



Niagara Falls Trails and Active Transportation Master Plan

May 2026



Executive Summary

Overview

The Niagara Falls Trails and Active Transportation Master Plan (TATMP) provides a long-term vision for expanding and improving walking, cycling, and rolling across the City of Niagara Falls. The TATMP establishes a clear vision, policy framework, and implementation strategy to support a safe, connected, equitable, and accessible active transportation system for residents, workers, and visitors of all ages and abilities.

Niagara Falls is a growing city with limited opportunities to expand road capacity. As population and employment continue to increase, improving mobility choice through active transportation and getting people out of personal automobiles will be essential to support affordable transportation for residents, economic benefits, tourism, community health, and climate resilience. The TATMP responds to this challenge by identifying how the City can do more with efficient budgets by leveraging coordinated construction projects, improving existing trail networks, and building partnerships for active transportation.

Policy Alignment and Vision

The TATMP is strongly aligned with federal, provincial, regional, and municipal policy directions, including the Provincial Policy Statement, the Accessibility for Ontarians with Disabilities Act (AODA), the Niagara Region Official Plan, and the City of Niagara Falls Official Plan, Strategic Plan, and Transportation Master Plan update.

Through community and stakeholder engagement, the Plan is guided by the following vision:

“To cultivate a safe, connected, equitable, and accessible active transportation system that responds to the diverse needs of all users while supporting the local economy, encouraging and enhancing opportunities for active transportation, and ensuring connections to key destinations, contributing to a more vibrant, sustainable city.”

This vision is supported by objectives focused on safety and accessibility, seamless network connectivity, improved user experience, integration with other City initiatives, feasibility, and ongoing monitoring and accountability.

Existing Conditions

Niagara Falls benefits from several important active transportation assets, including the Niagara River Recreation Trail, Millennium Recreation Trail, and Olympic Torch Run Legacy Trail, as well as a growing network of on-road cycling facilities. However, the existing system is fragmented, with inconsistent levels of comfort, safety, and accessibility, and significant gaps that limit safe and continuous active transportation trips across the city.

A review of existing cycling facilities against current provincial guidance indicates that many routes do not meet modern safety and comfort standards and require upgrades or increased separation from motor vehicle traffic. However, travel pattern analysis shows that over half of all trips in Niagara Falls are under five kilometres, highlighting strong potential for walking and cycling if high-quality infrastructure is provided.

The Active Transportation Network

The TATMP proposes a Trails and Active Transportation Network with a clear hierarchy of route types that supports both everyday travel and tourism. Spine Routes major destinations designed to All Ages and Abilities standards, Connector Routes feed people onto Spine Routes, Local Routes are supported by traffic calming to make neighbourhoods safer, and Rural Routes serve recreation, commuting, and cycling tourism trips.

The network includes protected bike lanes, cycle tracks, multi-use paths, neighbourhood greenways, sidewalks, and off-road trails, creating a safe, intuitive, and comfortable system that serves residents and visitors across Niagara Falls' varied contexts.



Figure 1: Example of a separated bicycle lane



Figure 2: Example of a cycle track

Network Implementation

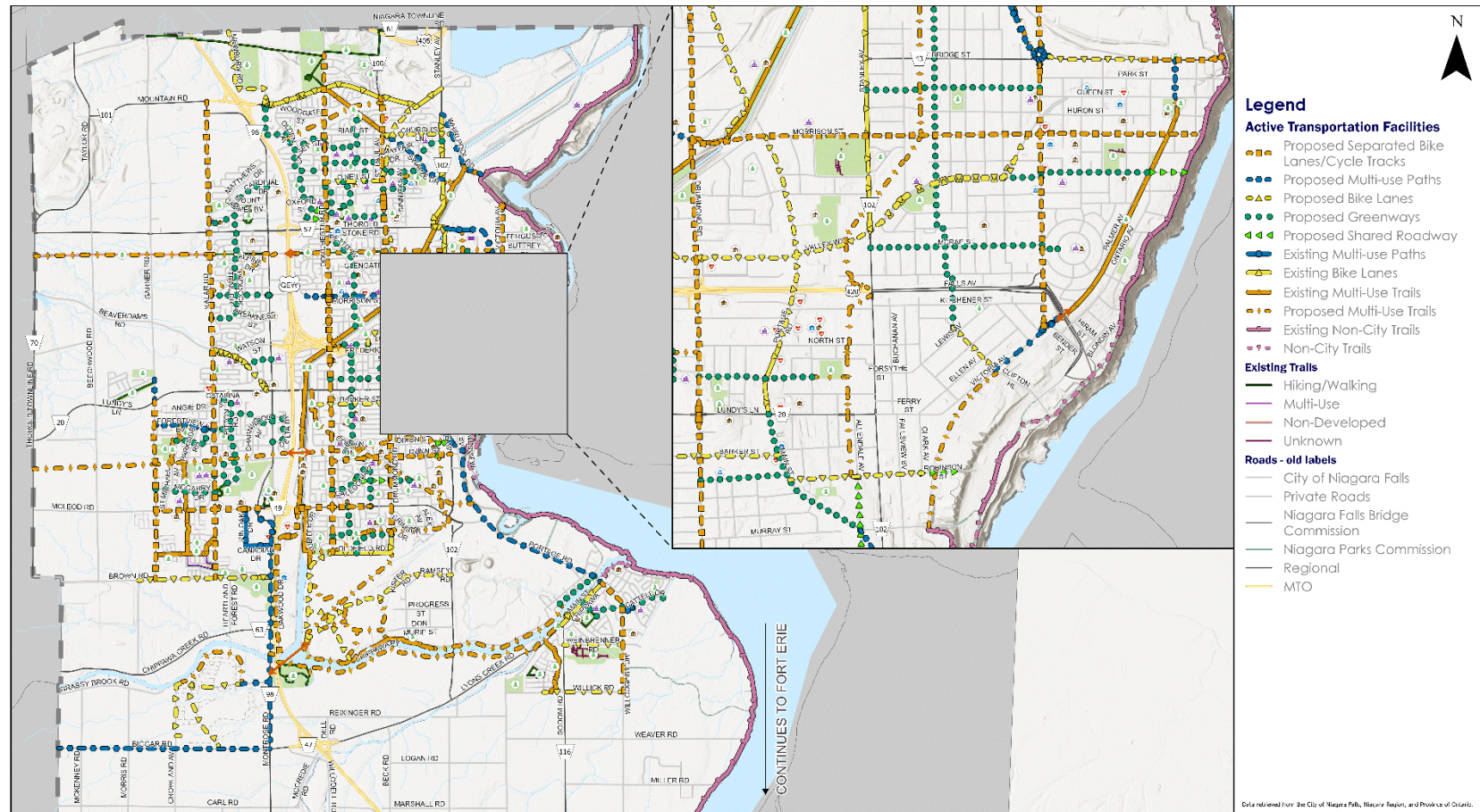
Implementation of the proposed network is guided by a prioritization framework that considers both cycling potential and transportation need. This approach ensures areas with high demand and areas experiencing transportation poverty are both connected to routes implemented in the short-term.

The network is phased to align with capital planning, equity priorities, development growth, and opportunities to coordinate with other infrastructure projects, and is delivered over short-term (0–10 years), medium-term (10–20 years), and long-term (20+ years) horizons. The proposed active transportation network is implemented in phases to align with capital planning, equity and demand priorities, and opportunities to coordinate with other infrastructure projects. A summary of the proposed active transportation facilities and lengths proposed for each phase are shown in **Table 1**.

Table 1: Proposed Active Transportation Network Implementation

Facility Type	Short Term (0–10 yrs) (km)	Medium Term (10–20 yrs) (km)	Long Term (20+ yrs) (km)	Total Length (km)
Bicycle Lanes	16.60	4.04	0.07	20.71
Cycle Tracks / Separated Bicycle Lanes	22.80	13.53	7.28	43.61
Multi-Use Paths	12.99	5.33	3.47	21.79
Neighbourhood Greenways	33.09	6.55	0.00	39.65
Shared Roadways	1.52	0.79	0.00	2.31
Multi-Use Trails	10.53	17.12	11.31	38.95
Total	97.53	47.36	22.13	167.02

The proposed active transportation network is shown in **Map ES.1**.



DeLa relieved from the City of Niagara Falls, Niagara Region, and Province of Ontario.

Map ES.1: Proposed Active Transportation Facilities

Wayfinding for Active Transportation

The TATMP identifies wayfinding as a critical component of a successful active transportation network. A coordinated wayfinding system improves navigation, supports tourism, enhances accessibility, and reinforces the visibility and identity of the network. The TATMP establishes a wayfinding hierarchy, standardized signage types, design and accessibility guidelines, and an implementation strategy that integrates physical signage with digital tools. Consistent wayfinding supports confident travel for residents and visitors and improves access to destinations, amenities, and key network connections.

Active Transportation Policies

To support implementation of the network, the TATMP includes recommended policies and design strategies focused on the active transportation network, accessibility, maintenance, asset management, and integration with development and capital planning.

These policies provide clear direction for retrofits, new construction, intersection design, and accessible facilities, ensuring that active transportation infrastructure is delivered consistently and aligned with best practices, guidelines and accessibility legislative requirements.

Programming, Education, and Encouragement

Recognizing that infrastructure alone is not sufficient to change travel behaviour, the TATMP includes a comprehensive set of education, encouragement, and partnership-based programs.

Recommended initiatives include public awareness campaigns, active school travel programs, community bike hubs, open streets events, and exploration of bike share opportunities. Together, these programs build social infrastructure, strengthen community ownership, and support equitable access to active transportation.

Monitoring and Moving Forward

Monitoring and reporting are critical to ensuring that the TATMP delivers its intended outcomes. The TATMP establishes a monitoring framework with key performance indicators related to usage, safety, accessibility, equity, user experience, and implementation progress.

The City is encouraged to use a combination of short-term counts, automated counters, surveys, asset inventories, and demographic data to track trends over time. Applying an equity lens to monitoring ensures that investments benefit equity-deserving communities and that disparities in access and outcomes are identified and addressed.

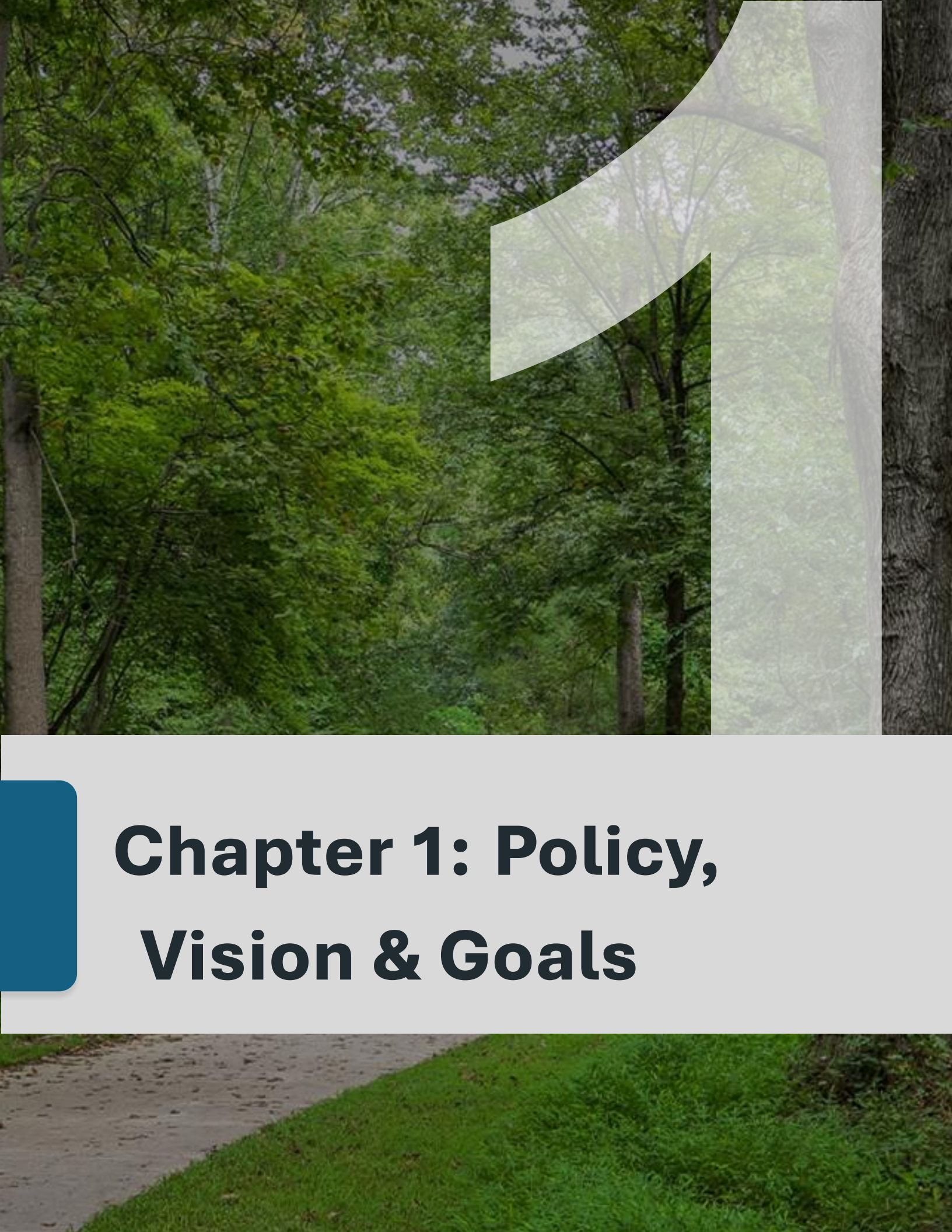
Regular public reporting, including annual implementation updates to Council, will provide transparency and accountability, support informed decision-making, and allow the Plan to remain flexible and responsive to changing conditions, funding opportunities, and community needs.

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The background of the slide is a photograph of a dense forest with green trees. A large, semi-transparent white number '1' is overlaid on the right side of the image. Below the image is a white horizontal band containing the chapter title. To the left of the title is a solid blue rounded rectangle.

Chapter 1: Policy, Vision & Goals

1.1 What is a Trails and Active Transportation Master Plan?

1.1.1 Active Transportation Overview

Active transportation and active recreation consist of all forms of movement that is performed at a human scale. This includes walking, cycling, using a wheelchair or other mobility-support device as well as a variety of other active recreation and transportation modes like rollerblading, skateboarding and more. Active transportation also takes into consideration assisted transportation devices such as motor assisted wheelchairs, throttle and pedal assisted e-bikes, as well as micro mobility devices such as kick-style electric scooters.

1.1.2 What is an Active Transportation Master Plan?

The City of Niagara Falls (City) is seeking to create a plan that will support the growth of both physical and social infrastructure to support walking, cycling, and rolling within the City. The Trails and Active Transportation Master Plan will leverage the strong foundations of active transportation infrastructure across the City. The TATMP will be a community-focused plan that helps residents use active transportation more often, strengthens political support, and establishes new partnerships with community stakeholders to increase the uptake of multi-modal transportation within the City.

The Trails and Active Transportation Master Plan will develop new networks of physical and social infrastructure to support mobility choice across the City. The City of Niagara Falls is largely built out, with no space for new roadway capacity to be added. For the City to be able to grow its population, and to meet its Sustainability goals, the City must become a model of **doing more with less** with regards to transportation – which means using more efficient forms of mobility like walking, cycling and wheeling to expand access across the community. The City is seeking to build upon its existing network of bike lanes, multi-use trails and sidewalks by:

Applying the Complete Streets Approach defined in the Complete Streets for Niagara Handbook, and referenced in the City of Niagara Falls's TMP, to identify corridors where walking and cycling should be given a higher priority,

Improving existing routes to bring them up to an All Ages and Abilities (AAA) standard,

Closing gaps in the network to ensure continuous, connected routes across the City,

Partnering with the Region of Niagara to enhance mobility choice across the City by upgrading facilities on Regional Roads, and;

Creating new capacity for community organizations to support residents in choosing active transportation more often.

The Niagara Falls Trails and Active Transportation Master Plan will be developed by placing the community at the centre of the plan, focusing on increasing uptake of active transportation by residents, strengthening political support for more people-oriented transportation options and establishing new partnerships with community stakeholders to support implementation. To build this sense of community ownership that is necessary to support a plan of this scale, residents and stakeholders will have several opportunities to engage in the process of developing the plan. The plan will also create an accountability process that will allow the City and any relevant partners to check the progress of the actions against the baseline assessment and the goals contained within the Plan.

The TATMP will function best when considered within the broader policy context of the City, Region, Province and Country, which will help to provide the strategic foundations. This paper provides an overview of existing policies and plans that are relevant to active transportation and that may inform the recommendations that emerge from the final plan. Additionally, the identified policies help define the vision for the TATMP by aligning itself with the goals and objectives of the City Niagara Falls.

1.2 Policy Background

This subsection builds on previous municipal, provincial, and federal planning documents to ensure that the Trails and Active Transportation Master Plan contributes to the goals and vision previously established by different levels of government.

Throughout the last decade there has been an increase in support for funding and developing more active communities from all levels of government. Federal, provincial, and municipal governments are working together and establishing policies, research, strategies, and initiatives that provide support for investments and improvements for active transportation. The following is an overview of all plans and policies that were reviewed to inform the development of the Trails and Active Transportation Master Plan

1.2.1 Policy Review

Active transportation and active recreation consist of all forms of movement that is performed at a human scale. This includes walking, cycling, using a wheelchair or other mobility-support device as well as a variety of other active recreation and transportation modes like rollerblading, skateboarding and more. Active transportation also takes into consideration assisted transportation devices such as motor assisted wheelchairs, throttle and pedal assisted e-bikes, as well as micro mobility devices such as kick-style electric scooters.

1.2.2 Federal Policies and Supporting Documents

The Government of supports active transportation initiatives through funding programs and policy language that promotes active transportation. The intent of these initiatives is to help guide and assist municipalities to transition to sustainable modes of transportation.

Policies and Documents Reviewed

- National Active Transportation Strategy (2021);
- Federal Sustainable Development Act (2008);
- Federal Sustainable Development Strategy (2019 – 2022);
- Transport Canada 2021 – 2022 Departmental Plan (2021); and
- Transportation 2030: A Strategic Plan for Transportation in Canada

Policy Considerations

- The National Active Transportation Strategy (2021) created a \$400 million Active Transportation Fund that is provided by the federal government for municipalities to use. The purpose of the fund is to aid municipalities in creating active transportation facilities and education programs and outreach programs. The strategy notes that in order to qualify for the fund, municipalities must demonstrate that their planned projects will create community connections, improve user experience, assist in a modal shift, and increase equity across the region; and
- The Transport Canada 2021-2022 Departmental Plan (2021) and Transportation 2030: A Strategic Plan for Transportation in Canada (2016) includes actions for improving the safety, accessibility, efficiency, and environmental sustainability of Canada's transportation systems. The Transportation 2030 (2016) plan acts as the overarching blueprint for developing Canada's transportation systems over the next decade and it highlights the need for a mode-shift to sustainable transportation methods.

1.2.3 Provincial Policies and Supporting Documents

The Province of Ontario has a suite of policies that support the adoption of active transportation. These policy documents provide guidance to local municipalities which can range from suggested actions to legislated requirements. However, legislated requirements for active transportation are seldom used, as most documents provide suggestions, guidance and support for active transportation development.

Policies Reviewed

- Accessibility for Ontarians with Disabilities Act (2005);
- Reducing Gridlock, Saving You Time Act (2024)
- Ontario Province-wide Cycling Network (2018);

- Provincial Policy Statement (2024);
- Ministry of Transportation Ontario Bikeways Design Manual (2014);
- Tour By Bike: Ontario's Cycling Tourism Plan (2017);
- #CycleON Strategy (2013) and Action Plan 2.0 (2018);
- Minimum Maintenance Standards for Municipal Highways O.Reg.239/02 (2018);
- Ontario Traffic Manual Book 15: Pedestrian Crossings (2016); and
- Ontario Traffic Manual Book 18: Cycling Facilities (2021 update)

Policy Considerations

- Increase collaboration between governments and industry partners to develop and enhance products and experiences that support cycling tourism (e.g. heritage trails, trail tourism programs), particularly in rural regions of the province (Ontario's Cycling Tourism Plan, 2017);
- Ensure that the detailed design for active transportation facilities comply with the Bikeways Design Manual (2014) and are guided by best practices outlined in Ontario Traffic Manual Book 15 (2016) and 18 (2021);
- Transportation systems should be provided that are safe, facilitate the movement of people, and support the use of zero- and low- emission vehicles (Provincial Policy Statement, 2024, s.3.2.1);
- Multimodal transportation systems should be connected among transportation systems and modes, maintained, and improved upon, including connections across municipalities (Provincial Policy Statement, 2024, s.3.2.3); and,
- Streets and public spaces should be planned to be safe, meet the needs of persons of all ages and abilities, and facilitate active transportation and community connectivity (Provincial Policy Statement, 2024, s.3.9.1.a).

1.2.4 Regional Municipality of Niagara Policies

Regional policies directly shaped the planning, design, implementation and operation of active transportation facilities along regional roads. Niagara Region has a number of existing policies that provide specific guidance on active transportation projects such as the 2023 Official Plan, Transportation Plan, and Cycling and Pedestrian Master Plan Study. As of March 2025, planning authority has been shifted from Niagara Region to the 12 local municipalities in the Region, including the City of Niagara Falls. The Regional Official Plan and policies within the Regional Official Plan has become an official plan of Niagara Falls with this shift in planning authority.

Policies Reviewed

- Regional Municipality of Niagara Official Plan (2023)
- Niagara Region Transportation Master Plan (2017)¹

¹ The Niagara Region TMP was being updated at the time that the TATMP was being finalized.

- Strategic Cycling Network Development Technical Paper (2017)
- Climate Change Framework (2018)
- Complete Streets Design Guidelines (2017)
- Bikeway Identification and Destination Signage for Cyclists (2017)

Policy Considerations

- Support active transportation through enhancing connections, facilities, and integration with other modes of transportation. Ensure that both inter- and intra-municipal routes are well connected to each other and ensure that facility design is high-quality and remains consistent between jurisdictions (Regional Municipality of Niagara Official Plan, 2023).
- Expand active transportation facilities by re-purposing abandoned railway, hydro corridors, and other linear corridors as multi-use trails. (Regional Municipality of Niagara Official Plan, 2023).
- “The Niagara Region will develop guidelines for local Official Plans and Zoning By-laws that outline minimum provisions for accommodating active transportation-friendly facilities in new development, redevelopment, and public work projects.” (Regional Municipality of Niagara Official Plan, 2023)
- Ensure that a complete streets approach is accounted for in local official plan and zoning by-law policies. (Regional Municipality of Niagara Official Plan, 2023)
- Ensure that streets are design to prioritize the movement of people through creating complete streets and improving active transportation infrastructure (Niagara Strategic Plan 2023 – 2026).
- “Encourage pedestrian- and cycling-supportive site design that provides safe pedestrian and cycling opportunities for all ages and abilities in all new developments.” (Niagara Region Transportation Master Plan, 2017)
- “Promote safe walking, cycling and driving through education, engineering, engagement, evaluation and enforcement” (Niagara Region Transportation Master Plan, 2017)
- Ensure that adequate connections are made between local and regional roads to support active transportation in dense urban areas (Strategic Cycling Network Development Technical Paper, 2017).

1.2.5 City of Niagara Falls Municipal Policies

The Trails and Active Transportation Master Plan will be influenced by policies at the municipal level such as the City’s Official Plan, Transportation Master Plan, Strategic Plan, and other planning documents. The City’s Official Plan provides the most guidance on future development due to its statutory nature as a requirement under the Planning Act and the Provincial Policy Statement. The City’s Transportation Master Plan and Transportation Master Plan Update, which is being developed simultaneously, provide a strong foundation and integrated approach that the

Trails and Active Transportation Master Plan will be built on. Policies that have the highest degree of relevance to the Active Transportation Plan are referenced below.

Policies Reviewed

- City of Niagara Falls Official Plan (2024 consolidation);
- City of Niagara Falls Strategic Plan (2023 – 2027);
- City of Niagara Falls Sustainable Transportation Master Plan: Transportation Beyond Tomorrow 2031 (2011) and;
- City of Niagara Falls Climate Change Adaptation Implementation Plan (2023).

Policy	Relevant Vision(s), Objective(s), and/or Plan Purposes
City of Niagara Falls Official Plan (2024 consolidation)	Relevant Growth Objectives • To encourage alternative forms of transportation such as walking, cycling and public transit • To develop a transit and pedestrian friendly, sustainable and livable City. Relevant General Transportation Principles The Official Plan contains policies and statements relevant to the development of the City’s TATMP, including: • “The needs of all users in the City have to be considered in transportation”, which includes “pedestrians, bicyclists, transit users, those with disabilities”. • One of the City’s goals for its transportation network is to “reduce the dependency on passenger vehicles and increase the modal share of public transit and active transportation”. • Streets should be designed as a safe, comfortable and convenient environment for the pedestrian and cyclist. • Streetscaping enhances the pedestrian experience with amenities such as widened sidewalks, decorative lighting, rest areas, and landscaping features. Relevant Active Transportation Policies Part 2 and 3 contain policies specific to active transportation that state: • Major pedestrian destinations will be linked by pedestrian and bicycle paths and sidewalks along certain roadways. • Street configurations and urban design are to support walking, cycling, with, at a minimum:

	1.3 sidewalks on at least one side of a local road and on both sides of a collector or arterial road. - Pedestrian connections out of cul-de-sacs and to public facilities - Off-road trails connecting to the road network - Speed control programs to reduce traffic impacts within residential neighbourhoods • Transportation corridors should contain sidewalks and bicycle lanes of sufficient width to safely accommodate users. • Streetscapes of transportation corridors should be designed to increase the comfort level of pedestrians. • The City will provide public active transportation facilities when financially feasible. • Connecting off-road trails to create an inner-City trail system that links residential, employment and recreational areas. • Dedication of trails may be required as a condition of development approval. • New development will be encouraged to provide bicycle parking and other facilities to accommodate active transportation. Additionally, specific policies that consider and encourage active transportation were outlined for the planning of the Grand Boulevard and secondary plans for Garner South, Transit Station, Grand Niagara, and Riverfront Community. Land Use Policies with Implications on Active Transportation Part 2 sets policies regarding active transportation for specific land use designations, including: • <i>Resort Commercial</i>: Preserve and develop lands adjacent to the Welland River as a scenic parkway with pedestrian walkway and bicycle path facilities. • <i>Open Spaces</i>: Encourage integrating and linking designated Open Spaces and major utility corridors with pedestrian walkways, bicycle paths, and for passive recreational use.
City of Niagara Falls Strategic Plan (2023-2027)	Relevant Actions and Objectives • To provide high-quality municipal services and enhance the quality of life throughout the community. • The Strategic Plan comprises of three pillars: Sustainability, Customer Service, and Economic Diversification & Growth.

	• Under the Sustainability (Environmental) Pillar is a call for a review of active transportation opportunities. • Under the Economic Diversification & Growth Pillar is an objective to enhance transportation networks within the City by improving mobility, accessibility and sustainability.
City of Niagara Falls Sustainable Transportation Master Plan: Transportation Beyond Tomorrow 2031 (2011) *	<i>* currently undergoing update.</i> Goals and Objectives • The STMP envisions a multi-modal transportation system that ensures future growth in the City is sustainable, in the context of the Smart Growth Policies. • STMP goals include providing and maintaining a transportation system that offers transportation choice, reduces single occupancy vehicle trips, and supports sustainable development. • The STMP includes an Active Transportation Cycling and Walking (ATCW) Report which establishes two additional goals: 1.4 Enhance pedestrian and cycling facilities for increased activity, prioritizing functionality, visual appeal, and safety 1.5 Develop a cohesive multimodal system integrating on-road cycling paths, off-road trails, and pedestrian enhancements. • The ATCW's four principles for the active transportation network include Continuity of cycling facilities; Visibility (for promotion and safety); Complete range of facility types; and Co-operation. Relevant Active Transportation Recommendations Relevant policies aim to increase accessibility and expand the network to key destinations for pedestrians and cyclists. These include the following: • Establish a continuous and integrated system of on- and off-road active transportation facilities within the City. • Pedestrian facilities should be present on all streets in the City and on both sides wherever possible. • Active transportation should provide a range of route alternatives and access to significant local destination points, and be competitive against private car travel to encourage mode shift. • Active transportation facilities should be designed and constructed to be barrier-free. • Provide wayfinding and signage along marked routes in open space trails, residential neighbourhoods, and on major roadways.

	• Work with surrounding municipalities and the Region to integrate cross-jurisdictional facilities and programs. • Incorporate pedestrian and cycling friendly design and maintenance standards. • Work with employers/major destinations to provide on site amenities (e.g. bike lockers). • Promote active transportation through educational and awareness campaigns. • Implement TDM initiatives outlined in the Plan that encourage walking and cycling. • Regularly update an active transportation facilities inventory. • Off-road facilities should be designed to serve commuting and recreational needs and to meet best practices. • Consider facilities which do not presently conform to the Region's standards to broaden the array of tools available to address future challenges. Proposed Active Transportation Network • The STMP/ establishes a proposed active transportation network of on and off-road routes. • Routes were organized into 4 priority groups based on ease of implementation, and a strategic approach to establishing a wider and connected network that can intensify and expand as uses increase and additional support and opportunities grow. Each priority group is aligned with an implementation timeframe. • To date, most routes under the short-term (2012-2017) and medium-term implementation (2018-2022) have not been fully completed.
City of Niagara Falls Climate Change Adaptation Plan (2021)	Vision • The vision of the Climate Change Adaptation Plan is to “reduce greenhouse gas emissions and be a resilient, climate-ready city working proactively to promote sustainable practices, preserve and enhance our natural assets, and support residents and visitors to adapt to climate change”. Relevant Actions • Improve the resilience and sustainability of transportation infrastructure by encouraging sustainable methods of transportation. • Continue to connect trails, pathways, and bike paths to create alternative methods of travel within the City.

1.3 Active Transportation Vision & Objectives

1.3.1 Vision Statement

Through consultation with key stakeholders and the Niagara Falls community, a vision statement and objectives were developed to guide the growth of active transportation in the City for the development and implementation of the TATMP. The vision statement that has been developed is the following:

“To cultivate a safe, connected, equitable, and accessible active transportation system that responds to the diverse needs of all users while supporting the local economy, encouraging and enhancing opportunities for active transportation, and ensuring connections to key destinations, contributing to a more vibrant, sustainable city.”

While the vision statement sets a high-level direction for active transportation, more specific objectives were developed with tangible outcomes and results. The objectives for the TATMP are as follows:



Design a safe, equitable and accessible active transportation system available to all.



Ensure a seamlessly connected network with linkages to areas of growth, transit, neighbouring municipalities, economic corridors and key destinations.



Enhance the active transportation user experience by improving wayfinding, addressing active transportation network gaps, and ensuring a comfortable and attractive environment for active modes.



Integrate the TATMP and the TMP with other City initiatives and Regional strategic plans.



Develop an improvement and implementation plan that meets with the City's capital programming schedule.



Ensure that the City staff have a monitoring program that allows for regular reporting of TATMP achievements and for adjustments to the implementation plan.

The objectives are achieved through implementing the recommendations of the following chapters. The recommendations related to the active transportation network and its implementation are presented in **Chapters 3, 5 and 6**. Policies and strategies that support the

objectives are discussed in **Chapter 4**. Programs to support active transportation can be found in **Chapter 7**. The recommended monitoring program can be found in **Chapter 8**.



Chapter 2: Existing Conditions



2.1 Existing Conditions Review

Creating an interconnected and easily accessible active transportation system is essential for fostering an active lifestyle among the public. The proposed active transportation network in the City of Niagara Falls is being developed through an equity lens, ensuring inclusivity for all users within the City. The goal is to make the network universally accessible to everyone, regardless of age or ability.

The existing conditions of active transportation were reviewed to develop an understanding of the foundation to be built upon in the City of Niagara Falls. The review included the existing pedestrian network, the cycling network, and socioeconomic trends that are related to active transportation needs and potential. Existing facilities were evaluated to determine if they adhere to current guidelines, to establish a foundation for the future development of the active transportation network.

Niagara Falls boasts an emerging active transportation network that provides a solid base for expansion. The City benefits from existing active transportation assets, including the Niagara River Recreation Trail, the Millenium Recreation Trail, the Olympic Torch Run Legacy Trail, and other trails throughout the City. Recent efforts by the City and Niagara Region have started focusing on developing a network of on-road cycling facilities, multi-use paths, and cycle tracks. Dedicated active transportation facilities are also complemented by a growing number of traffic calmed local streets, which provide safer spaces for mixing active transportation and motor vehicle traffic by limiting vehicle speeds. However, the City still lacks connectivity between many of the constructed facilities.



2.2 Existing Active Transportation Facility Types

The following are the typical active transportation facility types that exist in Niagara Falls:

Sidewalks: Sidewalks are typically located in urban and built-up areas for use by pedestrians and people using mobility devices at a low speed.



Figure 2.1: Sidewalk Example

Paved Shoulders: A portion of a roadway that provides active transportation users an area that is separated from motor travel with a pavement marking. Typically, paved shoulders are located on rural roads.



Figure 2.3: Paved Shoulder Example

Signed Route/Shared Roadways:

Designated shared roadways typically have supportive signs and/or pavement marking treatments for wayfinding and to promote safer interactions between motorists, cyclists and other road users.



Figure 2.2: Signed Route Example

Bicycle Lanes: Bicycle lanes are located on a portion of the roadway with designated space that is to be used exclusively by cyclists. They are typically marked by a bicycle symbol and pavement markings.



Figure 2.4: Painted Bike Lane Example

Multi-use Paths: Pathways located alongside a road that are shared between pedestrians, cyclists, scooter users, and other types of active transportation users.



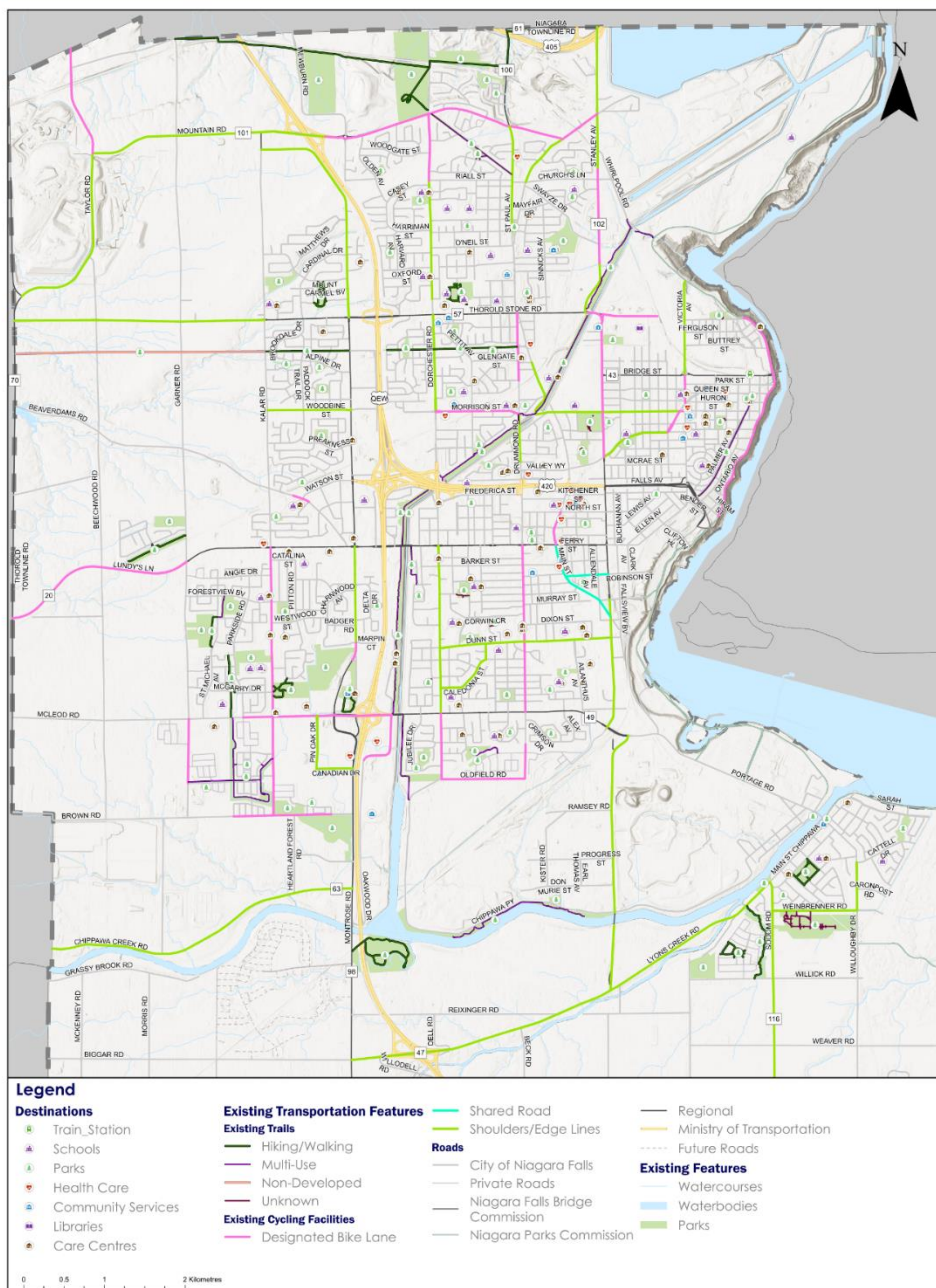
Figure 2.5: Multi-Use Path Example

Table 2.1 provides a breakdown of existing active transportation facilities by length across Niagara Falls. There are multiple owners of active transportation facilities within Niagara Falls, including the City, Niagara Region, and Niagara Parks Commission, which are included in these totals.

Table 2.1: Existing Active Transportation Facilities (Source: City of Niagara Falls)

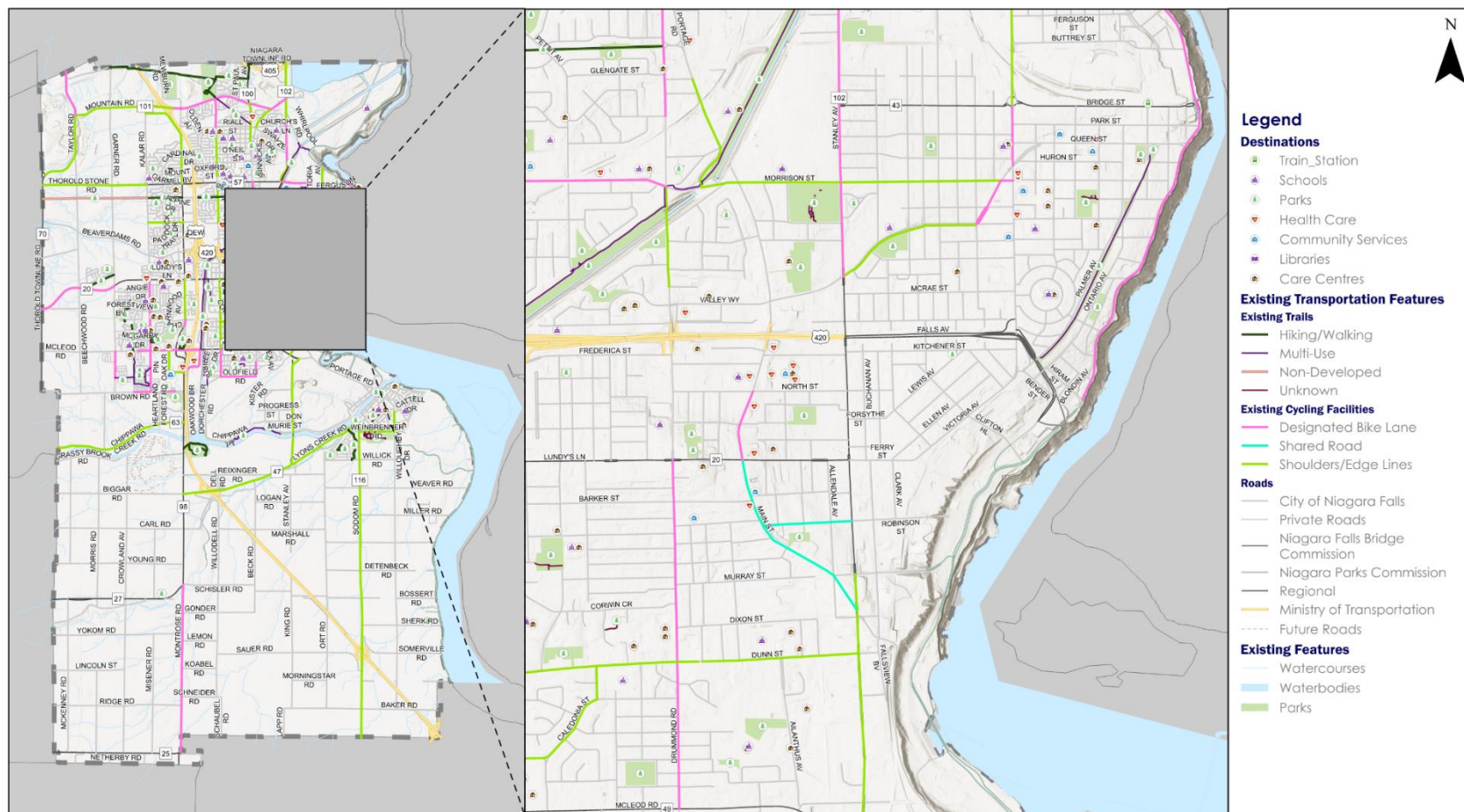
Facility Type	Length (km)
Sidewalk	595.16
Signed Route / Shared Roadway	1.69
Bicycle Lane	37.19
Multi-use Path	43.15
Paved Shoulder	58.65

Map 2.1a: Existing Active Transportation Network - Urban Area



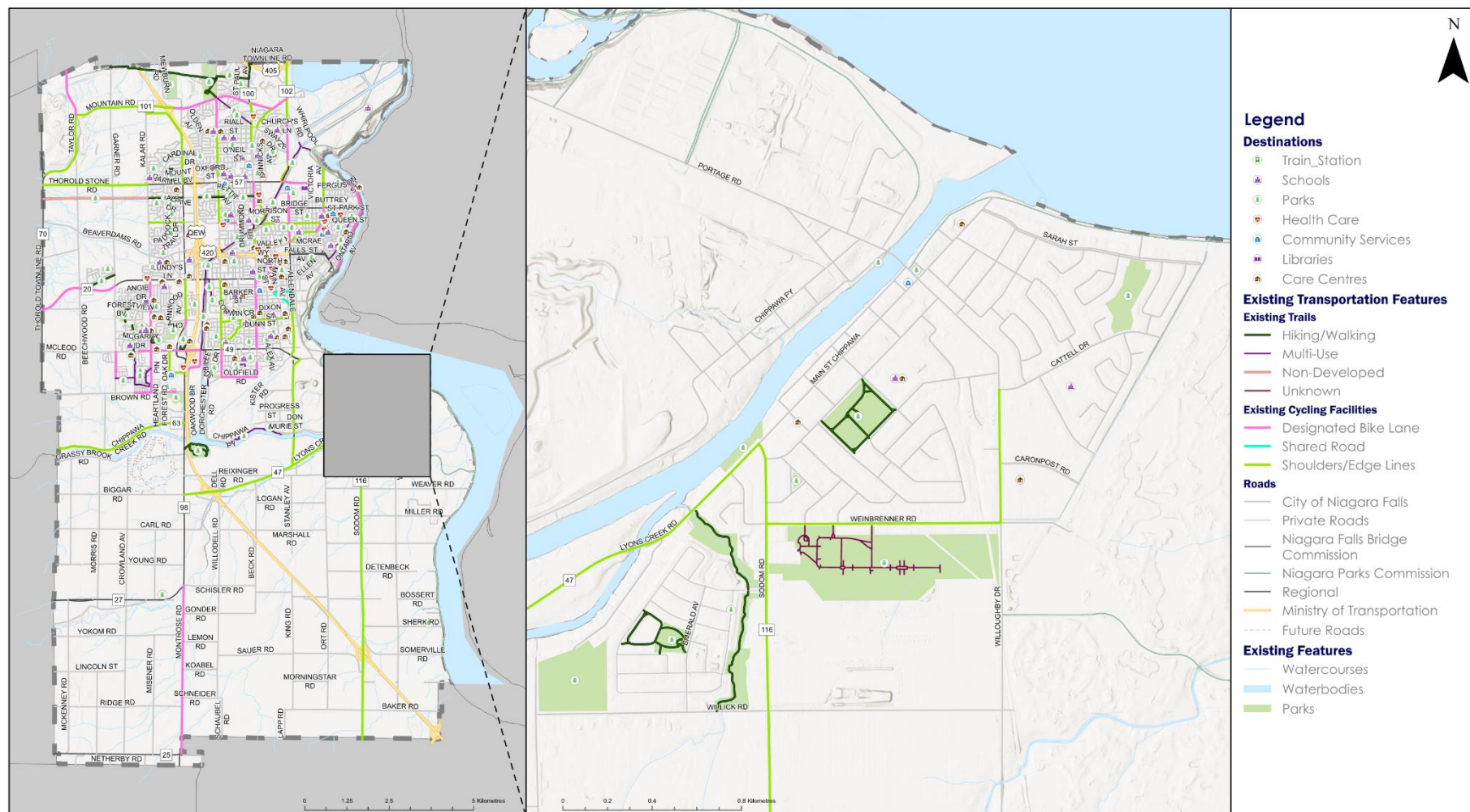
Map 2.1a Existing Active Transportation Network - Urban Area

Map 2.1b: Existing Active Transportation Network - Urban Core



Map 2.1b Existing Active Transportation Network - Urban Core

Map 2.1c: Existing Active Transportation Network - Chippawa



Map 2.1c Existing Active Transportation Network - Chippawa

2.3 Review of Existing Active Transportation Facilities

The existing cycling facilities in the City were reviewed against updated provincial guidance for cycling facility selection and design in the Ontario Traffic Manual (OTM) Book 18: Cycling Facilities. OTM Book 18 was updated in 2021, with guidance that reflects the need for increased separation between cyclists and vehicle traffic that operates at high speeds and volumes. The selection process for cycling facilities is presented in two nomographs in OTM Book 18, with one for urban roadways and one for rural roadways. These nomographs are shown in **Figure 2.6** and **Figure 2.7**.

The facility selection thresholds for speed and traffic volume in OTM Book 18 were used to evaluate the existing cycling facilities in Niagara Falls. This review identified many instances where cycling facilities that were selected based on previous guidelines are not suitable based on updated guidance. These facilities should be proposed to be upgraded with increased separation. The results of the review can be seen in **Table 2.2**, based on the existing cycling facilities in the City of Niagara Falls provided at the start of the development of the TATMP. Many cycling facilities in the city fall under the responsibilities of other owners, including Niagara Region and the Niagara Parks Commission. Partnership and collaboration with Region or Niagara Parks Commission will be recommended to make the cycling facilities under their ownership aligned with the guidelines of OTM Book 18.

Table 2.2: Alignment of Existing Cycling Facilities Based on Updated OTM Book 18 Guidelines

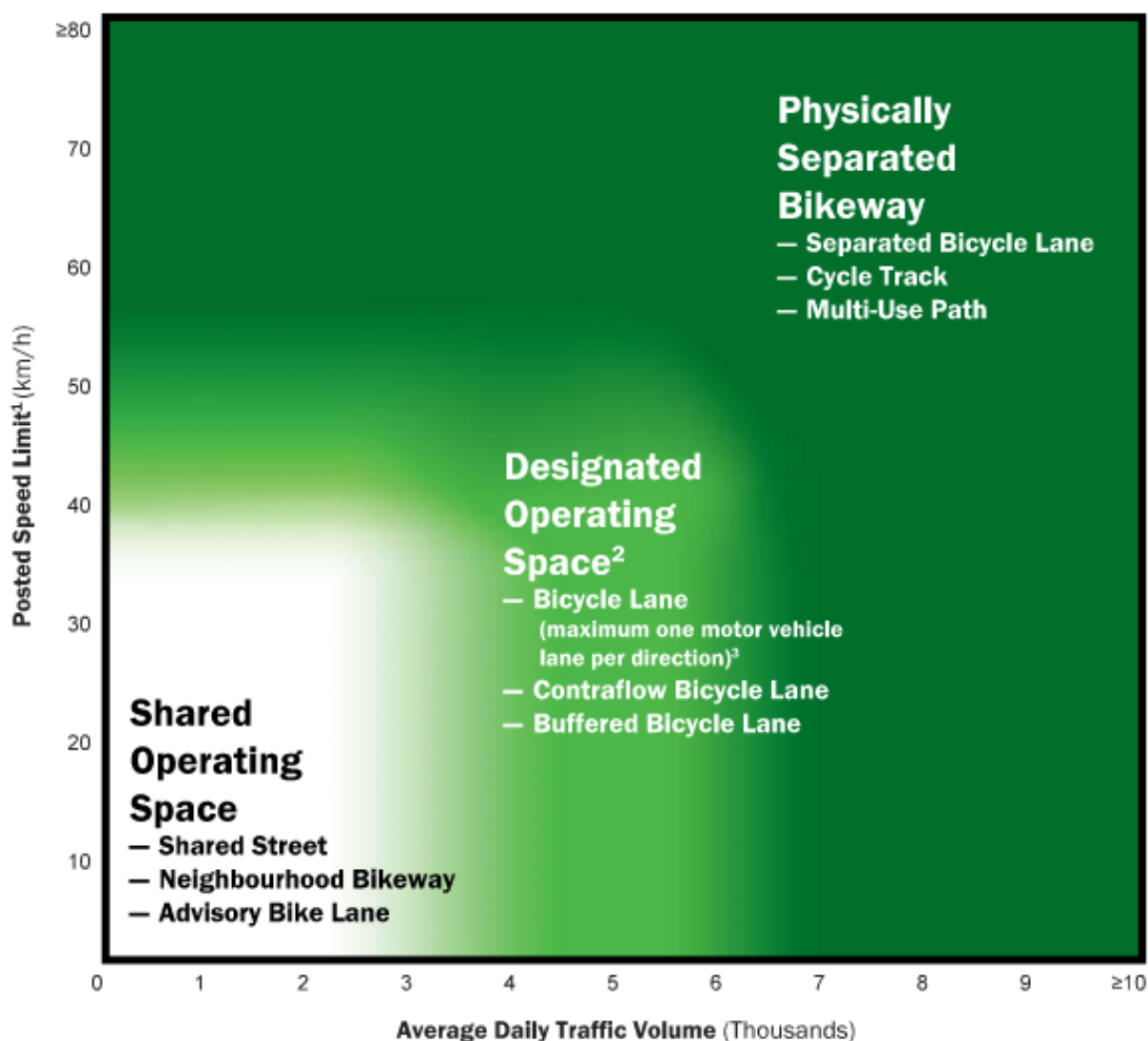
Facility Type	Aligned Length (km)	Non-Aligned Length (km)	No Data (km)
Bike Lane	5.50	21.07	10.62
Signed Route / Shared Roadway	0.85	0.52	0.32
Paved Shoulder	6.48	33.65	18.52

Table 2.2 illustrates that many bike lanes in the city are not aligned with current guidelines and should be upgraded with additional separation. Many urban shoulders within the city are shown as cycling facilities, but OTM Book 18 states that they should not be considered permanent cycling facilities. OTM Book 18 says: “Urban shoulders are not a substitute for conventional bicycle lanes, since they do not prioritize bicycle travel, and should only be treated as an interim or transitional facility.” Many of the urban shoulders in the city can be upgraded to conventional bike lanes to become compliant with guidelines.

Shared roadways were only evaluated in this review where they were signed as bicycle routes. Roadways without bicycle route signs were not considered.

The results of the review can be seen visually in **Maps 2.2a – 2.2c**.

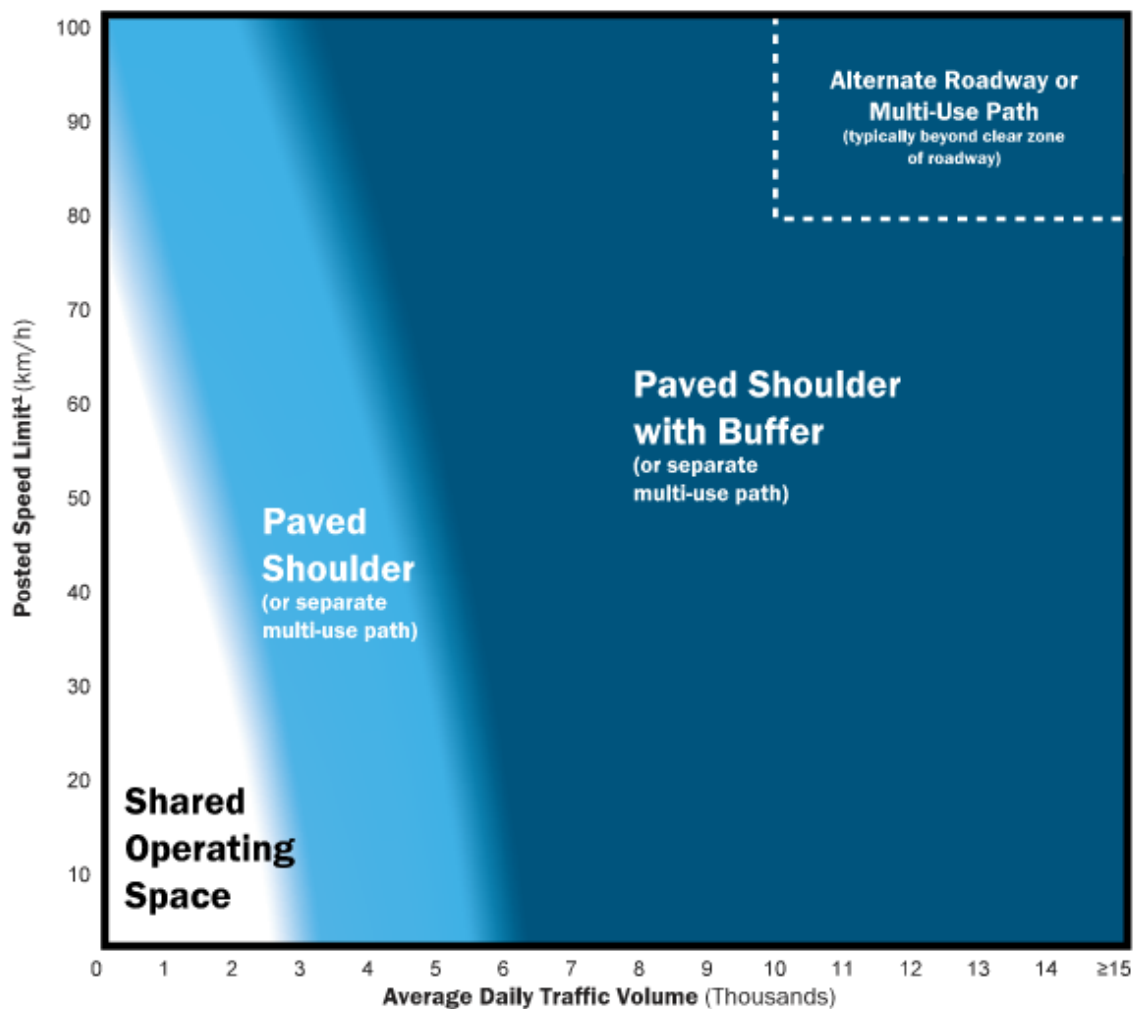
Desirable Cycling Facility Pre-Selection Nomograph Urban/Suburban Context (Step 1)



1. Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
2. Physically separated bikeways may always be considered in the designated operating space area of the nomograph.
3. On roadways with two or more lanes per direction (including multi-lane one-way roadways), a buffered bicycle lane should be considered the minimum with a typical facility being a physically separated bikeway.

Figure 2.6. Urban Nomograph (Source: OTM Book 18)

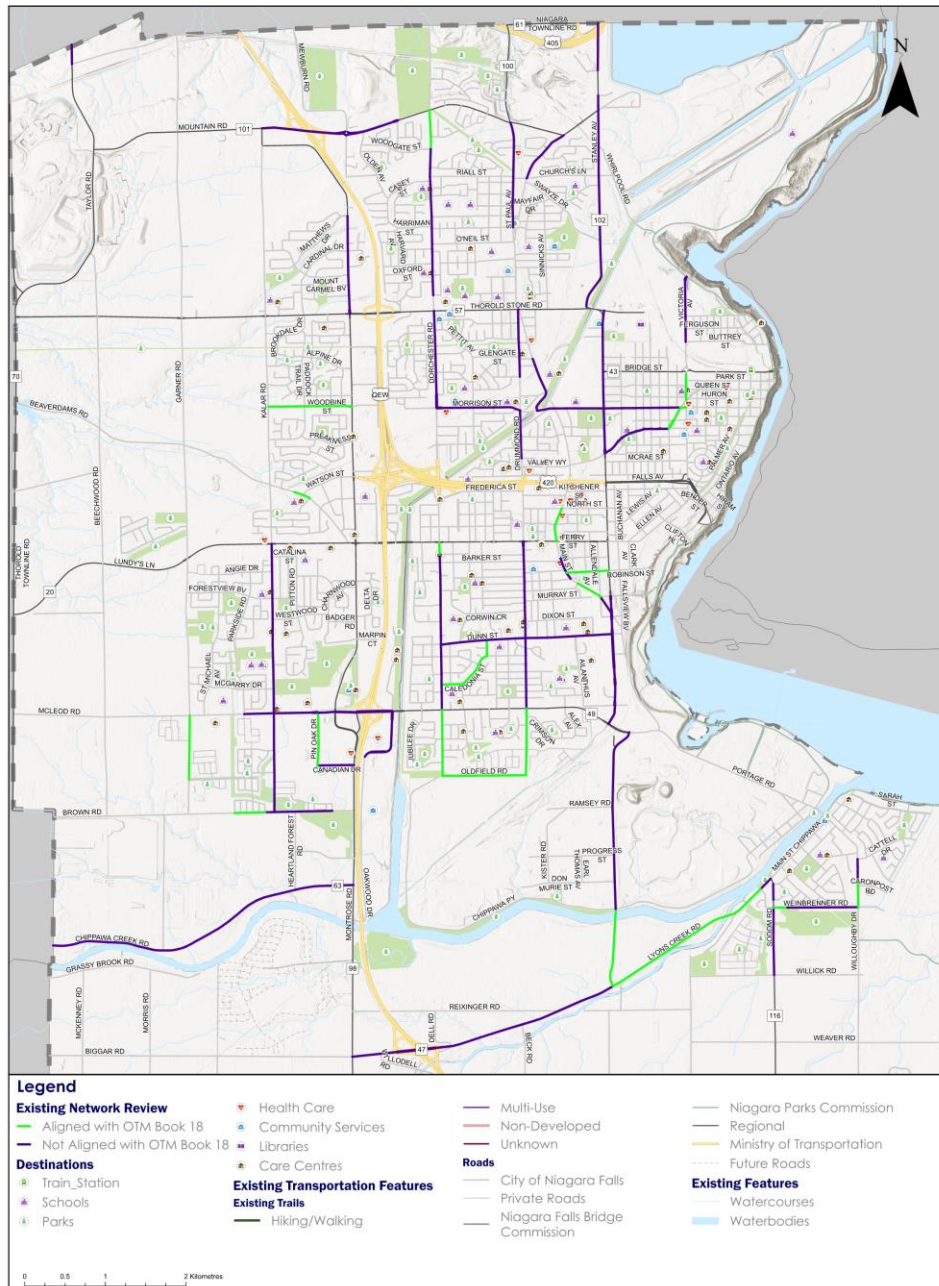
Desirable Cycling Facility Pre-Selection Nomograph Rural Context¹ (Step 1)



- 1 In rural town/hamlet/village contexts, the urban/suburban nomograph may be used.
- 2 Operating speeds are assumed to be similar to posted speeds. If evidence suggests this is not the case, practitioners may consider using 85th percentile speeds or implementing measures to reduce operating speeds.
- 3 Paved shoulders should ideally be implemented where feasible along all designated bike routes, regardless of whether recommended by the nomograph
- 4 If the paved shoulder is recommended, consider incorporating a buffer as well if space allows
- 5 For roads with a posted speed limit of 80km/hr or higher a paved shoulder of 1.2 to 1.5 m, an additional 0.5 m to 1.0 m buffer should be considered, particularly if the roadway is a common truck route, due to the wind velocity impact of passing trucks

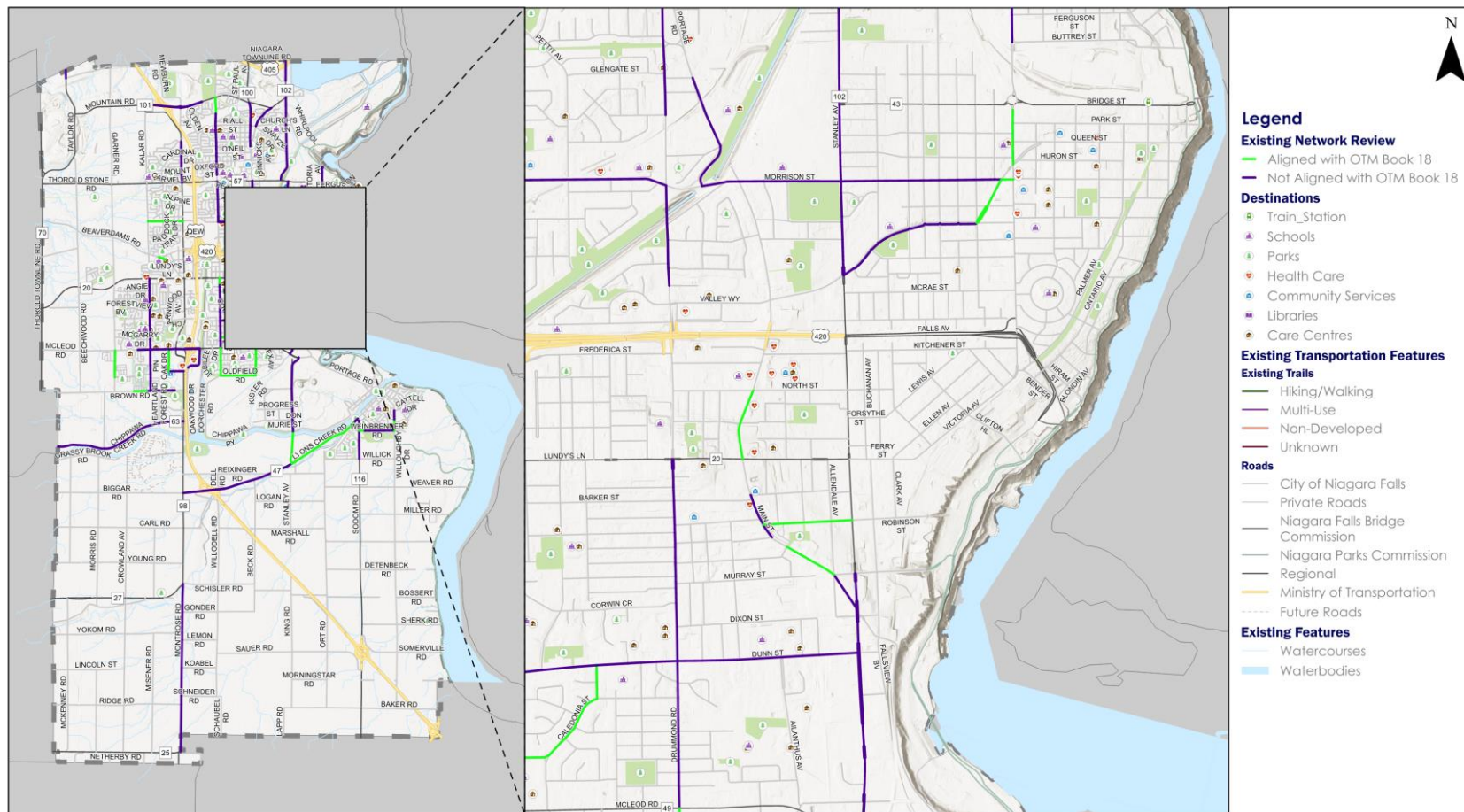
Figure 2.7. Rural Nomograph (OTM Book 18)

Map 2.2a: Existing Network Review - Urban Area



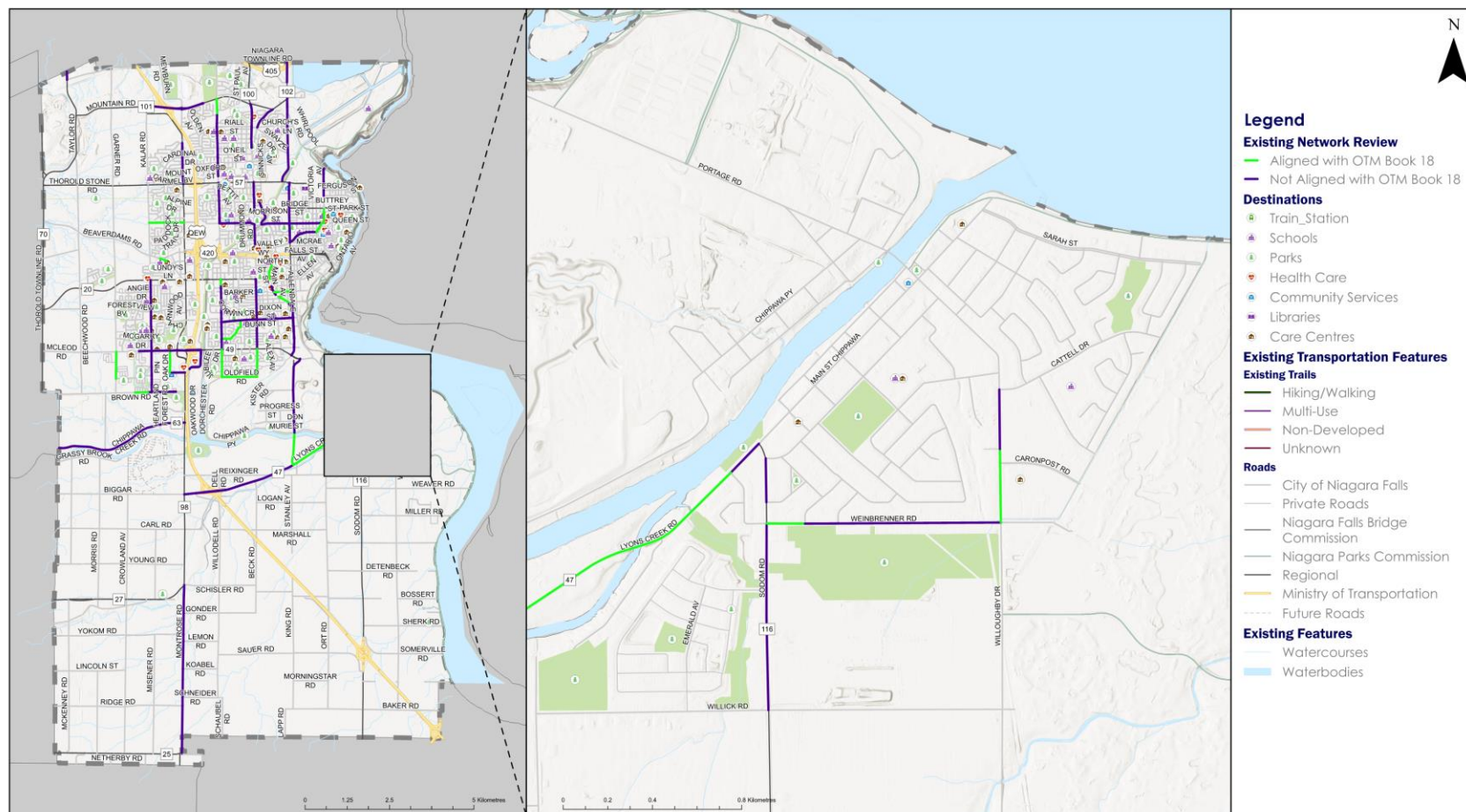
Map 2.2a Existing Network Review - Urban Area

Map 2.2b: Existing Network Review - Urban Core



Map 2.2b Existing Network Review - Urban Core

Map 2.2c: Existing Network Review - Chippawa



Map 2.2c Existing Network Review - Chippawa

2.4 Socio-Economic Patterns

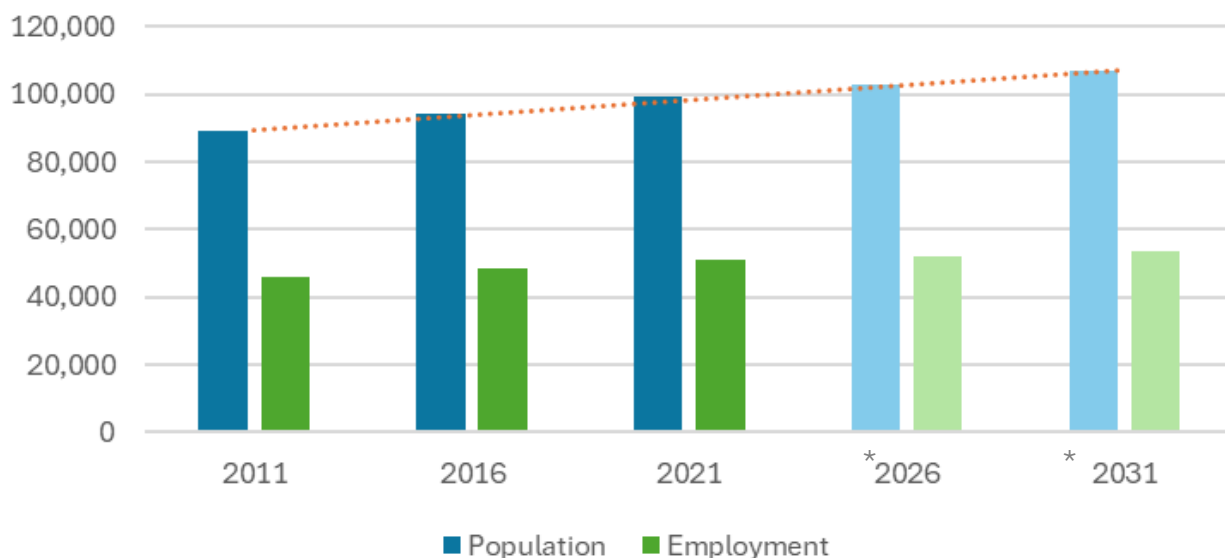
To develop an active transportation network that is tailored to Niagara Falls, an understanding of the local context is essential, particularly regarding demographic and socio-economic characteristics and trends. This knowledge serves as the foundation for ensuring that the TATMP's recommendations are well-suited to meet the needs of those living, working and visiting Niagara Falls who rely on this network today and into the future. A review of existing socio-economic distribution of various demographic indicators was completed, including population (including youth and seniors), employment, and household income. Data used in this analysis is sourced from the 2021 Statistics Canada Census and the City of Niagara Falls Official Plan (2024).

2.4.1 Population And Employment Trends

According to the 2021 Census, Niagara Falls has a population of just over 94,400 and is expected to reach approximately 141,650 by 2051 according to projections from the Niagara Region Official Plan.

The City's Official Plan projects employment to follow a similar upward trend, increasing by 5.3% over the same period. These employment figures should be interpreted in terms of relative percentage growth and broader trend patterns— specifically, the consistent year-over-year increases in both employment and population — rather than focusing solely on the absolute number of jobs created, which may be more heavily influenced by broader regional economic dynamics.

Figure 2.8 highlights historical changes in population and employment from 2011 to 2021, as well as the anticipated growth through to 2031. These trends highlight the importance of planning for a more accessible and sustainable transportation network that supports future demand.



* Projections based on the City of Niagara Falls Official Plan (2024)

Figure 2.8. Population and Employment Trends

Source: Canada Census (2021) and City of Niagara Falls Official Plan (2024)

2.4.2 Population Density

Population density varies significantly across the City, with distinct urban and rural areas, as seen in **Figure 2.9**. Higher population densities are found in the main urban area of the City, particularly within the central business district and surrounding neighbourhoods, just north of the tourist area, and south of Lundy's Lane, including communities like Cornwin and Orchard. Additional pockets of higher density appear throughout the City, influenced by variations in lot sizes and built form.

Pockets of low population density can be seen within the urban area. These typically correspond to areas where land uses are predominantly employment or commercial-based, such as those adjacent to the QEW Highway corridor, where there is limited residential development.

The south portion of the City is largely rural, as reflected in the area's low population densities. A notable exception is the community of Chippawa, which is shown as a pocket of higher density outside of the main urban area.

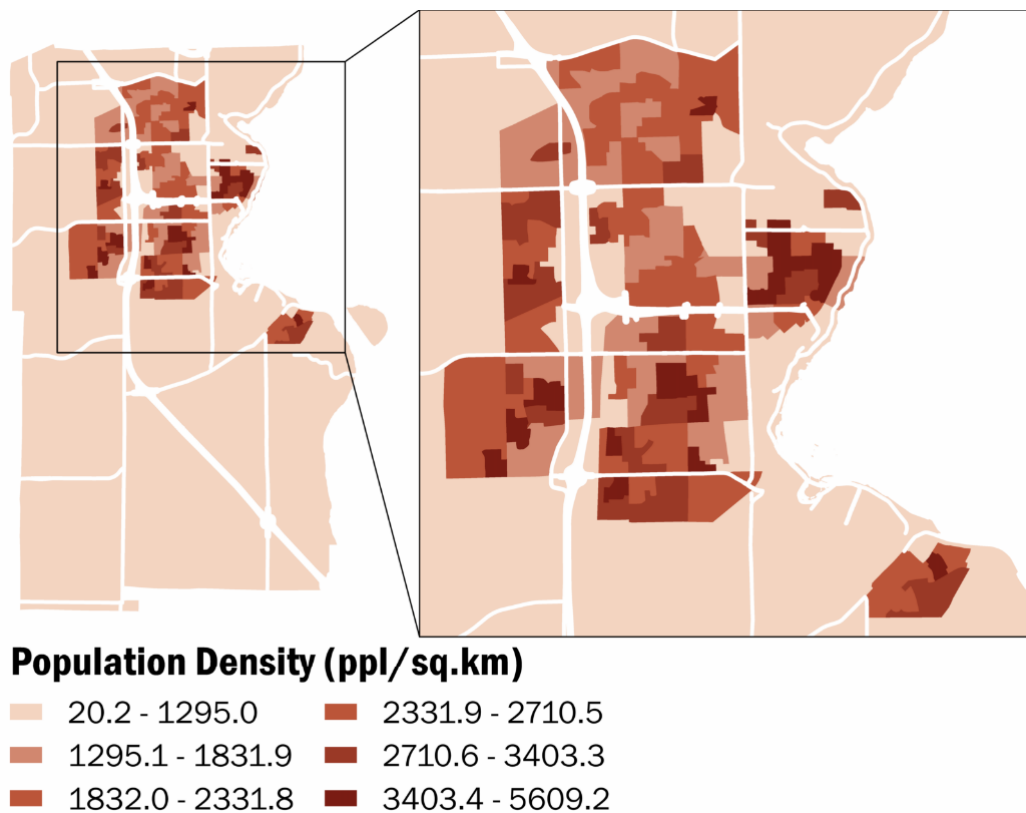


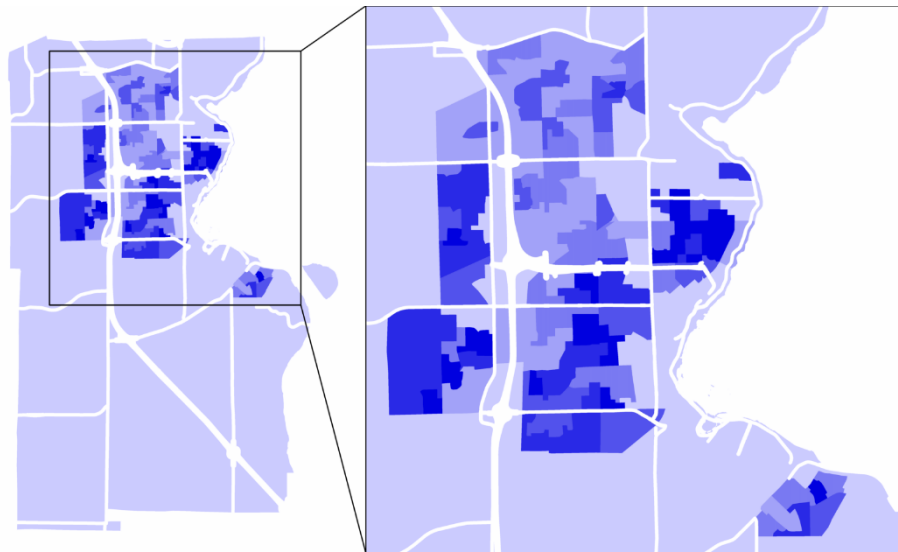
Figure 2.9. Population Density (Source: 2021 Census)

2.4.3 Youth and Seniors

Improving active transportation infrastructure can significantly enhance quality of life and access to destinations for both youth and seniors—two groups that often face mobility challenges, particularly in areas characterized by personal vehicle dependency. **Figure 2.10** and **Figure 2.11** illustrate the distribution of seniors (aged 65 and older) and youth (aged 14 and younger) across the city, respectively.

Families with children are concentrated in the southern portions of the City, and in newer residential developments, like in the neighbourhood of Garner, likely reflecting increased housing opportunities in these areas.

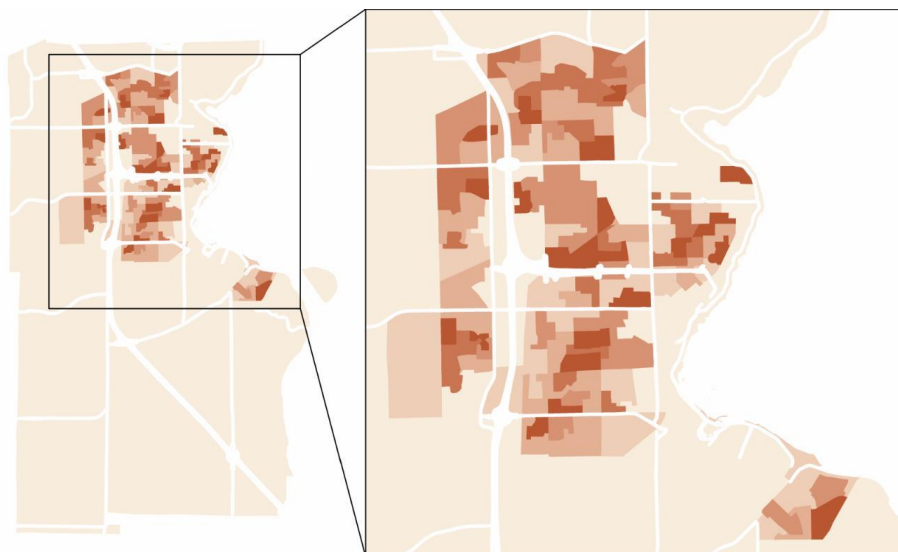
In contrast, seniors are more spread out in smaller pockets throughout the City, but mainly concentrated in older neighbourhoods, like Balmoral, Burnette, and Corwin, in developments specifically designed or marketed for older adults.



Youth Density (ppl/sq.km)

3.6 - 237.0	541.6 - 620.7
237.1 - 383.4	620.8 - 852.3
383.5 - 541.5	852.4 - 1433.9

Figure 2.10. Youth Population Distribution (Source: 2021 Census)



Seniors Density (ppl/sq.km)

4.4 - 272.8	495.4 - 627.8
272.9 - 403.7	627.9 - 708.3
403.8 - 495.3	708.4 - 1756.3

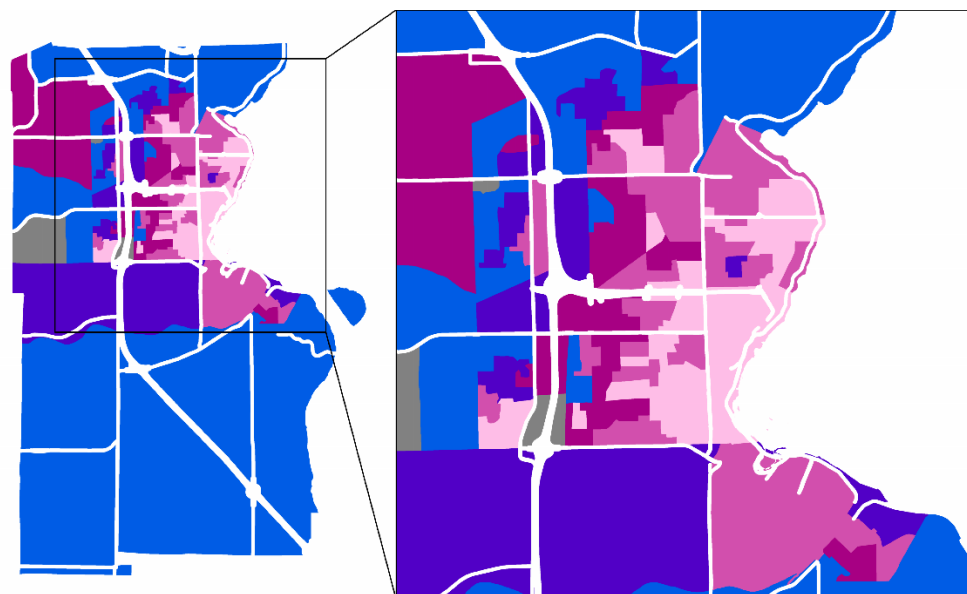
Figure 2.11. Senior Population Distribution (Source: 2021 Census)

2.4.4 Household Income

Census data reveals that household income levels in Niagara Falls are unevenly distributed across the city, as shown in **Figure 2.12**. Many lower-income households are concentrated in urban areas, though some rural areas also fall below the municipal average income. Lower-income neighbourhoods in the urban area have some active transportation infrastructure in place, providing a foundation to build on. However, it currently lacks continuity, cohesion, and adequate protection for users. Enhancing the infrastructure in these areas that have been historically underserved by transportation systems have the potential to significantly benefit lower-income residents by expanding mobility options without the need for car ownership. Active transportation modes offer a more affordable, reliable option of travel, particularly for short trips.

For both lower-income households in urban areas and comparatively higher-income households in rural areas, active transportation can contribute to an improved quality of life by supporting recreational and social activities. This can be done while also offering safer and more inclusive mobility options for all residents, including non-drivers.

Investing in active transportation across areas with both high and low median incomes delivers wide-ranging community benefits. It promotes social equity, improves public health, supports local businesses, and strengthens community connections.



Median Total Household Income

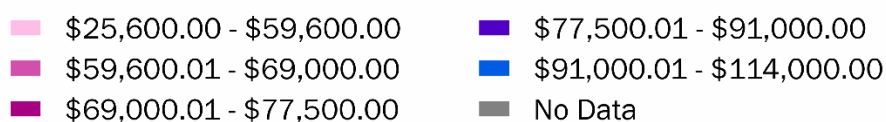


Figure 2.12. Distribution of Median Household Income (Source: 2021 Census)

2.5 Travel Patterns

2.5.1 Mode Shares

Current travel trends indicate that active transportation modes are not widely used, with the majority of people relying on personal vehicles as their primary means of commuting. According to the 2021 Canadian Census, 86.7% of commuters travel by car, while only 8.2% walk to work and just 0.5% commute by bicycle. Other modes of travel—including micromobility options like e-scooters—account for just over 0.1% of total commuters. A detailed summary of these findings is provided in **Table 2.3**.

Table 2.3. Mode Shares for All Trips (Source: Transportation Tomorrow Survey, 2022)

Main Mode of Commuting	Total Count	Percentage of Mode Share
Car, truck or van	176,113	86.7%
Public transit	9,342	4.6%
Walking	16,587	8.2%
Cycling	946	0.5%
E-scooter	149	0.1%
Other methods	47	0.02%

Figure 2.13 illustrates the proportion of commuter trips made using active transportation by destination. As expected, mode share is higher in urban and central neighbourhoods, where shorter travel distances create a more bike and pedestrian-friendly environment. Interestingly, the central tourist core shows a lower-than-expected active transportation mode share. This is likely due to a high number of longer, externally generated trips where visitors primarily travel by car before parking and completing their journey on foot.

In contrast, the highest levels of active transportation usage are observed along the two central commercial and entertainment corridors located just outside the tourist core. These areas are more likely frequented by local residents and feature land use patterns that are more supportive of walking and cycling.

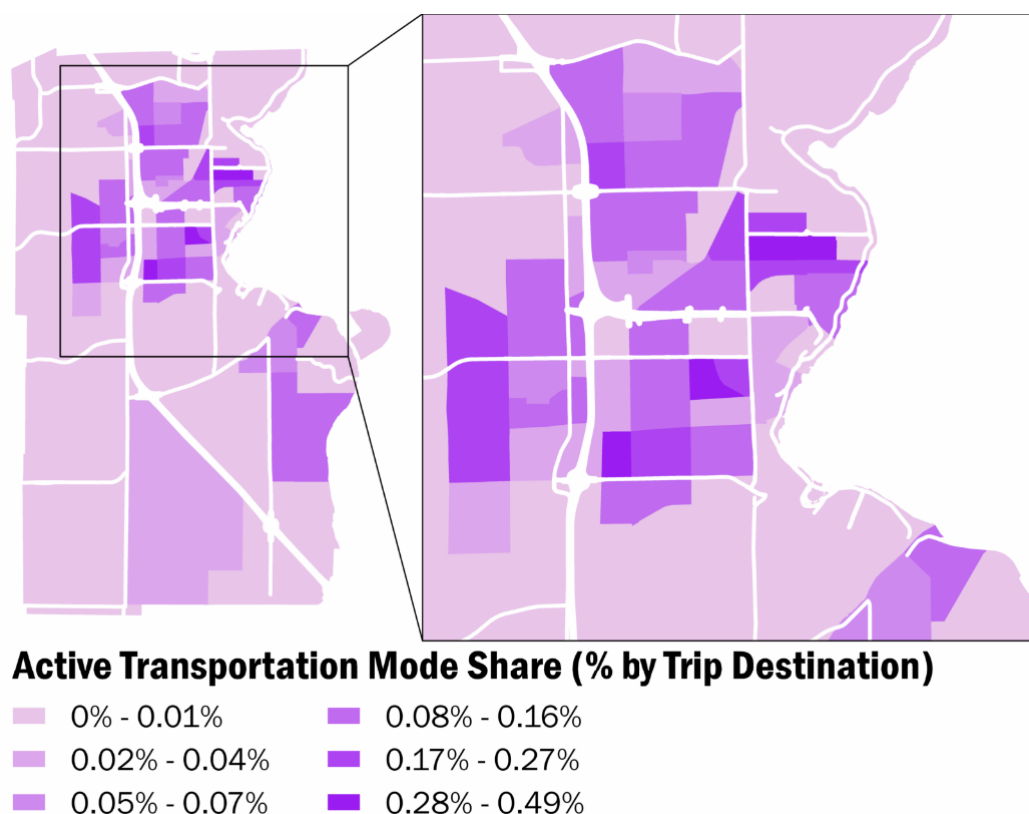


Figure 2.13. Proportion of Trips by Active Transportation (Source: Transportation Tomorrow Survey, 2022)

2.5.2 Short trips

While current transportation data may not fully capture the potential for active transportation in Niagara Falls, several factors—such as the lack of a connected and safe infrastructure network or the distance of typical commutes—may contribute to the low proportion of active commuters. The Transportation Tomorrow Survey offers a more comprehensive view by including all trip types, travel distances, and modes of transportation. In particular, trips of 5 km or less are considered to have the highest potential for being shifted to active modes. As shown

in **Table 2.4**, 53.5% of all trips fall within this distance. Notably, over 35% of work trips, 72% of school trips, and 57% of discretionary trips (such as errands and grocery shopping) are under 5 km—highlighting a strong opportunity to increase active transportation use.

Table 2.4. Total Trips and Short Trips under 5 km

Type of Trip	Total Number of Trips (all distances)	Number of Trips Under 5 km ¹	Percentage of Trips Under 5 km (%)
Home-based Work	52,409	18,645	35.6%
Home-based School	24,955	18,178	72.8%
Home-based Discretionary	93,906	54,158	57.7%
Non Home-based	28,317	15,817	55.9%
All Types	199,587	106,798	53.5%

Figure 2.14 shows areas with high densities of short trips by destination. These destinations are predominantly located in urban centres and central neighbourhoods, highlighting a strong potential for active transportation due to the shorter travel distances and supportive land use patterns.

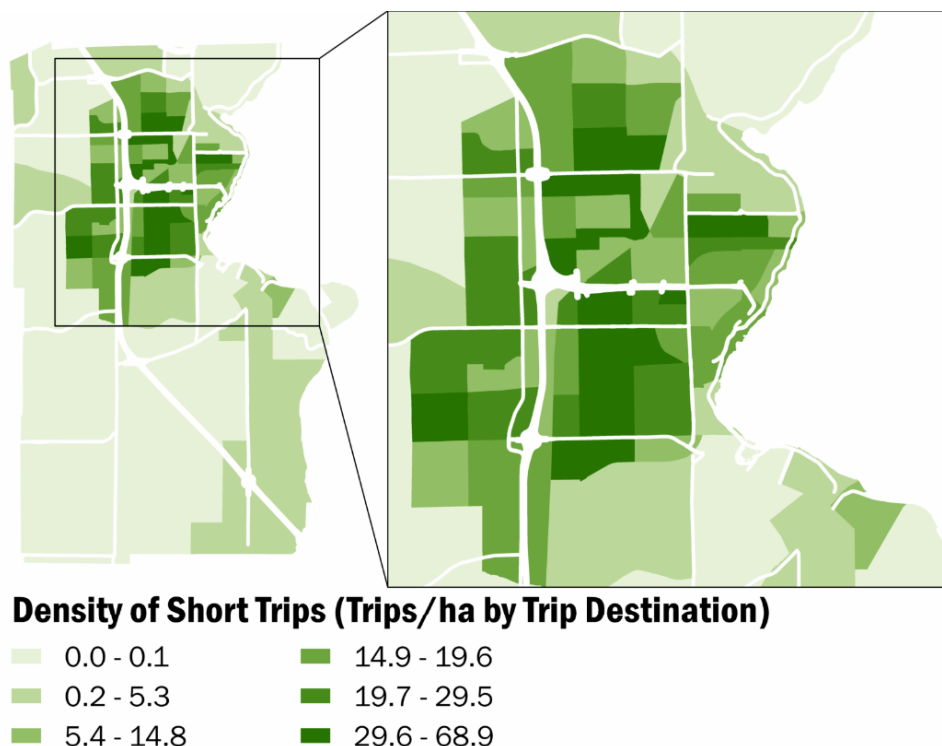


Figure 2.14. Density of Short Trips under 5 km (Source: Transportation Tomorrow Survey, 2022)

2.5.3 Low Vehicle Ownership Rates

The 2022 Transportation Tomorrow Survey highlights areas of the City where there are low vehicle ownership rates, as shown in **Figure 2.15**, which is an indicator for high potential for active transportation use. Low vehicle ownership is based on households with zero or one vehicle per household. Higher densities of households with low vehicle ownership are typically found in the urban area, with the highest densities found east of the QEW. Lower vehicle ownership rates are associated with fewer transportation options. Where there are two adults in a household, one may need to use different transportation modes for commuting or as caretakers of children. Increasing non-automobile transportation options in these areas provide improved accessibility to work opportunities and destinations.

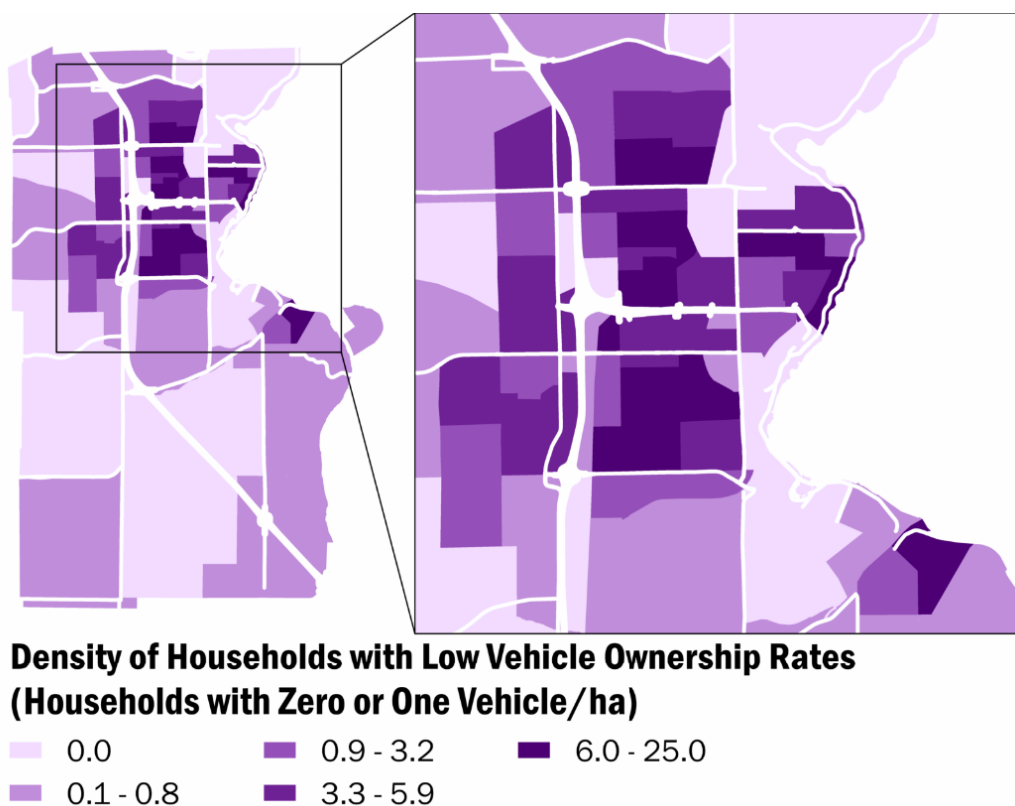
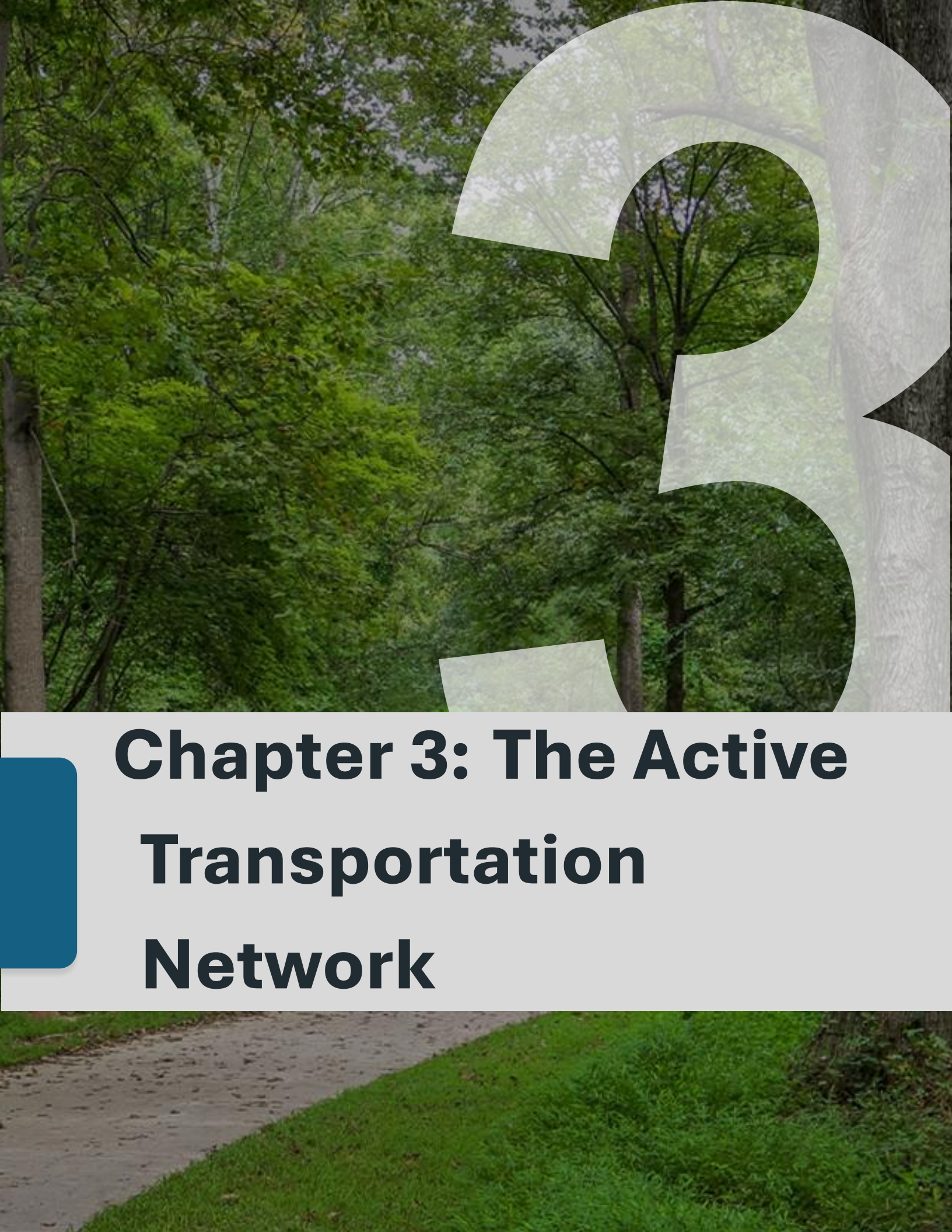


Figure 2.15. Low Vehicle Ownership Rates (Source: Transportation Tomorrow Survey, 2022)



Chapter 3: The Active Transportation Network

3.1 The Framework

The Trails and Active Transportation Network was developed through technical evaluations and input from stakeholders, city staff, and members of the public. The network was informed by the Trails and Active Transportation Network Framework which includes elements of the TATMP that are considerations and criteria for how the Trails and Active Transportation Network is developed. These elements include:

- The Network Hierarchy
- Route Selection Criteria
 - Urban and Rural Connectivity
 - On and Off-road Connectivity
- Proposed Facility Types
- Major Network Barriers
 - Regional Roads
 - Provincial Highways
 - Topographic and Water Barriers

Map 1a (Urban Area), Map 1b (Downtown), and Map 1c (Chippawa) illustrate the Trails and Active Transportation Network that was developed with the outlined framework elements. These maps show the route hierarchy of the Network, described in the next section, while the trails and active transportation facility categories recommended for each route are shown in **Section 3.4**.

3.2 The Network Hierarchy

The purpose of the development of an active transportation network hierarchy is to prioritize investments and create a cost-effective network throughout the City, based on the typical active transportation user and purpose of each type of route. Creating connected, equitable and comfortable routes that bring residents and visitors to key destinations will have a higher degree of impact on mobility patterns in Niagara Falls than spreading investments out without consideration being given as to how users will experience those corridors. As a result of this user-focused approach, the City will be able to maximize its return on investment as it proceeds with implementation.

A network hierarchy does not prescribe specific facility types to each route, but rather describes how the route may be used to guide implementation.

3.2.1 Route Types

To create a safe, accessible, and functional network for Niagara Falls, four types of active transportation routes are recommended.

Spine Routes

Spine Routes function as major routes that provide residents and visitors access to most destinations in the City of Niagara Falls. They seamlessly connect to key destinations and amenities such as employment centres, commercial areas, schools, parks, and tourist attractions. Most Spine Routes are located along arterial or collector roadways, as they provide the most direct routes to typical amenities and key destinations. Major existing and proposed trails throughout the City are also included as Spine Routes since they provide good connections across the City. Spine Routes should be designed to accommodate and attract people of *All Ages and Abilities*, creating a comfortable experience to walk, bike, or wheel.

Spine Routes often follow roads with higher traffic volumes and speeds, which often requires physical and spatial separation between active transportation users and motor vehicles. Typical facility types may include multi-use paths, major trails, wide sidewalks, curb-separated cycle tracks, and protected bicycle lanes. Protected intersections at major intersections and continuous crossings at minor intersections and driveways may be considered to help to create an environment where active users feel safe and comfortable. Controlled pedestrian crossovers (PXOs) can be used at unsignalized intersections or where trails cross major roadways.



Figure 3.1: Rendering of a Typical Spine Cross-Section

Connector Routes

Connector Routes are designed to improve connectivity between the Spine Routes by closing gaps in the network, therefore will typically be on local and collector roadways that have lower traffic volumes and posted speeds than Spine Routes. This allows for the use of facilities where

there is less need for physical separation between active users and motor vehicles. Typical facility types include painted bicycle lanes but may also include cycle tracks or multi-use paths, depending on the volumes and speeds of vehicle traffic.

Connector Routes are not always designed with physical separation from traffic, due to lower typical motor vehicle speeds and volumes. In these cases, Connector Routes can still be used for short distances to access Spine Routes with little exposure to traffic.



Figure 3.2: Rendering of a Typical Collector Cross-Section

Local Routes

Local Routes function as local connections on neighbourhood streets that have low traffic volumes and low speeds. They can also serve as alternative routes for users who are not as comfortable travelling on Connectors and Spine Routes. Local Routes should be suitable for users of *All Ages and Abilities*, but only where the design reduces the speed differential between all road users, and vehicle priority has been reduced.

Vehicle operating speeds on Local Routes should be limited to 30 km/hr, which can be accomplished through traffic calming measures to create safe conditions for mixing vehicles and other road users. These measures may include speed cushions, chicanes, roadway narrowing or centreline bollards. Along with traffic calming, local routes may include traffic diversion measures such as modal filters, one-way streets, and selective closures to reduce traffic volumes where there may be short-cutting traffic through neighbourhoods. Where speeds

are already low, stop signs can be placed on side streets to help active transportation users maintain a steady pace.



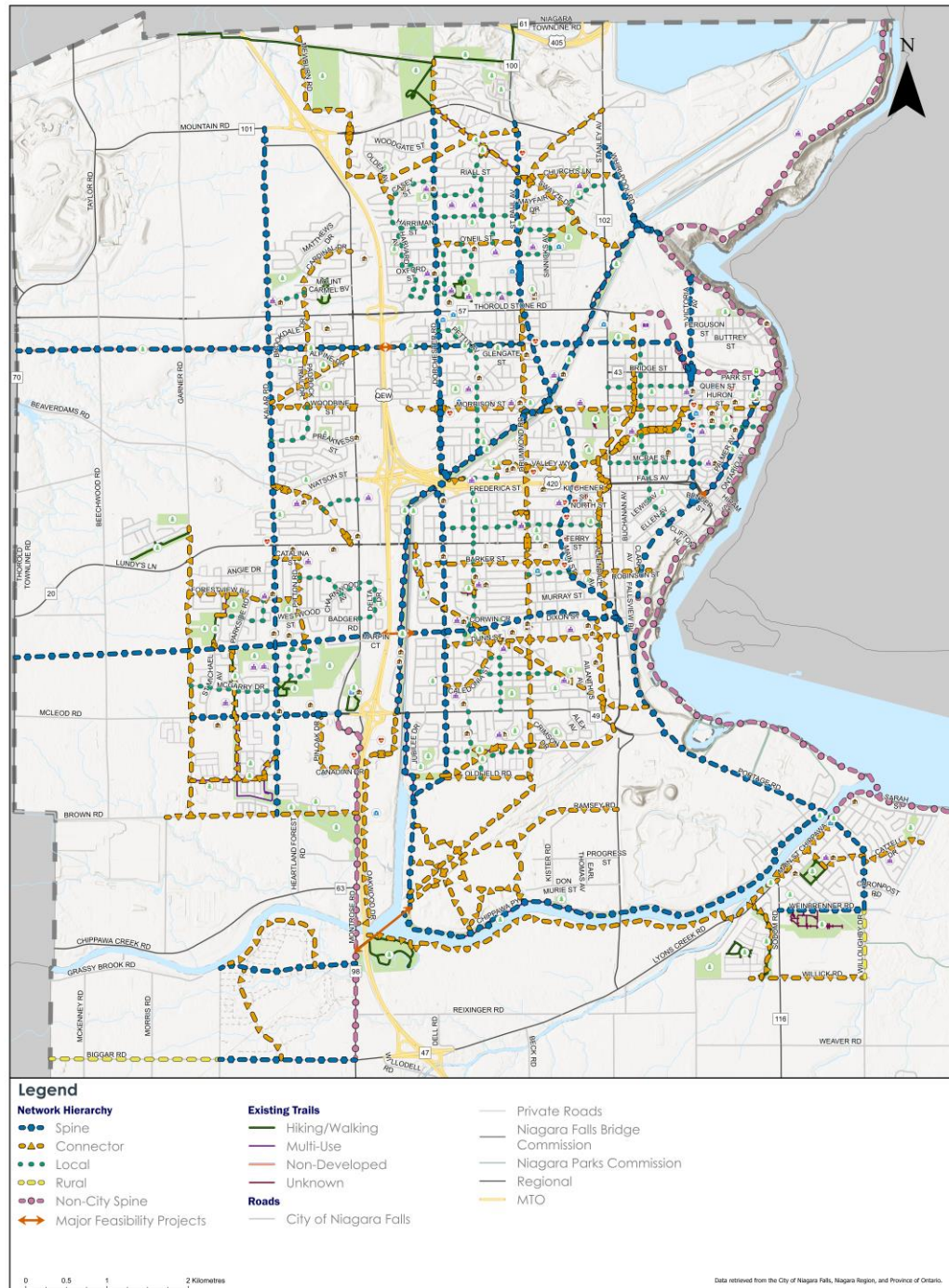
Figure 3.3: Existing Local Route with Traffic Calming Measures

Rural Routes

Rural Routes provide active transportation connections beyond the urban areas, connecting those who live in rural areas and adjoining communities. Rural Routes may be used for both recreation and utility purposes, providing access to agricultural/rural employment areas and neighbouring municipalities, often supporting cycle tourism.

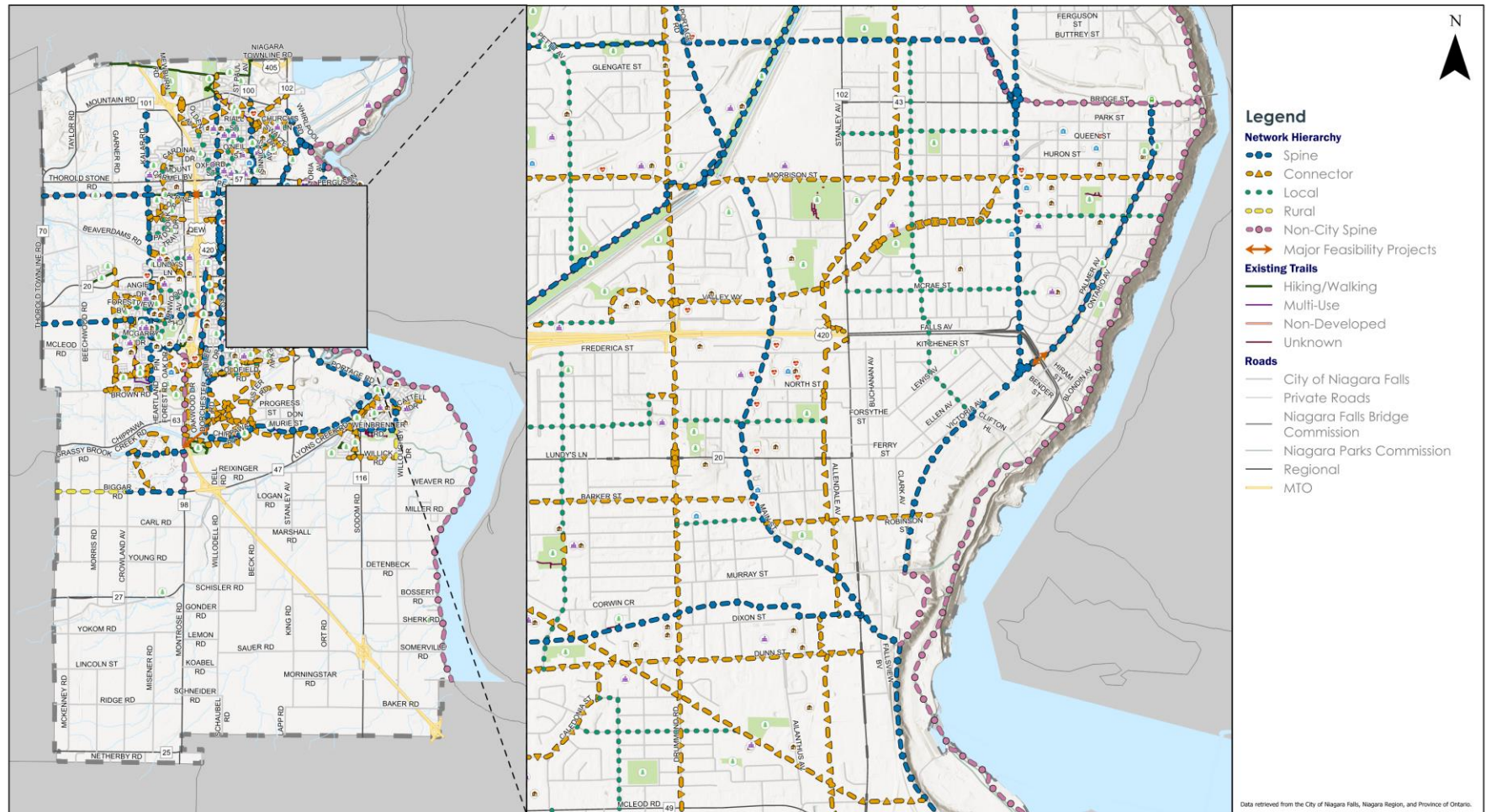
Rural Routes are typically recommended to include a paved shoulder (with or without a buffer) or a separate multi-use path depending on the characteristics of the roadway and the anticipated usage of the route. Vehicle operating speeds are generally higher on rural roads, leading to the importance of physical separation from vehicle lanes to create a more comfortable and safe facility.

Map 3.1a: Route Hierarchy - Urban Area



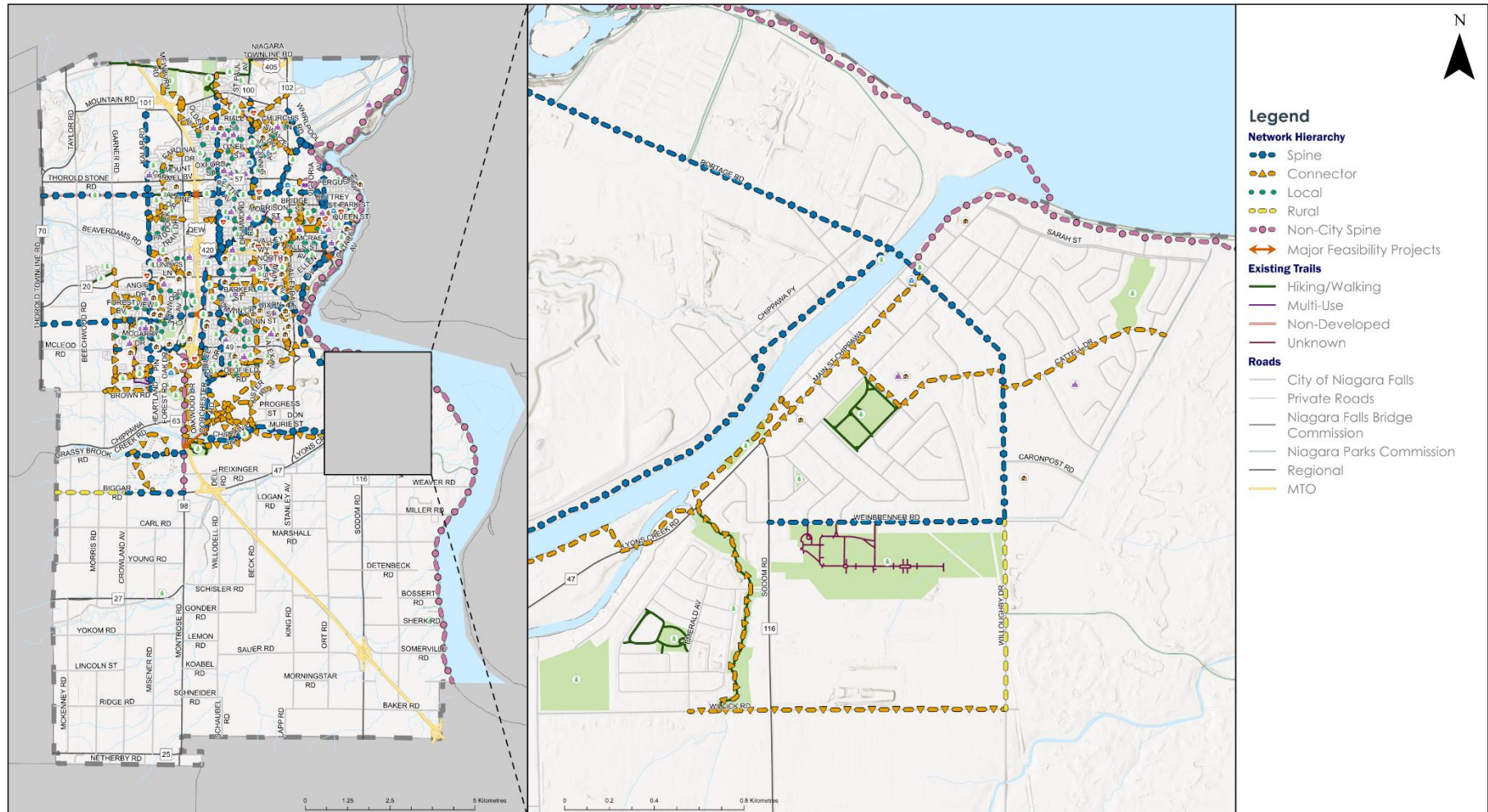
Map 3.1a: Route Hierarchy – Urban Area

Map 3.1b: Route Hierarchy - Downtown



Map 3.1b Route Hierarchy - Downtown

Map 3.1c: Route Hierarchy - Chippawa



Map 3.1c Route Hierarchy - Chippawa

3.3 Route Selection Criteria

Route selection criteria were used to identify candidate routes and to prioritize future investments into trails and active transportation projects. Criteria for route selection are based on the Trails and Active Transportation Network development guidelines and established best practices, while respecting the local context.

It is important to note that while the criteria will form the foundation of candidate route evaluation, they should not preclude projects that have a high level of public demand, nor those that have been identified in previous planning processes, from moving forward.

The route selection criteria used to develop the Trails and Active Transportation network in the City of Niagara Falls include the following:



Network Connectivity: Trails and active transportation routes should provide a consistent user experience, with comfortable, continuous routes throughout Niagara Falls. Utilitarian active transportation users prioritize route directness more than motorists because a longer trip requires more time and physical exertion. Routes that close gaps in existing routes or provide an opportunity for a consistent active transportation corridor should be prioritized.



Safety and Accessibility: Trails and active transportation routes should be designed to improve safety and enhance accessibility. Routes are prioritized based on their degree of safety improvement compared with current conditions.



Social and Economic Factors: Social and economic trends shape the behaviours and habits of residents, workers, and visitors within a community. It is crucial to examine factors like age demographics, income levels, employment status, and car ownership, as they can help explain current and future travel patterns. Active transportation routes will be more effectively utilized if they are supporting the contextual trends of the location they are based in. In the City of Niagara Falls, this means ensuring they are equitable and accessible for all community members and accommodating to the City's high tourist rates.



Attractiveness: Active transportation facilities should take advantage of an area's local scenery, particularly for a community with tourist destinations and natural features, such as the falls, escarpment, Niagara River, and Welland River. They should provide connections to parks and green spaces, and enhance opportunities for residents and visitors to engage with natural areas. Urban environments often have unique characteristics such as vibrant main streets (e.g. Clifton Hill) and areas with local business that should also be taken advantage of as key destinations accessed by active transportation facilities. Scenic active

transportation corridors have a high potential for increased usage, so it is beneficial to capitalize on opportunities to improve the public realm as well.



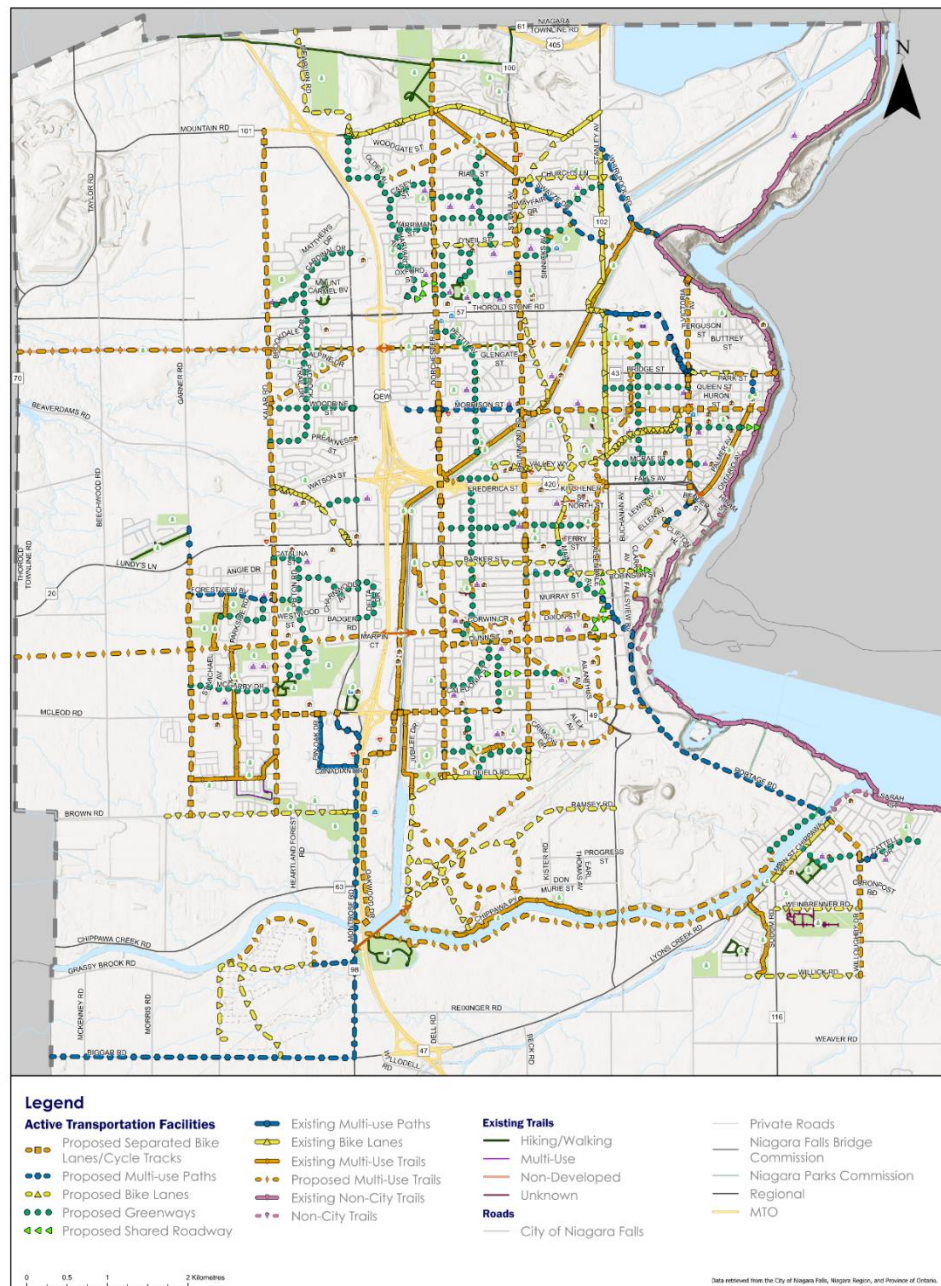
Cost and Feasibility: Projects should be evaluated based on the level of capital investment required, their alignment with existing capital works projects and property ownership constraints to ensure that proposed routes have a high degree of constructability during the lifespan of the Trails and Active Transportation Master Plan. Large barriers that will impact constructability based on significant cost include the presence of bridges, watercourses, highways, and topography (steep grades).

By evaluating potential routes through chosen criteria, routes and investments in trails and active transportation infrastructure will support active transportation and advance the City's strategic goals.

3.4 Proposed Facility Categories and Types

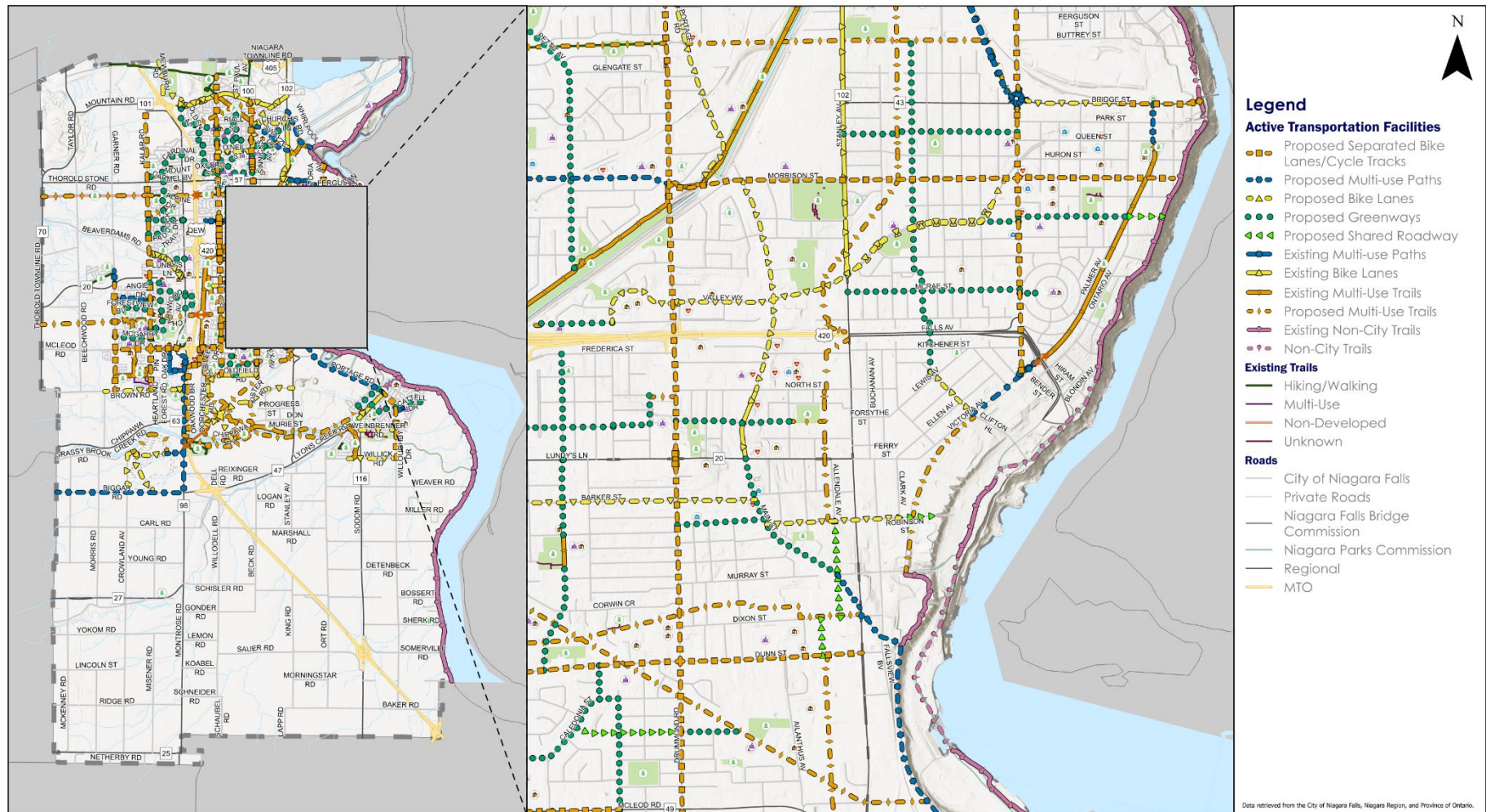
The proposed Trails and Active Transportation Network is made up of a variety of facility categories and types, as assigned through the network development process. To support safer, comfortable and more convenient active travel, each facility type has their own design standards and considerations which reflect the needs of the end user. The proposed facilities in **Maps 3.2a, 3.2b, and 3.2c** are presented as facility types, which fall into three main categories: Physically Separated Bikeways, Designated Operating Space, and Shared Operating Space, which are further described below.

Map 3.2a: Facility Types - Urban Area

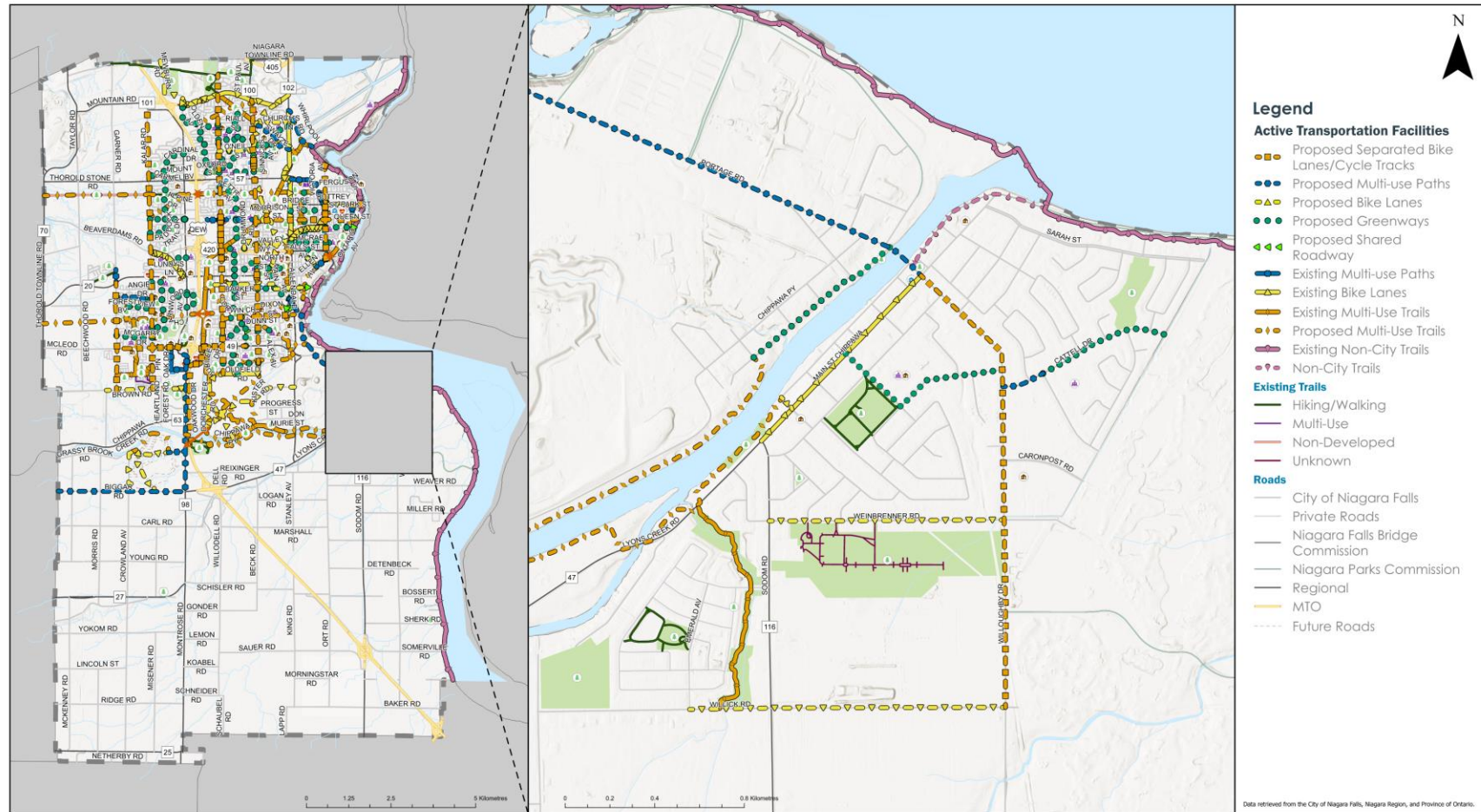


Map 3.2a Facilities Types - Urban Area

Map 3.2b: Facilities Types - Downtown



Map 3.2c: Facilities Types - Chippawa



Map 3.2c Facilities Types - Chippawa

On-Road Facility Types

Listed below are some key guidelines that inform the design of active transportation facilities. Ontario Traffic Manual Book 18: Cycling Facilities provides a fulsome review of each facility's recommended ideal and constrained design configuration for a safe and comfortable user experience.

Physically Separated Bikeways

Physically separated bikeways refer to cycling facilities that are separated from vehicle traffic by horizontal buffers and physical barriers that restrict vehicle encroachment. This facility type is appropriate for streets with moderate to high vehicle volumes and speeds, which require permanent treatments that offer cyclists the highest level of comfort and protection.

Separated Bike Lanes

Protected Bike Lanes are dedicated bikeways that are physically separated from motor vehicle traffic by a barrier that restricts encroachment of traffic. Separation techniques can vary widely, from flex bollards to pre-cast concrete curbs or planters.

Separation techniques include: parking lane, flex bollards, planters, concrete curb(pre-cast or cast-in-place), rubber curb, concrete barrier, guide rail.

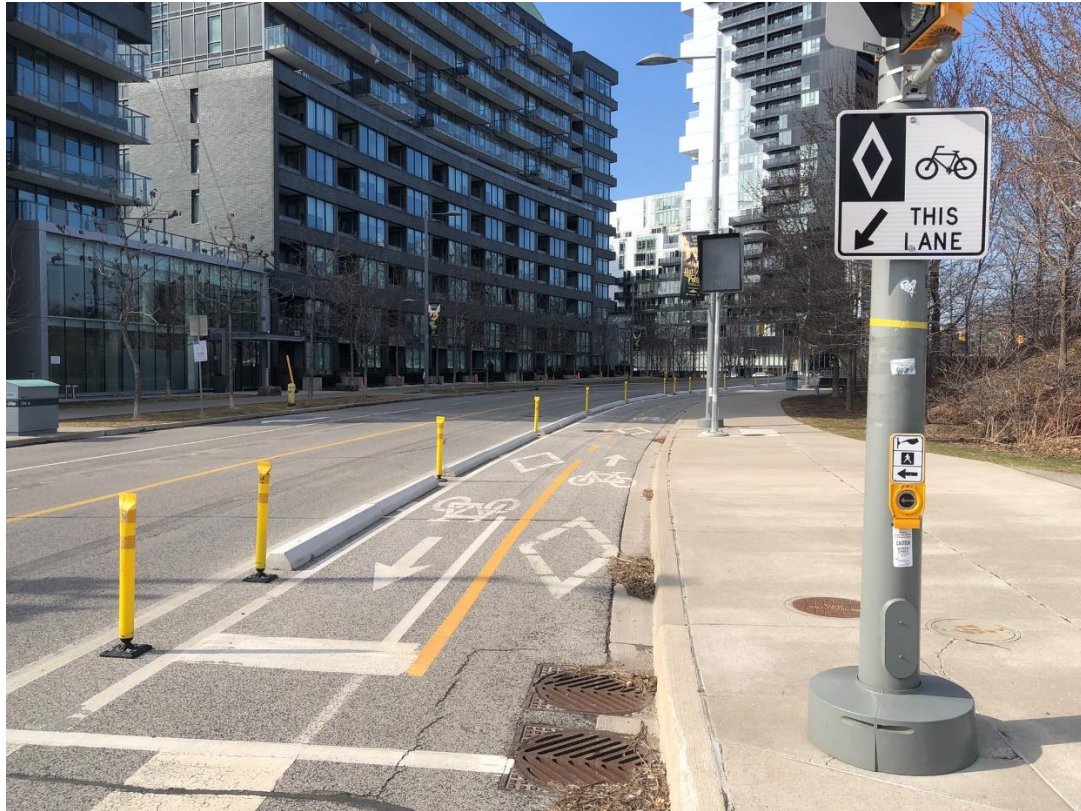


Figure 3.4: Physically Separated Bike Lanes

Installation of separation elements should be continuous, only including gaps as needed for access points, curbside activity, transit stops, and drainage.

Cycle Track

Cycle tracks are a type of separated bike lane located within the boulevard, offering both horizontal and vertical separation from motor vehicle traffic.

- Vertical separation is often provided by using a curb, which may be at the same level as the sidewalk or at an intermediate level between the roadway and the sidewalk.



Figure 3.5: Cycle Track with Curb Separation from Vehicle Lane

- Horizontal separation is achieved by creating a buffer from vehicle lanes. This can be done using a splash strip, grass strip or median, and street furniture.

It is important to ensure that any separation technique from the sidewalk is accessibly designed. This can include a cane-detectable curb, a continuous detectable tactile buffer strip, or a landscape buffer.



Figure 3.6: Landscape buffer separation

This combination of vertical and horizontal separation creates a safer and more comfortable space for cyclists. While cycle tracks often run parallel to the sidewalk, they are designated exclusively for bicycle use.

In-Boulevard Multi-Use Path

An in-boulevard multi-use path is a two-way facility that is separated from the roadway by both a curb and a buffer. It is shared use by pedestrians and cyclists.

Vertical separation is provided with a curb and horizontal separation is typically provided by a grassy boulevard or paved splash strip.



Figure 3.7: In-Boulevard Multi-Use Path

The configuration and spacing of MUPs is dependent on the volume of users, with volumes higher than 100 users per hour, a MUP recommended to be 4.0 m wide, and at minimum 3.0 m wide. While MUPs can be designed to meet the context of the area, consistency of configuration type (spacing, width etc.) is desired throughout the entire facility due to the variety of users this it supports, especially in areas with high volume use.

Designated Operating Space

Cycling facilities that are classified as 'designated operating space' refers to areas within the street right-of-way that are reserved exclusively for cyclists, without any physical barriers separating them from motor vehicle traffic. This type of facility is best suited for roads that experience lower traffic volumes and slower vehicle speeds.

Conventional Bicycle Lane

A conventional bicycle lane is a designated section of the roadway, defined with pavement markings and signage indicating its use is primarily or exclusively for people riding bikes.

Conventional bike lanes are separated from vehicle traffic by a white painted line and is suitable for one-way travel only.



Figure 3.8: Painted Bike Lane

Buffered Bicycle Lane

A buffered bicycle lane is similar to conventional bicycle lane, but provides painted buffer for additional horizontal separation from vehicle traffic without any vertical elements.



Figure 3.9: Buffered Painted Bike Lane

Shared Operating Space

Cycling facilities classified as ‘shared operating space’ are designed for both cyclists and drivers to use the same traffic lanes, typically marked with pavement symbols or signage. These facilities are best suited for streets that have low traffic volumes and speeds, minimal or no truck activity, and where traffic calming features can be added.

Shared Street

A shared street allows for mixed traffic operation between all road users, with supportive signs and pavement markings to improve wayfinding and promote safer interactions between cyclists and motorists. Supportive signing should especially be included in areas with on-street parking.



Figure 3.10: Shared Street Space with Traffic Calming Measures

It is preferred to provide narrowed travel lane with traffic calming techniques and use signage and pavement markings that encourage cyclists to ride in the centre of the lane to minimize likelihood of unsafe passing by motorists. Wider travel lanes that allow for side-by-side operation are not recommended as it may encourage faster motor vehicle speeds and increase in heavy vehicle traffic

Neighbourhood Greenway

Neighbourhood greenways, also known as neighbourhood bikeways or quiet streets are low-speed, low-traffic roads designed to make walking, cycling, and rolling safer and more comfortable. These streets are shared by both active transportation users and motor vehicles. They remain accessible to local residents and allow on-street parking, but they discourage cut-through traffic and speeding by using traffic calming and diversion strategies.



Figure 3.11: Neighbourhood Greenway

To achieve the creation of a neighbourhood greenway, there are key features that must be considered to prioritize active transportation users and create a more comfortable and safer environment for people walking and cycling.

- **Traffic reduction:** Where daily vehicle volumes exceed 2,500, implement measures to reduce them to below 1,500 and ideally under 500. To achieve this reduction, contextually appropriate traffic diversion measures like median islands, diagonal diverters, and full or partial road closures can help limit through traffic.
- **Speed management:** Where vehicle speeds are greater than 30-40 km/h, implement features to reduce speeds to 30-40 km/h or below using traffic calming features such as speed humps, raised crosswalks, curb extensions, and narrower lanes. Quick-build options like bollards, centreline speed signage, and alternating side parking can also be used to create a chicane effect and slow traffic.
- **Priority:** At intersections with minor streets, give cyclists the right-of-way by removing stop signs for bikes and adding stop control for motor vehicles. This should be paired with vehicle access restrictions at the intersection to reinforce cyclist priority and safety.
- **Signs and pavement marking:** Use signage and road markings to reinforce the Greenway's role as a priority route for active transportation. These visual cues should support physical design elements and clearly communicate that the space is predominately intended for people walking, cycling, and rolling.

Paved Shoulders

A paved shoulder is a section of the roadway next to the main travel lane that can accommodate cyclists, pedestrians, and temporarily stopped vehicles, including during emergencies.

Commonly found on rural roads, paved shoulders may be considered suitable for cycling if they offer the following:

- enough operating space (1.5- 2.0 m or 1.2 minimum without a buffer)
- are separated from traffic by pavement markings
- maintain a smooth, debris-free surface, avoiding dangerous features such as edge drop-offs

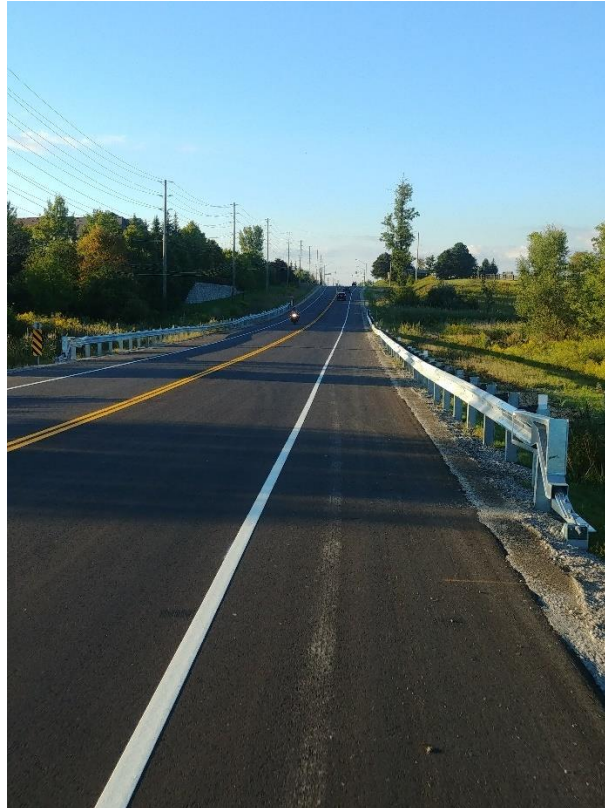


Figure 3.12: Paved Shoulder

However, paved shoulders do not provide the same level of exclusivity, protection, or consistent quality as dedicated separated bikeways. In some cases, a buffer may be added to increase the distance from vehicle traffic and reduce the impact of wind turbulence from large vehicles.

3.4.1 Trail Types

Listed below are some key guidelines that inform the design of trails, supplementary to the City's established trail design guidelines.

Multi-use Trails

Multi-use Trails provide off-road options for users who want to explore the city's natural beauty. These Trails are also classified as Spine and Connector Routes, and connect directly with the on-road routes to create a seamless network that takes advantage of the existing trails. They are comfortable and accessible trails, making them popular for people who walk, bike and wheel, and can accommodate users of *All Ages and Abilities* by virtue of their location being off road and away from vehicular traffic.

Multi-use trail design features that should be considered include:

- The trails should be designed to accommodate higher volume of different users, with a desired width of 3.5 – 4.0m to facilitate comfortable passing operations.
- All trails should be paved, allowing for four-season use by people walking, cycling and wheeling in the City.

Ontario Traffic Manual Book 18: Cycling Facilities provides a more fulsome review of multi-use trails recommended ideal and constrained design configuration for a safe and comfortable user experience.



Figure 3.13 The Olympic Torch Run Legacy Trail, an example of a Multi-use Trail in Niagara Falls

Hiking / Walking Trails

Hiking and Walking Trails are generally located in parks or natural areas and should provide comfortable spaces for recreational activity, and accommodate users of *All Ages and Abilities* by virtue of their location away from vehicular traffic. While these trails are not major routes for utility and transportation purposes, they can be used as key connectors for users who prefer quieter routes and or differing mobility patterns – bringing them to various destinations on and off of Spine and or Connector routes. The widths of Hiking and Walking Trails vary based on location and user volumes. The surfacing could be natural soil, granular, or paved.

Depending on their location, consideration should be made for lighting and enhanced security features such as call boxes to improve comfort at night.



Figure 3.14: Emergency Call Pole

3.5 Major Network Barriers

Several major barriers to creating a well-connected active transportation network exist within the City of Niagara Falls. Typical barriers to active transportation often include topographic

challenges, watercourses, and highways. These barriers often require significant investments and complex coordination with additional agencies and levels of government for approval. The major network barriers within the City include the following.

3.5.1 Regional Roads

Major road corridors, such as major collectors and arterial roads, are essential for urban mobility, serving not only motor vehicles but also playing a critical role in moving non-motorized users to their destinations efficiently. However, their scale and design often prioritize vehicle flow, multiple vehicle lanes, and higher speeds. These roads are often under the jurisdiction of Niagara Region, requiring coordination with the Region for the design and approval of dedicated active transportation facilities and intersection improvements where City routes cross Regional Roads. The following Regional roads are partially or fully within the City of Niagara Falls:

- Lundy's Lane & Ferry Street, from Stanley Avenue to Thorold Townline Road
- McLeod Road, from Montrose Road to Stanley Avenue
- Thorold Stone Road, from Stanley Avenue to Taylor Road
- Montrose Road, from Mountain Road to Netherby Road
- Mountain Road, from Taylor Road to Stanley Avenue
- St. Paul Avenue, from Mountain Road to Niagara Townline Road
- Stanley Avenue, from Lyons Creek Road to Niagara Townline Road
- Lyons Creek Road, from Montrose Road to Sodom Road
- Sodom Road, from Lyons Creek Road to city limits north of Netherby Road

3.5.2 Provincial Highways

Additional major road corridors are under Provincial jurisdiction. Provincial highways present additional challenges since they are often required to be grade separated at crossings and cannot include parallel active transportation facilities within the highway right-of-way. The QEW and Highway 420 present these crossing challenges in the City and would require grade separated crossings.

Due to the expensive nature of constructing standalone cycling infrastructure on major corridors, some proposed routes on major corridors will have to be planned for and implemented in the long-term as coordinated construction projects arise. These long-term projects in the network include:

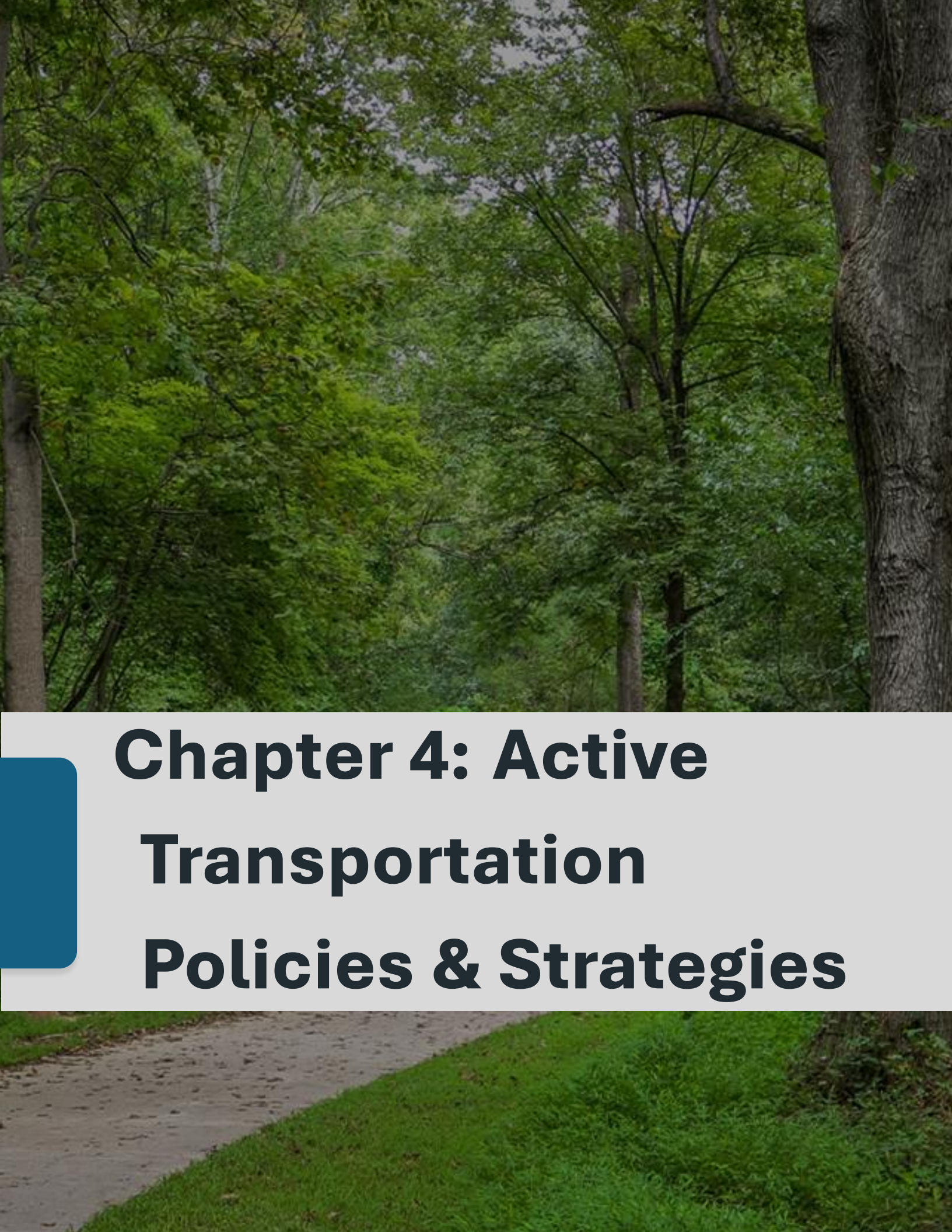
- QEW crossing at NS&T Trail corridor
- QEW and Hydro Canal crossings from Montrose Road to Dorchester Road
- QEW and Welland River crossings from Montrose Road to Chippawa Parkway

- Dedicated active transportation crossing over Falls Avenue parallel to Palmer Avenue, connecting the Olympic Torch Legacy Trail to Victoria Avenue

3.5.3 Topographic and Water Barriers

The geographical barriers of rivers, canals, and topography also present challenges. The Welland River has limited existing crossing opportunities, which have bridges with limited widths. Many crossings of the Hydro Canal are major roads and experience high traffic volumes. These barriers can be addressed by including protected active transportation facilities and sidewalks in the reconstruction of crossings, but they may not be reconstructed in the near future. Dedicated active transportation bridges may be considered if funding is available.

The Niagara Escarpment presents a unique challenge with the topographic difference. Steep grades present a challenge for cyclists, but new technologies such as e-bikes can help to make these grades less challenging for more users. When these roads are reconstructed, they should include dedicated or protected cycling facilities. A wider cycling facility should be considered in the uphill direction, recognizing that cyclists will have different ability levels and faster cyclists may want to pass slower cyclists in the uphill direction.



Chapter 4: Active Transportation Policies & Strategies

4.1 Supporting Active Transportation Through Policy

Supporting the TATMP will require the City of Niagara Falls to enable active transportation through both physical and social infrastructure. To start this process, the City needs to adopt a creative and collaborative approach between the City, the Region and local champions consisting of advocates and supportive businesses, to effectively implement the proposed pedestrian and cycling networks identified in the TATMP. As physical infrastructure projects are developed to make cycling, walking, and rolling easier, the City should compliment the projects with initiatives that encourage and motivate new and existing active transportation users. This will enhance the value of the larger and more costly investment.

The following policies aim to effectively support the implementation of the TATMP and match the needs of the City of Niagara Falls. They provide direction for other types of physical infrastructure not yet discussed in the TATMP and enable the development of social infrastructure for active transportation.

These policies directly reflect the vision statement and objectives of the City of Niagara Falls TATMP and are aligned with the existing policy framework of the City. These recommendations aim to enhance and align with the existing design guidelines, ensuring a cohesive and comprehensive approach.

The following six policies target key elements for supporting the growth and uptake of active transportation within the City of Niagara Falls. These six policies include actions aimed at:

1. The planning and design of the active transportation network
2. Maintaining the trails and active transportation facilities
3. Active transportation asset management
4. Active transportation demand management policies for future developments
5. Enhancing supportive amenities throughout the trails and active transportation network, including inter-modal hubs
6. Suggestions for incorporating AT infrastructure into future development charges for new developments or redevelopments

This chapter provides details on how each policy and its recommendations can help support active transportation in the City of Niagara Falls.

4.2 Active Transportation Supportive Amenities

Amenities that support active transportation are essential to make active transportation a desirable mode of transportation for many users. Amenities should be provided both throughout the network and at the start and end of trips. The policies for amenities are separated into these two location types.

4.2.1 Bicycle Parking and End of Trip Facilities

Bicycle parking and end of trip facilities provide essential facilities for active transportation users at their destinations. End of trip facilities typically include showers, lockers, change rooms, repair stations, and bicycle cleaning stations. Bicycle parking consists of two categories based on user types:

- **Long-term:** Should be a secure and sheltered place to store a bicycle. Long-term bicycle parking is usually located within buildings and should be easy to access for cyclists. Users of long-term parking often value security and weather protection as their bicycles can be left for several hours or more. Common user types consist of employees, transit users and residents. Common types of parking include a dedicated room within a building, secure enclosures within a parking garage, and bike lockers. Long-term bicycle parking within multi-storey buildings should be located on the ground floor or as close to the ground floor as possible.
- **Short-term:** Should be easy and in a convenient location for visitors to secure their bicycle, typically near building entrances. Users of short-term parking are usually people visiting businesses and institutions, typically lasting up to two hours. Common types of short-term bicycle parking include the inverted U and post & ring style.



Figure 4.2 Long-term sheltered bike parking



Figure 4.1 Short-term bike parking

Typical bicycle parking rates, based on best practises, are shown in **Table 4.1**.

Table 4.1 Typical bicycle parking rates

Use	Bicycle parking rate
Multi-residential uses	0.7 – 0.8 long-term spaces per unit 0.1 short-term spaces per unit
Commercial Uses	1.0– 2.0 long-term spaces per 1,000m ² (GFA) 2.0 short-term spaces per 1,000m ² (GFA)
Office Uses	1.0– 2.0 long-term spaces per 1,000m ² (GFA) 1.0 – 2.0 short-term spaces per 1,000m ² (GFA)
Industrial Uses	0.5 – 1.0 long-term spaces per 1,000 m ² (GFA)
Institutional Uses	1.0– 1.5 long-term spaces per 1,000m ² (GFA) 1.0 – 1.5 short-term spaces per 1,000m ² (GFA)
Elementary/Secondary Schools	0.6 – 1.0 long-term spaces per 1,000m ² (GFA) 0.6 – 1.0 short-term spaces per 1,000m ² (GFA)
Post-Secondary Schools	6.0 – 10.0 long-term spaces per 1,000m ² (GFA of offices & classrooms) 2.0 – 3.0 short-term spaces per 1,000m ² (GFA of offices & classrooms)

Notes:

1. GFA = Gross Floor Area

2. Best practices based on rates from the Town of Ajax, City of Mississauga, City of Ottawa, and City of Toronto.

A minimum of 5% of long-term bicycle parking spaces should be designed to accommodate larger or accessible bicycles, including cargo bicycles, adaptive bicycles, or tricycles (including e-bicycles). Bicycle parking spaces for these larger bicycles should be horizontal and located on the ground (not stacked) with a space at least 1.5 m wide and 2.4 m long.

End of trip facilities are typically provided where five or more long-term bicycle parking spaces are required. Showers and changerooms are typically required when non-residential uses are present in a building. Bicycle repair and cleaning stations are recommended for all uses with five or more long-term bicycle parking spaces.

4.2.2 Network Amenities

Network amenities are essential elements that are incorporated throughout a network to create a functional, user-friendly and attractive network for users. The location of network amenities should be placed strategically throughout the City of Niagara Falls to enable users to improve network navigation and enhance engagement with the network safely and securely. The implementation of network amenities can enhance connectivity throughout the City and the surrounding areas, as well as draw in more users from the surrounding areas to support the municipality's local economy.

Table 4.2 summarizes recommended amenities, with guidance on appropriate spacing and placement across the network outlined in the follow section.

Table 4.2 Amenity Types

Amenity	Description
Wayfinding	Wayfinding can be incorporated throughout the network to offer navigation guidance to users. Guidelines on wayfinding placement will be provided through the Wayfinding System Strategy.
Washrooms	Washrooms can be portable or permanent structures. Providing gender neutral washrooms with floor to ceiling stall coverage is recommended to allow for all users to feel comfortable.
Potable water	Potable water can be a simple hose bib / tap or a bottle fill station. Automatic water filling stations are recommended over drinking fountains based on sanitary protocol. Furthermore, local businesses could be encouraged to enroll in programs to improve access to potable water while helping to promote businesses to residents and visitors.
Waste and Recycling Bins	The containers provided can range from standard barrel bins to more innovate models with restricted lids and sensors to indicate when emptying is required. Typically provided at the start of infrastructure and rest stops. At least 1 m of space should be provided both horizontally and laterally from the bin to allow for standing room. Both bins should be placed in periphery to and facing the route, mounted on hard surfaces that are cane-detectable and on visually contrasting material. They should only be placed in areas where City staff that are responsible for emptying them can access them.
Public Bicycle Parking	Bicycle parking should be provided at hubs and key destinations as short-term bicycle racks.

Bicycle parking (e-bikes, e-scooters)	E-bikes and e-scooters are generally allowed and can be accommodated where conventional bicycles can park. E-bikes that fall outside of the Highway Traffic Act definition of ‘power-assisted’ bicycle must park on the street like motorcycles do. In some cities such as the City of Calgary, e-scooters are permitted to park in the furniture zone in line with bicycle racks. These areas are usually designated with paint and parking symbols.
Bicycle repair stands	Bicycle repair stands commonly include tools for conducting basic maintenance and minor repairs, such as fixing a flat tire. Key elements to consider include: • Allowing for the bike to be hung for ease of use • Using durable construction and providing weather protection • Securely attaching tools and air pump to prevent theft
Micromobility charging stations	Standard charging outlets are appropriate for e-bikes, e-scooters and compatible mobility devices. Adequate, even and smooth space should be provided adjacent to the outlets to allow for at least two devices to charge at the same time.
Mobility device charging stations	Public mobility device charging stations can charge specific devices such as mobility scooters and powered wheelchairs. These charging stations differ from standard outlets that can charge micromobility devices such as e-bikes and e-scooters. Adequate, even and smooth space should be provided adjacent to the outlets to allow for at least two devices to charge at the same time.
Public Art	Can exist in a wide variety of forms. Furniture at minor and major hubs can provide opportunities for public art. Using shelters, benches, other furniture, and wayfinding posts. Public art should not compromise functionality or safety of the active transportation infrastructure.
Lighting	Lighting should be provided throughout the network as it offers a level of safety and comfort to minimize potential hazards due to obscured visibility. Appropriate illumination levels for cycling and pedestrian facilities are based on the level of pedestrian or cyclist activity as outlined by TAC Guide for Design of Roadway Lighting (2006) and OTM Book 18 guidance on amenities such as lighting. If a path is not going to be entirely lit, entrances, exits, and intersections should be lit at minimum. If possible, signage should

	be present indicating if a route is or isn't fully lit in areas with low volume and out of sight lines (such as trails through parks, rural areas, back streets etc.)
Rest and Refuge Area	Formal bench seating or seating areas that include elements like tables are preferred, especially within settlement areas and in areas where accessibility is of greater need. In areas with a lower density of destinations, providing less formal seating options is possible. Using natural material, such as flat-topped stones or grass seating areas with trees for shade. It is important that the presence of benches or seats of any kind remains even on both sides of the path to eliminate crossing over. In exterior locations providing a concrete pad directly adjacent to a bench is crucial to allow for mobility users to sit beside the bench and or use the bench if it is accessible. In this scenario, no arm rest should be provided to allow transferring to and from a mobility device to the bench.
Climate Protection	Climate protection can include shared shelters and tree planting, which should both be outside of the lateral clearance area of an active transportation facility.

Note: All amenities should only be placed in areas where City staff that are responsible for their upkeep them can access them.

4.2.3 Network Amenity Placement

Throughout the active transportation network, there will be three general locations in which amenities should be placed: along routes, at minor hubs, and at major hubs.

Major Hubs

Major hubs often take advantage of existing city facilities where servicing is provided for potable water and charging, or where servicing could be provided. Major hub locations should include parks, major trail heads, libraries, community centres, schools and higher order transit stations. Efforts should be made to establish independent major hubs or in partnership with the Region of Niagara in central locations if these amenities cannot be provided at a City owned facility.

Minor Hubs

Minor hubs are comparatively smaller than major hubs and are located at/as close as possible to where two Spine Routes meet. This intersection is an excellent location for amenities due to high volumes of AT users, creating a small node with readily available supportive amenities. To not interfere with ideal sightline zones, minor hubs should be kept along the edge of the intersection.



Figure 4.3: Example of a Minor Amenity Hub along the Millenium Recreation Trail near the Thorold Stone Road Crossing

Along Routes

Amenities should be placed along all routes within the Trails and Active Transportation Network. This includes hiking / walking trails, multi-use paths, connector, and spine routes. Amenities along local routes should be considered on a case-by-case basis, considering the context of the area.

Along routes, in high-volume pedestrian areas and in areas where high numbers of people living with diverse mobility needs are present, rest areas, lighting, and climate protection are recommended at a spacing of 30 m. Dedicated mobility device charging stations are recommended at popular rest areas.

Table 4.3 presents the minimum recommended amenities and additional amenities to consider at each of the three amenity locations described above.

Table 4.3: Network Amenity Placement

Amenity	Major Hubs	Minor Hubs	Along Routes
Bike Parking (short-term)	●	●	
Bike Parking (long-term)	●		
Wayfinding	●	●	●
Washrooms and potable water	●	○	
Waste and recycling bins	●	●	
Rest Areas	●	●	●
Lighting	●	●	●
Climate protection	●	●	●
Bicycle repair stands	●	○	
Public Art	●	○	○
Interpretive signs/displays	●	○	○
Dedicated Mobility Device charging stations	●	●	○
Micromobility Device charging stations	●	○	

● = Minimum recommended

○ = Additional amenities to consider

The policies associated with supportive amenities have been summarized in **Table 4.4**.

Table 4.4: Active Transportation Supportive Amenities Actions

Action	Objective
4.1 Adopt recommended guidelines for amenity spacing and placement	Adopt the recommended placements of amenities along routes and at minor and major hubs. Coordinate with other agencies to provide amenities for major hubs at strategic connections to transit and at existing municipal facilities.
4.2 Bicycle Parking	Work with Niagara Region, Niagara Region Transit, and Metrolinx to provide safe and secure bicycle parking at key commercial destinations and transportation hubs.
4.3 Review Bicycle Parking Minimums	Update the Zoning By-law with minimum recommended bicycle parking rates and end-of-trip facilities.
4.4 Bike Parking at Municipal Facilities	Support active transportation by providing end-of-trip facilities such as bike rooms, lockers, bike repair stations etc. at municipal buildings for enhancing the user comfort and experience.

4.3 Network and Design Policies

Policies related to the active transportation network and pedestrian and cycling facilities should be adopted to ensure that the design and implementation supports people of all ages and abilities. Policies that support physical infrastructure are important to improve the “walkability” and “bike-ability” of the network, which leads to health, economic, equity, and environmental benefits.

Policies and design standards for infrastructure should not just include the linear routes proposed in Chapter 3, but also consider how active transportation users cross intersections and mid-block crossings of roadways. Policy needs to also reflect that facilities need to be accessible for all users and reflect changing guidelines and future provincial legislation for accessibility.

4.3.1 Accessibility Features at Cycling Facilities

Provincial legislation through the Accessibility for Ontarians with Disabilities Act (AODA) currently requires that new or reconstructed intersections include attention tactile walking surface indicators (TWSIs, or sometimes referred to as tactile plates) at curb ramps at intersections.

However, there is some ambiguity in the ADOA on the use of attention TWSIs at crossings of cycling facilities when the crossing may not include the crossing of a vehicle lane, such as where a crosswalk is provided across a cycle track to a pedestrian corner refuge of a protected intersection (see **Figure 4.4**).



Figure 4.4: Pedestrian Crossing of a Cycle Track at a Protected Intersection (Guelph)

The Ontario Protected Intersection Guide (OPIG) provides guidance on the use of TWSIs at intersections. The OPIG also provides guidance on the use of additional tactile features, including directional/guidance TWSIs. Directional/guidance TWSIs include raised, elongated bars to provide guidance on the direction of a crossing, especially where a crossing may be skewed, while an attention TWSI is typically used to just provide a warning before a hazard and does not provide directional information to someone who has a vision impairment. An example of a directional TWSI is shown in **Figure 4.5**.



Figure 4.5: Directional TWSI at a Protected Intersection (Ottawa)

To support the development of the network, the City will review set accessibility standards based on industry best practices. **Table 4.5** highlights recommended Policy Actions informed by industry best practices, for the City to adopt and or use to create an accessible active transportation facility strategy.

Table 4.5: Recommended Policy (#1) Actions

Action	Objective
1.1 – Pedestrian Network Gaps	Address pedestrian network gaps across the City. Sidewalks should be provided on both sides of collector and arterial roads. Prioritize completing sidewalk gaps on at least one side of local roads within walking distances to schools, parks, and community centres. Sidewalks should be provided on both sides of local roads where feasible once priority gaps are complete.
1.2 – Provide Accessible Sidewalk Widths	Update standards to provide a minimum sidewalk width of 1.8 metres on all roads. Sidewalk widths of 1.5 metres should only be considered where site or physical constraints exist. Where sidewalks are implemented immediately adjacent to curbs or are combined with the curb, the desired width for the sidewalk should be 2 metres.
1.3 – Accessible Intersections	Ensure that intersections support the use of mobility devices by introducing appropriate curb-cuts and tactile walking surface indicators (truncated domes) to improve access when entering/exiting an intersection. Develop standards for using

	directional tactile walking surface indicators at intersections where appropriate.
1.4 – Accessible Pedestrian Clearance Intervals	Ensure that appropriate timing is used for pedestrian phases at signalized intersections. Use a walking speed of 1.0 m/s to calculate the pedestrian clearance interval. Consider using a slower walking speed of 0.8 m/s in areas with high volumes of pedestrians or crossings frequently used by young children or seniors.
1.5 – Pedestrian and Cyclist Crossings	Provide dedicated pedestrian/cyclist signals or pedestrian crossovers (PXOs) at key locations in the network where trails cross busy roadways. Dedicated crossings should be provided where trails cross collector or arterial roadways and a nearby alternative crossing is not available.
1.6 – Safe Intersections for Active Transportation	Develop municipal guidelines and engineering standards for improved intersection cycling treatments, including setback crossings, adjacent crossings, and protected intersections. Provide No Right Turn on Red (NRTOR) and/or Leading Pedestrian and Bicycle Interval (LPI/LBI) phasing at intersections on the cycling network where there is a high potential for conflicts with turning motor vehicles.
1.7 – Retrofits in Coordination with Capital Projects	Where infrastructure replacement and rehabilitation projects are planned on the Active Transportation Network, construction of the permanent cycling and pedestrian facilities shall be included in the scope of the design and construction contracts. Bundling construction contracts will allow for cost efficiencies in the implementation of the network, reducing the overall cost of implementation.

4.4 Maintenance Strategies

Maintenance is imperative to providing high quality routes and facilities, and encouraging and promoting a connected, equitable and safe use of the Trails and Active Transportation Network year-round. The maintenance of active transportation facilities help leverage capital investments, mitigate a user's exposure to risk, minimize potential conflict between users, mitigate liability exposure for the City, and maximize the lifespan of the facility. Maintenance of the active transportation network requires consistent maintenance, annual inspections and

monitoring for damage. **Table 4.6.** highlights recommended non-winter maintenance targets informed by industry best practices, for the City to adopt and or use to create an active transportation maintenance strategy.

Table 4.6: Minimum recommended service levels for non-winter maintenance activities

Activity	Service Level Criteria
Patrol	3 times every 7 days to once every 30 days
Sweeping	Scheduled sweeping particularly in Spring and Fall, or during major construction activities; deploy resources outside of scheduled sweeping as soon as practicable Greater than 2cm after being aware of debris
Surface Discontinuities	6.35 mm within 2 to 21 days after acquiring knowledge of the discontinuity
Signage and Pavement Markings	Refreshed as needed
Cracking	Greater than 12.7 mm wide and 6.35 mm deep
Potholes	600 cm ² by 2 cm deep within 4 days after acquiring knowledge of the pothole
Surface Drop-off at Shoulders	Deeper than 8 cm
Vegetation Management	Routine mowing including daylight triangles at intersections; annual trimming of bike path trees

4.4.1 Winter Maintenance Strategies

Strategies to maintenance, especially during the winter, may take various approaches as the active transportation network is implemented. In some cases, it may not make sense to provide full maintenance to facilities that may be disconnected from the main network if they are implemented as part of another capital project or as part of a new subdivision on the edge of an urban area. Low winter mode shares should not be used as a reason to not maintain the network, especially where well-connected and functional facilities are provided. Maintenance is critical to increase the cycling mode share year-round and achieve goals of higher cycling mode shares and lower vehicle traffic levels; some people may not see active transportation as a reasonable transportation option unless they know they can use active transportation to commute and access destinations year-round.

The following maintenance strategies may be considered by the City for winter activities:

1. **Designating a Winter Priority Network:** The City may designate priority routes for winter maintenance, such as Spine Routes described in **Chapter 3**. The priority routes for winter

maintenance should be clearly identified through communications from the City and public notices. A winter priority network should be developed by the City to include routes that are well-connected to other routes and destinations and areas with high cycling potential or high transportation need (see **Section 5.1**).

2. **Seasonal Route Closures:** Some routes may not be possible to maintain during the winter, due to ownership issues or budget constraints. These routes should be clearly signed as closed during the winter for users.
3. **Setting Level of Service Targets:** The City will review service levels and set targets for timelines and events for maintenance activities related to winter weather. **Table 4.7.** highlights recommended minimum service levels for winter maintenance activities, as informed by industry best practices.

Table 4.7: Minimum recommended service levels for winter maintenance activities based on industry best practices.

Activity	Spine Route	Connector Route
Snow Clearing	Maintain to 2.5 cm within 8 hours	Maintain to 2.5 cm within 24 hours
Ice Treatment	Treat within 3 hours by 7 am and by 3pm on a weekday	Treat within 8 hours
Ice Prevention	Proactive anti-icing approach applied within 8 hours prior to a storm event	Proactive anti-icing approach applied within 24 hours prior to a storm event

4.5 Active Transportation Asset Management

Using effective asset management practices, with well-defined strategies, and relevant policies, is key to assess and manage both the existing active transportation assets and future expansions. The trails and active transportation infrastructure are an asset for the City and its partners. Asset management can help to address growth, improvements and maintenance of the Trails and Active Transportation Network, while achieving the desired standards for level of service.

Asset management also seeks the most cost-effective way to establish desired levels of service while optimizing resources.

The lifecycle for active transportation infrastructure has been summarised in **Table 4.8**, and should be included in asset management planning.

Table 4.8 Typical Useful Life for Active Transportation Infrastructure

Type	Useful Life
Granular Surface Pathway	10 years
Asphalt pathway	20 years
Concrete pathway	50 years
Bridge (AT or motor vehicle)	AT only – 30 years Motor vehicle – 50 years
Culvert	50 years
Painted Line Markings	2 years
Durable Line Marking and Symbols	5 years
Signage	Wood – 15 years Wood / Metal, Metal – 20 years Stone – 50 years
Physical Separation	Until damaged

The policies outlined in **Table 4.9** represent the actions to be taken as part of the asset management planning process.

Table 4.9 Asset Management Actions

Action	Objective
Coordinating maintenance assets	Work with maintenance staff during the planning and design stages to ensure they have the equipment and resources available to maintain new active transportation routes in the City of Niagara Falls.
Tracking and monitoring physical assets	Maintain a GIS inventory to track active transportation infrastructure and other elements, such as bollards, bridges, pavement markings, parking, etc.
Asset inspection frequency	Conduct inspections every 12 months, for sidewalks, multi-use pathways, and cycling facilities, to identify damage and surface discontinuities developing from annual cycles.



Chapter 5: Network Implementation



5.1 Implementation

The implementation of the Trails and Active Transportation Network will consider the existing context of anticipated construction projects, funding sources, and available budget in the City. While many strategies may be implemented to achieve some quick wins that support active transportation, some routes may have to be completed on a longer time scale.

The City should look to prioritize active transportation facilities on roads coming up for reconstruction within the network to capture cost efficiencies. Implementing quick-build measures that can provide increased physical separation on busier roads and creating facilities that improve the feelings of safety and comfort for active transportation users should be priorities in consideration of projects for capital budgets and planning.

Many facilities proposed within the network will also require coordination between several road authorities. Where routes cross Regional Roads or Provincial Highways, future coordination between the City and these other road authorities will be required. Likewise, some trails proposed in the network are located on hydro corridors, which are owned by Hydro One, and coordination will be needed to construct these trails. Ongoing discussions with these various authorities will include the cost to install and maintain facilities and any property needs for the facility.

5.2 Active Transportation Network Prioritization

The Trails and Active Transportation Network were prioritized based on two analyses:

1. Cycling Potential Analysis is based on the likelihood that someone may use active transportation over using a motor vehicle for a trip. The indicators for this analysis are based on existing transportation and demographic trends, including population density, population of youth and young adults, frequency of short commutes, frequency of active transportation commuters.

As success of an Active Transportation Network should not only consider the frequency of its use, but the diversity of its users. There are ongoing efforts to better geographically assess transportation equity through the concept of **transportation poverty**.

While there is no fully agreed upon definition, **transportation poverty** can be defined as the inability for someone to access essential destinations and activities due to a variety of often compounding socio-economic disadvantages and limitations to transportation access. Transportation disadvantages can include longer travel times, lower access to key destinations, lower car ownership, higher reporting of transportation related injuries and longer distances to passenger transportation stops.

In order to prioritize those who experience the effects of transportation poverty, a transportation needs analysis was also used to prioritize the network.

2. Transportation Need Analysis is based on the likelihood that someone in an area may have lower access to transportation options, and experience transportation poverty. Evidence has shown a clear cross over between those who are socio-economically disadvantaged individuals (often apart of **equity-deserving** communities) and those with transportation disadvantages.

In the context of transportation systems, **equity-deserving** refers to groups who have historically faced systemic barriers to safe, inclusive, and accessible transportation. These include racialized people, LGBTQIAS+ people, women and gender diverse peoples, newcomers, people living with disabilities, low-income residents, seniors and youth.

Although equity-deserving communities have a higher likelihood of experiencing transportation poverty, these communities as a whole are not inherently equity-deserving. This is why it is important to measure not just who lives in a geographic area, but also the outcomes of inequities they experience. Indicators should therefore be tailored to reflect the specific needs and barriers faced by different equity-deserving communities within the City.

An example of measuring inequitable outcomes vs population presence is newcomers to the City of Niagara Falls and youth are not automatically considered equity-deserving despite the systemic barriers these groups are known to face. However, if data shows that these groups have higher rates of unemployment, the inequity lies in the outcome to employment due to age or immigration status, not in the identity of the group itself.

Based on this understanding, alignment with the City's TATMP vision, available neighbourhood level data, the equity indicators in **Table 5.1** were chosen for the needs analysis.

This methodology was based on the City of Toronto's approach to measuring inequity on a neighbourhood level (known as a Neighbourhood Equity Index or NEI). An NEI is used to illustrate a more fulsome picture of how neighbourhoods that make up a jurisdiction such as Niagara are faring in terms of wellbeing compared to others.'

Table 5.1: Equity Analysis Indicators

Thematic Category	Indicator	Alignment with ATMP Vision and Objectives
Economic Opportunities	Unemployment Rate	Equitable/Support the local economy
	Low Income	Equitable/Support the local economy
Social Development	High School Graduation	Equitable
	Marginalization	Equitable
	Post-secondary completion	Equitable
Participation in Decision Making	Municipal Voting Rate	Equitable
Physical Surroundings	Community Places for Meeting	Connected /Equitable/Accessible
	Walkability	Connected /Equitable/Accessible/Support for Tourism
	Green Space	Connected /Equitable/Accessible /Support for Tourism

These two analyses may have some common indicators, but they represent different outcomes:

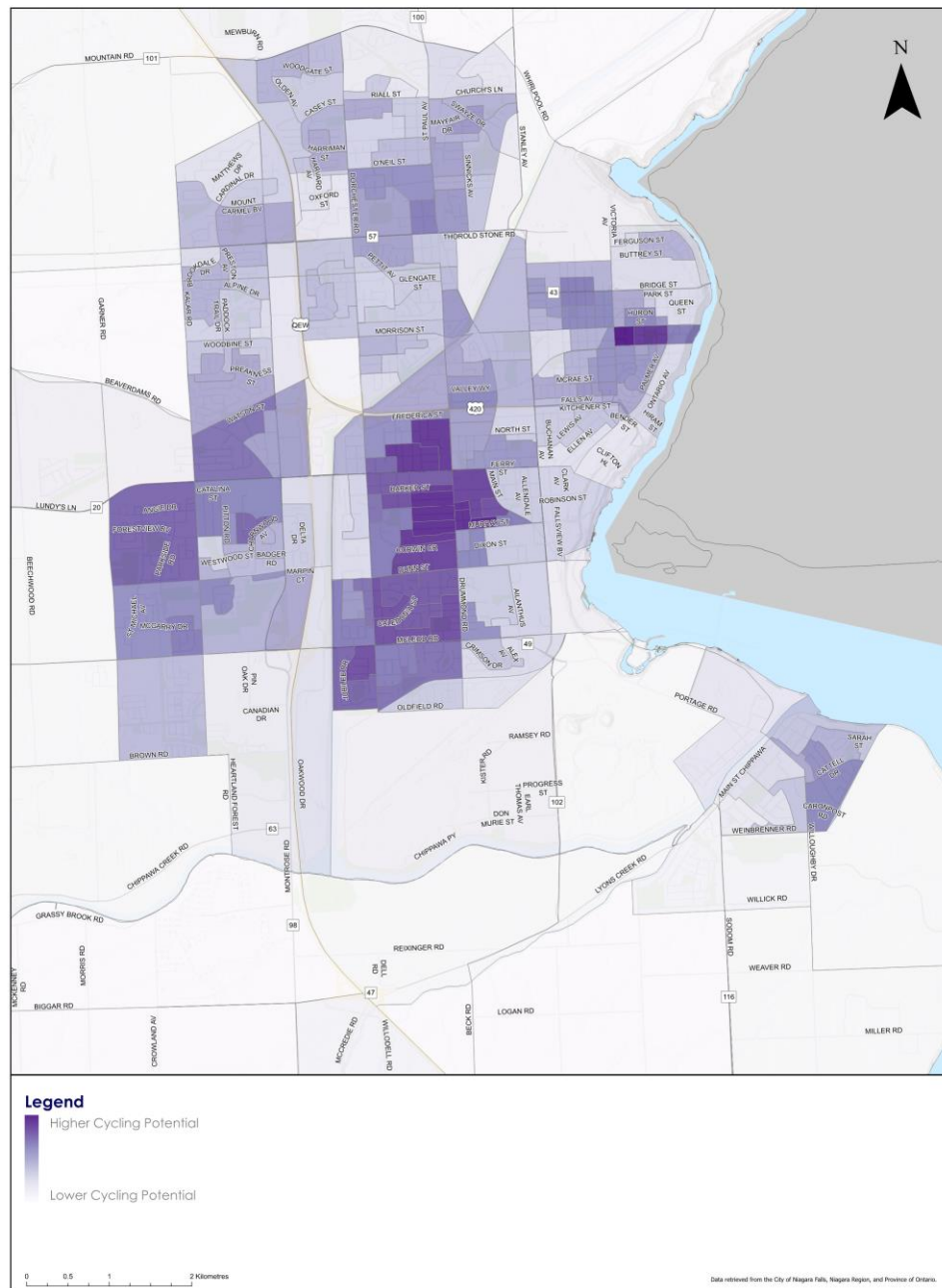
- **Cycling Potential Analysis Outcomes:** Represents area where there are likely existing trips that can be easily replaced by active transportation trips.
- **Equity Analysis Outcomes:** Represents where there is a need for more transportation options, which can partially be met through improved active transportation facilities and supporting infrastructure.

Since these analyses represent different outcomes, the TATP seeks to prioritize the implementation of the active transportation network through both lenses, by ensuring areas with high potential and high need can be prioritized with routes that will be implemented in the short-term. The results of these analyses are shown in **Maps 5.1 and 5.2** which have then informed the phasing strategy and phasing plan for the network implementation, as discussed in **Section 5.3**.

5.2.1 Data Limitations

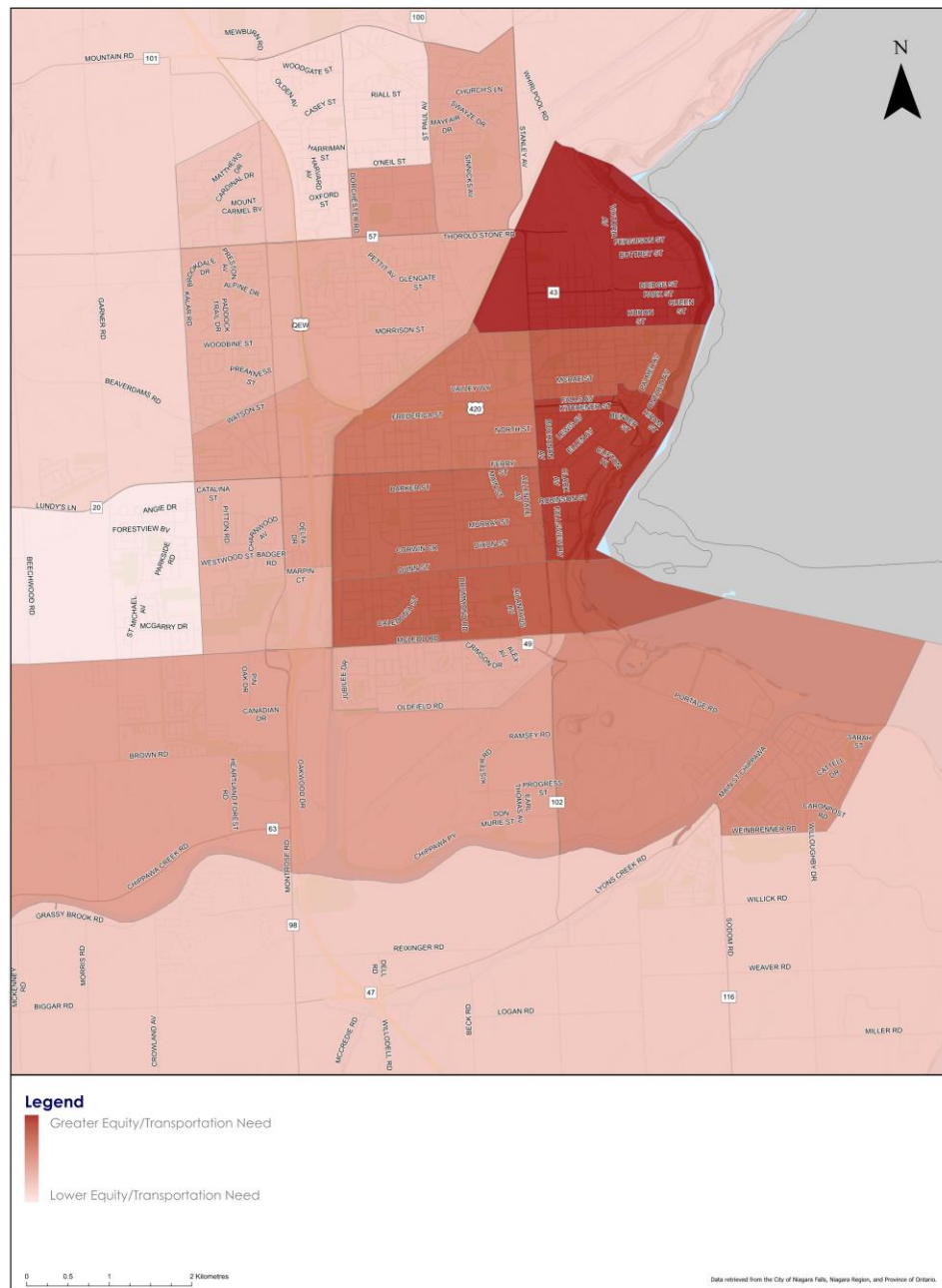
The data for these analyses were sourced from the 2022 Transportation Tomorrow Survey (TTS) and the 2021 Census. While the 2022 TTS was delayed, there may have still been transportation impacts from the COVID-19 pandemic. While the equity analysis was based on the Toronto NEI, the same data sources were not available for the prioritization analysis, therefore some indicators used in the Toronto NEI methodology were not included in this prioritization.

Map 5.1: Cycling Potential



Map 5.1 Cycling Potential

Map 5.2: Equity Analysis/Transportation Need



Enl. NASA, NOAA, USGS, FEMA

Map 5.2 Equity Analysis/ Transportation Need

5.3 Active Transportation Network Phasing Plan

The phasing plan was designed to guide the gradual rollout of the proposed network in a practical and strategic way, ensuring that key destinations and routes are connected throughout the implementation period. The timing of each phase is influenced by factors including proximity to key destinations, equity-priority areas, potential for active transportation, development activity, available funding, partnership opportunities, and potential cost efficiencies when coordinated with other projects (e.g., capital infrastructure initiatives). The phasing strategy will also be influenced by the other owners of cycling infrastructure in the City, including Niagara Region and Niagara Parks Commission. Changes to plans and timelines for implementation by these other owners may influence decisions and priorities for implementation of City-owned infrastructure.

Importantly, the phasing strategy is intended to be flexible rather than rigid. It should evolve in response to ongoing changes and emerging needs of the City. The recommended plan spreads out both the costs and implementation efforts, structured into three distinct phases:

- Short Term (0–10 years)
- Medium Term (10–20 years)
- Long Term (20+ years)

Table 5.2 outlines the phasing strategy and timelines for the implementation of proposed active transportation routes.

Table 5.2: Network Phasing Strategy

Phase	Strategy
Short-term (0-10 years)	• Currently planned road and trail projects in capital forecast • Routes within secondary plan areas expected to develop in the short-term • Routes that provide north-south or east-west connectivity through equity priority areas and high-potential cycling areas that can be implemented with quick-build materials or minimal construction without the reduction of vehicle travel lanes • Routes on local neighbourhoods roads that connect to key destinations, such as schools, that can be implemented with quick-build or minimal construction without the reduction of vehicle travel lanes

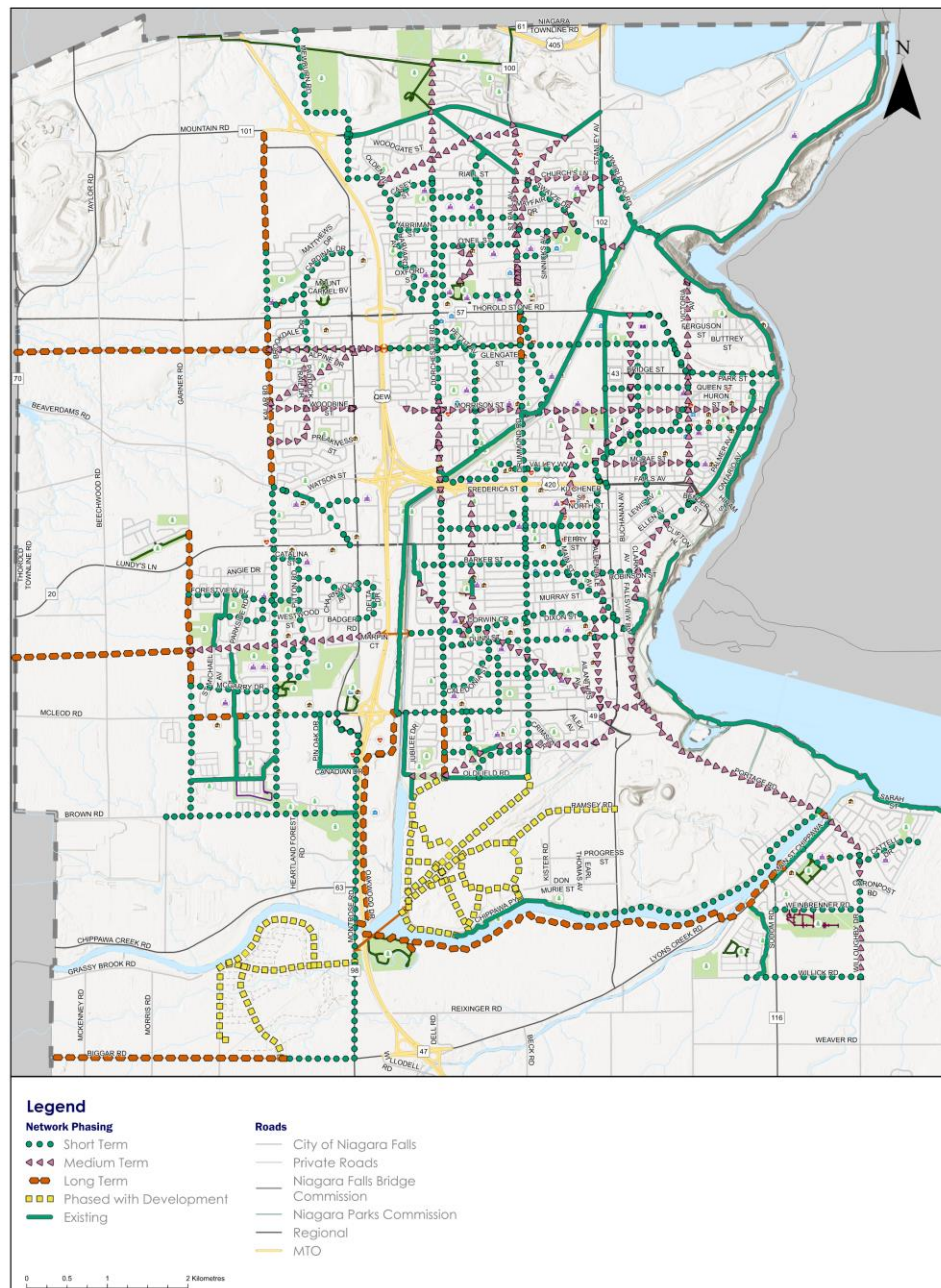
Medium-term (10-20 years)	• Routes beyond the current capital forecast • Routes within secondary plan areas expected to develop in the medium-term • Routes that provide north-south or east-west connectivity along major roads within the urban area, that may require additional widening or vehicle lane reductions, without the reconstruction of major structures (bridges)
Long-term (20+ years)	• Routes within secondary plan areas expected to develop in the long-term • Crossings of major network barriers, such as the Grand River, that require the construction or reconstruction of major structures • Routes through rural areas to connect to neighbouring municipalities

The phasing of the recommended network is summarized in **Table 5.3** and illustrated in **Maps 5.3a to 5.3c**.

Table 5.3: Phasing Summary

Facility Type	Short Term Length (km)	Medium Term Length (km)	Long Term Length (km)	Total (km)
Bike Lane	16.60	4.04	0.07	20.71
Cycle Tracks/ Separated Bike Lanes	22.80	13.53	7.28	43.61
Multi-use Path	12.99	5.33	3.47	21.79
Neighbourhood Greenway	33.09	6.55	0	39.65
Shared Roadway	1.52	0.79	0	2.31
Multi-use Trails	10.53	17.12	11.31	38.95
Grand Total	97.53	47.36	22.13	167.02

Map 5.3a: Network Phasing Review - Urban Area

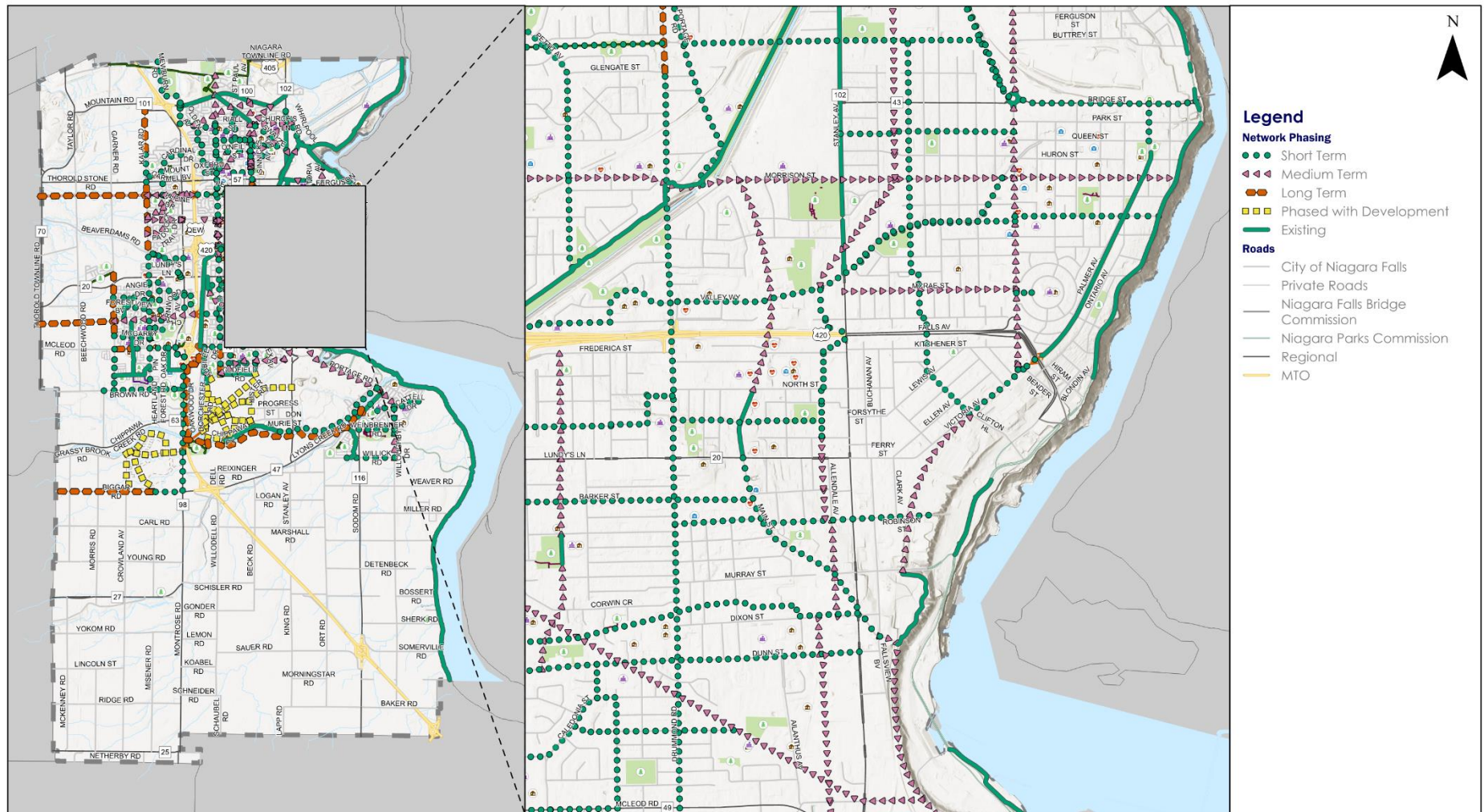


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Ech: NASA, NOAA, USGS, FEMA

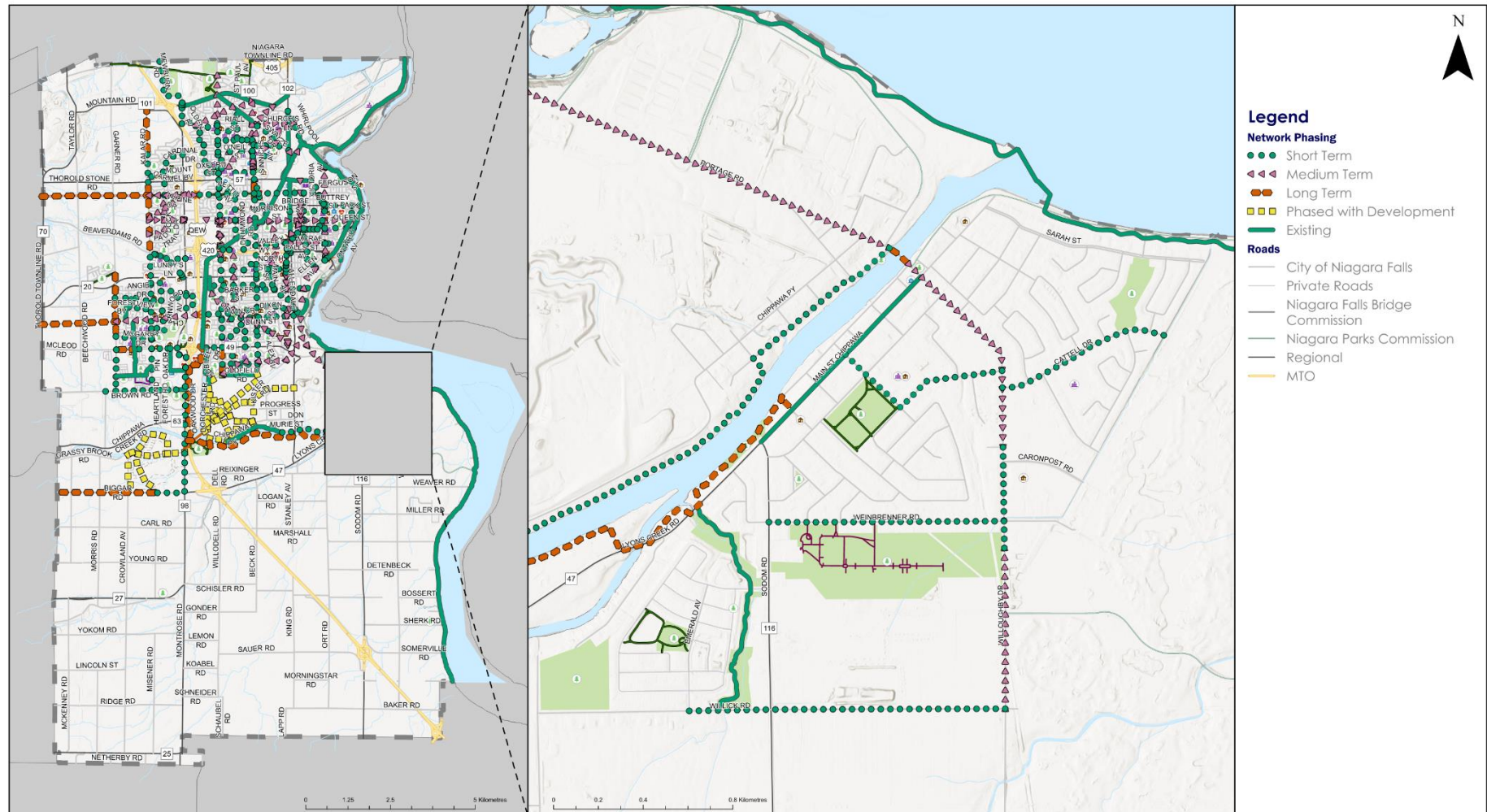
Map 5.3a Network Phasing Review - Urban Area

Map 53b: Network Phasing - Downtown



Map 5.3b Network Phasing - Downtown

Map 5.3c: Network Phasing - Chippawa



5.4 Active Transportation Network Costing

The financial implications for the construction of active transportation facilities were estimated based on typical costs seen in recent years in cities in Southern Ontario. The high-level estimates of construction for cycling facilities are outlined in **Table 5.4**. In addition to the cost of the construction of facilities, the estimates include an approximate percentage for the engineering design of the facility and a contingency for other costs associated with construction, such as relocating/adding new light poles, trees, drainage, landscaping, street furniture, etc.

Table 5.4: Costing Summary

Facility Type	Short Term Cost	Medium Term Cost	Long Term Cost	Total
Bike Lane	\$481,000	\$112,000	\$2,000	\$595,000
Cycle Tracks/ Separated Bike Lanes	\$7,141,000	\$9,045,000	\$4,566,000	\$20,752,000
Multi-use Path	\$2,055,000	\$620,000	\$2,679,000	\$5,354,000
Neighbourhood Greenway	\$1,667,000	\$274,000	\$0	\$1,941,000
Shared Roadway	\$3,000	\$0	\$0	\$3,000
Multi-use Trails	\$4,125,000	\$6,263,000	\$4,125,000	\$14,513,000
Grand Total	\$15,472,000	\$16,314,000	\$11,372,000	\$43,158,000

5.5 Sidewalk Network Prioritization

A review of the existing sidewalk was conducted to identify gaps within the network and prioritize gaps for sidewalk construction under the City's sidewalk construction program. The review included sidewalk gaps on Regional Roads, where the responsibility for sidewalks is with the City since they are behind the curb. The prioritization should generally focus on the following criteria:

- Providing sidewalks on both sides of arterial and collector roadways
- Providing sidewalks on at least one side of local roadways
- Sidewalks on both sides of local roadways should be considered where feasible once gaps have been completed to provide sidewalks on at least one side of all local roads

Multi-use paths that are proposed as part of the sidewalk are considered in this prioritization as alternatives to providing a dedicated sidewalk, since multi-use paths are shared between

pedestrians and cyclists. The gaps and prioritization analysis also did not consider gaps on the Niagara River Parkway, since it is under the jurisdiction of the Niagara Parks Commission, or non-pedestrian accesses to Rainbow Bridge.

Given the criteria above, the prioritization strategy in **Table 5.5** was applied to the City's sidewalk network to identify the priorities for sidewalk gaps.

Table 5.5: Sidewalk Prioritization Strategy

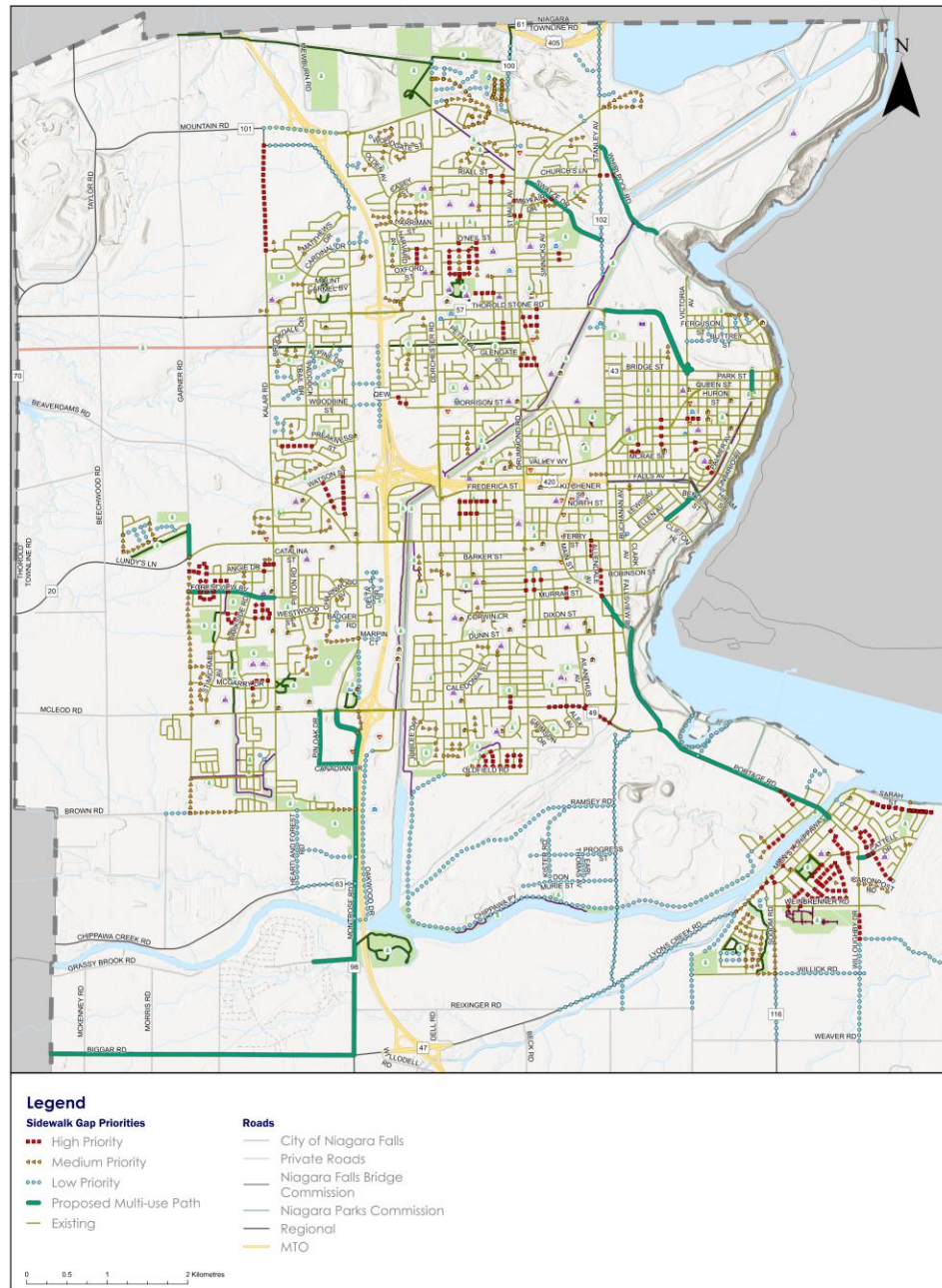
Priority Level	Criteria
High	Gaps within 0.8 kilometres of schools, healthcare facilities, and care centres
Medium	- Gaps within 1.6 kilometres of schools, healthcare facilities, and care centres - Gaps on cul-de-sacs and dead-end road segments within 0.8 kilometres of schools, healthcare facilities, and care centres
Low	- Gaps where sidewalk construction will be completed as part of development - Gaps on cul-de-sacs and dead-end road segments further than 0.8 kilometres from schools, healthcare facilities, and care centres - Gaps on roads with land uses that do not typically correspond with walking trips (industrial land use, rural areas, etc.)

The prioritization for sidewalks was applied to the existing road network to identify gaps and prioritize the completion of the sidewalk gaps. The prioritization is shown visually in **Maps 5.4a to 5.4c**. A summary of the sidewalk gap lengths is shown with approximate costs for completion in **Table 5.6**.

Table 5.6: Sidewalk Gap Lengths and Costs

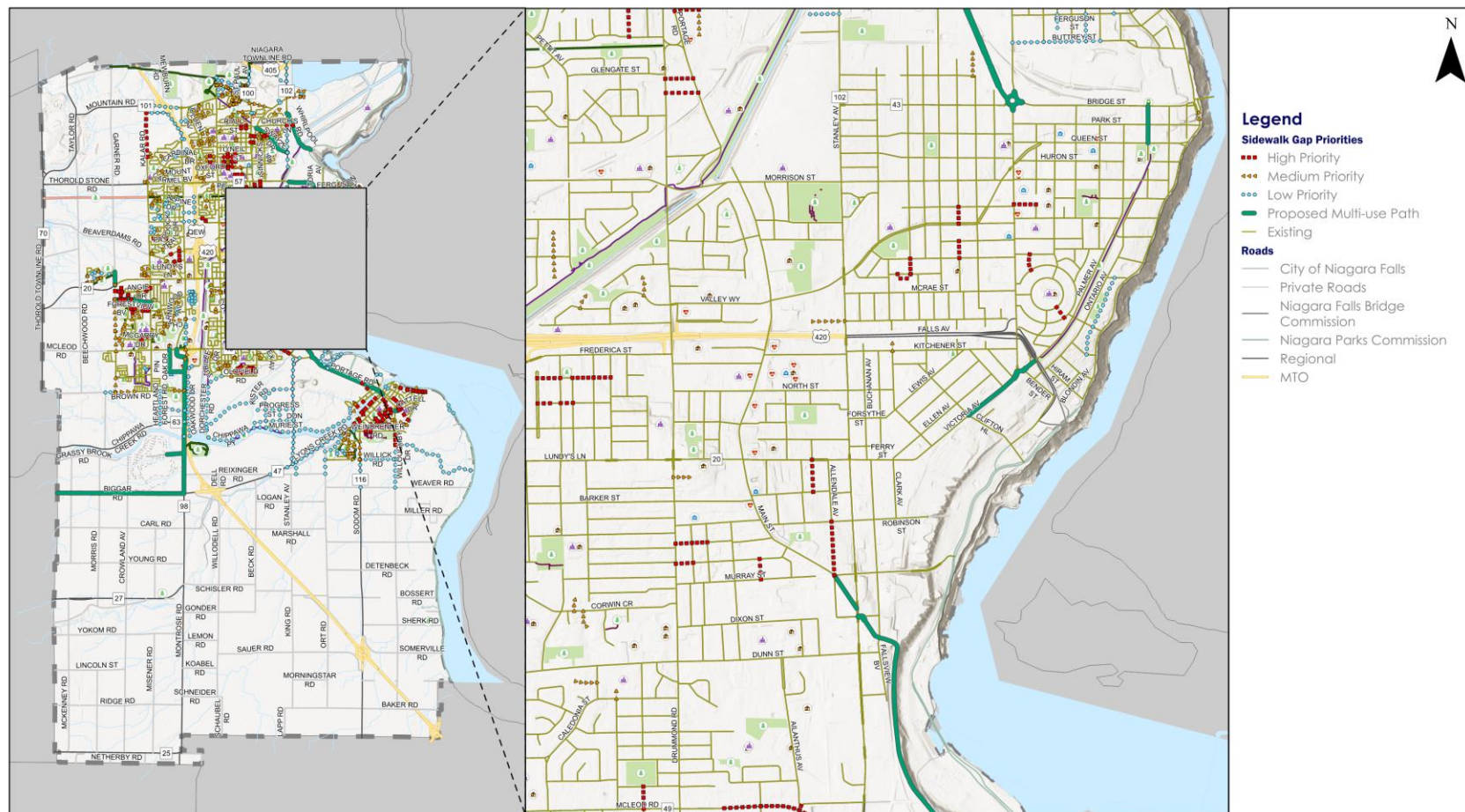
Priority	Length (km)	Cost
High	23.9	\$7,170,000
Medium	29.0	\$8,700,000
Low	78.1	\$23,430,000

Map 5.4a: Sidewalk Prioritization - Urban Area



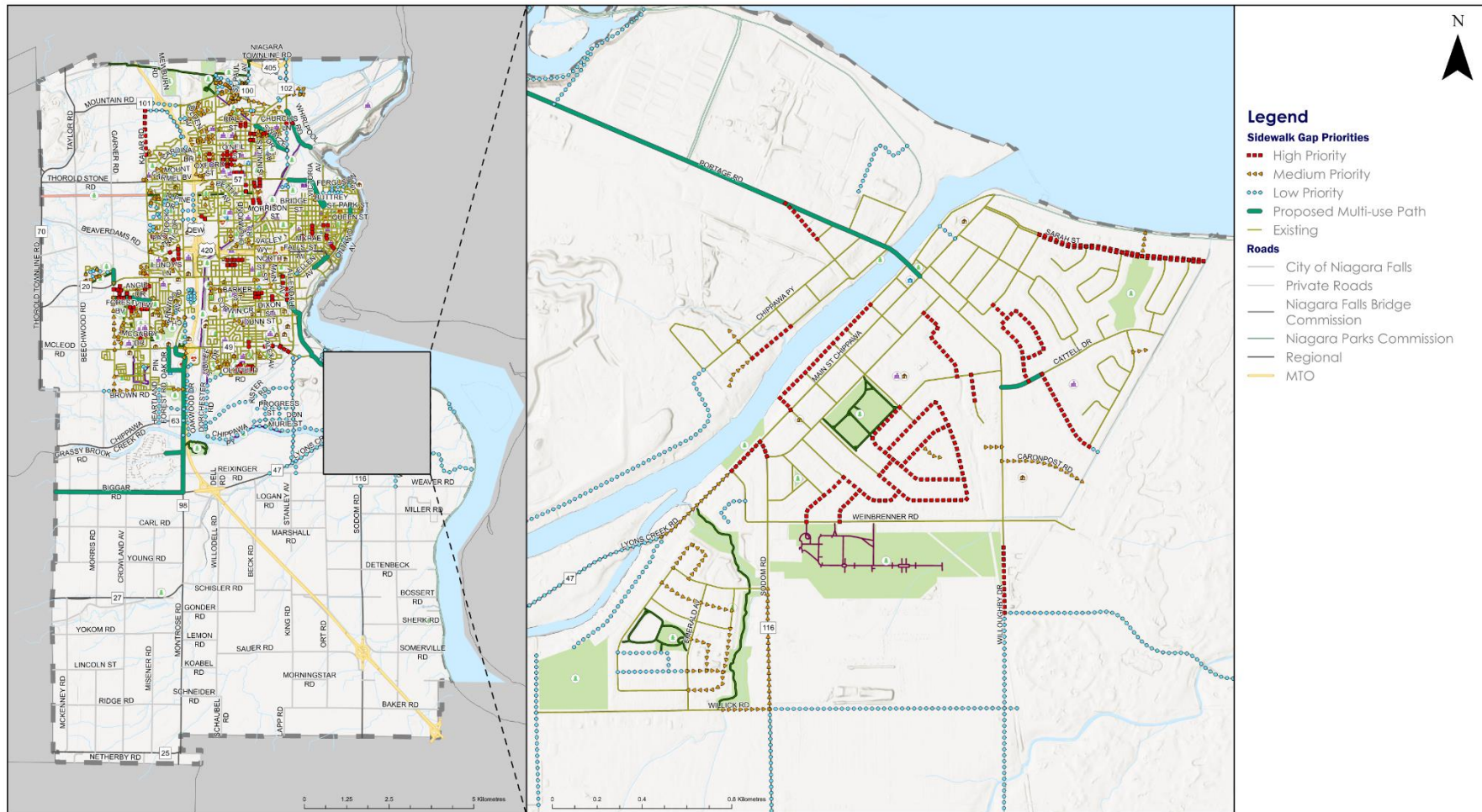
Map 5.4a Sidewalk Prioritization - Urban Area

Map 5.4b: Sidewalk Prioritization - Downtown



Map 5.4b Sidewalk Prioritization - Downtown

Map 5.4c: Sidewalk Prioritization - Chippawa



Map 5.4c Sidewalk Prioritization - Chippawa



Chapter 6: Wayfinding



6.1 What is Wayfinding?

Wayfinding is the process by which people orient themselves in physical space and navigate from one location to another. A good wayfinding system equips residents and visitors with easy-to-read information allowing a logical, intuitive experience by which to explore a local area, its services, and attractions. Clear and concise navigation information creates a welcoming experience and signage is an effective investment to encourage tourism and improve access to local destinations. Furthermore, it encourages safe and comfortable use of the Trails and Active Transportation Network by all ages, abilities, and cultures. Effective wayfinding is important as residents and visitors explore Niagara Falls and its communities through different modes of transportation and from different entry points.

The use of trails and active transportation networks requires clear information on how to use the trail infrastructure, where to go and how to interact with other users, among other things. The wayfinding signage strategy will help to identify routes that are prioritized for active transportation users, help visitors and residents alike navigate the city effectively, direct people towards areas where amenities are located, and provide additional encouragement for residents to consider active transportation as opposed to taking a vehicle.

6.2 Wayfinding Hierarchy

Trails and active transportation routes that provide wayfinding features to show how individual routes connect to the larger network can encourage more people to use active forms of transportation.

Wayfinding is divided into four processes:

- **Orientation:** Understanding where you are in relation to where you want to be
- **Route Decision:** Deciding on how best to get to the destination point
- **Route Monitoring:** Checking to see along the route that you are on the right path
- **Destination Recognition:** Being able to recognize when you have reached your destination

These four processes are supported by specific sign types that create a “family of signs” which are designed with wayfinding features. Wayfinding features attract people to use new trails and trail networks by illustrating the length, slope and surfacing characteristics of the trail, as well as exit points and destinations along the way.

6.2.1 Signage Types

Signage can be classified into specific types and roles, each with a specific purpose which reinforces the four wayfinding processes. Type of signs to include along Active Transportation Networks and Trails are:

- **Directional signs** should be used throughout the trail at regular intervals of uninterrupted segments and at pathway intersections. Directional signs provide users with reassurance that they are following the designated trail network.
 - Turn signs indicate where an AT route turns from one street onto another street.
 - Confirmation signs identify the current route of travel, reinforce direction of travel after a turn, and are repeated regularly to indicate to users that they are on a designated route.
- **Distance markers** placed incrementally along a trail can enhance the user's experience if they are using the trail for exercise. Frequent and accurate markers can also help in the case of an emergency, especially if they are recorded with a GPS device and incorporated into a digital mapping format.
- **Trailhead signs** identify the primary trail access point. They may also include warnings about poisonous plants, information about the trail's ecology and how to minimize environmental impact, a directory of key destinations, and a point of contact for trail maintenance issues.
- **Interpretive or informational signs** can be used in combination with directional signs or on their own to educate users of points of interest along the trail, such as natural and cultural heritage features. These signs provide specific educational information about points of ecological, historical and general interest, as well as current land uses along the corridor depending on the interpretive program and complexity of information to be communicated.

6.3 Signage Design and Templates

6.3.1 Templates

Signage templates have been developed to guide the municipality when designing the “style”. Each sign type has specific information that should be included on it. This information has been denoted as the “message block” in the diagrams below. It is important that when designing signs, the text size, font style, and information found on the sign is easy to digest, for the user to understand, and is accessible.

6.3.2 Off-Road Trail Signage

Trail Sign

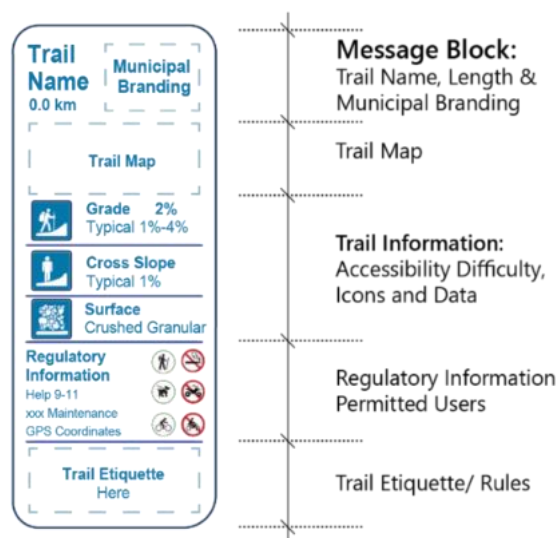


Figure 6.1: Trail Sign Template

This sign type notifies trail users that they are at a trail access point (entry) that is not identified as a major or minor trailhead. The information on the sign allows the user to decide their ability as the sign outlines the trail information including difficulty level, length, slope, surface material, etc. All information on the sign is tailored to the specific trail or route of which it is placed.

Trail Decision Point Marker

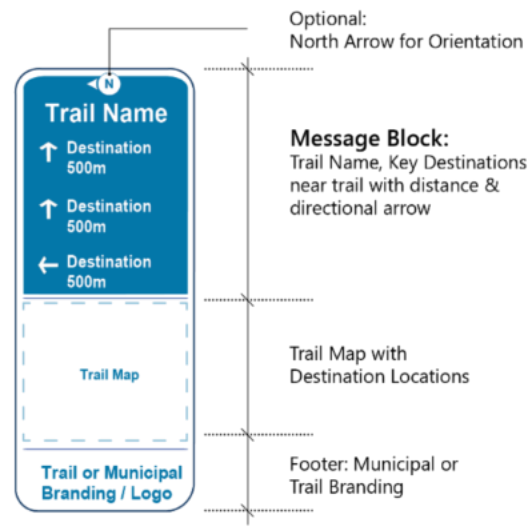


Figure 6.2: Trail Decision Point Marker Template

These inform users of the distance, rules and etiquette, nearby destinations, and segment map for the section of trail until the next marker. Decision point markers should be located at pathway intersections and at regular intervals along long, uninterrupted sections of trail. The purpose of this sign type is to provide a simple visual message to users that they are travelling on the designated trail network. Where the trail network must use an on-street connecting link, clear direction to the next available segment of the off-street pathway network should be provided. This includes directional markers and a small map board (i.e. 60cm x 60cm) clearly illustrating the location of the next available off-street segment. Incorporating the next available exit point (e.g. next exit ##km) is important for disabled users & vulnerable users.

Trails that are not part of the network, such as trails which have been closed, cultural, informal, and/or unsanctioned trails should be signed to indicate they are not official trails and are not maintained.

Trail Distance Marker

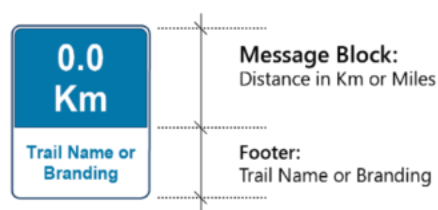


Figure 6.3: Trail Distance Marker Template

Trail markers, placed incrementally along the path, significantly enhance the experience. Exercise enthusiasts appreciate these markers, as they allow easy tracking of distance covered. Frequent and accurate markers can also help in the case of an emergency, especially if they are recorded with a GPS device and incorporated into a digital mapping format. The Municipality can determine if these markers are to be in miles or kilometres.

Trailhead (Major or Minor) / Kiosk

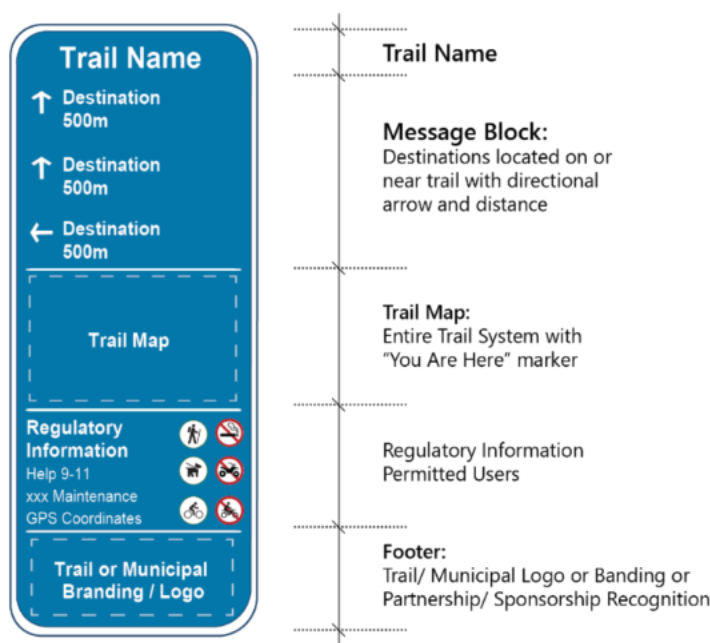


Figure 6.4: Trailhead (Major or Minor)/Kiosk Template

Typically located at key destination points and major network junctions, these provide information regarding the overall trail network and are intended to facilitate community- wide exploration.

This level of signage also plays a marketing/branding role, the physical aesthetic attributes of the sign are equally as important as the function. Individual components of the sign include an

overall trail network map, regulatory information such as trail etiquette, and promotion of trail information located on the municipal website. Where network nodes are visible from a distance, these can be a useful landmark.

In some municipalities, large format hub signs can also be used as an opportunity to sell advertising space. This not only provides information about local services that may be of interest to trail users, but it helps to offset the cost of signs and trails. Considerations can be made to incorporate advertising/trail sponsor information into the sign face or back. Or this can be worked into the web interface with a stagnant sign reference that states: ‘Check Out Our Trail Sponsor’.

Minor trailheads are typically used as a destination or alternative trailhead marker and identify the start of a trail. They are smaller version of the Major trailhead, however, will provide trail users with a more focused map that will zoom in on certain portions on the trail instead of the entire network. These signs are more specialized and set the tone for the experience ahead. There will also be more specific information about the area/destinations and will include the trail network, interpretive information, and destination name. Regulatory information, including trail etiquette & safety guidelines will be included. These minor hubs are typically placed at minor trail network access points.

6.3.3 On-Road Route Signage

On-Road Directional Signage

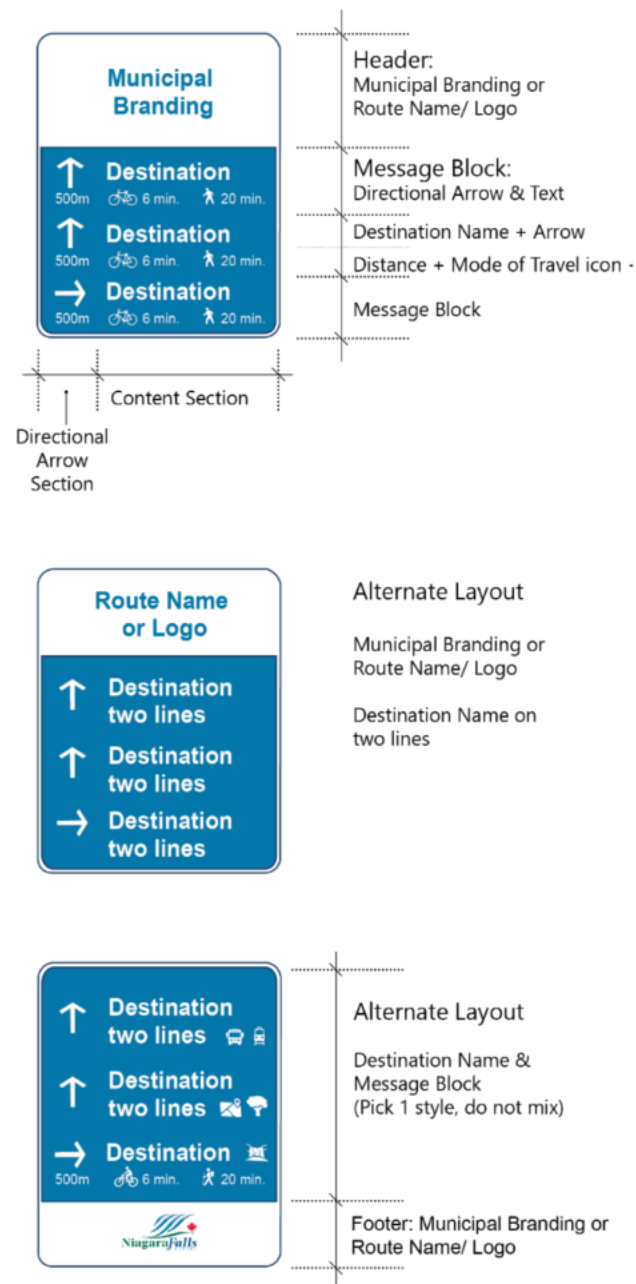


Figure 6.5: On-Road Directional Signage Template

These on-road directional signs are designed for both the pedestrian and cyclists. The signs are smaller in scale and can accommodate three destinations on one panel.

Located along the Active Transportation network, these signs can be installed as independent structures or installed on existing poles, walls or other vertical surfaces.

Shown below in **Figure 6.6** are three optional layouts, including branding alternatives and inclusion or exclusion of icons, and distance/ time to destination information.

On-road directional signage is created in a group of three (directional, turn, and confirmation) as a modular group per decision point.

Turn Signs

Sign Panel



Fingerboard

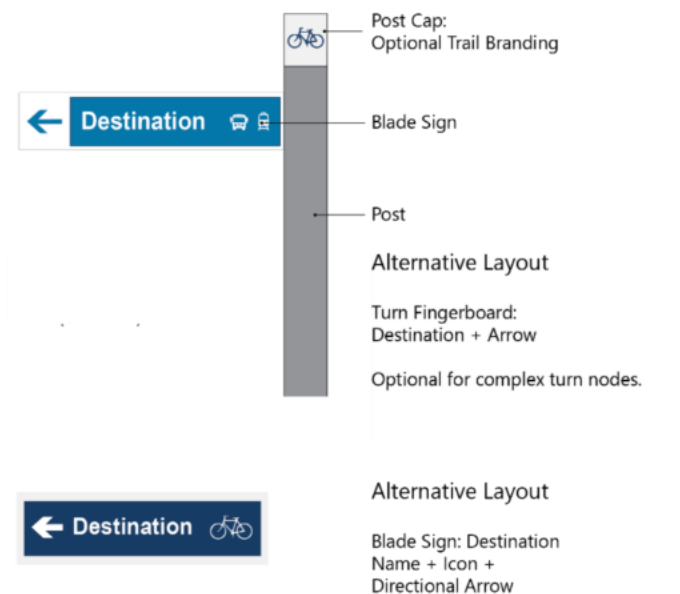


Figure 6.6: Turn Signs Template

These signs are used to notify of upcoming directional changes to a destination or route, a turn sign located at the decision point. The sign panel can use an icon with an arrow in the direction of the turn. If the decision node is a more complicated nature, a fingerboard sign type can be used instead. These signs include both the destination name and icons with the arrow.

Confirmation Signs

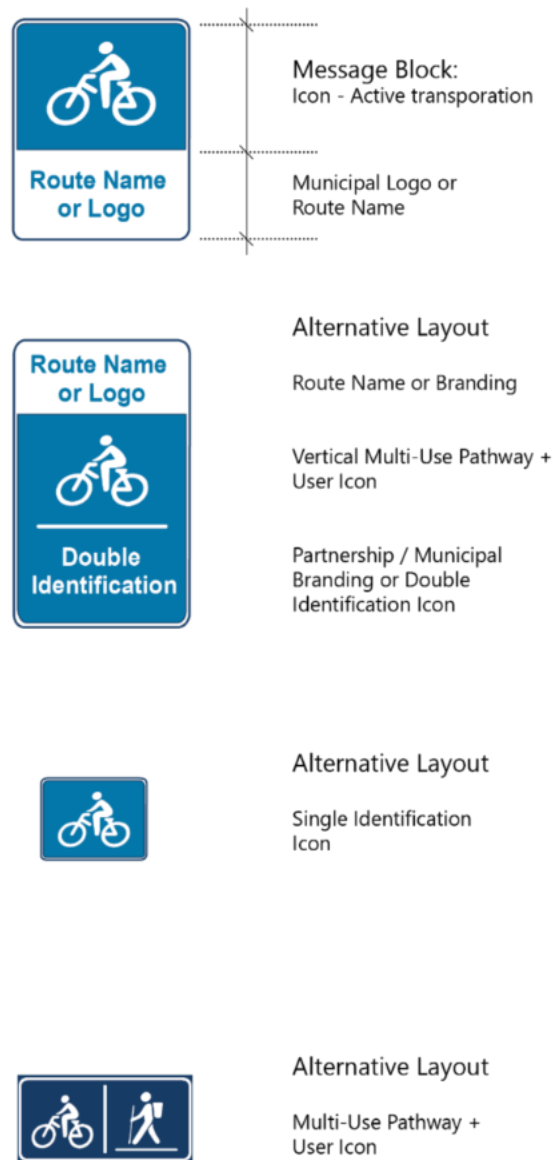


Figure 6.7: Confirmation Signs Template

Confirmation Signs are placed after the turn sign to confirm the user is on the correct route. Signs can include route name or logo with primary user icon.

These supplemental signs provide assurance to AT users that they are traveling in the right direction to reach their intended destination. Typically, they are located where there is a larger distance between amenities and other attractions requiring signage.

The sign panel size and layout can vary depending on information required as shown in the image options.

6.4 Placement and Siting

This is a high-level, best practices overview of placement and siting for signs both on-road and off-road.

6.4.1 On-Road Standards

The following standards in **Table 6.1** are for wayfinding signage placement and installation along all routes within the candidate route network that are an “on-road condition”. This includes cycling routes and multi-use pathways.

Table 6.1: On-Road Placement Guidelines

Sign Type	Placement Guidelines
Directional Signs	• Typically placed 15-30m in advance of intersection. • Destinations to be included on the sign should be organized per progressive disclosure principles: • Primary destination: 5-10km in advance (downtown districts, regional parks, regional trail) • Secondary destination: 2km in advance (transit station, high schools, districts, community parks) • Tertiary destinations: 1km in advance (neighbourhood parks, elementary school, community centre, local trail, etc.)
Turn Signs	• Typically placed at intersection, outside of 9m traffic sight triangle.
Confirmation Signs	• Typically placed on route no more than 150m downstream of major intersection/ trail crossing. • Along rural and/or remote routes, signs should be placed at a minimum of every 20-30km. • Along urban and/or built-up routes, signs should be placed at a minimum of every 400 – 1000m.

Clearance Guidelines

Clearances for on-road active transportation facilities are as follows:

- Urban streets with bike lanes (**Figure 6.8**):
 - Min. 600mm edge of sign to edge of curb
 - Min. 2400mm vertical clearance to bottom of sign
- Rural roads with paved shoulder or shared space (**Figure 6.9**):
 - Min. 1800mm from edge of sign to edge of roadway or shoulder
 - Minimum 2100mm vertical clearance from bottom of sign

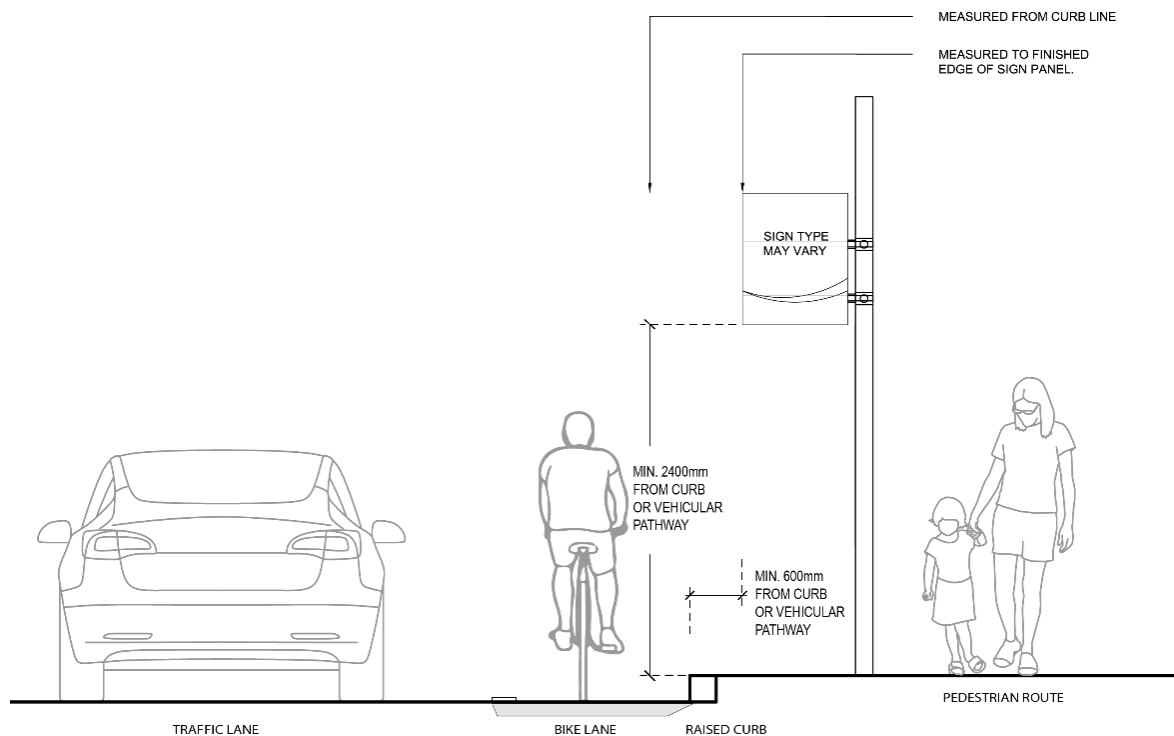


Figure 6.8: Urban Street with Bike Lane & AT Route Signage Clearances

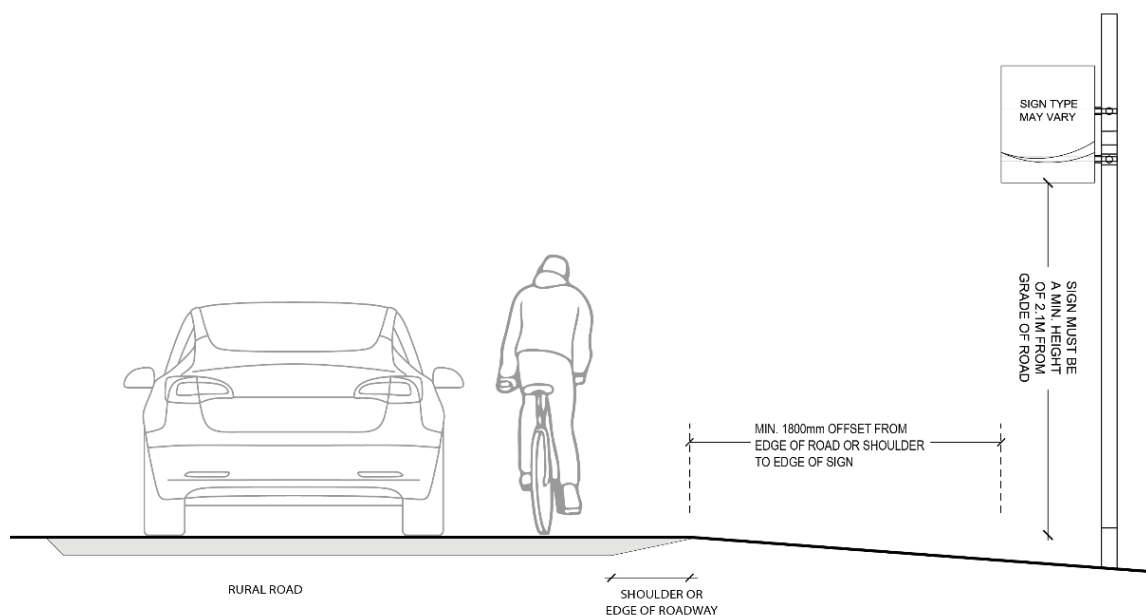


Figure 6.9: Rural Road & AT Route Signage Clearances

6.5 Off-Road Standards

The following standards in **Table 6.2** are for wayfinding signage placement and installation along all trails that are an “off-road condition”. This includes trail access points from on-road conditions.

Table 6.2: Off-Road Placement Guidelines

Sign Type	Placement Guidelines
Directional Sign/ Trail Decision Point Marker	- Typically placed 5-10m before trailhead access intersection. - Typically placed 5-10m before a trail-to-trail intersection. - Typically placed 5-10m approaching trail crossing. - If there is road access, place sign 5-10m from trail access at the road as it must be visible from roadway. If there is a road ahead, place sign 15-20m in advance of road ahead, keeping 9m traffic site triangle clear.
Confirmation Sign/ Trail Marker	- Typically placed 20-30m after trailhead access (on-road to off-road) intersection. - Typically placed 20-30m after a trail-to-trail intersection. - Along a trail, signs should be placed at a minimum of 1km. Note: a trail marker can also act as a confirmation sign however ensure trail branding is used (if trail has a symbol or specific name) to confirm correct trail, every 5-10km.

Kiosk (Major/Minor)	• Typically placed at trail-to-trail intersections. • Typically included at major and/or minor trailheads. • Typically placed every 4km along a multi-use pathway (asphalt surface/ high traffic trail) including trail name, etiquette/ trail rules, and area map. Interpretive information (i.e.: heritage, cultural significance) could also be included.
Warning Signs	• Place 25m from hazard if grade is 2% or less. • Place 40m from hazard if grade is greater than 2%.
Regulatory Signs	• Install at appropriate locations on the trail and/or active transportation route to inform users to all usage regulations and associated risks. These signs are typically placed around access point parking lots. Note: these can be incorporated into major or minor trailheads, and/or information kiosk. • Speed limit, stop or yield signs are typically placed on/at multi-use trails, route intersections, and crossings.

Clearance Guidelines

Clearances for off-road active transportation facilities (in-boulevard and trails) are as follows:

- Multi-use trails (**Figure 6.10**): Min. 600mm offset from edge of trail to edge of sign
- Trail decision point markers (**Figure 6.11**): 5-10m from the edge of the roadway
- In-boulevard active transportation facilities (**Figure 6.12**):
 - Min. 600mm offset from edge of pathway to edge of sign
 - Min. 2400mm vertical clearance from bottom of sign
 - Trail map min. 1200mm vertical clearance from bottom of sign
- Decision node at trail access and in-boulevard active transportation facility (**Figure 6.13**):
 - Decision sign 5-10m from trail access
 - Confirmation sign 20-30m from trailhead kiosk

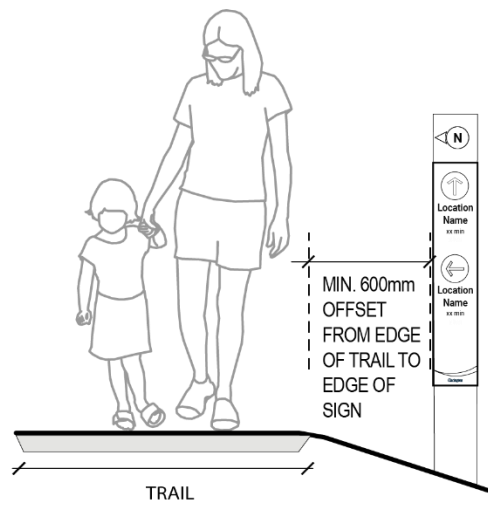


Figure 6.10: Trail Signage Clearance

D TRAIL DECISION
POINT MARKER

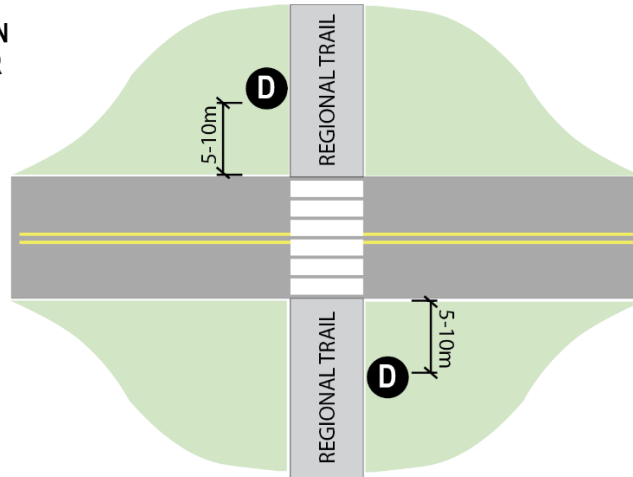


Figure 6.11: Trail Decision Point Marker Clearances from Roadway

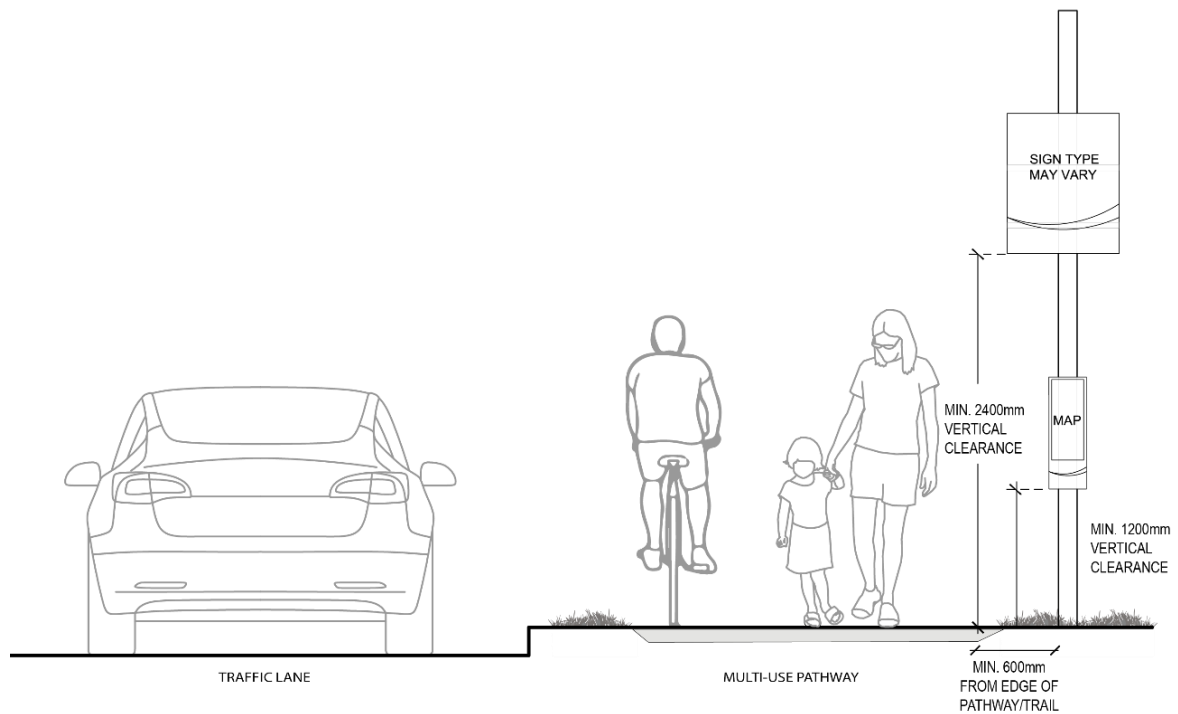


Figure 6.12: In-boulevard AT Facility Clearance

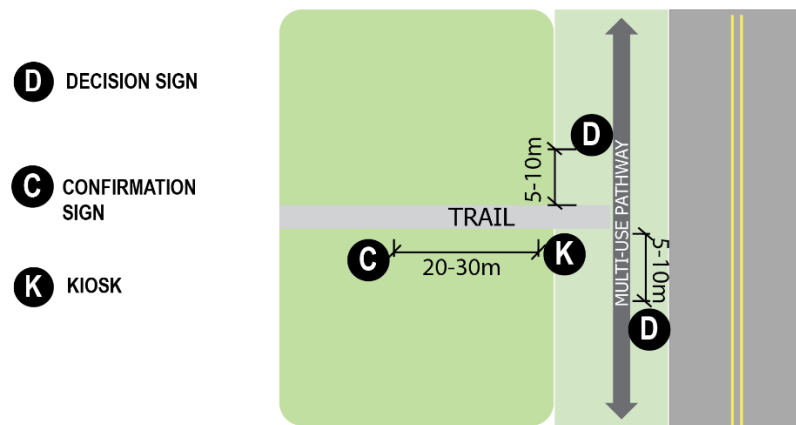


Figure 6.13: Decision Node at Multi-Use Pathway + Trail Access

6.6 Signage Standards

The following are standards based on best practices.

6.6.1 Accessibility and Graphic Standards

The following standards are based on best practices to guide signage design. This also includes any Etiquette, Safety, and Regulation signage.

Accessibility Standards:

- **Characters:** text on regulatory and warning signs along a trail should be 76-152mm (3-6") tall.
- **Symbols:** Use universal symbols/ icons within a minimum 150-mm (5.9") field.
 - Include corresponding text and braille below symbols.
- **Colour:** Ensure high colour contrast. I.e.: Light background with dark text, or vice versa.
 - Use universal colours appropriately (green = go/permitted, red = stop/not allowed)

Graphic Standards:

- **Clarity:** Keep signs clear, concise, and consistent.
- **Placement:** Position signs appropriately for visibility and readability.
- **Symbols:** Use universally understood symbols and pictograms.
- **Bilingual:** In bilingual areas, provide signs in both official languages (English & French).
- **Wildlife Awareness:** Include signs about wildlife encounters if relevant to the area.

Content and Style:

Etiquette and safety signage is pedestrian oriented. The content should include key messaging, use of text hierarchy, and include City branding so users are aware if it is a city-owned trail.

The style of the sign should have a consistent colour palette (typically based on corporate branding), use clear graphics and icons to decrease text heavy content, ensure signs adhere to accessible graphic standards and include items such as braille, colour contrast, and even sound to be inclusive.

Icons and symbols play a crucial role in effective signage as they convey information quickly, transcending language barriers and literacy levels. Universal symbols are widely understood and intuitive, they make the signage more accessible and inclusive. Regional Tourism Organization 7 (RTO-7) provides a wide range of these symbols.

The layout of information is vital – being able to interpret and digest the information at a quick rate keeps users from slowing down and increase their ability to take in the information being presented. Ensure the content and graphics are simple and easy to interpret and avoid unnecessary complexity.

6.6.2 Supportive Web Programming

Leveraging the municipal website and existing trail mapping content, physical signage can become a more dynamic and interactive component of the wayfinding strategy.

The majority of signs within the family of signs will have a QR code that will link users to a specific location on the website. The incorporation of this technology will enable another layer of interactive experience, with the ability to convey greater breadth and level of detail of information virtually. There is opportunity to build in options for user input, such as sharing reviews and experiences, as well as real-time updates of trail conditions. This type of engagement has been shown to help build a community of support, as well as assists users in planning their journeys. This can be of particular benefit to users with disabilities or mobility issues, and with who are unfamiliar with the area. A key benefit is the ability to update material on a regular, or even real-time basis, keeping content up to date and rolling out new content to be engaging for new and repeat users in a cost-effective manner.

Consistent and regular schedule of content should be planned for and maintained. Methods and appropriate mediums for promoting the online content should be regularly reviewed, and prominent, easy to navigate links should be provided on the municipal website to direct traffic to the site.

Table 6.3 Checklist for auditing the City's website content related to active transportation and the trails network.

Audit the City website to see what information, and where information, related to active transportation and trails network is located.	○ Is the information easy to find?	
	○ Is there a main page for active transportation or is it included in a general parks and recreation page?	
	○ Are there online and/or downloadable maps for the overall network and specific routes or trails for users to review when planning their activity?	☒
	○ Does the website and maps include accessibility information about the specific route and/or trail? ▪ Providing the details about the physical characteristics of the trail or route supplies the information required for a user to determine their level of accessibility when planning a route. Information should include: • Slope of path, degree of difficulty (exertion), surface material, length of trail/path, facilities available (rest stops, lookouts, trailhead/ washroom facilities, etc.).	
	○ Is the information updated regularly?	☒
	○ Does the style, aesthetic, and layout of the site match the branding of the wayfinding signage?	

- If QR Codes are incorporated into the physical signs, are the links reviewed regularly to ensure they are not broken? Can nested links be incorporated?



Improving online navigation, presentation, and ease-of-finding trail-specific information lends to a positive user experience. The inclusion of QR codes along trails and on information kiosks or trailheads encourage cross-traffic between the digital website and the physical signage. This can lead to increased traffic to the City’s website which creates the potential for increased revenue through advertising sales to reinvest into the trails and support online content.

6.7 Implementation Plan

Mitigating the challenges in implementing an active transportation wayfinding strategy involves proactive planning, effective communication, and adaptive management. The Route Forward outlines fundamental factors to guide the implementation of a wayfinding strategy:

Table 6.4 The Route Forward: Implementation Plan

The Route Forward:	Implementation Plan
 Coordination and Management	• Define clear roles and responsibilities for all team members and departments involved. Establish a central point of contact for coordination, such as assigning a Wayfinding Strategy Manager, and establish a review committee. • Ensure collaboration between various municipal and regional departments to streamline implementation and maintenance efforts. • Engage with permitting agencies early in the process to understand requirements and timelines and build relationships to facilitate smoother approvals. • Develop a detailed project plan outlining tasks, timelines, and responsibilities.
	• Develop a comprehensive budget plan with contingencies for unexpected costs. Regularly review and adjust the budget as needed. • Allocate annual budgets for the implementation and maintenance of wayfinding signage.

Budget Constraints	• Seek additional funding by exploring grants, partnerships, and sponsorship opportunities with local businesses and organizations.
 Public and Stakeholder Engagement	• Engage with the public and stakeholders using diverse methods (e.g., public meetings, online surveys, focus groups) to gather input and feedback. Adjust plans accordingly. • Be transparent in communication by keeping the public and stakeholders informed about progress, decisions, and changes to maintain trust and support.
 Technical and Logistical Issues	• Choose durable materials for signs that can withstand local weather conditions and potential vandalism. • Conduct thorough site assessments to identify and address any physical constraints before installation.
 Maintenance and Upkeep	• Establish a regular maintenance schedule and allocate resources specifically for upkeep. • Conduct regular inspections to ensure signs are in good condition and free from obstructions. • Establish a protocol for timely repair and replacement of outdated or damaged signs. • Implement a quality assurance process to ensure signs meet standards and address any issues promptly. • Maintain an up-to-date database of all installed signs, including their condition and maintenance history.
 Technological Integration	• Ensure that digital mapping platforms are regularly updated to reflect changes in physical wayfinding signs. • Use efficient data management systems to keep track of installed signs and their conditions.



Phasing and Prioritization

- Develop a flexible phasing plan that can adapt to changing priorities and budget constraints. Implementation of the signage should correspond to the implementation of the active transportation network routes.
- Be aware that gaps in the system will occur. Try best to minimize.
- Focus on high-impact areas first, such as primary routes and problem areas, to demonstrate early success and build momentum.
- Finalize the destination hierarchy list. Use abbreviations or icons as required.
- Select a qualified contractor through a competitive tender process.
- Ensure all installations adhere to the established design standards and safety regulations.



Long-Term Sustainability

- Design the wayfinding system with future growth and changes in mind. Regularly review and update the strategy based on performance data and feedback.
- Establish metrics to evaluate the effectiveness of the wayfinding system, such as user satisfaction surveys and usage data.
- Establish a process for continuous improvement, incorporating lessons learned and user feedback into future phases. Regularly review and update the strategy based on performance data and feedback.

By addressing these challenges proactively and adaptively, the implementation of the wayfinding strategy can be more efficient, effective, and sustainable.



Chapter 7: Education & Encouragement



7.1 Education and Encouragement Initiatives

When it comes to supporting active transportation, the importance of physical infrastructure, such as trails, multi-use paths and bike lanes are well understood and essential to improve the safety and comfort of users. What is less visible, and understood when it comes to supporting active transportation, is the social factors that make up the social infrastructure that can influence someone's choice to use active transportation devices or not.

Social Infrastructure represents the sum of a community's activities, services, programs and interpersonal connections that give people a reason, opportunity and skills to walk, roll or wheel more and safely. Without addressing barriers to the development of active transportation culture, such as access, ability, perceptions and awareness, many potential users will continue to be excluded.

To support this goal, the City should invest in social infrastructure initiatives that engage community members of all ages and abilities and educators, raise the profile of cycling, and empower local champions. These initiatives will complement physical infrastructure improvements and foster a stronger sense of community ownership and pride in active transportation. Partnering with local organizations will also be essential to cultivating a culture that supports walking, cycling, and wheeling in Niagara Falls.

Informed by community and stakeholder input and leading practices from across North America, a comprehensive set of programs is proposed to encourage active transportation. These programs are designed to build on the City's existing assets and leverage established relationships to generate excitement and sustained support.

To capitalize on the momentum of the Trails and Active Transportation Master Plan (TATMP), these initiatives should be prioritized for short-term implementation, setting the stage for early success and long-term impact.

Potential Partners

It is critical to build strong, effective and stable partnerships at the provincial, regional and local level to create a culture of active transportation and cycling in the City of Niagara Falls. The City and its potential partners should work together to create the social environment for change by identifying and strengthening relationships with key stakeholders.

By providing local partners with the necessary tools and resources, the City can strengthen their ability to develop and deliver programs tailored to the specific needs of their communities. As these partners take greater ownership of the initiatives, they are more likely to become dedicated champions of the TATMP and play a meaningful role in its successful implementation.

Error! Reference source not found. provides a list of potential partners, their roles and responsibilities for the City to build and or continue to grow relationships with to support the implementation of the proposed education and outreach programming.

Table 7.1 Potential list of local partners to support implementation of the recommended programming for the TATMP.

Partner	Role
Region of Niagara	The Region can collaborate closely with the City on programs that enhance and promote tourism initiatives. This partnership will focus on aligning local efforts with Region-wide tourism strategies. By working in partnership, the City and Region can leverage shared resources, amplify their reach, and create a more cohesive and compelling destination for visitors. The Region is already a leader in the promotion of active transportation, including their involvement in the Active School Travel Program (ASTP).
Tourism Niagara and Niagara Cycling Tourism Centre (NCT)	The City of Niagara Falls is home to one of the natural wonders of the world. This brings in thousands of tourists a year, many of which come to experience the falls as well the vineyards. Largely due to this, Niagara has also become home to one of the most popular cycling destinations in Ontario.
School Boards and Niagara Student Transportation Services	District School Board of Niagara (DSBN), the Niagara Catholic District School Board and the Niagara Student Transportation Services (NSTS) provide a direct connection to the youth of the community. As teaching, learning organizations, and transportation organizations, these partners will be vital in promoting safe walking, biking, and rolling events and workshops to the students. NSTS are already an active support for the Region of Niagara's involvement in the Active School Travel Program (ASTP), which makes them poised to support a variety of recommended programming.
Niagara Region Public Health	Niagara Region Public Health already advocates for a physically active lifestyle to improve the health of residents through programs such as the Healthy Streets Initiative. The public health unit can support recreational physical activities and provide education on the health benefits of active transportation at public events.
Mayor's Accessibility Advisory Committee	The Accessibility Advisory Committee works to promote a barrier-free and accessible community by advising on and supporting initiatives that improve accessibility for all residents. They will be a key partner in ensuring that accessibility is integrated into all programming, education and promotional campaigns associated with the TATMP.

City of Niagara Falls Recreation Committee	The Recreation Committee advises City Council on recreation, trails, green space, and active transportation, while promoting community wellbeing through partnerships, advocacy, and support for local recreation initiatives and events. This committee's expertise and stated purpose will be key to address active transportation concerns and opportunities as well as support the implementation of recommended programming that promotes active transportation.
The City of Niagara Falls Business Development Department	The Business Development Department promotes economic growth by helping coordinate city resources, provides guidance, and facilitates collaboration between BIAs and municipal services. The City of Niagara Falls is a key destination in the Region of Niagara, and the BIAs will play a crucial role in promoting and supporting new programs that promote walking, biking, and wheeling to the area.
Cycling Groups	There are various cycling groups both known and unknown to the City. A few include <u>Amici per la Vita Niagara Cycling Club</u> , and <u>Niagara Freewheelers</u> . A comprehensive list of cycling clubs in Niagara Falls can be found at the <u>Niagara Cycling Clubs Alliance</u> . All these groups have numerous members and have demonstrated their capability to organize and host special events in the community. This makes them an excellent source of capacity, expertise, and support for project promotion and implementation where available.
Community Groups	Community groups have the potential to support educational programming and events based on their interest in the success and resilience of their own neighbourhoods. Some examples include: • <u>Strong Towns Niagara Falls</u>: a local chapter of the international Strong Towns movement, which advocates for financially resilient, safe, and people-centered communities. Their contextual knowledge and care for the City of Niagara Falls could lend to supporting a variety of events and educational programming. • <u>Bike Niagara</u>: is a volunteer-led organization founded by local cycling advocates. It promotes safe cycling, helps new and returning riders get started, and offers skill-building programs for all ages, including beginner courses, on-road training, and bike rodeos. With extensive experience in program development and delivery, Bike Niagara is well-equipped to lead or support a range of cycling initiatives. • <u>Start Me Up Niagara</u>: a resource centre that provides wrap around services (food, transportation, employment

	services). Most services, including Bike me Up; a bike shop that receives donated bicycles from the public, operate out of St. Catharines. • <u>Heart Niagara</u>: is a non-profit focused on community health education and emergency response training. Their deep local roots and commitment to public well-being make them a strong ally for health-focused events and programming.
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7.2 Programming

The City is committed to promoting active transportation through the implementation of outreach programs, special events, and strategic partnerships with a range of agencies and organizations.

The following implementation methods and programming recommendations are designed to encourage residents to walk or cycle more frequently, while also aiming to improve public attitudes toward active transportation, enhance safety for all road users, strengthen partnerships with local organizations, and support existing initiatives led by community groups.

Niagara Region is expected to update their Transportation Master Plan (TMP) within the next couple years. This is important to note, as some of the following programming recommendations that will support The City of Niagara Falls, will greatly benefit from and in some cases require Regional leadership, funding and implementation. Each recommendation will indicate who it is to be led by, the City or the Region.

Any active transportation programming implemented by the Region and its municipalities, such as the City of Niagara, should consider applying an **equity lens** to explicitly consider and support equity-deserving communities. A general approach of how to apply an equity lens to each recommended program below is included.

7.2.1 Programming Implementation

Although the City and its partners, including the Region, currently support active transportation through existing staff and volunteers, the following programming recommendations would require significant additional effort. Maintaining current programs while expanding and fostering new partnerships will be challenging. Therefore, outside of partnerships, the City will need to consider ways to consistently implement and track the success of the proposed active transportation programming.

7.2.2 Community Programming

Public Awareness Campaigns

Awareness campaigns play a vital role in supporting the successful implementation of the Trails and TATMP. These initiatives aim to inform, educate, engage, and inspire the community to adopt active transportation and practice safe, respectful road-sharing behaviors. Campaigns may focus on increasing public understanding of active transportation, encouraging courteous conduct, promoting new infrastructure, or fostering community involvement.

It has been noted by key stakeholders that a campaign on road safety for all road users would be valuable to provide a clear break down of the rules of the road and promote a narrative that is grounded in mutual respect and safe behaviour for all road users across the City and Region.

This should include education around how to use new active transportation infrastructure. For example, when York Region implemented bicycle boxes as new infrastructure, they provided educational signage for the public and hosted a community session to help residents understand how to use them correctly (see **Figure 7.1**).



Figure 7.1 Demonstration of left-turn bike boxes at a signalized intersection to improve cyclist safety and navigation (York Region).

Campaign strategies can include sharing existing resources through local communication channels or developing new, locally tailored messaging. When the goal is to raise awareness or promote respectful behavior, the City can make effective use of existing materials, such as:

- Videos and print materials developed by the Share the Road Cycling and Canadian Automobile Association to promote the 1m safe passing law, reduce “dooring”, and promote sharing the road: <https://sharetheroad.ca/public-awareness-campaigns/>.
- The Ontario Cyclists Handbook produced by Cycle Toronto: <https://www.cycleto.ca/torontocyclinghandbook>.

When developing new local materials, key strategies include:

- **Topic(s):** Identify important local topics to address based on internal and external engagement, including reviewing data from public surveys and other engagements.
- **Branding and Messaging:** Develop a recognizable campaign brand with a clear, inclusive message.
- **Expanded outreach:** Leverage social media, local radio, newspapers, and community newsletters. Create engaging content with a clear narrative, using videos, infographics, interactive tools and testimonials from local active transportation champions.
- **Educational materials:** Distribute brochures, maps, and safety guides at community centers, libraries, and online. Ensure resources are multilingual to reach all demographics.
- **Pop-ups at Events:** Have a pop-up booth at events, like the farmers market or festivals, to promote active transportation.
- **Partner with local organizations:** Collaborate with community organizations, clubs, recreational facilities schools etc. to co-create (where appropriate) and distribute materials to amplify messaging through their networks.
- **Evaluation and Feedback:** include ways for the community to provide feedback (e.g., QR codes linking to surveys) to assess campaign effectiveness and guide future improvements.

When possible, messaging should be co-developed with communities most impacted by mobility inequities, reflecting their lived experiences and priorities. Use inclusive language, diverse imagery, and accessible formats to reach people across age, ability, income, race, gender, and geography.

It is recommended that the City determine the most relevant education and active transportation engagement related needs to create all future campaigns, following the key strategies outlined above that speak to this.

Table 7.2 Public Awareness Campaigns Roles and Partners

Role	Organization
Lead	• City of Niagara Falls (Transportation Services)

Recommended Partners	• City communications team • Niagara Region • Local news outlets • Transportation Services • Cycling Groups • Community Groups • Farmers Markets • The City of Niagara Falls Business Development Department
Inspiration	• Be Safe Campaign – City of Toronto • Bicycle Safety Campaign – City of Toronto • Cycling and e-scooter safety – City of Mississauga

Active Transportation Communications Strategy

As the City begins to solidify its active transportation programming and education, having consistent and regular messaging is critical. A brand with City colors and associated graphics should be created and included on all promotional material used for any program or event put on by the City in relation to active transportation. This will allow for a wider reach throughout the community, generating interest as the brand becomes more recognizable and established.

It is recommended that the City works with their communications team to create a clear communications strategy for their active transportation programming and events once established.

Centering the voices and needs of equity-deserving groups in both message development and delivery channels. Prioritize transparency, cultural relevance, and accessibility to ensure communications resonate across diverse communities and reduce barriers to engagement. This should include providing translated materials and multilingual support.

Table 7.3 Communications Strategy Roles and Partners

Role	Organization
Lead	• City of Niagara Falls (Transportation Services)
Recommended Partners	• City communications team • Niagara Region • Cycling Groups • Community Groups
Inspiration	• Cycle Toronto • Cycling – City of Mississauga

Community Bike Hubs

Bike Hubs can act as essential community spaces that promote and support cycling, creating a welcoming and inclusive environment for cyclists and other rollers of all ages and abilities.

Bike Hubs break down barriers for people both beginning and wanting to continue to cycle by offering:

- **Services:** this can include bike repairs, rentals, secure bike parking and education. All programming is meant to be offered for free or at a low cost.
- **Space:** for local cycling clubs and advocacy groups to meet, plan and discuss events, store gear and collaborate with other like-minded groups.

By supporting the creation of a Bike Hub, the capacity of local clubs, advocacy groups, community programs and individuals can be strengthened, allowing them to serve the community by encouraging and supporting relevant programming. Potential programming could include:

- **Repair and Maintenance Services:** Offering access to essential tools, air pumps, and staffed repair services to help residents keep their bikes in safe working condition.
- **Cycling Information:** Providing maps, route guides, safety tips, and up-to-date information on cycling infrastructure and events in the City of Niagara Falls.
- **Workshops and Learning Sessions:** Hosting a range of educational programs, including:
 - Basic bike maintenance
 - Learn-to-ride sessions for children, adults, and newcomers
 - Road rules and cycling safety
 - Winter cycling tips



Figure 7.2: Niagara Freewheelers Bicycle Touring Club (Source: Niagara Freewheelers, 2025)

Separate programming for equity-deserving communities should be developed and or supported, as creating dedicated spaces for these communities has been shown to enhance participation and engagement. This is mainly due to a greater sense of safety and shared understanding that these environments provide to the community.

It is recommended that the City support a local community organization to implement a Bike Hub in the City of Niagara Falls. This toolkit provides guidance on planning your location, identifying local barriers, removing these barriers and starting to cycle, and programs to keep people cycling.

Finding a space to permanently host a cycling hub may be difficult. If a permanent space isn't possible, community programmers can consider creating a mobile bicycle hub to carry equipment for pop-up programming at partner spaces. **It is recommended** that the City provide space for the Bike Hub and or bike hub programming, such as repair pop-ups, free of charge at City run facilities (including recreation facilities, libraries community centres etc.)

Table 7.4 Community Bike Hubs Roles and Partners

Role	Organization
Lead	Community Groups
Recommended Partners	- City of Niagara Falls (Recreation and Culture) - Heart Niagara - Cycle Shops - Community Groups - Port Colbourne High School Broken Spoke Program- refurbishing bikes as both an enjoyable activity and to provide for those in need. - The City of Niagara Falls Business Development Department Start Me Up Niagara- resource centre the provides wrap around services (food, transportation, employment services) - United Way Niagara TOES Niagara – empowering marginalized women and immigrants through workshops, programs and other supports.
Inspiration	Building Bike Culture Beyond Downtown: A Guide to Suburban Community Bike Hubs January 2019 - The Centre for Active Transportation Unleashing the Power of Community Bike Hubs - The Centre for Active Transportation Hamilton New Hope Community Bikes Sheridan Bike Hub Mission Zero

Open Streets Events

Open Streets initiatives have been seen across North America, temporarily closing streets to motor vehicles, and transforming them into pedestrian-friendly spaces for walking, cycling, recreation, and community events. They are often designed as a large street fair, and should be held within highly travelled areas such as commercial main streets, as this can support local business and commerce. Generally, These events aim to promote active transportation, improve air quality, and foster community engagement by reclaiming public space from cars.

The City of Niagara Falls has hosted similar initiatives such as the Niagara Falls Night of Art (See **Figure 7.3**) and Halloween Fright Fest; where Queen Street is partially closed off to vehicles for pedestrianized activities. The City has also held similar open streets initiatives on Centre Street.



Figure 7.3: Niagara Falls Night of Art (Source: Niagara Falls Review, 2025)

They are similar to School Streets programs (see below) in that both prioritize safety, health, and accessibility by limiting vehicle traffic during key times. However, School Streets are more targeted, focusing specifically on streets adjacent to schools during drop-off and pick-up times to create safer environments for children

It is recommended that the City use past events such as Niagara Falls Night of Art in combination with the Open Streets Toolkit (at [Open Streets Toolkit - Open Streets Project](#)) to plan an Open Street Event. This toolkit provides guidance on planning your location, funding the program, marketing, logistics and evaluation of the events success.

It is recommended that City collaborate with municipal staff, and community stakeholders to:

- Identify a suitable location (downtown commercial area such as Queen Street and Main Street).
- Develop clear signage and enforcement protocols
- Provide options for increased bicycle parking during these events (to support active transportation and enhance accessibility)

Consider prioritizing hosting open street events in underserved neighborhoods and ensure programming reflects the cultural diversity and mobility needs of local residents.

Engage community members in planning, provide multilingual outreach, and design inclusive spaces that welcome people of all ages, abilities, and backgrounds.

Table 7.5: Open Streets Events Roles and Partners

Role	Organization
Lead	• City of Niagara Falls (Transportation Services)
Recommended Partners	• City communications team • Niagara Region • Niagara Falls Tourism • Equity-deserving Community Groups • The City of Niagara Falls Business Development Department
Inspiration	• Open Streets Toolkit - Open Streets Project • NYC DOT - Open Streets • OpenStreetsTO openstreetsto

Feasibility Study for Bike Share and Lending Program

As part of the City's broader commitment to enhancing active transportation options, promoting sustainable mobility and tourism, a feasibility study to explore the potential implementation of a Bike Share Program in the City. A feasibility study would assess the viability, benefits, and challenges of introducing a bike share system within the community. The study would evaluate key factors such as:

- **Community Demand:** Assessing interest and potential usage among residents, visitors, and commuters.
- **Financial Considerations:** Estimating capital and operational costs, potential funding sources, and revenue opportunities.
- **Operational Models:** Exploring different bike share models (e.g., docked vs. dockless systems) and identifying best practices from comparable municipalities.

- **Partnership/Ownership Models:** Exploring different bike share ownership models (e.g., private, private + public or public models) and identifying best practices from comparable municipalities.
- **Maintenance and Rebalancing Logistics:** Proposing a viable plan for bike redistribution, on-going maintenance, and customer service needs to make sure the system is reliable once operational.
- **Environmental and Health Benefits:** Evaluating the potential for reduced vehicle emissions and increased physical activity.
- **Risk Management and Liability:** Overviews safety protocols, legal and insurance considerations related to both user liability and municipal responsibility.

Bike Share and Tourism

There have been a mix of results when bike share has been implemented as a tourism system. Systems such as the Ottawa-Gatineau bike share system that ran from 2014-2018. However, some cities see strong benefits of bike share for both tourists and residents when planned well. For example, a bike share system in Indianapolis provides free 30-minute rides for residents of the county. Rides taken by tourists, which are more than a third of all trips, provide the economic benefits to offset costs and create economic benefits. The bike share system in the City of Miami Beach is another larger tourism-focused bike share system that includes different pricing systems targeted at tourists and residents. Additional cities in Canada with large tourism economies are exploring bike share and scooter share systems, including the City of Charlottetown.

It is recommended that in partnership with the Region and/or Niagara Parks Commission, the City consider conducting a feasibility study to explore the implementation of a Bike Share Program within the urban areas of the City including the central tourism area and along the Niagara River Parkway. Include residential areas with high cycling potential in the pilot area and provide pricing plans with lower rates for residents than tourists. The City should reach out to municipalities that have permitted bike share systems in their municipality to discuss their approach to permitting. The City should also connect with private operators to review the possibility of a pilot program in the City of Niagara Falls is recommended. The bike share pilot program should include a pricing model that provides lower costs for residents and subsidized passes for equity-deserving populations.

Table 7.6: Bike Share Roles and Partnerships

Role	Organization
Lead	• City of Niagara Falls (Transportation Services and/or Recreation and Culture)
Recommended Partners	• City communications team

	• Niagara Region • Niagara Parks Commission • Niagara Falls Tourism • Niagara Cycling Tourism • The City of Niagara Falls Business Development Department
Inspiration	• Bike Share in Ottawa-Gatineau 2024 v4 - Final • Windsor Bike Share Feasibility Study • Bike Share Toronto – Reduced Fare Pass Program • Hamilton – Everyone Rides Initiative (Sobi Bike Share)

7.2.3 School Programming

Investing in active school travel initiatives can help improve safety for students getting to school and reduce traffic congestion during peak hours while promoting physical activity and social interaction among children and their families. As of 2022, only 2% of students in Ontario were provided active transportation (walking and wheeling) training annually.

The following programs are recommended to encourage active school travel. It's important to start promoting and encouraging opportunities for active travel at a young age to create lifelong habits and instill confidence through experience and education surrounding active travel.

Reactivate and Expand the Active School Travel Program (ASTP)

An Active School Travel Program (ASTP) is an initiative that promotes and supports children traveling to and from school using physically active modes of transportation. The program is designed to improve student health, enhance safety around schools, and reduce traffic congestion.

The program (ASTP) offers a clear framework, along with guidance and tools, to support schools and communities in working together to create and carry out customized School Travel Plans (STPs). Successful implementation relies on collaboration among schools, local stakeholders, and residents to effectively address transportation challenges

At a Regional level, Niagara School Transportation Services (NSTS) has worked with elementary schools throughout Niagara to promote Active School Travel through a variety of programming. This includes campaigns that promote walking and biking with a variety of celebratory events throughout all seasons such as the IWalk Campaign, Winter Walk Day (See **Figure 7.4**), Spring into Spring, Bike Week and Bike Month.



Figure 7.4 Winter Walk Day campaign ad (Source: Ontario Active School Travel, 2025).

Since the COVID-19 pandemic, the ASTP has been less active in the Region, and a need and desire for programming that more intentionally incorporates and engages the surrounding neighbourhood to improve overall walkability for the community has become apparent. Engaging the neighbourhood in active school travel programming ensures that initiatives are rooted in the local context, making them more relevant, inclusive, and effective. It builds community ownership, strengthens relationships between schools and residents, and helps create safer, more welcoming routes that reflect the needs and character of the area.

It is recommended that the City supports reactivating the ASTP programming already implemented by Niagara Region, prioritizing neighbourhood walkability as a key objective within new programming. This can be done by using their already established connections with Niagara Student Transportation Services and Public Health to locally expand on the Regions previously implemented ASTP programming, allowing for the surrounding neighbourhood is more intentionally incorporated into the programming and benefits from its outcomes.

To ensure the successful rollout of these programs, some things should be considered:

- **Costs for programming:** After a program focus and scope is defined, resources required to make this plan happen need to be determined. Walking & Wheeling Skills Resource Hub provides a program expense mapping tool to support this planning, as well as potential funding sources, found here [Walking & Wheeling Skills Resource Hub - Ontario Active School Travel](#)
- **Program Materials:** there are already numerous ASTP programs out there, using existing materials is a great way to give more time to the planning and program delivery. The

[Walking & Wheeling Skills Resource Hub - Ontario Active School Travel](#) provides summaries of both walking and cycling training curriculum and associated materials.

- **Instructor training and recruitment:** the City should consider coordinating with the local transportation consortia to hire a paid STP facilitator to support this program. For more information on School Planning, visit <https://greencommunitiescanada.org/programs/school-travel-planning>

It is important to ensure that cost planning, materials selection, and instructor recruitment reflect the diverse needs of students and communities. When using tools like the Walking & Wheeling Skills Resource Hub, it's important to prioritize schools facing systemic barriers, such as limited infrastructure or funding, and to select culturally relevant materials and facilitators who reflect and understand the communities they serve. Green Communities Canada offers a School Travel Planning toolkit to help implement these programs in communities. The toolkit can be found at <https://schooltravel.ca/school-travel-planning-toolkit>

Table 7.7: Active School Travel Program Roles and Partners

Role	Organization
Lead	• Niagara Region
Recommended Partners	• City of Niagara Falls (Transportation Services, Recreation & Culture) • Niagara Student Transportation Services • Niagara Region Public Health • School boards
Inspiration	• Active and Sustainable School Travel City of Hamilton • Active School Travel City of Windsor

Implement School Streets

School Streets initiatives an innovate approach to promoting active school travel, reduce traffic congestion around schools and prove a safe and fun place for children to enjoy in close proximity to their school. This is done through temporary street closures next to or in front of schools to regular vehicle traffic, allowing only for cyclists, pedestrians and authorized vehicles during specific hours.

A combination of techniques is used to close the street temporarily, such as signs, pylons, service vehicles and volunteers to create a hard closure to traffic. This setup offers nearby students a safe and calm route to walk or bike to school, while encouraging families who drive to

adopt a “Drive to 5” approach—dropping children off a short walk away to ease congestion and support active travel for the final stretch. This program is often implemented during an awareness month like Bike Month, to facilitate conversations around city wide pedestrian and cyclist safety plans.

It is recommended that the City use the [8 80 Cities Piloting School Streets Toolkit](#) , which provides worksheets, site selection guidance, and communication templates, to implement a School Streets Program. It is recommended that City collaborate with the school boards, municipal staff, and community stakeholders to:

- Identify suitable pilot locations
- Develop clear signage and enforcement protocols
- Engage families and residents in the planning process

To ensure a smooth rollout and gather valuable feedback, the initiative is recommended to begin as a pilot project at one or two schools.

It is important to make sure site selection, signage, and community engagement **processes are inclusive and responsive to the needs of equity-deserving groups**. When using the 8 80 Cities Piloting School Streets Toolkit, the City should prioritize schools in underserved areas, co-design signage and enforcement protocols with community input, and actively engage families, especially those who may face language, mobility, or trust barriers, to ensure the program is safe, accessible, and empowering for all.

It is recommended that the City monitor the outcomes of the National School Streets initiative lead by Green Communities Canada. Recommendations and lessons learned from the national pilot should guide the City’s efforts.



Figure 7.5: School street closure sign in Victoria, BC

Table 7.8: School Streets Program Roles and Partners

Role	Organization
Lead	• City of Niagara Falls (Transportation Services)
Recommended Partners	• City communications team • Niagara Region • Niagara Region Transit • Niagara Student Transportation Services • School Boards • Niagara Region Public Health
Inspiration	• School Travel Planning Toolkit - SchoolTravel.ca • Equity and Engagement in School Travel Planning • 8 80 Cities Piloting School Streets Toolkit • School Streets - Green Communities Canada • TORONTO SCHOOL TRAVEL PLANNING - Green Communities Canada

7.2.4 Future Community Programming

The programs in this chapter provide a strong foundation for active transportation education and encouragement, but the City should continue look for opportunities to remove barriers to active transportation that may limit participation. Future programming should address financial constraints, systemic discrimination, language and cognitive barriers, and varying risk tolerance levels to ensure the network is accessible and inclusive for all.

The programs presented here have been designed to build on the City's successes and leverage the relationships that already exist within and around the community to create more support for active transportation. The programming recommendations in this chapter are based on the successes and lessons learned from comparable municipalities in Ontario and beyond but are filtered through the local context and the knowledge of key stakeholders within the City.

As programs evolve based on lessons from other municipalities² and local stakeholder input, equity considerations should guide decisions around which programs are prioritized, how engagement is conducted, and how barriers to participation are addressed—so that all residents, regardless of background or circumstance, can benefit from safe and accessible active transportation options.

² The INTERACT and LevelUp Planning report titled "Practices and Inspiration for Sustainable Transportation Equity" presents case studies from New Westminster, Edmonton, and Ottawa, showcasing how cities can embed equity into the planning, implementation, and evaluation of transportation interventions. It emphasizes co-creation with communities, reconciliation, and the use of lived experience to guide more inclusive and effective mobility strategies



Chapter 8: Monitoring & Reporting



8.1 Monitoring and Reporting

Establishing monitoring, evaluation and reporting programs is crucial for assessing the long-term success of an TATMP and ultimately determines if facilities and programs are achieving their intended goals or not. These programs provide a framework for collecting and analyzing data on travel patterns, user behaviour and infrastructure performance.

8.2 Monitoring Metrics & Measures of Success

Monitoring is a key step in evaluating the true success of routes and informing future investments and implementation. Grounding monitoring programs in data-driven approaches will allow the City of Niagara Falls to make more proactive rather than reactive decisions about how and where to invest.

Key performance indicators (KPIs), highlighted in **Table 8.1**, measure usage levels, safety outcomes, and user satisfaction. These metrics, when reviewed regularly, help build a baseline and identify trends across the active transportation network.

Consistent monitoring also allows the City to respond more quickly to evolving needs. For example, during busy seasons, demand for bike parking in downtown and high tourism areas may rise sharply. By tracking usage of bike parking, staff can pinpoint these areas of need and quickly install temporary bike racks. This adaptability improves the user experience and promotes active transportation. Monitoring bike parking is a simple, immediate action that can follow the TATMP's approval.

8.2.1 Applying an Equity Lens

Monitoring transportation equity involves assessing how fairly and inclusively the transportation system serves all members of the community, regardless of identity, income, ability, or location. This is critical to ensure that all community members, especially equity-deserving groups, benefit from improved access and mobility. By identifying disparities in transportation infrastructure, the City is more able to promote fair and inclusive outcomes and ultimately address disparities in transportation infrastructure. It is recommended to ensure that all monitoring and data collection processes are developed with a transportation equity lens.

This should include monitoring and reporting on systemic barriers and imbalances defined and determined by equity-deserving groups in relation to access/usage of the active transportation network and associated infrastructure. An example of a tool that can help guide development of a transportation equity lens, is the Gender Equity Tool Kit in Transport (GET IT). The purpose of this tool is to educate transportation experts about the influence of their work and choices on women's travel.

It serves as a guide to promote gender-sensitive practices, aiming to establish transportation systems that are equitable for all genders. This includes guidelines on monitoring, evaluation and adaptation. While this is a gender specific example, this framework can be applied across all programs and measurements.

Examples of how an equity lens can be applied to KPI measurements and monitoring and evaluation programs is included in **Table 8.1** and **Table 8.2**, respectively.

Table 8.1: Recommended Key Performance Indicators (KPIs)

Indicator	Measurements	Example of Equity Lens Application
Usage	- Cyclist and pedestrian counts (#) - Percent of children who walk or bike to school (%) - Percent of seniors who walk or bike (%)	- Percent of equity - deserving communities* who walk or bike (%) - Percent of children who belong to an equity - deserving community* who walk or bike to school (%) - Percent of seniors who belong to an equity - deserving community* who walk or bike (%)
Safety and Perception of Safety	Number of reported pedestrian or cyclist incidents (#)	Percent of reported pedestrian or cyclist incidents belonging to equity - deserving communities* (%)
Bike Parking	- Number of short-term bike parking spots (#) on City property - Number of long-term bike parking spots (#) on City property - Use of bike parking spots (#)	Percent of short and long-term bike parking in equity - deserving areas** (%)
Signage & Wayfinding	- Installation of signage features (#) - Number of network wayfinding complaints (#) - Opinion of different user groups (Likert scale)	- Installation of signage features in equity- deserving areas** (%) - Percent of network wayfinding complaints in equity - deserving areas** (%) - Percent of language used on Wayfinding and Signage that matches the highest spoken language within said community Signage is placed (%)

ATMP Implemented	• Percentage of projects completed (%) • Length of projects implemented (km)	• Percentage of new ATMP infrastructure within equity-deserving areas** (%)
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* The City must determine who will be considered as equity-deserving communities within the context of the TATMP by using best practices, community engagement and available data.

** The City must determine equity-deserving areas using best practices and up to date available data – as these areas are determined not only by population data but by inequitable outcomes (ex: unemployment, low income etc.) and can change over time.

8.3 Reporting

In addition to guiding future project prioritization and budget allocation, transparent reporting of monitoring results can help demonstrate the value of active transportation investments to residents and elected officials, building broader support for continued implementation.

The recommended programs to support monitoring, evaluation and reporting of the TATMP are summarized in **Table 8.2**.

Table 8.2: Monitoring, Reporting, and Evaluation Programs

Program or Mechanism	Timeline	Description	Method	Key Performance Indicators	Resources/Similar Programs
Short-term Active Transportation Count Program	Annually, during peak season	Manually collect and document cyclist and pedestrian activity within the City during the summer.	Manual counters should be at key destinations between May and August for 1-2 hour intervals per location, collecting data during morning, afternoon, and weekend peak periods. Counts can be conducted by summer students in the short-term through grants for summer student job funding.	Cyclist and pedestrian counts (#) Percent of equity-deserving communities* who walk or bike (%) Percent of seniors who belong to an equity-deserving community* who walk or bike (%)	Cyclist and Pedestrian Counts – Co-design the Active City Trails Conservancy Trail User Surveys and Counting – providing further guidance on how to collect trail user data Pedal Poll – Canada's National bicycle count
Automated Counters	Continuous	Monitor active transportation users on key facilities with automated counters for extended time. Information provided by automated counters will allow for a data-driven approach to the ATMP updates.	Automated counters could be placed on Spine routes within the Municipality that create key connections, such as the Millenium Recreation Trail and Olympic Torch Legacy Trail. As more automated counters are installed, they	Cyclist and pedestrian counts (#) Percent of equity - deserving communities* who walk or bike (%) Percent of seniors who belong to an equity-	City of Hamilton Active Transportation Benchmarking Program City of Ottawa Eco Counter

			should be focused on other Spine routes and lower-order cycling routes. The City should also work with local partners already engaged in data collection to leverage existing trail usage data.	deserving community* who walk or bike (%)	
Bike Parking Availability	Annually, during peak season	Monitor bike parking availability at destination areas during peak times.	Regular checks of bike parking (e.g., bike racks) at key destinations within the City during weekdays and peak cycle-tourism times in summer. As bike parking approaches capacity during peak times, explore opportunities for additional bike rack locations.	Number of short-term bike parking spots (#) on City property Use of bike parking spots (#) Percent of short and long-term bike parking in equity - deserving areas** (%)	Bicycle Detection Systems - LumiGuide Introducing Bikekeep Network for Cities – where bike parking meets the Internet of Things
Surveyed attitudes and opinions	Biennially	Monitor users perception of safety, comfort, and quality of active transportation facilities using City wide surveys and engagement tactics.	Develop a survey that allows the City to gather a fuller picture of resident's first-hand experience with active	Number of reported pedestrian or cyclist incidents (#) Percent of reported pedestrian or cyclist	City of Vancouver Annual Transportation Survey

			transportation facilities and programs. Other methods of attitude and opinion data collection can be considered including online journalling, as outlined by Bicycle UX. This data can be used to improve programming and future infrastructure, as well as strength community relationships with the City.	incidents belonging to equity - deserving communities* (%)	Online Journaling BicycleUX
Tourism Travel	Annually, during peak season	Monitor changes in cycling tourism in Niagara Region.	Develop a trail user survey including economic impact related questions. This data can guide the development of tourism-boosting projects and justify further investments in cycling infrastructure.	Percent change in tourism revenue (%) Percent of survey respondents belonging to equity - deserving communities* (%)	Rais to Trails Conservancy Trail User Surveys and Economic Impact
School Travel	Annually, during the school year	Monitor changes in how students get to school.	Monitor changes in transportation to school through a	Percent of children who walk or bike to school (%)	Bike Walk Roll – showing survey examples that can be

			survey conducted by the school board.	Percent of children who belong to an equity - deserving community* who walk or bike to school (%)	used by teachers in the classroom.
Monitoring Demographic and Travel Trends	As data is released, annually	Monitor trends for demographic changes.	Monitor changes in demographics and travel trends in the municipality as updated data is released, including the Census and Transportation Tomorrow Survey. Updated data should be reviewed through the update cycle for the TATMP. Additionally, as Statistics Canada's Journey to Work data only captures commuting patterns, the City could consider collecting user data through methods such as trip diaries to get a fuller picture of transportation behaviors.	Active transportation mode share by demographic group Percent of seniors who walk or bike (%) Perceived safety of AT infrastructure by demographic group	Ottawa Transportation Master Plan Update – Transportation Trends Report City of Vancouver Trip Diary survey

Plan Implementation	Annually	Report on the actual implementation of projects against the plan as a percentage.	Develop an annual implementation report presented to Council.	Percentage of projects completed (%) Percent of community engagements held in equity-deserving areas** (%) Percent of community engagements attended by individuals from equity- deserving communities* Percent of new AT infrastructure within equity-deserving areas** (%) Percent of language used on Wayfinding and Signage that matches the highest spoken language within where said community signage is placed (%) Language and format used in outreach and engagement materials	Ottawa Transportation Master Plan Update – Transportation Trends Report
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* The City must determine who will be considered as equity-deserving communities within the context of the TATMP by using best practices, community engagement and available data.

** The City must determine equity-deserving areas using best practices and up to date available data – as these areas are determined not only by population data but by inequitable outcomes (ex: unemployment, low income etc.) and can change over time.

8.4 Implementing the Program

The following four steps are recommended to guide the implementation of monitoring, reporting and evaluation programs:

1. Develop a Baseline: To understand the existing conditions, baseline data for both programming and facilities should be collected before their implementation or construction begins. To collect baseline data, key performance measures (KPIs) must be decided on and data collected before any program or facility is introduced.
2. Determining Key Performance Indicators: These metrics should be monitored, evaluated against baseline data to assess the impacts of the AT implementations on each metric and reported annually to develop yearly data trends for AT activities in the City.
3. Monitor Usage Patterns Regularly: Monitoring activities should be conducted over the long term to allow AT usage patterns to stabilize, typically around six months after implementation. Evaluating operations in various weather conditions and seasons is crucial to ensure the TAT network functions well under different circumstances.
4. Communicate Findings and Lessons Learned: These annual reports can showcase the new infrastructure investments that have been implemented, the ways new programs and partnerships are engaging more residents, and the overall trends in transportation behavior as the City's active transportation network continues to expand.

These reports can act as accountability tool for the City, ensuring transparency of outcomes from the monitoring process to stakeholders, the public and City Council.

8.5 Determine AT Responsibilities at the City

Active transportation spans across various departments depending on the exact initiative, program, infrastructure or policy being introduced. It is recommended to determine and assign AT responsibilities to the most relevant City departments. **Table 8.3** provides recommendations on what departments could be responsible for delivering and or over-seeing what AT responsibilities.

Table 8.3: City Department Potential AT Responsibilities

Lead Department	Responsibilities
Planning & Development	- Integrate AT into development review by ensuring that new subdivisions, site plans, and secondary plans include pedestrian and cycling facilities. - Align policies and land use planning, including the City's Official Plan policies and Zoning By-law, with AT objectives. This includes identifying land use scenarios that promote mode shift, to ensure that AT is a core component of urban growth strategies.
Recreation and Culture	- Integrate trail systems, green spaces, and recreational amenities into AT network planning. - Ensure that AT amenities are placed throughout the trail network in a way that supports recreation and mobility goals (e.g. placement of amenities such as bike parking, wayfinding and end-of-trip facilities) - Support existing community groups to deliver AT related programming and education (e.g. Active School Routes, Community Bike Shops with associated programming) - Implement and lead AT related programming and education initiatives (e.g. programming listed below, public education campaigns, etc.)
Transportation Services	- Develop and refine active transportation network plans by integrating multimodal connectivity goals with land use patterns, safety audits, and equity-focused design principles to ensure accessible and inclusive infrastructure. - Coordinate with internal divisions and external agencies to align capital project delivery timelines, maintenance standards, and funding strategies with long-term active transportation objectives, ensuring seamless implementation across departments and minimizing disruptions to existing operations.

	• Facilitate policy integration and feasibility review through participation in committees and stakeholder workshops to align TATMP goals with existing transportation and City-wide policies and infrastructure realities, ensuring that new facilities are feasible and maintainable.
Municipal Works	• Integrate AT infrastructure into broader municipal projects by coordinating with planning and infrastructure teams to embed cycling and pedestrian facilities into road reconstruction, capital works, and retrofit programs • Contribute technical expertise to ensure AT facilities meet current design standards and safety guidelines, including Book 18 compliance, and support implementation through design reviews, budgeting input, and monitoring strategies • Coordinate ongoing maintenance and operational integrity of active transportation facilities, this includes seasonal upkeep, surface repairs, and ensuring accessibility standards are met.