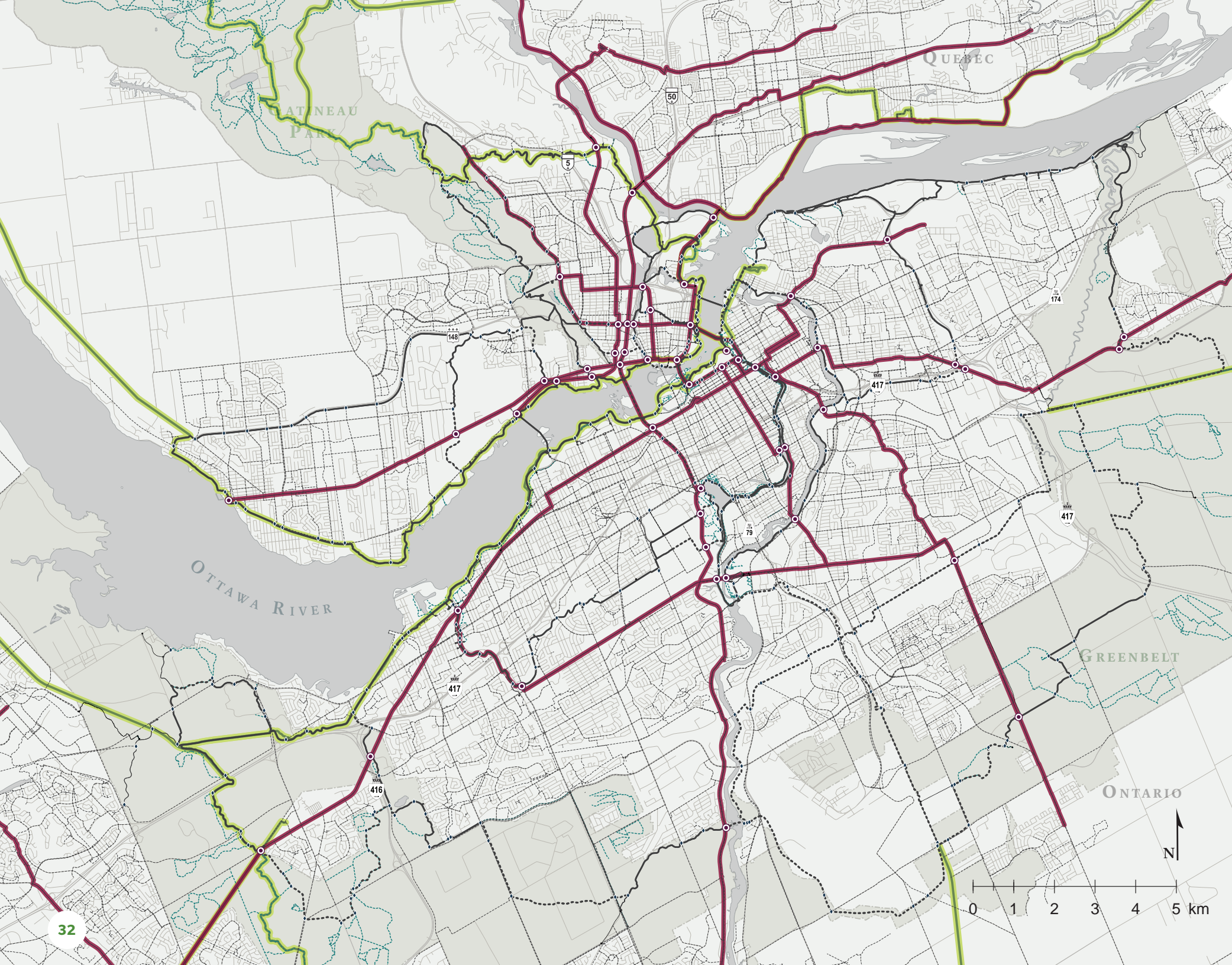
- A. Update the NCC’s GIS layers to reflect the existing and proposed segments of the ideal network.
- B. Explore the creation of a 360-degree virtual pathway model (such as Google Street View) to facilitate the management of the existing network and the planning of new segments.
- C. Develop a list of priority projects to be undertaken in the 10-year horizon of this plan (subject to funding and in collaboration with the City of Ottawa and Ville de Gatineau).
- D. Complete the Confederation Boulevard pathway segments (bikeways) along Wellington Street and Laurier Street.

APPROACH

Consolidation of the existing network is of the utmost priority. Work will be focused within the current geographic reach of the network, and will focus on completing missing segments, to realize and maximize the potential of the ideal network. Non-conforming pathway segments will be improved to meet the Capital Pathway standards.

- ▶ **Additions:** Where no facilities currently exist, new segments will be created to complete the ideal network. While some of the opportunities for expansion are located on NCC lands, others are located on lands that are not owned or managed by the NCC, and will therefore require collaboration with their respective landowners.
- ▶ **Conversions:** Where existing multi-use pathways generally meet the requirements of the Capital Pathway, agreements to add the pathways to the network will be pursued. Collaboration with the respective landowners will be required to formally integrate these segments into the pathway network, and minor interventions may be required to meet Capital Pathway standards.
- ▶ **Upgrades:** In cases where non-conforming facilities exist (e.g. a trail or on-road cycling lanes adjacent to a sidewalk), major interventions and upgrades will be undertaken to meet Capital Pathway standards and allow formal integration into the pathway network.
- ▶ **Temporary links:** In locations where segments are missing, temporary measures to connect adjacent pathways may be undertaken by providing a safe and identifiable route that is not part of the ideal network. This may consist of on-street facilities or “piggybacking” on municipal pathways to improve the short-term continuity of the pathway network.
- ▶ **Reclassifications:** Existing pathway segments that are redundant or do not contribute to the ideal network, will be reclassified as local trails or pathways and officially removed from the pathway network. Some may be retained in the short term as temporary links, until such time as new expansions are completed.



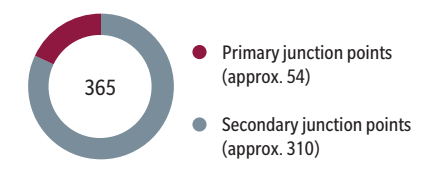


Legend 3.1.2

- Existing pathway
- - - Proposed pathway
- Existing feeder link
- - - Proposed feeder link
- Inter-regional trail
- Major municipal cycling route
- - - Minor municipal cycling route
- - - Local trail or walkway
- Primary junction point
- ◆ Secondary junction point

Metrics

There are upwards of 365 junction points with other active mobility routes, trails, or walkways across the pathway network.



Municipal cycling routes (both existing and proposed) are depicted for contextual purposes only, and are subject to change based on the plans and priorities of the local municipalities.



3.1.2 Integrate with the regional active mobility network

CONTEXT

The Capital Pathway forms a key component of the region's broader active mobility network, including on-road cycling routes, municipal multi-use pathways, trails and pedestrian infrastructure such as walkways and sidewalks. The pathway network also intersects with numerous local trails and walkways, including hiking trails in Gatineau Park and the Greenbelt, and walkways through Capital parks and green spaces. Physical connections between the pathways and complementary municipal infrastructure are crucial to provide an integrated, coherent and seamless user experience.

ACTIONS

- A. Develop design and signage standards for junction points with municipal networks, in collaboration with local municipalities.
- B. Develop best practices for the connections to rapid transit stations, in cooperation with local municipalities.

APPROACH

The Capital Pathway will be distinct but complementary to the municipal networks. It will accommodate both recreational and commuter users, regardless of their purpose of travel. Junction points with other active mobility routes will provide clear connections, and users will be able to easily navigate to and from regional networks.

- ▶ **Inter-regional trails**, such as The Great Trail of Canada (formerly the Trans Canada Trail), Rideau Trail (Ottawa to Kingston), Route verte (Vélo Québec) and Prescott-Russell Recreational Trail, will serve as long-distance discovery routes that provide broad regional connections. In some instances, they will overlap the Capital Pathway as they pass through the Capital Region.
- ▶ **Municipal cycling routes** include on-street bike lanes and pathways that form part of the municipal active mobility network.
 - **Major municipal cycling routes** will serve as primary crosstown cycling routes, and are managed by the respective municipalities as major thoroughfares in their active mobility networks.
 - **Minor municipal cycling routes** may include local municipal pathways, on-street bike lanes, and so forth.
- ▶ **Junction points** will be located at intersections between the Capital Pathway and municipal bikeways. They will be clearly and consistently identified to facilitate navigation and legibility of both networks.
 - **Primary junction points** will be located at junctions with municipal bikeways.
 - **Secondary junction points** will be located at junctions with minor municipal cycling routes, local trails and walkways.
- ▶ **Local trails and walkways** are an important part of the active mobility network, but are typically not multi-use in nature, and will not be considered to be part of the Capital Pathway.



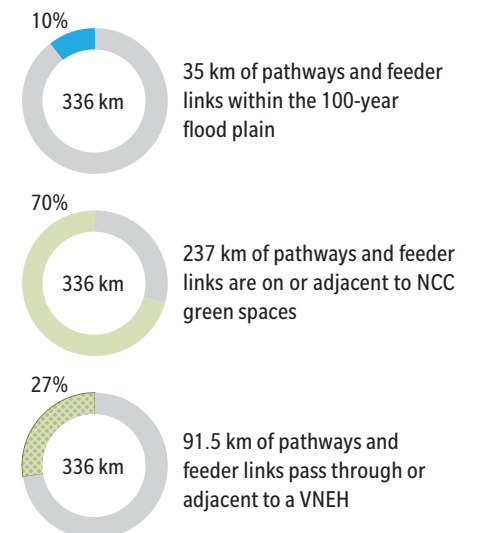


Legend 3.1.3

- Existing pathway
- - - Proposed pathway
- Existing feeder link
- - - Proposed feeder link
- Flood zone (0–100 years)
- NCC green space
- Valued natural ecosystems and habitats (VNEH)
- Clay soils
- Minor watercourse

Metrics

There are 336 km of pathways and feeder links in the ideal network.



3.1.3 Create adaptable and sustainable infrastructure

CONTEXT

The Capital Pathway passes through diverse landscapes, offering unparalleled opportunities to experience the natural features and character of the National Capital Region. This includes some ecologically sensitive areas, ecological corridors and riverfront lands subject to seasonal flooding. These landscapes are fundamental to the ecological health and vitality of the region, and pose unique challenges to a continuous pathway network. Climate change is also contributing to more frequent and severe weather events, which increase pressures on natural processes. Although the pathway network plays a vital role in promoting low-carbon mobility and recreation opportunities, care must be taken to ensure that it is constructed in an ecologically responsible and sustainable manner.

ACTIONS

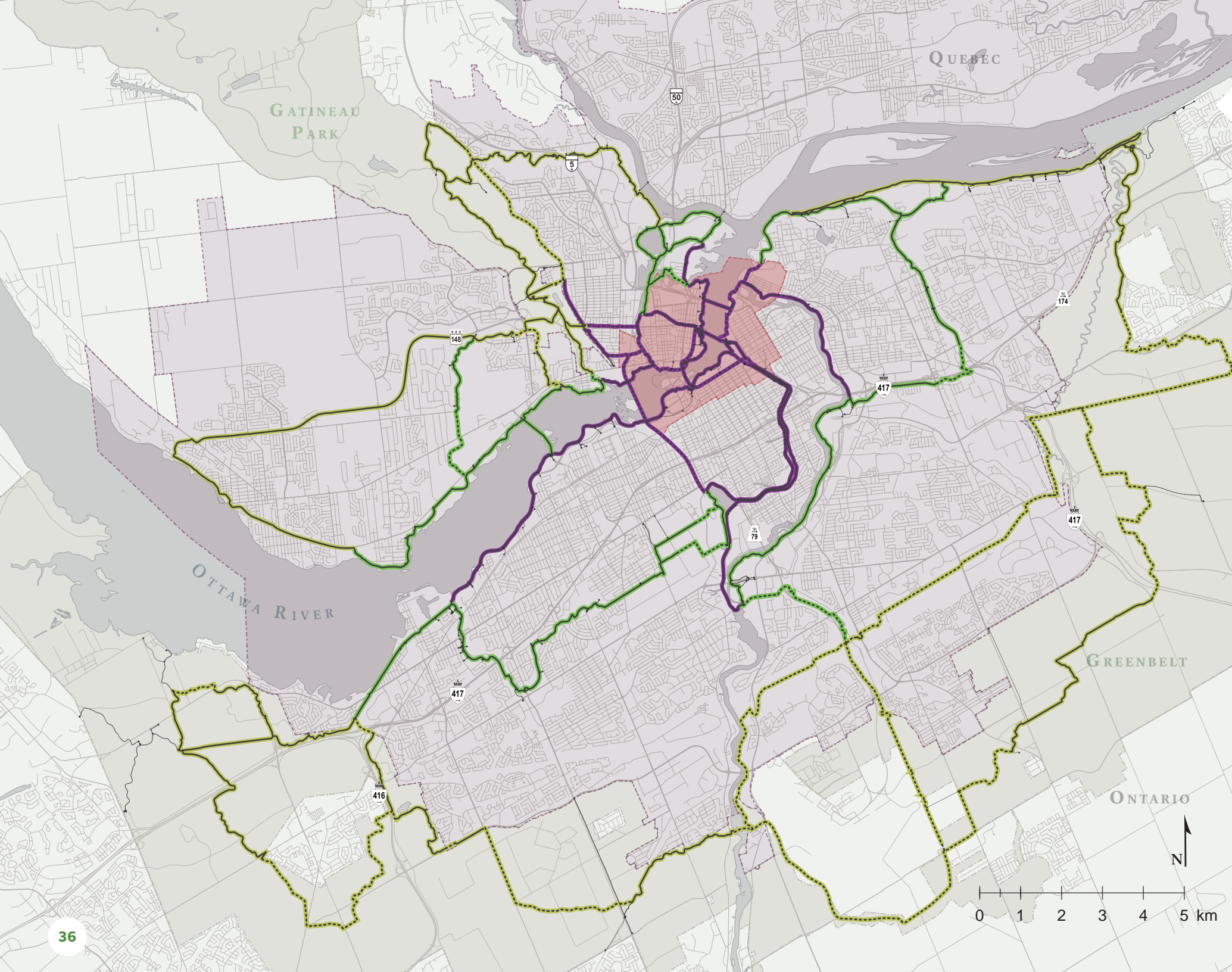
- A. Develop a monitoring program for erosion and flooding along the Capital Pathway.
- B. Develop a risk assessment report for flood impacts along the Capital Pathway.

APPROACH

The Capital Pathway will aim to create sensitive installations that respect and respond to environmental conditions and processes. New segments must be located in areas that minimize landscape fragmentation and preserve sensitive environmental areas. Pathway infrastructure will be designed to withstand extreme conditions such as flooding, shoreline erosion and expansive clay soils. Although efforts will be made to reduce the impacts of flood events on the functionality and life cycle of the pathway network, riverfront pathways will continue to exist in flood-vulnerable shoreline locations, and may be subject to periodic disruption or damage. Resilient infrastructure will be promoted to respond to drainage requirements, and to stabilize and retain shorelines and embankments and prevent erosion. Appropriate plant species will be used to reduce maintenance and life cycle efforts within the pathway corridor, as well as counteract the threat of invasive alien species.

- ▶ **Flood zones:** Flood impacts will be mitigated through design interventions that protect vulnerable pathway segments from regular flood damage and failure. Wherever possible, pathways will be located outside the 100-year flood plain, and seasonal detours will be planned where frequent flooding is anticipated. Pathway segments in flood zones will be planned and managed based on two thresholds:
 - Segments within the **100-year flood plain** will be designed to be resilient to major flood events, through improved alignments, grading and construction methods.
 - Low points within the **20-year flood plain** will be redesigned or relocated to mitigate flood impacts, and adapt to recurring, yearly flood events.
- ▶ **Green spaces:** Capital green spaces, including park lands, riverfront lands, forests and meadows, will serve as ecological corridors that traverse the Capital. Wherever possible, pathways will contribute to the overall ecological integrity of these areas through landscape connectivity, planting and green building techniques.
- ▶ **Valued natural ecosystems and habitats (VNEH):** In general, sensitive ecological areas and important habitats will be avoided and, where pathways pass through these areas, impacts will be mitigated to protect their ecological features. Pathway alignments will be planned to protect core habitat areas and reduce landscape fragmentation.
- ▶ **Clay soils:** Where clay soils are known to exist, pathway foundations will be engineered to withstand the expansion and contraction of the subsoil.
- ▶ **Shoreline erosion:** Where possible, pathways will be located away from unstable shorelines. Where necessary, shoreline stabilization will be undertaken with a preference for “living shoreline” and vegetated stabilization techniques.
- ▶ **Dark zones:** In general, the Capital Pathway will not be lit. Dark zones will protect environmentally sensitive areas such as woodlands and shorelines, where light trespass may have adverse effects on plants and wildlife.





Legend 3.1.4

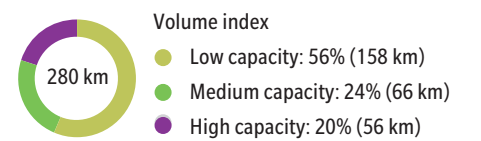
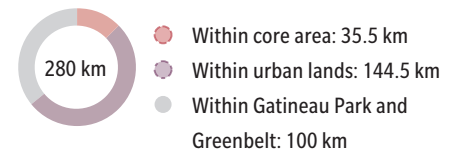
- Existing pathway
- - - Proposed pathway
- Existing feeder link
- - - Proposed feeder link
- Core area
- Urban lands

Volume index (assumed)

- Low capacity
- Medium capacity
- High capacity

Metrics

There is a total of 280 km of existing and proposed discovery routes.



3.1.4 Anticipate social and technological change

CONTEXT

The Capital Pathway is used by residents and visitors throughout the year for many different purposes. The way the pathway network is designed, planned and managed must account for the diversity of users and their behaviours. In particular, the following trends have been noted.

- ▶ Given trends shifting toward healthy living, low-carbon lifestyles and residential intensification in the urban area, a continued increase in pathway users is anticipated. Current pathway counts show an overwhelming volume of users during peak periods, which puts pressure on the network.
- ▶ User age and ability are varied. Design must be inclusive and universal, with a focus on making the pathway suitable for all ages and abilities. One of the distinguishing features of a primarily off-road active mobility facility such as the Capital Pathway is its capacity to accommodate users with less cycling experience who may not feel comfortable using traditional on-road facilities.
- ▶ Since 2012, e-bikes that resemble conventional bicycles have been permitted on the Capital Pathway. All other vehicles equipped with electric motors are prohibited, except for mobility aids. While conventional cyclists and pedestrians will remain the top user groups in the short to medium term, pathway design must consider ways to accommodate other modes without compromising the security and quality of experience for all users.

ACTIONS

- A. Update the NCC corporate policy on the use of electric-powered vehicles.
- B. Produce an action plan for the collection of user data to summarize patterns and trends.

APPROACH

New pathway segments must be designed with consideration for projected population growth. The Capital Pathway standards will be updated and revised to accommodate increasing user demand and changes in types of demand by adopting an adaptable volume index tool. To the extent possible, all new pathway segments will be constructed to accommodate a range of mobility options and user abilities, ensuring that investments in the pathway network adequately respond to current and anticipated user volumes. The generic three-metre-wide pathway standard will be replaced by a location-specific profile based on the volume and frequency of users. The default minimum pathway width within the urban lands sector will be increased to four metres, or segregated based on use.

- ▶ **Monitoring and data collection:** Pedestrian and cyclist counters will be used to collect information, and maintain an accurate user profile, including volumes and peak demand. The counters will be located along major corridors (or segments with a high frequency of user complaints) to better understand the patterns of use. The information collected will be compiled in periodic reports.
- ▶ **Volume index:** The volume index will be used to guide the development of low-, medium- and high-capacity pathway corridors based on the anticipated volume and frequency of use. Appropriately sized pathways will help to reduce user conflicts and make the pathway network resilient to population growth and technological change.
 - **Exceptions:** Widened pathways may be restricted in some instances, such as through ecologically sensitive areas, or areas with restricted physical space. In these instances, appropriate mitigation measures such as slow zones, traffic-calming techniques and targeted user messaging will be employed.
- ▶ **E-mobility:** The Capital Pathway will be open to innovations in electric-assisted, active mobility, provided that new devices meet the criteria outlined in the rules pertaining to electric-powered vehicles on multi-use pathways and parkways under NCC responsibility. All permitted mobility devices must observe the same user code of conduct as that which applies to traditional pathway users, including speed and the principle of caution. Restrictions on mobility device size, weight or power may be implemented to mitigate the risks of serious bodily harm to pathway users.
- ▶ **Universal design:** All pathways will be designed to accommodate a wide range of user abilities, ages and experience levels. Ancillary features such as furnishings, signage, wayfinding and rest points will be designed to accommodate a wide range of user needs and abilities, and will promote an inclusive and flexible social infrastructure.



3.2





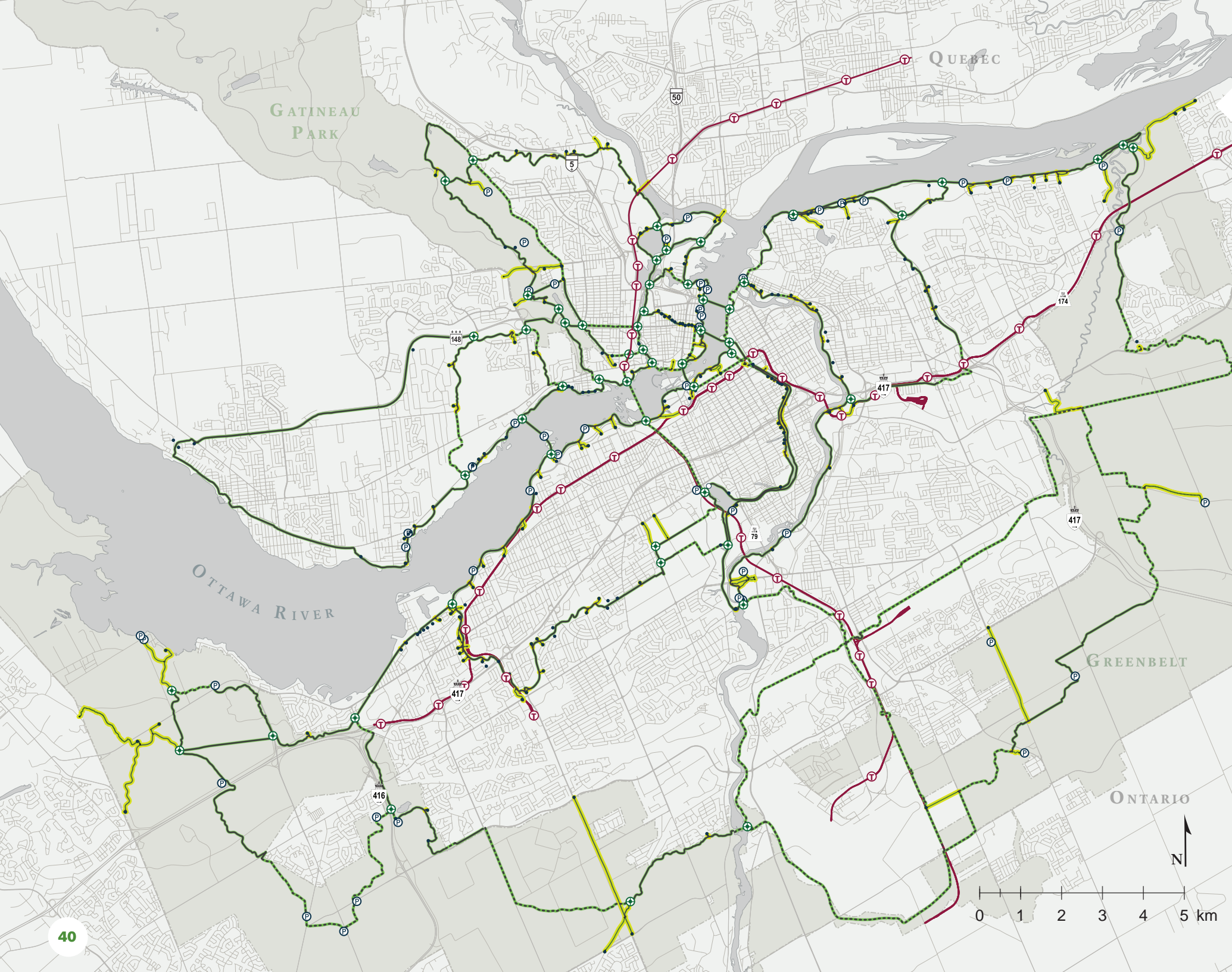
3.2 Safe and User-Friendly

The Capital Pathway will provide a safe, comfortable and convenient experience for all users. It will promote an enjoyable and conciliatory user environment, shared by all.

This section includes the following strategies:

- 3.2.1 Easy to access and navigate
- 3.2.2 Mitigate hazards along the pathway
- 3.2.3 Create a clear and intuitive pathway-sharing environment
- 3.2.4 Promote a simple and conciliatory code of conduct



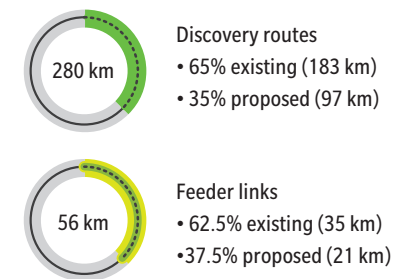


Legend 3.2.1

- Existing pathway
- Proposed pathway
- Existing feeder link
- Proposed feeder link
- Discovery route
- Anchor point
- Feeder link
- Access point
- Parking lot
- Transit hub
- Public transit corridor

Metrics

The ideal network includes approximately 336 km total of pathways and feeder links.



Number of anchor points = 55
 Approximate number of access points = 209

3.2.1 Easy to access and navigate

CONTEXT

The Capital Pathway is a continuous network that allows users to move fluidly along it and between municipal pathways, local roads, streets and public spaces. As a result, a consistent visual identity and wayfinding strategy is essential for users to experience and discover the Capital. Many of the pathways cross public streets, parks and public spaces as they travel through the Capital landscape; these points of overlap become access points to the network. In addition, exchange points with roadway and public transit networks, such as LRT/bus stations and parking lots, provide additional access to the pathway network.

ACTIONS

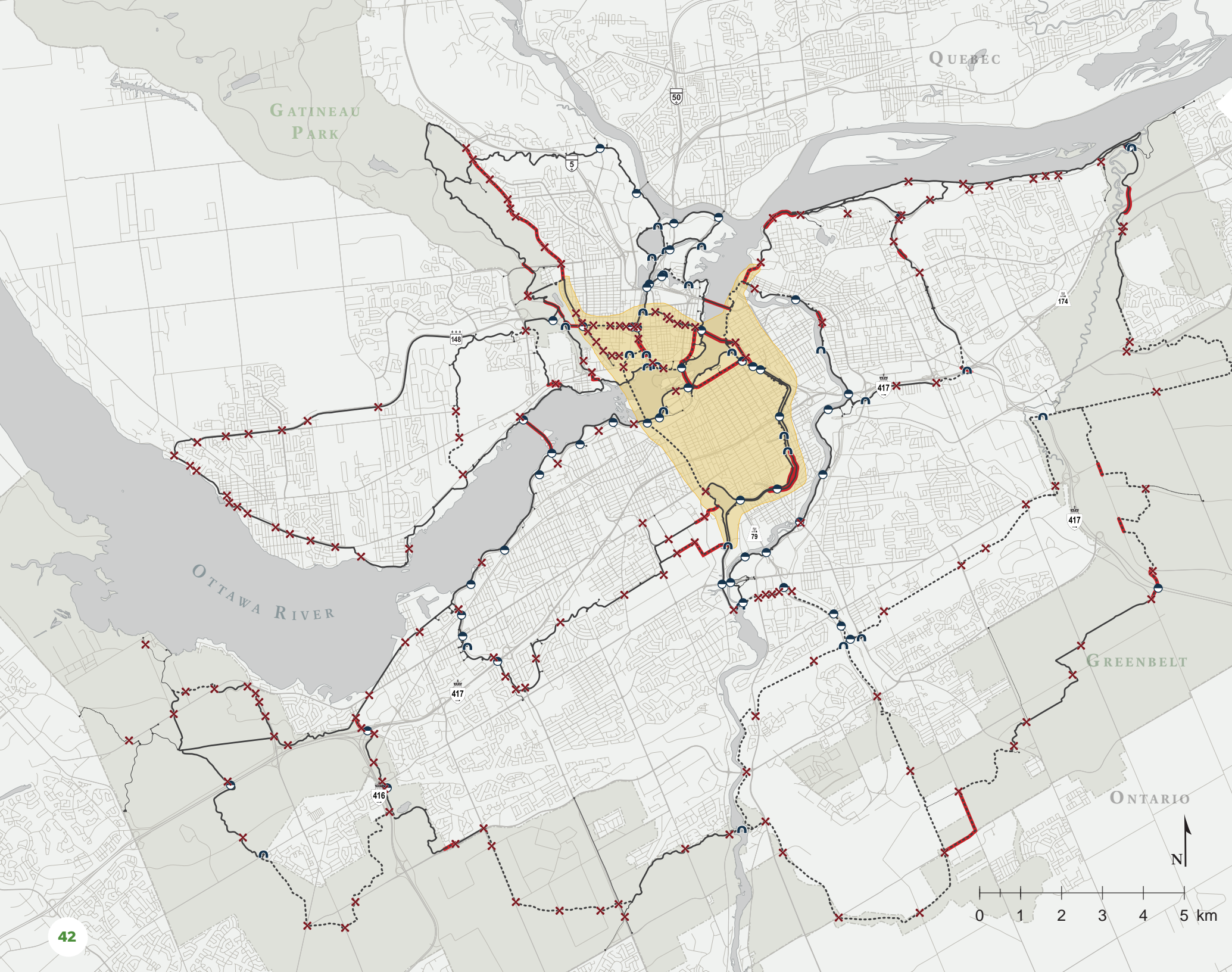
- A. Update the NCC's corporate website and public maps to reflect the ideal network.
- B. Collaborate with third-party mapping platforms (such as Google Maps) to share pathway data to ensure accurate depiction on their platforms.
- C. Explore the development of a regional interactive route-mapping system, in partnership with the City of Ottawa and Ville de Gatineau.
- D. Review and officialize the naming convention for Capital Pathway discovery routes.
- E. Explore new wayfinding elements such as kilometre markers, distance markers and pavement markings to facilitate navigation.

APPROACH

The future ideal network will facilitate navigation by providing an uninterrupted series of pathways linked by anchor points. Access points to the network will be easily recognizable and well distributed throughout the region to ensure inclusive and equitable access to the pathway network. Access to the pathways will be focused on connections to and from public lands such as public parks, institutions, streets, parking areas, trails and transit hubs. Feeder links will provide access from public locations further removed from the discovery routes. Transit hubs and adjacent parking lots are also critical to provide convenient access to and from the network. In addition to conventional wayfinding techniques, digital and mobile technologies will be explored to facilitate trip planning and navigation.

- ▶ **Wayfinding:** A consistent wayfinding approach will be promoted across the pathway network, and will include physical signage and design features, as well as pre-trip planning tools (such as print and web maps) that adhere to graphic consistency with the Capital Pathway brand.
 - **Anchor points** will identify important pathway selection decision points in the Capital Pathway network, where two or more pathway segments converge.
 - **Destinations** represent major Capital points of origin or destination. They will serve as landmarks and reference points to users, and will be identified via signage and orientation maps.
- ▶ **Municipal addresses:** These will be located at important destinations such as parks, public spaces and access points along the pathway to ensure that key destinations are identifiable. Assigned municipal addresses will also ensure ease of navigation and drop-off by Para Transpo and Paratransit services.
- ▶ **Access points:** Serving as multi-modal entry points to and from the network, they will be clearly marked, recognizable and inviting.
 - **Primary access points** will be highly visible, and provided at key points of arrival. These will include orientation and route-planning information, and parking, where appropriate.
 - **Parking lots** will serve as intermodal access points that provide tourists or non-local residents the opportunity to access and explore regions of the network.
 - Feeder links will provide access to and from the main corridors connecting to adjacent/nearby destinations and active transportation routes. Responsibilities with regard to the funding and construction of new feeder links will be determined on a case-by-case basis, in close collaboration with the City of Ottawa and Ville de Gatineau.
 - **Transit hubs** or rapid transit stations (either bus and train) in proximity to the pathway network will be treated as key points of origin and destination for pathway users, and serve as multimodal connections for integrated sustainable transportation.



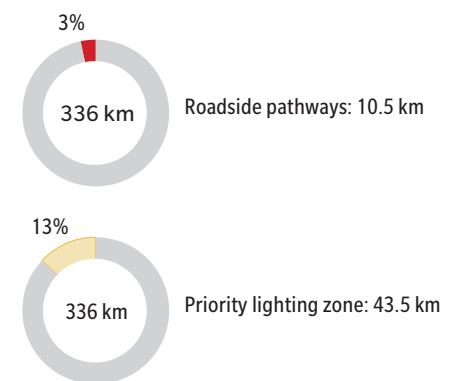


Legend 3.2.2

- Existing pathway
- - - Proposed pathway
- Existing feeder link
- - - Proposed feeder link
- ✕ Street crossing
- ⤿ Bridge
- Tunnel
- Roadside pathway
- Priority lighting zone

Metrics

There are 336 km of pathways and feeder links in the ideal network.



- ✕ Street crossings: approx. 173
- ⤿ Bridges: approx. 29
- Tunnels: approx. 55

3.2.2 Mitigate hazards along the pathway

CONTEXT

As an extensive pathway network traversing the National Capital Region, the Capital Pathway inevitably intersects features that may pose a risk to pathway users. Bridges, tunnels and roadway crossings are examples of locations where pathway conditions require conscious awareness of pathway users, as well as appropriate design to mitigate potential risks and injury. In addition, surrounding conditions, such as overgrown vegetation and poor lighting, can have detrimental effects on user safety and comfort.

ACTIONS

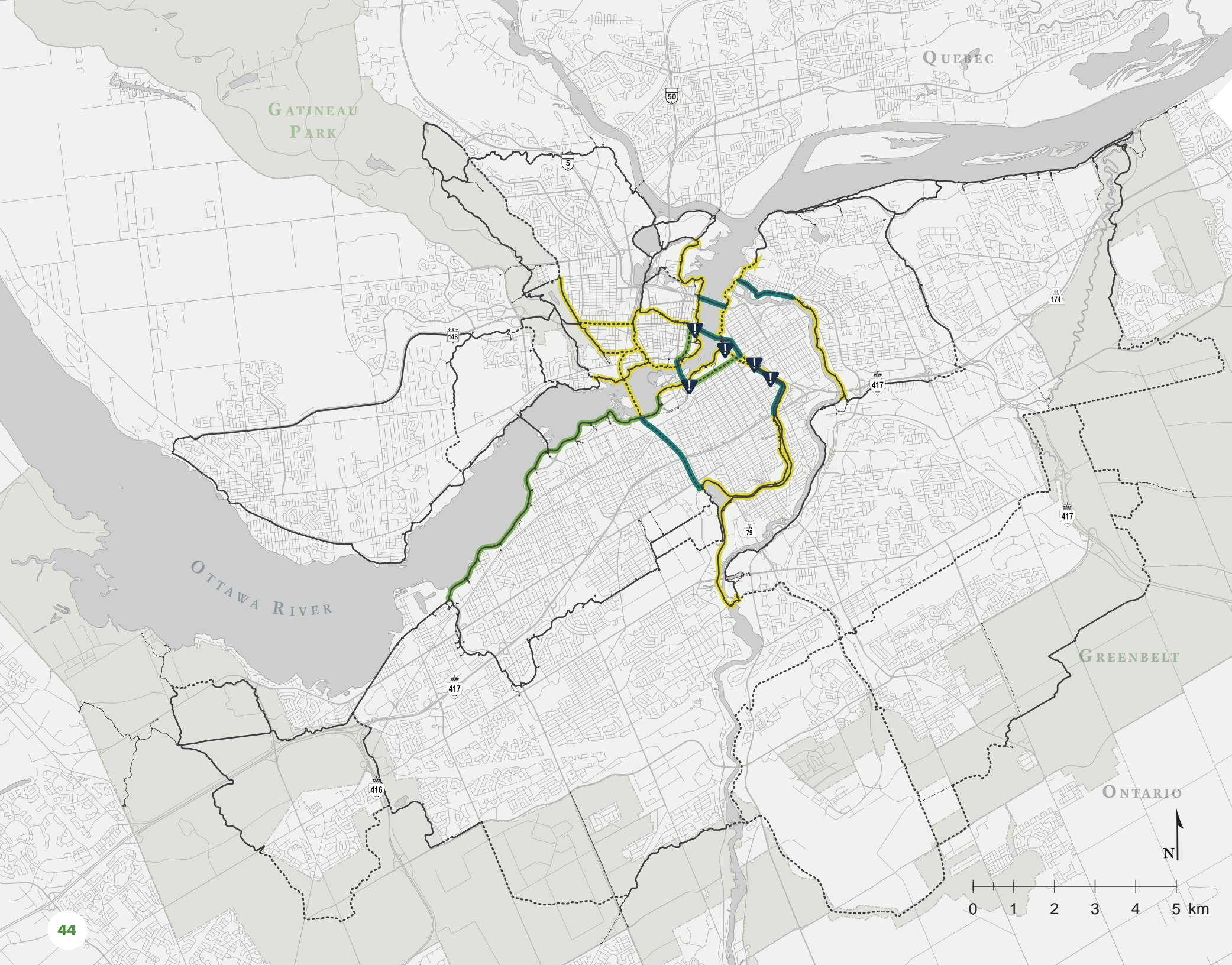
- A. Conduct a pathway safety audit in collaboration with municipalities, and secure funding to correct hazardous situations.
- B. Develop a work plan for the improvement of roadway crossings, in collaboration with the municipalities.
- C. Develop new, slip-resistant design standards for wooden pathway bridges.
- D. Develop a manual of pathway design and management standards to mitigate potential risks and injuries.
- E. Develop a generic lighting fixture for areas outside of the core that do not have an existing standard.

APPROACH

Pathway conditions will be reviewed and monitored on a regular basis, with hazardous and problematic conditions documented and mitigated. Hazard signage must be used sparingly to ensure its effectiveness, and preference will be given to design interventions that mitigate or eliminate hazardous situations through visually pleasing physical improvements. The pathway network will be designed, built and managed with a view to promoting safety and security through the implementation of crime prevention through environmental design principles and the NCC's Pathway User Code of Conduct.

- ▶ **Vision Zero:** The NCC is committed to achieving a Capital Pathway with no fatalities or serious injuries involving road traffic. In general, the Capital Pathway provides a safe alternative route to on-road cycling infrastructure for users of all abilities. Special attention will be focused on areas where the pathway network meets roadway corridors and the potential for serious injury or loss of life exists.
 - **Street crossings:** The construction of roadway intersections and crossings will apply best practices in pedestrian crossover and cross-ride design. They will accommodate all pathway users in accordance with provincial traffic laws.
 - **Parking lots:** All NCC parking lots, drive aisles and access roads will be designed to eliminate crossings between vehicles and pathway users, wherever possible. Where crossings are unavoidable, priority will be given to pathway users, and reinforced through design and signage standards.
- ▶ **Clear zone:** All pathways will maintain a safe clear zone within the pathway travel lane, free from physical obstructions such as signs, lampposts, furniture, fences, branches and overhead obstructions.
 - **Structures:** Bridges, tunnels and locks will be designed to allow the safe bidirectional movement of pathway users. Wherever possible, users should be able to pass without interruption.
 - **Pinch points:** Where pathways must be reduced in width, an adequate transition zone will be provided, or otherwise mitigated.
 - **Edge protection:** Physical features such as fences, railings, guardrails and walls will be used judiciously to support user safety. Care will be taken to ensure that new edge protection measures do not detract from the scenic experience, or create new obstacles or hazards along the pathway.
- ▶ **Sightlines:** Especially around corners and at pathway junctions, clear sightlines will be maintained. Vegetation and physical features will be designed and managed to ensure good visibility.
- ▶ **Lighting zone:** The principles of the Capital Illumination Plan will be applied. Lighting will be considered in dense urban areas and at locations where a safety concern necessitates, such as at roadway intersections, tunnels, bridges and municipal transit hubs. Approaches to lighting will be based on consideration of environmental effect, aesthetic impact and cost.



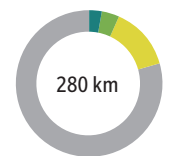


Legend 3.2.3

- Existing pathway
- - - Proposed pathway
- Existing feeder link
- - - Proposed feeder link
- ▼ Proposed slow zone
- Existing segregated pathway
- Planned segregation
- Potential future segregation

Metrics

There are 280 km total of existing and proposed discovery routes.



- 20%**
- Existing segregation (8 km)
 - Planned segregation (11 km)
 - Potential future segregation (39 km)
 - Multi-use (222 km)



Approximately 20% of discovery routes may be suitable candidates for segregation. All new or replacement pathway segments should be assessed based on the segregation criteria in Section 5.9.1.

3.2.3 Create a clear and intuitive pathway-sharing environment

CONTEXT

The vast majority of the pathway network consists of a typical three-metre-wide bidirectional travel way, with two equal multi-use lanes running in opposite directions. In the past, this standardized approach has been applied consistently, regardless of the surrounding context or user demographics. In some areas, widened pathway scenarios exist to accommodate heavier flows of users. In very rare instances, parallel paths for pedestrians and cyclists exist, but lack a consistent approach to demarcation, signage and design.

ACTIONS

- A. Pilot the separation and segregation of pathway segments along the Ottawa River South Shore Riverfront Park, and develop new construction standards based on these installations.
- B. Pilot and implement slow zones, and develop design and regulatory standards.
- C. Develop and include demarcation stencils in NCC signage standards.

APPROACH

New standards for the design of pathway infrastructure will be developed in accordance with the guidelines of this plan. The standards will provide physical interventions such as widened, separated and segregated pathway configurations for areas with high peak user volumes and high pedestrian ratios. In areas where high volumes of users exceed the pathway's capacity, a widened multi-use pathway standard will be employed, as per the "volume index" described earlier in this plan ([see Section 3.1.4 on page 37](#)).

- ▶ **Direction of travel:** All users, regardless of their mode of travel are expected to travel in the same direction (on the right-hand side). This reduces potential conflicts between users, and increases reaction times, especially when passing opposing traffic. Pedestrians should not walk in the opposite direction of cyclists.
- ▶ **Slow zones:** In areas with a high percentage of slow-moving pedestrian users (especially where the pathway crosses or intersects a shared public space), slow zones will be established, and all users will be required to adjust their speed to that of the slowest user. Pathway-calming techniques, such as removal of the centre line, cautionary demarcations before pathway junctions, changes in surface texture or chicanes will be used to alert and slow pathway users.
- ▶ **Segregation:** In areas with high user volumes and high pedestrian ratio, the multi-use pathway will be segregated to provide visually distinct travel lanes for pedestrians and cyclists, based on the following pathway typologies.
 - **Side-by-side pathway:** Side-by-side segregated pedway and bikeway.
 - **Separated pathway:** Parallel pedway and bikeway separated by a landscape buffer.
- ▶ **Demarcations and signage:** Demarcations, signage, markings and paving materials will be used consistently to provide visual cues for proper user orientation and behaviour, as well as to contribute to the aesthetic quality of the Capital Pathway.
- ▶ **Mixing zones:** At junctions between Capital Pathway segments, surface demarcation, paving and signage will identify where the merging and crossing of pathway users will occur.
- ▶ **Pedestrian priority:** In areas with exceptionally high numbers of pedestrians with varied or unpredictable movement patterns (such as interfaces with parks, plazas, scenic areas and so forth), the pedestrian surface will be continued across the pathway, thereby providing an indication that a pedestrian may cross, and that cyclists must be prepared to yield to pedestrians. These also occur on segregated pathways, where cyclists can cross a pedway or local walkways.





Regulatory signage will be kept to a minimum, to preserve the aesthetic qualities of the pathway experience. Universal symbols and pictograms will be used to ensure that messages are clear, especially for cyclists who are moving at faster speeds.

3.2.4 Promote a simple and conciliatory code of conduct

CONTEXT

An existing user code of conduct, governs the desired user behaviours across the pathway network, to promote mutual respect, courtesy and safety. Without a regular reminder of the pathway rules, it is possible for misunderstandings, tensions or safety issues to arise. It is therefore important that all users, regardless of their mode of travel, be aware of the behaviour and responsibilities that are expected of them.

The code of conduct is communicated via signage at Capital Pathway access points. Educational programs have also been undertaken in collaboration with the municipalities, local police and cycling advocacy groups, and have been shown to have a positive influence on user behaviour.

In some cases, encouraging voluntary compliance with rules is not sufficient. The ability to enforce behaviour is guided by laws and regulations, which set out who has the jurisdiction to enforce behaviour, what types of behaviour are subject to enforcement, and what enforcement mechanisms are available.

ACTIONS

- A. Collaborate with municipalities to update the Capital Pathway user code of conduct, using pictograms where possible.
- B. Develop a comprehensive multi-use pathway safety awareness campaign, in collaboration with the City of Ottawa and Ville de Gatineau.
- C. Update the National Capital Commission Traffic and Property Regulations to permit broader on-site enforcement.

APPROACH

The user code of conduct will promote the principle of courtesy. Priority will be given to pedestrians above all other users. The NCC will work with its partners to ensure that a consistent approach to rules and user behaviours is promoted across the pathway network. Regulatory signage will be kept to a minimum, to preserve the aesthetic qualities of the pathway experience. Universal symbols and pictograms will be used to ensure that messages are clear, especially for cyclists who are moving at faster speeds.

- ▶ **Principle of caution:** All users are expected to adopt a cautious and respectful attitude toward others, with particular regard for pedestrians, people with mobility aids and, in general, slower or less-experienced users (such as children).
- ▶ **Rules:** Key rules pertaining to user behaviour will be reviewed and validated. The number of overall rules will be limited, and the focus of these rules will be on positive messaging, encouraging users to be considerate, be aware and be respectful.
 - **Bells:** The rules on bell use will be updated. Due to the high volume of pathway users, bells are ineffective and should not be rung every time cyclists pass another user. Instead cyclists must reduce speed and yield to the slower or oncoming users, and bells should be rung only in case of an emergency.
 - **Speed limit:** The use of a single default posted speed limit will be revised. In some areas, such as heavily used urban areas with a high proportion of pedestrians, speeds will be reduced. In suburban and peri-urban areas with less congestion and longer travel distances, a higher travel speed may be permitted. In all instances, users will be expected to slow down and yield to oncoming or more vulnerable users.
- ▶ **Regulatory signs:** New types of signage will be explored and, where possible, regulatory markers or symbols should be incorporated into other design features such as wayfinding and Capital Pathway markers. The overall amount of text on signage shall be kept to a minimum.
 - **Stop signs** will be used sparingly, because overuse has conditioned cyclists to ignore regulatory signs at important locations. Appropriate signage or design interventions will be substituted to encourage consistent user compliance; for example, a crossing sign would be used to indicate that there is a crossing, or a yield sign would be used if users must yield to another pathway or roadway.
 - **Yield signs** will be used to indicate right of way (for example, at bridge abutments to indicate priority to a specific discovery route, or upon entering shared public spaces). Feeder links and minor pathways will typically yield to major pathways and discovery routes.
 - **Dismount signs** will not be used. Cyclists are always permitted to ride on the pathway network. All signage and regulations will encourage appropriate behaviour regardless of the mode of travel. Dismount signs may be used at construction sites as safety requirements necessitate.
- ▶ **Enforcement:** This will be carried out in collaboration with municipalities to enforce critical rules. Spot checks at strategic locations will target key problematic behaviours.
- ▶ **Awareness campaigns:** These will feature innovative programs that encourage responsible pathway use and courtesy toward other users, and will focus on developing a “culture of sharing” through initiatives such as ambassador programs and positive messaging campaigns.



3.3





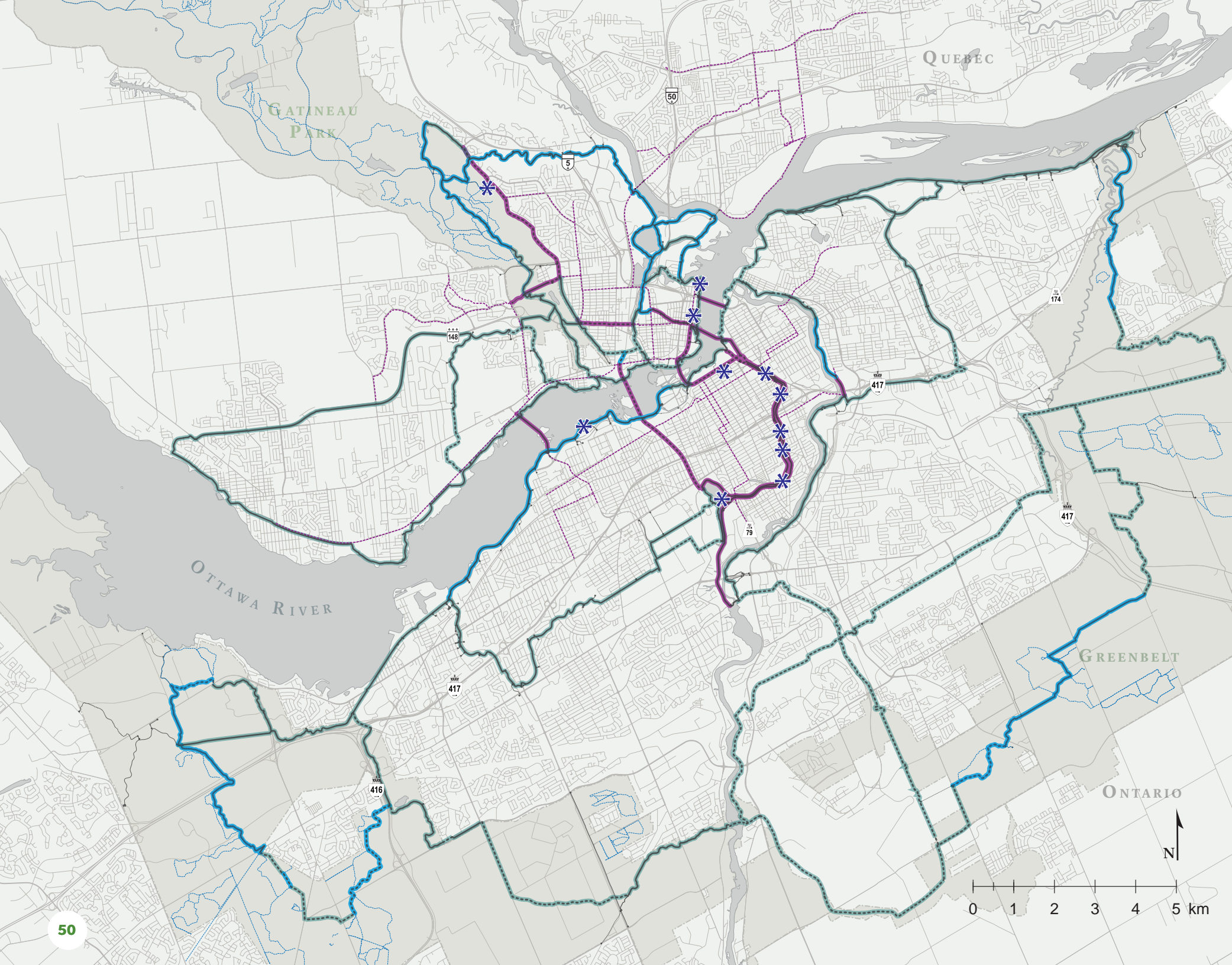
3.3 Adapted and Co-Creative Management

The Capital Pathway program will be collaboratively managed, and will leverage partnerships with municipal and federal agencies, stakeholder groups, and the public at large. It will build synergies and promote innovative management arrangements to provide a stimulating array of user opportunities.

This section includes the following strategies:

- 3.3.1 Winter use of the network
- 3.3.2 Dynamic and enriching programs and amenities
- 3.3.3 Clear, collaborative management structure
- 3.3.4 Inclusive public participation





Legend 3.3.1

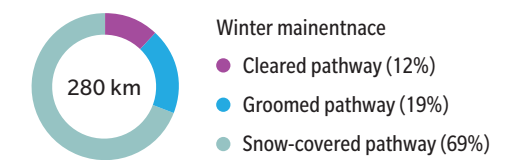
- Existing pathway
- Proposed pathway
- Existing feeder link
- Proposed feeder link

Winter maintenance

- Cleared pathway
- Groomed pathway
- Snow-covered pathway
- Municipal winter bike route
- Other winter trail
- * Winter destination

Metrics

There are a total of 280 km of existing and proposed discovery routes in the ideal network.



Municipal winter bike routes are shown for information purposes only and are subject to change on an annual basis. Cleared pathway segments should be assessed and planned accordingly each season to complement the municipal network.

3.3.1 Winter use of the network

CONTEXT

The winter season in Canada’s Capital Region offers a tremendous opportunity for residents and visitors to partake in a wide range of outdoor activities. The City of Ottawa and Ville de Gatineau are developing their respective winter cycling networks, consisting of on-road and off-road facilities that are maintained for winter use. The Capital Pathway, by contrast, presents an opportunity to support several types of diverse winter activities.

The type of winter maintenance required depends on the types of winter activities being encouraged. For example, cross-country skiing is preferably enjoyed on groomed tracks, whereas the use of pathways for winter cycling (on regular bicycle tires) requires full snow removal. Walking, jogging and fat biking require a hard or semi-packed surface such as asphalt or packed snow, whereas snowshoeing is ideally enjoyed on fresh unpacked snow.

ACTIONS

- A. Explore partnerships for winter installations and services at key points along the Capital Pathway.
- B. Expand the SJAM Winter Trail experience to other segments of the Capital Pathway.

APPROACH

During the winter months, the pathway network will be managed and maintained to provide opportunities to explore and discover the Capital Region. Specially adapted maintenance procedures and design techniques will contribute to the quality and comfort of the outdoor winter experience.

- ▶ **Winter maintenance:** Pathways will be maintained according to the following three categories.
 - **Snow-covered pathways:** The majority of the pathway network will not be maintained in the winter, and will be available for user-driven activities such as snowshoeing and back-country skiing.
 - **Groomed pathways:** Some pathways will be groomed for winter activities such as cross-country skiing or fat biking. These segments will be located in areas that connect to larger regional networks or significant Capital green spaces (such as Gatineau Park, the Greenbelt or riverfront lands), will be executed through community and municipal partnerships, and will be equitably funded by the NCC to an annual upset limit.
 - **Cleared pathways:** Some pathways will be plowed, and kept clear of snow year-round for traditional urban cycling and walking, at the request and cost of the municipalities. These pathway segments will be located in high-density areas (primarily in the core area) where a large number of cyclists and pedestrians engage in year-round active mobility, and specifically along pathway segments that would otherwise disrupt the flow of active transportation during the winter months (i.e. around transit stations, interprovincial bridges and key walking/cycling corridors).
- ▶ **Winter destinations:** Winter points of interest (such as Winterlude sites, the Rideau Canal and the SJAM Winter Trail) will contribute to the winter discovery and enjoyment of the Capital. The NCC will seek partnerships to create and maintain points of winter interest along the pathways, and will encourage installations and enhancements that contribute to the user experience and comfort during the winter months (such as lighting, warming stations and artistic installations).
- ▶ **Seasonal features:** Special winter-specific features (such as signs and markers for winter ski and snowshoe trails and furnishing elements) will support and complement the Capital Pathway’s visual identity, and be designed to be easily installed or added to the existing pathway infrastructure on a seasonal basis. Special consideration will be given to colours and forms adapted to winter conditions.





A robust and distributed offering of complementary services, programs and amenities will be provided along the Capital Pathway.

3.3.2 Dynamic and enriching programs and amenities

CONTEXT

Complementary services and amenities along the pathway network can enhance the user experience. Parking areas, rest points, washrooms, drinking fountains, benches, bicycle repair stations and waste receptacles are among some of the elements that can support a positive experience, by providing opportunities to rest and explore, protection from the elements, and hydration. Furthermore, special programs such as public art, special events and interpretation contribute to the discovery and appreciation of the Capital.

ACTIONS

- A. Conduct a GIS analysis to identify the location and types of existing amenities across the network, and identify potential locations for new services or rest points.
- B. Explore third-party partnerships for artistic installations along the Capital Pathway.
- C. Explore interpretation and commemoration opportunities for points along the Capital Pathway.

APPROACH

A robust and distributed offering of complementary services, programs and amenities will be provided across the pathway network. Service areas and rest points will be provided, and essential services such as washrooms and drinking fountains will be located at key gathering points (such as Capital core parks and activity nodes).

The NCC will collaborate with community groups and agencies to enable the development of programs and installations that contribute to the Capital Pathway experience. The NCC will collaborate with its partners to ensure that placemaking and interpretation initiatives along the pathways are in keeping with the broader messages and themes of the Capital.

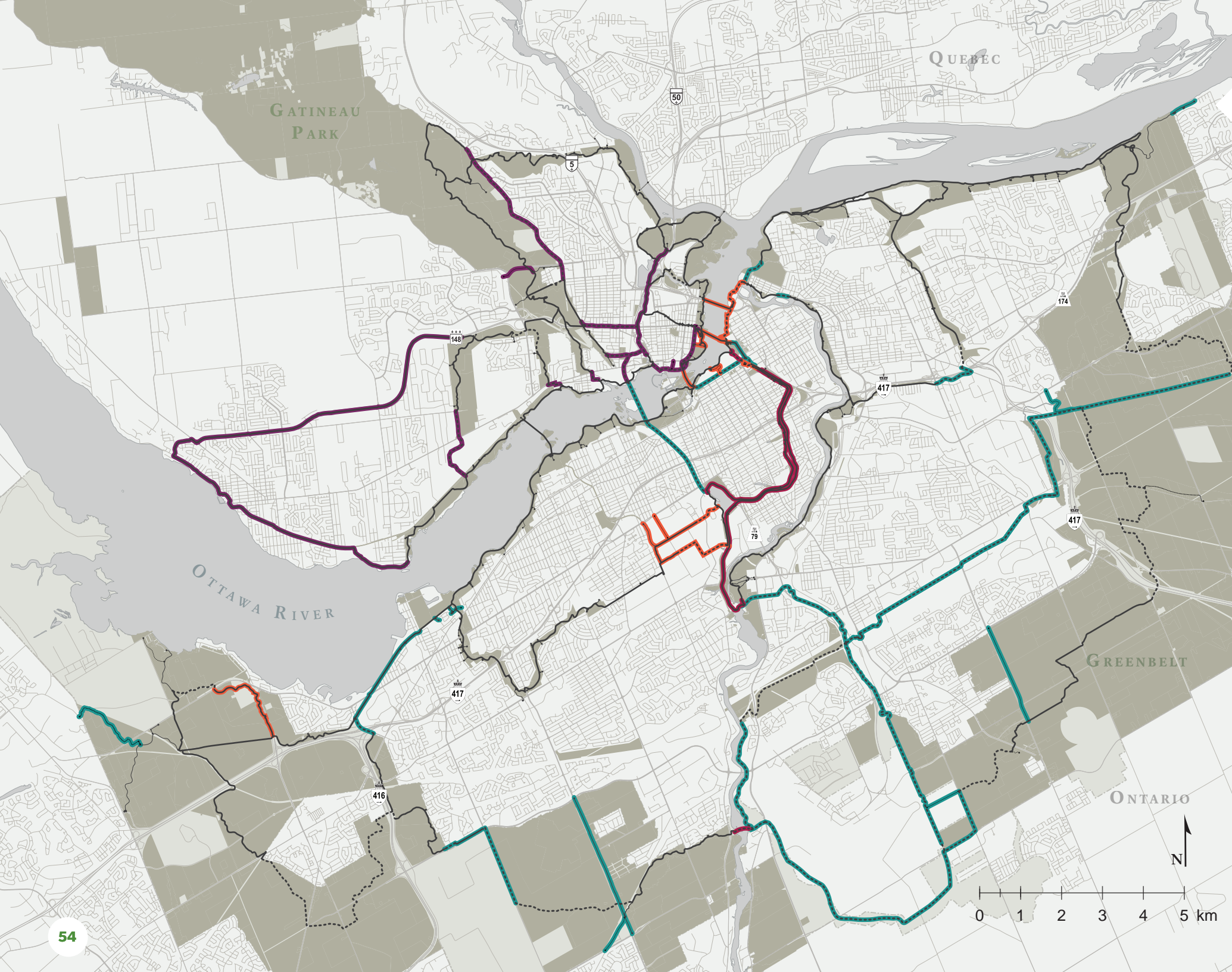
► Amenities

- **Complementary services:** The NCC will work with partners and vendors to provide commercial or community services such as bike rentals, bike maintenance and concession stands along or near pathways.
- **Rest points:** Rest points will be located at various public nodes and points of interest throughout the network, and will provide basic amenities such as benches, waste receptacles and bike racks.
- **Lookouts:** These will be located at areas of exceptional scenic quality, and will be designed to enhance the visitor's appreciation and understanding of the physical surroundings.
- **Washrooms and drinking fountains:** These will be located throughout the network at easily maintained locations. Preference will be given to sites with easy access to potable water and wastewater services. Where no services exist, composting toilets and a portable water program may be considered.

► Programs

- **Artwork and installations:** Seasonally appropriate installations such as visual art, land art, lighting displays and murals are encouraged. Partnerships will be fostered with creative agencies.
- **Interpretation points:** These are encouraged, and will be located at unique points of interest with a remarkable physical feature or where a historical event has taken place.
- **Special uses:** Special events such as non-competitive running and walkathons may be permitted, provided that they do not adversely impact public use of the pathways. A permit must be granted for an organized activity on the Capital Pathway.
- **Commemorative and thematic programs:** Commemorative and thematic programs that contribute to the Capital experience will be explored, in keeping with the relevant land use and policy plans for each area.





Legend 3.3.3

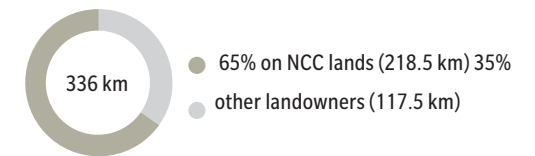
- Existing pathway
- - - Proposed pathway
- Existing feeder link
- - - Proposed feeder link
- NCC land

Partners

- City of Ottawa
- Ville de Gatineau
- Parks Canada
- Other federal partners

Metrics

There are a total of 336 km of discovery routes and feeder links in the ideal network.



Partners' interests:

- City of Ottawa (69 km)
- Ville de Gatineau (31.6 km)
- Parks Canada (14.7 km)
- Other federal partners (14.6 km)



3.3.3 Clear, collaborative management structure

CONTEXT

The Capital Pathway is one of the NCC’s most popular and extensive assets. As a result, it requires a coordinated effort by multiple NCC teams to plan, design, construct, maintain, manage and promote the pathway network. In addition, some segments of the pathway network are owned by other agencies, making collaboration with stakeholders and the development of partnerships critical to the success of the Capital Pathway program. It is important that the NCC continues to build strong ties with multiple partners, including the City of Ottawa and Ville de Gatineau, federal landholders (notably Public Services and Procurement Canada, Parks Canada, and Agriculture and Agri-Food Canada), the private sector, local communities, interest groups, and residents.

ACTIONS

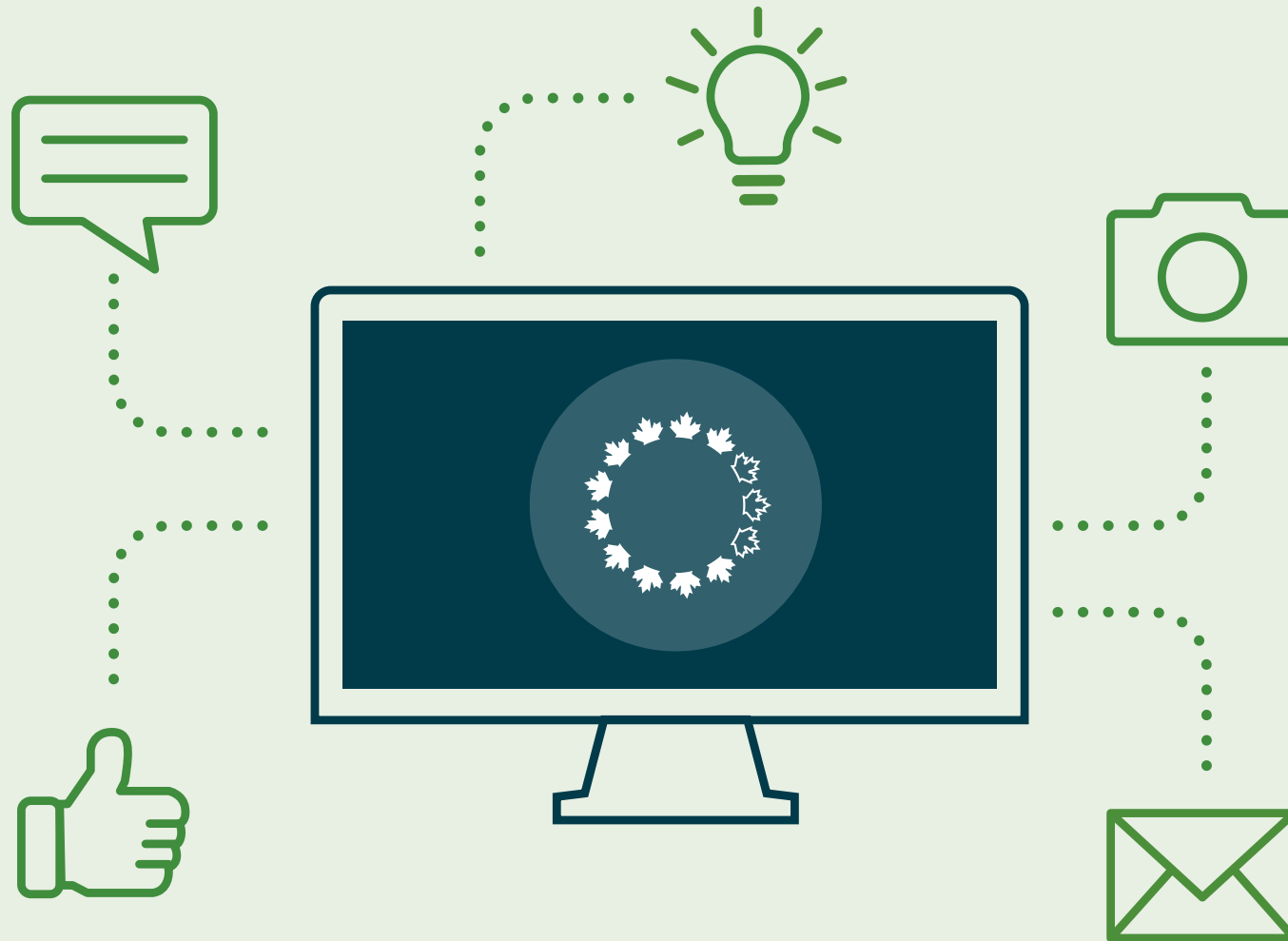
- A. Streamline the responsibilities of NCC branches involved in the design, operation and management of the Capital Pathway via an updated corporate administrative policy.
- B. Establish a tripartite steering committee (NCC, Ville de Gatineau and City of Ottawa) with regular meetings.
- C. Establish a yearly meeting with City of Ottawa and Ville de Gatineau first responders.

APPROACH

The NCC will re-establish its role as a regional thought leader in pathway planning, by leveraging its partnerships with municipalities, federal partners and community organizations in the development, management and promotion of the Capital Pathway program. The NCC will collaborate with partners and landowners to ensure a collaborative and consistent approach to branding, rules, language and design standards across the pathway network. The NCC will share its resources and expertise, and will work with its partners and stakeholders to assemble a dedicated community of industry experts to create innovative solutions to common problems.

- ▶ **Partners and owners:** The NCC will work with its partners to ensure a consistent approach and treatment to all pathway segments forming part of the future ideal network. Major landowners will be expected to construct and maintain their respective segments to Capital Pathway standards. In some instances, special cost-sharing and management arrangements may be explored.
- ▶ **Tripartite steering committee:** Representatives from the NCC, City of Ottawa and Ville de Gatineau will be mandated to guide the planning, management and implementation of key initiatives related to the region’s active mobility network, and ensure regional harmonization.
- ▶ **NCC roles and processes**
 - **Program manager:** The NCC’s Capital Pathway senior manager shall act as the champion of the Capital Pathway, and will be responsible for the oversight of planning, construction, repair and maintenance of Capital Pathway segments across all NCC land portfolios. The senior manager will serve as the NCC’s representative to the tripartite steering committee.
 - **Information management:** Any information related to monitoring, maintenance, construction, policies and standards will be consolidated by the NCC program coordinator. Any NCC representatives working on projects or initiatives related to the Capital Pathway will be responsible for coordinating the transfer of information to the program coordinator or relevant NCC databases of information.
 - **Technical experts:** Technical experts such as engineers, designers, planners and subject matter experts will be consulted to develop and implement pathway standards, and participate at the interagency steering committee, as required to develop consistent and appropriate technical solutions.
 - **Project approvals:** Federal approvals for projects that include or have the potential to include segments of the Capital Pathway’s ideal network shall be identified to the senior manager. These projects will be leveraged to contribute to the incremental improvement of the pathway network, subject to available funding.





Opportunities to volunteer, provide input and report problems will be streamlined to create strong grassroots support for the Capital Pathway.

3.3.4 Inclusive public participation

CONTEXT

The Capital is an important source of pride for all Canadians. The pathway network provides an opportunity for those visiting the Capital Region to discover many important sites of national interest. For those living in the Capital Region, the pathway network serves as an essential public amenity. Local residents, as well as community and interest groups, have a strong interest in the planning and management of the pathway network. Local residents are often the first to identify problems, and they have valuable insights about the local conditions across the extensive pathway network.

ACTIONS

- A. Develop a public open-mapping application to assist in the identification of the pathway user experience.
- B. Develop a community and stakeholder notification mechanism, such as a web portal or e-newsletter.

APPROACH

The NCC will engage community groups and the public at large to leverage public interest in the pathway network. Opportunities to volunteer, provide input and report problems will be streamlined to create strong grassroots support for the Capital Pathway.

- ▶ **Crowdsourcing:** The NCC will use social media and geospatial applications to engage and collect relevant pathway data from public users. The public will be encouraged to report problems and submit suggestions along the pathways, to better understand and address issues in real time.
- ▶ **Outreach:** The NCC will engage with community and cycling advocacy groups, and encourage public participation in pathway programs. Volunteer initiatives such as ambassador programs, adopt a pathway or “Friends of the Capital Pathway” will be encouraged and leveraged to improve pathway services, amenities and programs.
- ▶ **Consultation:** The NCC will work to ensure that public feedback is received on a regular and project-specific basis. Communication and feedback will be maintained with community groups that have special interest in the pathway network.





3.4





3.4 High Standards of Design and Maintenance

The Capital Pathway will strive for high-quality and long-lasting infrastructure that creates unique opportunities and showcases the Capital's diverse points of interest. The Capital Pathway will be an iconic public amenity that complements its surroundings and is a source of pride for residents and visitors in the Capital.

This section includes the following strategies:

- 3.4.1 Clear and consistent design
- 3.4.2 Beautiful, context-sensitive installations
- 3.4.3 Durable, high-quality construction and maintenance
- 3.4.4 Dependable capital and operation funding





A consistent visual identity will be promoted to provide a continuous and cohesive user experience. The Capital Pathway will espouse the highest standards of design.

3.4.1 Clear and consistent design

CONTEXT

The pathway network passes through a variety of areas and landscapes. Despite its scope, the network is intended to provide a cohesive user experience. This requires that all pathway segments be easily identified as part of the pathway network, and that their visual character is of utmost importance.

ACTIONS

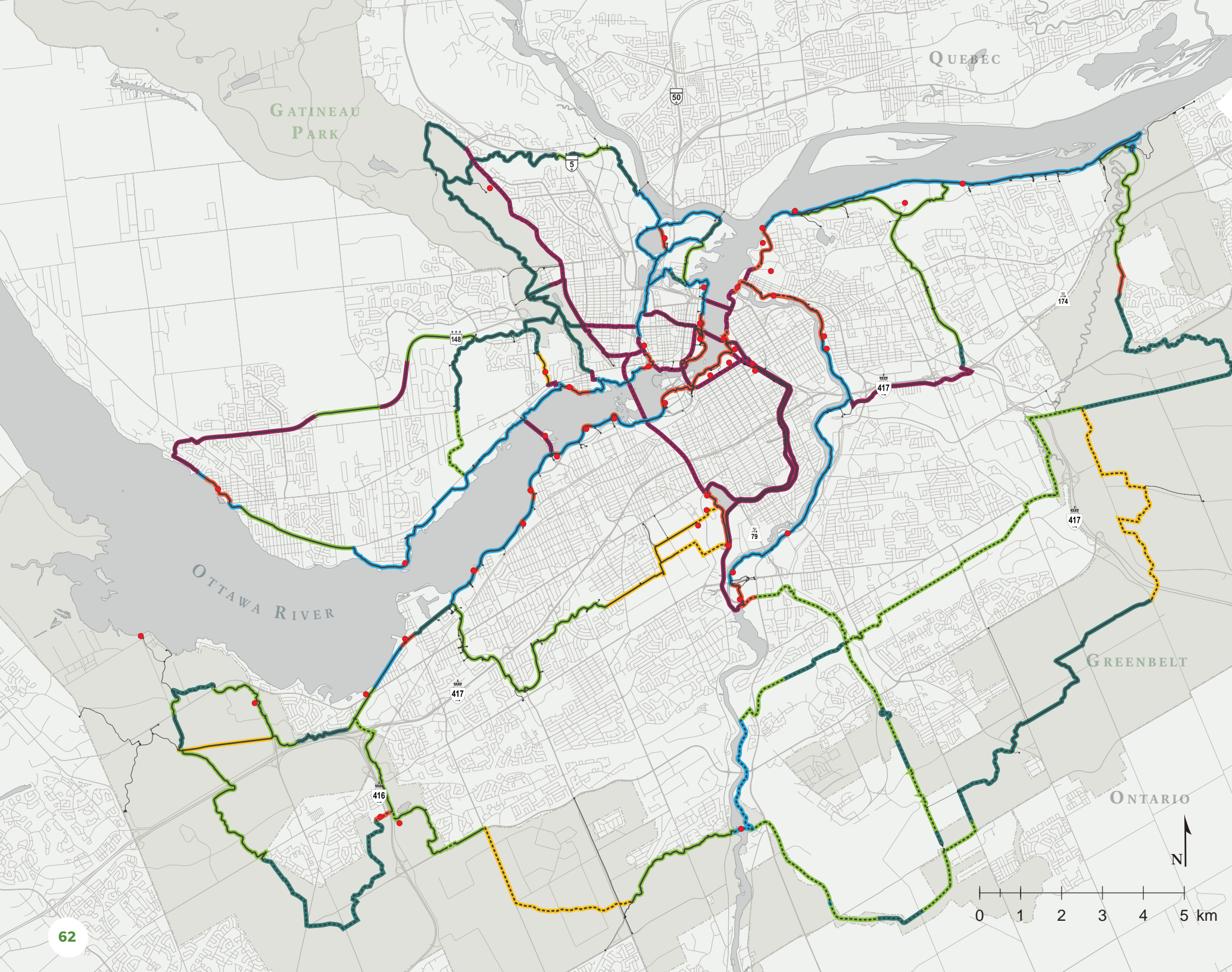
- A. Explore the use of a distinctly coloured centre line to distinguish the Capital Pathway from other active mobility networks.
- B. Conduct a review of pathway branding, and update visual features of the Capital Pathway (such as logo, signage, materials and so on), as required.
- C. Update the Capital Pathway's signage standards, and conduct an audit to remove all non-conforming or obsolete sign types.

APPROACH

The identity and character of the Capital Pathway brand will be preserved and enhanced through careful attention to the design of the pathway network's physical features. The pathway network will be characterized by a cohesive family of signage and materials applied consistently, regardless of pathway ownership. A consistent visual identity will be promoted to provide a continuous and cohesive user experience. The Capital Pathway will espouse the highest standards of design.

- ▶ **Design consistency:** A consistent approach to material selection and design will be employed to ensure a legible pathway network, distinct from other active mobility infrastructure. Typical pathway features and detailing will be used to create consistency across the pathway network where no strong local character exists.
 - **Design families:** Where a pathway passes through a special location or character area (such as a historic district, cultural landscape, Capital park or natural area) the pathway will be woven into the context and sub-families of pathway materials, and site furnishings will be used to respect the location (*see also Section 3.4.2*).
- ▶ **Graphic consistency:** A consistent approach to brand and design elements will be promoted across the network. This will be achieved through consistency and repetition of colours, materials, signage, graphic elements and pavement markings.
- ▶ **Design priority:** Particular attention to design detail and material quality will be paid in areas where a pathway plays a special role as a tourist destination. This includes the pathways in the core area of the Capital, and along scenic routes such as the Ottawa River shorelines and the Rideau Canal.
- ▶ **Partner agencies:** All municipal and federal partners who plan, design and/or manage segments of the pathway network will be expected to work in collaboration and meet the Capital Pathway design guidelines and standards.





Legend 3.4.2

- Existing pathway
- - - - Proposed pathway
- Existing feeder link
- - - - Proposed feeder link

Anthropocentric

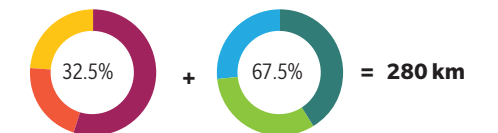
- Urban
- Park space
- Agricultural

Eco-centric

- Forested
- Open space
- Riverfront
- Point of interest

Metrics

There are a total of 280 km of existing and proposed discovery routes in the ideal network.



Anthropocentric	Eco-centric
• Urban (50 km)	• Forested (61 km)
• Park (19.3 km)	• Open space (77.7 km)
• Agricultural (21.5 km)	• Riverfront (50 km)

3.4.2 Beautiful, context-sensitive installations

CONTEXT

The Capital Pathway is a product of the various landscapes and settings through which it passes. The aesthetic quality and character of the surrounding Capital landscape act in unison with the pathway's features to create a unique and memorable user environment. The surrounding context of the pathway's immediate and greater zones of influence imparts sensory qualities that together create the user experience.

ACTIONS

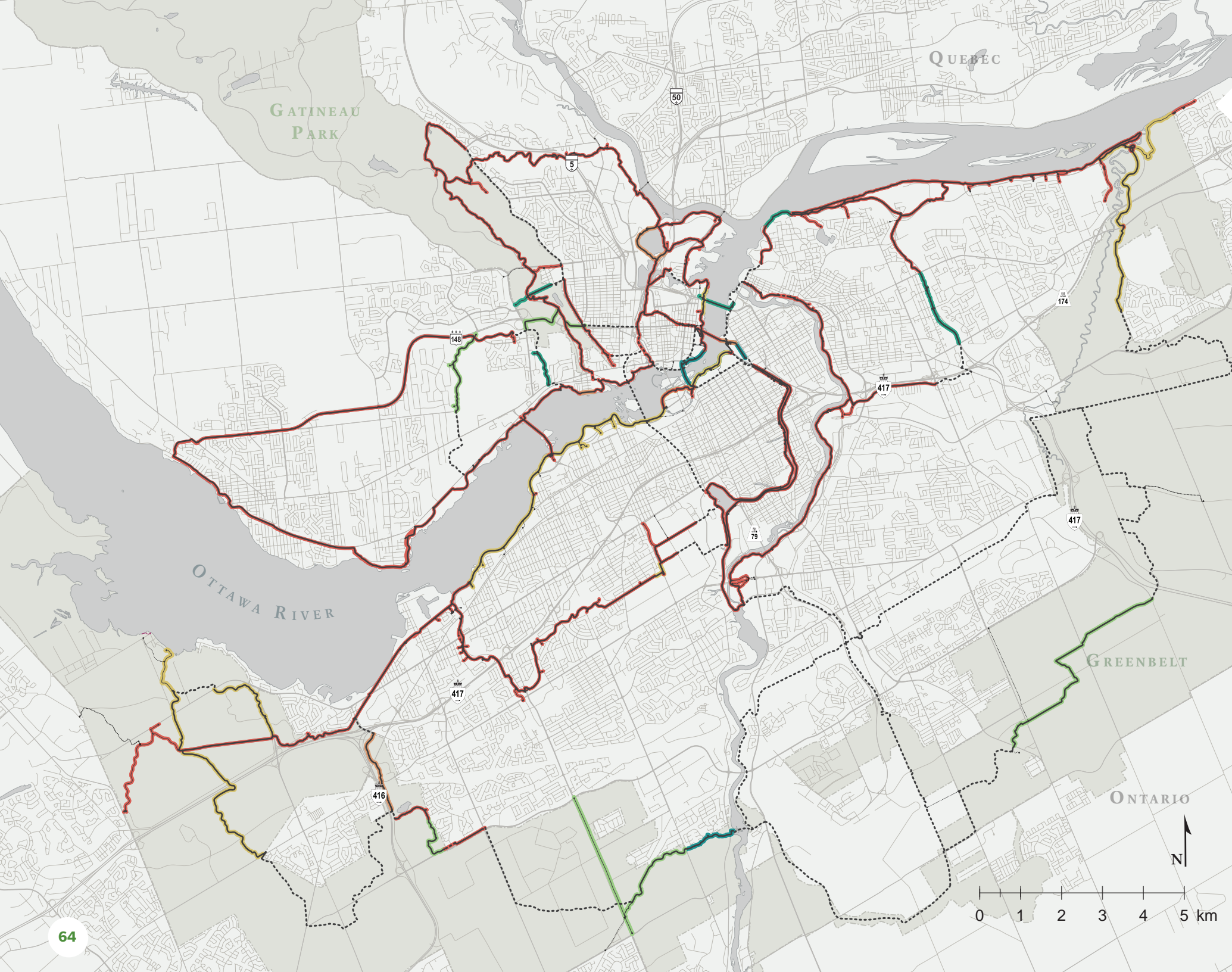
- A. Develop a GIS layer or catalogue of important character areas, destinations and points of interest across the pathway network.
- B. Review Capital Pathway design standards, and develop typical design families (of furnishings and features) for specific character areas across the network.

APPROACH

The pathway network will foster a beautiful aesthetic experience through picturesque settings, and will contribute to its surroundings by tailoring aspects of its design, materiality and configuration to the locale. A site-specific design approach will be promoted, and the characteristics of the site must always be considered when making design decisions.

- ▶ **Points of interest:** The pathway network will connect and highlight points of interest of national importance, such as iconic landmarks, heritage sites, Capital institutions and Capital parks.
- ▶ **Vistas:** Scenic vistas and iconic views of the Capital will be cultivated through the careful design of the pathway alignment and amenities. Important viewpoints and panoramas will be identified and designed to maximize their visual appeal.
- ▶ **Setting and character:** Pathways will respect their surroundings by responding to the following framework of landscape typologies.
 - **Anthropocentric:** These settings are predominantly designed spaces, and are heavily used for human activities.
 - Urban: Composed of urban features such as plazas, buildings, walls, structures, roadways and gardens.
 - Park space: Consists of parklands arranged for human enjoyment.
 - Agricultural: Composed of cultivated fields and pastoral scenes.
 - **Eco-centric:** These settings are predominantly natural or rehabilitated green space that contribute substantially to the ecological functions of the region.
 - Forested: Characterized by abundant tree and woodland ground covers.
 - Open space: Characterized by open meadows and grasslands.
 - Riverfront: Characterized by natural shorelines and riparian zones.
- ▶ **Placemaking:** Spaces along and adjacent to the pathways will create inviting and engaging contributions to the public realm. These places will balance the pathway network's dual role as a thoroughfare and a destination, by providing both a clear travel path and spaces outside the travel path to rest, relax and explore (such as lookouts, plazas and rest points).
- ▶ **Local furnishings:** Furnishings and amenities will respect their locale. Where the pathway passes through a park or public space, it will adopt the visual character and materials of that space.





Legend 3.4.3

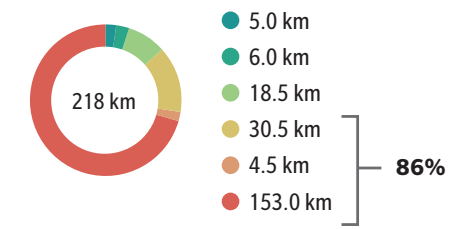
- Existing pathway
- - - Proposed pathway
- Existing feeder link
- - - Proposed feeder link

Pathway age

- 0–5 years
- 5–10 years
- 10–15 years
- 15–20 years
- 20–25 years
- 25+ years

Metrics

There are 218 km of existing pathways and feeder links. Eighty-six percent of the existing pathways are over 15 years old and may require repair or replacement by the end of the coming decade.



3.4.3 Durable, high-quality construction and maintenance

CONTEXT

Proper care and maintenance of an extensive pathway network includes a broad range of daily, seasonal and yearly tasks. Typical maintenance works include the following:

- ▶ regular maintenance (e.g. sweeping, vegetation trimming, litter pickup and so on)
- ▶ seasonal maintenance (e.g. spring cleaning, snow grooming or removal, and so on)
- ▶ scheduled maintenance (repair or improvements occurring on a cycle of more than a year, including resurfacing, repainting pavement markings, sign repair and replacement, life cycle replacements, and so on)
- ▶ as-needed repair (repair or correction of pathway failure/deterioration, as identified by users, maintenance crews and regular audits).

Exemplary maintenance practices and a robust maintenance program are essential components in delivering the high-quality user experience that is expected on the Capital Pathway. Bicycles and other wheeled travel modes are particularly sensitive to surface irregularities such as cracks, potholes, uneven pavement and debris, which can increase the risk of injuries. The location of pathways within natural areas can require regular vegetation trimming to keep sufficient horizontal and vertical clearances.

ACTIONS

- A. Consolidate all Capital Pathway maintenance standards in a single guide, including renewed summer and winter maintenance standards.
- B. Systematically track the age and condition of pathway segments for life cycle planning.
- C. Track and summarize recurring maintenance issues in a yearly “lessons learned” log, and update design standards accordingly.
- D. Explore a standing offer agreement with prequalified contractors to perform specific maintenance and repair tasks.
- E. Develop a protocol for temporary pathway closures, with respect to signage, detours and barriers.

APPROACH

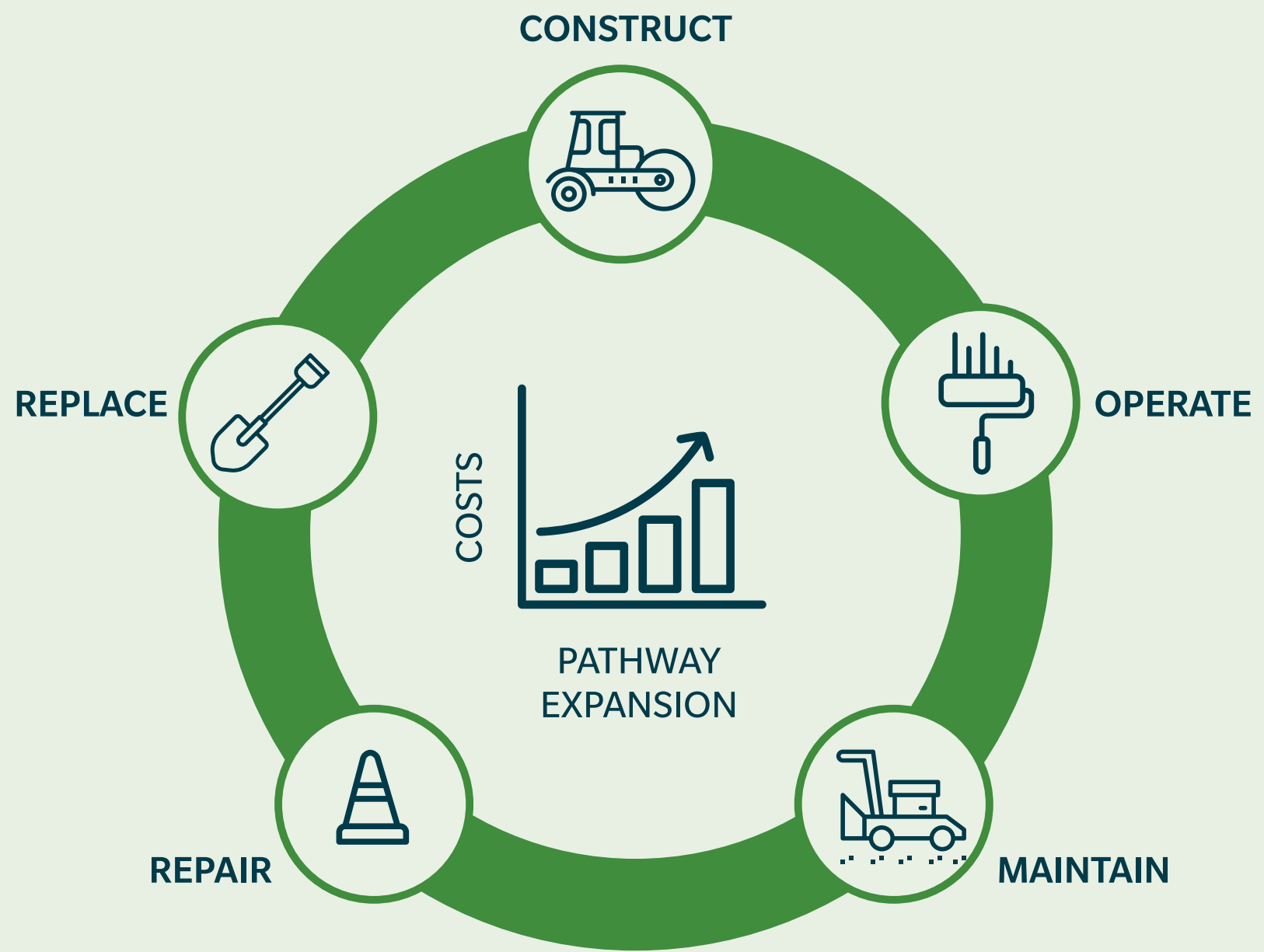
The Capital Pathway constitutes a major investment in public infrastructure. As a result, it must be planned and managed to create a resilient, dependable and cost-effective pathway network that will stand the test of time. In particular, standards for design, construction and maintenance must account for the overall life cycle costs of new and rehabilitated pathway segments.

- ▶ **Life cycle:** New segments of pathway will be constructed to attain a 30-year lifespan, and an upfront investment in quality materials and construction techniques will be prioritized to reduce the overall operating cost of the network over the long term.
- ▶ **Design standards:** Consistent design and fabrication techniques and installation methods will be employed to ensure quality control, and facilitate replacement and maintenance works. The various elements of the design specifications should be easily sourced, readily available over time and easily repaired on-site.
- ▶ **Construction materials:** Quality materials and sound construction techniques will be used to minimize long-term maintenance requirements. Preference will be given to locally sourced and environmentally responsible materials. Pathway foundations will be solid and durable, and surfaces will be designed to withstand their intended use.
- ▶ **Monitoring:** Regular monitoring will identify necessary maintenance and repair interventions. Recurring problems will be recorded and tabulated, and design and maintenance standards will be periodically updated to address recurring problems.
- ▶ **Temporary closures:** Detours will be provided around construction zones when pathways are closed off for construction or maintenance works. Clear signage and safe alternative routes will be identified with directions for universally accessible detours.
- ▶ **Maintenance standards:** These will be streamlined across the network, and adequate mitigation measures will be implemented to ensure that maintenance and repairs are in keeping with original design specifications.
- ▶ **Maintenance operations:** NCC contractor vehicles will be permitted to circulate on the pathways in order to provide essential maintenance services.
- ▶ **Standing offer agreements:** For specialty works (such as electrical, line painting, furnishings and so on) a list of prequalified contractors will be selected to perform as-needed material maintenance, repair or replacement (in accordance with NCC procurement policies).





As new pathway segments are added to the network, the NCC will seek to increase the overall operating budget to ensure that adequate resources are available for the expanded network.



3.4.4 Dependable capital and operation funding

CONTEXT

The pathway network currently consists of approximately 228 kilometres of existing pathways and feeder links, and another 120 kilometres of pathways are planned to complete the long-term ideal network. In 2020 dollars*, this represents an estimated \$77-million investment in the existing network to date and another \$42 million of new investment to achieve the overall vision. In addition, regular and recurring costs are required to continue to manage and operate the existing network. Numerous pathway segments are nearing the end of their effective life cycle, and will require significant repair or replacement in the coming years. The Capital Pathway both provides economic returns as a result of tourism, and contributes to higher quality of life indicators across the Capital Region. However, the costs of managing the pathway network are substantial and perpetual.

* Calculated at a typical cost of \$350/metre.

ACTIONS

- A. Identify a budget line for recurring life cycle repair costs (repair and replacement of existing network infrastructure).
- B. Identify a budget line for all new expansion, and additional maintenance and life cycle funding will be sought accordingly.
- C. Explore alternative means of funding, such as private philanthropic donations.

APPROACH

The NCC will seek a dependable yearly funding program for the ongoing construction and maintenance of the pathway network. Financial envelopes will be requested for annual operating costs to maintain the existing network, as well as new capital funds for the long-term expansion and improvement of the ideal network. As new pathway segments are added, the NCC will seek to increase the overall operating budget to ensure that adequate resources are available for the expanded network.

- ▶ **Budget:** A revised capital and operating budget (indexed to inflation) will be sought to ensure an adequate means to maintain and operate the pathway network over the long term. A detailed workplan of pathway expenditures will be developed to determine an appropriate quantity and quality of work to be completed per year, based on the revised amount of funding available.
 - **Funding cycle:** Funds will be sought for the upcoming construction season during the preceding financial year, and works will be planned in advance to ensure that they can be tendered and constructed within the (seasonally dependent) construction windows.
- ▶ **New capital costs:** New capital funding will be requested to systematically construct new pathway segments. A stable yearly budget will be sought to ensure that consistent incremental gains are made each year toward achieving the ideal network. The allocation of these funds will be prioritized toward pathway segments as identified in this plan, or strategically leveraged as part of broader capital improvement projects with a Capital Pathway component (as the opportunity arises).
 - **Operations and maintenance top-ups:** When new segments are constructed, additional recurring maintenance funds will be sought per extra kilometre added to the Capital Pathway (at an estimated rate of \$3,000 per kilometre).
- ▶ **Operations and maintenance funding:** A stable yearly operations and maintenance envelope will be requested to address the following works.
 - **Maintenance:** A baseline expenditure for regular maintenance works (such as recurring cleaning, patching, line painting and so on) will be completed each year. Regular maintenance and upkeep will be prioritized to ensure that deferred works do not result in more substantial repairs and/or reconstruction.
 - **Repair:** A contingency fund should be reserved for emergency or unforeseen repair works (such as natural disasters, material failure and so on) that require substantial and immediate rectification.
 - **Reconstruction:** A percentage of funds should be set aside for the full life cycle replacement of pathway segments on a five-year basis. This will ensure a cyclical replacement of old pathway infrastructure, and could be leveraged to contribute to capital upgrades and improvements along existing pathway segments.
- ▶ **Joint venture:** The NCC will seek to leverage partnerships and cost-sharing arrangements with municipal and federal partners to expand and improve the Capital Pathway. Where the cities have an interest in constructing new segments or linkages to the Capital Pathway to support the local active transportation network, it shall be done at their expense, and recurring maintenance / life cycle costs will be included in the financial arrangement between parties.





4 Discovery Routes

The Capital Pathway is composed of numerous discovery routes that provide diverse and unique opportunities to explore and enjoy Canada’s Capital Region. Currently, many of these routes exist as isolated pathways. Over the long term, however, they will be consolidated into an ideal network forming a continuous sequence of scenic greenways. These routes will be connected by anchor points that clarify wayfinding and provide logical beginning and end points for the multiple pathways throughout the network. These discovery routes will also facilitate the planning, construction and management of the pathway network.

Proposed pathway segments are depicted for illustrative purposes, and will be subject to detailed alignment study and assessment.

1. Confederation Boulevard Pathway* 69	17. Trillium Pathway and Prince of Wales Bridge* 85
2. Ottawa River Pathway 70	18. Voyageurs Pathway 86
3. Rideau Canal Western Pathway 71	19. Pionniers Pathway 87
4. Rideau Canal Eastern Pathway 72	20. Champlain Corridor Pathway 88
5. Experimental Farm Pathway 73	21. Moore Farm Estate Pathway 89
6. Pinecrest Creek Pathway 74	22. Gatineau Park Pathway 90
7. Rideau River Eastern Pathway 75	23. Lac-des-Fées Pathway 91
8. Sawmill Creek Pathway* 76	24. Leamy Creek Pathway 92
9. Southern Corridor Pathway* 77	25. Gatineau River Pathway 93
10. Rockcliffe Pathway* 78	26. Leamy Lake Pathway 94
11. Aviation Pathway 79	27. Ruisseau-de-la-Brasserie Pathway 95
12. Greenbelt Pathway East 80	28. De L’Île Pathway 96
13. Greenbelt Pathway West 81	29. Allumettières Pathway* 97
14. Watts Creek Pathway 82	30. Cité-des-Jeunes Pathway* 98
15. Shirleys Bay Pathway* 83	31. Pointe Gatineau Pathway* 99
16. Queensway Carleton Pathway* 84	

*Pathways denoted by an asterisk have not been officially named. The following names have been assigned for the purpose of this plan. A formal naming process will be undertaken to assign permanent pathway names for wayfinding and management purposes.

Confederation Boulevard Pathway*

Description

This route passes through the urban setting of the Capital core area and serves as the hub at the centre of the network. Confederation Boulevard connects multiple pathways radiating out from centre of the Capital on both sides of the Ottawa River, and provides access to many national landmarks and institutions. The route includes two interprovincial bridges, and is woven into the urban fabric and ceremonial routes at the core of the Capital.

Recommendations

- ① Complete the bidirectional bikeway along the north side of Wellington Street (City of Ottawa).
- ② Complete the bidirectional bikeway along the south side of Laurier Street (Ville de Gatineau).
- ③ Improve the feeder link connection to the Ottawa River Pathway.
- ④ Improve connections to the Voyageurs Pathway and the De l'Île Pathway.



1
Route



ONT. | QUE.
Province



4.8
Total KM



2.3
Existing KM

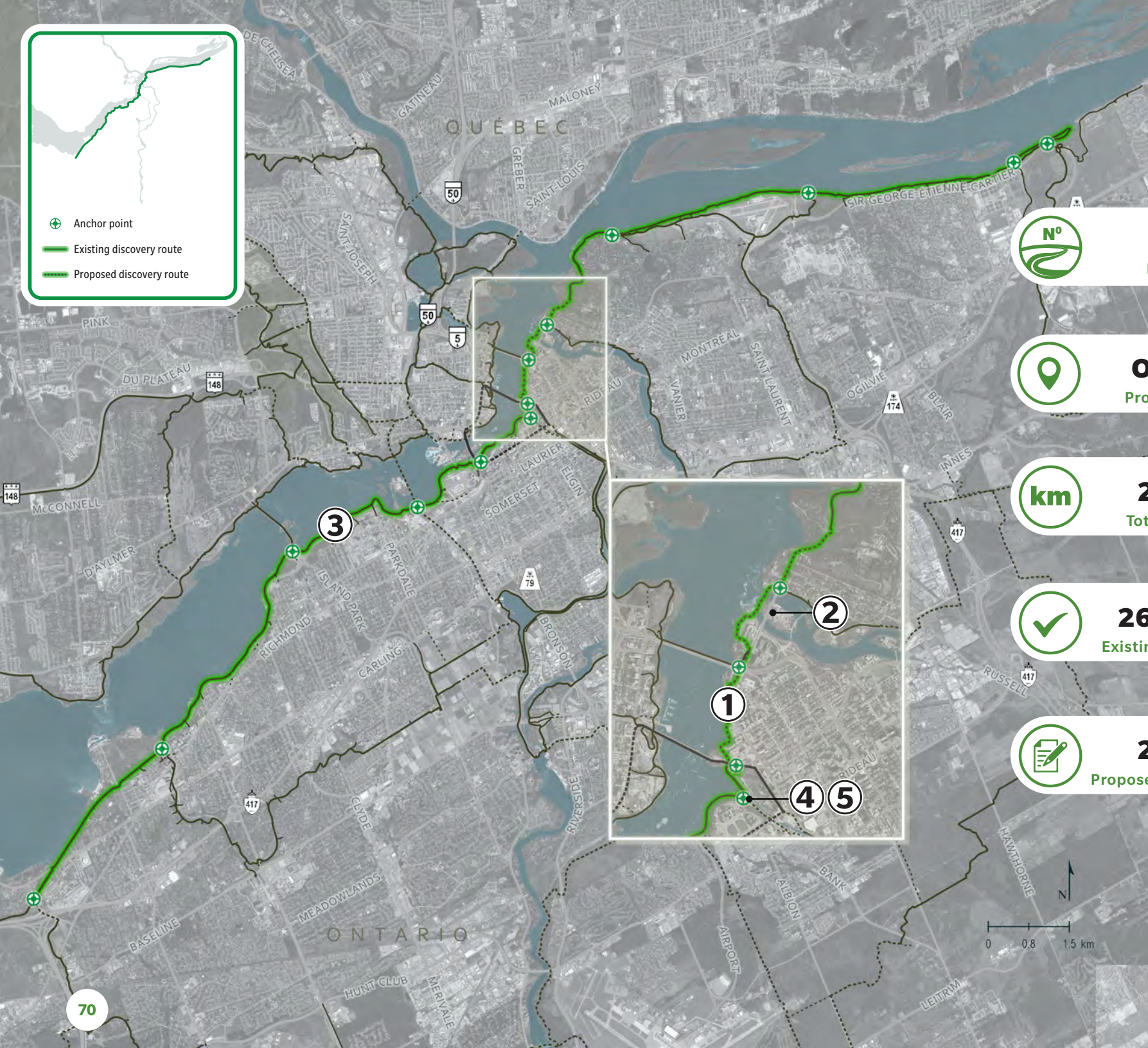


2.5
Proposed KM



Ottawa River Pathway

+ Anchor point
— Existing discovery route
— Proposed discovery route



Nº
2
Route

ONT.
Province

km
29.4
Total KM

✓
26.65
Existing KM

✍
2.75
Proposed KM

Description

This route follows the Ontario shoreline of the Ottawa River, from Andrew Haydon Park at Holly Acres Road to the outflow of Green’s Creek at the Sir George-Étienne Cartier Parkway. This pathway, one of the longest in the network, offers an experience of the Ottawa River shoreline. It includes a nine-kilometre section east of LeBreton that falls under the Ottawa River South Shore Riverfront Park Plan, a portion passing through the Capital core area below the Parliament Hill escarpment, a missing portion that would extend between the Rideau Canal and Rideau Falls, and an eastern segment that follows the Sir George-Étienne Cartier Parkway corridor.

Recommendations

- 1** Complete the missing “Rideau to Rideau” segment over the long term.
- 2** Improve the temporary link along Sussex Drive over the short term, between Nepean Point and the Rideau River.
- 3** Pilot segregation and placemaking initiatives along the Ottawa River South Shore Riverfront Park.
- 4** Improve the crossing at the Ottawa Locks (Rideau Canal locks 1 to 8).
- 5** Study universally accessible connections for the segment between Major’s Hill Park and the Ottawa Locks (Rideau Canal locks 1 to 8).

Rideau Canal Western Pathway

Description

This section follows the western edge of the Rideau Canal between Confederation Boulevard and Hartwells Locks. It includes segregated pedways at the lower canal edge. The pathway provides access to many landmarks and park spaces, including Confederation Park, the National Arts Centre, City Hall, Patterson Creek, Lansdowne Park, Brown's Inlet, Commissioners Park, Dows Lake and the Dominion Arboretum.

Recommendations

- 1 Create/improve the connection between the Laurier Bridge and the Ottawa Locks, behind the National Arts Centre.
- 2 Create a connection between Confederation Boulevard and the pathway behind the National Arts Centre.
- 3 Improve the crossing at Hartwells Locks to connect to the Rideau Canal Eastern Pathway.



+ Anchor point
 — Existing discovery route
 — Proposed discovery route



4
Route

ONT.
Province

8.6
Total KM

8.4
Existing KM

0.2
Proposed KM

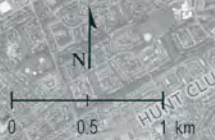
Rideau Canal Eastern Pathway

Description

This route follows the eastern edge of the Rideau Canal, along Colonel By Drive from Confederation Boulevard to Hog's Back Park. It passes both the University of Ottawa and Carleton University. Much of the pathway is constrained by a narrow roadside corridor.

Recommendations

- 1** Construct the missing segment between Daly Avenue and the Rideau/Sussex intersection at Confederation Boulevard.
- 2** Pilot a slow zone along the Rideau Canal Esplanade and mooring area between Laurier Avenue and Daly Avenue.
- 3** Improve narrow roadside conditions along Colonel By Drive, and consider reclaiming space from the vehicle lanes.



Experimental Farm Pathway

Description

This route forms a U-shaped loop through the Central Experimental Farm, between the Dominion Arboretum at Dows Lake and Hartwells Locks.

Recommendations

- 1 Formalize a northern alignment between Prince of Wales Drive and Dows Lake.
- 2 Formalize the southern segment along Cow Lane to Hartwells Locks.
- 3 Improve connections to the Canada Agriculture and Food Museum, Dominion Arboretum, Fletcher Wildlife Garden, and Canadensis Botanical Gardens.
- 4 Improve the continuity of the northern segment fronting the Canada Agriculture and Food Museum.
- 5 Improve identification of the Capital Pathway to distinguish it from local trails and walkways.
- 6 Support the City of Ottawa in creating new feeder links from surrounding roadways, to improve connectivity between the Capital Pathway and the municipal cycling network.



5
Route



ONT.
Province



4.4
Total KM



2.1
Existing KM



2.3
Proposed KM



+ Anchor point
 Existing discovery route
 Proposed discovery route



Pinecrest Creek Pathway

Description

This route follows a green space corridor between the Britannia Conservation Area and the Central Experimental Farm. The pathway passes through a mix of forest, open space and agricultural lands, and provides feeder links into neighbouring communities.

Recommendations

- 1 Rename the portion of pathway between Woodroffe Avenue and Fisher Avenue (currently named Experimental Farm Pathway).
- 2 Work with the City of Ottawa to ensure good integration of the Capital Pathway with the Stage 2 LRT Lincoln Fields and Iris stations.

6
Route

ONT.
Province

9.2
Total KM

9.2
Existing KM

0
Proposed KM

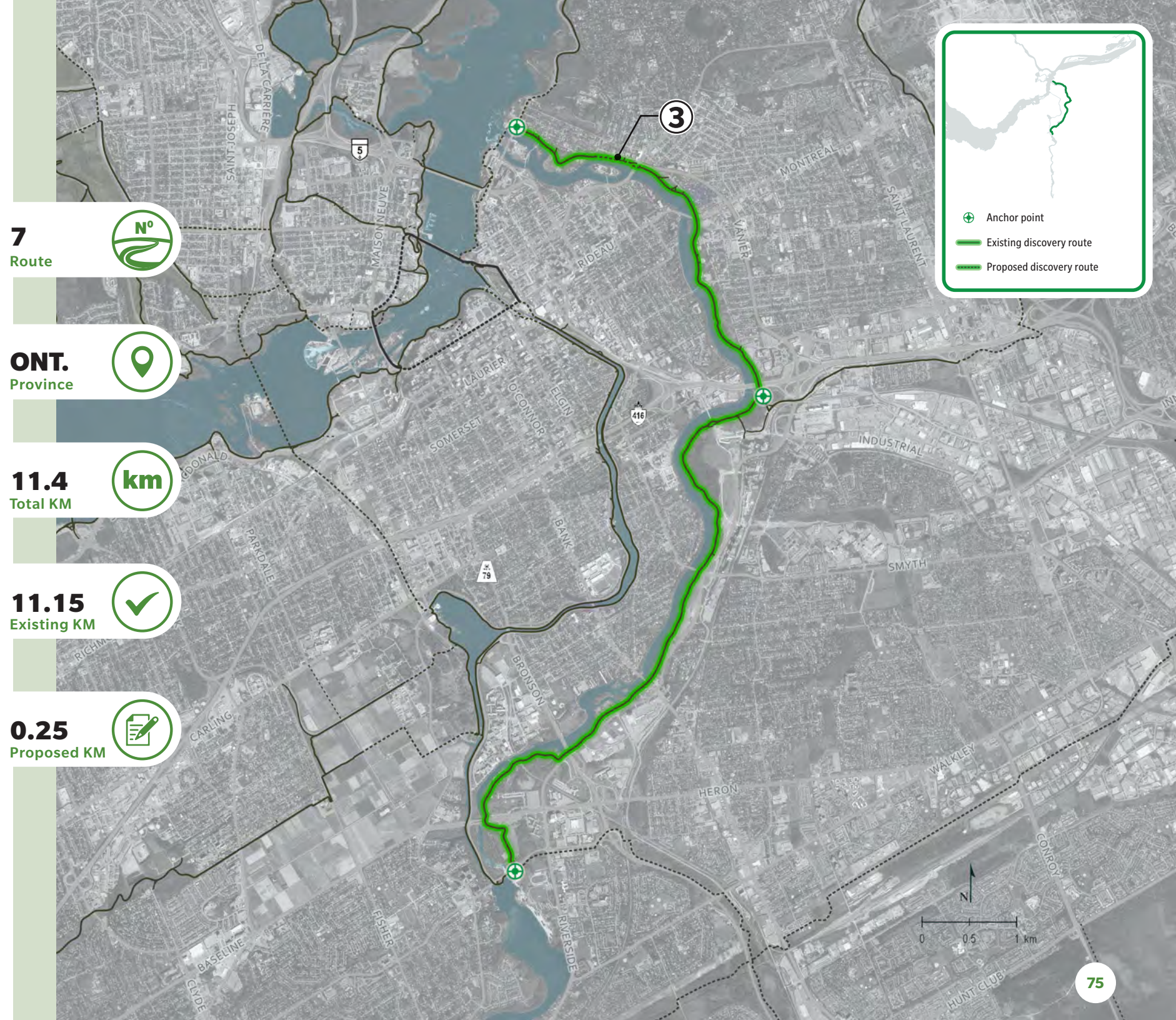
Rideau River Eastern Pathway

Description

This route follows the eastern shoreline of the Rideau River, from Rideau Falls to Hog’s Back Park. This pathway passes the Confederation Heights federal employment area, Vincent Massey Park, The Ottawa Hospital Riverside Campus, the City of Ottawa Hurdman LRT station and New Edinburgh Park.

Recommendations

- 1 Formalize the corridor and feeder links, and remove and renaturalize redundant pathway connections.
- 2 Resolve and mitigate localized flooding problems.
- 3 Support the City of Ottawa in constructing the missing link at Stanley Park.
- 4 Support the City of Ottawa to improve the safety of the Montreal Road crossing and/or study the feasibility of an underpass.



7
Route



ONT.
Province



11.4
Total KM



11.15
Existing KM



0.25
Proposed KM



Sawmill Creek Pathway*

Description

This new route acts as a key north-south corridor that will provide new and improved connections to the southern urban lands, the Ottawa Macdonald-Cartier International Airport, and eastern portions of the Greenbelt.

Recommendations

- ① Work with the City of Ottawa to include Sawmill Creek Pathway as an official north-south corridor between Hog's Back Park and the Greenbelt Pathway.
- ② Collaborate with the City of Ottawa to construct a preferred alignment as part of the LRT Stage 2 construction.
- ③ Connect this new pathway to the Greenbelt Pathway East extension to be located south of the Ottawa Macdonald-Cartier International Airport.

⊕ Anchor point
— Existing discovery route
— Proposed discovery route

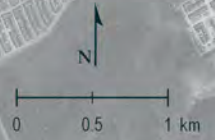
8
Route

ONT.
Province

9.5
Total KM

0
Existing KM

9.5
Proposed KM



Southern Corridor Pathway*

Description

This new route would provide east-west connections through the southern urban lands between Black Rapids Lock and the terminus of the Prescott and Russell Recreational Trail at the Greenbelt Pathway East. This pathway would provide greater connectivity within Ottawa's southeast neighbourhoods, and help to secure green space corridors.

Recommendations

- 1 Study the feasibility and ecological impacts of the proposed corridor.
- 2 Collaborate with the City of Ottawa to construct a preferred alignment over the long term.



+ Anchor point
 — Existing discovery route
 — Proposed discovery route

Rockcliffe Pathway*

10
 Route

ONT.
 Province

4.5
 Total KM

4.5
 Existing KM

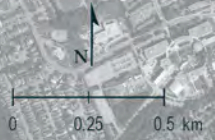
0
 Proposed KM

Description

This route follows the top of the escarpment along the Sir George-Étienne Cartier Parkway, from the New Edinburgh Club to the Ottawa River Pathway past the Rockcliffe Airport. The route passes through a mix of open grasslands and forested areas.

Recommendations

- 1 Rename the pathway to distinguish it from the Aviation Pathway.



Aviation Pathway

Description

This route follows the Aviation Parkway, linking from the Rockcliffe Airport to the Rideau River Pathway at Highway 417.

Recommendations

- 1 Construct a new segment from the Cyrville LRT station to Tremblay Road / St. Laurent Boulevard.
- 2 Consolidate the corridor and improve signage, wayfinding and roadway crossings.
- 3 Study the feasibility of crossing Highway 417 either at the Cyrville Road overpass or at the St. Laurent Boulevard / Highway 417 underpass.
- 4 Improve and simplify the connection to the Rideau River Eastern Pathway, remove and naturalize redundant routes, and simplify junction points.

11
Route



ONT.
Province



8.0
Total KM



6.2
Existing KM



1.8
Proposed KM



-
- Anchor point
 - Existing discovery route
 - Proposed discovery route

Greenbelt Pathway East

Description

This route will form the periphery of the southeast quadrant of the pathway network, between the Ottawa River Pathway at Green's Creek and the Southern Corridor Pathway at Black Rapids Lock. The pathway connects to Greenbelt trails and destinations, and passes through or near a range of ecologically significant and pastoral landscapes, including Green's Creek, Mer Bleue and Pine Grove Forest.

Recommendations

- ① Study the feasibility, and formalize the alignment of the segment between Tavette Park and Ramsayville Cemetery, at Russell Road (regional road 26).
- ② Construct a multi-use feeder link connecting to the Mer Bleue parking lot.
- ③ Continue planning for a new pathway segment south of the Ottawa Macdonald-Cartier International Airport.
- ④ Construct a new crossing at the Blackburn Hamlet Bypass (regional road 30).
- ⑤ Collaborate with the City of Ottawa to plan new feeder links and connections to municipal cycling routes, to minimize landscape fragmentation.
- ⑥ Consolidate signage and wayfinding for the entire corridor.
- ⑦ Consider renaming the pathway to reflect local environmental features (i.e. Green's Creek or Mer Bleue).

- Anchor point
- Existing discovery route
- Proposed discovery route

12
Route

ONT.
Province

39.5
Total KM

12.5
Existing KM

27.0
Proposed KM



Greenbelt Pathway West

Description

This route will form the periphery of the southwest quadrant of the pathway network, between Black Rapids Lock and Watts Creek Pathway at Wesley Clover. The pathway passes through active agricultural lands and a mix of forested wetlands around Bells Corners.

Recommendations

- ① Collaborate with the City of Ottawa and Parks Canada to plan and construct a new crossing over the Rideau River at Black Rapids Lock.
- ② Replace the temporary link along West Hunt Club Road and Woodroffe Avenue with a new corridor to Greenbank Road.
- ③ Study a new crossing of the roadway and/or VIA Rail tracks at Woodroffe Avenue.
- ④ Formalize the Capital Pathway segment around Bruce Pit.
- ⑤ Collaborate with the City of Ottawa to create a multi-use pathway crossing on Bruin Road overpass at Highway 416.

13
Route



ONT.
Province



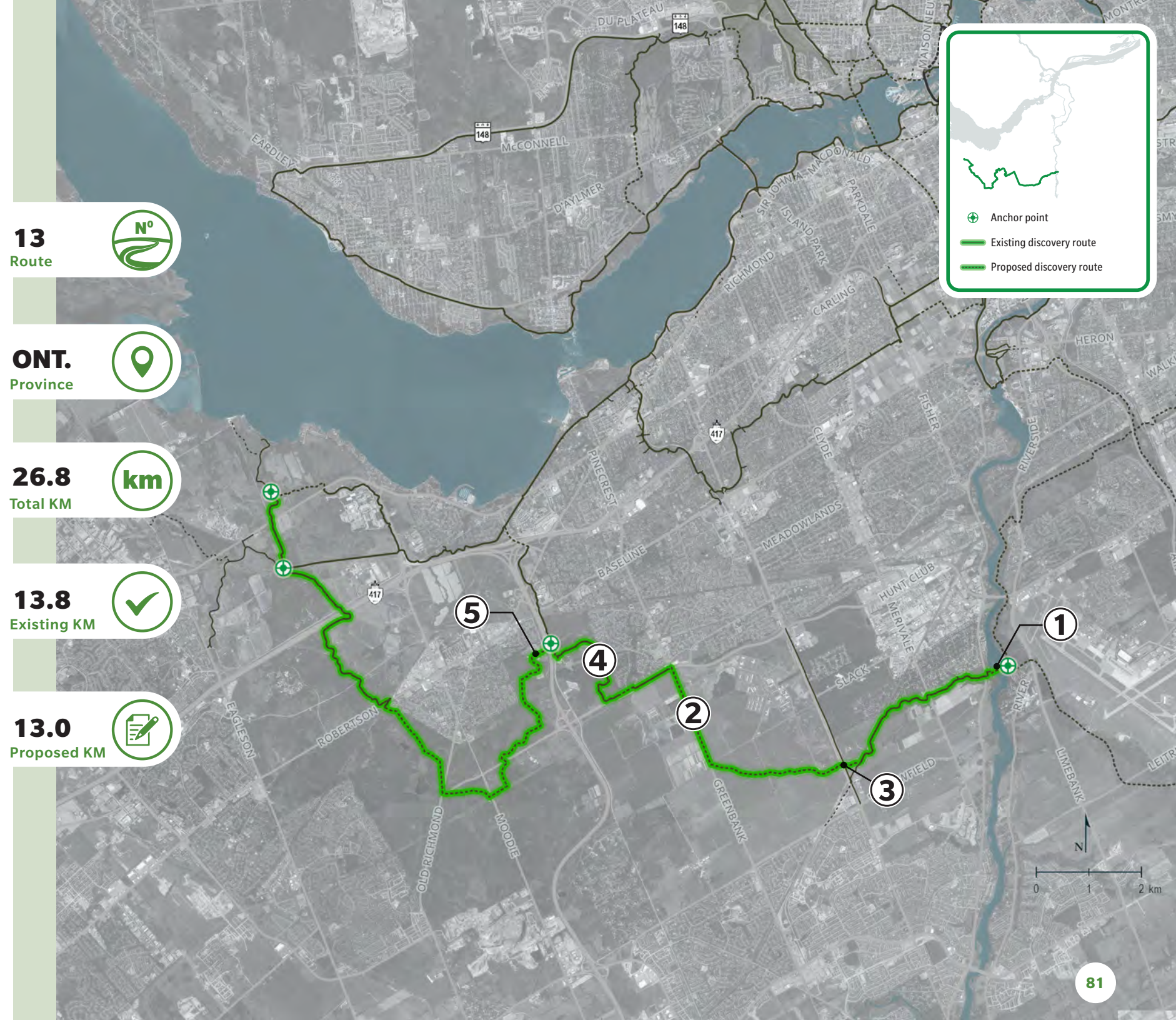
26.8
Total KM



13.8
Existing KM



13.0
Proposed KM




Watts Creek Pathway




Description

This route follows Watts Creek along the northern edge of Highway 417 between Holly Acres Road and the Greenbelt Pathway West, at Wesley Clover. It passes through a mix of wooded urban lands and open Greenbelt meadows. The pathway includes a feeder link that extends to the Ottawa suburb of Kanata.

Recommendations

- 1 Improve the anchor points between the Watts Creek Pathway, Ottawa River Pathway and new Queensway Carleton Pathway.
- 2 Improve the anchor point between the Watts Creek Pathway and Greenbelt Pathway West.
- 3 Clarify wayfinding and the distinction between the pathway corridor and feeder links toward Kanata.



-  Anchor point
-  Existing discovery route
-  Proposed discovery route



14
Route



ONT.
Province



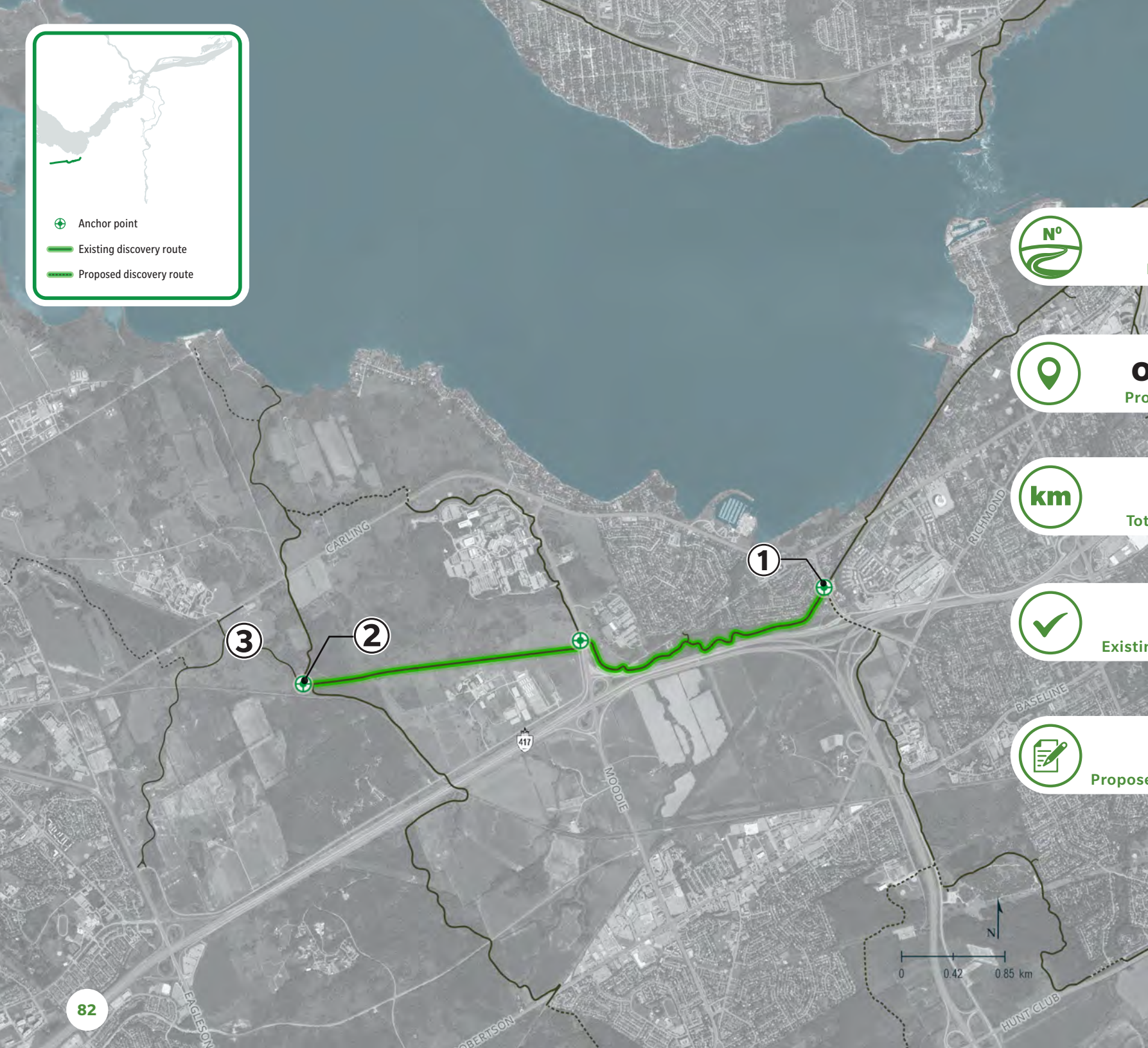
4.9
Total KM



4.9
Existing KM



0
Proposed KM



Shirleys Bay Pathway*

Description

This route will provide a new loop linking the Watts Creek Pathway to the Greenbelt Pathway West with closer service to the Shirleys Bay service area. The pathway will encircle National Defence headquarters at the Carling Campus, and pass through a mix of meadows, forest and agricultural lands.

Recommendations

- 1 Determine an official pathway name.
- 2 Formalize the anchor points at the beginning and end to improve signage and wayfinding.
- 3 Study the feasibility and ecological impacts of the proposed alignment.
- 4 Improve existing facilities to meet Capital Pathway guidelines, and install standardized signage along the route.
- 5 Improve wayfinding and route planning information to and from the Shirleys Bay parking area (P1).

15
Route



ONT.
Province



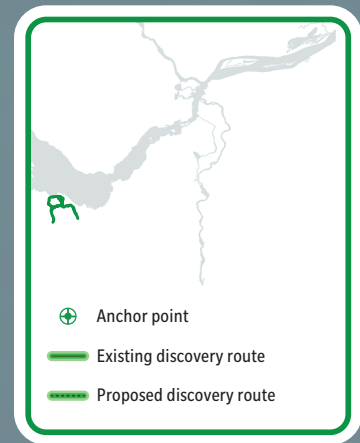
3.7
Total KM



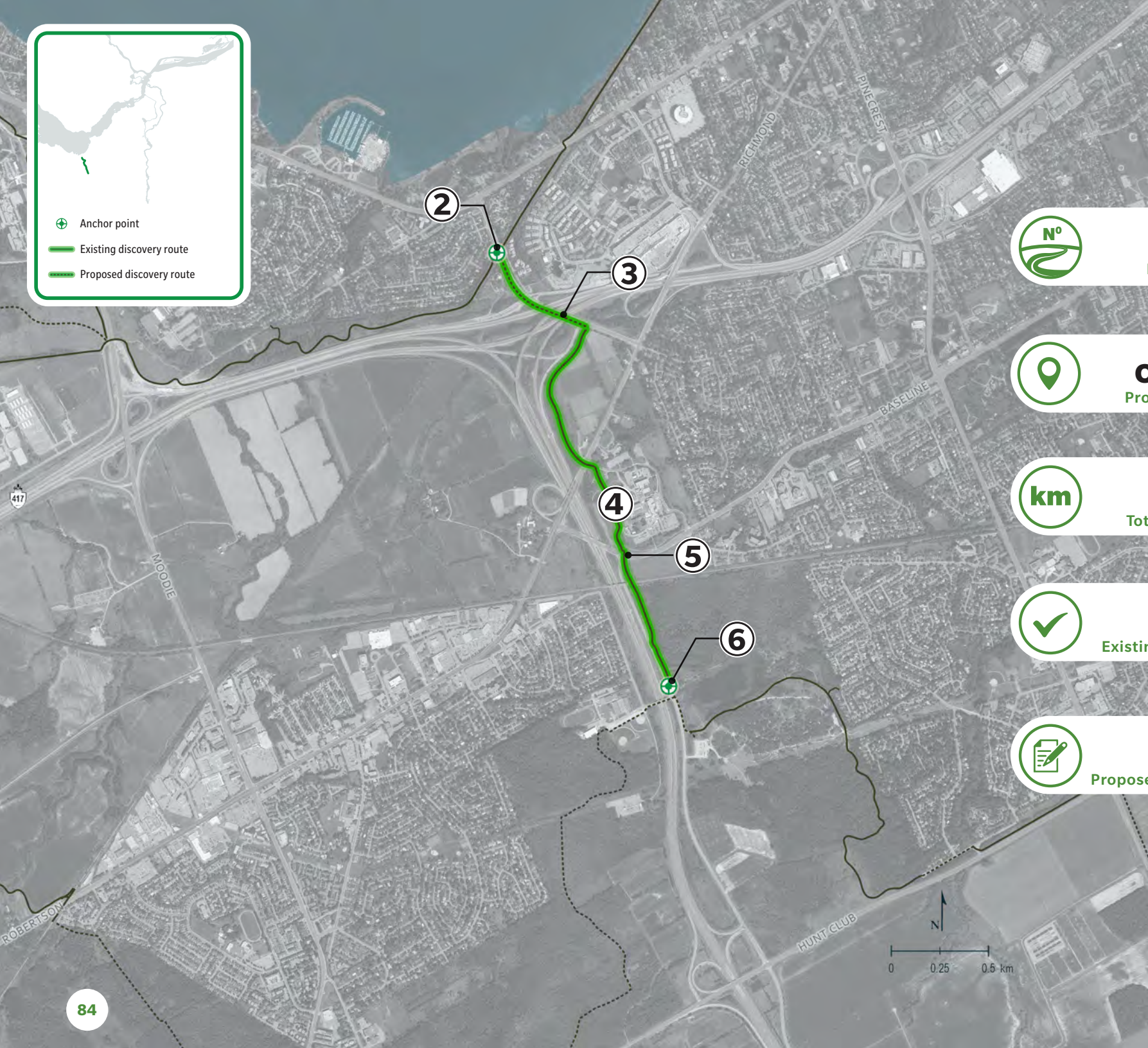
2.4
Existing KM



1.3
Proposed KM



Anchor point
 Existing discovery route
 Proposed discovery route



16
Route

ONT.
Province

2.7
Total KM

2.1
Existing KM

0.6
Proposed KM

Queensway Carleton Pathway*

Description

This route provides a north-south link from the Watts Creek Pathway to the Greenbelt Pathway West. This is an important segment that provides safe connections between the portions of the pathway network on the north and south of Highway 417. The pathway is located predominantly along a roadway corridor, and passes through institutional campus lands.

Recommendations

- 1 Determine an official pathway name.
- 2 Formalize the anchor point at Holly Acres Road.
- 3 Collaborate with the City of Ottawa to improve facilities and wayfinding for crossing under Highway 417.
- 4 Define the new pathway route across the Queensway Carleton Hospital campus.
- 5 Upgrade the crossing at Baseline Road, and improve roadside pathway conditions along Cedarview Road under the VIA Rail tracks.
- 6 Improve the connection to Bruce Pit, and formalize the anchor point with the Greenbelt Pathway West.

Trillium Pathway and Prince of Wales Bridge*

Description

This route follows the existing City of Ottawa Trillium Pathway corridor between Dows Lake and the Ottawa River Pathway. The future connection would extend across the Prince of Wales Bridge to connect to the Voyageurs Pathway and to new discovery routes in Gatineau. This pathway passes through primarily urban residential areas and the Bayview LRT station, and will provide future connectivity to LeBreton Flats. The new crossing would provide access to Lemieux Island and dramatic views of the Ottawa River, while connecting the northern and southern shores.

Recommendations

- 1 Formalize the anchor point with the Rideau Canal Western Pathway at Dows Lake.
- 2 Retrofit the Trillium Pathway to meet Capital Pathway signage and wayfinding standards.
- 3 Collaborate with the City of Ottawa to provide multi-use infrastructure across the existing Prince of Wales Bridge.
- 4 Collaborate with the Ville de Gatineau to plan and construct extensions to connect to the anchor point at the Lac-des-Fées Pathway.



17
Route



ONT. | QUE.
Province



4.1
Total KM



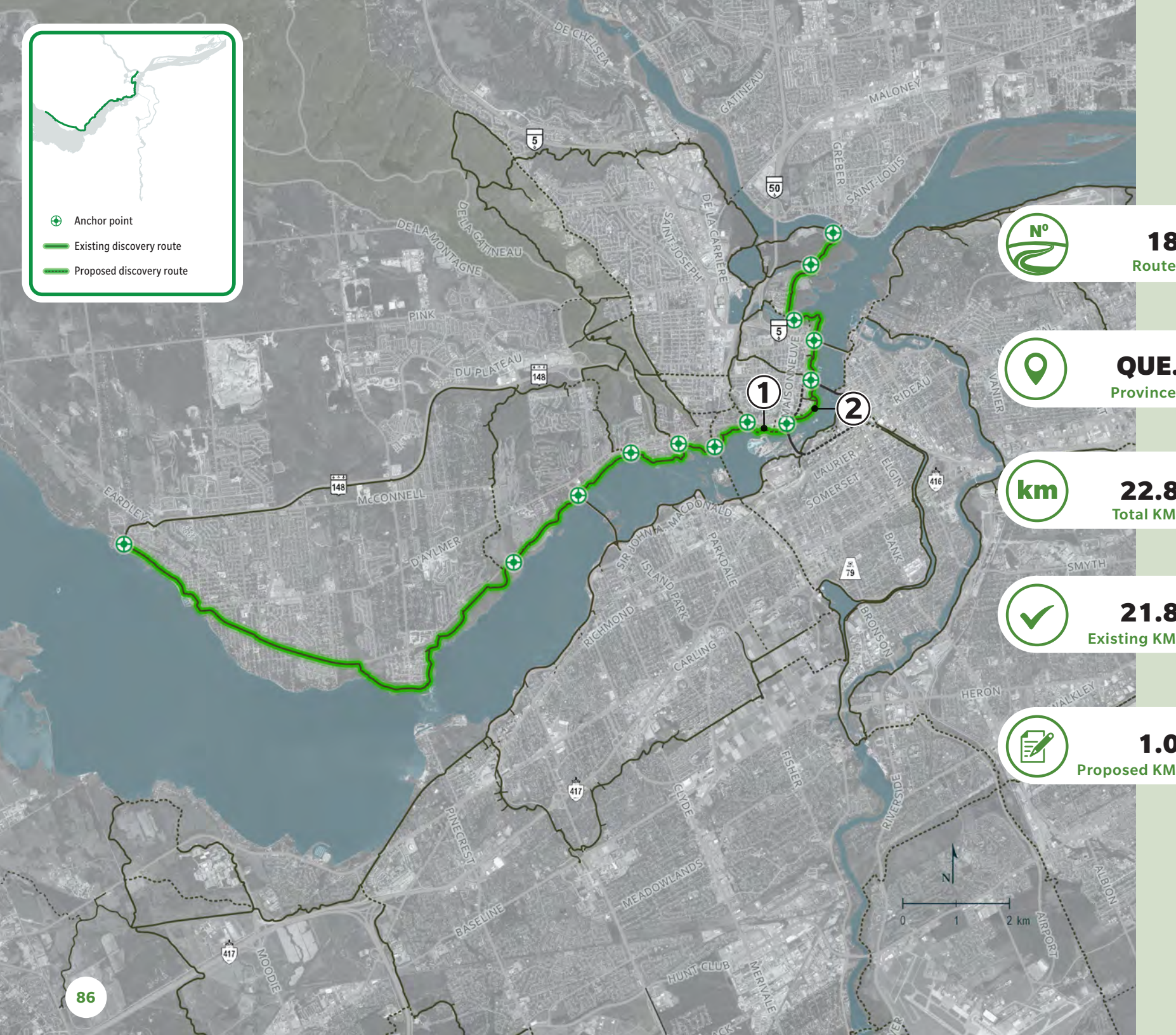
0
Existing KM



4.1
Proposed KM



+ Anchor point
 Existing discovery route
 Proposed discovery route



N°
18
Route

QUE.
Province

km
22.8
Total KM

✓
21.8
Existing KM

✎
1.0
Proposed KM

Voyageurs Pathway

Description

This route extends along the northern shore of the Ottawa River between Aylmer and Pointe-Gatineau. This route passes through various riparian landscapes, offering views and access to rapids, public beaches, parks and public spaces. The pathway offers some of the most dramatic views of Parliament Hill and the escarpment.

Recommendations

- 1 Collaborate with the Ville de Gatineau, Hydro-Québec and private developers to complete the multi-use segment of pathway between Eddy Street and Portageurs Park.
- 2 Explore segregation and placemaking initiatives in front of the Canadian Museum of History.

Pionniers Pathway

Description

This route is owned and operated by the Ville de Gatineau. This pathway forms the periphery of the northwest quadrant of the pathway network, and serves as an important arterial connection to other routes between the Capital core area and Aylmer. The pathway roughly follows the alignment of Boulevard des Allumettières, and passes through a mix of residential, commercial and urban green spaces.

Recommendations

- 1 Study the alignment to extend to Saint-Raymond Boulevard, and complete a continuous uninterrupted route to the Gatineau Park Pathway.
- 2 Connect and formalize the anchor point at the Moore Farm Estate Pathway.

19

Route



QUE.

Province



11.7

Total KM



11.3

Existing KM



0.4

Proposed KM

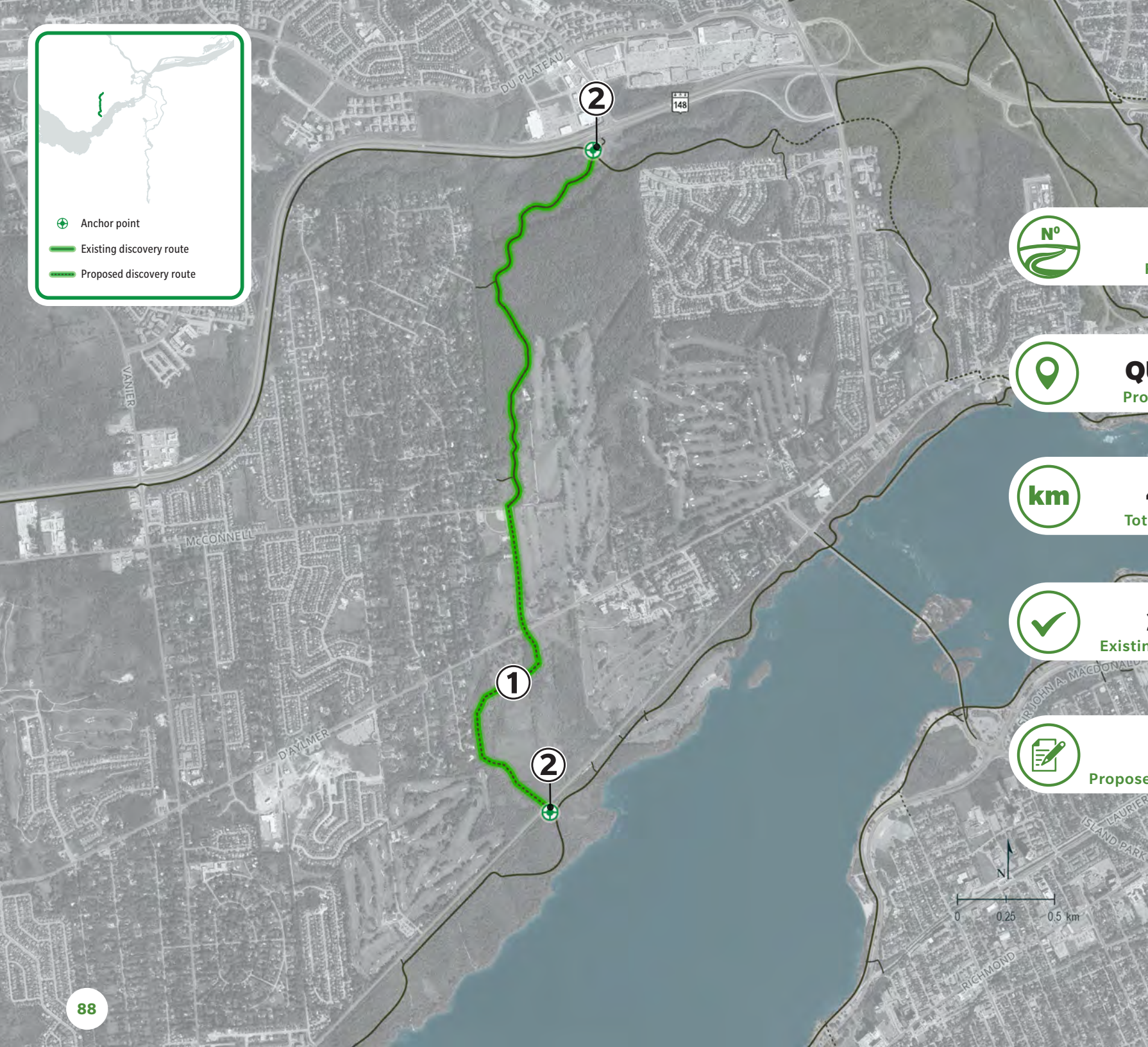


Legend:

- Anchor point (circle with crosshair)
- Existing discovery route (solid green line)
- Proposed discovery route (dashed green line)



Anchor point
 Existing discovery route
 Proposed discovery route



20
 Route

QUE.
 Province

4.1
 Total KM

2.2
 Existing KM

1.9
 Proposed KM

Champlain Corridor Pathway

Description

This route passes through densely wooded areas and past recreational facilities, and will ultimately connect to the Voyageurs Pathway along the Ottawa River shoreline, as per the agreements between the Ville de Gatineau and the landowners.

Recommendations

- ① Collaborate with the Ville de Gatineau to support the completion of the southern portion of this pathway between McConnell Road and Lucerne Boulevard.
- ② Improve and formalize the anchor points.

Moore Farm Estate Pathway

Description

This route provides access through the pastoral landscape of the Moore Farm Estate, and connects the Voyageurs Pathway along the Ottawa River to the Pionniers Pathway, near the entrance to Gatineau Park.

Recommendations

- 1 Collaborate with the Ville de Gatineau to improve and complete the connection to the Voyageurs Pathway, including the crossing at Alexandre-Taché Boulevard and Lucerne Boulevard.
- 2 Improve wayfinding, and formalize the anchor point along the southern segment of this pathway.
- 3 Study the long-term alignment of the northern segment to connect to Pionniers Pathway.

21
Route



QUE.
Province



2.1
Total KM






1.0
Existing KM



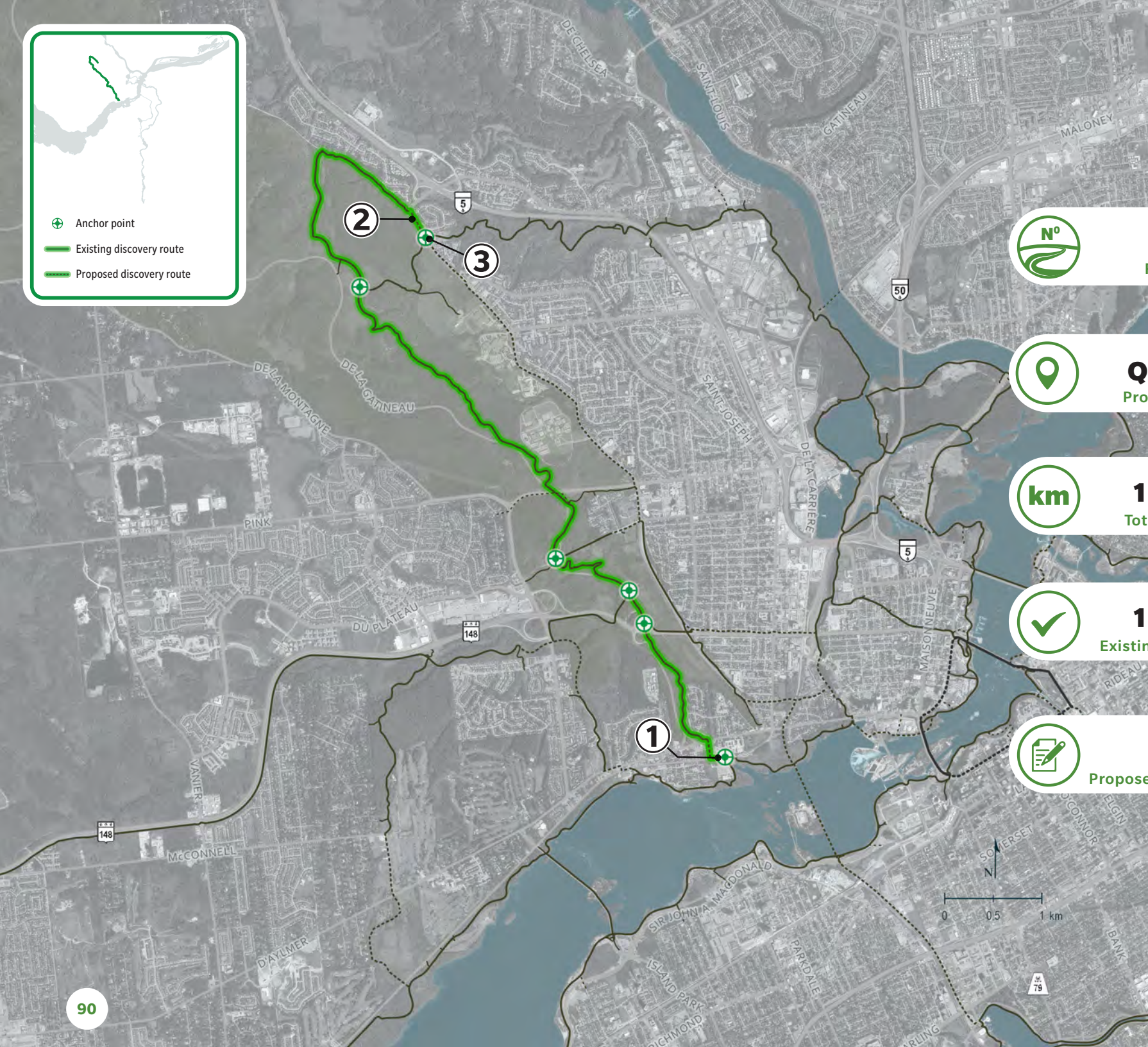
1.1
Proposed KM



-  Anchor point
-  Existing discovery route
-  Proposed discovery route



Anchor point
 Existing discovery route
 Proposed discovery route



Gatineau Park Pathway

Description

This route provides exceptional opportunities to access and explore Gatineau Park. The pathway passes through diverse urban green spaces and important ecological zones.

Recommendations

- 1 Collaborate with the Ville de Gatineau to improve the southern segment and formalize the anchor point connecting to the Voyageurs Pathway.
- 2 Collaborate with the Ville de Gatineau to reconstruct the segment of Boulevard de la Cité-des-Jeunes on the west side of the street, to improve the experience and eliminate street crossings.
- 3 Formalize the anchor point with the Leamy Creek Pathway.

22
 Route

QUE.
 Province

10.8
 Total KM

10.2
 Existing KM

0.6
 Proposed KM

Lac-des-Fées Pathway

Description

This route follows the edge of Gatineau Park along the Lac-des-Fées Parkway. The pathway is located primarily in urban green space along the roadway corridor. This pathway is also close to residential areas and the Université du Québec en Outaouais campus.

Recommendations

- 1 Construct the missing segment along Gamelin Street.
- 2 Collaborate with the Ville de Gatineau to create a new segment through Parc des Chars-de-Combat, crossing the Rapibus corridor and connecting to Taylor Street.
- 3 Establish the anchor point with the Ruisseau-de-la-Brasserie Pathway.

23

Route



QUE.

Province



4.1

Total KM



2.9

Existing KM



1.2

Proposed KM



+ Anchor point
 Existing discovery route
 Proposed discovery route



N°
24
Route

QUE.
Province

km
5.8
Total KM

✓
5.8
Existing KM

✎
0
Proposed KM

Leamy Creek Pathway

Description

This route follows Leamy Creek, connecting the Gatineau River Pathway to the Gatineau Park Pathway. It passes through beautiful wooded areas and urban green spaces, close to residential neighbourhoods, schools and commercial zones. It forms part of the periphery of the northeast quadrant of the pathway network.

Recommendations

- 1** Consider renaming to avoid confusion with Leamy Lake Pathway.
- 2** Potentially merge with the Gatineau River Pathway to facilitate wayfinding.
- 3** Formalize the anchor points at the Gatineau Park Pathway.

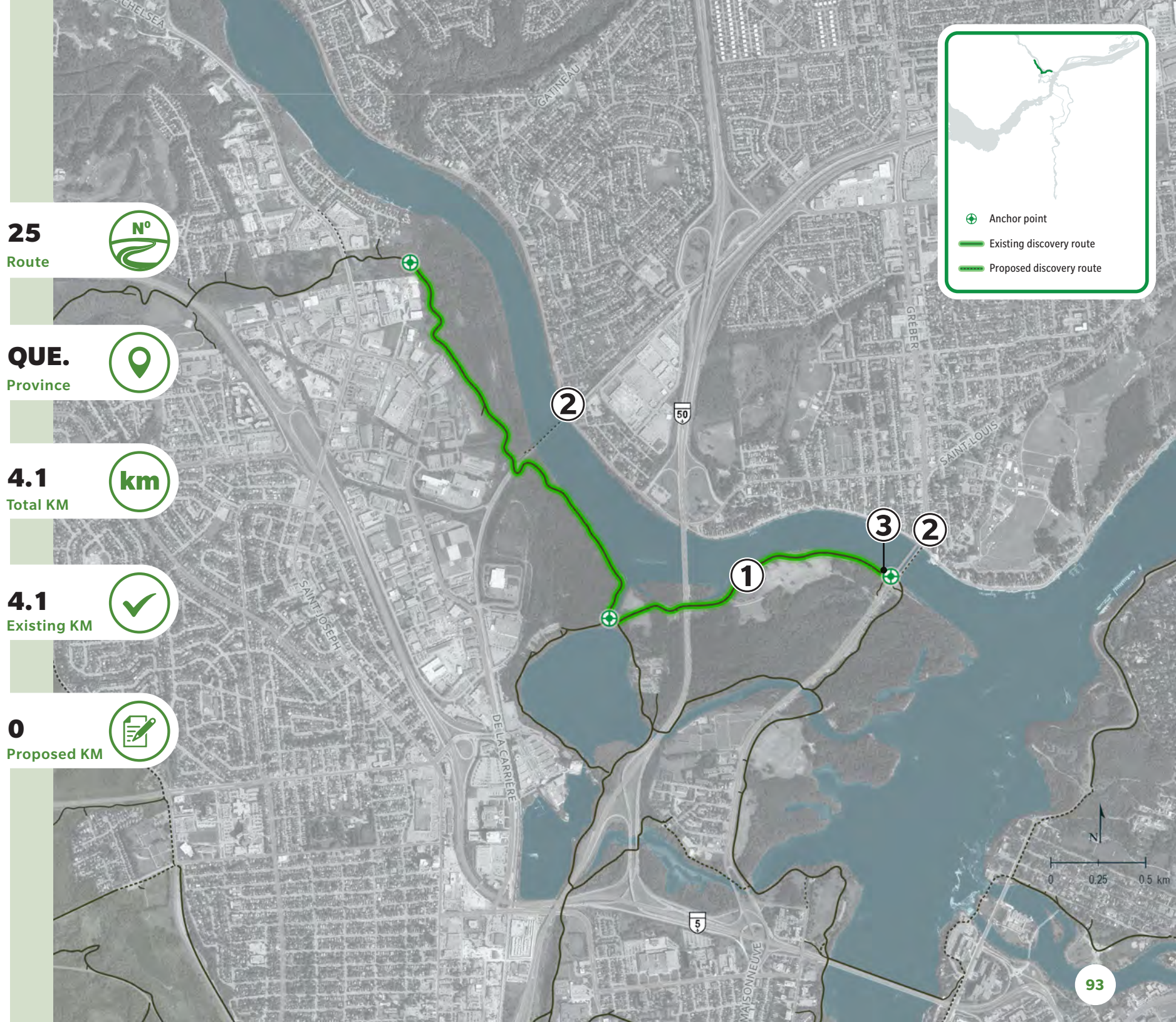
Gatineau River Pathway

Description

This route follows the western shoreline of the Gatineau River. It forms part of the periphery of the northeast quadrant of the pathway network.

Recommendations

- 1 Relocate the segment along the Leamy Lake Parkway to resolve shoreline flooding and erosion issues.
- 2 Collaborate with the Ville de Gatineau to improve feeder links and connections across the Gatineau River.
- 3 Collaborate with the Ville de Gatineau to review the crossing at Fournier Boulevard and connections to the Lady Aberdeen Bridge to resolve flooding and safety issues.
- 4 Plan detours and closure strategies for major flooding events that may disrupt the use of this sector.



Anchor point
 Existing discovery route
 Proposed discovery route

Leamy Lake Pathway

Description

This route provides access to, and around, Leamy Lake, including the beach and shorelines. The pathway is located within the northeast quadrant of the Capital Pathway network.

Recommendations

- 1 Formalize the wayfinding and anchor points to clarify the unique looped nature of this route.
- 2 Plan detours and closure strategies for major seasonal flooding events that may disrupt the use of this sector.

26
 Route

QUE.
 Province

4.0
 Total KM

4.0
 Existing KM

0
 Proposed KM



Ruisseau-de-la-Brasserie Pathway

Description

This route follows the edge of the Ruisseau-de-la-Brasserie (Brewery Creek) around the edge of the Île de Hull. The pathway passes through a mix of urban park space and shoreline green spaces, passing an arts district, residential neighbourhoods, schools and recreational facilities. The pathway connects to five other discovery routes, and is an important link to downtown Gatineau.

Recommendations

- 1 Collaborate with the Ville de Gatineau to complete the missing segment along the edge of Taylor Street and the Wright Street bridge.
- 2 Improve the crossing of Alexandre-Taché Boulevard, and formalize the anchor point with the Voyageurs Pathway.
- 3 Study the alignment, and construct a linking segment along the north shore of Brewery Creek to complete the “Tour de l’Île.”

27

Route



QUE.

Province



3.5

Total KM



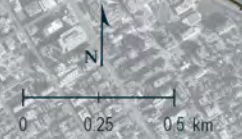
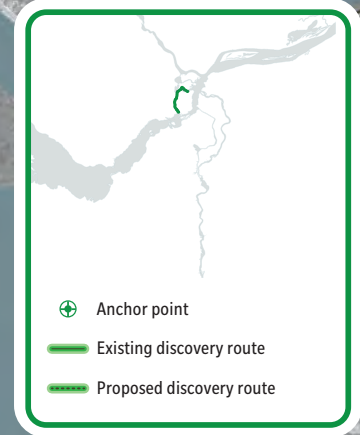
2.3

Existing KM



1.2

Proposed KM



De L'Île Pathway

Description

This route crosses the Île de Hull, passing through downtown Gatineau. The pathway creates a linear park space through residential neighbourhoods, schools and national landmarks such as the Canadian Museum of History and Jacques-Cartier Park.

Recommendations

- 1 Improve and formalize the anchor points at both ends of the pathway.
- 2 Improve road crossings and pathway connections to enhance wayfinding and safety.
- 3 Collaborate with the Ville de Gatineau to improve the wayfinding and connections to Confederation Boulevard at Laurier Street and Boulevard des Allumettières.

- Anchor point
- Existing discovery route
- Proposed discovery route

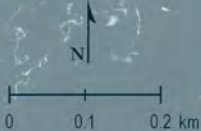
N°
28
Route

QUE.
Province

km
1.5
Total KM

✓
1.5
Existing KM

✎
0
Proposed KM



Allumettières Pathway*

Description

This route connects urban pathways on and around the Île de Hull to the eastern edge of Gatineau Park. The pathway passes through urban residential areas running parallel to Boulevard des Allumettières. The corridor is a major arterial roadway with numerous street crossings and roundabout intersections. The pathway serves as linear public space with ample landscaping, parkettes and connections to public transit.

Recommendations

- 1 Collaborate with the Ville de Gatineau to incorporate this pathway into the Capital Pathway network, and standardize signage and wayfinding.
- 2 Collaborate with the Ville de Gatineau to harmonize slow zone treatments and pedestrian priority areas, and improve street crossings.

29

Route



QUE.

Province



1.9

Total KM



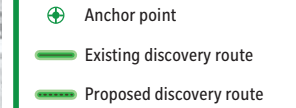
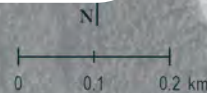
0.5

Existing KM



1.4

Proposed KM



Anchor point
 Existing discovery route
 Proposed discovery route



30
 Route

QUE.
 Province

3.8
 Total KM

0
 Existing KM

3.8
 Proposed KM

Cité-des-Jeunes Pathway*

Description

This route follows the Boulevard de la Cité-des-Jeunes alignment along the eastern edge of Gatineau Park. It connects the Lac-des-Fées Pathway at Gamelin Street to the Gatineau Park Pathway, and Leamy Creek Pathway at Boulevard des Hautes-Plaines. The pathway passes in close proximity to residential neighbourhoods, numerous schools, and the Relais plein air, a visitor centre in Gatineau Park.

Recommendations

- 1** Confirm an official name for the pathway.
- 2** Collaborate with the Ville de Gatineau to relocate the bidirectional pathway along the eastern edge of Gatineau Park.
- 3** Formalize entry points and connections to the Relais plein air and the Gatineau Park feeder link.
- 4** Work with the Ville de Gatineau to plan an off-road multi-use pathway between Thérien Street and Saint-Raymond Boulevard.
- 5** Review and improve wayfinding along the new corridor.

0 0.25 0.5 km

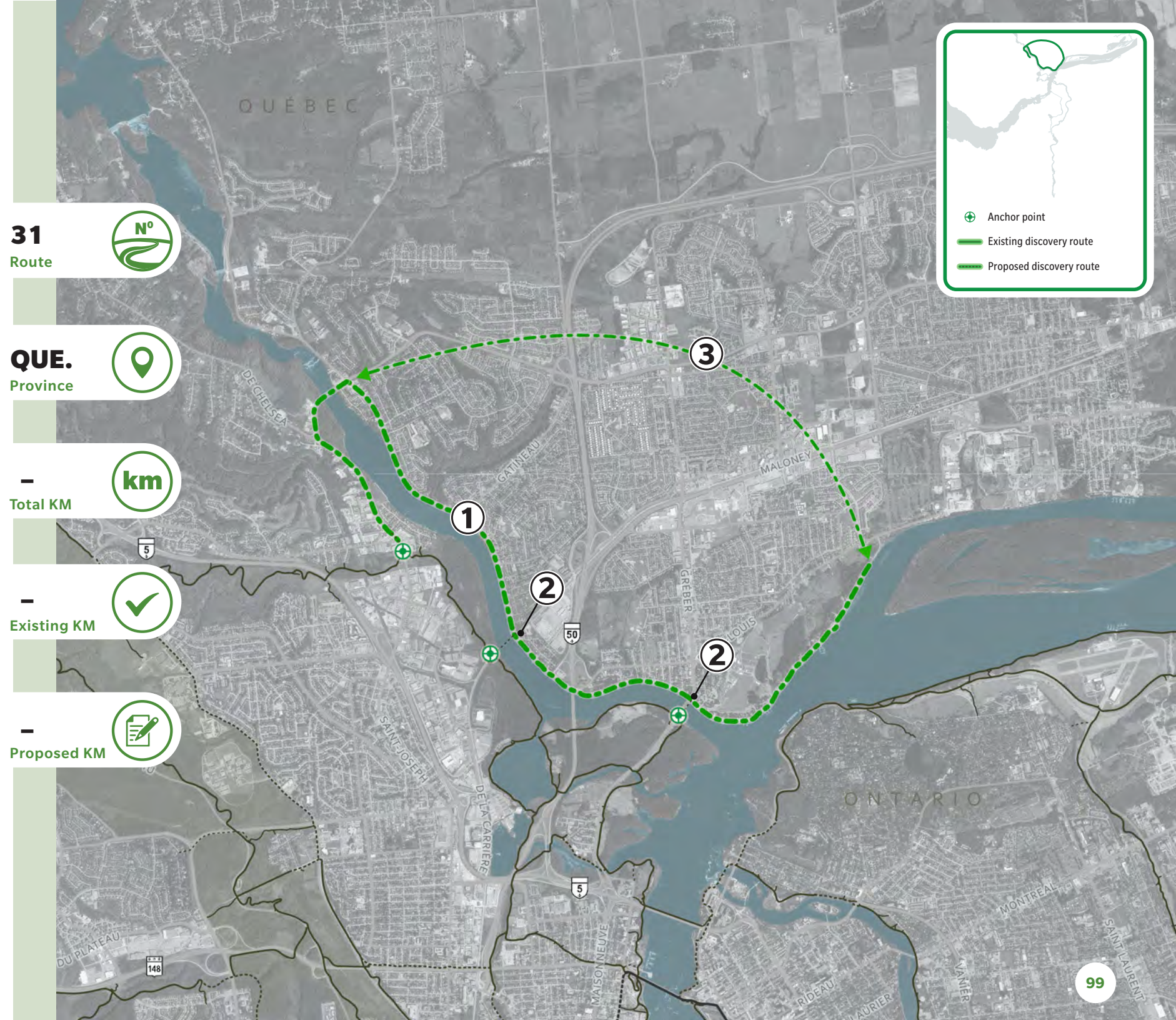
Pointe Gatineau Pathway*

Description

Over the long term, potential discovery routes in eastern Gatineau could extend the reach of the ideal network. The NCC does not own any lands in this area, but has partnered with the Ville de Gatineau to plan and construct the existing shoreline pathway along Jacques-Cartier Street. In the future, the NCC will encourage the Ville de Gatineau to establish greenway corridors that would connect and broaden the reach of the Capital Pathway east of the Gatineau River.

Recommendations

- 1 Collaborate with the Ville de Gatineau to identify and plan new routes along the Gatineau River.
- 2 Plan and construct feeder links across Gatineau River bridges to facilitate future connections.
- 3 Improve connections to inter-regional trails and other pathway corridors in eastern Gatineau.



31
Route



QUE.
Province



-
Total KM



-
Existing KM



-
Proposed KM





5 Pathway Guidelines

This chapter describes the physical features and components that make up the Capital Pathway. It establishes performance criteria that will guide the design, construction, maintenance and programming of the Capital Pathway, by establishing parameters to ensure that the Capital Pathway continues to evolve in a consistent and efficient manner, and remains a character-defining attribute of the National Capital Region.

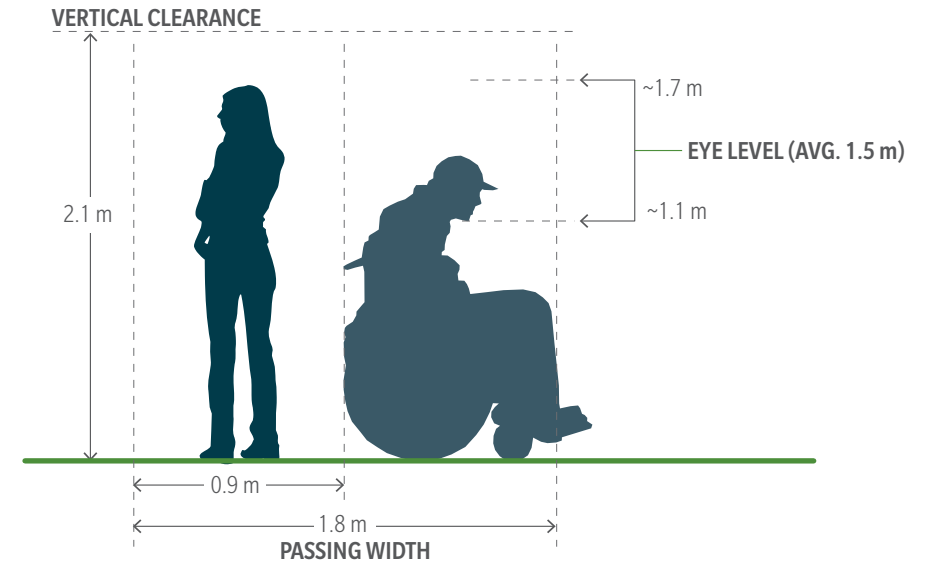
These guidelines are intended to provide direction to designers and decision makers. Each pathway location is unique and will require the expert advice of trained professionals and the input of partners or pathway users. These guidelines should be used to inform dialogue and seek solutions that respond to the specific context and nuances of a particular pathway segment.

In some instances, the NCC employs material or design standards for certain features of the Capital Pathway program (such as signage, furnishings and construction details). These standards should respect the intent of the guidelines and be kept up-to-date to ensure consistency with the overall vision for the Capital Pathway network.

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1 User Experience

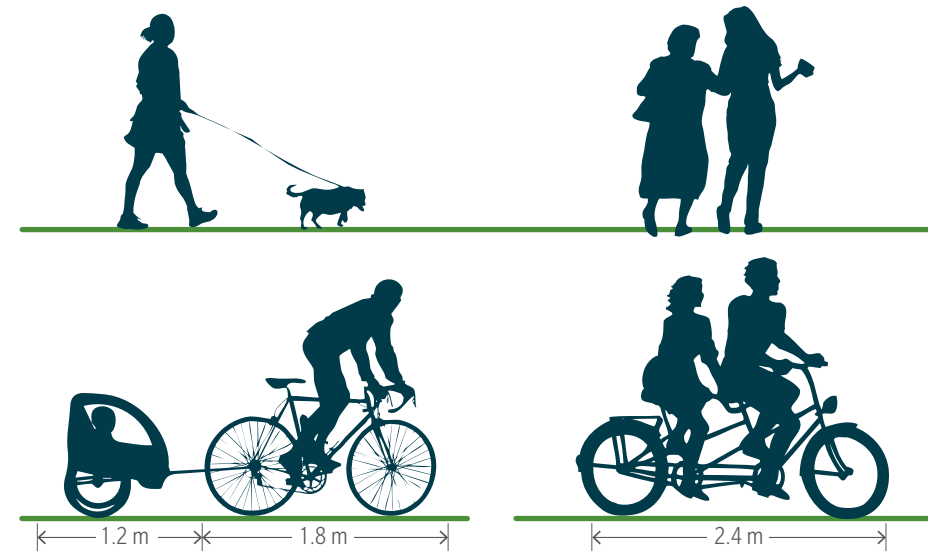
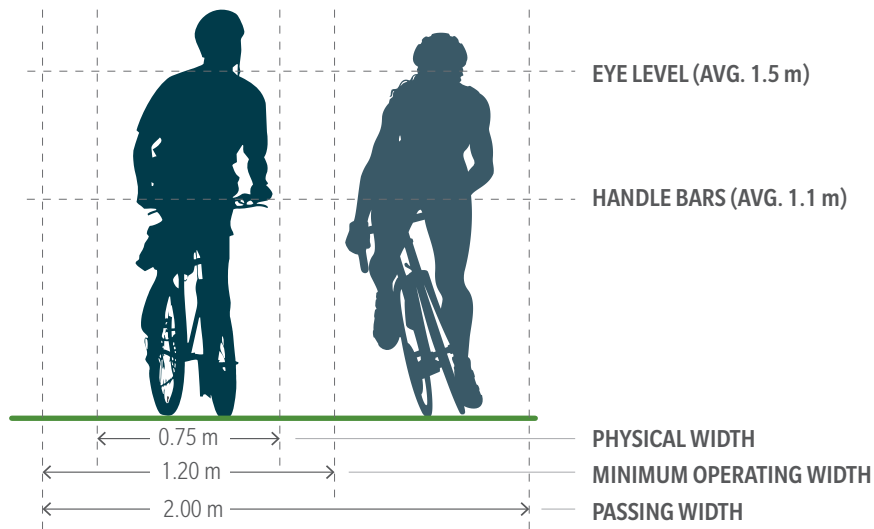


1.1 Sensory Experience

- ▶ The pathway network should present a safe, comfortable and pleasing sensory experience for a variety of users, including pedestrians, cyclists and users of other active mobility modes.
- ▶ The network should consider the various sensory aspects that contribute to the user experience, including the sights, smells, views and physical effort required.

1.2 Reference Pedestrian

- ▶ The term *pedestrian* includes persons using mobility aids such as wheelchairs, walkers, canes or other devices.
- ▶ Pedestrians represent the slowest and most vulnerable user group.
- ▶ Reference pedestrian characteristics are as follows.
 - Operating width: 0.9 m minimum clear width, 1.8 m for side-by-side
 - Vertical clearance: 2.1 m minimum
 - Eye level: 1.1–1.7 m high
 - Walking speed: 0.8–1.0 m/s (2.8–3.6 km/h)



1.3 Reference Cyclist

- ▶ Cyclists represent the fastest user group.
- ▶ Higher cyclist travel speeds affect their reaction time and ability to absorb information, as compared with the reference pedestrian.
- ▶ A standard bicycle should usually be considered as the design vehicle.
- ▶ Reference cyclist characteristics are as follows.
 - Operating width: 1.5 m ideal, 1.2 m minimum, 2.0 m for side-by-side.
 - Vertical clearance: 2.5 m minimum
 - Eye level: 1.5 m
 - Cycling speed: Up to 20 km/h on a level, paved surface
 - Typical bicycle length: 1.8 m

1.4 Other Users

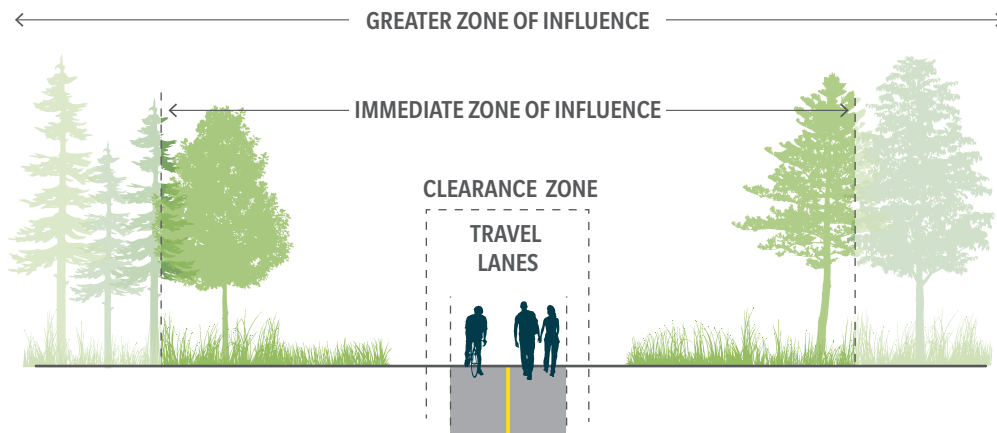
- ▶ Other users may include a variety of people engaged in or using various active mobility modes, such as joggers, in-line skaters, skateboarders, people using scooters and so forth.
- ▶ Pedestrians with young children or walking dogs may behave differently or require more space than the reference pedestrian.
- ▶ Consideration must also be given to the occasional use by other types of bikes (including cargo bikes, tricycles and tandem bikes) or bikes with trailers.
- ▶ Winter users include cross-country skiers, snowshoers and people riding fat bikes.



1.5 Universal Design

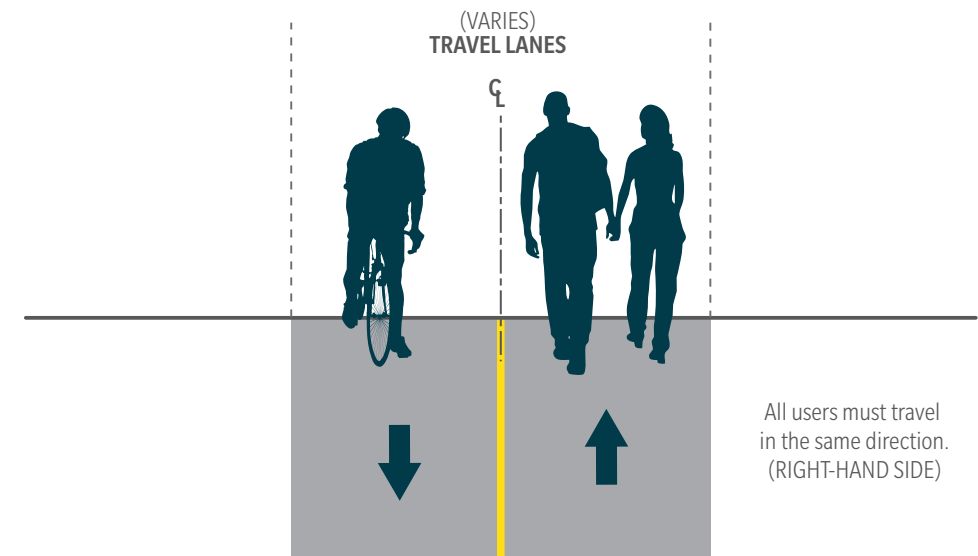
- ▶ A universal design approach shall be applied to all Capital Pathway features and interventions.
 - Pathway design must provide opportunities for persons of all ages, abilities and experience levels to safely and comfortably enjoy the pathway network, and should strive to exceed relevant universal accessibility regulations, wherever possible.
 - Pathway design must consider different user needs, and accommodate all abilities to the greatest practicable extent.
- ▶ The pathway network should accommodate persons of all ages and abilities, by adopting an “8-year-old to 80-year-old” mindset.
- ▶ All segments of the Capital Pathway must meet the minimum standards for accessible multi-use. Stairs, steps, ramps and changes in elevation should never impede the travel of pathway users, regardless of their mode of travel.
- ▶ Distance and route-planning information should be provided at decision and access points.
- ▶ At points of interest, features and furnishings must be designed to provide equitable experiences for a variety of ages, skills and abilities.
- ▶ Where pathways serve as the primary route of access to important destinations and landmarks:
 - Slopes should be less than or equal to 5 percent.
 - Stopping points should be provided on long inclines.
 - Transverse slopes should be between 2 percent and 3 percent.
- ▶ If the natural topography does not permit appropriate slopes and grades, alternative, universally accessible routes should be identified at the closest alternative route-planning location.
- ▶ Plan and design barrier-free spaces, and incorporate accessible treatments such as contrasting materials/ marking and tactile indicators, where appropriate.
- ▶ Municipal street addresses should be assigned to public spaces, parking lots and access points along the pathway network to facilitate drop-off and pickup.

2 Pathway Anatomy



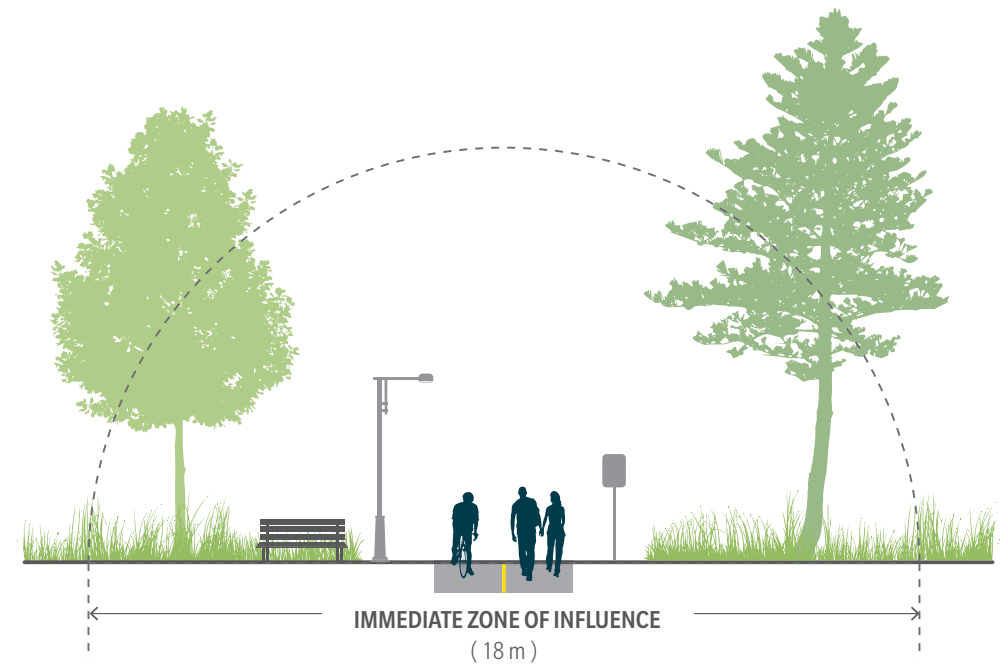
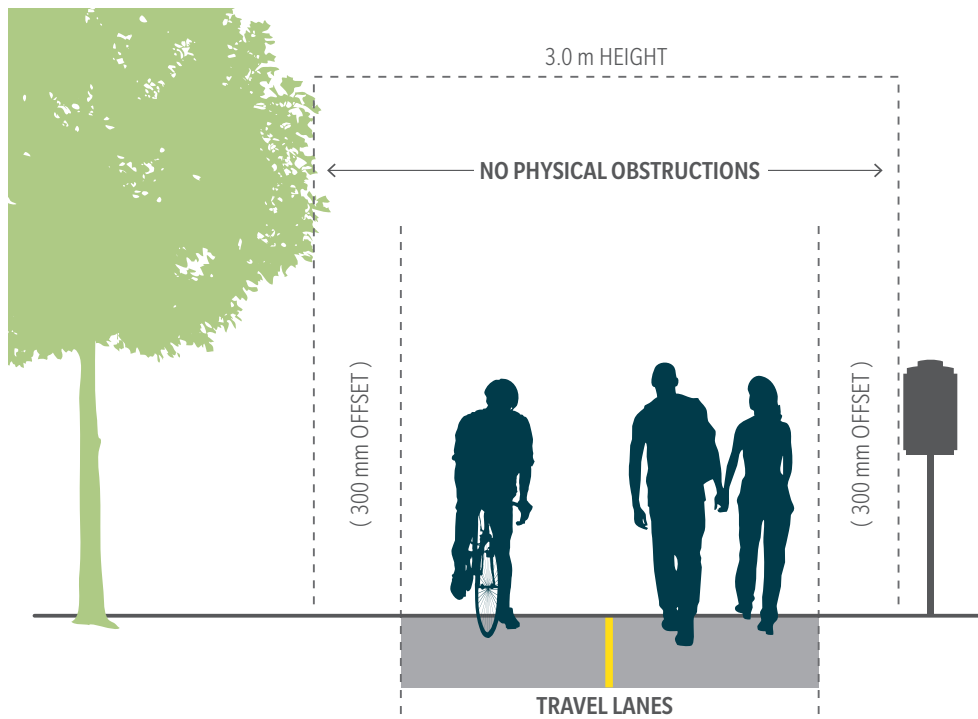
2.1 Pathway Corridor

- ▶ The pathway corridor is composed of the travel lanes and the surrounding landscape on either side of the pathway.
- ▶ The corridor may be composed of either a shared multi-use pathway or segregated pathway segments, in which case the pedway and bikeway travel lanes together constitute the pathway corridor.
- ▶ The corridor should be continuous and connected to other pathway segments, to create an interconnected network and uninterrupted user experience.



2.2 Travel Lane

- ▶ The typical pathway profile will be a bidirectional, shared multi-use pathway with painted centre line.
- ▶ The travel lane is the physical space accommodating the unidirectional movement of users. A bidirectional corridor includes a minimum of two opposing travel lanes.
- ▶ All users shall move in the same direction of travel (right-hand side of the pathway) to avoid collisions, and permit the safe and predictable passing of more slowly moving users.
- ▶ The multi-use nature of the travel lanes must never be interrupted. As an example, "stop and dismount" signs for cyclists should never be used along the thoroughfare.
- ▶ Consideration should be given to how travel lanes connect and cross each other, to create a clear and intuitive user environment.
- ▶ Segregated travel lanes may be appropriate in some instances (*see Section 9, Segregated Pathways*). Where the travel lanes pass through distinct places or public spaces, they must be appropriately integrated into their surroundings (*see Section 15.6, Design Integration*).

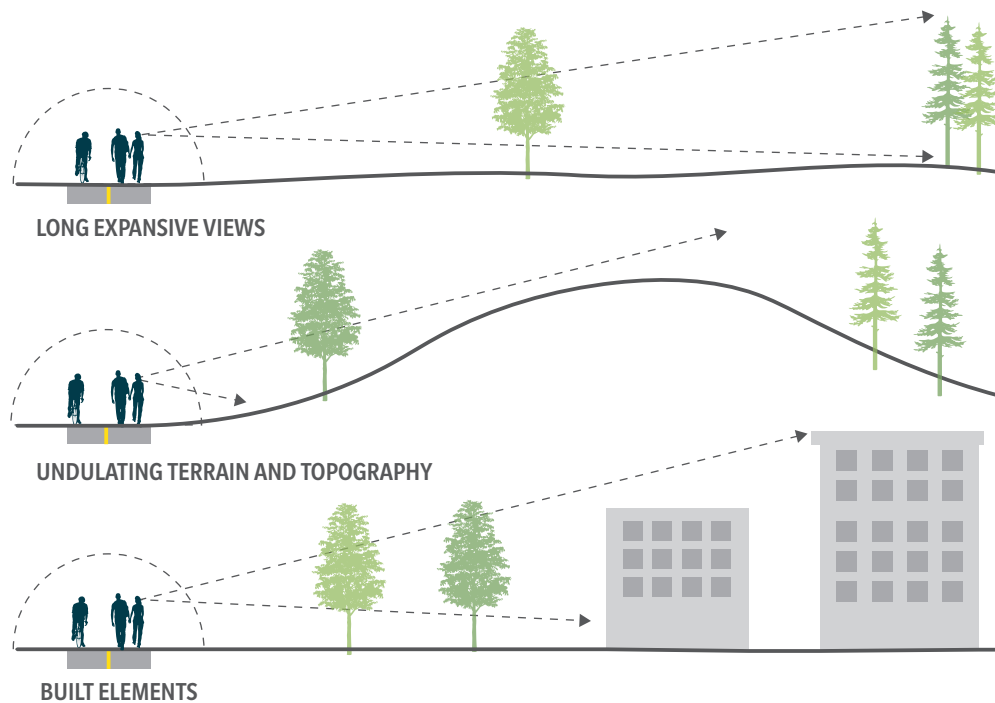


2.3 Clearance Zone

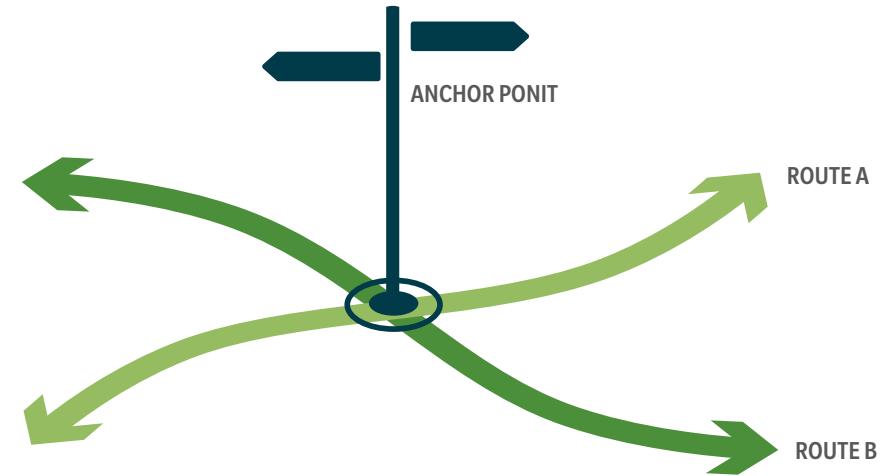
- ▶ The clearance zone encompasses the travel lanes, and ensures an obstruction- and hazard-free operating environment for pathway users.
- ▶ A vertical clearance of 3.0 m should be provided to eliminate overhead obstructions, and allow maintenance and emergency vehicles to circulate.
 - This applies to any overhead object, such as tree branches, bridges, tunnels, overhead signs, lights and so forth.
- ▶ A horizontal clearance of 300 mm (minimum) must be provided along either side of the pathway edge. This applies to any fixed object adjacent to the pathway, including signposts, sign panels, posts, railings, luminaires, benches, furnishings and so forth.
 - Around curves, this distance should be increased to 500 mm, where possible.

2.4 Immediate Zone of Influence

- ▶ The immediate zone of influence includes an area of approximately 6 m on either side of the travel lanes, which has a direct impact on the user experience.
- ▶ The exact width of the immediate zone of influence should be defined as part of any project design or study, considering the pathway's context, such as landscape type and quality, viewsheds, built form, adjacent land use, and so forth.
- ▶ The immediate zone of influence should reflect the character of the locale, and contribute to the pathway user environment.



3 Network

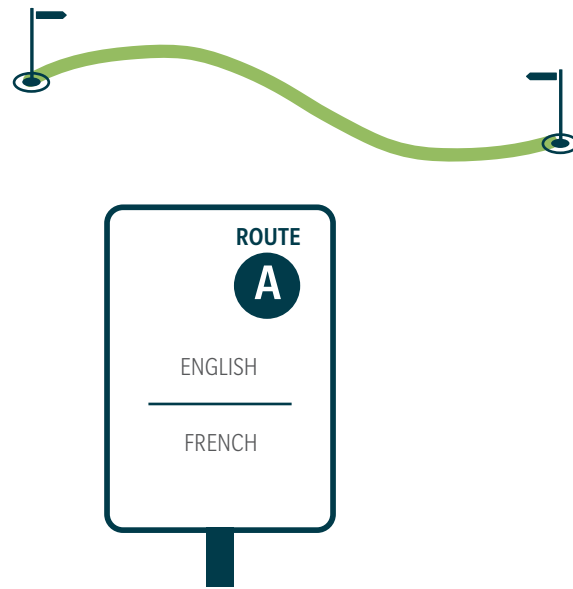


2.5 Greater Zone of Influence

- ▶ The greater zone of influence is the broader zone beyond the immediate zone of influence, up to 30 m on either side of the pathway.
- ▶ The width of the greater zone of influence varies according to the pathway corridor’s immediate environment, topography, vegetation and built environment.
- ▶ The greater zone of influence should be used to determine the impact of pathway projects on the user experience.
- ▶ The greater zone of influence should showcase surrounding landmarks, contribute to the scenic quality of the pathway and complement the landscape character.
- ▶ The greater zone of influence will respect and contribute to the public spaces, green spaces and landscape character of the Capital.

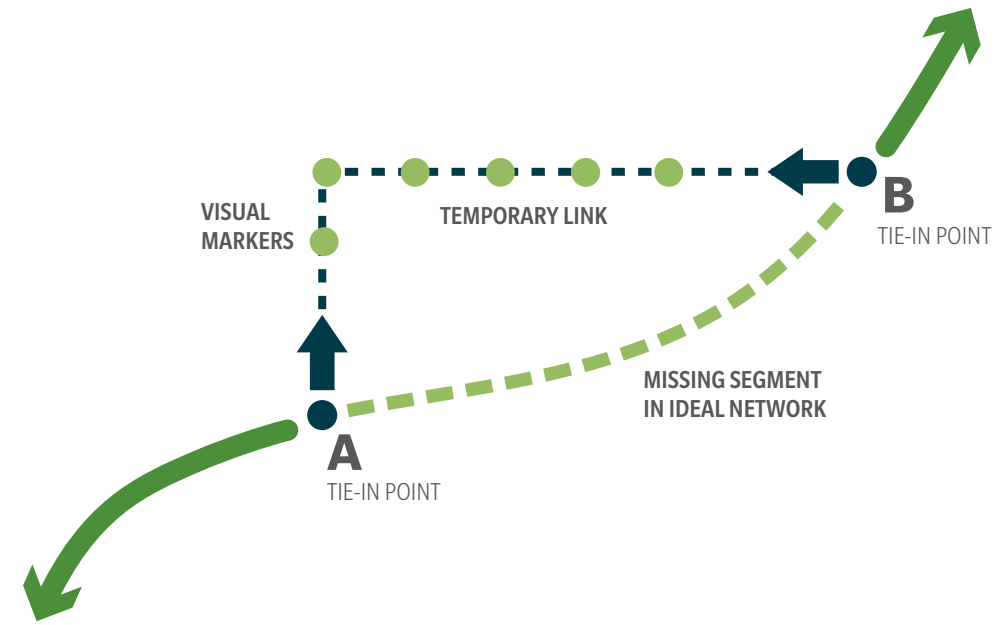
3.1 Discovery Routes and Anchor Points

- ▶ The pathway network shall consist of multiple discovery routes, connected by anchor points, serving as important decision-making nodes.
 - Discovery routes must be continuous and start/end at an anchor point.
 - Anchor points must connect two or more discovery routes.
- ▶ Anchor points should be visually distinct from all other junction points with non-Capital-Pathway segments, and constitute the highest order of decision-making point within the network.



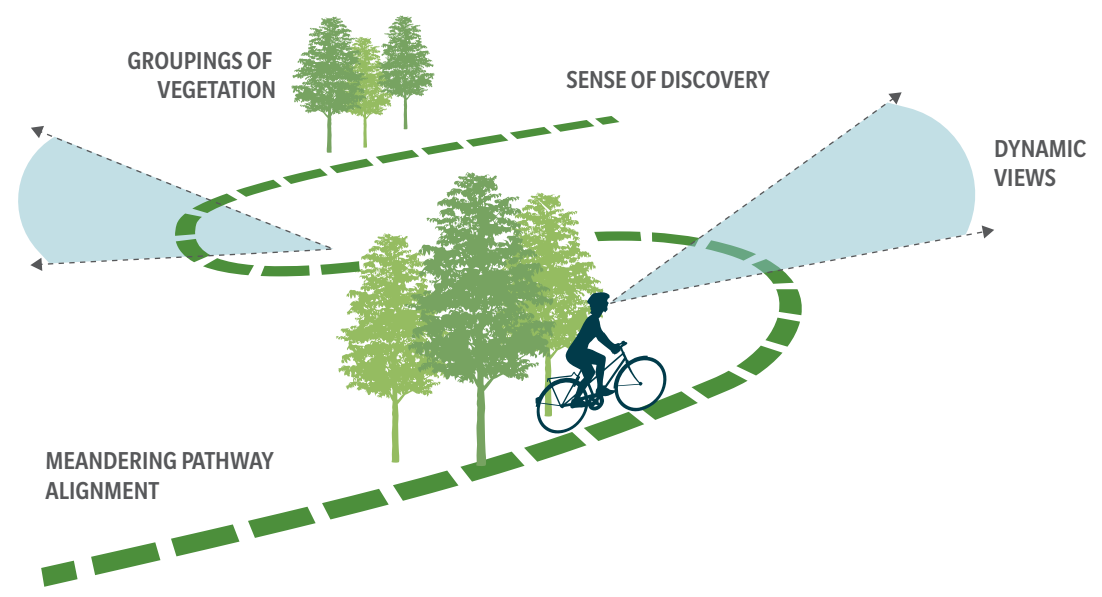
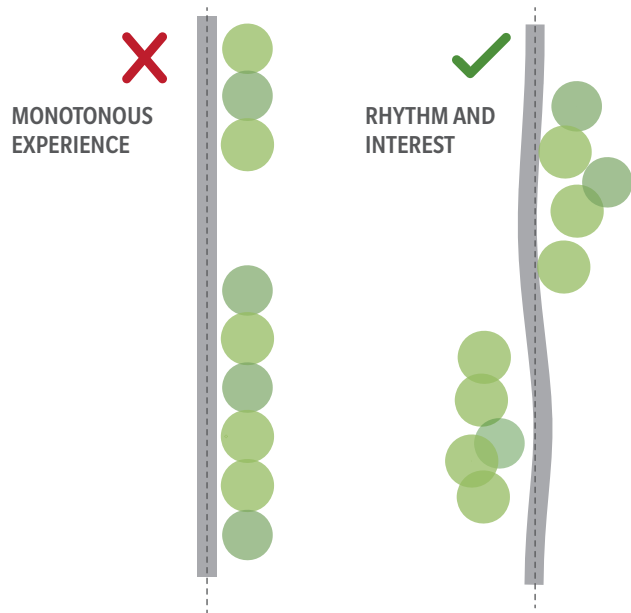
3.2 Naming Convention

- ▶ The continuous discovery routes should have the same name, and discontinuous or parallel routes should have distinct names.
 - Changes in pathway name must occur at an anchor point.
- ▶ Pathway names should reflect the location and experience offered (i.e. Ottawa River Pathway).
- ▶ Directional adjectives such as “eastern, western, southern, northern” should be avoided.
- ▶ Consider numbering routes to provide simple bilingual reference, and facilitate legibility for cyclists moving at speed.



3.3 Temporary Links

- ▶ In the short term, to connect two non-contiguous segments of pathway, the Capital Pathway may follow an already existing pathway or alternative route that does not form part of the ideal network.
- ▶ Where no off-road pathway exists, temporary links may include bike lanes and sidewalks, or modifications to a roadway shoulder, to improve the short-term continuity of the network.
- ▶ All temporary links must serve as a multi-use corridor.
- ▶ All temporary links must be safe and meet minimum roadway safety standards.
- ▶ Temporary links should
 - be identified as such on maps and trip-planning tools,
 - be continuous and uninterrupted to the greatest extent possible,
 - include adequate visual markers to permit pathway users to follow them without losing track of the route, and
 - clearly identify the tie-in points where they reconnect to official Capital Pathway discovery routes.
- ▶ When permanent additions to the pathway network are made, old or redundant temporary links should be removed.
- ▶ Signage and visual markers along temporary routes should be consistent with the Capital Pathway design vocabulary.



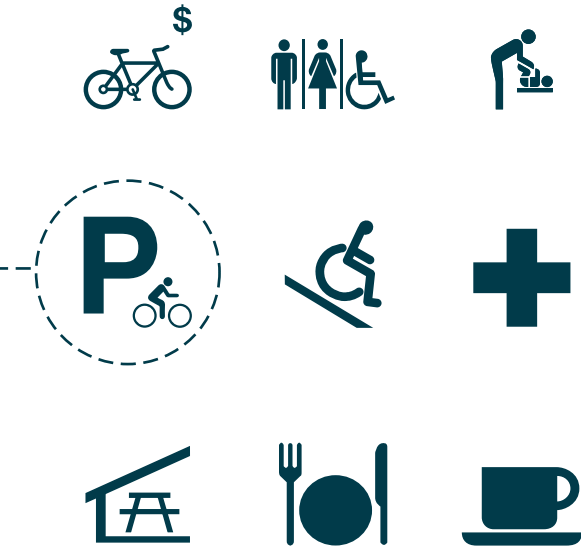
3.4 Alignment

- ▶ Proposed pathways depicted in this plan are for schematic purposes only. The design and evaluation of all new pathway alignments must be based on site-specific conditions, with consideration of costs, feasibility and environmental impact.
- ▶ Pathways should exhibit a sinuous meandering trajectory whenever possible, to enhance the sense of discovery and anticipation.
 - Avoid long, straight corridors that create a monotonous user environment.
- ▶ The pathway alignment should respect the existing features (such as vegetation, watercourses and built environments) of the landscape through which it passes.
- ▶ The pathway alignment should complement the natural topography, and harmonize with variations in the terrain, where possible.
- ▶ Shortcuts and informal travel paths should be discouraged through intuitive alignments and landscape treatments.
- ▶ Pleasant vistas and sightlines should be created and emphasized by the curvature and alignment of the pathway.
- ▶ Key sightlines should be enhanced by framing the focal point, and preserving an open viewshed.
- ▶ A diversity of spatial experiences should be provided, balancing low, open areas, such as lawns and meadows, with taller massing, such as forested areas and buildings.

4 Visual Identity



PUBLICLY ACCESSIBLE GLOSSARY OF PICTOGRAMS

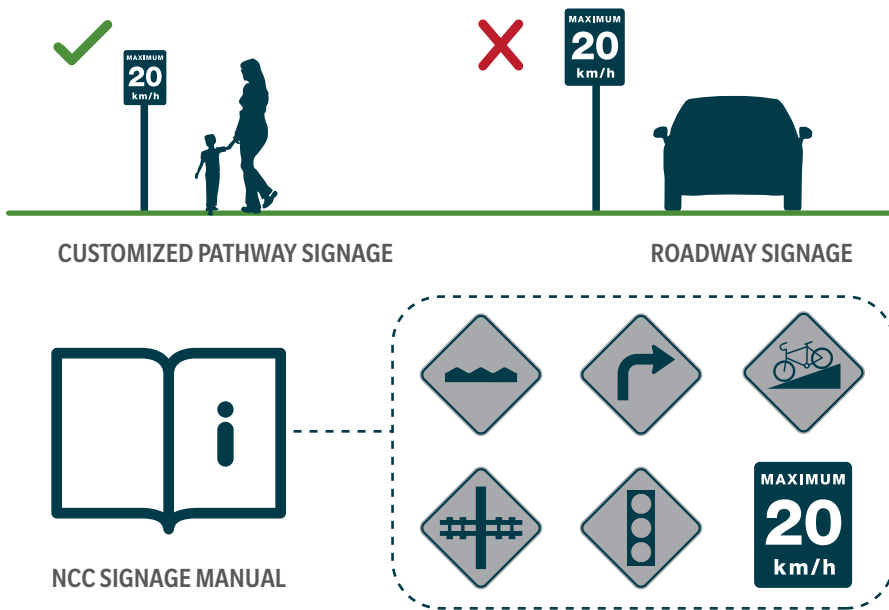


4.1 Brand

- ▶ All features should complement and reinforce the visual identity and brand of the Capital Pathway, while respecting the site-specific locale and character (*see also Section 12, Landscape Character*).
- ▶ Typical pathway features include the following:
 - a program brand and logo
 - a family of pathway furnishings, suited to the various character zones
 - a family of standardized signage, suited/adapted to the locale, and applied consistently across the Capital Pathway network
- ▶ In circumstances where the pathway network is connected to and/or shares sections with municipal, or inter-regional pathway networks, visibility for the partner brand should be incorporated to support continuity of the overlapping network.
 - Where shared, the Capital Pathway must remain the predominant visual identity.
- ▶ Pathway ownership information should be secondary to all other signage information (e.g. via a logo “tab” at the lower edge of the pathway identification sign).

4.2 Symbols

- ▶ Graphic symbols should be used wherever possible, rather than lengthy bilingual text.
- ▶ Symbols and pictograms should be consistently applied across the network, and harmonized with municipal standards, wherever possible.
- ▶ A glossary of symbols and their meanings should be available to the public.



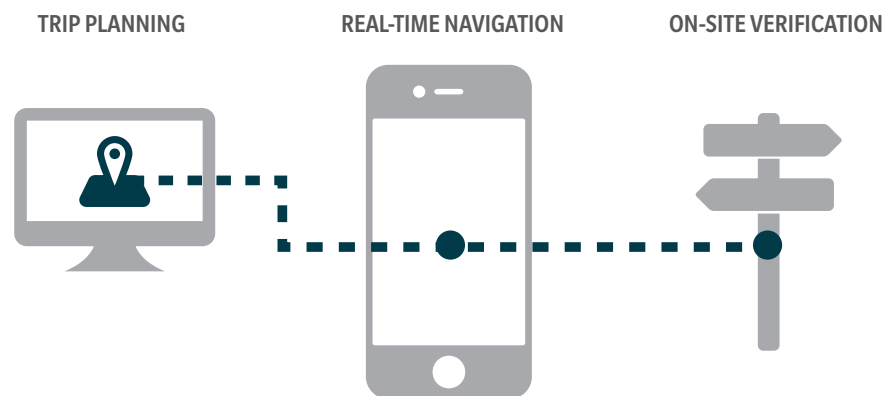
Example of subtle regulatory signage at Bow RiverWalk, Calgary, Alberta (see image credits, p.173).

4.3 Information and Regulatory Signage

- ▶ All signage must form part of the family of NCC standard signs.
 - Where new requirements for signage arise, a typical sign should be developed and added to the NCC standards.
- ▶ Signage must be accessible.
 - Universal design principles must be applied to signage, including appropriate font size, colour, contrast and mounting height.
 - Whenever possible, use symbols instead of text.
 - Any text must be provided in both official languages.
 - Signs must be human-scaled and easily read by pedestrians and cyclists.

- ▶ Collaboration with the City of Ottawa and Ville de Gatineau should be sought to harmonize, to the greatest extent possible, key components of the information and regulatory signage, to provide consistency in pictograms, symbols and sign types.
- ▶ Any works should seek to contribute, wherever possible, to a reduction in the quantity of signs encountered on the pathway network (through site design, for example).
 - Information and regulatory signage should be harmonized with other design elements where possible (e.g. by mounting multiple pictograms on a common bollard).

- All signage should be beautifully integrated into the locale. For example, signposts in Gatineau Park should suit the material palette of the Gatineau Park signage family. Similarly, appropriate materials should be selected for the Greenbelt, core area, urban lands or any other special-character area.
- ▶ Regulatory signage should target all user types and communicate positive behaviours.
 - The use of pictograms and new sign types to address particular conditions should be explored.



Example of effective route wayfinding in Port Hawkesbury, Nova Scotia (see image credits, p.173).

4.4 Wayfinding Features

- ▶ The wayfinding approach should support a spirit of exploration and discovery.
- ▶ The Capital Pathway wayfinding program must assist users in the following:
 - understanding their location within the broader geographical context
 - identifying the locations of access points, intersections and crossings
 - estimating distance travelled and distance to points ahead
 - identifying destinations and landmarks
- ▶ Wayfinding information should be streamlined across various platforms, including physical signage, printed maps and digital tools.
- ▶ Wayfinding elements should respect a standardized family of NCC Capital Pathway signs and features. The Capital Pathway wayfinding signage system must include the following components:
 - a Capital Pathway program identifier (to help distinguish this signature route from others)
 - a pictogram that symbolizes the asset (typically used on maps and linking signage)
 - a pathway naming rationale/convention
 - pathway identification signs (installed at all access points)
 - directional information
- ▶ Wayfinding features (such as signage, maps, demarcations and beacons) should contribute to a simple and intuitive navigation experience.
 - The identification of specific locations should prioritize destinations of national interest that serve as landmarks and assist in user orientation.
- Wayfinding features do not attempt to provide lineal wayfinding, as there are an infinite number of starting points and potential destinations.
- Orientation maps should provide route and distance guidance, identifying landmarks in support of orientation, in addition to services.
- Maps will be located at access and anchor points, within an enlarged user area, so as to not block the travel lane.
- Location markers should provide positioning information based on roadways and features adjacent to the pathway.
- Linking markers (such as beacons or bread crumbs) should provide a visual cue for following the route where the pathway alignment or surface treatment is discontinuous and/or difficult to understand. These may include pavement marking or signage elements.



Example of pavement markings at La Promenade Samuel-De-Champlain, Québec City, Québec.



Example of branded pathway centre line along the Great Lakes Waterfront Trail, Toronto, Ontario (see image credits, p.173).

4.5 Pavement Markings

- ▶ The default colour for all painted markings (except for the centre line) shall be white.
- ▶ A range of pavement markings such as symbols and pictograms may include the following:
 - directional arrows, to remind users to keep to the right
 - decorative symbols to reinforce the visual identity and brand of the Capital Pathway
 - mode of travel symbols (e.g. pedestrian and cyclist stencils), to communicate shared or segregated uses
 - special treatments at pathway junctions subject to high user volumes, to define mixing zones and other potential points of user conflict
 - markings to complement regulatory signage, such as stop bars and warning markers in advance of stop signs, speed limits, slow zones, distance markers and so forth.
- ▶ Markings should be beautifully and consistently applied across the pathway network.
- ▶ All markings should be developed to the pedestrian scale and should use customized NCC stencils as part of the NCC signage standards.
- ▶ Pavement markings should be applied with wear-resistant, durable surface coatings to ensure legibility.
 - Paint should be high-quality, long-lasting formulas, capable of withstanding winter maintenance treatments. Avoid the overuse of painted symbols that may fade over time. Where possible, use permanent design features such as signage, paving patterns and landscape elements.

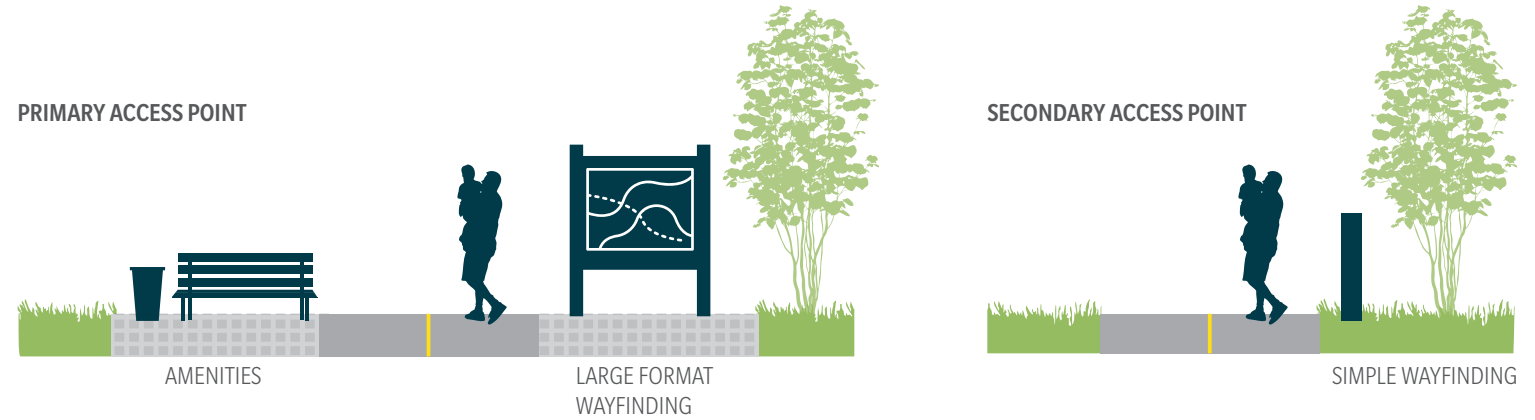
4.6 Centre Line

- ▶ A centre line should be provided on all paved (asphalted) segments of the pathway network.
- ▶ The default centre line shall be a single solid yellow line.
 - A new, distinctive centre line colour (preferably green or blue) could be considered to distinguish the Capital Pathway from other active mobility networks, and assist in wayfinding. If adopted, this should be applied consistently across the network.
- ▶ All other line painting should be white.
- ▶ Pathway edge painting may be required to delineate the shoulder of the pathway.
- ▶ Where the Capital Pathway passes through a public or shared space, the centre line should be suppressed, and the edges of the pathway may be used to delineate the thoroughfare (or by a change in surface treatments or pavement markings).

5 Access



PUBLIC ACCESS



5.1 Access Points

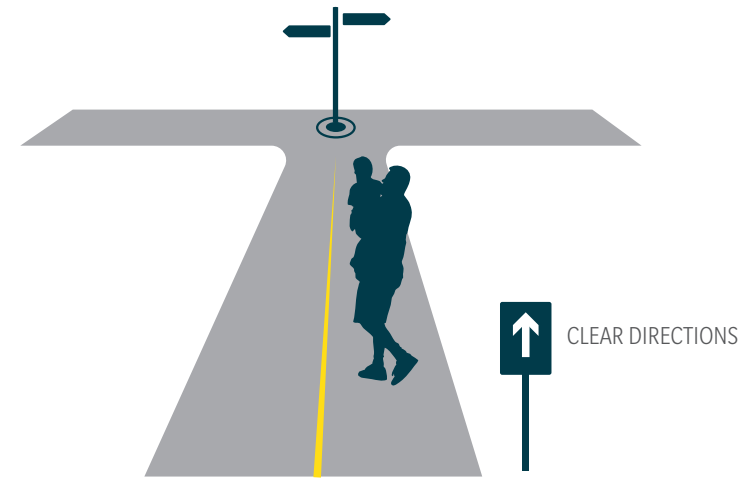
- ▶ All access points must be located on public lands. Direct access to the Capital Pathway from private lands is discouraged.
- ▶ Access points should be clearly identified with the Capital Pathway logo and signage standards.
- ▶ Access points may be located on municipal lands, and should be appropriately situated at the edge of municipal roads and sidewalks to provide a continuous connection for all user types.
- ▶ Access points should be designed to allow arriving users to merge smoothly into existing pathway flows.
- ▶ Access points should be designed to invite active mobility users and deter entrance by unauthorized vehicles.

5.2 Primary Access Points

- ▶ Primary access points must be highly visible and clearly identify major points of arrival along the pathway network.
- ▶ A consistent palette of signage and design features should be used to create a recognizable grouping of elements.
- ▶ Primary access points should be designed to be multi-functional, acting as rest points, meeting areas, small service areas and information areas.
- ▶ Primary access points should provide complementary features, such as the following:
 - wayfinding information
 - location maps depicting the entire network
 - benches, waste receptacles
 - parking (where appropriate)
- ▶ Primary access points may be located immediately adjacent to the pathway, or at the terminus of important feeder links.

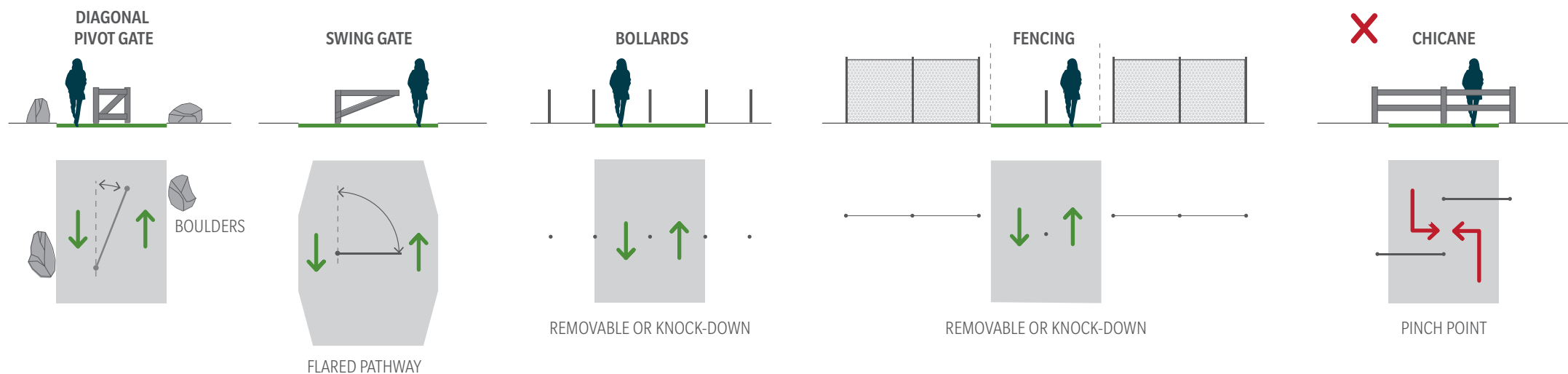
5.3 Secondary Access Points

- ▶ Secondary access points should be identifiable and consistent with the visual identity of the Capital Pathway.
- ▶ Secondary access points should be less prominent than primary access points.



5.4 Feeder Links

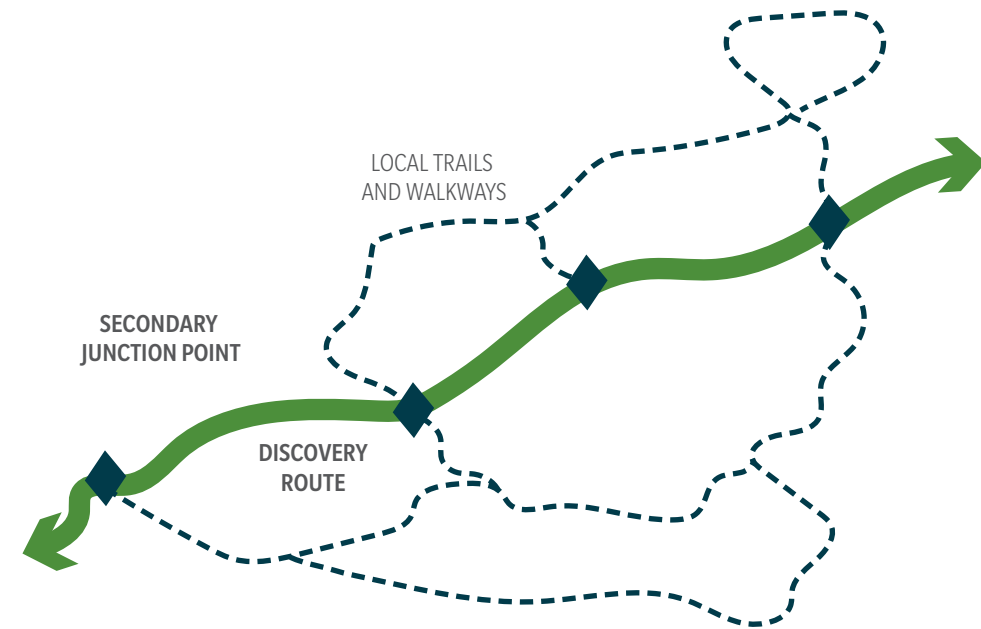
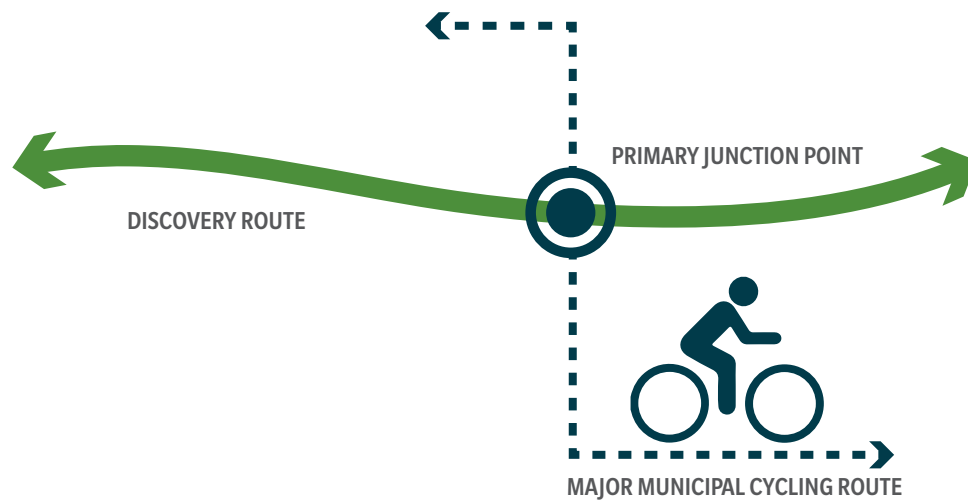
- ▶ Feeder links should provide access to and from the discovery routes from other pathway systems, transit hubs, parking lots, Capital destinations and adjacent neighbourhoods.
 - ▶ Each feeder link shall include an appropriately designed access point, which interfaces with the surrounding area, and constitutes the initial point of contact with the pathway network.
 - ▶ Existing “desire lines” or areas where users have shown a preferred route to access the network should be considered when formalizing new feeder links.
 - ▶ All new discovery routes should include convenient feeder links to and from adjacent neighbourhoods.
- ▶ New feeder links not specifically identified in this plan should be considered on a case-by-case basis, and prioritized as follows:
 - links to and from major public destinations and points of interest (museums, commemorative monuments, public parks and so on) and major transit stations
 - links to and from multi-use pathways not forming part of the Capital Pathway, or to and from major on-road active mobility facilities
 - links to and from adjacent, densely populated residential neighbourhoods, where no alternative formal or informal access points exist in close proximity (400 m or a five-minute walk), with consideration for social equity and priority given to areas currently not served by the pathway network.
- ▶ Municipal roadside multi-use pathways crossing the Greenbelt and Gatineau Park will be treated as feeder links, if they are not part of a larger municipal cycling route. Capital Pathway design standards shall be applied from the closest roadway intersection outside the Greenbelt / Gatineau Park, to the junction point with the Capital Pathway discovery route.
 - ▶ Feeder links should meet the minimum width requirements for the Capital Pathway, and ideally be equal in width to the pathway segment that they are joining.
 - ▶ Local trails and walkways connecting to the Capital Pathway that are not official feeder links, should be visually discernable through their design and treatment.



5.5 Gates and Barricades

- ▶ Gates or barricades may be required at primary or secondary access points to control unauthorized vehicles (such as cars and other motorized vehicles).
- ▶ Gates and barricades must be operable to permit access by authorized maintenance or emergency vehicles when required.
- ▶ Whenever possible, gates/barricades should be consistent with other nearby access points, and suited to the landscape character (i.e. Greenbelt versus urban core).
- ▶ Gates should not encumber the clear zone of the pathway, or otherwise block or restrict the flow of pathway users.
 - Chicanes should be avoided.
- ▶ Unofficial entry points should be closed and renaturalized. Physical barricades such as fences or boulders should be used to block/close these routes.
- ▶ Openings in fences, chicanes or barriers should be at least as wide as the travel lane, and preferably 300 mm wider on each side.

6 Junctions



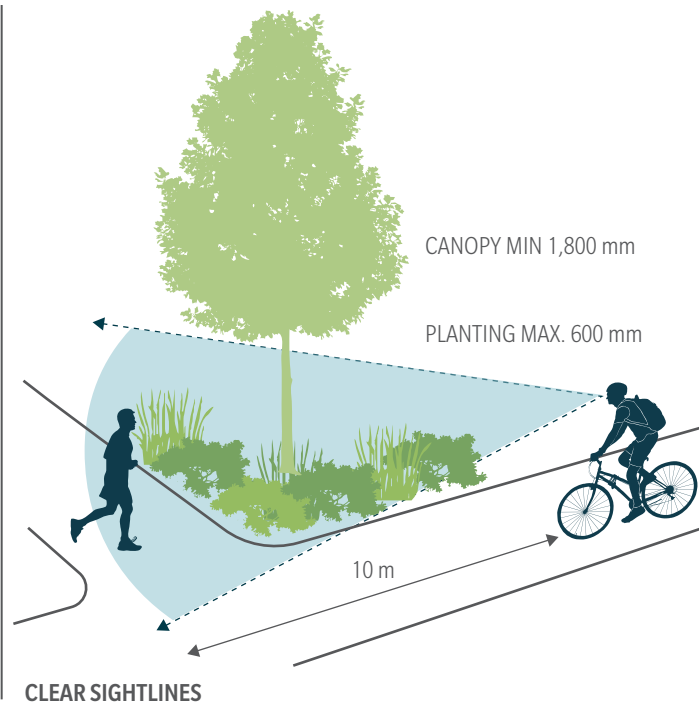
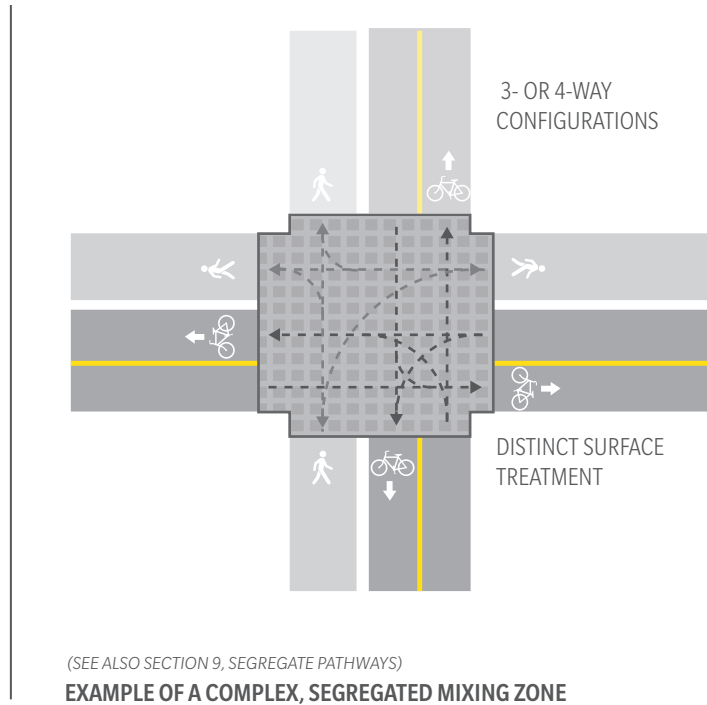
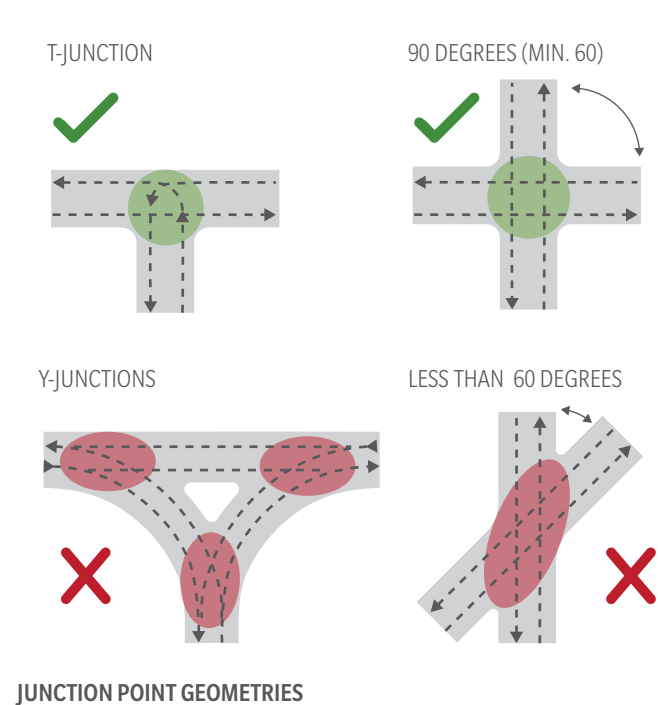
6.1 Primary Junction Points

Junction points are connections or linkages to non-Capital Pathway paths and trails. These may include connections to complementary municipal and local pathway networks, or other NCC trails, paths and walkways.

- ▶ Primary junction points with major municipal cycling route shall be treated as important connections that link the two networks at a regional scale, and should provide directional indicators for both routes.
- ▶ Primary junction points should include shared wayfinding maps and route markers to identify and facilitate navigation between the two networks.

6.2 Secondary Junction Points

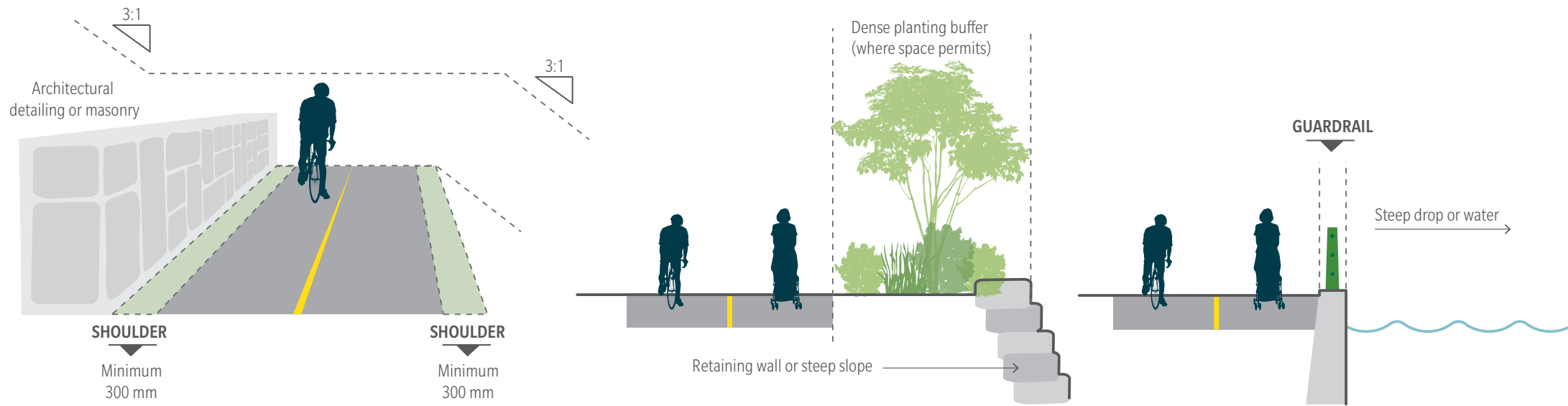
- ▶ Secondary junction points connect to local trails that do not form part of the Capital Pathway, and the design standards applied must differentiate between the two systems.
- ▶ Secondary junctions with local trails and walkways must ensure that the Capital Pathway is clearly visible as the main multi-use thoroughfare.
 - Signage, symbols and landscape elements should reinforce the multi-use nature of the pathway network, and indicate a change to single mode, where required (such as the demarcation of pedestrian-only traffic through Capital parks).
- ▶ Where local trails cross the Capital Pathway, demarcations or changes in surface treatment (i.e. painting or paving materials) should be used to alert users to a possible conflict zone, and reinforce pedestrian priority (*see Section 10.2, Pedestrian Priority Zones*).



6.3 Mixing Zones

- ▶ Mixing zones occur at pathway junctions where two or more paths of travel intersect. Mixing zones must be designed to calm and facilitate the flow of users.
- ▶ The configuration of mixing zones should provide a clear direction of movement, and indicate the priority of travel lanes to promote predictable user behaviours and the safe crossing of users.
- ▶ Simple T-junctions are encouraged. Avoid complex Y-junctions and triangular geometries with unclear crossing patterns.
- ▶ Visual cues may be used 20 m before junctions to inform users of an upcoming mixing zone (via pavement demarcations or signage).
- ▶ Surface treatments (such as paint, unit paving, textured asphalt and so on) may be considered for higher-volume pathway junctions, to highlight the presence of a potential zone of conflict. The surface treatments should extend across the entire mixing zone.
- ▶ Where centre line markings exist, the main thoroughfare should have a solid painted line, and the line painting from the feeder link or secondary route should not cross the travel lanes. If both directions are main thoroughfares, a larger mixing zone should be provided to accommodate movements in all directions, and both centre lines should be interrupted with a change in texture or surface treatment throughout the entire mixing zone.
- ▶ Appropriate sight distance should be provided along curves and inclines, taking the travel speed into account to provide adequate reaction times to upcoming features.
- ▶ Appropriate vegetation management should be undertaken to maintain clear visibility. In particular, dense eye-level thickets should be discouraged close to the pathway edges and around tight curves.
- ▶ All pathway junctions must:
 - intersect at as close as possible to a 90-degree angle, and never at less than a 60-degree angle
 - provide adequate visibility, and facilitate eye contact and awareness between users

7 Edge Treatments

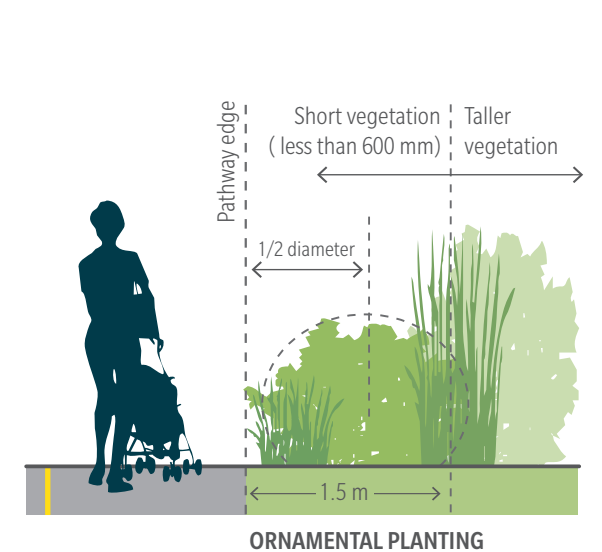
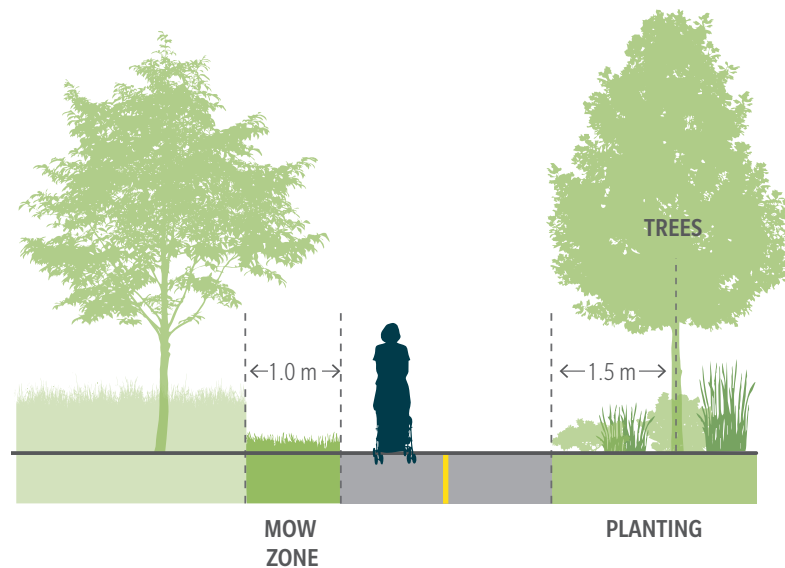
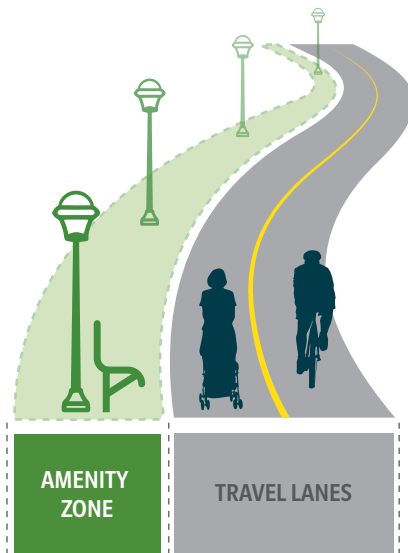


7.1 Embankment

- ▶ Wherever possible, pathways should be designed to have minimal shoulder embankments (less than 3:1).
- ▶ Vertical drops or steep slopes adjacent to pathway edges should be avoided wherever possible.
- ▶ The use of vertical structural walls should be avoided, except in urban areas where space or architectural considerations warrant their use. In these conditions, an aesthetically appealing integration should be ensured by way of quality materials (such as masonry stone) and artistic or architectural detailing (relief detailing, veneers or murals).
- ▶ A level shoulder of 300 mm (minimum) should be provided on both sides of the pathway.

7.2 Edge Protection

- ▶ Pathway segments immediately adjacent to deep water (such as the Rideau Canal) or very steep slopes should provide an edge protection such as railings, guardrails or buffer zones to protect pedestrians and cyclists.
- ▶ Dense planting or resilient shrubs can fulfill the role of the railing where there is sufficient room between the pathway and a potential hazard.
- ▶ Roadside pathways (see Section 11.2) should be equipped with a safety buffer, which may consist of textured paving, a landscape median or a vertical guardrail where needed.
- ▶ Guardrails, medians or physical barriers should be designed to suit their context and respect the local character.



7.3 Amenity Zone

- ▶ The amenity zone should be located along the length of the pathway, outside the pathway's clear zone.
- ▶ The amenity zone should accommodate pathway elements such as lights, signs, furnishings, drinking fountains, trees, plantings and so forth.
- ▶ Where amenities such as benches, maps or drinking fountains require users to stop, the area should be paved and treated in accordance with Section 15, Placemaking and Public Spaces.
- ▶ Park benches should have a sufficient setback (600 mm) on a paved apron to prevent outstretched legs from being hit by cyclists.

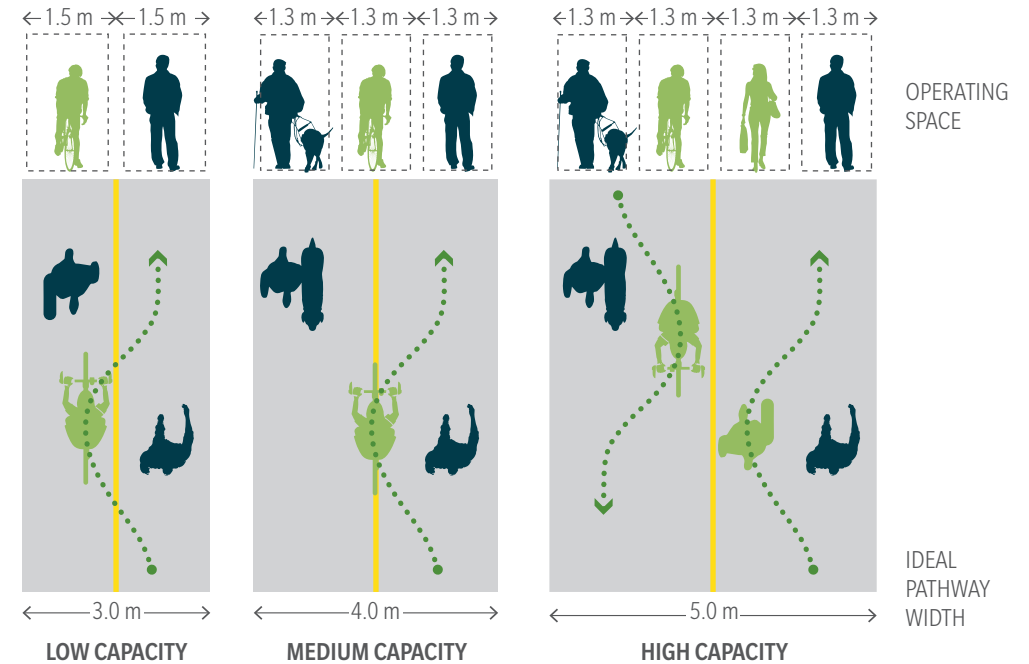
7.4 Planting Zone

- ▶ Where the pathway is located within a lawn or meadow landscape, a typical 1-m mown edge should be provided.
 - The mow zone should be planted with low-growing and/or ground cover plant species.
 - The mow zone can be replaced by a planting offset and mulched shoulder, where planting beds are located immediately adjacent to pathway edges.
- ▶ In areas where shrub beds or ornamental plantings are immediately adjacent to the pathway:
 - Shrubs should be planted at minimum of half the distance of their mature diameter away from the pathway edge to prevent them from growing into the travel lane.
- ▶ Trees should be planted a minimum of 1.5 m away from the pathway edge, to prevent the encroachment of branches, and the impacts of roots on the pathway surface.
 - The edge of the shrub bed should be treated with a thick layer of mulch to prevent the growth of weeds.
 - Tall, dense shrubs and plantings (over 600 mm in height) should be avoided within 1.5 m of the pathway edge.
 - The selection and spacing of shrub and perennial varieties should be based on their mature size to avoid regular pruning and maintenance requirements along pathway edges.

8 Pathway Width

- ▶ All multi-use pathways shall be at least 3 m in width.
 - A minimum 3-m width is required for the access and travel of maintenance vehicles and the safe bidirectional movement of pathway users.
- ▶ Within the urban lands, all new multi-use pathways shall be constructed to a typical 4-m width where space permits (to ensure future capacity for increasing user volumes).
- ▶ Segregated pedway travel lanes shall be a minimum of 2 m in width, and bikeway travel lanes shall be a minimum of 3 m in width (see Section 9, *Segregated Pathways*).

- ▶ The pathway dimensions shown are minimum standards, and may be exceeded where physical space permits or where warranted by placemaking initiatives (see Section 15, *Placemaking and Public Spaces*).
- ▶ In areas where high-volume pathway segments cannot be widened due to physical limitations, alternative solutions should be investigated, including the provision of adjacent and complementary on-road cycling lanes, in particular along NCC parkways.



8.1 Design Capacity

▶ Low capacity

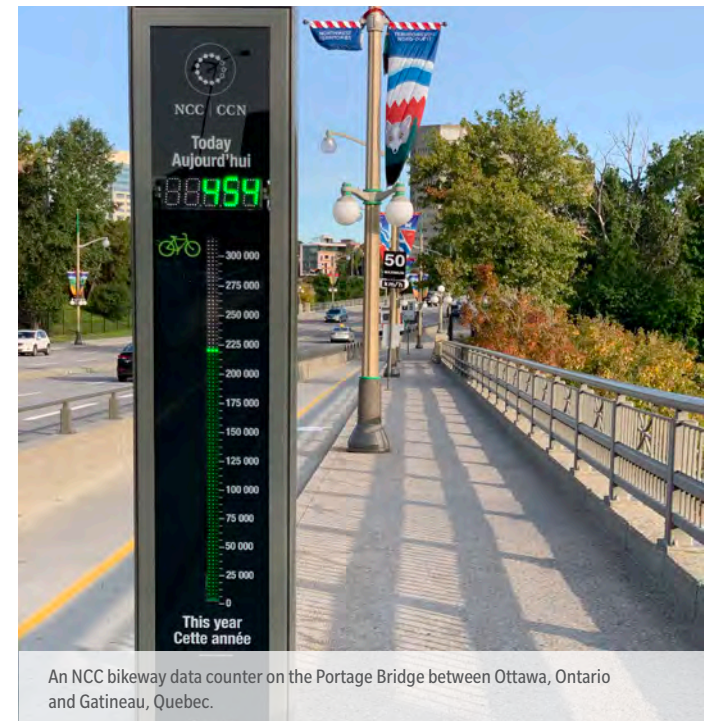
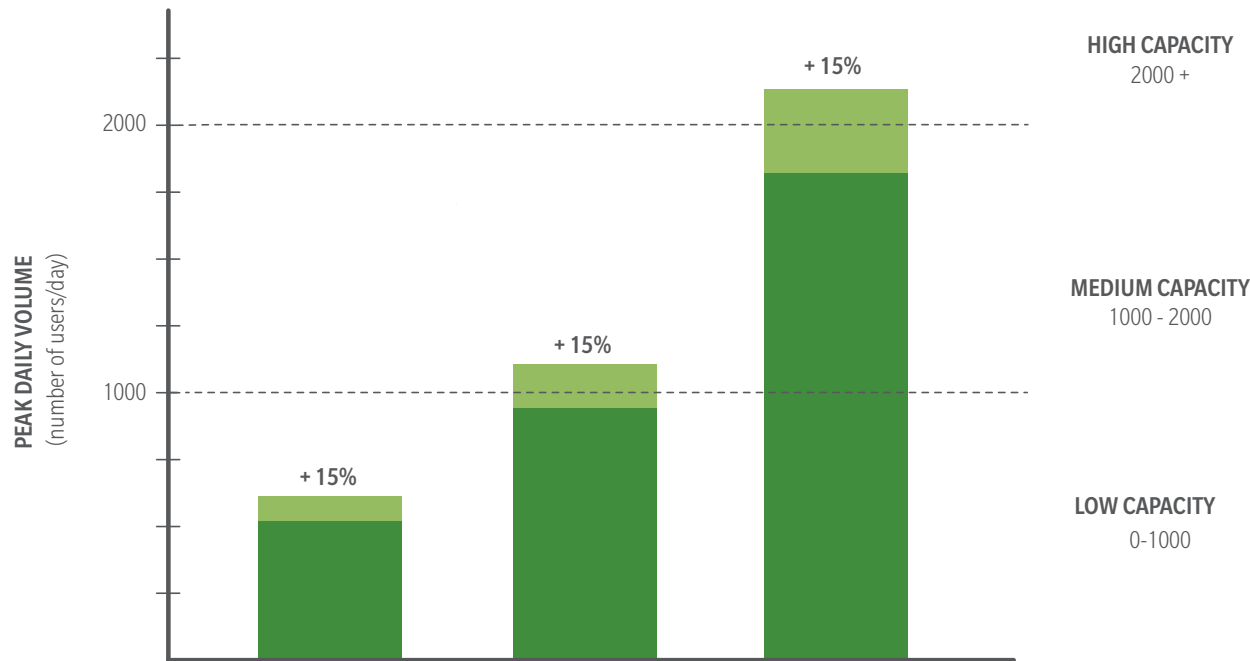
- pathways accommodating a lower volume of users, typically located within rural settings or consisting of minor feeder links or alternative segments
- located in areas of infrequent passing
- 3-m width (two 1.5-m travel lanes)
- no segregated scenarios

▶ Medium capacity

- pathways accommodating a medium volume of users, typically located within urban or heavily frequented rural settings
- located in areas of frequent passing
- allows peak unidirectional flows to pass each other without impeding the oncoming lane
- cannot pass in both directions at the same time
- allows walking side-by-side without impeding the oncoming lane
- 4-m width (two 2-m travel lanes)
- segregated scenario: 2-m pedway and 3-m bikeway

▶ High capacity

- pathways accommodating the highest volume of users, typically located within the densest urban areas and providing connections to major destinations
- allows two people walking side-by-side in both directions
- can pass in both directions simultaneously without impeding oncoming lanes
- 5-m width (two 2.5-m travel lanes)
- segregated scenario: 3- to 5-m pedway and 3- to 4-m bikeway



8.2 Volume Index

- ▶ The volume index should be used as the primary tool to determine the appropriate design capacity for new or rehabilitated pathway segments, and to address pathway congestion.
 - The volume index is location-specific, and the ideal design capacity of a pathway may vary along its length.
- ▶ Calculation
 - Volume index = peak daily volume x population factor (1.15)
 - Peak daily volume: The existing number of users per day during the peak summer period (April–September).
 - Population factor: The percentage of anticipated increase in user volume. The population factor should be calculated at 15 percent above the existing peak user rate, to ensure that the new pathway will serve increasing user demand throughout its life cycle (30 years).
- ▶ The volume index can then be plotted on a graph to determine the appropriate design capacity, based on the capacity categories (low, medium or high) described in Section 8.1, Design Capacity.
- ▶ Thresholds
 - Low to medium: approximately 1,000 users/day
 - Medium to high: approximately 2,000 users/day
 - The thresholds for widening are determined by the level of service provided by a single unidirectional travel lane. This number represents the point at which the number of users (with an assumed modal split of 50/50) would lead to an uncomfortable user environment and would be likely to lead to unsafe passing conditions, thereby necessitating a wider profile.
- It should be noted that congestion is a sign of success, and an increase in user volumes correlates to a natural decrease in travel speeds. Therefore, congestion can have the added benefit of reducing the differential in speed between pedestrians and cyclists.
- ▶ The volume index should be assessed prior to consideration of pathway segregation (see Section 9, Segregated Pathways).
- ▶ The design width of new segments should be supported by a comprehensive analysis of various factors, including volume index, modal split and current level of service, followed by a feasibility study and impact assessment.

9 Segregated Pathways



HIGH SCORE = SEGREGATION

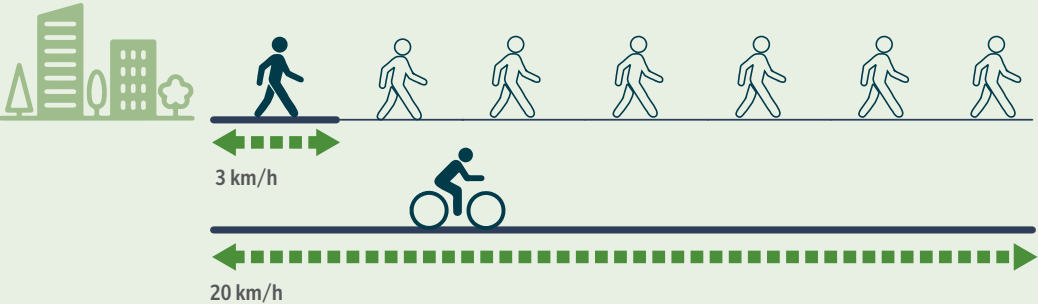
FACTORS	0	1	2	SCORE
VOLUME INDEX	LOW CAPACITY	MEDIUM CAPACITY	HIGH CAPACITY	0 - 2
PEDESTRIAN RATIO	< 50%	50% TO 75%	> 75%	0 - 2
LOCATION TYPE	RURAL	URBAN	CORE	0 - 2
SCENIC VALUE	LOW SCENIC VALUE	MODERATE SCENIC VALUE	HIGH SCENIC VALUE	0 - 2
				TOTAL = 0 - 8

9.1 Segregation Criteria

- ▶ Pathway segregation should be guided by the philosophy of “adding pedestrian space” to the pathway corridor. Pedestrians are the most vulnerable users, and are most sensitive to a shared pathway environment. Pedestrians have a slower travel speed and will therefore be regularly overtaken and passed by cyclists.
- ▶ Segregation is driven by two factors:
 1. the volume of users (*see Section 8.2, Volume Index*)
 2. the modal split (ratio of user type)
- ▶ Segregated pathways may be undertaken in locations where there is a high pedestrian ratio.
 - Travel lanes should be segregated for the two predominant user types (pedestrians and cyclists) representing both ends of the spectrum of travel speeds.
 - People using other modes of travel (running, in-line skating, skateboard, scooter, wheelchair and so on) should use their discretion regarding which travel lane is most appropriate for their use, based on user speeds and volumes.
- ▶ All Capital Pathway segments must remain multi-use in nature. Where segregated, the pathway shall consist of two complementary portions:
 - a bidirectional bikeway (minimum width of 3 m)
 - a bidirectional pedway (minimum width of 2 m)
- ▶ Segregation should be undertaken judiciously to maximize the user experience, while minimizing the additional costs and potential environmental impacts.
 - Appropriate placemaking can alleviate the need for segregation, by providing appropriate rest points and refuge for pedestrians outside the travel lanes of the pathway, without segregating an entire discovery route.
 - Segregation should be targeted around pedestrian zones where there is a high percentage of slow-moving pedestrians (over 75 percent of users).
- ▶ The need to segregate a pathway corridor should be assessed based on the following table. A high score indicates a higher potential need for segregation.

9.1.1

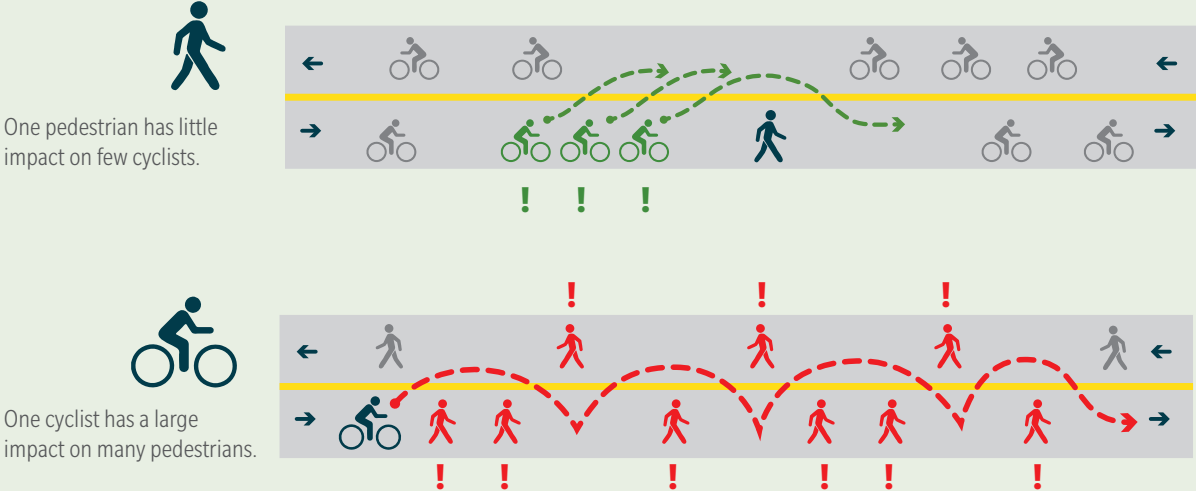
Pedestrians vs. Cyclists



Cyclists move 6.6 times as fast as pedestrians. As a result, cyclists will often travel greater distances and will, therefore, encounter and overtake numerous pedestrians in the same amount of time travelled.

9.1.2

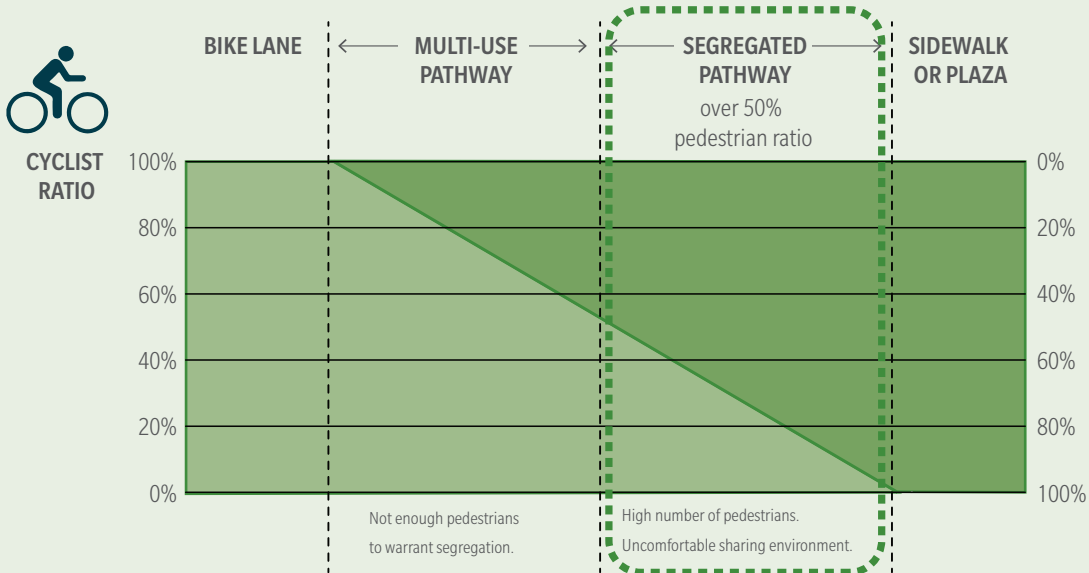
Volume Impact for Cyclists and Pedestrians



Due to their slower speeds, pedestrians are the most vulnerable pathway users and will experience a higher perceived level of pathway congestion. In high pedestrian areas, a single cyclist will repetitively overtake many pedestrians. By contrast, in low pedestrian areas, a single pedestrian can be sequentially passed by numerous cyclists with little impact to the flow of users.

9.1.3

Multi-Use vs. Segregated



Multi-use pathways are the most efficient and cost-effective pathway configuration. However, certain high-volume instances can result in an uncomfortable pathway user experience due to the differential in speed between cyclists and pedestrians. When the pedestrian ratio exceeds a 50 percent modal split, the greater percentage of slow-moving users causes a bottleneck effect which can lead to unsafe passing conditions and user conflicts.

Typical cycling trip distance is longer than pedestrian trips, therefore not all segments of pathway will exhibit high pedestrian ratios. Areas near population centres, employment nodes, transit stations and tourist destinations will have a higher percentage of pedestrian users. Pathway segregation should be focused around these high-volume pedestrian areas, to ensure a safe and convenient environment for these two user groups.



Example of bikeway along the Vancouver Sea Wall, Vancouver, British Columbia.



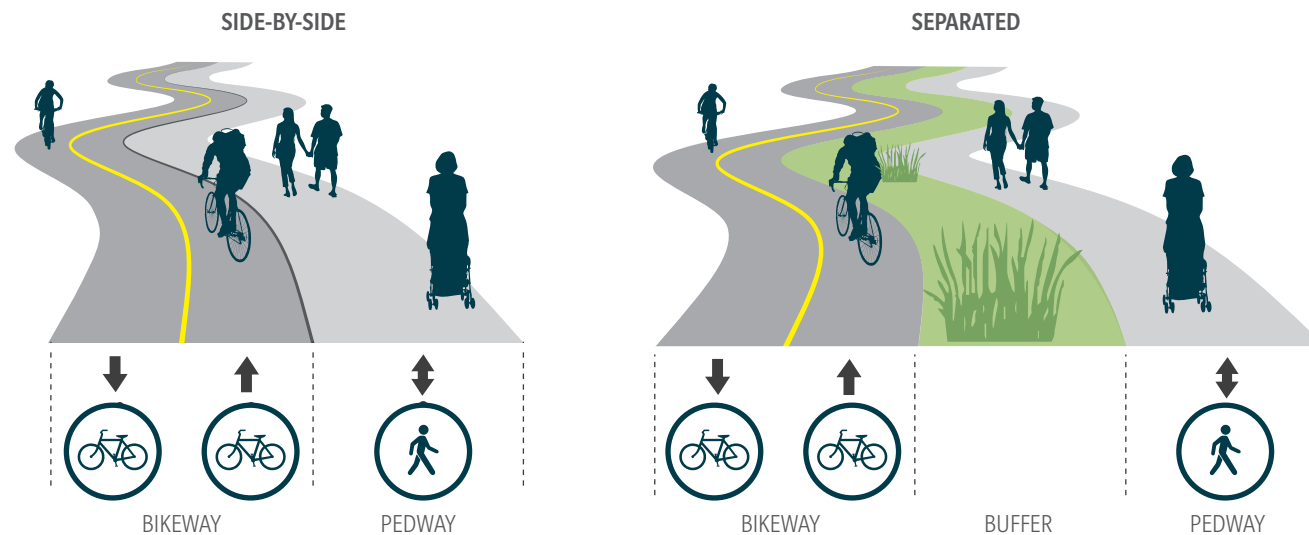
Example of pedway along the Bow RiverWalk, Calgary, Alberta.

9.2 Bikeway

- ▶ The bikeway must be bidirectional and include two opposing travel lanes for cyclists.
- ▶ The bikeway should form the primary continuation of the pathway thoroughfare.
 - The typical surface treatment of the bikeway should be asphalt with a painted centre line, in keeping with the typical multi-use travel lanes.
- ▶ The bikeway must be distinguished from a multi-use pathway through signage, pavement markings, design cues or variations in surface materials.

9.3 Pedway

- ▶ A pedway should be provided in areas where there is a high volume of slow-moving pedestrians.
- ▶ The pedway must be visually distinct from the bikeway.
 - There should be no centre line painting within the pedway.
- ▶ The pedway must meet the minimum travel lane requirements for bidirectional pedestrian traffic, but may also incorporate elements of placemaking (*see Section 15*).
 - The pedway should be located closest to the waterfront, urban elements or points of interest.
 - The pedway should remain within sight of the bikeway whenever possible, and should not be separated from the bikeway by stairs or other access barriers.
- ▶ In very rare instances, a pedway may be provided along both edges of the pathway (e.g. if there are elements of visual interest along both sides of the pathway, or where busy mixing zones require pedestrian access on both sides).
- ▶ In urban locations, the pedway may take the form of a traditional sidewalk.



9.4 Segregation Scenarios

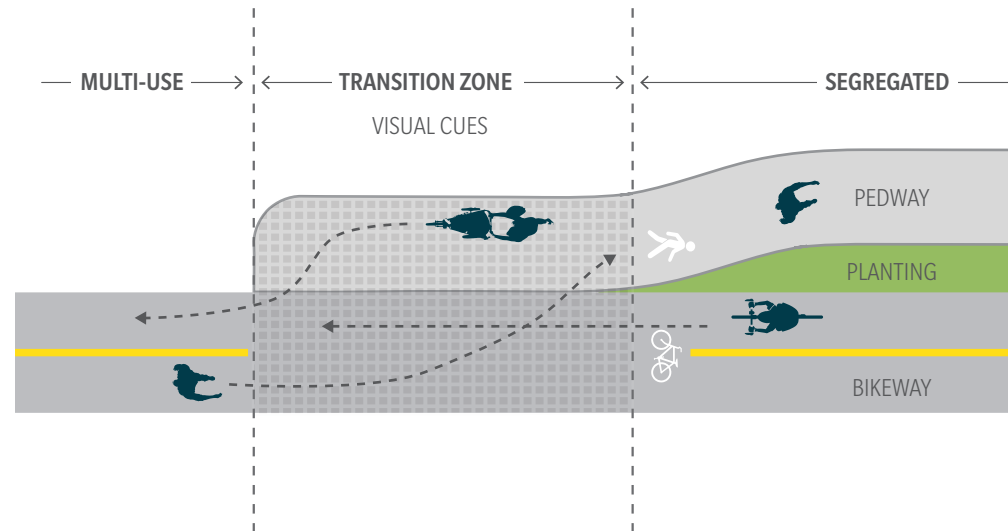
► Side-by-side scenario

- This scenario should be used in instances where there is limited physical space, or a narrow corridor.
- A visual and textural difference between the two travel lanes should be used to reinforce the segregation (e.g. rumble strip, differentiated paving materials between pathway types, paving inlay, line painting and so on). Excessive line painting or regulatory signage should be avoided to distinguish the travel lanes.
- Grade separation (such as a curbed edge) between the bikeway and pedway is discouraged.

► Separated scenario

- This scenario should be used wherever space permits to create beautiful pathway corridors that are integrated into the landscape.
- The landscape buffer should be planted with appropriate plant species that add visual interest and suit the surrounding context.
- The landscape buffer may be used to create rest points, or for an amenity zone, where appropriate.
- The parallel pathways should be within sight of each other whenever possible, and should offer the same overall user experience (ideally no more than 8-m separation between the travel ways).
- A significant difference in elevation between the two travel ways (more than 1.5 m) that would lead to a difference in experience between the two routes should be avoided. Where this occurs (e.g. Rideau Canal Eastern Pathway) the pedway should be considered a local trail/walkway, and the primary corridor should be treated as a multi-use segment of the pathway network with adequate design capacity.
- Connections between the two routes should be provided at arrival points and points of interest to allow the movement of users to the appropriate travel lane via crossover zones in the landscape buffer.

10 Treatment Zones

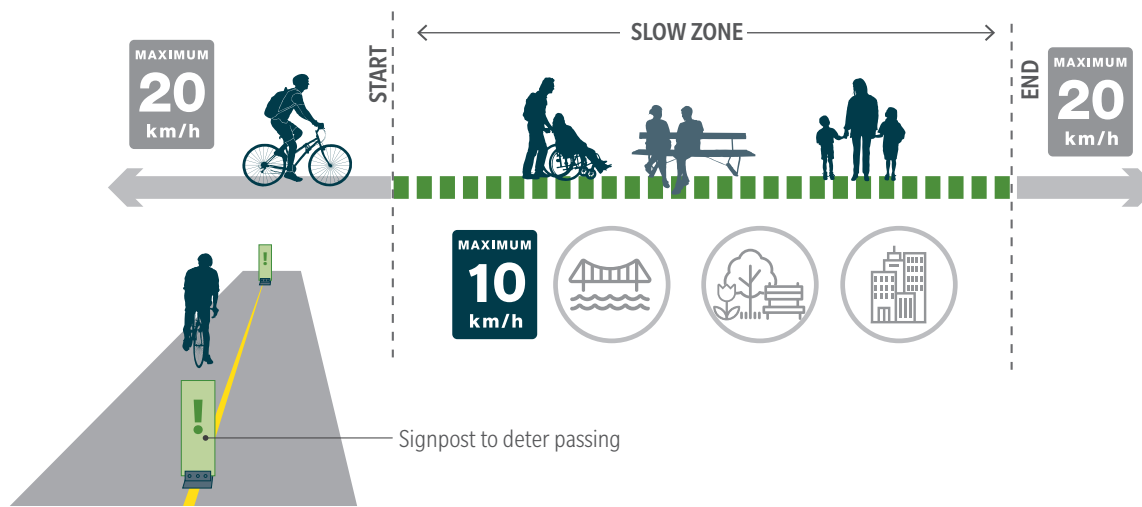


10.1 Transition Zones

- ▶ The transition between different pathway configurations should be seamless and intuitive (e.g. from a low-volume multi-use pathway to a high-volume segregated pathway).
- ▶ Visual cues should be provided 20 m in advance of the change in configuration, to advise users of the changing conditions.
 - Avoid abrupt changes in pathway width or permitted user behaviours.
- ▶ The positioning of the pedway and bikeway should be planned to minimize the amount of crossing points between users. Locate the pedway near ramps and stairways, walkways or adjacent public spaces where possible, or provide clear pedestrian priority zones to minimize user conflict.
- ▶ Signage and demarcations must be provided to indicate any segregation of users.

10.2 Pedestrian Priority Zones

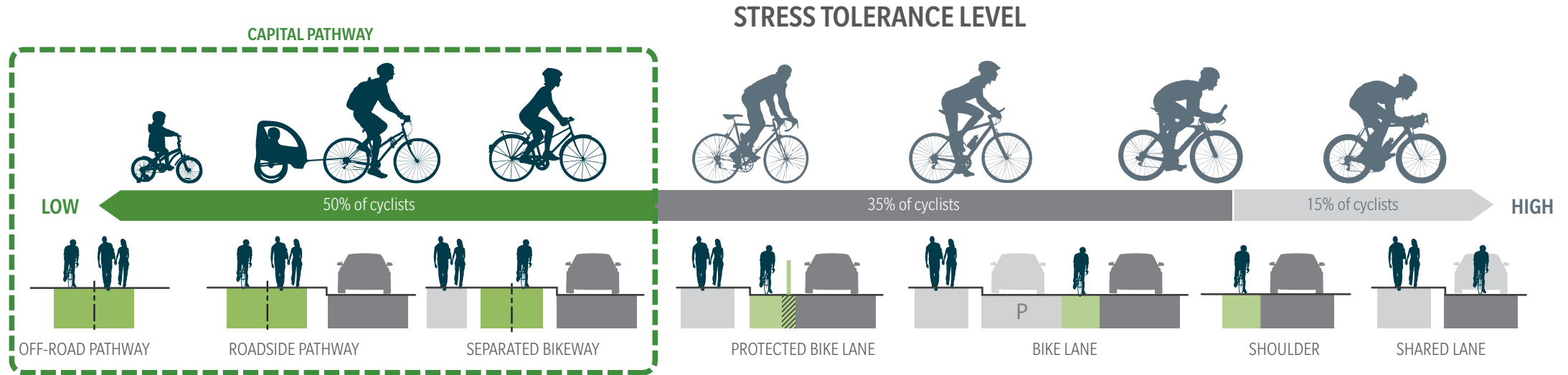
- ▶ Where dedicated pedestrian travel lanes cross or intersect the pathway, priority should always be given to the pedestrian, and cyclists must yield.
- ▶ Distinct pedestrian surface materials, or surface demarcations should be used to delineate the pedestrian zone; regulatory signage should be kept to a strict minimum.
- ▶ Where a local trail, sidewalk or public space crosses the pathway, it should be treated as a pedestrian priority zone and reflected in the pathway design.
- ▶ Surface textures may include painted applications or contrasting pavements to identify the pedestrian priority zone.
 - Surface textures should be of high-quality paving materials or artistic interest to contribute to the aesthetic qualities of the Capital Pathway.



10.3 Slow Zones

- ▶ Slow zones should be employed in areas of high user volume and complex user patterns, such as at bridge abutments and crossings, through public plazas and park spaces, or in dense downtown settings.
- ▶ The typical 20 km/h speed limit does not apply in a slow zone. All users must adjust their speed to respect that of the slowest, most vulnerable user.
 - A reduced 10 km/h speed limit may be posted where appropriate.
- ▶ Passing within the slow zone should be discouraged and, if undertaken, it must be done with the utmost respect and caution for other users.
- ▶ A consistent signage element or graphic symbol (such as a two-sided flexible bollard with graphic messaging) could be installed in the centre of the pathway to identify the beginning and end of the slow zone, and discourage the passing of other users throughout the zone.
- ▶ All slow zones must
 - have a clearly defined beginning and end
 - include design features for speed calming, such as vertical markers, surface treatments and demarcation symbols
 - reinforce the principle of caution
 - be consistently designed with standardized signage and symbols, throughout the pathway network.

11 Roadways and Motor Vehicles



11.1 On-Street Facilities

All roadway interventions must meet provincial traffic safety standards and regulations.

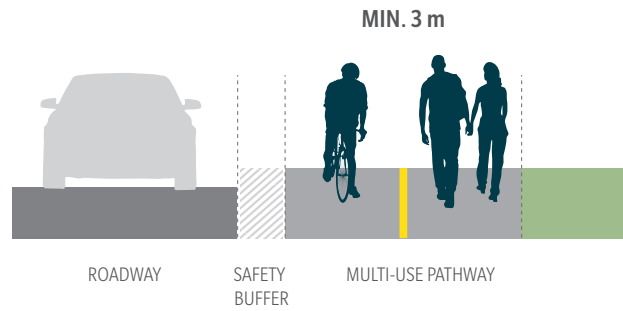
Roadway signage around pathway connections should be kept to a minimum to avoid visual clutter and diluted messaging.

► On-street facilities (such as unidirectional bike lanes) are generally not considered part of the Capital Pathway network, and should be avoided.

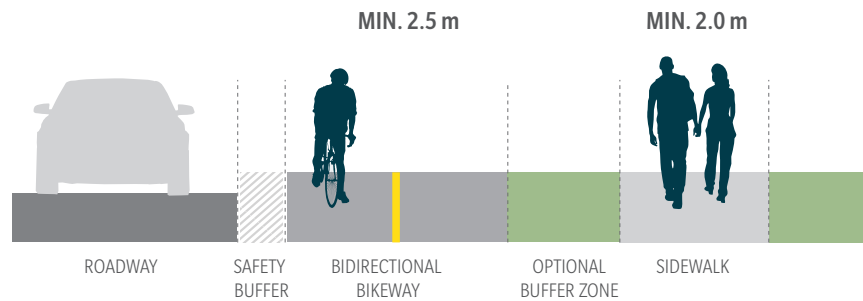
► In rare instances, unidirectional cycling lanes may be used as temporary links to improve the connectivity of the ideal network. In these instances, the on-street lanes must

- be accompanied by adjacent sidewalks
- be signed and identifiable as part of the Capital Pathway, with clear tie-in points to the network
- be designed with safe and convenient pedestrian and cyclist crossings/connections, for bidirectional movement from beginning to end of the temporary link (see Section 3.3).

ROADSIDE MULTI-USE PATHWAY

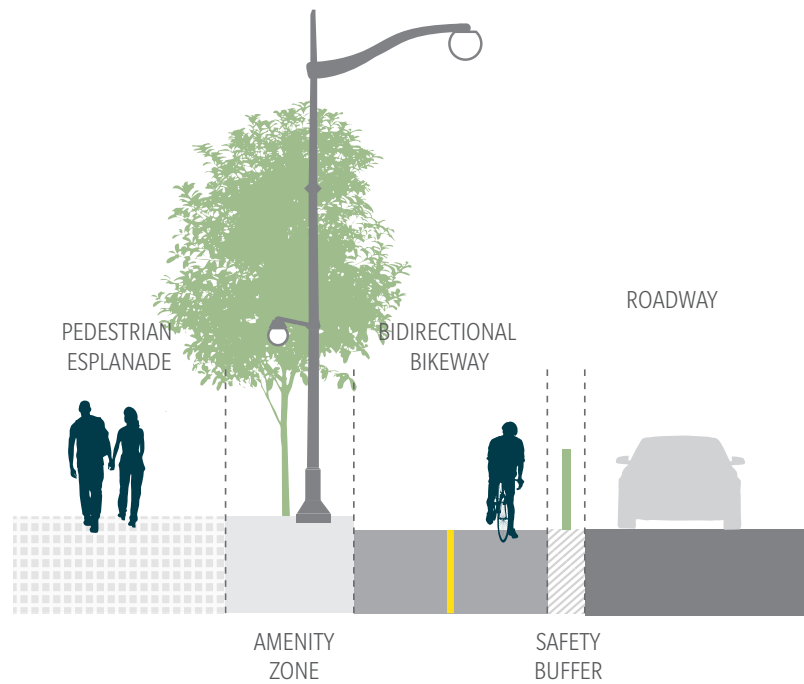


ROADSIDE SEGREGATED PATHWAY



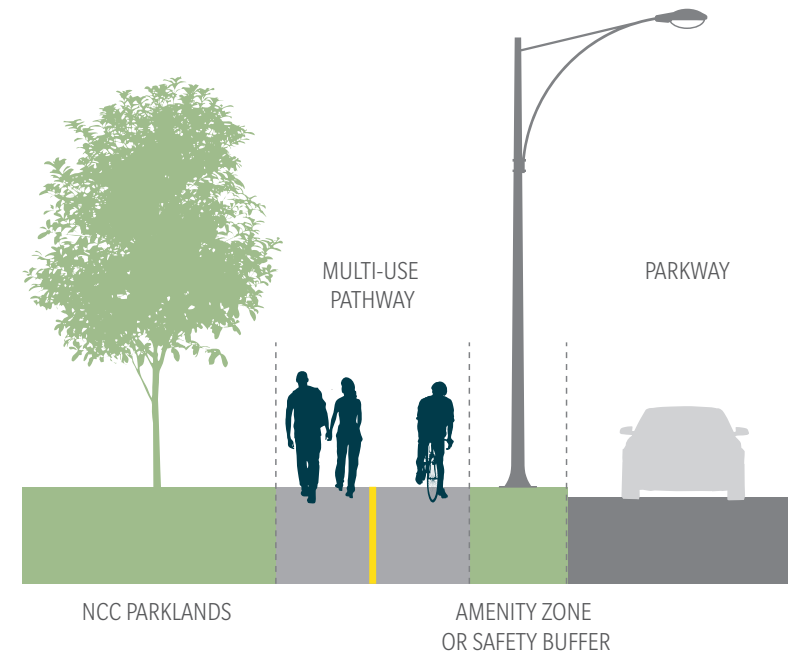
11.2 Roadside Pathway

- ▶ Where pathway segments are immediately adjacent to the roadway (such as on bridges, or along narrow parkway corridors), they should be designed as a bidirectional, off-road pathway.
 - The Capital Pathway is typically provided on only one side of the road. In cases where there are limited crossing opportunities, major destinations on both sides or high volumes of users, formal crossings or redundant on-street facilities along the opposite side of the street may be considered.
- ▶ Roadside facilities should be limited to the minimum distance required. Whenever possible, the pathway should meander away from the roadway, and a minimum 3-m offset should be achieved.
- ▶ Roadside pathway corridors should
 - be multi-purpose
 - be grade-separated from the vehicle lanes, where possible
 - have a minimum 300-mm safety buffer between the pathway edge and vehicle travel lane (500 mm, where possible)
- ▶ The safety buffer may consist of
 - a landscape buffer / median or a landscaped amenity zone
 - an offset distance and textural separation between the pathway and curb edge
 - a raised-curb median separating the pathway from the vehicle lane
 - a guardrail where a buffer zone is not possible
- ▶ The safety buffer should be beautifully detailed, and reflect the character and design vocabulary of the Capital Pathway and the surrounding landscape.
- ▶ Where there is no adjacent sidewalk, the pathway must be a multi-use facility.
- ▶ Transitions between roadside pathways and pedestrian sidewalks must be clearly identified.
 - Cyclists should not be led onto sidewalks.
- ▶ If ample room permits, separated lanes should be considered for pedestrians and cyclists, especially in urban areas with a high pedestrian ratio.



11.3 Confederation Boulevard

- ▶ The default pathway configuration must consist of a separate bikeway and pedestrian esplanade.
- ▶ The bikeway must complement the ceremonial route, and meet the design standards for Confederation Boulevard.
- ▶ The bikeway should be located on the interior of the Confederation Boulevard loop to limit the number of street crossings required.



11.4 Parkways

- ▶ The pathways may consist of multi-use or segregated pathways.
- ▶ The pathway should be located on the most desirable side of the roadway (adjacent to the river, canal or points of interest).
- ▶ Where space is constrained, reclaiming space from the roadway lanes should be considered to slow vehicle speeds, and provide an adequate pathway corridor.
- ▶ Whenever possible, the pathway should be separated from the curb by a landscape buffer of a minimum 1.5 m.



Example of an interprovincial link across the Alexandra Bridge between Ottawa, Ontario, and Gatineau, Quebec.

11.5 Interprovincial Bridges

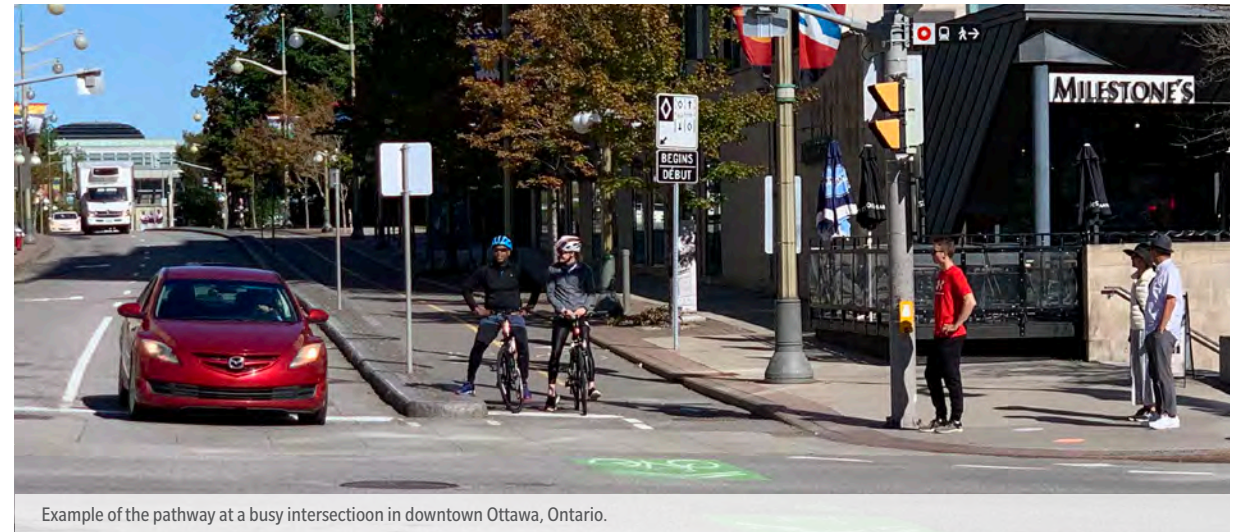
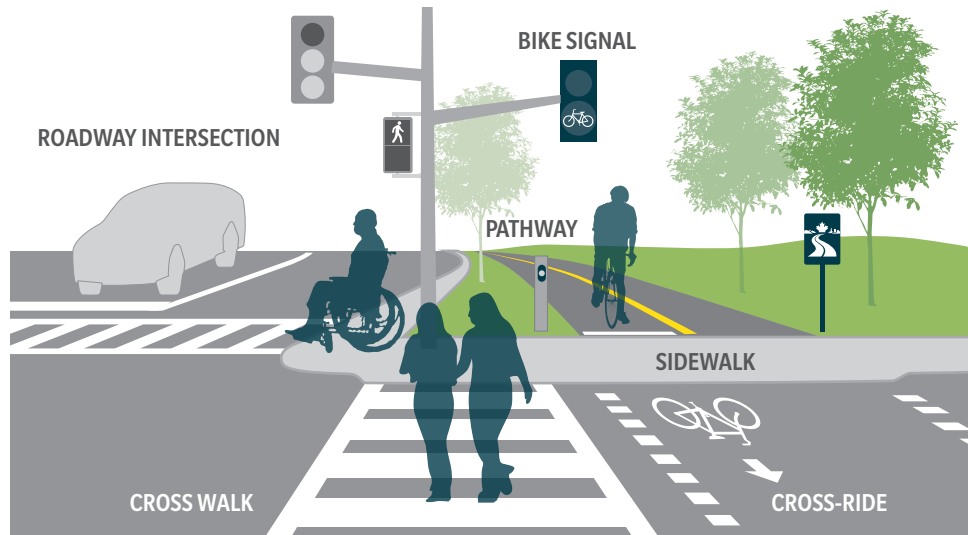
► **Interprovincial bridges shall form part of the Capital Pathway network.**

- Pathway infrastructure should consist of segregated bidirectional facilities, protected from vehicle lanes by a guardrail or physical barrier.
- Pathway travel lanes should connect directly to the nearest discovery route segment, ideally with no roadway crossings.
- Multiple, redundant routes and connections should be avoided; one clear route is always preferred.

► **The street intersections at provincial crossings should be treated with attention to provide a safe and logical flow of pathway users to and from the interprovincial link.**

- There should be no break in continuity between the interprovincial link and adjacent discovery route.
- Where possible, underpasses beneath the interprovincial bridges should be used to avoid at-grade street crossings.

- The nearest intersection should provide multi-modal crossings and connections to surrounding municipal infrastructure.
- The bikeway travel lane must be clearly visible, and the transition to standard municipal infrastructure should be clearly demarcated to prevent cyclists from riding on sidewalks.

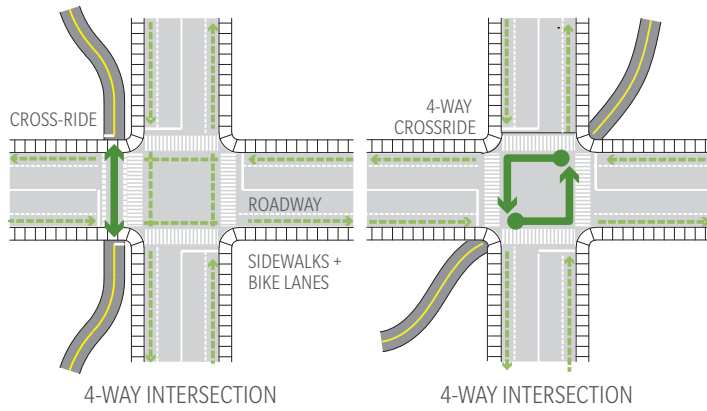


Example of the pathway at a busy intersection in downtown Ottawa, Ontario.

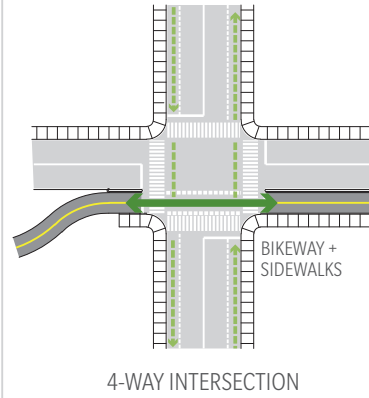
11.6 Intersections and Crossings

- ▶ Intersections and crossings should be designed
 - to be intuitive
 - to provide adequate visibility
 - to facilitate eye contact and awareness between pathway users and roadway users
 - to provide clear direction of movement
 - to denote a clear right-of-way for all user types (pedestrians, cyclists and vehicles)
- ▶ Intersections and crossings should include universal design features, such as tactile paving, audible and easy-to-access crossing buttons, and wide curb cuts.
- ▶ Any signalized intersections and crossings should be automated to detect cyclists (i.e. using loop detectors), or should consist of manual push buttons in convenient placement(s) for both pedestrians and cyclists to activate from their respective waiting positions.
- ▶ Waiting areas should be segregated by use, with intuitive waiting positions for pedestrians and cyclists that minimize conflict, and facilitate flow for crosswalk and cross-ride movements.
- ▶ Controlled intersections (signalized or stop-controlled) should be equipped with segregated crosswalks and cross-rides or similar road crossing markings that allow cyclists to legally cross the road without the need to dismount.
- ▶ All crossovers should be positioned at as close to a 90-degree angle as possible, and never at less than a 60-degree acute angle.
- ▶ Crossings must be painted or treated with a change in paving material to alert motorists and indicate pathway user priority.

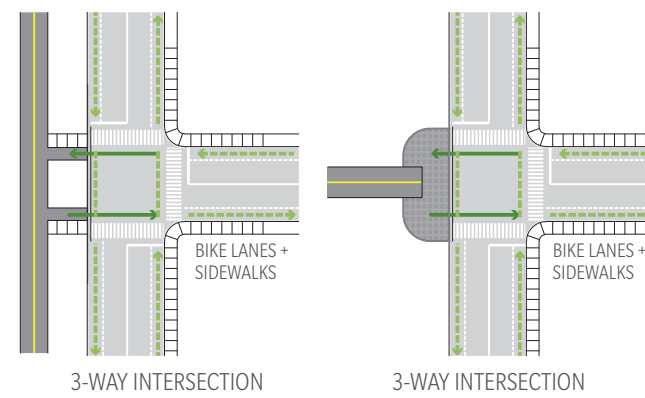
SCENARIO 1



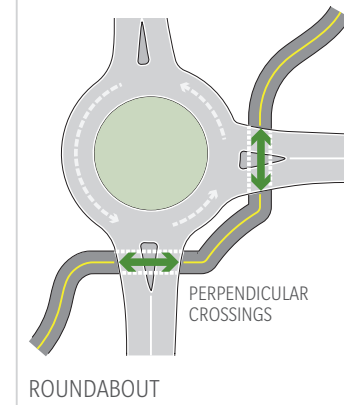
SCENARIO 2



SCENARIO 3

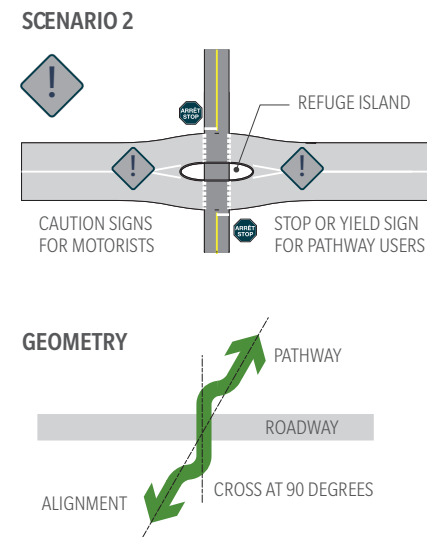
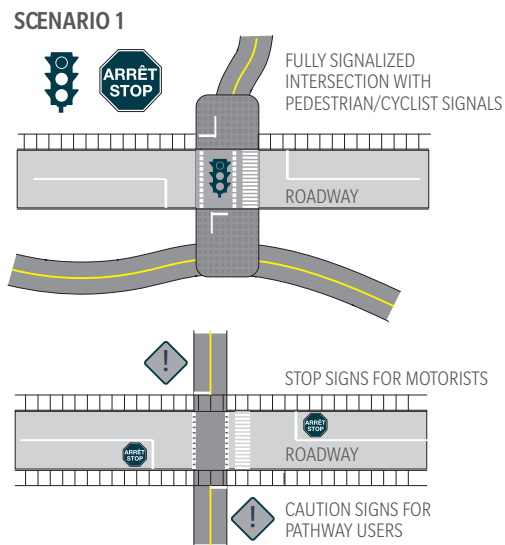


SCENARIO 4



11.7 Intersection Scenarios

- ▶ The pathway user experience should continue uninterrupted across intersections and roadways.
- ▶ A fluid transition from the Capital Pathway to municipal bike lanes should be provided where these networks intersect.
- ▶ Intersection designs should align with the following ideal scenarios.
 - ▶ **Scenario 1: Bidirectional multi-use pathway to bidirectional multi-use pathway**
 - Should be located on the same side of parallel roadways whenever possible.
 - Should include a combined multi-use crossing, or side-by-side crosswalk and cross-ride.
 - When it crosses the intersection diagonally, it should have a multi-use crossing, across both intersections, and include refuge points on alternate corners for users to wait safely outside the flow of traffic and sidewalks.
 - ▶ **Scenario 2: Bidirectional multi-use pathway to segregated bidirectional bikeway and sidewalk**
 - The multi-use pathway should be aligned and continuous with the bidirectional bikeway.
 - Separated sidewalks should run adjacent to the bikeway.
 - Bikeways should be closest to the lane of traffic, and minimize the number of crossing points with pedestrian sidewalks.
 - ▶ **Scenario 3: Bidirectional multi-use pathway to on-street municipal lanes and sidewalks**
 - The pathway should transition into a parallel, roadside separated pathway approximately 10 m before the intersection.
 - Separated sidewalks should be available for pedestrian pathway users.
 - Municipal bike lanes should be clearly marked, and the intersection should include four-directional cross-rides.
 - ▶ **Scenario 4: Roundabout**
 - The pathway should be separate from the roadway, outside the extents of the vehicle lanes
 - The pathway should cross the connecting roadways at 90-degree angles, at a minimum 5 m from the outer circumference of the roundabout.
 - Connecting roadways should include refuge islands.



11.8 Crossing Scenarios

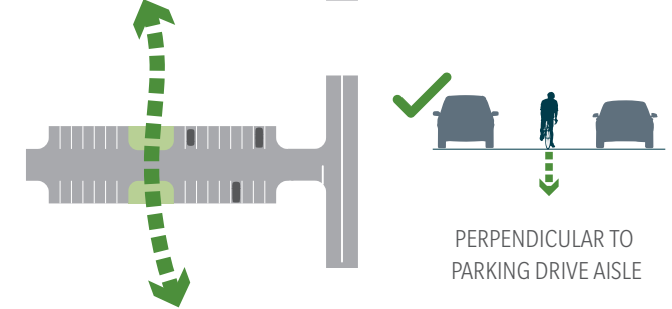
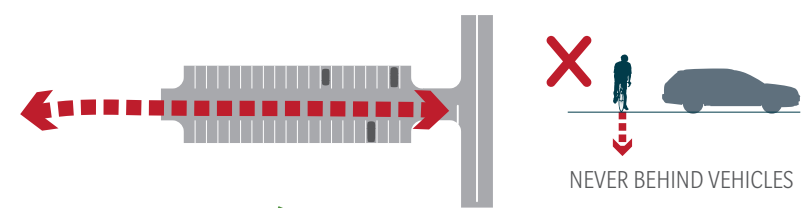
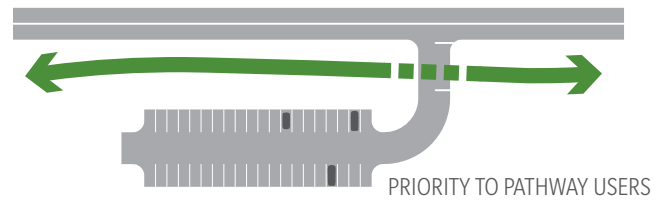
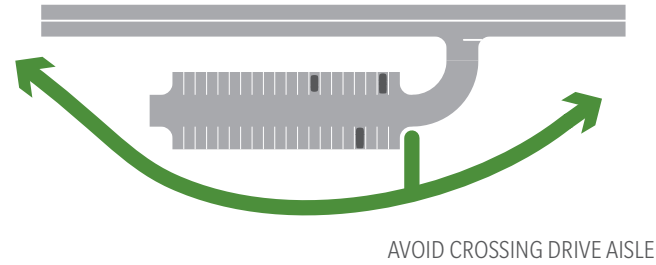
► Crossing design should align with the following ideal scenarios.

► **Scenario 1: Stop-controlled mid-block crossings**

- Priority should be assigned to pathway users over motorists, and vehicles will be required to stop.
- A tabletop crossing may be used to slow vehicles and prioritize pathway users.
- Stop signs or crossing signals should be installed for motorists, and caution signs for pathway users.
- Crossings at parkways should be equipped with traffic-calming techniques in advance of the crossing location.
- On NCC parkways, all elements must respect the aesthetic qualities of the parkway corridor.

► **Scenario 2: Uncontrolled mid-block crossovers (e.g. Sir George-Étienne Cartier Parkway)**

- Pathway users must yield to vehicle traffic and wait for an appropriate opportunity to cross safely.
- Yield signs should be installed for Capital Pathway users, and caution signs for motorists.
- The crossing should be painted to cue motorists.
- Where space permits, a refuge island should be provided to allow crossing of one vehicle lane at a time, based on gaps in traffic flow.
- The refuge island should have adequate space for a reference cyclist to pause safely without impeding a traffic lane.
- Where a refuge island is not possible, traffic-calming devices are essential, and a tabletop crossing or stop-controlled crossing should be considered.



11.9 Parking Lots and Drive Aisles

- ▶ **New pathway segments should not cross parking access roads, wherever possible.**
 - Where they do cross, priority should be assigned to pathway users, and cars must yield.
 - Stop signs for pathway users should be provided only if no safe alternative exists.
- ▶ **The Capital Pathway should avoid crossing through parking lots wherever possible.**
- ▶ **Where the Capital Pathway passes through a parking lot, it should pass perpendicular to the drive aisle.**
 - The pathway should be separated from adjacent parking spaces by a painted safety buffer or planting island, to avoid dooring.

- The crossing should be painted or paved with a contrasting surface colour/texture to differentiate it from the vehicle parking surface.
- The pathway should never be routed along the drive aisle of a parking lot or directly behind parked vehicles.
- ▶ **Where a pathway is routed along the edge of a parking lot, an amenity zone should be provided between the parking lot and travel lane to accommodate parking lot features such as trees, lighting and signage, as required.**
 - If immediately adjacent to the parking spaces, curb stops should be installed for the vehicles to prevent the encroachment of vehicle bumpers into the travel lane.

- ▶ **Universally accessible parking stalls should be equipped with curb cuts / ramps to connect to the pathway, without extending into the pathway travel lanes or clearance zone.**
- ▶ **Winter maintenance of the parking area must be considered, and snow storage should not impede the use of the pathways for cleared, groomed or snow-covered uses.**
- ▶ **Park-and-ride facilities should include Capital Pathway logos as part of the parking signage, to denote points of access.**

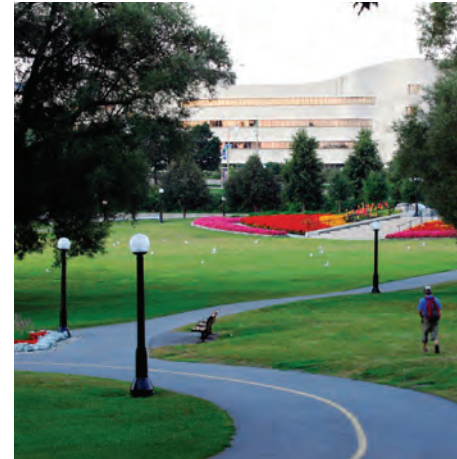
12 Landscape Character

The local character and surroundings must be considered when making pathway design decisions.

Pathways must respect the following framework of landscape character typologies.



URBAN



PARK SPACE



AGRICULTURAL

12.1 Anthropocentric

- ▶ Anthropocentric landscapes should be beautifully designed and detailed to create safe, comfortable human environments.
- ▶ Human-made features (such as walls, railings and other structures) should be retained and highlighted as character-defining elements of the place.

- ▶ **Urban landscapes should**
 - provide the highest quality in urban furnishing, detailing and design
 - preserve and incorporate any built features that contribute to the historic character of the surrounding landscape (such as lights, benches, railings, walls, footbridges and so on)
 - include appropriate lighting that suits the character of the place

- ▶ **Park space landscapes should**
 - feature pathways that suit the urban green space setting of the Capital
 - reflect the local context, or use appropriate generic pathway elements to reinforce the Capital Pathway brand
 - include appropriate lighting at important destinations and high-use areas, or as safety needs require

- ▶ **Agricultural landscapes should**
 - respect the pastoral vernacular
 - preserve and reflect traditional fence rows in the design of pathway elements
 - have lighting that is limited to roadway intersections, or installed where safety needs require



FORESTED



OPEN SPACE



RIVERFRONT

12.2 Eco-centric

- ▶ Eco-centric landscapes should highlight the natural features and biodiversity of the locale.
- ▶ Lighting should be limited in eco-centric zones.
- ▶ Pathway amenities should use natural materials and colours that blend into and complement their surroundings.

▶ **Forested landscapes should**

- consist of a healthy mix of native plant species
- be carefully managed to provide safe sightlines, while maintaining and promoting ecological sustainability
- include a self-sustaining mix of woodland ground-cover plant species.

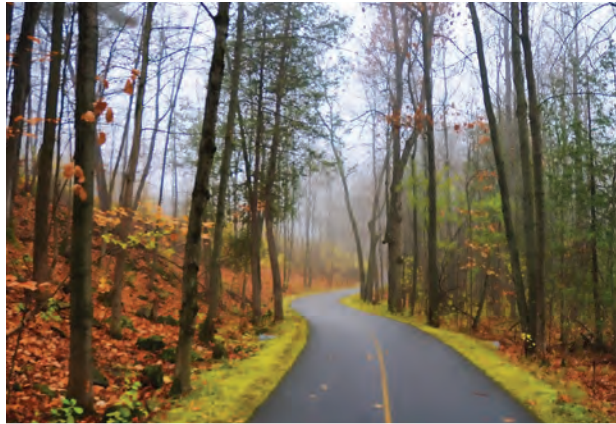
▶ **Open space landscapes should**

- consist of a mix of grasses and ground covers that contribute to habitat and species diversity
- include scattered pockets of trees and shrubs
- be left in a natural unmowed state wherever possible
- provide long panoramic views across undulating terrain
- be managed in a manner and on an interval that does not disturb natural wildlife habitat and ecological processes (such as natural seeding of flowering pollinator species)

▶ **Riverfront landscapes should**

- preserve and renaturalize the shoreline wherever possible
- provide a riparian buffer (minimum of 15-m offset from the normal high-water mark, or the 20-year flood plain, whichever is greater)
- use bioengineering techniques to stabilize shoreline embankments and adjacent pathway infrastructure
- accentuate views, and facilitate access to the water's edge at select locations

13 Green Spaces



Example of a pathway passing through a picturesque green space.



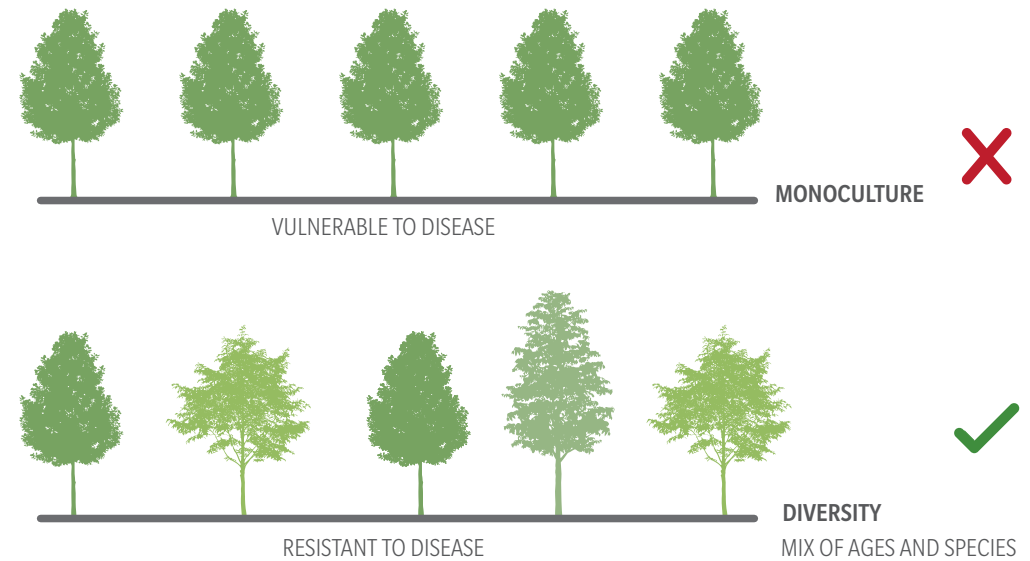
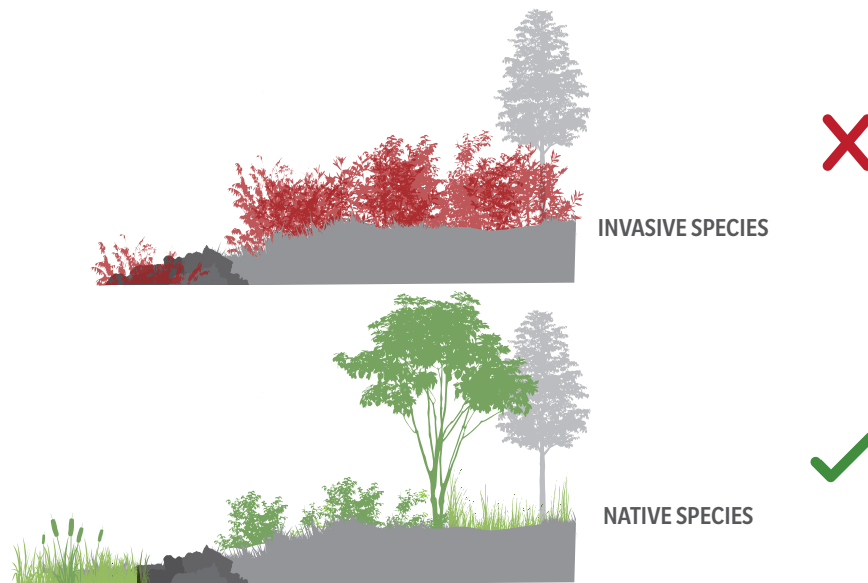
Example of a valued natural habitat along the Rideau River.

13.1 Biodiversity

- ▶ The Capital Pathway must contribute to and support the ecological biodiversity of the Capital Region through the preservation and connection of green spaces and ecological corridors.
- ▶ The presence of natural elements (such as ravines, watercourses and vegetation) that characterize each area should be enhanced and protected.
- ▶ Where the Capital Pathway passes through urbanized areas, a continuous ribbon of green space should be provided, including natural vegetation and tree cover that help to connect pockets of green space.
- ▶ Rehabilitation areas may be identified along the edges of the pathway, and appropriate signage and fencing should be installed to minimize human impacts during the establishment period.

13.2 Valued Natural Ecosystems and Habitats

- ▶ Any potentially adverse impacts from the Capital Pathway on areas of valued natural ecosystem and habitat must be mitigated.
- ▶ Special consideration must be paid to the effects of habitat fragmentation on native plant and animal species.
 - Pathways must be located away from the habitats of species at risk.
 - Pathways must be located to reduce habitat fragmentation, and provide population connectivity for important local species.
 - Ecological passages/linkages should be planned in areas where the pathway divides two portions of an important habitat.
- ▶ Pathway maintenance practices must seek to protect, and preserve valued natural ecosystems and habitats, such as through the appropriate timing of mowing, tree clearing, etc. to preserve the habitat of pollinator species and protect the nesting sites of migratory birds.
- ▶ The following precautions must be taken in valued natural ecosystems and habitats:
 - no winter salting
 - no permanent lighting



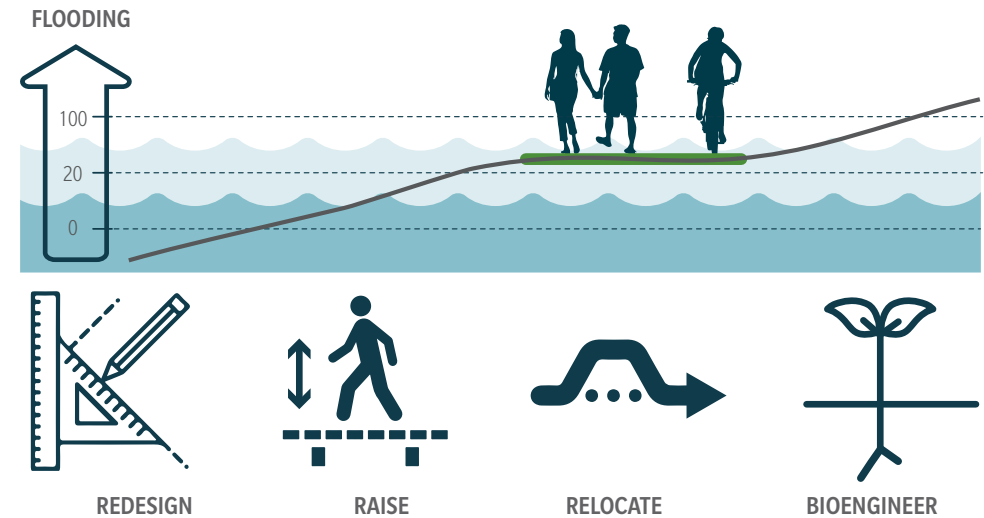
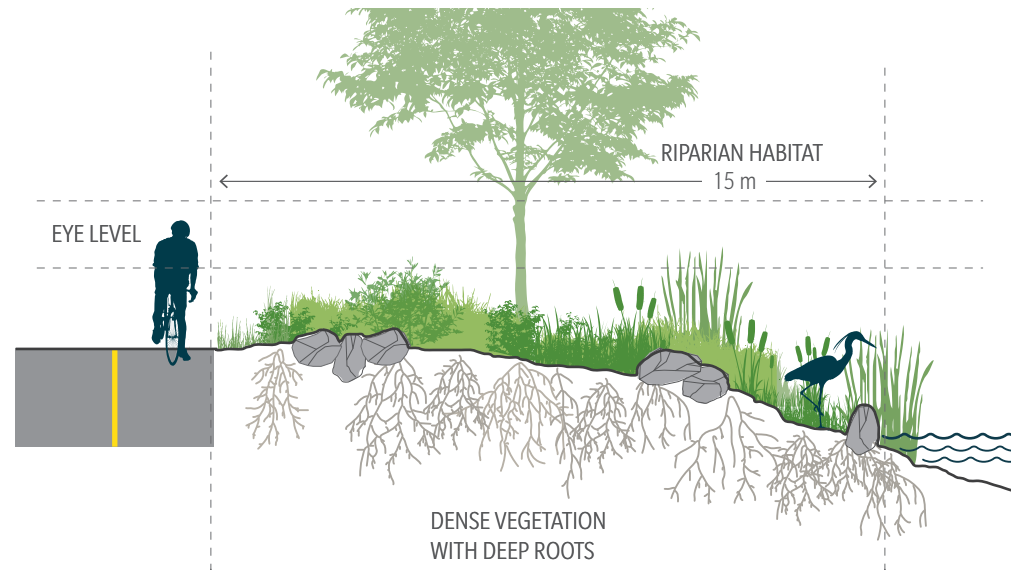
13.3 Vegetation Management

► Vegetation along pathway corridors (especially in rural areas) should consist primarily of native species and hardy non-native, non-invasive species that are capable of withstanding Ottawa’s cold winters and resilient to future climate change.

- Vegetation should be treated as a curated collection of plant species that contribute to the ecological health and biodiversity of the Capital Region, to be managed and enhanced through selective human intervention and stewardship.
- A conscious effort should be made to leave a significant amount of vegetation in its natural state along pathway corridors.
 - Monocultures should be avoided, especially with respect to tree planting and ground-cover seeding efforts.
 - Vegetation along pathway corridors should consist of a highly diverse mix of tree, shrub and ground-cover species to ensure a robust and biodiverse vegetation cover, capable of withstanding drought and disease.

- Invasive species should be controlled and eradicated from pathway corridors where possible, as the corridors may act as a vector for the spread of these species throughout the Capital Region.
- Where existing invasive species are known to exist, they should be removed and replaced with competitive native species.
- Salt-tolerant species should be used where planting will be subject to roadway salt spray or winter runoff.

14 Shorelines and Flood Plains

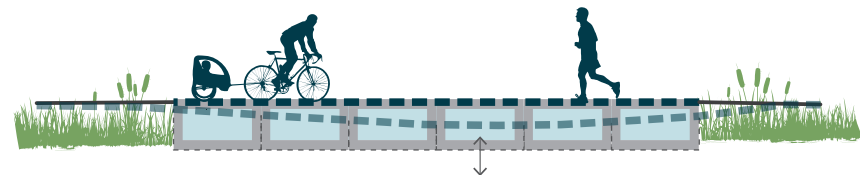
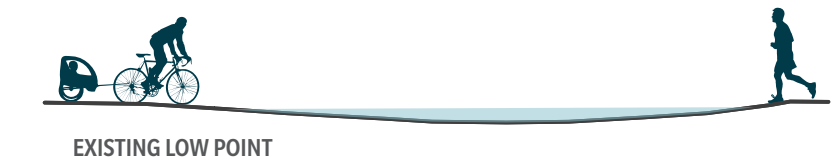
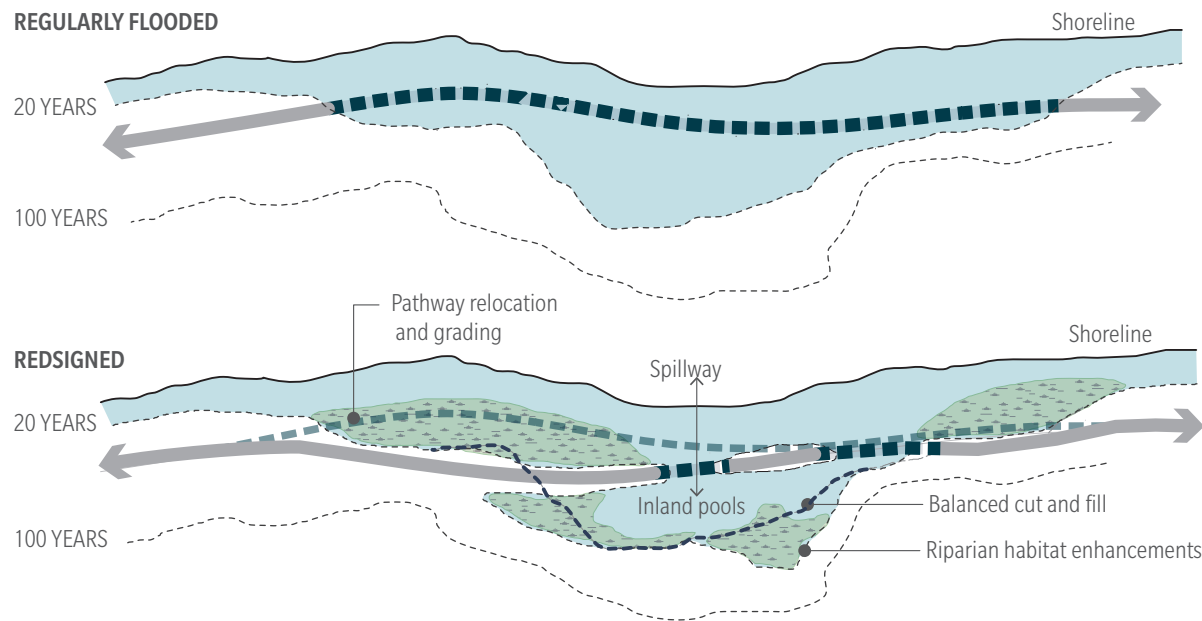


14.1 Riparian Zones

- ▶ A riparian landscape buffer must be provided between the pathway and adjacent riverfront shorelines. A minimum 15-m buffer, or 20-year flood plain should be followed, whichever is greater.
- ▶ Riparian shoreline embankments should be planted with a resilient mix of native plant species with deep root systems capable of retaining soils, and short, dense foliage to slow and filter the overland flow of rainwater.
- ▶ Bioengineering techniques should be used to construct and repair erosion-prone shorelines adjacent to pathways.
- ▶ Shoreline armoring (such as rip-rap) should be limited to instances where bioengineering techniques are not feasible.

14.2 Flood Zones

- ▶ Numerous segments of the pathway network will continue to be subject to cycles of flooding, as they provide access to the shorelines and waterways, and are located within a flood plain.
- ▶ All flood adaptation and mitigation techniques should aim to work with natural forces and processes. Hardening techniques such as retaining walls and shoreline armoring should be used sparingly.
- ▶ Where other avoidance or mitigation measures are not feasible, pathways should be designed to be flood-tolerant (i.e. submerged).



SPILLWAYS
(box culverts, bridges, boardwalks or causeways)

14.3 20-Year Flood Plain

► Pathways should remain in close proximity to the waterfront, where possible, to preserve the inherent user experience, and offer opportunities to access and interact with the rivers. Wherever possible, all new pathway infrastructure must be designed/retrofitted to be at minimum above/outside of the 20-year flood levels, to lessen regular pathway closures due to seasonal flooding and flood damage.

► Where seasonal flooding regularly occurs, provide appropriate design solutions to manage the impacts of flood waters, while creating riparian wetlands and contributing to the ecological integrity and storage capacity of the flood plain. Options to achieve these goals include the following:

- bridges
- causeways
- inlets and floodways

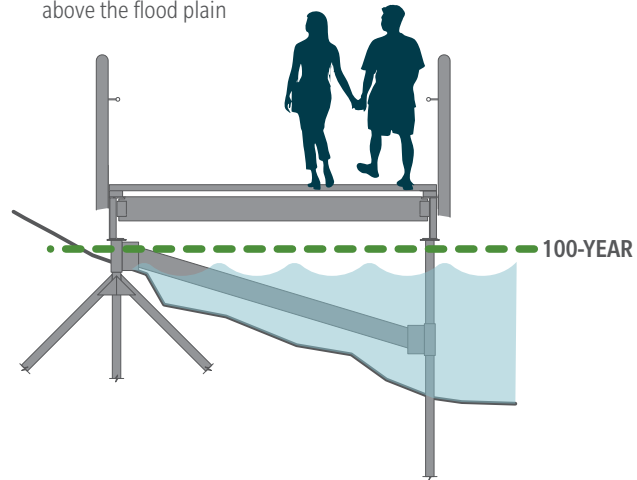
► Detours and redundancies should be designed into the network in areas where pathways are likely to be flooded on a regular basis.

► Where pathways cannot be relocated above or beyond the 20-year flood plain (due to physical or environmental constraints), the pathway segment should be redesigned as follows:

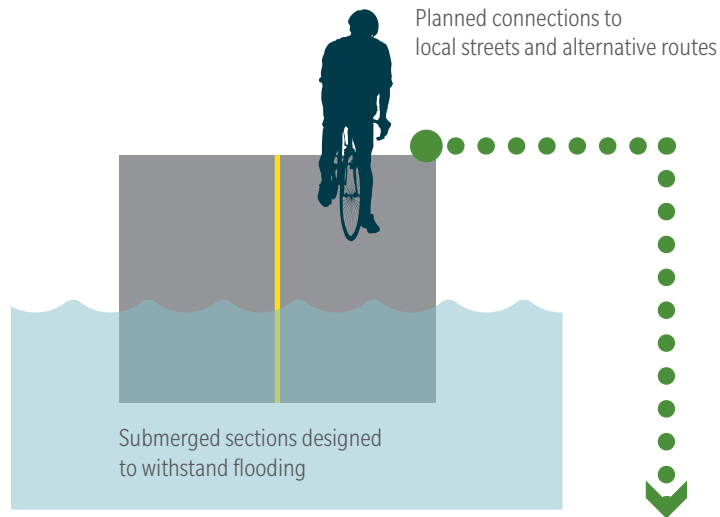
- to achieve the highest possible elevation, while balancing cut and fill, and meeting flood plain regulatory requirements
- to improve shoreline conditions
- to provide alternative routes and detours during flood events

RAISED PATHWAY

Elevate the pathway above the flood plain



DETOURS



14.4 100-Year Flood Plain

▶ All pathways within the 100-year flood plain must be designed to withstand major infrequent flooding events (such as in spring 2017 and 2019) through elevated construction standards.

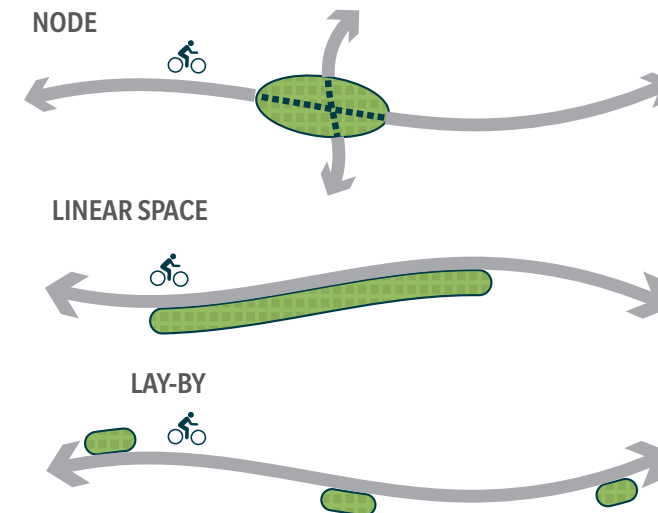
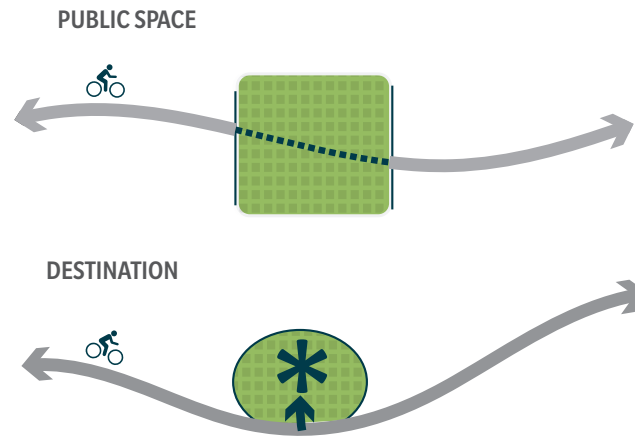
▶ Pathway foundations must be capable of withstanding the following:

- saturation
- receding flood waters
- scouring
- debris

- ▶ Permanent signage and/or indicators should be considered to advise the public where these zones are located.
- ▶ Redundant municipal routes should be planned and identified to bypass the affected areas.

15 Placemaking and Public Spaces

- ▶ The pathway network should provide improved access and opportunities to discover the Capital without detracting from the overall character or ambiance of the local environment.
- ▶ Pathways should complement and contribute to surrounding placemaking initiatives, according to the following scenarios.



15.1 Placemaking Scenarios

▶ Public spaces

- In areas where the pathway passes through a public space (such as a park or plaza), the thoroughfare should yield to the public space (via adaptations to surface treatment, signage, landscape design, alignment and so on), while providing a clear and discernable trajectory through the space to encourage consistent and predictable through-user movements and behaviours.

▶ Destinations

- When pathways pass near a destination (such as a public institution, park, transit stop, heritage site, public facility and so on), the pathway should pass adjacent to the destination, and provide easy and convenient access for through-users, with end-of-trip amenities (such as bike racks, water, washrooms and so on), while limiting the impact and maintaining the functionality and intended uses of the destination.

▶ Nodes

- In locations where a pathway junction is also a desirable gathering point or landmark (such as commemorative sites, wayfinding decision points, rest points and so on), the mixing zone

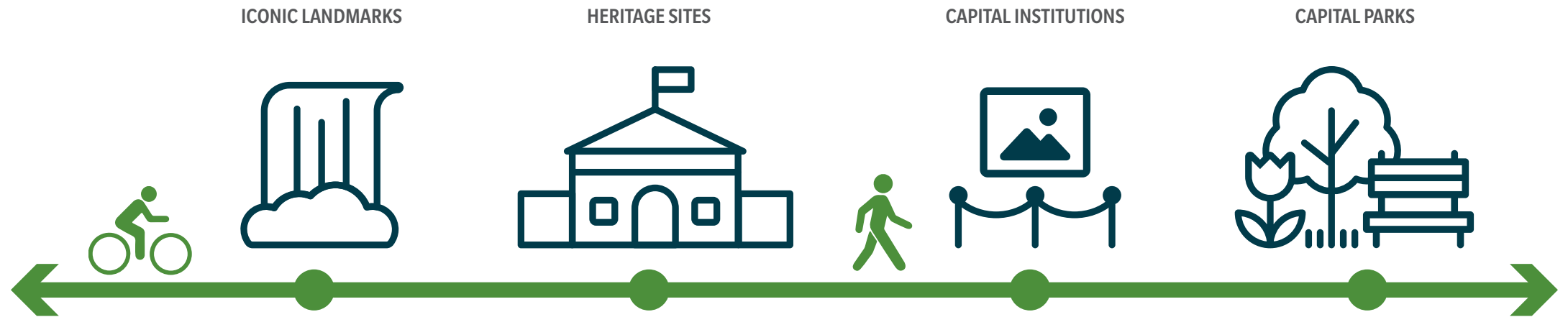
should be enlarged to create a space capable of accommodating users gathering and lingering, while preserving the free-flowing movement of through-users.

▶ Linear spaces

- In areas where there is significant desire for public space along the length of a pathway segment (such as riverfront locations, or escarpment edges with exceptional views), additional space should be allocated and designed for passive and contemplative use (such as a waterfront esplanade with seating opportunities or shoreline access). The public edge should be located closest to the edge of interest, with the thoroughfare passing behind it.

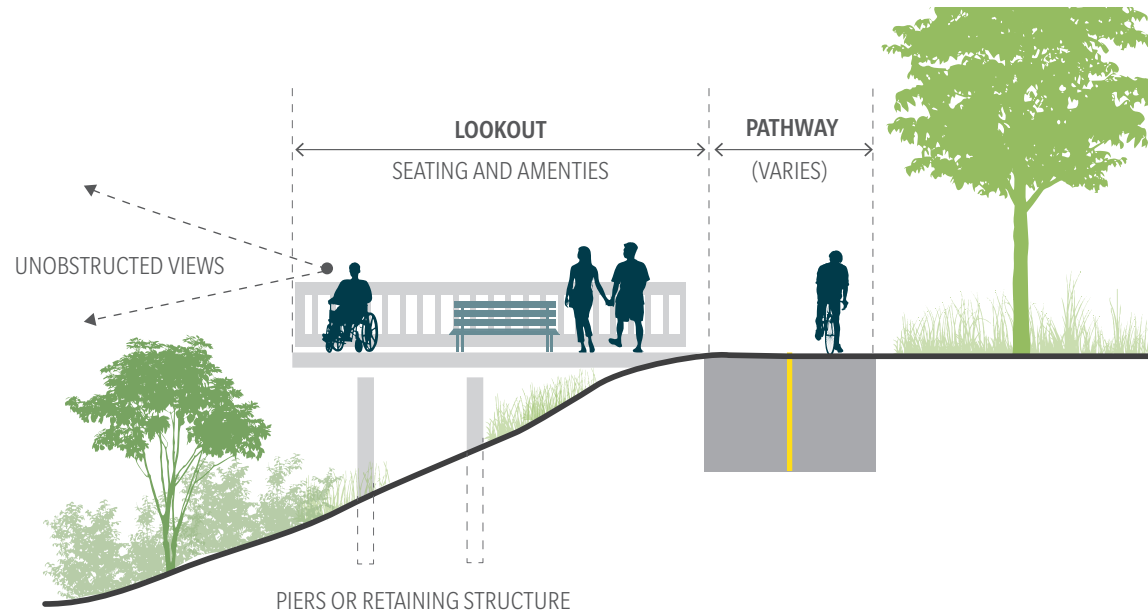
▶ Lay-bys

- At localized points of interest (such as unique viewpoints, rest points, interpretive and public art installations, Capital features, and so on), small spaces should be designed separately and set back from the pathway corridor, and should encompass or be in proximity to the element of interest.



15.2 Capital Features

- ▶ Capital features include human-made elements or natural features which may, based on their aesthetic quality and location, contribute to the user experience. Their treatment should be based on the following categories.
 - ▶ **Iconic landmarks**
 - Iconic buildings, structures, commemorations or landscape features (such as waterfalls, escarpments or rapids) should be given special consideration to their role as a visual marker, and the symbolic importance they hold in the public realm.
 - ▶ **Heritage sites**
 - Recognized federal buildings or other points of national or regional interest, such as an archaeological site or site of cultural significance, should be treated with respect and care, to preserve the intrinsic qualities of the site.
 - ▶ **Capital institutions**
 - Public institutions such as museums and visitor centres should be clearly identified, and provide easy access to public services.
 - ▶ **Capital parks**
 - Capital parks that serve as places for daily leisure and/or special gatherings should be linked to the pathway network to improve connectivity and access.



15.3 Lookouts / Observation Points

- ▶ Lookouts should be located at areas of exceptional scenic quality.
 - Lookouts should be designed to frame and enhance exceptional views.
- ▶ Elevated platforms are encouraged to provide dramatic views, and provide clear and easily maintained sightlines above the surrounding vegetation.
- ▶ Where lookouts also provide access to places of historical or cultural importance, they should include interpretive or design features that complement the views.
- ▶ Lookouts should be located on the side of the pathway closest to the focal point (i.e. a riverbank, escarpment edge or scenic point).
- ▶ Lookouts must include seating, and serve as a rest point with ample room for multiple people to pause and gather.



BENCHES



BICYCLE PARKING



WAYFINDING



WASTE AND RECYCLING



WI-FI



CHARGING AREAS



WASHROOMS



SPECIAL FEATURES



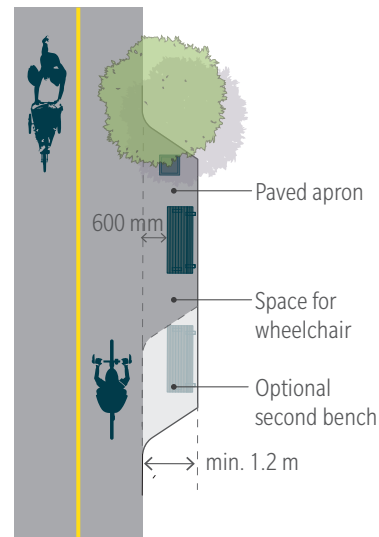
Example of a service area at Vincent Massey Park (see image credits, p.173).

15.4 Service Areas

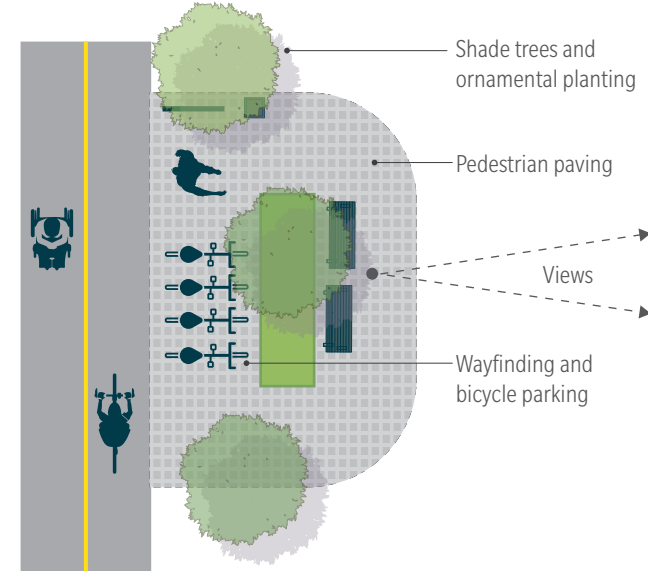
- ▶ Service areas should be distributed equitably throughout the network, and provide basic amenities for pathway users.
- ▶ Service areas should be integrated into placemaking initiatives at Capital parks and activity nodes (examples include Hog’s Back Park and Vincent Massey Park).
 - Service areas may include pavilions and large-scale structures that serve as shelters or wind breaks. The location of service areas must be guided by relevant land use master plans according to the specific study area.
 - Service areas should be located in areas that have easy electrical and utility servicing.
- ▶ Service areas should include the following:
 - washroom facilities
 - drinking fountains
 - wayfinding information
 - bicycle rental facilities
 - rest areas
 - special features, such as a sheltered area, public art, interpretation panels and so on
 - small-scale bicycle repair station
 - bicycle locking facilities
 - Wi-Fi service
 - charging areas
 - waste and recycling receptacles

BASIC REST POINT

Benches and waste receptacle



ENHANCED REST POINT

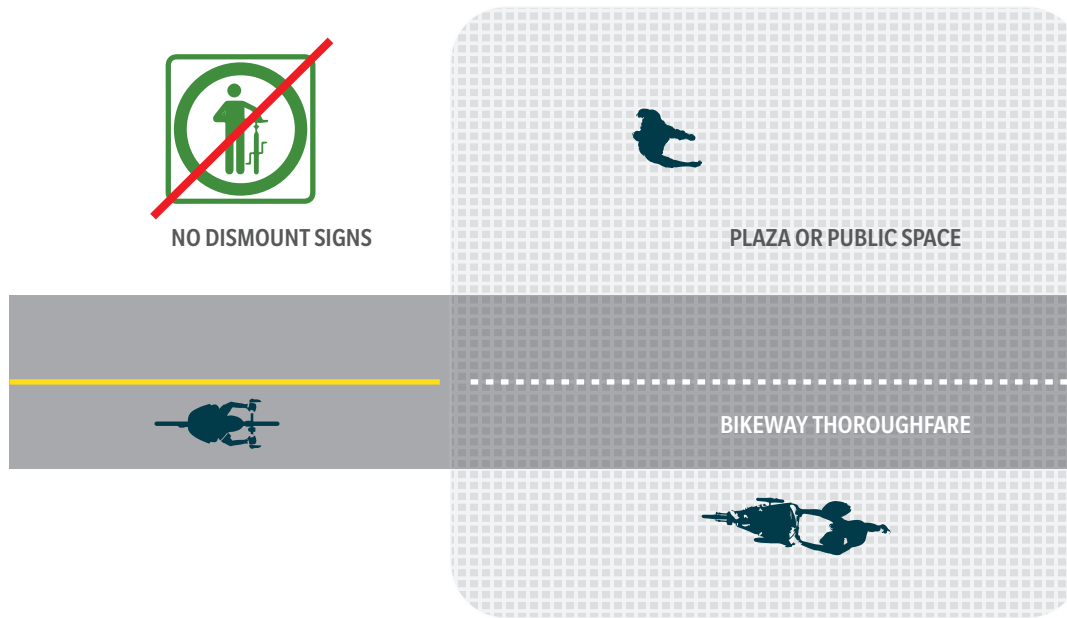


15.5 Rest Points

- ▶ Locations serving as rest points should be distributed regularly and frequently along the pathway corridor.
- ▶ Rest points should be integrated into destinations and public spaces wherever possible.
 - Rest points may be replaced by any of the preceding placemaking typologies that serve the same purpose or provide similar amenities.

- ▶ Rest points should
 - be located to take advantage of potential route-planning points, observation points and so on
 - provide sufficient space away from the travel lane to rest and linger (i.e. an enlarged space or lay-by at the side of the pathway that permits a small group of people to stop without impeding the pathway travel lanes).

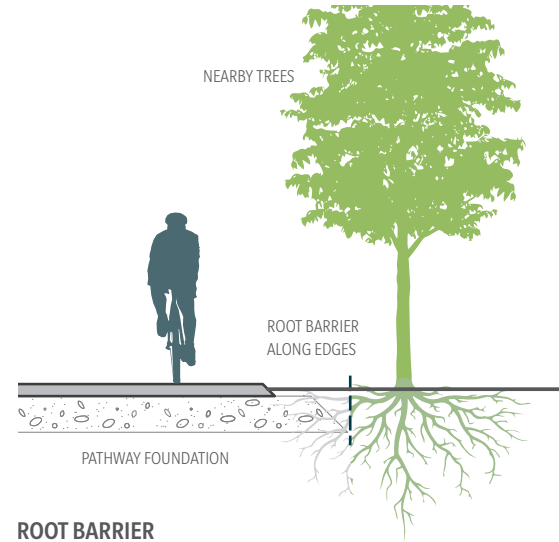
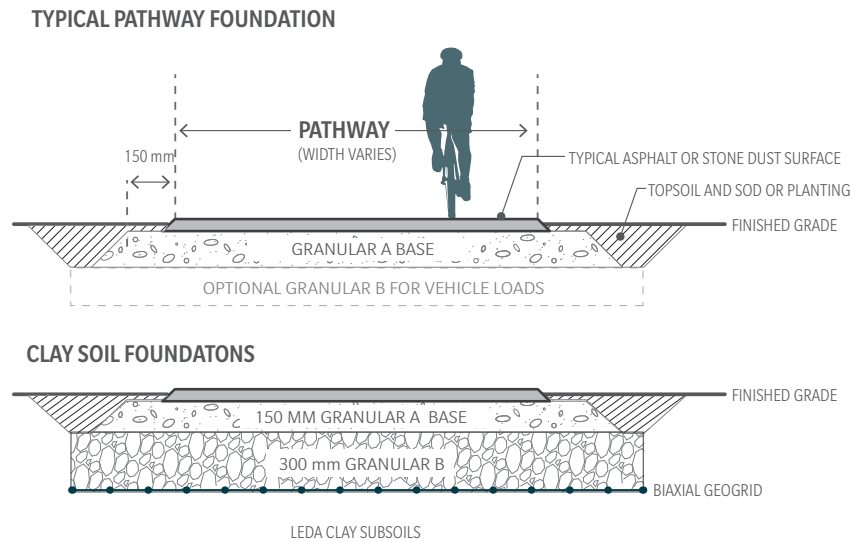
- ▶ Rest points may include
 - benches
 - bicycle parking facilities
 - wayfinding information
 - special features such as public art or interpretive elements
- ▶ Shelters and special features may be offered that frame or accentuate the rest point, and serve as wind breaks or contribute to user comfort (e.g. rest shelters at the Promenade Samuel de Champlain, in Québec City).



15.6 Design Integration

- ▶ Where pathways intersect or pass through a public space, a clear delineation of the pathway alignment should be provided to guide pathway users through the space, and ensure safe and predictable passage.
 - Delineations should respect the context and character of the public space, in terms of material and design.
 - “Stop and dismount” signage must not be used along the pathway thoroughfare. They should be used only at end-of-trip destinations, and harmonized with wayfinding information to identify the destination.
- ▶ Wherever possible, the pathway should pass adjacent to public spaces and important places, so as not to interrupt or impact the site.
- ▶ Design features (such as pavement markings, surface materials, signage, bollards and so on) should promote respectful use by pathway users, such as slowing down and yielding to public space users.
- ▶ The pathway should provide improved access and opportunities to discover the location without detracting from the overall character or ambiance of the locale.
- ▶ The importance and character of the location should be reinforced through interpretation and site design.

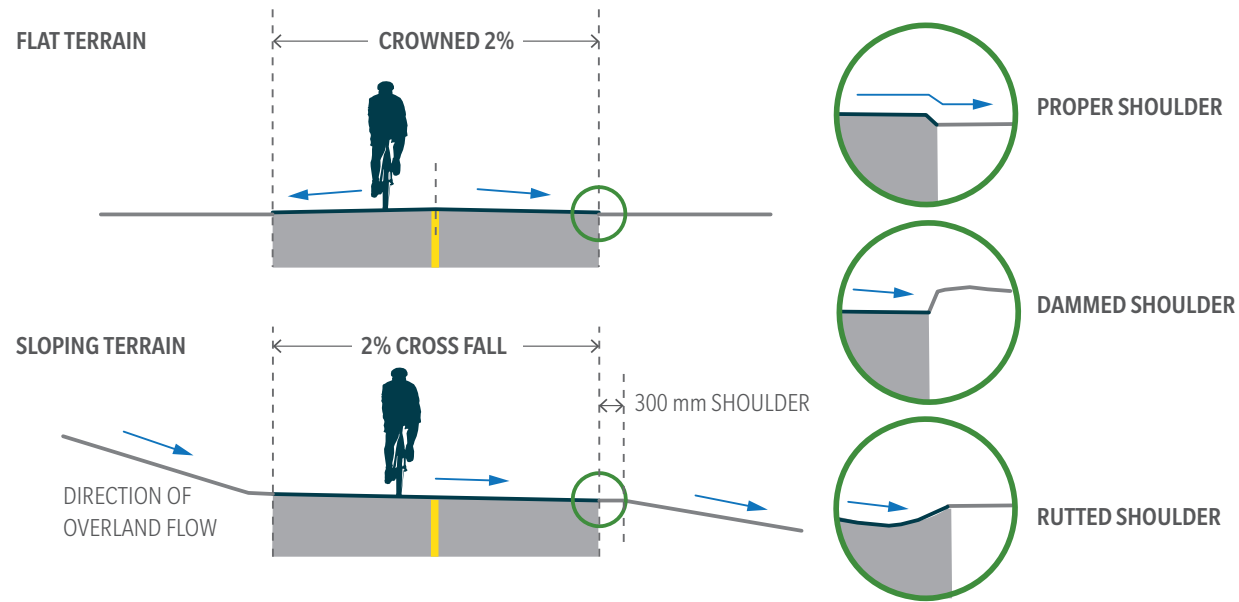
16 Pathway Construction



Example of a geogrid-reinforced pathway foundation (see image credits, p.173).

16.1 Pathway Foundations

- ▶ Subgrade foundations must be engineered to suit geological conditions and maximize the lifespan of the pathway.
- ▶ New pathway segments should be designed to have long life cycles, through the ability to resist damage resulting from the expansion and contraction of Leda clay soils or seasonal freeze-thaw cycles.
 - Where Leda clay soils are prevalent, a stabilized/ reinforced granular base should be provided, capable of resisting cracking without telegraphing to the pathway surface.
- ▶ Pathways should be designed to support regular traffic by medium-sized maintenance vehicles (i.e. pickup trucks).
- ▶ Where pathways are likely to receive increased vehicle traffic for maintenance or emergencies, pathways should be designed with an adequate foundation to prevent damage to the pathway surface, such as cracking, rutting or crumbling.
- ▶ Root barriers should be installed where trees are within 0.5 m of the pathway pavement.



16.2 Drainage

► **Pathway modifications should incorporate professionally designed and approved stormwater management techniques.**

- Water from large areas likely to drain across the pathway should be collected in adjacent swales or some other stormwater management facility.
- In areas where an accumulation of standing water may occur, pathways should be designed to be elevated above the adjacent ground level and include culverts, bridges and infiltration zones that have been planned to accommodate the flow and dissipation of the accumulated water.

- On long or steep pathway segments, cross drainage features should be used in conjunction with shoulder retention techniques to prevent washout.

- **The pathway should be crowned with a typical 2 percent crossfall in both directions, or a continuous 2 percent cross slope applied according to topography where the pathway traverses a sloping terrain.**
- **The pathway surface should be a minimum of 25 mm above the adjacent topsoil grade after settlement to prevent pooling at pathway edges due to earth damming along the shoulder of the path.**

- **Low points must divert pooling water away from the pathway surface, especially during winter months when pooling water can lead to ice formation and dangerous conditions.**
- **Ditches with steep slopes should be avoided for erosion prevention, as well as aesthetic and safety reasons.**
- **Pathways should be designed to have minimal impacts on larger site-drainage patterns. Natural topographical features must be retained wherever possible, and drainage features such as culverts, bridges and boardwalks should be employed to preserve existing swales, wetlands and overland flows.**



Example of a stone dust surface pathway.



Example of an asphalt pathway.



Example of pedestrian quality surface treatments.

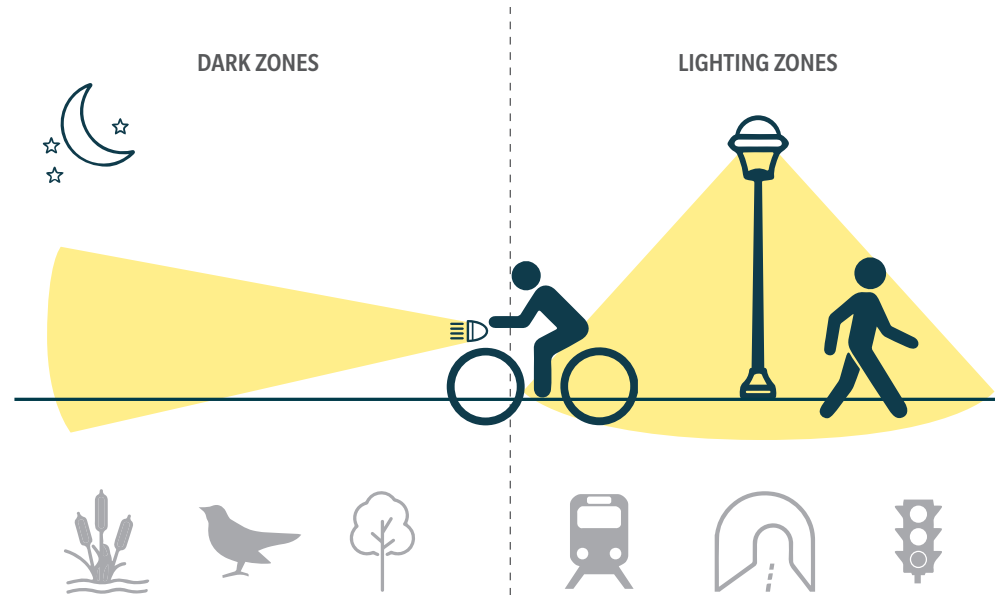
16.3 Surfacing Materials

- ▶ The pathway surface shall be a hard paved or soundly compacted material suitable for pedestrian foot traffic and most active mobility devices, including wheelchairs, bicycles, in-line skates, skateboards and so on.
 - Asphalt is the default surface material for all multi-use or dedicated bikeways.

- ▶ A well-compacted stone dust surface may be preferable in the following circumstances:
 - in rural or undeveloped areas
 - in areas where asphalt may have significant adverse impacts on the surrounding landscape, such as tree roots and ecologically sensitive areas
 - where asphalt is incompatible with the visual character of the surrounding landscape, such as on pedways in eco-centric areas such as forests and shorelines

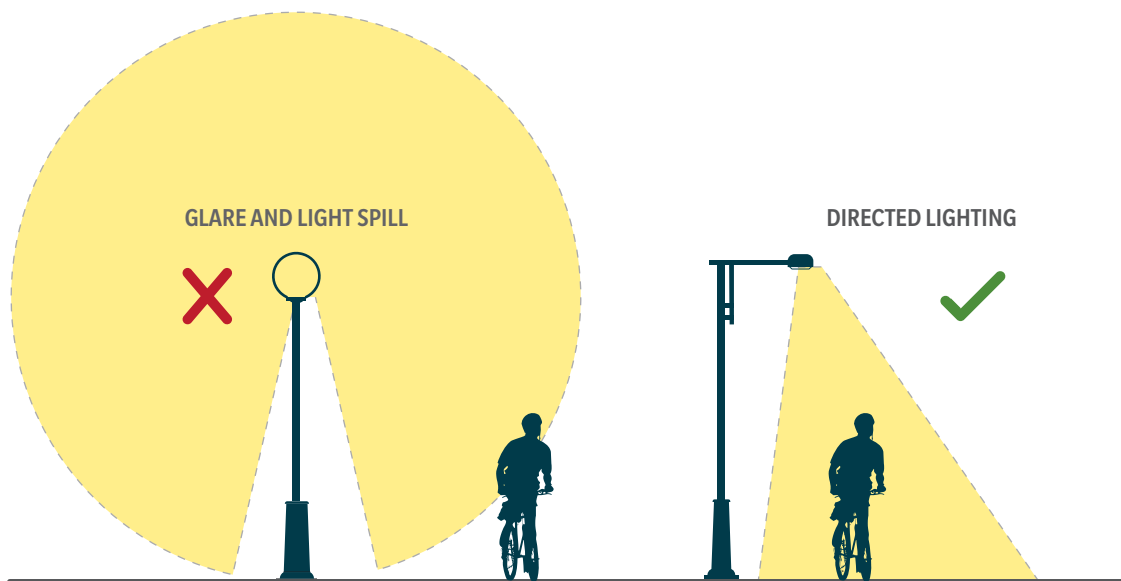
- ▶ The overall life cycle costs of material should be considered when designing or refurbishing pathway elements. Preference should be given to durable solutions with long lifespans.
- ▶ Pedestrian priority zones should be differentiated with higher-quality paving materials, such as textured pavement, unit paving concrete or durable coloured asphalt surfacing.

17 Lighting



17.1 Evaluation Criteria

- ▶ **Lighting should be provided in dense urban areas with high- to medium-volume use for commuters or utilitarian trips, or as required for safety purposes. Dark zones must be identified and protected from artificial lighting impacts.**
 - User preparedness should be encouraged in these zones. Pathway users should bring a flashlight, bike light or cellphone, or travel in company to ensure their personal safety.
 - ▶ **Lighting for safety purposes should be limited to the following:**
 - tunnels and underpasses that do not receive adequate daytime or ambient lighting
 - pathway segments that provide access to important evening and nighttime destinations, such as schools, community facilities and transit hubs
 - potential conflict points, such as roadway intersections and crossings
 - ▶ **The decision to provide lighting must consider the following factors:**
 - Lighting may have adverse impacts on plants, wildlife and the night sky.
- Lighting invites use, and care should be taken to ensure that such use is desired at the location where it is proposed.
 - Lighting of only a part of a pathway segment can create a hazardous situation for users expecting the full segment to be lit.
 - Ambient lighting and/or passive lighting strategies may be sufficient.
 - A poor choice of lighting infrastructure can create hazardous situations for users, such as increased glare.
 - During the day, lighting infrastructure can visually detract from the setting.



17.2 Performance Criteria

- ▶ All pathway lighting should be pedestrian-scaled (i.e. low-height lampposts, bollards or wall-mounted fixtures).
- ▶ Lighting levels should be kept to the minimum required for the comfort and safety of users.
 - All pathway lighting should be optimized for the human eye, to preserve night vision, by minimizing glare and points of intense light, thereby facilitating the transition from dark to light to dark spaces (especially for cyclists moving at faster speeds).
 - Favour the use of amber or warm white tones up to 3,000 K.
- ▶ The placement and design of light fixtures should be efficient and effective, lighting the pathway surface with minimal light trespass to surrounding areas.
 - Favour lighting technologies with the lowest energy use and longest life cycle, such as light-emitting diode (LED) technology, photovoltaics and so on.
- Install control systems that allow for motion activation and the adjustment of lighting levels over night (i.e. dark curfew or dimming, motion-activated sensors and so on).
- Favour the use of opaque lamp hoods, opaque covers or any other concealment device that limits the beam of light at angles exceeding 80 degrees, with a preference for full cut-off fixtures for all-new or retrofitted installations.



Example of Confederation Boulevard lighting standards.

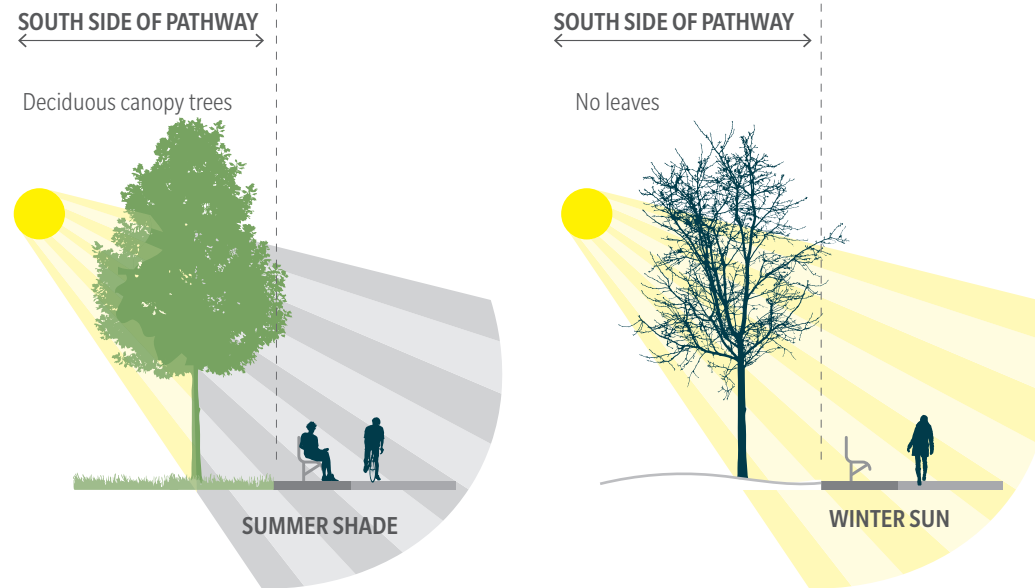


Example of discreet railing lighting along the Upfield Bike Path in Melbourne, Australia (see image credits, p.173).

17.3 Aesthetic Considerations

- ▶ Consider the aesthetic role of light fixtures during the day. The appearance of light fixtures should respond to the following criteria.
 - Where the pathway passes through a place with an existing family of furnishings, it should adopt the language and style of the location.
 - In cases where no style exists, a generic NCC standard pathway fixture should be employed that meets all the criteria above.
 - In cases where light fixtures play no aesthetic role, minimize their daytime visual impact.
- ▶ Light fixtures should be spaced to provide efficient and effective distribution of light, without overwhelming the character of the locale.
 - Low-level bollards will require more frequent spacing, and should be located appropriately.

18 Winter Design



18.1 Comfort

- ▶ Pathway design should be climate-sensitive, orienting pathways and amenities to provide shade along pathways in summer months, while maximizing solar exposure during winter months for segments of pathways that are available in the winter.
 - Large deciduous canopy tree species should be planted especially along the southern edges of pathways to provide summer shading.
 - Shade trees should be located around benches and rest points along the pathway.
- ▶ Windbreaks and topographical relief should be provided along the pathway network to lessen predominant winter wind exposure in segments intended for winter recreation.
 - Groupings of coniferous trees should be planted in large open areas to serve as windbreaks, especially in areas located northwest of the pathway.



Example of a Winterlude destination on the Rideau Canal.



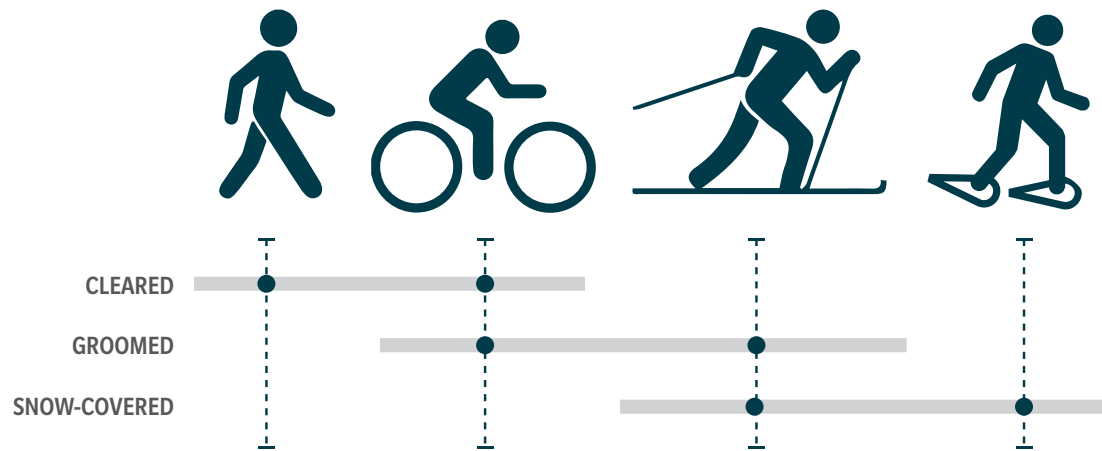
Example of a warming station on the SJAM Winter Trail at Remic Rapids (see image credits, p. 173).

18.2 Points of Winter Interest

- ▶ **Points of winter interest should be visible and uplifting during the long, cold winter months.**
 - Prioritization should be given to highly used winter pathway segments.
 - Lighting, colour and seasonal vegetation should be used to provide aesthetically pleasing surroundings.
 - New opportunities should be explored, such as seasonal and artistic landscape installations.
- ▶ Existing programs and destinations such as the Rideau Canal Skateway, Winterlude and Christmas Lights Across Canada should be leveraged to provide winter animation.

18.3 Warming Stations

- ▶ **Warming stations should be**
 - located at Capital Pathway junctions and natural gathering points that invite frequent use and natural surveillance
 - located along pathway segments that are cleared or groomed for winter use
 - equipped with seasonal lighting and carbon neutral heat sources, where appropriate
- ▶ **Warming stations may consist of enclosed or semi-enclosed shelter structures that provide protection from winter elements such as wind and snow.**
- ▶ **Warming stations may include outdoor areas protected by sheltered windbreaks.**
- ▶ **Examples of warming stations include the Remic Rapids winter pavilion on the SJAM Winter Trail.**
- ▶ **Commercial food and drink services could be appropriate, to provide warm treats and beverages at certain locations.**



18.4 Winter Maintenance

► Cleared pathways

- These pathways will be limited to important urban connections and utilitarian segments of the pathway network that form part of the broader municipal winter active mobility network.
- Cleared pathways should be determined yearly, based on municipal networks.
- Where provided in lieu of a sidewalk along a roadway, the pathway must be winter maintained to a typical sidewalk width and pedestrian service standard.
 - Low-salt options should be employed to limit environmental impacts and prevent the accumulation of slush.
- Alternative anti-icing measures such as sand and grit should be explored.

- Adequate drainage must be provided to prevent pooling and subsequent freezing of drainage water.
- Plows should be equipped with Teflon blades to prevent damage to the pathway surface.
- Markers should be installed at locations where plows may damage furnishings or pathway elements.
- Snow storage areas should be planned and located in areas that do not impact the use of the pathway.
- Access points and feeder links should be cleared to the same standard as the discovery route.

► Groomed pathways

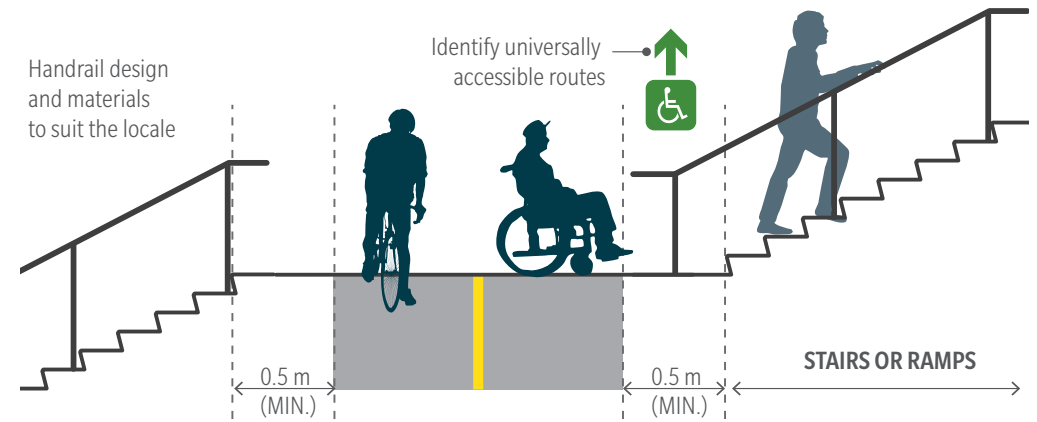
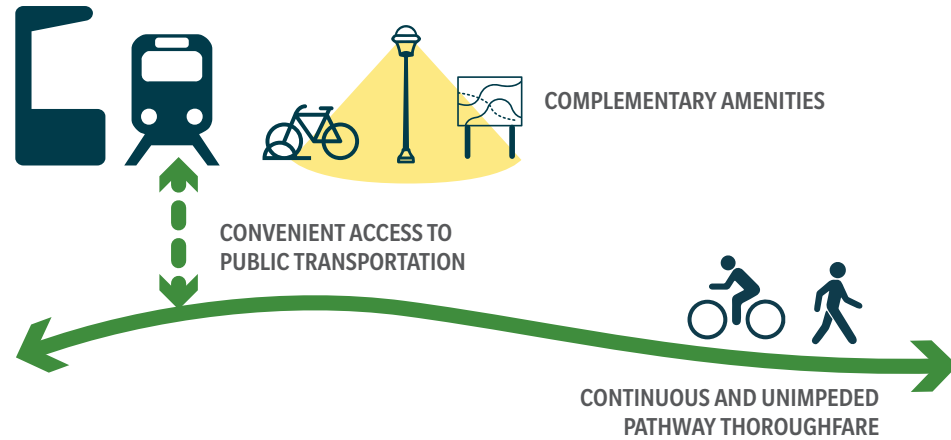
- Grooming should include hard-packed snow for skate skiing and fat biking, as well as groomed track for classic cross-country skiing.

- Track-set grooming should be located a minimum of 500 mm away from fixed objects (such as trees, posts, benches) or embankments, for safety purposes and to provide clearance for pulks or sleds.
- Groomed pathways should avoid crossing cleared pathways, roads or parking areas wherever possible.
- Where groomed pathways pass under bridges/tunnels, snow should be compacted to prevent gaps in the route.

► Snow-covered pathways

- These pathways will not be maintained.
- Temporary winter signage could be installed to facilitate winter wayfinding for snowshoe or back-country ski users.

19 Other Scenarios

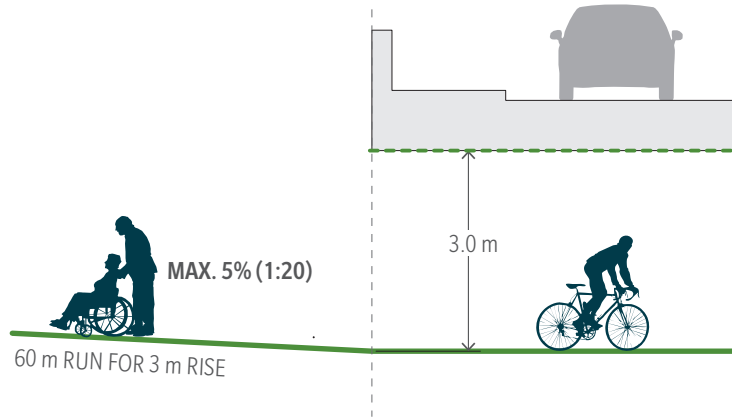
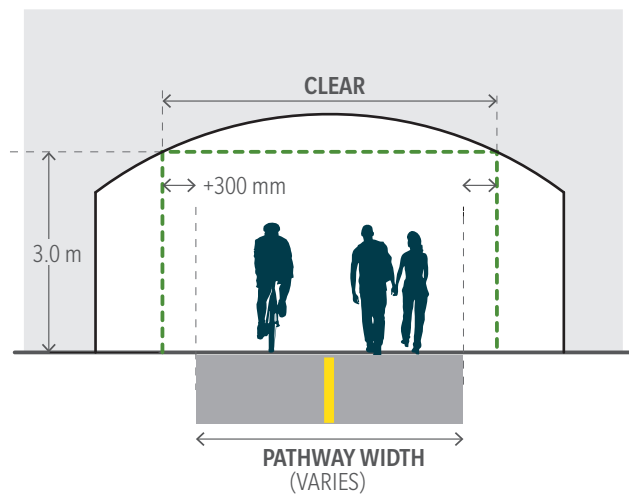


19.1 Transit Hubs

- ▶ Integration with municipal transit hubs (light rail or rapid bus stations) is strongly encouraged.
- ▶ The pathway network should provide easy access to the station, but should not pass directly through the station's loading or operational zones.
 - The functions and features of the station should not impede the free flow of the pathway travel lanes.
- ▶ Stations should be equipped with end-of-trip facilities, bike storage areas, and appropriate wayfinding and regulatory signage.
- ▶ Ambient and security lighting should be provided as part of the station design, and may extend along segments of the Capital Pathway under special conditions.

19.2 Ramps and Stairs

- ▶ The pathway travel lanes must never be interrupted by stairs or ramps that would prohibit the multi-modal movement of pathway users.
- ▶ Ramps and stairs should be provided as complementary features to the pathway network in instances where there is a significant change in grade or access from an adjacent pedestrian priority area.
- ▶ Where ramps and stairs connect to the Capital Pathway, a 0.5-m (minimum) landing zone should be provided at the top and bottom, outside of the pathway travel lanes.
- ▶ Handrails should not extend into the travel lane, and should not have protrusions that may snag passing pathway users.

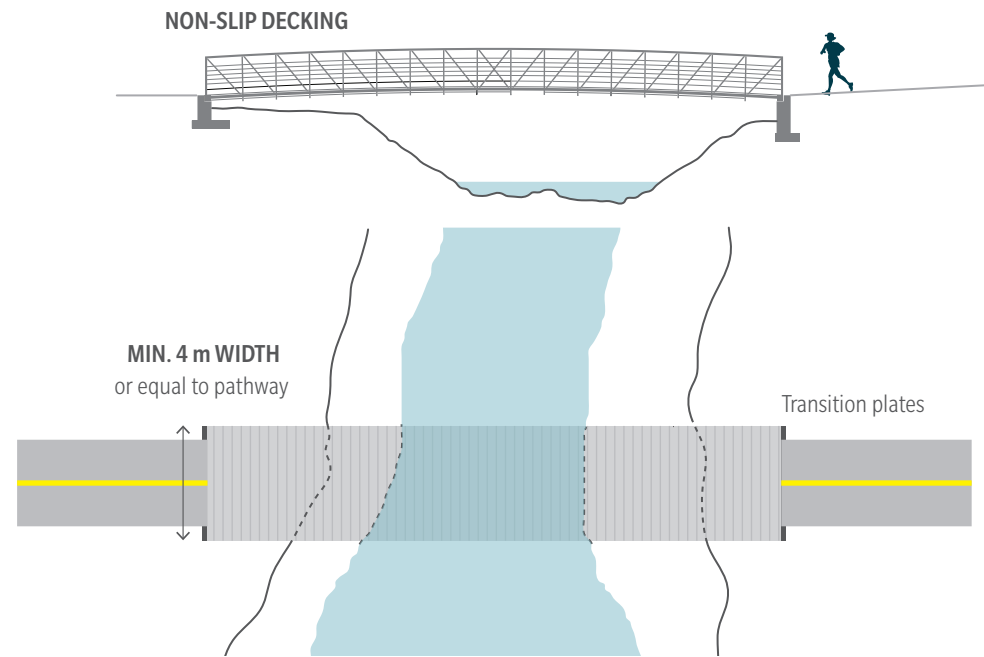


19.3 Tunnels and Underpasses

- ▶ Tunnels and underpasses must be well lit, both day and night, to avoid unsafe changes in lighting conditions.
- ▶ The approach route to tunnels should provide clear sight lines. Sharp corners or oblique approaches to tunnels should be avoided where possible.
- ▶ All underpasses must meet the minimum clear zone of 3.0 m for head clearance.
 - If the tunnel's curvature impacts the clear zone, the tunnel must be designed to a wider width, so as not to impede the travel lane.

- ▶ Underpasses should be designed to be visually appealing and beautifully detailed.
 - Avoid construction-grade concrete tunnels.
 - Stone veneer, architectural cladding and relief profiles may be used to create interesting designs.
 - Murals and decor may be used to enhance or improve the underpass environment.

- ▶ Where possible, use bridges, provide alternative underpass routes and avoid at-grade crossings at busy vehicle intersections.
 - Where bridge underpasses are susceptible to seasonal flooding, an alternative and safe at-grade route must also be provided.
- ▶ Where pathways pass under roadway bridges, drainpipes should not discharge onto the pathway.

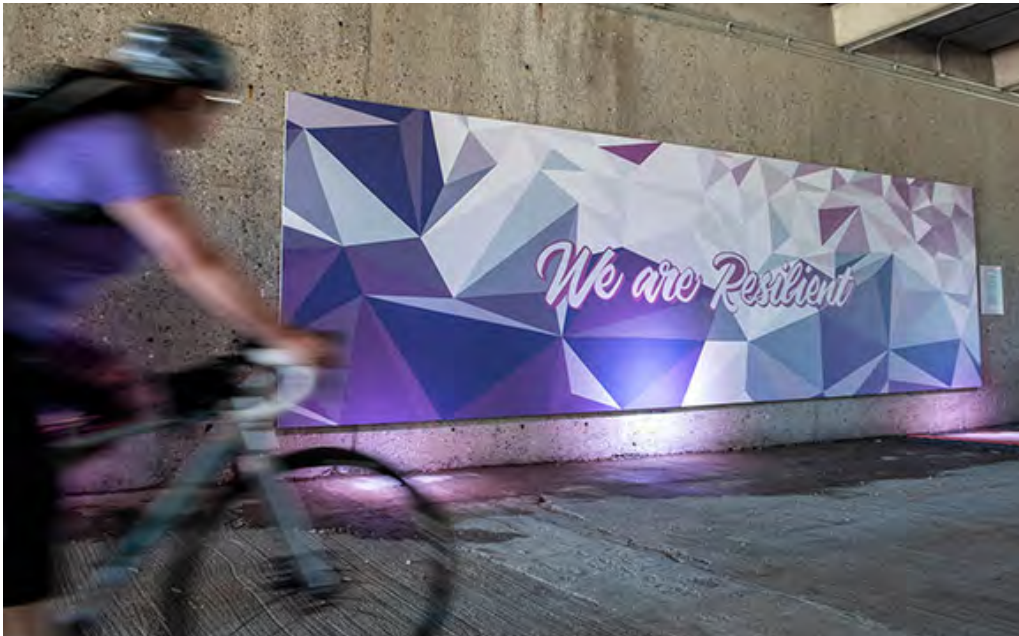


19.4 Pathway Bridges

- ▶ All pathway bridges should have a minimum width of 4 m to accommodate future capacity.
- ▶ Bridge surfaces should be non-slip.
 - Avoid the use of smooth wood planking that becomes slippery when wet.
- ▶ Any joints or gaps should be perpendicular to the direction of travel.
- ▶ Expansion joints must be covered with transition plates.

19.5 Raised Pathways

- ▶ Raised or elevated pathway segments (such as boardwalks, deck spans or cantilevered walls) should be used to minimize the pathway impact on sensitive ecological areas such as shorelines, ravines and escarpment edges.
- ▶ In low-lying, regularly wet or flooded areas, raised pathways should be used to bypass the impacted zone.
- ▶ In addition, raised pathways
 - must meet relevant safety regulations for guardrails
 - should be constructed from durable materials with a long lifespan
 - should be beautifully detailed to contribute to the sense of place
 - should capitalize on unique viewing opportunities



Example of an artistic installation at the Portage Bridge underpass in Ottawa, Ontario (see image credits, p. 173).



Example of public art on the De-L'île Pathway in Gatineau, Quebec.

19.6 Public Art and Interpretation

- ▶ All public art and interpretation initiatives must be coordinated with Canadian Heritage to ensure a cohesive message across the National Capital Region.

19.7 Artistic Installations

- ▶ Seasonal or ephemeral installations may be used to create points of visual interest.
- ▶ Artistic installations should celebrate the natural surroundings, landscapes and changing seasons of the Capital.
- ▶ Bold colour and interesting forms may be appropriate in certain locations, as long as they do not detract from important views and vistas.

19.8 Interpretive Elements

- ▶ Interpretive elements should highlight unique features or locations along the pathway network.
- ▶ Within the core area of the National Capital Region, all interpretive elements must be coordinated by Canadian Heritage.
- ▶ In semi-urban/rural settings, additional interpretive elements may be considered, as long as they complement the broader themes and message established by Canadian Heritage.
- ▶ Interpretive elements should appeal to a wide demographic and provide a universal design approach that engages multiple senses (*see Section 1.1, Sensory Experience*).

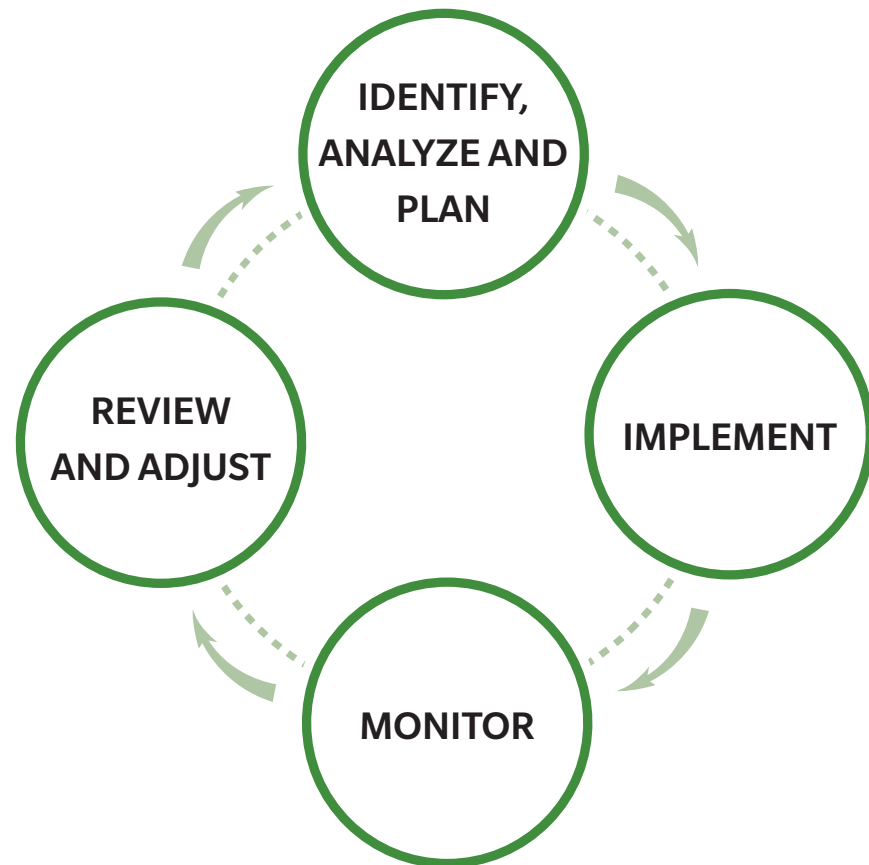


6 Moving Forward

This chapter makes recommendations to achieve the desired outcomes presented in the Capital Pathway Strategic Plan. It identifies next steps for implementing the plan, and addresses administrative components such as future plan amendments and plan reviews.

6.1 Plan Approval

The Capital Pathway Strategic Plan comes into effect upon approval by the NCC board of directors. This plan is the primary planning reference for matters affecting the pathway network.



6.2 Implementation

Subsequent to plan approval, implementation will be under the principal responsibility of the NCC’s Capital Stewardship Branch. An action plan will be developed which will include concrete actions and measurable phasing, with priority given to initiatives that are cost-effective and relatively easy to implement. More complex initiatives will require time, funding and/or additional studies to address detailed implementation requirements.

Setting priorities for implementation is to be based primarily on the following considerations:

- ▶ Consistency with NCC plans, corporate goals and priorities
- ▶ Immediate environmental and economic impacts
- ▶ Funding opportunities
- ▶ Partnership opportunities
- ▶ Coordination with ongoing or future projects

The success of this plan rests on a collaborative, ongoing process undertaken by the NCC and its partners, particularly the City of Ottawa, Ville de Gatineau and federal stakeholders. The NCC is committed to the ongoing engagement of stakeholders and the public to support specific projects, and to acquire the necessary public- and private-sector support and funds.

FOLLOW-UP ACTIONS

- A. The Capital Stewardship Branch of the NCC will complete a detailed action plan for the Capital Pathway, based on the content of this plan (see Appendix 7.2 for the complete summary of actions found in this plan).

6.3 Monitoring

Monitoring the plan's implementation is essential in measuring its effectiveness. Monitoring can also identify challenges that may arise and that could require adjustment in terms of the plan's goals, strategies and key actions.

FOLLOW-UP
ACTIONS

- A. The Capital Stewardship Branch of the NCC will prepare an implementation report every three years to report on the advancement of the plan's goals, strategies and actions, based on the approved action plan.

6.4 Review and Adjustment

This plan's lifespan is 10 years, until 2030. Regular review over the 10-year timeframe is required to ensure that this plan continues to respond effectively to evolving needs and conditions. It may be necessary to amend certain provisions, due to emerging trends or new information; to ensure the conformity of other NCC plans and programs; to reflect changes resulting from other detailed plans or from new projects that were not anticipated.

Any amendment must be in the public interest, be consistent with the Plan for Canada's Capital, 2017–2067, and relevant master plans, and conform to the vision and strategic directions of this plan. Modifications must be subject to consultation and be approved by the NCC board of directors.

FOLLOW-UP
ACTIONS

- A. The Capital Planning Branch of the NCC will complete a cursory review of the plan by 2025, to initiate the review and eventual update of the plan.
- B. The Capital Planning Branch will review and update the design guidelines (Chapter 5) within five years of the plan's adoption, to incorporate lessons learned, and capitalize on ongoing discussions and collaboration with partners.





6.5 Strategic Environmental Assessment

The NCC conducts strategic environmental assessments (SEAs) for all its strategic and land use plans to ensure full consideration of environmental factors at all stages of plan development. The purpose of the SEA is to determine the scope and nature of potential environmental effects caused by the implementation of the Capital Pathway Strategic Plan and to assess potential risks to the implementation of the plan caused by environmental factors like climate change. This information can then be used to enhance positive impacts and eliminate or mitigate negative impacts created by the plan's implementation. A summary of the SEA can be found in Appendix 7.3. A review of the SEA will form part of the triennial implementation report discussed in Section 6.3.



7 Appendices

7.1 Glossary

Access point

Any official point of entry onto the Capital Pathway network. It may include overlap between the Capital Pathway and public streets, parks and public spaces that provide multi-modal entry to the network.

Access point (primary)

A highly visible point of entry onto the Capital Pathway, located at a key point of arrival that includes orientation and route planning information, and parking, where appropriate.

Access point (secondary)

Any lesser point of entry onto the Capital Pathway.

Amenity zone

A parallel area adjacent to the pathway that accommodates pathway elements of additional benefit to pathway users, such as seating, signage, lighting, tree cover and so on.

Anchor point

A point within the network where two or more discovery routes converge, presenting users with a choice of routes to take.

Bikeway

Any travel lane(s) intended exclusively for bicycles or other wheeled devices that are moving at higher speeds.

Capacity

The ability of a pathway segment to accommodate a given volume of users, that is dependent on the physical size and configuration of the pathway.

Capital Pathway

A network of primarily off-road, multi-use pathways with a distinct brand and user experience.

Clear zone

The unobstructed horizontal or vertical space offset from the pathway travel lanes, and left clear for safety or maintenance purposes, such as the area between a bench and the edge of an adjacent pathway, or the distance between a pathway and overhanging tree branches, bridge decks and so on.

Corridor (multi-use, pathway)

The linear space encompassing the alignment of the Capital Pathway, including its travel lane(s) and surrounding landscape.

Crossing

A point where a Capital Pathway segment crosses a linear feature such as a road, train track, river, canal and so on.

Cycling route

Any municipal cycling infrastructure such as an on-street bike lane, signed roadway, paved shoulder or pathway.

Cycling route (primary)

A primary crosstown cycling route that is managed by its respective municipality as a major thoroughfare in the municipality's active mobility networks.

Discovery route

A section of the Capital Pathway, with a unique name and identity that starts and ends at an anchor point.

Edge protection

A physical landscape treatment or feature parallel to a pathway segment, designed as a safety precaution to protect users from a potential hazard (e.g. railing, guardrail, shrubs, median and so on).

E-mobility

Any type of electric-assisted active mobility device such as a battery-assisted bicycle, scooter and so on. E-mobility should not be confused with "mobility aid" (such as electric-powered wheelchairs), which are considered pedestrian uses.

Feeder link

An offshoot section of the Capital Pathway that provides access to and from the discovery route, and connects to adjacent/nearby destinations, streets and neighbourhoods.

Ideal network

The ideal long-term configuration of a completed and connected Capital Pathway.

Inter-regional trail

A long-distance pathway route that provides broad regional connections, such as the Great Trail, Rideau Trail or Prescott-Russell Trail. In some instances, inter-regional trails may integrate with part of the Capital Pathway network, as their route passes through the region.

Junction point (primary)

A major intersection between the Capital Pathway and a primary cycling route.

Junction point (secondary)

Any intersection between the Capital Pathway and a secondary cycling route, municipal pathway, local trail or walkway.

Landscape buffer

An area planted with any combination of trees, shrubs and perennials that functions to separate spaces or uses, for example, a pathway from a parking lot, or a pedway from a bikeway.

Local trails and walkways

Routes that are typically not multi-use in nature and not considered part of the Capital Pathway network, but are part of the overall active mobility network (such as walking paths through parks, hiking trails, sidewalks and so on).

Mixing zone

The area at pathway junctions where two or more paths of travel intersect, and users of varying modes, directions and speeds must temporarily mix before continuing along their route.

Modal split

The relative percentage of pathway users based on their mode of travel. i.e. the percentage of pedestrians vs. the percentage of cyclists.

Multi-use pathway

A bidirectional route shared by all user types.

Node

A placemaking space located at a pathway junction that has been enlarged to accommodate gathering and lingering, while preserving the free-flowing movement of through-users.

On-street facility

Any travel lane(s) immediately adjacent to, and at the same grade as, a municipal street, such as bike lanes or paved shoulders.

Pedway

Any travel lane(s) intended exclusively for users on foot (or using mobility aids), travelling at slower speeds.

Placemaking

An approach to the planning and design of public spaces that improves people's enjoyment of and connection to their surroundings, through the development of special and unique treatments that increase the character, identity and experience of the particular location.

Public edge

A placemaking space along the length of a pathway segment, such as riverfront locations or escarpment edges with a view, intended for passive and contemplative use.

Public space

A placemaking space, such as a park, square or plaza, through which the Capital Pathway passes.

Roadside pathway

A segment of Capital Pathway adjacent to a roadway (within 1.5 metres).

Roadway crossing

A point where the Capital Pathway traverses a roadway at a perpendicular angle.

Roadway intersection

A point where the Capital Pathway meets two or more interconnected roadways.

Route

Any official linear corridor intended as a course of travel.

Safety buffer

The area between a roadway and an adjacent bikeway, pathway or walkway that provides spatial separation or physical protection from vehicles.

Segment (pathway)

Any linear section of pathway, usually a small portion of a larger route.

Segregation

The separation and isolation of pathway travel lanes by mode of travel.

Separated (segregated)

A pathway with designated pedway and bikeway travel lanes that are physically separated by a landscape buffer.

Side-by-side (segregation)

A pathway with designated pedway and bikeway travel lanes immediately adjacent to each other.

Slow zone

An area designed to reduce travel speeds, below the typical speed limit, thereby reducing user conflicts.

Temporary link

A segment of pathway or on-road facility that provides a temporary connection between non-contiguous pathways where missing segments exist.

Transit hub

A rapid transit station (bus or train) in proximity to the Capital Pathway that functions as a key origin and destination for pathway users, and serves as a multi-modal connection for integrated sustainable transportation.

Transition zone

A segment of the Capital Pathway with changing configurations or conditions.

Travel lane

A single thoroughfare intended for a specific type of pathway user (e.g. pedway, bikeway, bike lane, cycling route, sidewalk and so on) OR the physical space accommodating the unidirectional movement of users.

Universal design

Design that considers different user needs and sensory abilities, and provides opportunities for all ages, abilities and experience levels.

Visual identity

The recognizable brand or aesthetic qualities that distinguish the Capital Pathway from other trails and pathways.

Volume index

A tool to determine the appropriate pathway dimensions and/or configuration (capacity) in response to the existing and projected volume of users.

Zone of influence (greater)

The landscape beyond the immediate zone of influence that forms the background of the experience.

Zone of influence (immediate)

The area immediately adjacent to the travel lane that has a direct impact on the user experience.

7.2 Summary of Actions

The following summary is extracted from the lists of actions in Chapter 3 of this plan. These actions will inform the implementation plan to follow, and will serve as indicators to monitor and assess the effectiveness and advancement of the plan over the coming decade.

3.1 INTEGRATED AND RESILIENT NETWORK

3.1.1 Complete and consolidate the ideal network

- A. Update the NCC's GIS layers to reflect the existing and proposed segments of the ideal network.
- B. Explore the creation of a 360-degree virtual pathway model (such as Google Street View) to facilitate the management of the existing network and the planning of new segments.
- C. Develop a list of priority projects to be undertaken in the 10-year horizon of this plan (subject to funding and in collaboration with the City of Ottawa and Ville de Gatineau).
- D. Complete the Confederation Boulevard pathway segments (bikeways) along Wellington Street and Laurier Street.

3.1.2 Integrate with the regional active mobility network

- A. Develop design and signage standards for junction points with municipal networks, in collaboration with local municipalities.
- B. Develop best practices for the connections to rapid transit stations, in cooperation with local municipalities.

3.1.3 Create adaptable and sustainable installations

- A. Develop a monitoring program for erosion and flooding along the Capital Pathway.
- B. Develop a risk assessment report for flood impacts along the Capital Pathway.

3.1.4 Anticipate social and technological change

- A. Update the NCC corporate policy on the use of electric-powered vehicles.
- B. Produce an action plan for the collection of user data to summarize patterns and trends.

3.2 SAFE AND USER-FRIENDLY

3.2.1 Easy to access and navigate

- A. Update the NCC's corporate website and public maps to reflect the ideal network.
- B. Collaborate with third-party mapping platforms (such as Google Maps) to share pathway data to ensure accurate depiction on their platforms.
- C. Explore the development of a regional interactive route-mapping system, in partnership with the City of Ottawa and Ville de Gatineau.
- D. Review and officialize the naming convention for Capital Pathway discovery routes.
- E. Explore new wayfinding elements such as kilometre markers, distance markers and pavement markings to facilitate navigation.

3.2.2 Mitigate hazards along the pathway

- A. Conduct a pathway safety audit in collaboration with municipalities, and secure funding to correct hazardous situations.
- B. Develop a work plan for the improvement of roadway crossings, in collaboration with the municipalities.
- C. Develop new, slip-resistant design standards for wooden pathway bridges.
- D. Develop a manual of pathway design and management standards to mitigate potential risks and injuries.
- E. Develop a generic lighting fixture for areas outside of the core that do not have an existing standard.

3.2.3 Create a clear and intuitive pathway-sharing environment

- A. Pilot the separation and segregation of pathway segments along the Ottawa River South Shore Riverfront Park, and develop new construction standards based on these installations.
- B. Pilot and implement slow zones, and develop design and regulatory standards.
- C. Develop and include demarcation stencils in NCC signage standards.

3.2.4 Promote a simple and conciliatory code of conduct

- A. Collaborate with municipalities to update the Capital Pathway user code of conduct, using pictograms where possible.
- B. Develop a comprehensive multi-use pathway safety awareness campaign, in collaboration with the City of Ottawa and Ville de Gatineau.
- C. Update the National Capital Commission Traffic and Property Regulations to permit broader on-site enforcement.

3.3 ADAPTED AND CO-CREATIVE MANAGEMENT

3.3.1 Winter use of the network

- A. Explore partnerships for winter installations and services at key points along the Capital Pathway.
- B. Expand the SJAM Winter Trail experience to other segments of the Capital Pathway.

3.3.2 Dynamic and enriching amenities and programs

- A. Conduct a GIS analysis to identify the location and types of existing amenities across the network, and identify potential locations for new services or rest points.
- B. Explore third-party partnerships for artistic installations along the Capital Pathway.
- C. Explore interpretation and commemoration opportunities for points along the Capital Pathway.

3.3.3 Clear, collaborative management structure

- A. Streamline the responsibilities of NCC branches involved in the design, operation and management of the Capital Pathway via an updated corporate administrative policy.
- B. Establish a tripartite steering committee (NCC, Ville de Gatineau and City of Ottawa) with regular meetings.
- C. Establish a yearly meeting with City of Ottawa and Ville de Gatineau first responders.

3.3.4 Inclusive public participation

- A. Develop a public open-mapping application to assist in the identification of the pathway user experience.
- B. Develop a community and stakeholder notification mechanism, such as a web portal or e-newsletter.

3.4 HIGH STANDARDS OF DESIGN AND MAINTENANCE

3.4.1 Clear and consistent design

- A. Explore the use of a distinctly coloured centre line to distinguish the Capital Pathway from other active mobility networks.
- B. Conduct a review of pathway branding, and update visual features of the Capital Pathway (such as logo, signage, materials and so on), as required.
- C. Update the Capital Pathway's signage standards, and conduct an audit to remove all non-conforming or obsolete sign types.

3.4.2 Beautiful, context-sensitive installations

- A. Develop a GIS layer or catalogue of important character areas, destinations and points of interest across the pathway network.
- B. Review Capital Pathway design standards, and develop typical design families (of furnishings and features) for specific character areas across the network.

3.4.3 Durable, high-quality construction and maintenance

- A. Consolidate all Capital Pathway maintenance standards in a single guide, including renewed summer and winter maintenance standards.
- B. Systematically track the age and condition of pathway segments for life cycle planning.
- C. Track and summarize recurring maintenance issues in a yearly "lessons learned" log, and update design standards accordingly.
- D. Explore a standing offer agreement with prequalified contractors to perform specific maintenance and repair tasks.
- E. Develop a protocol for temporary pathway closures, with respect to signage, detours and barriers.

3.4.4 Dependable capital and operating funding

- A. Identify a budget line for recurring life cycle repair costs (repair and replacement of existing network infrastructure).
- B. Identify a budget line for all new expansion, and additional maintenance and life cycle funding will be sought accordingly.
- C. Explore alternative means of funding, such as private philanthropic donations.

7.3 Strategic Environmental Assessment

The following is the executive summary of the strategic environmental assessment for the Capital Pathway Strategic Plan. The full report can be found under separate cover.

The National Capital Commission (NCC) conducts strategic environmental assessments (SEAs) for all of its long-term plans, to ensure full consideration of environmental factors at all stages of plan development. The purpose of an SEA is to determine the scope and nature of potential ecological, social and cultural effects (hereafter called environmental effects), both positive and negative, brought about by the implementation of the Capital Pathway Strategic Plan (hereafter referred to as “the plan”), and to identify mitigation measures to reduce or eliminate adverse effects.

A detailed analysis identified important potential environmental effects of the 60 percent draft plan, at which point, numerous changes were made to the plan in order to reduce the negative impacts identified. A matrix was used to evaluate each section of the report (n = 46) for potential impacts — either positive, neutral or negative — on 14 environmental, social and cultural criteria, and six climate change criteria. Another review was completed for the 90 percent draft to ensure that negative impacts were mitigated to the greatest extent possible.

By positioning the Capital Pathway network as an ecological corridor and green space that is designed with a wide range of users in mind, including vulnerable ones, this plan will contribute to ecological health, universal accessibility, cultural vibrance and the overall livability of the National Capital Region. The plan includes mitigation strategies for most of the potential negative impacts. However, some environmental, social and cultural impacts remain.

- ▶ The impact of salt and gravel on water and soil quality and terrestrial and aquatic habitat: The plan commits to using low-salt options such as gravel to limit environmental impacts and prevent the accumulation of slush. Unless these products are not used at all, some salt and gravel will find their way into terrestrial and aquatic ecosystems.
- ▶ The reduction in terrestrial habitat and an increase in impervious surfaces caused by expanding the extent of the network, and by widening pathways: Mitigations have already been incorporated into the plan, e.g., locating new connections in appropriate locations (i.e. avoiding sensitive ecosystems) and using stormwater management techniques adjacent to the pathway.

- ▶ The barrier to vulnerable users (people with disabilities, women, LGBTQ2+ people) caused by the decision not to light the full pathway network at night: Some mitigations have already been incorporated into the plan, e.g., lighting in dense urban areas and at locations where a safety concern necessitates, such as at roadway intersections, tunnels, bridges and municipal transit hubs. However, additional safety measures could be considered such as panic buttons or nighttime pathway patrols.
- ▶ Risks to archaeological resources from shoreline stabilization and other flood mitigation activities: Archaeological assessments must form part of every shoreline stabilization, redesign or restoration project.

This SEA marks the first time that the NCC has analyzed how climate change could impact the successful implementation of a plan. The plan recognizes the risks posed by climate change, particularly flooding, and includes many measures that will increase the resilience of the pathway network to climate impacts. Some of the risks that the plan considers, and will need to continually consider during implementation include the following.

- ▶ Extreme heat will pose risks to user safety, particularly vulnerable users like seniors, children, pregnant people and people with existing health conditions; the provision of treed areas, shade structures, drinking fountains, and rest areas will be required. Also, the addition of new connections in socio-economically vulnerable neighbourhoods will be a key strategy for improving access to cool green spaces for vulnerable populations.
- ▶ Extreme cold may limit the number of winter users; the provision of warming stations will provide comfort to users.
- ▶ The seasonal shifting of freeze-thaw cycles, as well as storms and bouts of extreme heat and cold, will put additional strain on the performance of pathway surfaces. The plan includes strategies for using resilient materials and designs. However, these climate phenomena will increasingly test the performance of materials, and may result in increased maintenance costs. The NCC’s climate risk assessment process, to be developed in 2021–2022, can be used to identify and prepare for these potential costs.
- ▶ Shifts in seasonal temperatures will likely lead to an increase in the prevalence of new or existing invasive species, which may result in increased maintenance costs.

The implementation of the plan should integrate the recommended mitigation measures and the triennial implementation report should include a review of environmental, social, cultural and climate impacts, and any necessary mitigations should be deployed as needed.

7.4 References

This document supersedes the following plans:

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APPLICABLE POLICIES, LEGISLATION AND REGULATIONS (AS AMENDED)

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- ▶ National Capital Commission (2005). *Gatineau Park Master Plan*. 129 pp.
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- ▶ City of Ottawa (2013). *Ottawa Cycling Plan*. 152 pp.
- ▶ City of Ottawa (2013). *Ottawa Pedestrian Plan*. 159 pp.
- ▶ GEO Ottawa website, maps.ottawa.ca/geoottawa/
- ▶ Ville de Gatineau (2015). *Schéma d’aménagement et de développement révisé*, Règlement numéro 2050-2016. (French only)

- ▶ Ville de Gatineau (2018). *Plan directeur du réseau cyclable de la ville de Gatineau*. Gatineau, 77 pp. (French only)
- ▶ Interactive map (Atlas de Gatineau) https://www.gatineau.ca/portail/default.aspx?p=publications_cartes_statistiques_donnees_ouvertes/cartes/carte_interactive_atlas_gatineau
- ▶ Vélo Québec (2009). *Aménagement en faveur des piétons et les cyclistes : Guide technique*. 168 pp. (French only)

INTER-REGIONAL TRAILS

- ▶ The Great Trail of Canada, <https://thegreattrail.ca/>
- ▶ La Route Verte, <http://www.routeverte.com/en/>
- ▶ Ottawa-Carleton Trailway, <https://www.ontariotrails.on.ca/index.php?url=trails/view/ottawa-carleton-trailway---trans-canada-section>
- ▶ Osgoode Pathway, <https://ottawa.ca/en/parking-roads-and-travel/cycling/cycling-planning/completed-projects/rural-pathways>
- ▶ Rideau Trail, <https://www.rideautrail.org/>
- ▶ Prescott-Russell Recreational Trail, http://en.prescott-russell.on.ca/visitors_and_leisure/cycling_and_walking_network
- ▶ Cycloparc PPJ, https://www.cycloparcppj.org/index_en.php
- ▶ Chelsea Community Trail, <https://www.chelsea.ca/en/residents/service-municipaux/recreation-sport-culture-community-life/community-trail>
- ▶ Voyageur Cycling Route (Ottawa to Sudbury,) <http://discoveryroutes.ca/vcr/>

IMAGE CREDITS

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Page 111 Information and Regulatory Signage: <https://www.modulex.com/project/riverwalk/>
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Page 112 Wayfinding Features: <https://www.gdc.net/johndewolf/work/3082>

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Acknowledgements

The Capital Pathway Strategic Plan represents close to four years of research, analysis, planning and consultations with the public, as well as with numerous government organizations and stakeholder groups from across the National Capital Region. This plan was made possible through the engagement of many people. Our thanks go to each and every one who contributed to the project. We would also like to thank the many members of the public and external groups who took part in various working meetings, provided comments or participated in public consultation workshops to build on and enhance the proposals.

And special recognition goes to the following NCC personnel for their efforts, and without whom this plan would not have been possible.

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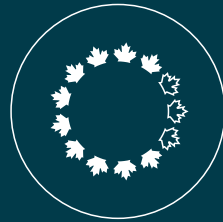
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And a special thanks to the numerous NCC, City of Ottawa and Ville de Gatineau staff who provided insightful comments and constructive feedback throughout the planning process.



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