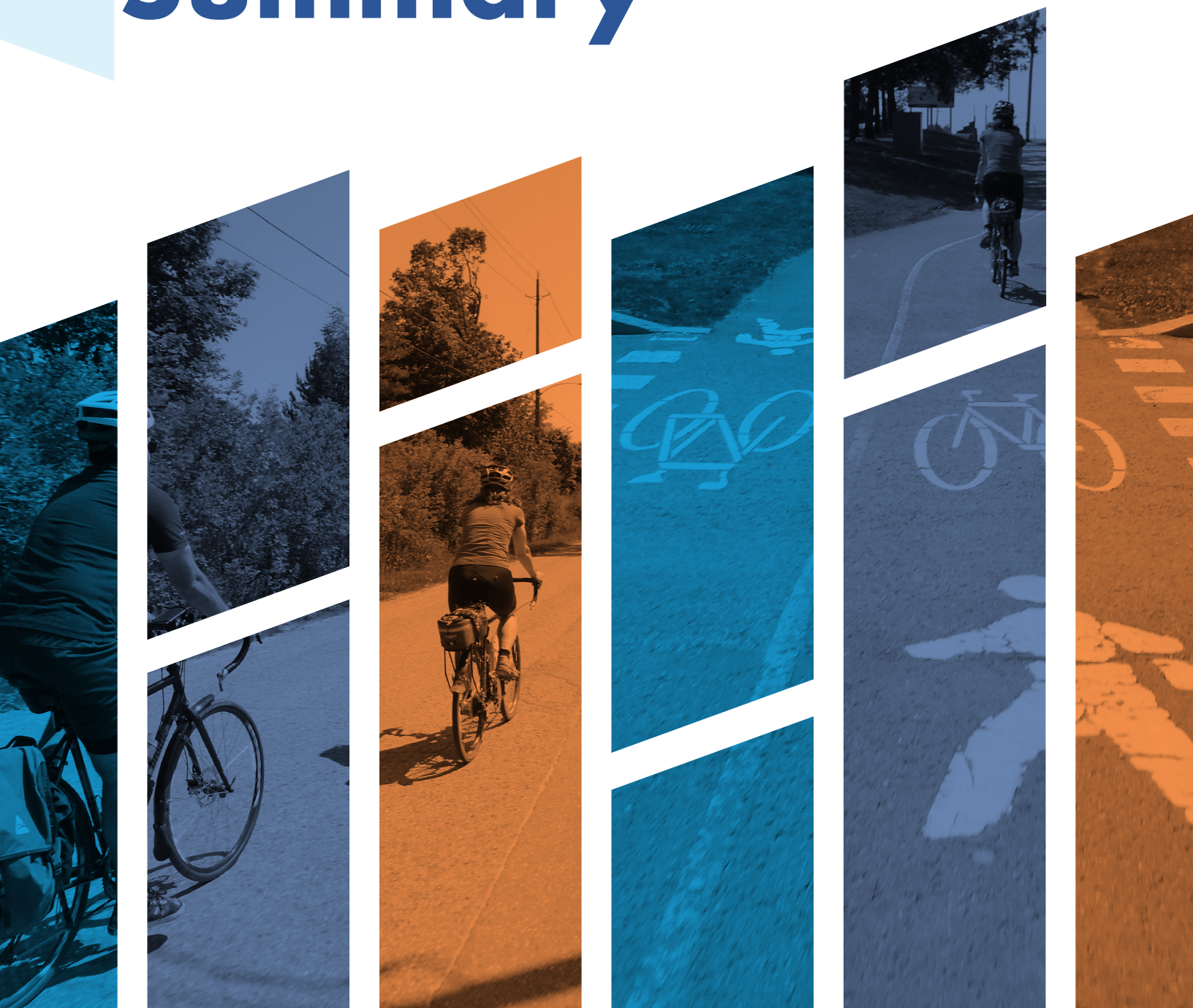
Peterborough Cycling Master Plan

Executive Summary



WHAT IS A CYCLING MASTER PLAN?

The Cycling Master Plan provides the blueprint to **build a more cycling-friendly city** and encourage more people to choose cycling as a transportation option in Peterborough.

STUDY PURPOSE AND PROCESS

Creating a Cycling Master Plan allows the City of Peterborough to:

- Create a long-term vision for cycling in Peterborough and set goals for how cycling will fit into the overall transportation system;
- Effectively grow the cycling network in a coordinated and strategic manner while improving connectivity, accessibility and safety; and
- Contribute to sustainability, social equity and climate change action.

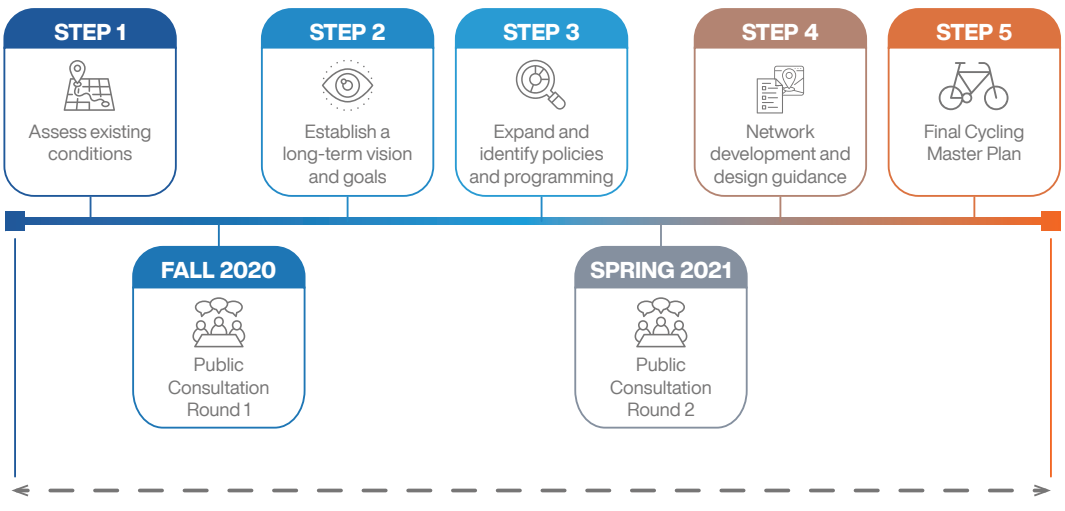
A Master Plan Provides:

- An overall vision and strategy;
- An ultimate network concept;
- An implementation plan for short-term improvements;
- Identification of mid- and long-term improvements;
- Networks and policies to inform higher-order documents such as TMPs and OPs; and
- Policy, programming and network recommendations.

A Master Plan Does Not Provide:

- Specific design and implementation details for proposed facilities (except for case study corridors);
- Detailed cost estimates and annual funding commitments.

Exhibit 1: Peterborough Cycling Master Plan Study Process



ENGAGEMENT AND CONSULTATION

Developing a thorough understanding of the community's needs and desires is paramount to creating a plan that reflects the needs of residents. The consultation program for the Cycling Master Plan consisted of numerous stakeholder meetings, two rounds of public engagement and on-going online engagement via the ConnectPTBO platform.

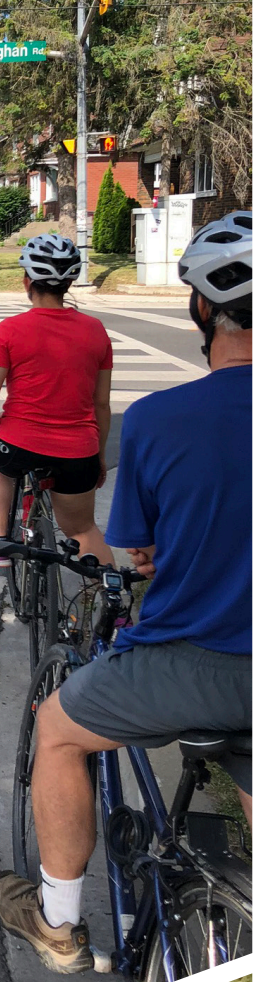
As the study was initiated shortly before the COVID-19 pandemic, public consultation sessions were hosted virtually via a combination of Microsoft Teams and through the project website, ConnectPTBO.

Common themes throughout the consultation process included:

- Strong support for a more bicycle-friendly community that prioritizes safety, year-round maintenance, and network connectivity.
- Desire for more separated and low-stress facilities such as multi-use paths and trails, protected bicycle lanes, and quiet streets where traffic is slowed.
- Concerns around safety of cycling routes, gaps in the cycling network, bicycle theft, and lack of bicycle parking that prevent residents from cycling on a regular basis.

"Peterborough is just the right size for cycling – the whole city is within an easy cycling distance. As our City has declared a climate emergency, and as we embark on a significant period of adapting to the reality of Covid-19, this is an ideal time to shift how we as a community get around – towards more cycling. The health and environmental benefits are enormous. The key issues to me are improving safety (reduced speeds, protected bike lanes) and filling in the network so that cycling is a safe and reasonable option for all routine transportation in this city. And mode shift (from cars to bikes) should be identified as an explicit part of our climate response."

– Peterborough Resident



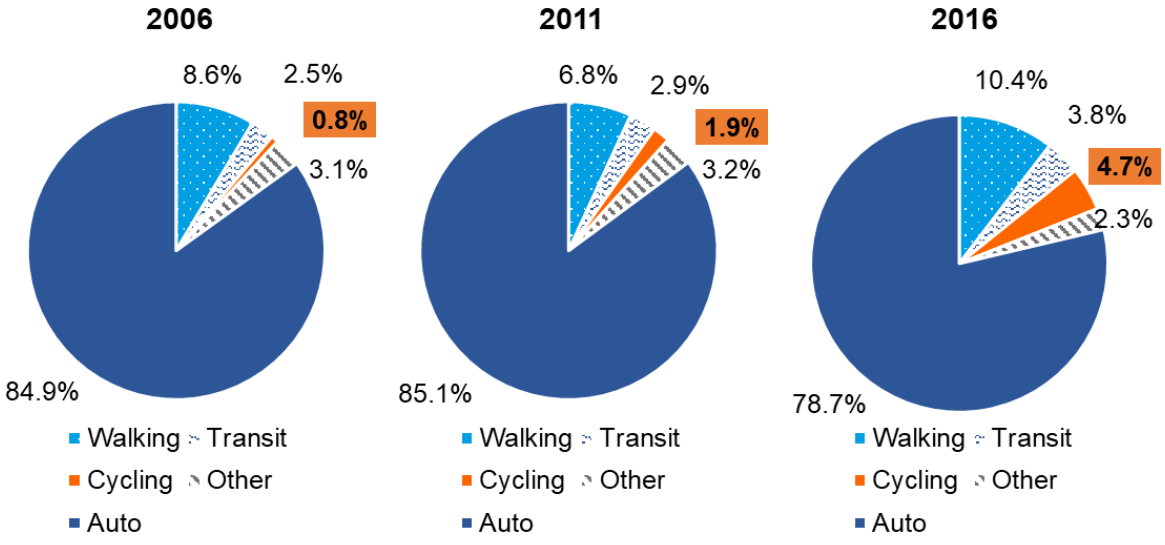
CYCLING IN PETERBOROUGH TODAY

"Mode" refers to the way that Peterborough residents travel around the city (i.e. by walking, biking, taking transit, driving, or as a passenger in a car). Cycling mode share is the share of all trips taken by bike and is usually shown as a percentage.

Peterborough has invested significantly in cycling infrastructure since the 2012 Transportation Master Plan was completed, with an estimated $14M in cycling-specific infrastructure spending (City expenditure). This city investment has been supplemented by investment from other levels of government with an additional approximately $5M. With this historic investment, the City is experiencing a parallel increase in cycling mode share. Between 2006 and 2016, cycling has increased from 0.8% to 4.7% of all trips under 5 km made by Peterborough households – much higher than similarly-sized peer cities across Ontario. The 20-year active transportation mode share target of 8% (walking and cycling) presented in the 2012 Comprehensive Transportation Master Plan was surpassed early on in the life of the study, demonstrating the speed of growth in cycling and active transportation more broadly in Peterborough.

Despite these encouraging trends, close to 80% of all trips in Peterborough under 5 km are still taken by automobile (driver or passenger). These short trips provide a potential market of trips that can more easily be converted to cycling.

Exhibit 2: Daily Mode Share for Trips ≤ 5 km, 2006-2016



Source: Transportation Tomorrow Survey (TTS)

VISION FOR CYCLING IN PETERBOROUGH

Vision Statement

The study vision statement reflects the desired future for cycling in Peterborough and guided the development of the Cycling Master Plan:

"Peterborough is a leader in cycling with a safe, connected and accessible network that serves all ages and abilities by 2041. Cycling for transportation and recreation contributes to a thriving, healthy and resilient community and supports the City's sustainability and climate change goals."

Study Goals

The Cycling Master Plan goals are comprised of actionable items that will help achieve the vision and support cycling in Peterborough:

1 | CREATE AN IRRESISTIBLE NETWORK

Create a more connected, accessible and safer cycling network, making cycling a more attractive and competitive mode of transportation.

2 | PURSUE DESIGN EXCELLENCE

Develop a network that is accessible to cyclists of all ages and abilities, with an emphasis on separated cycling infrastructure, quiet streets routes and bicycle boulevards that provide a higher level of comfort for people cycling.

3 | BUILD A CYCLING CULTURE

Continue and expand programming efforts that contribute to a community culture that is supportive and aware of cycling as a mode of transportation.

4 | ENCOURAGE YEAR-ROUND RIDING

Support maintenance practices and cycling infrastructure that will encourage people to cycle year-round and make winter cycling a more viable and enjoyable mode of transportation.

5 | GO FOR GOLD

Create an implementation plan that will help Peterborough become a cycling leader in Canada and achieve a Gold certification level through the Bicycle Friendly Communities program.

Future Scenarios

An important component of developing the cycling master plan was identifying three scenarios representing different plausible futures for cycling investment and support in Peterborough over the 20-year horizon of the study.

CONTINUE: Modest Investment:

- Maintaining and filling connectivity gaps
- No major investment in new facilities
- ~20 km of new network
- Potential future mode share of 5%

ACCELERATE: Increased Investment

- Improving cycling facilities in higher density areas close to the downtown core
- All residents living within 2km of downtown will be located within 400 m of a cycling facility
- ~80 km of new infrastructure and an increase in funding towards programming
- Potential future mode share of 7-10%

SPARK: Significant Investment

- Ensure that cycling facilities are nearby for almost all residents of the city
- All residents living within 2 km of downtown will be within 400 m of a cycling facility
- Outside of the downtown core, 90% of residents will be within 400 m of a cycling facility
- A proposed network of ~160km along with an increase in funding towards programming
- Potential future mode share of 10-20%, reflecting the development of a true "bike culture" as increased ridership exponentially grows the visibility of cyclists

RECOMMENDED SCENARIO

Through a detailed scenario evaluation process including qualitative and quantitative review, as well as public and stakeholder input, a **hybrid Accelerate-Spark scenario** emerged as the recommended scenario for the Cycling Master Plan, consisting of the following strategies:

- Provide a base Cycling Network and Implementation Funding Plan based on the Accelerate Scenario at an estimated annual investment cost of between $1.2 M-$1.5 M per year, in 2020 dollars; and
- Identify and prioritize additional strategic cycling infrastructure, associated with a Spark Scenario, which could be implemented if new/external funding is secured.

STUDY GOAL 1: CREATE AN IRRESISTIBLE NETWORK

The Cycling Master Plan has developed strategies and recommendations to guide the development of Peterborough's cycling network. These strategies are intended to both enhance and expand the existing cycling network, aiming to create an inviting, safe and connected network that entices residents and visitors of all ages and abilities to make trips using their bicycles.

Upgrade the Existing Network

Peterborough's existing cycling routes, comprised of 49 km of off-street facilities and 31 km of on-street facilities, provides an excellent foundation upon which to build an irresistible network. Various types of upgrades are considered, including upgrades to multi-use paths along roadways, multi-use trails, and intersections or crossings.

Prioritize a Crosstown Network

In addition to identifying important upgrades to the existing network, this plan defines a crosstown network that will:

- Help attract a wide variety of different users and serve all ages and abilities (AAA);
- Be a priority for investment in the short- and medium-term; and
- Provide strong connections across the City.

This network will serve key employment and commercial destinations and provide a higher level of comfort to cyclists through greater separation or lower traffic volumes and speeds. The network consists of about 26km of existing facilities and about 54 km of proposed facilities. This network was developed following an 80/80/80 principle:

80%

Of the crosstown network built within 10 years

80%

Of the crosstown network is alll ages and abilities

80%

Of key destinations can be reached using the crosstown network

Progress Towards an Ultimate Cycling Network

Along with upgrading existing cycling routes and implementing the crosstown network, Peterborough will progress towards an ultimate cycling network. A summary of total cycling facility lengths for the ultimate cycling network is shown in Exhibit 3.

Exhibit 3: Existing and Ultimate Network Lengths

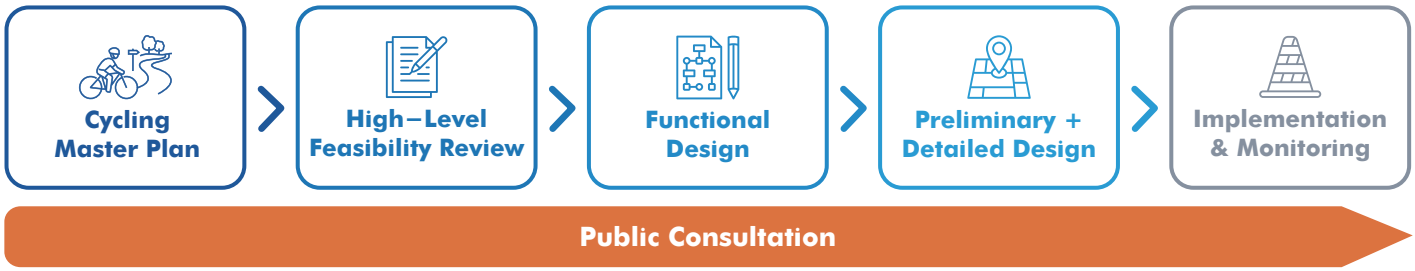
FACILITY TYPE	LENGTH (KM)				
	EXISTING NETWORK – NO UPGRADES NEEDED	EXISTING NETWORK - UPGRADES	WITHIN PLAN HORIZON	BEYOND PLAN HORIZON	TOTAL
Multi-use Trail (Outside Road Rights-of-Way)	35.1	7.1	12.5	11.9	66.6
Cycling Network (Within Road Rights-of-Way)	33.6	4.5	104.7	21	163.8
Desired Connection	0	0	3.6	19.2	22.8
Total	**68.7**	**11.6**	**120.8**	**52.1**	**253.2**

Ultimate Network Phasing & Implementation

The ultimate cycling network has been categorized into short-term, medium-term, and long-term (beyond plan horizon) projects, although this phasing is subject to evolution over time. Several "Spark" projects have also been identified that will likely require investment from higher levels of government and may be ideal candidates for active transportation infrastructure funding applications.

Each project identified in the ultimate cycling network will be subject to further refinement and development prior to implementation. At a high-level, it is anticipated that each project will undergo a feasibility review, preliminary & detailed design and some form of stakeholder/public consultation, depending on the project class – an outline of this process is shown in Exhibit 4.

Exhibit 4: Typical Project Implementation Process



STUDY GOAL 2: PURSUE DESIGN EXCELLENCE

To truly become a leading cycling community in Canada, Peterborough must embrace all ages and abilities (AAA) designs that encourage the development of a rich, diverse cycling community.

Focus on AAA Facilities

All ages and abilities (AAA) facilities are generally defined by three characteristics: safety, level of comfort and equity (refer to Exhibit 5). AAA facilities have a greater separation from traffic or are located along roadways with lower traffic volumes and speeds. Local street bikeways, protected bike lanes, cycle tracks and off-street pathways are all considered to be suitable for people of all ages and abilities. Intersection improvements also provide an enhanced level of safety and comfort along AAA routes.

Exhibit 5: Key Elements of AAA Cycling Facilities

1 Safer

Better bicycle facilities are directly correlated with increased safety for people walking and driving. For example, data from New York City showed that adding protected bike lanes to streets reduced injury crashes for all road users by 40% over four years

2 Comfortable

Bikeways that provide comfortable, low-stress bicycling conditiosn can achieve widespread growth in mode share. Bikeways that eliminate stress will attract traditionally underrepresented bicyclists, inculding women, children, and seniors

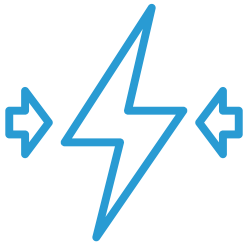
3 Equitable

Poor or inadequate infrastructure – which has disproportionately impacted low-income communities and communities of colour – forces people to choose between feeling safe and following the rules of the road. High-quality bikeways expand opportunities to ride and encourage safe riding

Source: Adapted from NACTO Designing for All Ages & Abilities

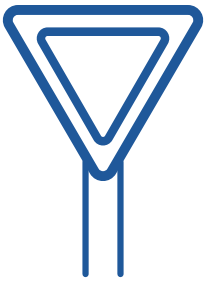
Enhance Transition & Intersection Treatments

To encourage and protect cyclists of all ages and abilities, intersections and facility transitions must be designed to provide similar levels of safety and comfort as the rest of the cycling corridor. Best practices include:



Minimizing conflict points

Enhancing the visibility of cyclists to motor vehicles



Clearly communicating priority and rights-of-way

Promoting consistency

One strategy of particular interest is protected intersections, which provide dedicated waiting and crossing spaces for cyclists, pedestrians, and motor vehicles separately. These protected intersections, or 'setback crossings' are included in the OTM Book 18 2021 update and are an important element of the cycling design toolbox to explore in Peterborough.

Exhibit 6: Protected Intersections in Ottawa, ON

Source: Google Streetview

Provide Attractive Network Amenities

When creating an attractive and comfortable cycling network, the design of the space and amenities around the cycling facilities is almost as important as the design of the cycling facilities. Particularly for encouraging tourism and recreational cycling trips, a beautiful and functional public space surrounding the facility plays a large role in encouraging use. Wayfinding signage can help to educate and direct riders to appropriate cycling routes as they become familiar with cycling or with a new neighbourhood, while other amenities such as lighting and benches can make the facilities more comfortable and attractive.

Support a Safe Systems and Complete Streets Approach to Roadway Design

Many cities in Ontario and beyond are endorsing Vision Zero principles that emphasize a "Safe Systems Approach" to reducing transportation-related deaths and serious injuries. This approach focuses on infrastructure, vehicle regulation and vehicle speeds to better protect vulnerable road users through road design and policy. A safe systems approach for all roadways within Peterborough (with or without cycling facilities) provides an opportunity to enhance safety for vulnerable road users.

Many municipalities have also developed an increased emphasis on Complete Streets, a movement that seeks to design and retrofit roadways to accommodate and balance the needs of all road users more equitably. This approach focuses in particular on more vulnerable road users such as cyclists, pedestrians, children and the elderly, and those with disabilities. The Cycling Master Plan supports these approaches presented and explored in more detail through the Transportation Master Plan.

STUDY GOAL 3: BUILD A CYCLING CULTURE

Promoting cycling as a safe, convenient option for everyday travel and recreation is critical to support building a thriving cycling culture and increasing the cycling mode share in Peterborough. In addition to infrastructure that enables safe cycling, the City of Peterborough must emphasize educating and encouraging safe behaviours for residents. While new and existing infrastructure is an **enabler** for safe cycling, cycling programs are a **motivator** to get people to cycle to work, school, and within their community.

Several key focus areas of existing, expanded and new programs have been identified to support building a cycling culture in Peterborough:

- **Equity:** Targeting key audiences including those with unique travel needs such as seniors, children, youth, and low-income residents as well as equity-seeking groups such as racialized people, people with disabilities and Indigenous populations (First Nations, Inuit and Métis).
- **Safety and Education:** Programs that are focused on encouraging and educating community to use cycling as a means of everyday travel are important to reach community members that may be unfamiliar with existing cycling facilities, programs and services, and cycling-related rules and regulations.
- **End of Trip Integration and Support for Inter-Modal Travel:** Programs that are focused on building end-of-trip facilities like bicycle parking, fix-it stations, and e-bicycle charging stations, and integrating cycling infrastructure into other forms of sustainable travel like transit and carpooling.
- **Recreation and Tourism:** Cycling for recreation and tourism both contribute to the overall success of the City in building a cycling culture. In turn, the development of a cycling culture also helps with the promotion of cycling tourism and recreation, helping to raise the profile of Peterborough as a destination. Growing cycle tourism has been a key objective of Peterborough and the Kawartha's Economic Development Strategy and in light of the pandemic, has become increasingly significant.
- **Outreach, Promotion and Events:** Initiatives that are focused on community-building help to foster a culture of cycling and normalize cycling for everyday trips.

STUDY GOAL 4: ENCOURAGE YEAR-ROUND RIDING

To recognize the full benefit of cycling in Peterborough, it is important that cycling be legitimized as a year-round transportation and recreational option. This requires recognizing, planning for and following through on network design, maintenance and programs to support cycling through all seasons.

Explore a Priority Winter Cycling Network

It is recommended that the City investigate and establish a priority cycling network that will be cleared and maintained throughout the winter as a high-priority, connecting to existing snow-cleared paths. As it is built out, AAA cycling facilities that form part of the Crosstown Network are excellent candidates to be included in the Winter Priority Network, as are any links that connect to key destinations such as Trent University or the Downtown Transit Terminal.

Construct Facilities for Easy Maintenance

In the selection, design and construction of cycling facilities, it is important to consider the on-going costs of maintaining those facilities year after year. Some design alternatives may appear to have a higher upfront cost but may allow for easier, cheaper maintenance down the road. While it is inevitable that embracing protected bike lanes, cycle tracks and bicycle boulevard will increase the City's cycling facility maintenance costs, there are strategies that can help to minimize and accommodate changes to maintenance levels of service more easily over time.

Explore New Maintenance Techniques & Equipment

Maintenance techniques and equipment geared specifically to cycling facilities can be instrumental in creating safe, comfortable year-round cycling environments and even lowering long-term maintenance costs.

An increasingly popular practice is to remove snow with a snow sweeper (a cylindrical, reverse-rotating brush) instead of a plow and to deice with brine, or a salt and water solution, instead of rock salt mixed with crushed stones. This proactive approach is more appropriate for active transportation facilities because it does not rely on heat and friction from large vehicles to dissipate residual snow. The City is encouraged to conduct pilots of emerging maintenance practices to better quantify costs and benefits.

STUDY GOAL 5: GO FOR GOLD

The final study goal, "Go for Gold" focuses on an implementation and monitoring plan that will help Peterborough become a cycling leader in Canada. The City is targeting achieving a Gold Bicycle-Friendly Community award building on the recommendations and findings from this study. It is designed to help Peterborough achieve the hybrid Accelerate-Spark scenario and builds on Peterborough's current data collection program to track progress towards all the study objectives.

Continue to Track Progress

Tracking progress on key indicators is critical to understanding areas of challenge and opportunity in achieving our goals. Peterborough will expand on existing indicators with additional considerations around key issues such as gender and equity, accessibility to employment, and winter cycling uptake.

Raise the Profile of Peterborough

As a mid-sized city, Peterborough has achieved significant progress to date, and this plan identifies various strategies to continue to build momentum. To fully realize the desired role as a leader in cycling across Canada, the City of Peterborough must pursue initiatives such as the Gold Bicycle Friendly Community designation that help grow awareness of the City's achievements.

Revisiting the Plan

Recommendations and networks from the Cycling Master Plan will be integrated into other key policy documents including the Transportation Master Plan and the City's Official Plan. The study will also inform secondary plan and area planning studies. We recognize that Cities and the people within them are constantly changing and it is important for the planning process to accommodate and respond to this. That is why it is best practice for long-term strategic plans such as the Peterborough Cycling Master Plan to be living documents that are reviewed every five years.

Master Plan Implementation & Funding

PROGRAMMING IMPLEMENTATION AND FUNDING

The Cycling Master Plan calls for the amount spent by the City on dedicated cycling programming to increase to **$160,000** per year by 2027. Additional funding through the CMP, or additional funding such as grants and sponsorships, would be required to realize the full potential of the recommended programs.

NETWORK IMPLEMENTATION AND FUNDING

Building the identified short- & medium-term cycling facility projects over the 2021-2041 horizon is estimated at about **$30 M**, representing an annual capital investment of about $1.5 M per year in 2020 dollars and is consistent with the aggressive pace that cycling infrastructure has been provided over the past 9 years.