



Active Transportation & Health

2020 Indicators Report

Peterborough City & County

2020



Land Acknowledgement

We respectfully acknowledge that the City and County of Peterborough are located on the Treaty 20 Michi Saagiig territory and in the traditional territory of the Michi Saagiig and Chippewa Nations, collectively known as the Williams Treaties First Nations, which include: Curve Lake, Hiawatha, Alderville, Scugog Island, Rama, Beausoleil, and Georgina Island First Nations.

The Authors respectfully acknowledge that the Williams Treaty First Nations are the stewards and caretakers of these lands and waters in perpetuity, and that they continue to maintain this responsibility to ensure their health and integrity for generations to come.



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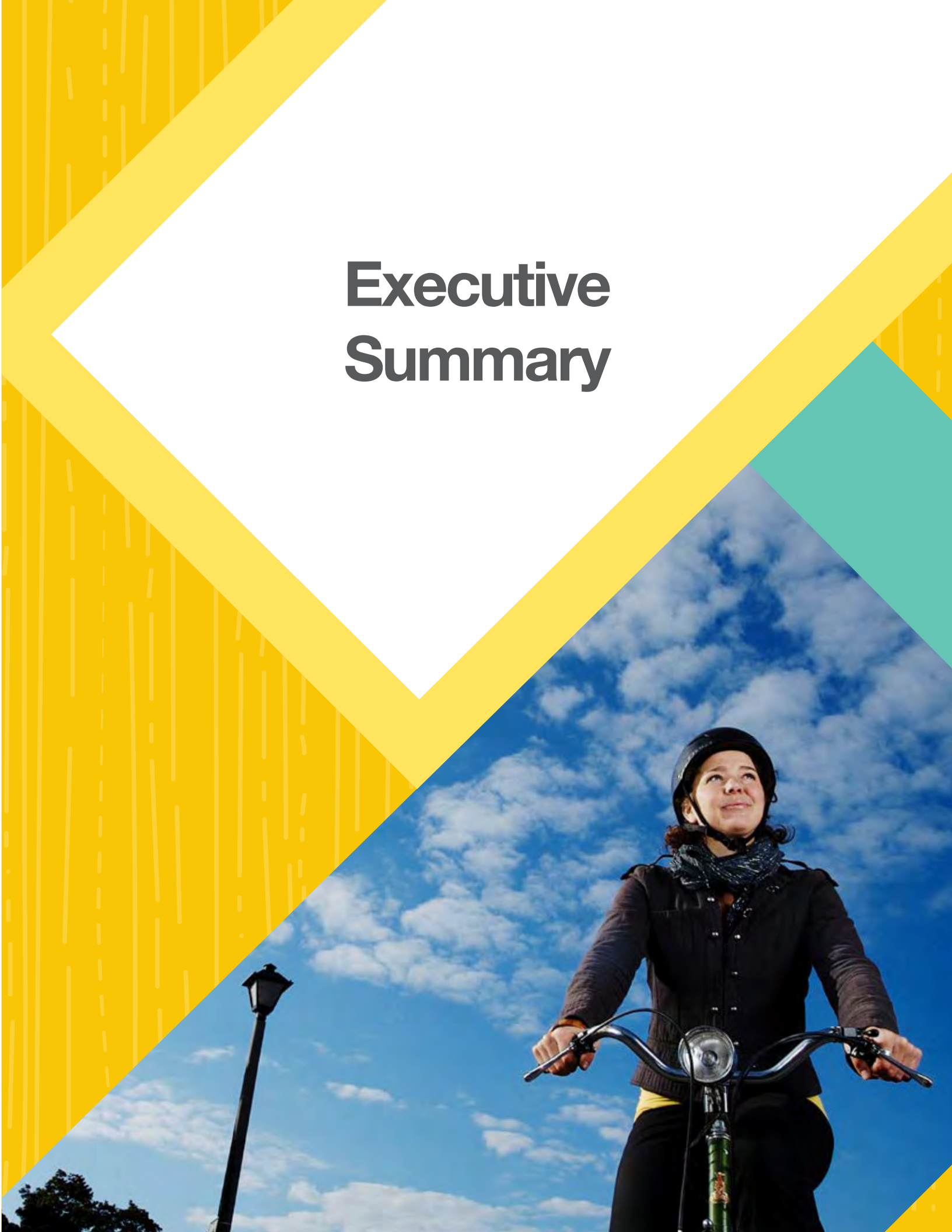
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Contents

Executive Summary.....	1
Introduction	10
Trends in How We Travel	14
Factors Influencing Our Travel Behaviour	26
Walking.....	48
Cycling.....	60
Transit.....	80
Safety	96
Health & Wellbeing	114
Education & Engagement.....	128
Policies & Plans.....	144
Endnotes	156
Glossary	158
Data Sources.....	160
References	163

Executive Summary





This report is about
how we connect
to our lives, our neighbourhoods, and our region through
walking, cycling, and transit.

Executive Summary

The 2020 Active Transportation and Health Indicators Report is an assessment of the state of walking, cycling, and transit in the Greater Peterborough Area, which includes the City and County of Peterborough. It follows up on the 2014 report with the latest information on local transportation trends, infrastructure changes, program and policy initiatives, and health and wellness trends. At the heart of this document is evidence of connections between active transportation (including walking, cycling, and transit) and community health and wellness, equity, safety, and environmental sustainability.

A joint effort of Peterborough Public Health, GreenUP, and the City and County of Peterborough, this report is a window into trends and factors influencing transportation behaviour and community health and wellness. Planning documents and policies shape how our communities grow and develop and have a significant influence on the success of initiatives designed to increase rates of active transportation. This report showcases what planning initiatives are underway and how they support active transportation.

The front section of the report shines a spotlight on how our community currently chooses to travel and the factors that may be influencing these choices. Where possible, you will find trends over time. Throughout, there are glimpses of the potential existing in our community for greater use of active transportation and transit and the obstacles we will have to creatively overcome to get there.

The middle section of the report dives deeper into what we know about walking, cycling, and transit use in our community. Travel data for each form of transportation are considered alongside information about walkability (and bikeability!), infrastructure and service improvements, and new trends in technology.

The final section is about understanding connections. An analysis of our region's hospital and collision data provides a snapshot of our community to help us better understand transportation safety. Associations between active transportation, physical activity, and air quality are considered from the standpoint of one's health and well-being. A review of education and engagement activities since the last report highlight how the community is building the culture, alongside the skills, necessary for long-term transportation shifts. The section closes with a showcase of the foundational policies and plans that are pointing us towards future goals of increased active transportation and transit.

We know that our transportation system is essential in supporting residents to access the food, jobs, services, and social opportunities needed to live comfortable, healthy lives. We also know there are important equity, financial, and environmental reasons for our community to become less reliant on personal vehicles to provide this support. As such, it is important to consider how the transportation system supports residents in walking, cycling and taking transit to access these opportunities.

We envision the information in this report used by staff, Councils, non-profit organizations, and other stakeholders when making decisions related to infrastructure development, land use and transportation planning, program development, and policy.

Report Highlights

The 2020 Active Transportation and Health Indicators Report tracks progress made in the five years since the inaugural 2014 report was released, revealing exciting additions to infrastructure and programs and corresponding changes to how we travel in the Greater Peterborough Area (GPA). This report tracks the changes and makes the connections between planning, infrastructure, and health. Below are the most significant highlights in terms of travel trends, improvements made, and other positive local statistics, community programs, and planning documents.



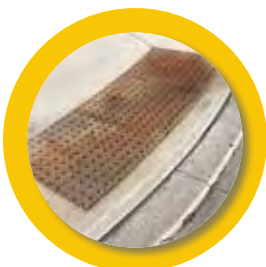
2031 Targets for Walking and Cycling Achieved in City

The 2031 targets for walking and cycling rates in the 2012 City Comprehensive Transportation Plan were met in the first 5 years of its implementation, signaling that more ambitious targets are achievable. The 2016 Transportation Tomorrow Survey showed that 1 in 10 trips (10.2%) were made by bike or on foot, which is about 50% higher than trends reported in the 2014 report. The increase is most notable in the proportion of trips taken by bike.



Land Use Planning Factors Influence Rates of Active Transportation

The highest rates of walking and cycling to work are in Peterborough's downtown, where there is a mix of land uses and higher density. Rates of active transportation to work in the city are lowest in the low-density, residential-only suburbs. Provincial planning documents continue to encourage land use planning that supports mixed uses and higher densities, recognizing various benefits, such as supporting more active and healthy communities.



Sidewalk Infrastructure has Expanded and Improved

With the guidance of the Sidewalk Strategic Plan, the City of Peterborough has seen 21 km of priority one and two sidewalks installed between 2014 and 2018. At the same time, the rate of sidewalk repairs needed has declined from 0.89/100 metres in 2014 to 0.25/100 metres in 2019.



Pedestrian Infrastructure Accessibility has Improved

The City of Peterborough now has 24 intersections with high-visibility pavement markings, 49 with countdown signals, and 11 with audible signals. The percentage of sidewalk intersection corners with curb ramps improved substantially, up from 65% in 2014 to 87% in 2018.



Peterborough Awarded Silver Bike Friendly Status

The City of Peterborough received a Silver Bicycle Friendly Communities status from Share the Road in 2015, improving from the bronze received in 2012. Factors contributing to the silver designation included expansion of the cycling network, strong community partnerships, and the Pedal Power program for Grade 5 students.



Infrastructure Enhancement and Cycling Rates are Correlated

In the city, for every kilometre of new cycling infrastructure installed between 2012 and 2017, there was a 1.5% increase in the number of cyclists counted during annual counts. The correlation in Peterborough is consistent with other municipalities across North America that have seen increases in cycling trips with the installation of new infrastructure, such as protected bike lanes and multi-use pathways.



County Paved Shoulder Initiatives are Underway

Ten percent of County roads now have paved shoulders. On provincial roads within the County of Peterborough, 100 km of paved shoulders were added to Highway 28 from Lakefield to Bancroft in 2018. Paved shoulders increase comfort and safety for people cycling along rural paved roads. To stay competitive with cycling tourism in other Ontario jurisdictions, paved shoulders are important to implement on paved rural roads, especially on official cycling routes.



Peterborough & the Kawarthas Classics Road Cycling Routes Introduced

The Peterborough & the Kawarthas Classics are a collection of three road cycling routes developed in 2015 by Peterborough & the Kawarthas Tourism in collaboration with local cyclists. Each signed route consists of a long and short loop ranging from 45 to 100 kilometres, starting and ending in the City of Peterborough at Millennium Park. Sponsored by Peterborough-based Shimano, these cycling routes attract local cyclists and visitors alike.



Peterborough Transit Ridership has Increased

Peterborough Transit ridership increased 34% between 2014 and 2018. Increases in post-secondary student enrollment, the integration of transit fees into student fees at Fleming College, and increased service levels for Fleming Express routes contributed to this increase. Peterborough has also seen per capita ridership rise from 29 rides per person in 2001 to 57 in 2018, a 97% increase!



Transit Service for People with Disabilities has Improved

Transit has achieved its goal of a fully accessible fleet, undertaken a major capital program to increase the number of fully accessible transit stops, and introduced the Community Bus. Together, these improvements have transformed public transit. It is now a public service that is more able to meet the needs of Peterborough residents, regardless of their personal mobility.



Inter-regional Transit is Evolving

Peterborough Transit provides a vital connection to GO Transit's inter-regional services, the backbone of transit to the Greater Toronto Hamilton Area (GTHA). As private services that traditionally offered connections between GPA communities have declined or been eliminated, growing Peterborough Transit's role as an inter-community service will be increasingly important. A collaborative pilot project to deliver transit service to Selwyn Township will launch in 2021. Connecting communities in Lakefield, Bridgenorth, and Curve Lake to city services and employment has been identified as a high need in several plans, including the Age-Friendly Peterborough Community Action Plan.



Pedestrian and Cycling Collision and Injury Rates are Decreasing

The rates of emergency department visits and hospitalizations of pedestrians and cyclists involved in traffic collisions are decreasing. Comparing data from 2003-2012 and 2013-2017, the average number of emergency department visits by pedestrians is down 7% and those by cyclists are down 12%. Average number of hospitalizations are the same for pedestrians (10 per year), while for cyclists they are down 29% (from 14 per year to 10). This is in the context of stable rates of walking and increasing rates of cycling.



Pedal Power Brings School-based Cycling Education to Local Youth

The Pedal Power program has become the local benchmark for excellence in school cycling skills courses and remains one of the only school-based programs in the province. Teaching fundamental cycling skills at an early stage is key to successfully supporting a population that is comfortable cycling. With this in mind, GreenUP and B!KE have offered Pedal Power to grade 5 classes in the city since 2013.



Peterborough Hosts Its First Open Streets Event, Five Years Running!

Peterborough Pulse is an annual event celebrating city streets as vital community spaces that support active transportation and healthy living, and enhance community bonds and economy. During Pulse, several streets in downtown Peterborough are closed to vehicle traffic, and downtown businesses offer interactive activities to pedestrians, rollerbladers, skateboarders, and cyclists. An average of 7725 people attend each year.



Active Transportation Master Plan Approved for County

The County of Peterborough's Active Transportation Master Plan (ATMP), approved in 2017, envisions the county as a healthy, prosperous, and sustainable community. The plan identifies policies, programs, and projects that promote safe, non-motorized forms of travel throughout the County of Peterborough and acts as a blueprint for moving forward with active transportation initiatives.

Moving Forward

Throughout this report, we highlight areas where active transportation and transit systems in the GPA could be enhanced or better supported in the community and how these enhancements contribute to supporting diverse priorities and objectives of communities. The key actions for moving forward are summarized below.



1. Take Climate Change Action

The Government of Canada and the City of Peterborough declared a Climate Emergency in 2019, signaling that action on climate change is a priority. Since transportation is the second-largest contributor to greenhouse gases in Peterborough¹, responding to the Climate Emergency will require accelerating investment in programs and infrastructure to support walking, cycling, and transit, as per the Climate Change Action Plan.



2. Implement Recommendations in Existing Community Plans

The role of active transportation and transit in achieving community goals relating to health, mobility, and sustainability has been recognized in a variety of community plans. Plans such as the Age-Friendly Peterborough Community Action Plan, Peterborough Community Wellbeing Plan, Vision 2025, and the Climate Change Action Plan identify benefits that would accrue to our communities with increased support for walking, cycling, and transit. Implementing recommendations in these plans will facilitate the growth of active transportation and contribute to improvements in health and well-being.



3. Build Transportation Equity with Public Engagement

A transportation system that allows people to easily and safely walk, cycle, or take transit, ensures that everyone has access to the food, jobs, services, and social opportunities needed to live comfortable, healthy lives, even if they do not drive or have access to a vehicle. To successfully identify and address barriers to travel and develop effective solutions, planning processes need to embrace meaningful community engagement. As the City and County move forward with development of plans such as Official Plans, Transportation Master Plans, Active Transportation Master Plans, and Transit studies, it will be important to engage people at all stages of plan development.



4. Set Road Safety as a Priority

Roads should be safe for users of all ages and abilities using any mode of transportation. In the GPA, traffic accidents that cause fatalities are not common, and rates of serious injury (hospitalizations) of pedestrians and cyclists are similar to the Ontario average. However, Canada's Road Safety Strategy has a vision of zero fatalities and serious injuries on our roads, and many municipalities across Canada have started work on road safety strategies as a way of reaching this goal. Development of a road safety strategy for the City and County would identify the ways that road design, enforcement, and education could be enhanced to achieve road safety improvements.



5. Enhance Investment in Active Transportation and Transit

Consistent, adequate funding of active transportation and transit would not only set our region on track for creating a more equitable transportation system but also help in reaching towards our climate change goals. Substantial investments would help to close the gaps in our pedestrian infrastructure, including important sidewalks and crossings along our busy roads to enhance accessibility for all ages. It would allow for accelerated implementation of cycling network infrastructure that is perceived as safe and convenient, including bicycle detection at traffic signals, to get more people on bikes. Strategic transit investments could result in efficient routes operating at a higher service frequency.



6. Respond to Active Transportation Trends

As cities around the world work to creatively address traffic congestion and climate change, industry is presenting a new set of mobility options. For example, e-bikes continue to grow in popularity, and the provincial government may be embarking on a study assessing definitions and associated regulations for the different types of e-bikes. In 2018, e-bike sales represented 12% of the new bike sales market in North America. In Europe, they were 24% of new bike sales, and sales are projected to continue to increase. The challenge will be to safely incorporate e-bikes into the transportation system.

A Note About COVID-19

The authors acknowledge they would be remiss to not mention COVID-19 in this 2020 document. The data for this report was collected and analyzed in 2019, and primarily reports on the period from 2014 through 2019. As such it was beyond the scope of this report to investigate the influence of COVID-19 on active transportation (AT) and transit. It certainly appears that COVID-19 will have a significant impact on transportation behaviour in both the short- and long-term. Efforts should be made to monitor the impact of the pandemic on transportation, and policy makers should continue to ensure that active transportation and transit are safe and accessible for everyone in Peterborough city and county.

Introduction



Introduction

Six years ago, the 2014 Peterborough City and County Active Transportation and Health Indicators Report was released. The first of its kind for our region, this comprehensive document featured current research and local data on walking, cycling, and busing in the Greater Peterborough Area (GPA). Of importance, this collaborative effort by the City of Peterborough, County of Peterborough, Peterborough Public Health, and GreenUP made vital connections between community health and local travel habits.

A follow-up to this baseline report, the 2020 City and County Active Transportation and Health Indicators Report features additional research in support of active transportation and transit, updated infographics and data highlighting local trends, an expanded summary of community services and programs, an update on local infrastructure and policy, and a description of successful engagement and education initiatives.

Like the 2014 Indicators Report, the 2020 update:

1. Describes how we measure active transportation and transit usage
2. Draws attention to the factors that influence our transportation behaviour
3. Highlights the successes we've had so far in the GPA
4. Explores the connection between how we travel and our health and wellbeing, community equity, and the health of our natural environment
5. Provides insight into ways to increase active transportation and transit use in our communities (education, consultation, infrastructure, and policy)

Who is this report for?

This document was developed for the interest and use of diverse stakeholders, including:

- Elected officials & community decision-makers
- Planners, advocates, health professionals
- Local organizations and community development partnerships
- Local residents
- Students

This report is for both the expert and the interested citizen. A **Glossary** is provided at the end of the document to define some of the sector-specific language used throughout.

Measuring Our Progress

Throughout this report you will see infographics and data that showcase local travel trends, factors that influence transportation behaviour, and descriptions of planning and programming initiatives in the GPA.



Trends in How We Travel



Trends in How We Travel

Highlights

City

The total number of transportation trips made by city residents per day has decreased to close to 1996 levels, even though our population has grown by over 11,000 (16%)!

The city has surpassed the 2031 mode share (proportion of trips taken by a certain type of transportation) target for walking and cycling presented in its 2012 Comprehensive Transportation Plan. From 2006-2016, the mode share increased somewhat (6.0% to 6.7%) for walking and cycling increased 400% (0.7% to 3.5%).

The 2016 Transportation Tomorrow Survey showed 1 in 10 trips (10.2%) were made by bike or on foot, which is about 50% higher than in 2006!

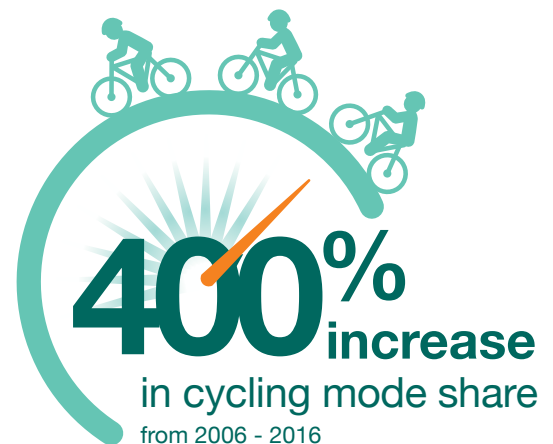
Rates of taking transit to work are increasing, for the first time in over 20 years.



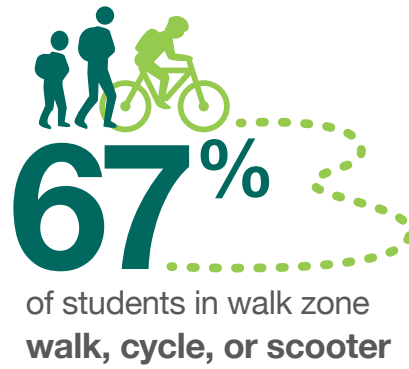
Mode Share

The proportion of trips taken using a particular method – or mode – of travel, such as walking cycling, busing, driving.

Transportation Master Plan
walking and cycling
target met!



Only 67% of students living within the designated walk zone of schools typically walk, cycle, or scooter to school. Of the students designated as eligible to ride the bus to school, 72% ride the bus.



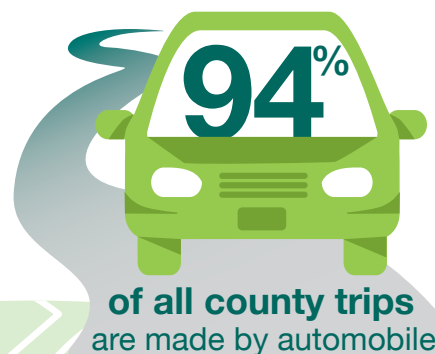
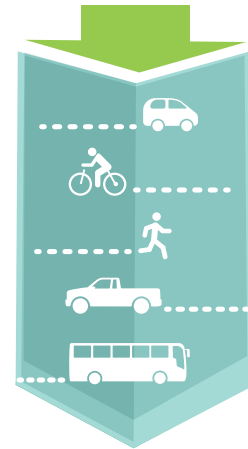
County

There are fewer trips being taken across all modes of transportation as compared to 10 years ago.

Over 94% of trips in the county are made by personal automobile.

Rates of cycling and walking are slightly higher for work trips than non-work trips, but this number has decreased over the last 20 years.

County residents
are taking
fewer trips



The better we understand local travel habits and the factors that influence them, the better we can provide quality transportation options and contribute to increased health and quality of life. Assessing travel data is key to helping us understand these habits and factors, and we rely on consistent data collection from national, provincial, and local sources. Combined, these sources begin to form a picture of our community. Though some improvement could be made to the types of data collected and the collection methods used, the data that is available is strong and vital to our efforts.

The Transportation Tomorrow Survey (TTS) has been conducted in the GPA every five years since 1996. The Statistics Canada Census of Population also collects information related to transportation every five years. We have used both of these data sources to analyze transportation trends over time.²



About the Transportation Tomorrow Survey

The Transportation Tomorrow Survey (TTS) is a voluntary household travel survey that collects information about daily travel. The survey has been undertaken every five years since 1986 in the Greater Toronto and Greater Golden Horseshoe areas, and since 1996 in the GPA. Households are randomly selected, and participants can complete the survey over the telephone or online (online was introduced in 2016). Participants are asked about the travel habits of each member of their household, 11 years of age or older.

Questions are asked about each trip made by each person on the previous weekday, and include:

- Origin and destination
(from where, to where?)
 - Trip distance determined based on geocoding of locations
- Reason for making the trip
(e.g., shopping, work, school)
- Start time of the trip
- Mode of transportation
(e.g., bus, car, bicycle)
- Number of vehicle occupants
(if auto driver)

Limitations:

- Walk trips are only collected for trips to and from work or school or when the walk trip is a connecting trip within a chain of trips that use other non-walk modes, so walking trips are likely under-reported.
- It does not capture post-secondary students that live on campus, which would also lead to an underestimate of walking and transit trips.
- It does not capture weekend travel, which may limit interpretation.
- The survey takes place between September and December. The data may be less applicable to other times of year.

City of Peterborough – All Trips

In the 2012 Comprehensive Transportation Plan, the City of Peterborough laid out targets for active transportation mode share to be achieved by the year 2031. Based on an assessment of the results from the Transportation Tomorrow Survey (TTS) for the 20-year period spanning 1996 to 2016, the combined target for walking and cycling of 8% has already been surpassed (Figure 1-1). In addition, the TTS shows that between 2006 and 2016 the walking mode share grew somewhat (6.0% to 6.7% of trips) and cycling mode share increased by 400% (0.7% to 3.5%).

Vehicle mode share (a combined total of auto driver and passenger travel) has decreased and is now very close to reaching the 2031 goal; however, mode share for transit has remained essentially constant and needs to increase by almost 50% to reach the 2031 target.

Mode of Travel	1996	2006	2016*
Auto Driver	65.8	67.1	69.3
Auto Passenger	19.9	19.6	14.4
Transit	4.7	4.2	4.2
Walking	6.1	6.0	6.7
Cycling	0.8	0.7	3.5
Other (taxi, school bus, etc.)	2.7	2.4	1.9

Mode of Travel	2012 Transportation Master Plan Targets
Auto Driver & Passenger	83
Transit	6
Walking & Cycling	8
Other (taxi, school bus, etc.)	3

Figure 1-1: Proportion of trips (%) taken by various modes in the City of Peterborough from 1996 to 2016, and 2031 targets from the 2012 City of Peterborough Comprehensive Transportation Plan

Source: Transportation Tomorrow Survey, 1996, 2006, and 2016

* In 2011, TTS expanded the survey to people living in collective dwellings, such as long-term care facilities and hospitals. We do not know how this impacted the 2016 data but anticipate that the people living in these facilities make a low number of trips.



The 2016 Transportation Tomorrow Survey showed 1 in 10 trips (10.2%) were made by bike or on foot – this is about 50% higher than in 2006.

The total number of vehicle trips taken by City of Peterborough residents per day has decreased over the past 10 years (Figure 1-2) almost to the 1996 level. This decrease is even more interesting when we consider that the city's population grew by over 11,000 (16%) between 1996 and 2016!

Trip Description	1996	2006	2016
Average Daily Trips/Person	2.7	2.7	2.4
Total Number of Trips/Day (All Modes)	168,300	177,400	166,900
Total Number of Vehicle Trips/Day	126,225	140,146	128,513
Median Distance Driven/Weekday Trip (km)	2.7	2.7	3.2

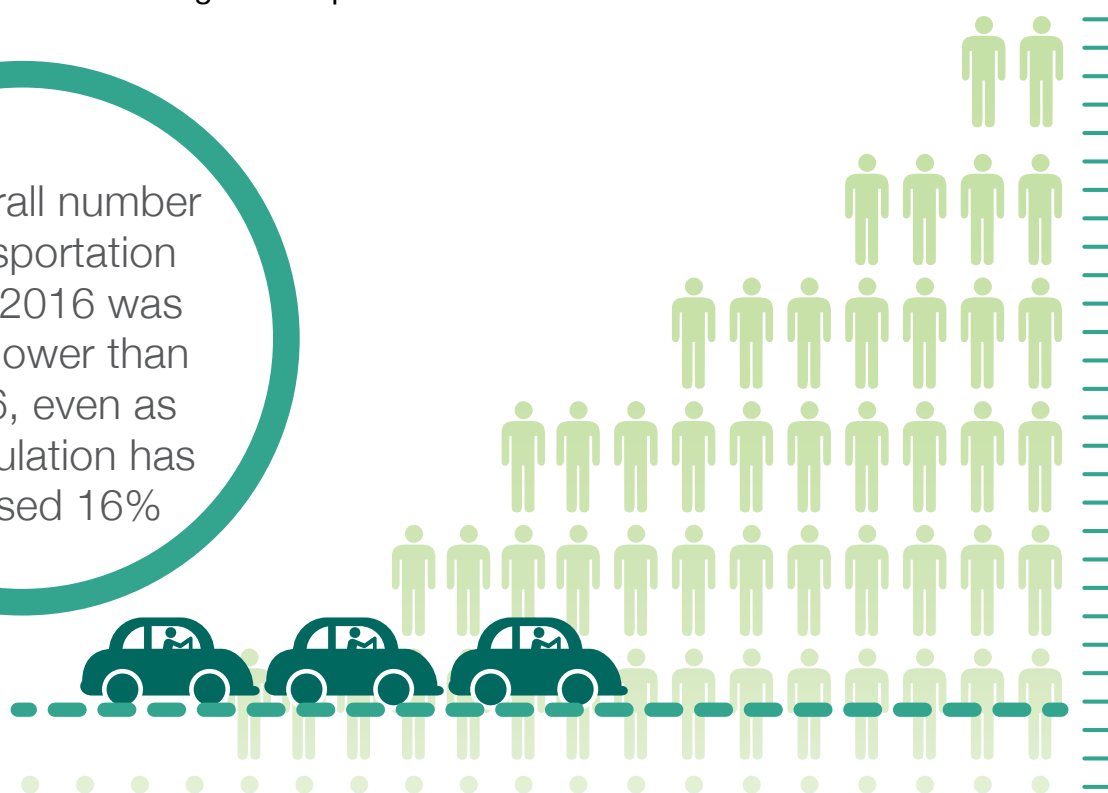
Figure 1-2: Daily trips and median distance travelled by City of Peterborough residents in 1996, 2006, and 2016

Source: Transportation Tomorrow Survey, 2006, 2011, 2016

When the numbers of daily trips are considered alongside the proportions of trips taken by various modes of transportation in Figure 1-1, it appears that:

- Residents are taking fewer auto trips, due to reduced passenger trips (reduced from 14% of trips in 2006 to 9% in 2016) and
- Residents are taking more trips on their bike.

The overall number of transportation trips in 2016 was slightly lower than in 1996, even as the population has increased 16%





About the Statistics Canada Census of Population – Journey to Work Data

Statistics Canada conducts the Census of Population every five years. All residents of Canada are legally required to complete the Census questionnaire. In 2016, about 25% of Canadian households received a long-form questionnaire. The long-form Census includes questions on journey to work for working members of the household aged 15 years and older. Questions inquire about:

- Mode of transportation – “How did this person usually get to work?”
- Note: for mixed-modal travel, respondents are instructed to “mark the one used for most of the travel distance.”
- Number of vehicle occupants (only for auto driver or passengers, so may not include cyclists carrying children)
- Time and duration of trip to work

Limitations:

- The data is limited to “usual mode of travel to work.” It therefore doesn’t capture the other modes that may be used regularly, but not as often.
- Where there is mixed-modal travel, basing the response on the longer travel distance will tend to favour automobile and public transit modes over bicycling and walking. Thus, active modes would be underrepresented in the data.

The 2011 long-form Census was not mandatory, resulting in lower response rates, which were less representative. We have chosen not to include this data set and to present the data from 1996, 2006, and 2016.



City of Peterborough – Work Trips

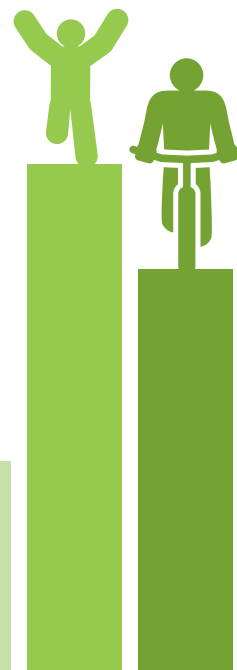
An assessment of Statistics Canada Census of Population data from 1996 to 2016 indicates that most City of Peterborough residents usually drive to work (Figure 1-3). As auto driver rates increased between 2006 and 2016, rates of carpooling declined. Taking transit to work has increased by 2% since 2006. The increase in transit breaks a long trend of no change in the mode share of transit to work. While it appears that the rate of cycling to work has not increased like it did for all transportation trips, note that the Census only records the main mode to work, so if someone cycles two days a week and drives three, they are recorded as auto driver.

Mode of Travel	1996	2006	2016
Auto Driver	74.5	70.7	74.6
Auto Passenger	9.3	10.9	7.8
Transit	3.3	3.6	5.6
Walking	9.8	10.4	8.7
Cycling	2.5	3.3	2.2
Other	0.6	1.1	1.1

Figure 1-3: Main mode of travel to work in the City of Peterborough in 1996, 2006, and 2016
(% people employed over 15 years of age)

Source: Statistics Canada Census of Population, 1996, 2006, 2016

The Peterborough Census Metropolitan Area (CMA) had the highest rate of walking and cycling to work in the Greater Golden Horseshoe region in 2016!³



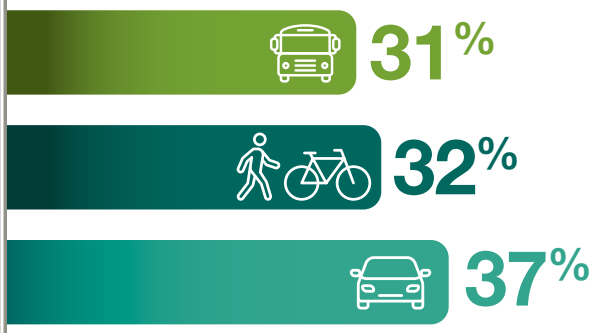
City of Peterborough – School Trips

Getting a clear picture of how youth are traveling in our region, specifically for the trip to and from elementary and secondary school, is not easily found using the surveys identified above. The national Census focuses solely on the journey to work, thus overlooking the other weekday trips regularly made by approximately 20% of our population. This is unfortunate, considering the volume of morning and afternoon traffic associated with travel to school and the community concerns that arise from this traffic.

While the Transportation Tomorrow Survey offers a glimpse into school travel, the data omits those under age 11 and includes post-secondary and mature students, which makes it difficult to make any conclusion on the travel behaviours of local elementary and secondary school students.

Locally, Active School Travel Peterborough (formerly Active and Safe Routes to School Peterborough) conducts annual elementary student travel surveys in the 3rd week of November to better understand how families in the City of Peterborough navigate the journey to school. Four to five elementary schools volunteer to participate in the survey each year. The schools administer daily hands-up surveys in each classroom, asking the students to self-report on how they traveled to school.





Data from surveys done in Peterborough schools completed from 2014-2018 show, on average:

- 31% of students ride the bus, 32% walk or cycle, and 37% get a drive to school.
- 7% of students are designated as ineligible for school bus services. These students live outside the school's designated walk and bus zones, and their default mode is expected to be personal car or taxi.
- Of the students living within the designated walk zone of schools, 67% walk, cycle, or scooter to school.
- Of the students designated as eligible to ride the bus to school, 72% ride the bus.

Active School Travel Peterborough has primarily focused on city-based elementary school travel over the last 20 years and does not have data for secondary schools and county-based schools at this point. The committee plans to complete city and county-wide student travel surveys for every school alongside the next Census, if funding can be secured for a comprehensive study.



72%
of eligible students
ride the bus



67%
of students in walk zone
walk, cycle, or scooter

County of Peterborough – All Trips

An assessment of Transportation Tomorrow Survey data from 1996 to 2016 indicates that the majority of trips in the County of Peterborough are in automobiles and that this transportation mode increased by 10% over the 20-year period (Figure 1-4). In contrast, passenger travel has decreased. Walking and cycling continue to make up a very small proportion of all trips and have declined over the last 20 years.

Mode of Travel	1996	2006	2016
Auto Driver	71	76	81
Passenger	19	16	13
Transit	0	0	0
Walking & Cycling*	2	2	1
Other (taxi, etc.)	0.4	0.2	0
School Bus	6.6	5.8	5

Figure 1-4: Proportion of trips (%) taken by various travel modes in the County of Peterborough from 1996 to 2016

Source: Transportation Tomorrow Survey, 2016

*Due to the small sample size, the table combines data for both walking and cycling.

The number of trips per day has decreased over the past 10 years in the county, and median trip distance has increased (Figure 1-5). When the numbers of trips are considered alongside the proportions of trips taken by various modes of transportation in Figure 1-4, it appears that residents are taking fewer trips across all modes of transportation.

Trip Description	2006	2011	2016
Average Daily Trips/ Person	2.6	2.4	2.4
Total Number of Trips/Day	99,100	94,200	91,500
Median Distance Driven/Weekday Trip (km)	8.4	9.6	10.9

Figure 1-5: Daily trips and median distance travelled by County of Peterborough residents, 2006, 2011, and 2016

Source: Transportation Tomorrow Survey Report, 2016



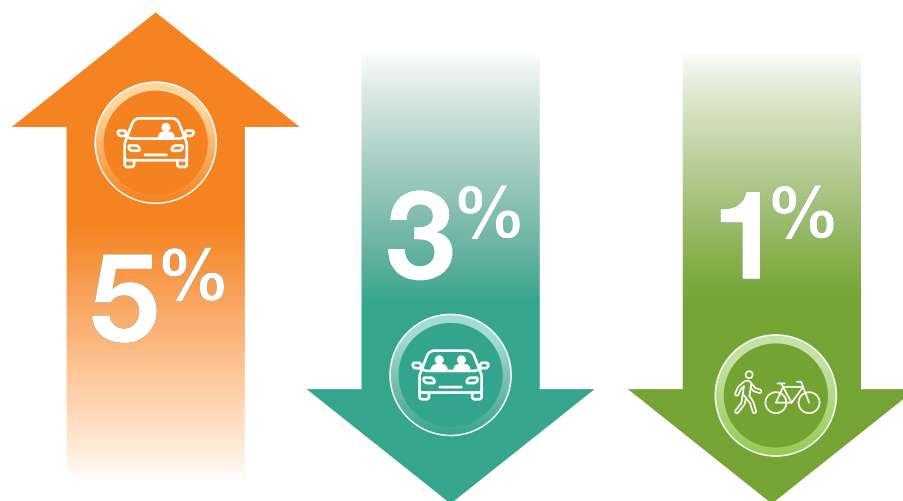
County of Peterborough – Work Trips

An assessment of Statistics Canada Census of Population data from 1996, 2006, and 2016 indicates that most County of Peterborough residents usually drive to work, with the number of drive-alone trips increasing and passenger trips decreasing during the 20-year period (Figure 1-7). The mode share of residents usually walking and cycling to work has decreased from 4.6 to 3.7%. There is an increase in transit, which likely relates to use of the GO inter-regional transit service.

Mode of Travel	1996	2006	2016
Driving	85.4	85.2	89.8
Passenger	7.6	8.4	5.0
Transit	-	-	0.7
Walking and Cycling	4.6	4.7	3.7
Other	2.4	1.7	0.8

Figure 1-7: Main mode of travel to work in the County of Peterborough in 1996, 2006, and 2016 (% people employed over 15 years of age)

Source: Statistics Canada Census of Population, 1996, 2006, 2016



Factors Influencing Our Travel Behaviour



Factors Influencing Our Travel Behaviour

Highlights

For various reasons, not everyone can drive. Community decision makers have a responsibility to support residents in accessing key destinations and getting around their community safely.

.....

Peterborough's aging population is an important consideration. Driver's license retention goes down after age 65. The provision of high-quality walking, cycling, and transit services is important for older adults, helping them remain independent, healthy, and connected as they age.

.....

Land use planning and the built environment influence rates of active travel, particularly factors such as density, land use mix, and active transportation and transit infrastructure.

.....

For cycling, 65% of Ontarians said they would cycle more if there were more and better cycling infrastructure in their community, such as protected bike lanes and paved shoulders.

.....



65% of Ontarians

would cycle more if there
was better infrastructure



City

The trend toward low-density, single land use areas is a key barrier to increasing active transportation and transit use.

Only 36% of residents live within a walkable distance of a grocery store.

14% of households do not own a vehicle, and vehicle ownership declined slightly from 2006-2016.



County

In the county, villages have the most potential for active transportation. Lakefield and Havelock have the highest population densities in the county.



Travel behaviours are largely habitual and these habits develop over the course of our lives. For one person, they know that they would choose to walk from point A to point B, cycle from point A to point C, and drive from point A to point D. Another person may choose to drive for the equivalent set of trips, and others still may choose to cycle or take public transit for the equivalent set of trips.

Like other behaviours, convenience and cost can be important influences on travel behaviours. Personal values has also established itself as an influence on travel behaviours. With environmental consciousness on the rise, more Canadians are choosing to have fewer vehicles (e.g., a family may decide to own one vehicle, instead of two). Some factors are moreso out of one's control, often limiting certain modes of travel as options: A disability may prevent one from operating a personal vehicle or walking for long distances. One's income may make owning a vehicle not feasible, where they instead rely on active transportation and public transit.

About Transportation Equity

“Equity refers to the fairness with which impacts (benefits and costs) are distributed. Transportation planning decisions often have significant equity impacts.”

~ Todd Litman - Evaluating Transportation Equity - Victoria Transport Policy Institute

Age, ability, and cost can all be barriers to using a vehicle, and some groups are particularly dependent on alternative modes of transportation. A transportation system that allows people to easily and safely walk, cycle, or bus, ensures that everyone has equal access to the food, jobs, schools, services, and social opportunities needed to live comfortable, healthy lives.

In this chapter, we have presented data on several of the factors that are known to be correlated with travel choices. Readers are encouraged to consider how the factors presented may relate to the aforementioned influences - convenience, cost, and personal values - for different transportation modes. Consider how the factors might interact and evolve as one moves through different stages of life, as well as how the factors may be experienced differently across the GPA. By enhancing our understanding of these factors, we will be better equipped to explore options for enhancing transportation equity in each and every corner of the region.

Local Data on Factors Influencing Travel Behaviour

In the GPA, we have data on several factors that influence travel behaviour:

- age and gender
- ability
- income
- distance and travel duration
- density and land use mix
- access to infrastructure and transit services
- safety and comfort factors

Age and Gender

The populations of the City and County of Peterborough are aging. It is a trend evident in many regions across the country, however at 22.2% of its population, Peterborough has the highest proportion of older adults in all of Ontario's Census Metropolitan Areas.⁴ Across Ontario, only 16.7% of residents are age 65+.

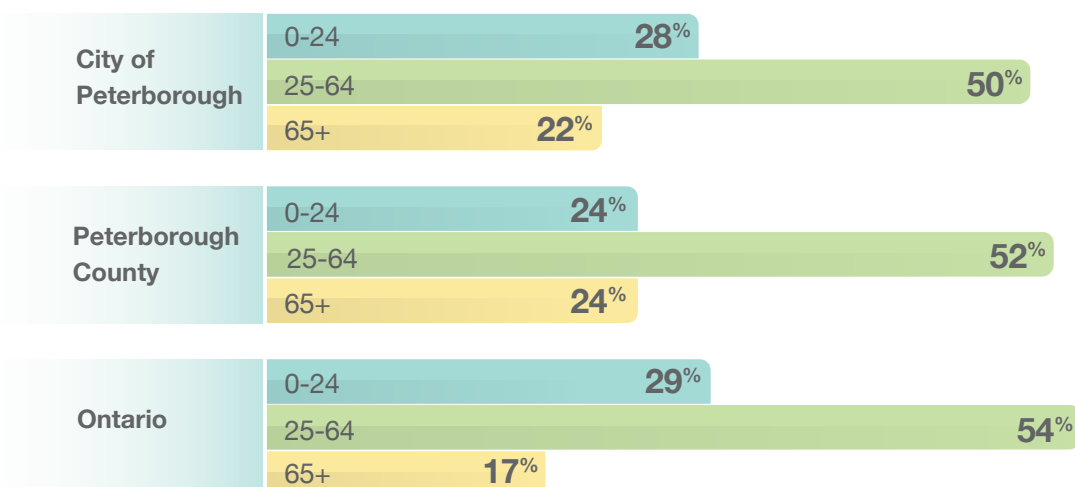
In addition to having a higher proportion of older adults than the provincial average, it is notable that women make up a higher proportion of older adults (aged 65+) in the city. In fact, 1 in 4 women in the city are aged 65+. Figure 2-1 details these findings alongside the percent of residents in the city, county, Peterborough region, and province, by age cohort and gender.

From the figure it is also noted that there is a greater proportion of young people (age 0-24) in the city (28%) than in the county (24%). The difference is mostly based on the 20-24 age cohort, which may be due to the post-secondary student population, as well as young adults from the county moving into the city.

	City of Peterborough [Census subdivision] (% by age)			County of Peterborough [Census division] (% by age)			Ontario (% by age)		
Age Cohort	Total	Male	Female	Total	Male	Female	Total	Male	Female
0-24	28	29	26	24	25	24	29	31	28
25-64	50	51	49	52	52	53	54	54	54
65+	22	20	25	24	24	23	17	15	18

Figure 2-1: Proportion of City of Peterborough, County of Peterborough, and Ontario population by age cohort

Source: Statistics Canada Census of Population, 2016





The 65+ Cohort is Growing

The proportion of the population aged 65+ in both the city and county is growing (Figure 2-2). Over 1 in 5 residents are aged 65+ in our community.

Jurisdiction	2006	2016
City of Peterborough	19	22
County of Peterborough	18	24

Figure 2-2: Percentage of population aged 65+ in 2006 and 2016

Source: Statistics Canada Census of Population, 2006 and 2016

What we know about transportation, age, and gender:

- Young people are more inclined to walk, cycle, or ride transit to work than older adults.⁵
- Transportation of different age cohorts is also related to gender.
 - Women of all ages are more likely than men to walk and take transit.⁶
 - Men are more likely to bike⁷ and commute by bike⁸; however, a high proportion of women bike when there is strong support and infrastructure.⁹
 - Women are likely to stop driving at a younger age than men.¹⁰

With what we know about transportation, age, and gender, we can use our local demographics to inform active transportation and transit strategies. For example, considering that 22% of our population is 65+ and that driver's license retention goes down after age 65, the provision of walking, cycling, and transit support to our older citizens can ensure they remain independent, healthy, and socially connected as they age. Walking supports for older adults may include features like lighting, washroom facilities, and benches for resting. Cycling supports would include all ages and abilities infrastructure, which would also increase use by women, families, and our young people (who currently make up nearly a quarter of our population).

Ability

People with disabilities rely heavily on active transportation and transit to move around the city and county. People with disabilities are twice as likely to be living in poverty in Canada, which means that they are less likely to own a vehicle.¹¹ Also, some disabilities prevent people from having a driver's license. Active transportation and transit are key to removing barriers to employment, education, housing, health services, and social participation for people with disabilities.

The prevalence of disabilities among Canadians is more common than one may realize. In 2017, one in five (22%) of the Canadian population aged 15 years and over had one or more disability.¹² The prevalence of disabilities among Canadians increases with age. Seniors aged 65 and over represent the highest prevalence of disabilities in Canada, with 38% of seniors having one or more disability. As our population ages, the number of Canadians with disabilities is predicted to grow at about twice the rate of the overall population.¹³

Across all age groups, women (24%) were more likely to have a disability than men (20%). As the severity of disability increases, people are more likely to be living in poverty.¹⁴

In Canada, 1% of the population living in the community (as opposed to in care), use a mobility assistive device,¹⁵ equating to an estimated 800 people in the City of Peterborough and 550 people in the County of Peterborough. Given that our senior population is higher than average, this is a conservative estimate.

Complete street design and barrier-free transit services can improve transportation options for people with disabilities. In addition, walkable neighbourhoods, where many services are in close proximity to homes, make it possible to get around without the use of a vehicle or relying on specialized transit services.

38% 
of Seniors
have a disability

An estimated 
1350 people in
the GPA use a mobility
assistive device

All Ages and Abilities

In the active transportation planning sector, The Centre for Active Transportation's Complete Streets for Canada¹⁶ and 8 80 Cities approach¹⁷ are two ground-breaking initiatives founded on the idea that our communities should be accessible and safe for everyone, no matter their age, ability, or mode of transportation. These initiatives foster transportation equity by identifying ways to provide more inclusive transportation systems.

Income

Our incomes influence our spending decisions. Approximately one fifth (20%) of household spending by Ontarians went towards transportation costs in 2017 (Figure 2-3), which is similar to the 2012 figure in the 2014 Indicators Report. In 2017, this corresponds to an average of \$13,103.58 per household.¹⁸

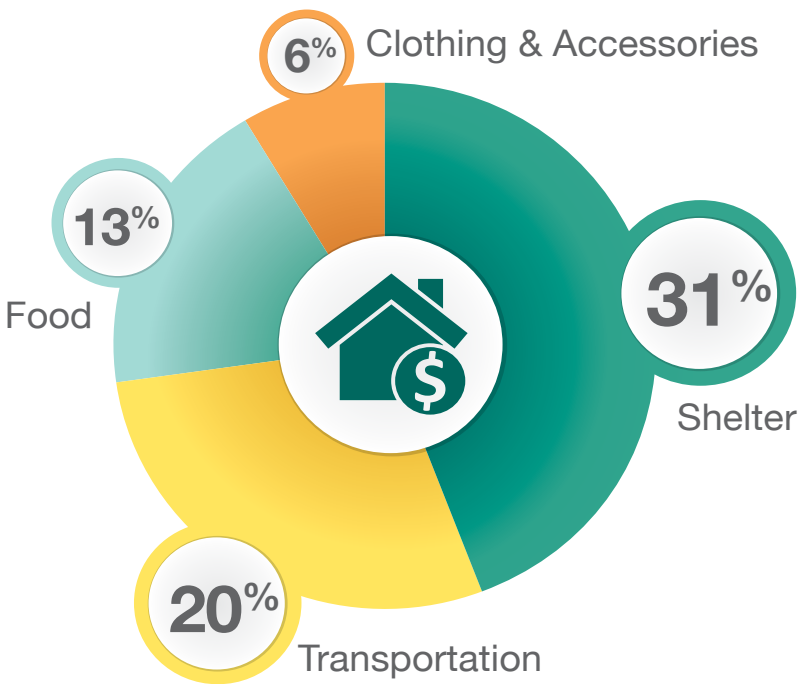


Figure 2-3: Average household expenditures in Ontario as a % of overall spending on goods and services

Source: Statistics Canada Survey of Household Spending, 2017

Households with lower income, however, spend a lower proportion of their income on transportation. The 2016 Statistics Canada Census of Population shows that in Ontario, for households in the lowest income quintile, 13% of their goods and services spending is on transportation, as compared to about 21% for households in the top three quintiles. After paying for necessities such as shelter and food, low-income households have limited funds remaining to spend on transportation. This affects about 15% of households (>20,000 people) in the GPA and about 20% (>14,500 people) in the City of Peterborough who are low-income (Figure 2-4).

Geographic Area	Median Household Income	Half of Median Household Income	% Population with Low Income*	Approximate Number of People in Households with Low Incomes
Greater Peterborough Area (GPA)	\$64,437	\$32,220	15%	20,265
City of Peterborough	\$58,381	\$29,190	19%	14,646

Figure 2-4: Household incomes in the GPA and City of Peterborough

Source: Peterborough Public Health Low Income Status Report, 2017

*Low income refers to earning less than half of the median income, after taxes.

Vehicle Ownership

With less to spend on transportation, it can be difficult to afford all the costs associated with owning a personal vehicle. Approximately one quarter of households in the city with lower incomes live without a vehicle (Figure 2-5). As a result, these households are more reliant on active transportation, transit, and ride sharing than people with higher incomes. Land use planning and transportation planning are critical to enhancing equity in supporting households with lower income to access jobs, groceries, health services, and other opportunities.

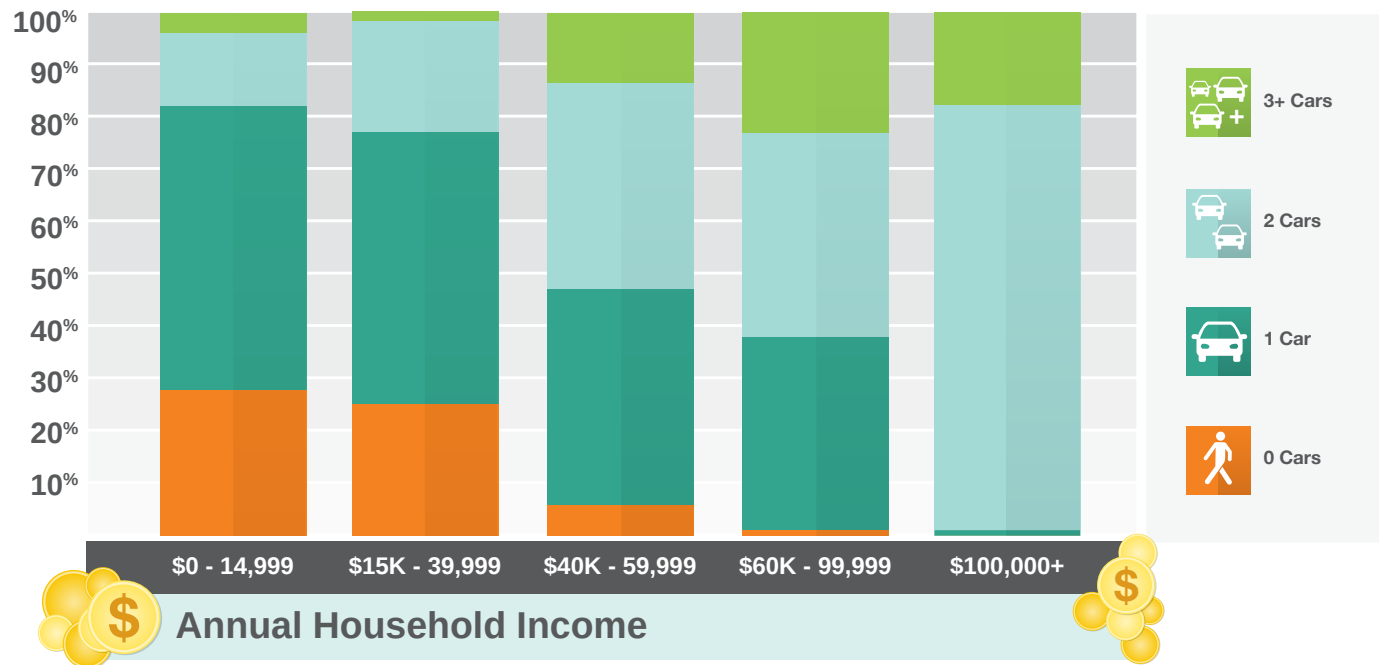


Figure 2-5: Vehicle ownership as a function of income in the City of Peterborough (% of households)

Source: *Transportation Tomorrow Survey, 2016*



In the City of Peterborough, it is most common for a household to have one vehicle (Figure 2-6). In the 14% of households that do not own a vehicle, transit accounts for 40% of usual trips, and walking and cycling combined make up another 40% (Figure 2-7).

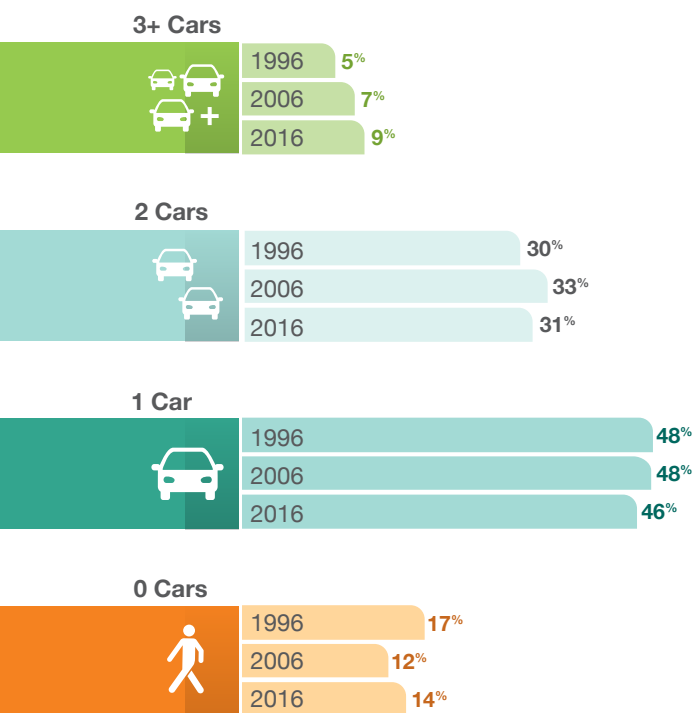


Figure 2-6: Car ownership in the City of Peterborough (% of households), 1996-2016

Source: *Transportation Tomorrow Survey Report, 2016*

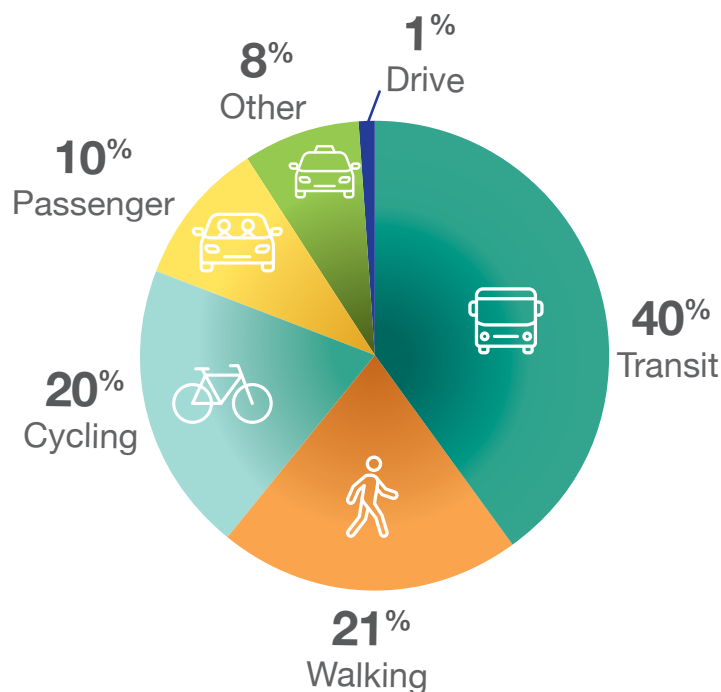


Figure 2-7: Usual travel mode of City households without vehicle access

Source: *Transportation Tomorrow Survey, 2016*

In the County of Peterborough, it is most common for a household to have two vehicles. (Figure 2-8). The proportion of households with three or more vehicles rose by 5% between 2006 and 2016 to 23% of households. While average household income has increased in the county, factors such as long trip distances and lack of transit services also influence automobile reliance and ownership.

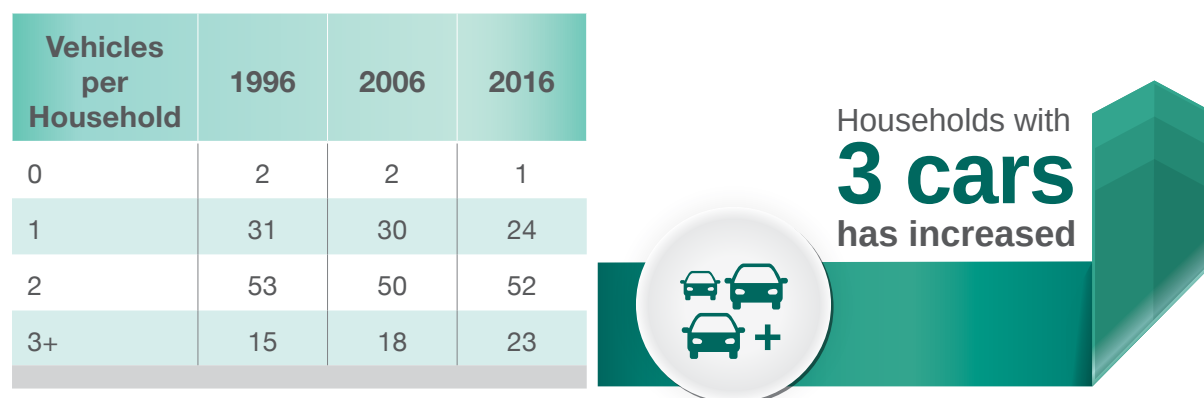


Figure 2-8: Car ownership in the County of Peterborough (% of households), 1996-2016

Source: *Transportation Tomorrow Survey Report, 2016*

Distance and Travel Duration

In 20 minutes, many people can walk 1.5 km or cycle 4.5 km



1.5km



4.5km

Distance, and the time taken to travel it, is an influential factor when determining which transportation mode to use. The Census and Transportation Tomorrow Survey provide data that gives hints as to how these factors influence our decisions.

As displayed in the previous Chapter in Figures 1-2 and 1-5, the median trip distances are 3.2 km for city residents and 10.9 km for county residents. The median trip distance in the city would take many people 35 to 45 minutes to walk, and less than 15 minutes to cycle, whereas the median trip distance in the county would take about 40 to 50 minutes to cycle. While these distances are longer than the 2 km that is generally considered walkable, they would be comfortably bikeable for many; 5-7 km is generally considered a pleasant distance for a bike trip.



Forty-four percent of transportation trips in the city are less than 2 km, and 77% are under 5 km. Between 2006 and 2016, we see a marked increase in cycling and walking for trips under 2 km, with cycling increasing from 1% of trips in 2006 to 6% in 2016, and walking trips increasing from 12% to 15% (Figure 2-9). Overall, walking and cycling trips accounted for 21% of trips under 2 km in length in 2016, while 73% were made by vehicle as driver or passenger (down from 82% in 2017). Transit trips remained fairly steady for trips under 2 km.

2006 Mode	0-2 km	2-5 km	5-10 km	10+ km
Auto Driver	62.5	71	69	75
Auto Passenger	20	19	17	19
Transit	2.5	6	11	3
Walk	12	1	0	0
Cycle	1	0	1	0.2
Other	3	4	2	3
Total	100	100	100	100

2016 Mode	0-2 km	2-5 km	5-10 km	10+ km
Auto Driver	60	74	77	83
Auto Passenger	13	15	15	13
Transit	4	5	5	2
Walk	15	1	0	0
Cycle	6	2	2	1
Other	2	3	1	1
Total	100	100	100	100

Figure 2-9: Travel mode by length of trip for City of Peterborough residents (% of trips), 2006 and 2016

Source: *Transportation Tomorrow Survey, 2016*



Commuters

For those that are employed, the commute to work is often the most regularly scheduled, recurring transportation trip made.

City Commuters

For City of Peterborough residents, commute trip destinations are increasingly in town (Figure 2-10). Lone driving makes up 68% of commute trips (Figure 2-11). Half (51%) of all drive-alone trips take less than 15 minutes, and almost half (47%) of all city commuters can travel to work in less than 15 minutes. This indicates a high potential for use of more sustainable modes and suggests that additional factors beyond travel duration and distance influence residents' travel behaviour.

Year	Workplace in the City	Workplace in the County	Workplace Outside of GPA
2006	80	8	12
2011	76	10	14
2016	84	9	7

Figure 2-10: Where City of Peterborough residents travel for work (% of residents)

Source: Transportation Tomorrow Survey, 2006, 2011, 2016

Travel Time (minutes)	Drive Alone	Carpool	Walking or Cycling	Public Transit	% All Travel Modes
Less than 15	51	46	41	7	46.7%
15 - 29	30	31	43	33	31.7%
30 - 44	7	9	11	34	9.3%
45 - 59	5	6	3	10	5.2%
60 & over	7	9	2	15	7.2%

Figure 2-11: Travel time to work for City of Peterborough residents (% commuters by time)

Source: Transportation Tomorrow Survey, 2016

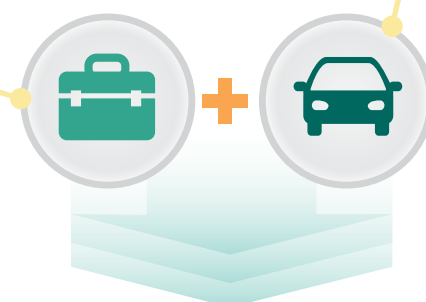
County Commuters

Although a majority of county residents work in the City of Peterborough, increasing numbers are working in the county and fewer are traveling outside of the GPA (Figure 2-12).

Year	Workplace in the City	Workplace in the County	Workplace Outside of GPA
2006	57	25	18
2011	45	31	23
2016	55	34	11

Figure 2-12: Where County of Peterborough residents travel for work (% of residents)

Source: Transportation Tomorrow Survey, 2006, 2011, 2016



Fewer people are commuting outside of the region for work

Density and Land Use Mix

In communities with higher densities and mixed land use, more people walk and cycle than in spread-out, vehicle-dependent communities with fewer services.¹⁹

Density

Density refers to the number of homes, people, or jobs per unit of area.

Benefits of high density include:²⁰

- reduced municipal costs for transportation infrastructure and maintenance per household,
- increased travel options, including being “transit supportive,” and
- reduced automobile speeds, resulting in enhanced safety.²¹

Land Use Mix

A mix of land uses provides a diversity of amenities (e.g., residences, jobs, schools, shops, services, and recreational facilities) in proximity to one another. Convenient access to these amenities through a range of transportation behaviour contributes to a complete community.

Benefits of a complete community include:²²

- increased access to daily needs
- reduced per capita vehicle ownership
- reduced time spent vehicle commuting
- reduced vehicle emissions
- increased active travel



Land Use Planning and Transportation

Land use planning directs how a jurisdiction's land is developed.

Planning is guided by provincial plans and guidelines and is also typically influenced by other provincial or community plans/commitments. Some of the resulting land use factors include density and land use mix. This intersect of land use planning, transportation planning, and their influence on population health is widely recognized.²³ Integrating local land use and transportation planning may help contribute to improved health and safety of the community.



Density in the City

Between 2006 and 2016, population growth in the City of Peterborough was greatest in subdivisions in the north and west (Figure 2-13). These areas show low to medium population density overall, but the increases highlight that these areas are becoming more transit-supportive. In our highest-density neighbourhoods, within and surrounding downtown, we have seen a slight decrease in population. With the downtown identified as an area for growth in the draft Official Plan, growth patterns are expected to change in the future.

When we compare these population densities and trends with the percent of land zoned for commercial uses, we see that our population is increasing in areas with minimal mixed land use (Figure 2-14). Increasing mixed land uses and higher densities along major corridors and at key intersections will better support active transportation and transit outside the downtown.

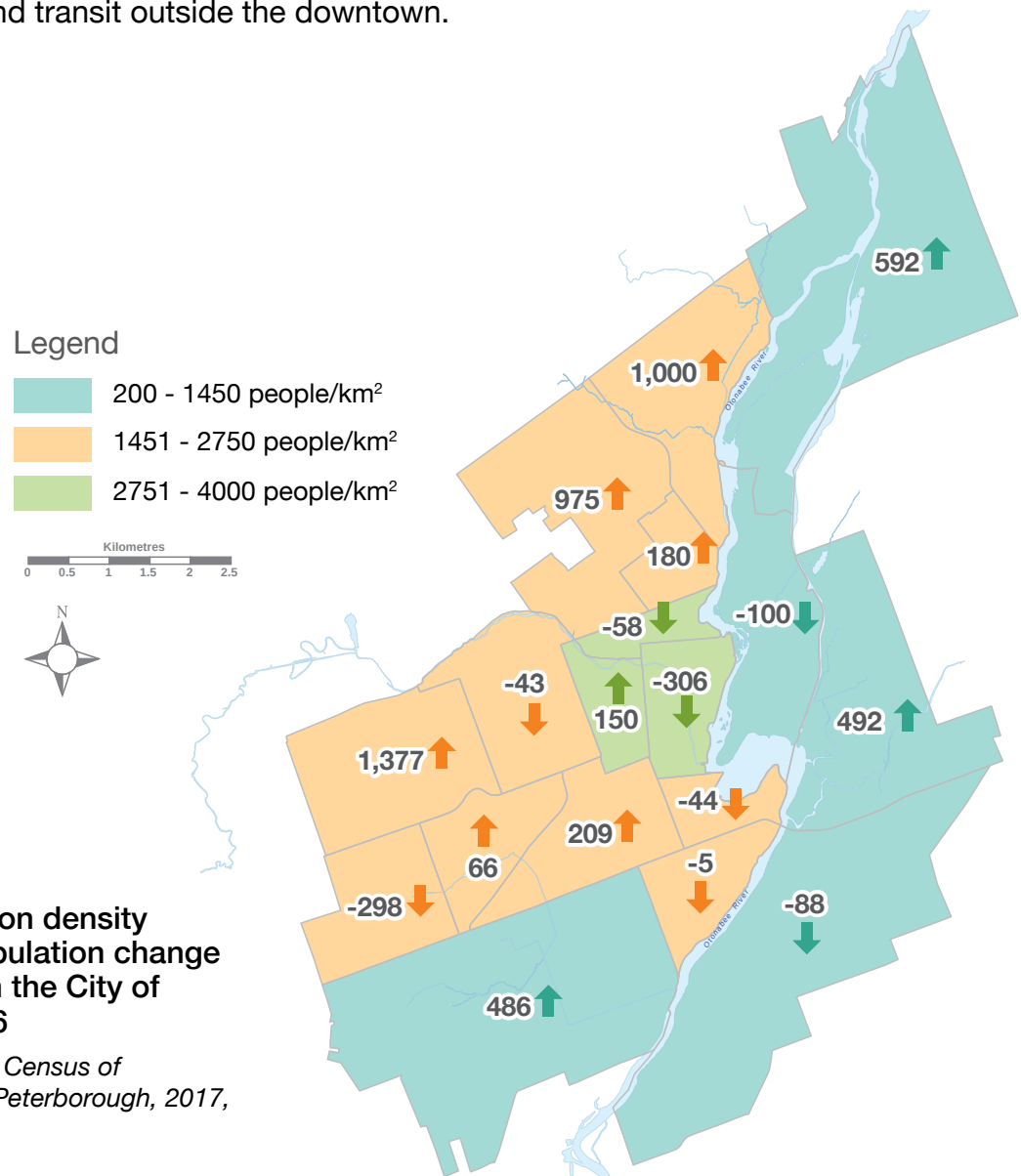


Figure 2-13: Population density (people/km²) and population change compared to 2006, in the City of Peterborough in 2016

Source: Statistics Canada Census of Population, 2016; City of Peterborough, 2017, unpublished

Note: Change in population is represented by values on the map. The arrows indicate increases or decreases recorded by census tract.

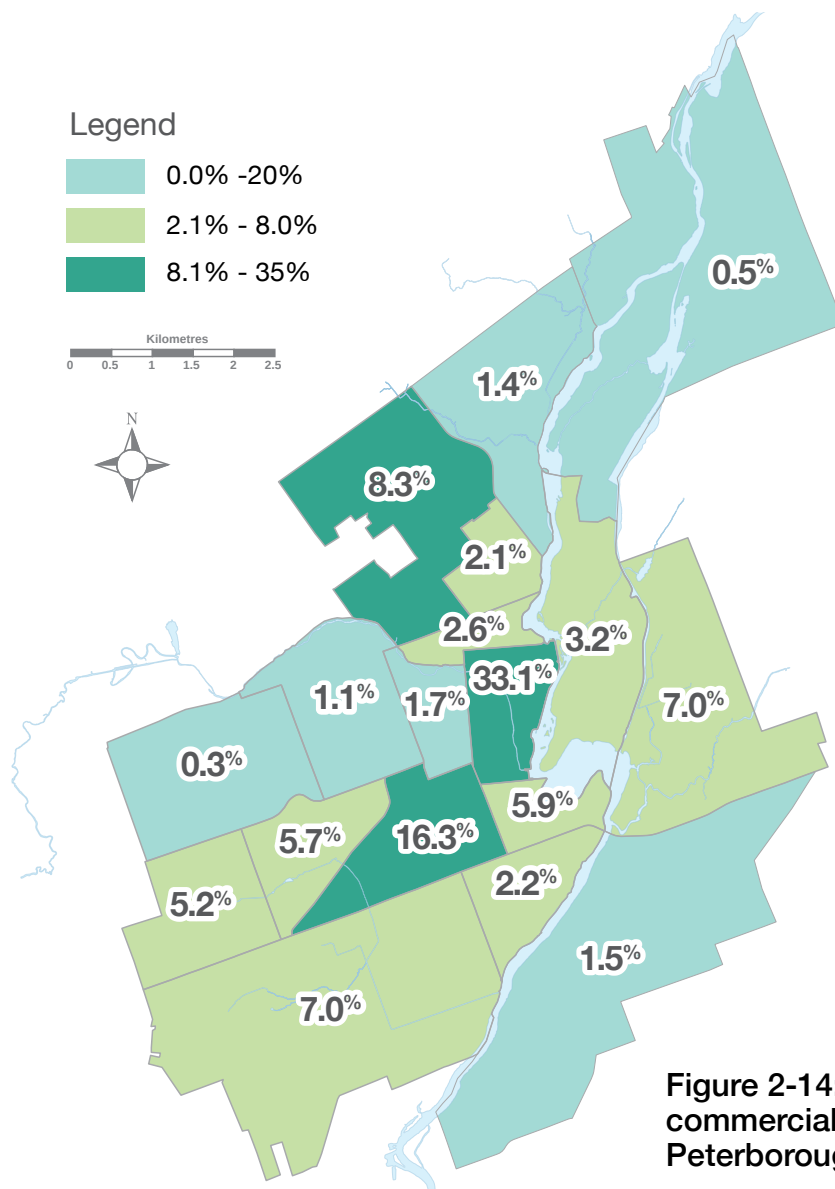


Figure 2-14: Percent of land zoned for commercial purposes in the City of Peterborough

Source: City of Peterborough, 2018, unpublished

Access to Grocery Stores – An Example of Uneven Land Use Mix

Eight-hundred metres is generally considered a walkable distance for most people.²⁴ Grocery stores are a major destination for daily and year-round access to fresh and healthy foods, yet many neighbourhoods in Peterborough (approximately 64% of the population) are not within walking distance of a major grocery store (Figure 2-15). As certain population groups are less likely to have access to a vehicle (e.g., people of lower income, older adults, new immigrants, people with disabilities, students), there are opportunities to apply land use planning and transportation planning to support all residents in having adequate access to grocery stores and other sources of healthy food.

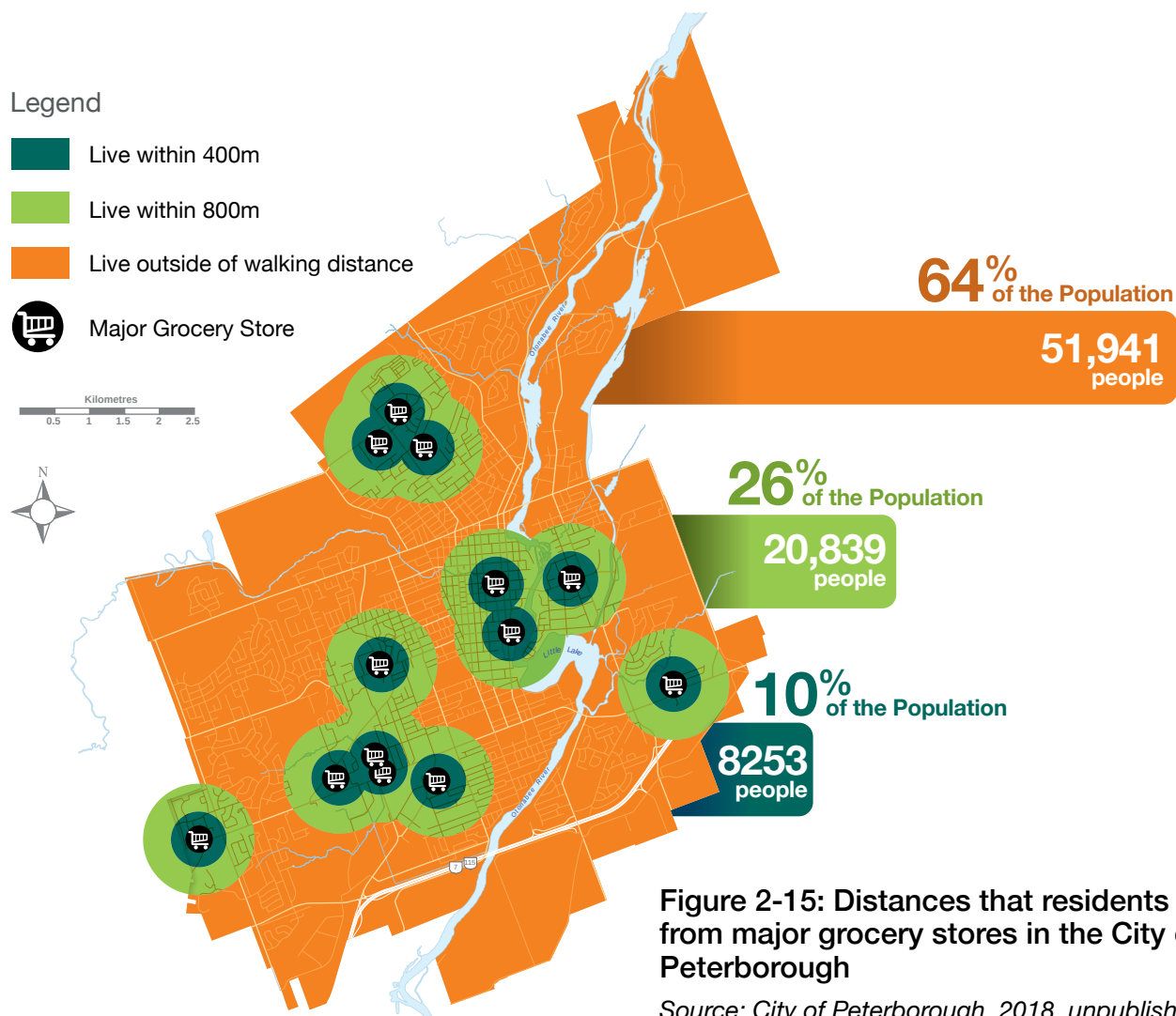


Figure 2-15: Distances that residents live from major grocery stores in the City of Peterborough

Source: City of Peterborough, 2018, unpublished

*Note: This map is limited to national grocery stores that are freely accessible and does not include other sources for healthy foods, such as smaller food stores, membership-requiring stores, farmers' markets, and community gardens.



Density in the County

Around the world and across North America, communities of all sizes are embracing the need to build and adapt for higher density and greater access to goods and services in support of active transportation and healthy lifestyles. While this may seem more obvious for larger centres like the City of Peterborough, there are plenty of opportunities for our more rural communities, as well. With their small areas and dense populations, the settlement areas (e.g., villages and hamlets) in the county have high potential for increased walking and cycling.

While the townships in the GPA have low population densities overall, the settlement areas within them are more densely populated - some have densities similar to that of the City of Peterborough (Figure 2-16). The villages of Lakefield, Millbrook, Norwood, and Havelock, with approximately 12% of the county population, are four of the densest settlement areas. These villages, as well as some smaller settlement areas, have grocery or general stores and other day-to-day services that can be accessed by foot or bicycle, though supportive infrastructure varies.

Community	Population	Area (km ²)	People/km ²
Greater Peterborough Area	138,236	3,848	36
City of Peterborough	81,032	64	1,261
Lakefield	2,753	3	1,083
Millbrook	1,695	2	812
Norwood	1,380	2	697
Havelock	1,175	1	1,039

Figure 2-16: Population density in Greater Peterborough Area settlements, 2016

Source: Statistics Canada, 2017c



Access to Infrastructure and Transit Services

Access to a system can lead to its use. The system gradually becomes familiar as we see how others use it and find a way for it to be useful in our own lives. This is true for transportation systems. Access to our transit system and active transportation network is an important factor influencing the use of these modes of transportation.²⁵



There is a growing body of evidence suggesting that safe cycling infrastructure (i.e., provides separation from vehicles) and convenient transit services are key factors influencing travel choice.²⁶ Options that support these modes can include a connected active transportation network (sidewalks, trails, and protected bike lanes) and medium-to-high levels of transit convenience (proximity transit stops, frequency of service, and efficiency of route).

Increasing access to transit has been identified as a need throughout our region. The City of Peterborough's draft Official Plan describes the intention to increase densities strategically through the city, with one benefit being a more transit-supportive land use pattern. In the County of Peterborough, exploration of inter-community transit has been recommended by local regional plans (e.g., Age-friendly Peterborough Community Action Plan, Greater Peterborough Area Climate Change Action Plan).



These plans are important in building access to the transit system. Also important is the concept of convenient access to transit (as analyzed in a later chapter), which describes how schedules, frequencies, and fees are factors influencing access to, and therefore use of, the system.

When discussing active transportation, walkability and bikeability are often used to describe access. These terms can relate to land use planning (i.e., ensuring amenities are a walkable distance from one another). The terms also relate to infrastructure. Access to sidewalks and pedestrian crosswalks or crossovers are a factor for families choosing whether to walk to school. Access to benches, shade, and lighting can also impact walkability.

Access to cycling infrastructure, such as bike lanes, trails, and bicycle parking, is a common factor in one's decision

to ride a bike. In the 2018 Share the Road Survey, 41% of Ontarians indicated that they would like to ride a bike more often, and 65% said they would cycle much more/somewhat more if there were more and better cycling infrastructure in their community, such as protected bike lanes and paved shoulders. A cycling network can greatly improve the bikeability of a city.

Safety and Comfort

People will often describe feelings of safety and comfort in discussions about their transportation choices. Factors such as lighting, benches, proper road maintenance, and intersection design contribute to these feelings, as do the level to which a sense of community exists, the history of crime in an area, one's understanding of rules of the road, or even the number of other people out and about.

Analyzing collision and injury data, which is presented in the Safety Chapter, can identify safety issues in our transportation system. This can lead to a better understanding of the system and assist in focusing improvement efforts.

Perceptions of safety and levels of risk one is willing to take are individual factors, and though they can be more difficult to measure, much can be learned from public engagement and research. For example, the Urban Bikeway Design Guide (2017) produced by the National Association of City Transportation Officials (NACTO) reports that surveys show “6-10% of people generally feel comfortable riding in mixed traffic or painted bike lanes. However, nearly two-thirds of the adult population may be interested in riding more often, given better places to ride, and as many as 81% of those would ride in protected bike lanes.” As a result, NACTO is recommending a move towards designing for all ages and abilities (see callout).

Understanding and addressing feelings of safety and comfort for potential active transportation and transit users can help to ensure that this influencing factor does not become a barrier.

All Ages and Abilities Bicycle Facilities

In 2017, NACTO released a set of All Ages and Abilities criteria that would build upon their Urban Bikeway Design Guide.

These criteria aim to increase the number of people riding bicycles by designing streets that are “safe and inviting for bicyclists of all ages and abilities.” The criteria detail national best practices for bicycle facility design to address street types of differing size, volume, speed, and stressors, in hopes of building cycling networks that will “grow bicycling as a safe, equitable mode for the majority of people.”



65% of Ontarians
would cycle more if there
was better infrastructure

Walking



Walking

Highlights

City

Overall, Walk Score® rates Peterborough as car-dependent with a score of 47 (out of 100). The downtown is rated as a 'walker's paradise', scoring over 90.

Areas with mixed use (e.g., those featuring both residences and services) and higher density, namely the downtown and the neighbourhoods orbiting it, have the highest rates of walking to work.

In five years, the City of Peterborough has built 21km of new sidewalks along existing streets. There remain key arterial roads with missing sidewalks, including sections of Lansdowne Street, Parkhill Road, Chemong Road, Sherbrooke Street, and Brealey Drive.

The percentage of sidewalk intersection corners with curb ramps has improved substantially from 2014 to 2018. In 2014, 65% had a curb ramp, and 87% had a curb ramp in 2018.

The condition of sidewalks has also improved substantially, with the rate of sidewalk repairs needed declining from 0.89 metres per 100 m in 2014 to 0.25 m/100 m in 2019.



65% had a curb ramp in **2014**

87% had a curb ramp in **2018**





Lakefield is
highest in
the GPA!

68 / **100**
Walk Score® 

County

Lakefield has the highest Walk Score® of any community in the GPA with a score of 68. The Walk Score® of the settlement areas in the county range from 31-68.

.....

Whether it's a misty morning stroll with your dog, a brisk march to the store for milk, or a daily walking commute to work, the most accessible – and some might say, enjoyable – mode of transportation is walking. It doesn't require equipment that you may not already have – like a bike or car – nor does it require special training or a license. It's affordable and, with the right conditions and infrastructure in place, easy.

Walking is the great equalizer. For children, older adults, and those who use mobility-assistive devices, walking can be the only transportation mode that allows for free, comfortable, and safe movement in the community and to meet personal needs.

Profile of a Canadian Walker²⁷



5: average # of walks in the previous week lasting at least 10 minutes



42 min: average daily walk for leisure, exercise, or necessity



77%: people who say, "I should walk more often."²⁸

Walkability

"Walkability" is how friendly an area – a city, a village, a neighbourhood – is to walkers. The term implies that there are features in place to support the safety, connectivity, convenience, and ease required for walking to desired destinations.

Reid Ewing and Robert Cervero's Five D's of the Built Environment – density, diversity, design, destination accessibility, and distance to transit – heavily influence an area's walkability.²⁹



Walk Score[®]

With a mission to promote walkable neighbourhoods, Walk Score[®] grades residential addresses by how close they are to amenities. Using a patented system, Walk Score[®] analyzes walking routes to grocery stores, schools, parks, restaurants, and retail centres, and allots points for distance; the closer the amenity, the more points. Not only does Walk Score[®] assess walkability, higher scores are associated with local prosperity. Walk Scores[®] are featured across North America in rental property and real estate listings.

Figure 3-1 is a Walk Score® ratings map for City of Peterborough neighbourhoods. While the dark blue (Walk Score® <10) are primarily undeveloped lands, much of our residential areas scored between car-dependant and somewhat walkable (Walk Score® 11-70). Areas that are considered walkable include the downtown, which rates as a “walker’s paradise,” and Hunter Street East, the Lansdowne Street corridor, and the southern section of Chemong Road are “very walkable.” It is important to note that Walk Score® does not capture other important walkability factors, such as missing sidewalks, sidewalk quality, and the difficulty of crossing wide, busy streets. This illustrates the need to complement the data from Walk Score® with additional evaluation strategies, such as walkability checklists, along with tracking progress towards implementing the Sidewalk Strategic Plan and other improvements in infrastructure.

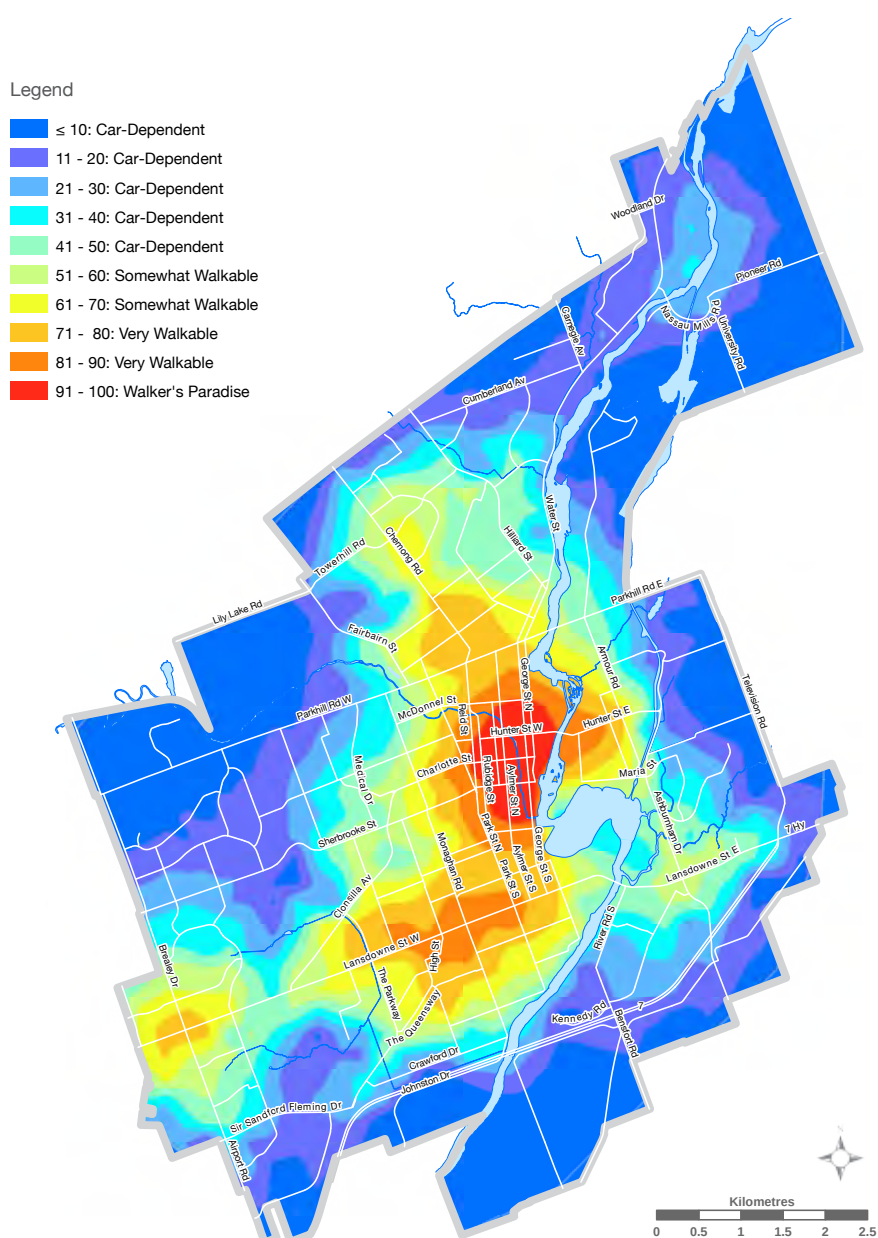


Figure 3-1: Walk Score® assessment of the City of Peterborough

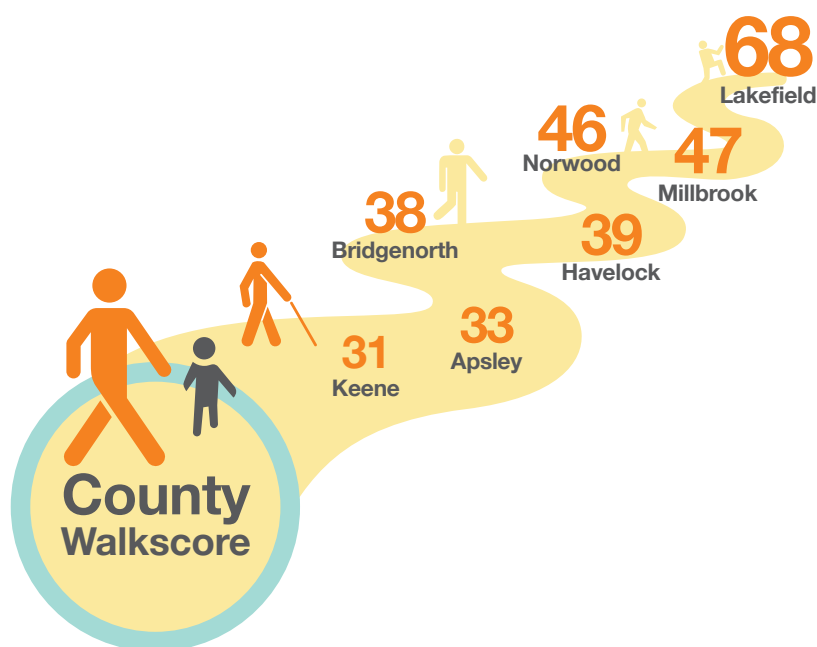
Source: Walk Score®, 2018

The Walk Scores® for various settlement areas in the County of Peterborough are shown in Figure 3-2. They are featured in order of rank; the higher the score, the more walkable the community. These settlement areas are hot spots for walkability within the county. They are tight-knit communities that provide a range of services for residents.

Community	Walk Score®
Lakefield ³⁰	68
Millbrook ³¹	47
Norwood ³²	46
Havelock ³³	39
Bridgenorth ³⁴	38
Apsley ³⁵	33
Keene ³⁶	31

Figure 3-2: Walk Score® assessment for settlement areas in the County of Peterborough

Source: Walk Score®, 2018



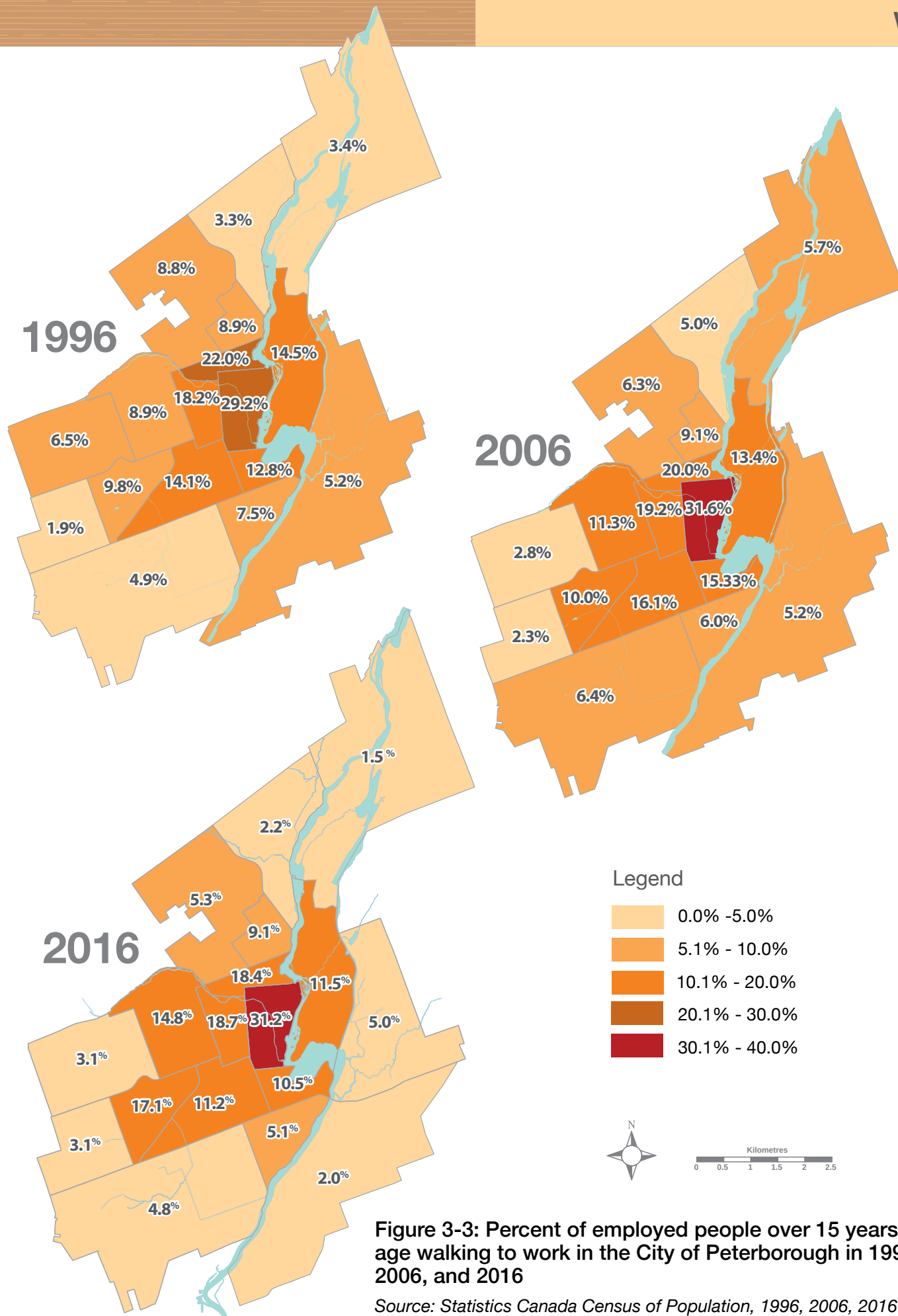
City

Walking to Work

As indicated earlier, for those who work, commuting is often the most regular and frequent travel trip made. For the individual, walking to work provides the opportunity to fit physical activity into an already necessary task. It is also very affordable.

Maps illustrating walking to work rates over the last 20 years in different parts of the city (Figure 3-3), coupled with the Walk Score® maps, underline the significance of land use planning in determining rates of active transportation and health. The areas with mixed uses and higher densities have the highest rates of walking to work and, as you will see, in the upcoming chapters on cycling and transit use.

People living in the downtown and neighbourhoods adjacent to it continue to have the lowest mode share of driving to work.



Infrastructure

While we are walkers, we won't walk where we don't feel safe; this is especially true for vulnerable populations.³⁷ Feelings of security are improved by providing sidewalks along streets and safe places to cross streets. Research reflects our collective support for initiatives that improve walkability. A 2015 national survey, conducted by Canadian Automobile Association and Green Communities Canada, found that 80% of respondents supported increased government spending on walking infrastructure, like sidewalks and connected pathways.³⁸

Sidewalks

The City of Peterborough's Sidewalk Strategic Plan maps out and prioritizes the building of sidewalks based on connectivity and use. Over the last five years, the City has continued to build priority sidewalks, completing 21 of the 45 km of priority one and two sidewalks. Almost half of the City's streets have sidewalks on both sides and over 20% have them on one side (Figure 3-4). An update to the Plan was completed in 2018 and is available for viewing on the City of Peterborough website (www.peterborough.ca).

Settlement areas within the County could consider the same approach as it has proven successful. Sidewalk maintenance and construction are a township responsibility.

Sidewalks

In five years, the City of Peterborough has built 21 km of new sidewalk along existing streets, a little over four kilometres per year. While there remain sections of key arterial roads with missing sidewalks, such as Lansdowne Street, Parkhill Road, Chemong Road, Carnegie Avenue, Water Street, Sherbrooke Street, and Brealey Drive, some of these are connected to planned road reconstruction or development projects.

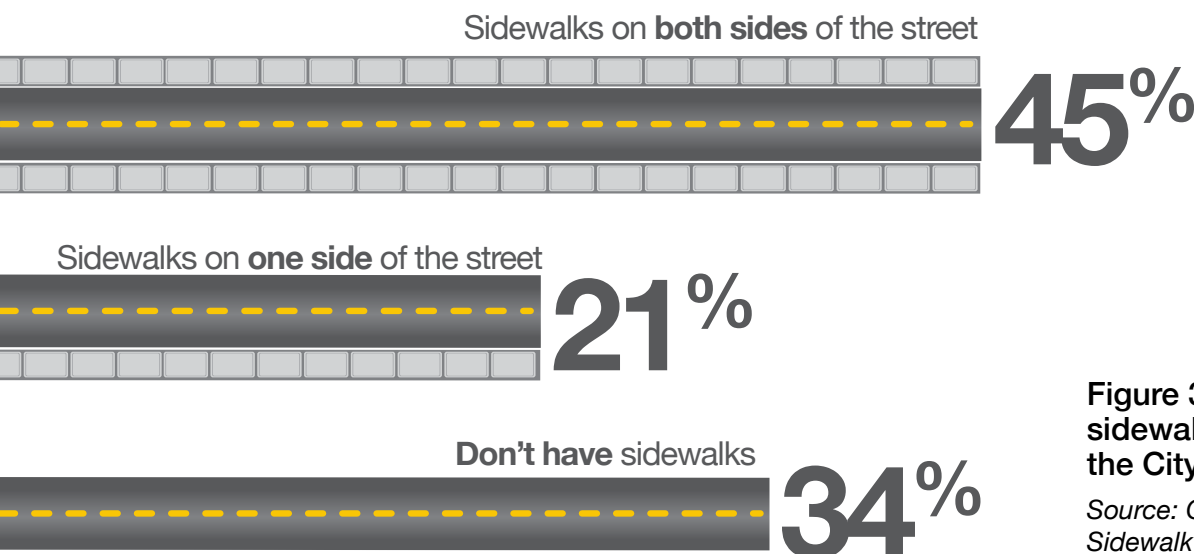


Figure 3-4: Provision of sidewalks along streets in the City of Peterborough

Source: City of Peterborough Sidewalk Strategic Plan, 2018a

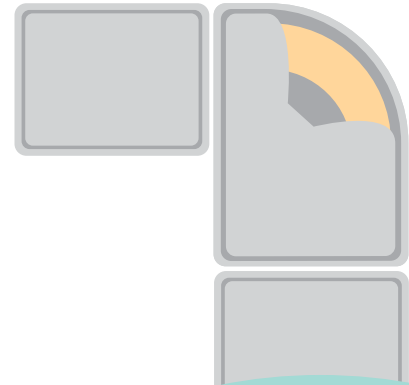
Curb ramps at intersections are accessibility features that make it possible for people using assistive mobility devices, such as wheelchairs, to use sidewalks. 87% of the City's intersection corners now have curb ramps (Figure 3-5), up from 65% in 2014. A growing number of these intersections also have warning plates that are used by people with low vision to detect where sidewalks and roads meet.

Year	Corners with Ramps (%)	Corners with Warning Plates (%)
2014	65	very few
2018	87	6.5

Figure 3-5: Provision of curb ramps and warning plates in the City of Peterborough

Source: City of Peterborough, 2018, unpublished

87% had a curb ramp in **2018**



Sidewalk Quality

Since the 2014 Active Transportation and Health Indicators Report, the City has made excellent progress in replacing sidewalks in poor condition (Figure 3-6).

Year	Repairs needed (#/100 m)
2014	0.89
2019	0.25

Figure 3-6: Sidewalk repairs needed in the City of Peterborough, 2014 and 2019

Source: City of Peterborough, 2019, unpublished



Winter Maintenance

With more winter days featuring temperatures above freezing and increasing amounts of rain instead of snow comes more ice. This has made winter sidewalk maintenance more challenging. Roads have sewer drains, but sidewalks do not. Instead, water can pool along the sidewalk between the snow banks on either side.

Winter maintenance of sidewalks and trails is an accessibility issue. Better winter maintenance and snow clearing was identified in the Official Plan Review online survey as one of the top three strategies to reduce automobile use.³⁹ In 2015, the City invested approximately \$500,000 annually to provide enhanced winter maintenance at transit stops and on sidewalks. As the city grows, additional investment may be required to maintain or enhance service levels while staff continue to explore opportunities to implement best practices for enhanced snow and ice removal.

Trails

Trails are a valuable community asset that not only contribute to a well-connected active transportation network, but also facilitate exposure of residents to health-promoting green spaces.⁴⁰

In 2018, Peterborough City Council acknowledged that lighting on trails increases their use and safety at night and in the winter months, by endorsing:

“That lighting of the main trails in the city be approved as a design feature and that implementation of the lighting be included as part of future budget submissions.”



County

The settlements in the County have sidewalks that are constructed and managed by the townships. A current record of the availability of sidewalks in the townships is not included in this report.

The County of Peterborough owns and maintains the Rotary Greenway Trail, which connects the City of Peterborough and the Village of Lakefield. This scenic trail runs along the Otonabee River with views of the natural area wildlife. The trail is enjoyed by a variety of users, from the youngest family members just learning to walk or ride a bike to marathon runners.

The sections of the TransCanada Trail, recently renamed The Great Trail, that lie in the county are owned by the Province of Ontario and managed by local non-profit management groups. There are also many highly used trails owned and managed by townships, and a few townships, including Selwyn and Cavan-Monaghan, have adopted Trails Master Plans.



Cycling



Cycling

Highlights

There was substantial provincial support for cycling initiatives over the past five years including development of the Ontario Bikeway Network, changes to the Highway Traffic Act to make it safer for cyclists, funding of municipal cycling infrastructure, and safety promotion.

E-bike and other micro-mobility use is on the rise and have the potential to attract more diverse populations to using sustainable modes of transportation.

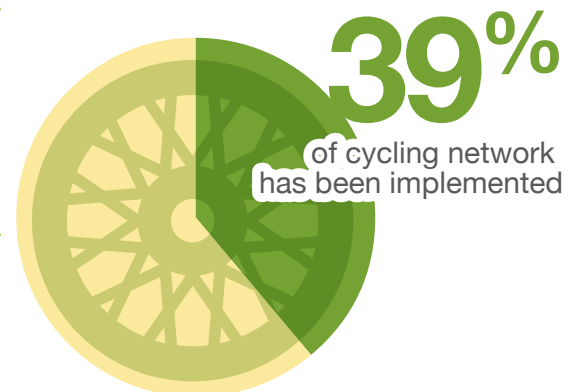
City

The City of Peterborough was awarded Silver Bicycle-Friendly Community status by Share the Road in 2015.

The top three corridors in the manual count in 2018 were George Street at McDonnell Street, George Street at the railway tracks by the Holiday Inn, and the Rotary Greenway Trail near Whitaker Drive.

39% of the Cycling Network in the City's 2012 Comprehensive Transportation Plan has been implemented, 18 kms between 2014 and 2018. To complete the network by 2031, 9 km per year will need to be implemented, about double the rate of the past few years.

From 2012 to 2017, there was a 21% increase in cyclists counted in the annual manual count. There remains a significant difference in cycling by gender as only 26% are identified as female.



Infrastructure improvements and cycling rates are related. With every 1 km of new cycling infrastructure there has been a 1.5% increase in the number of cyclists counted during annual counts.



1 km of new cycling infrastructure  **= 1.5%** increase in cyclists counted

County

In 2015, the Peterborough & the Kawartha Classics bike routes were created, featuring three double-loop routes for road cyclists. These routes are putting the GPA on the map as a cycling destination.



10% of County roads now have paved shoulders. On provincial roads located within the County of Peterborough, 100 km of paved shoulders were added to Highway 28 from Lakefield to Bancroft in 2018.

100 km  new paved shoulders

Cycling is gaining in popularity in the GPA. The County of Peterborough, with its designated bike routes and greater focus on connectivity and paved shoulders is becoming a destination for long-distance riding. While in Peterborough, you can see more and more cyclists on the streets, trails, and in designated cycling lanes, using their bikes for errands, commuting, and enjoyment.

Provincial support for cycling initiatives was strong over the past five years, including the development of the Ontario Bikeway Network, funding of municipal cycling infrastructure and cycling education, changes to the Highway Traffic Act to make it safer for cyclists, and funding for local safety messaging.

Local projects that were funded include the cycling lanes on George Street between Hunter Street and Lake Street, the extension of the Crawford Trail, paved shoulders on County Road 34 (Heritage Line), paved shoulders on County Road 18 (8th Line Smith) and County Road 23 (Buckhorn Road), and the one-metre safe passing education campaign.

Bikeability

The Share the Road Cycling Coalition manages the Bicycle Friendly Community program. Their extensive application focuses on the 4 E's:

- Engineering: Creating safe and convenient places to ride and park
- Education: Giving people of all ages and abilities the skills and confidence to ride
- Encouragement: Creating a strong bike culture that welcomes and celebrates bicycling
- Evaluation & Planning: Planning for bicycling as a safe and viable transportation option

In 2012, the City applied for status through the program and was awarded a bronze. When we reapplied in 2015 to maintain or improve our status, we graduated to silver! Factors contributing to the silver designation included expansion of the cycling network, strong community partnerships, and the Pedal Power program for Grade 5 students.

Another measure of bikeability is through Bike Score™. Like Walk Score®, this is a service that measures the “bike-friendliness” of a location, such as a home, workplace, neighbourhood, or city. Managed by Walk Score®, the application can be used by individuals to assess a property or by municipalities wishing to prioritize areas for development. Bike Score™ provides a rating between 0 and 100 by evaluating bike lanes, hills, the accessibility of desired destinations, and road connectivity.⁴²

The Bike Score™ map of Peterborough (Figure 4-1) shows “very bikeable” (red) areas around the city’s centre and in pockets along Lansdowne Street but quite a few areas that are only “somewhat bikeable” (green to blue). Like Walk Score®, a Bike Score™ doesn’t provide the complete picture, as there are critical factors not included in the assessment (e.g., quality of current infrastructure, traffic). It provides insight but should be used in combination with other evaluation tools.

Legend

Very Bikeable (70 - 89), Biking is convenient for most trips

70 - 75

65 - 69

Bikeable (50 - 69), Some Bike Infrastructure

60 - 64

55 - 59

50 - 54

Somewhat Bikeable (0-49), Minimal Bike Infrastructure

44 - 49

41 - 45

35 - 39

30 - 34

25 - 29

20 - 24

15 - 19

10 - 14

5 - 9

0 - 4

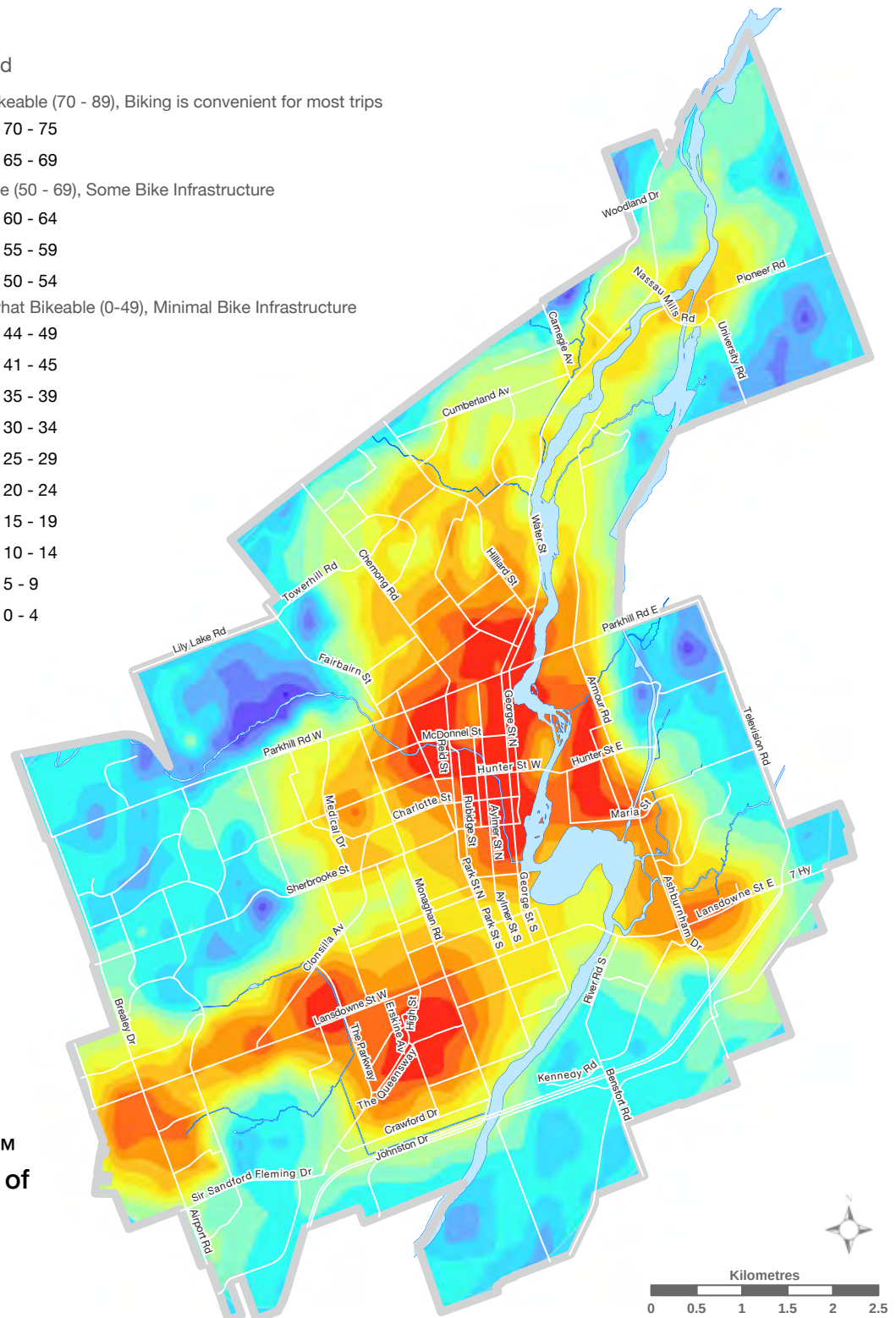
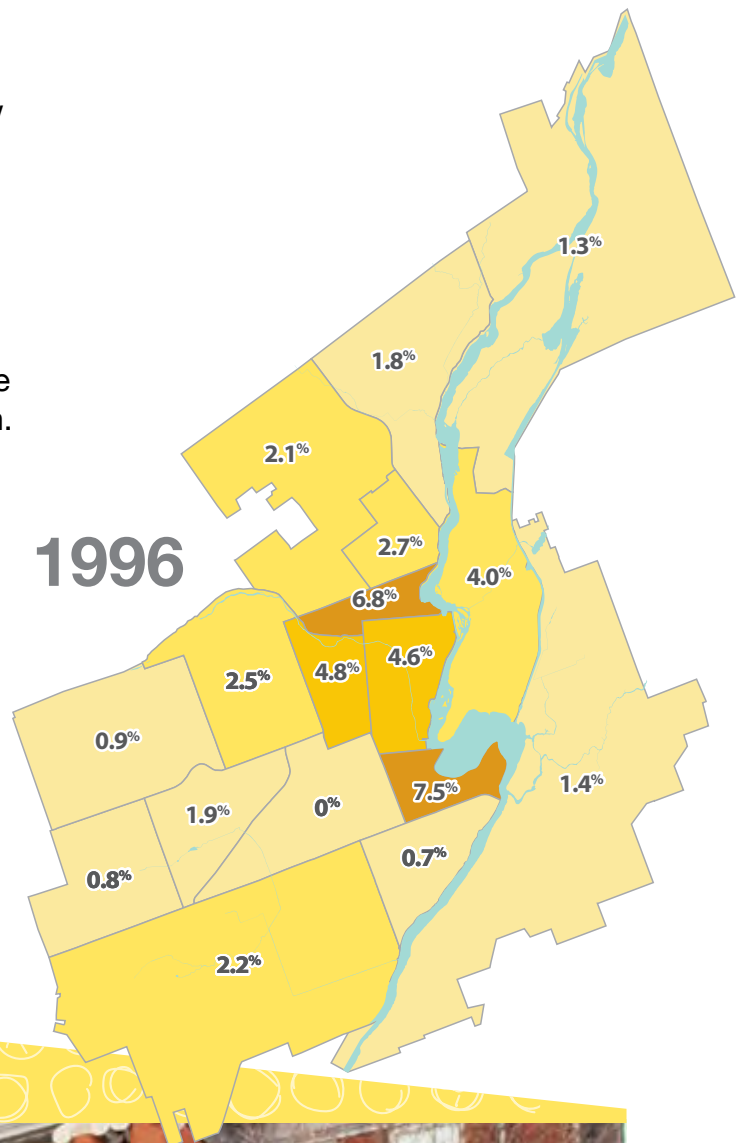


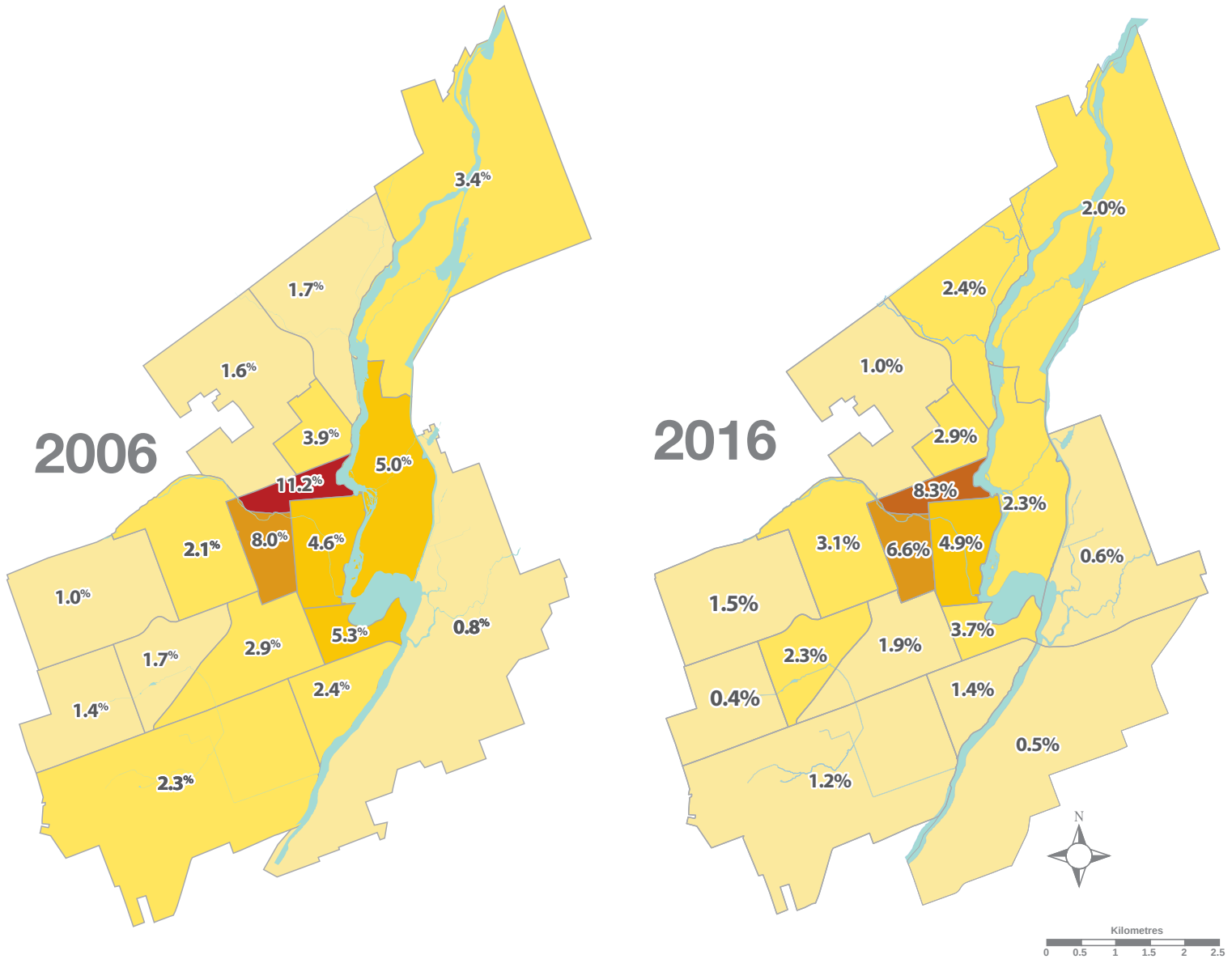
Figure 4-1: Bike Score™ assessment of the City of Peterborough

Source: Bike Score™, 2018

Cycling to Work

Density and land use mix are related to how many, and how often, people use bikes. This connection can be seen in the Cycling to Work maps (Figure 4-2). Cycling rates are lower in the newer (outer) Peterborough subdivisions that feature lower density and less mixed-use development. Rates of cycling to work continue to be highest in the neighbourhoods surrounding the downtown.





Legend

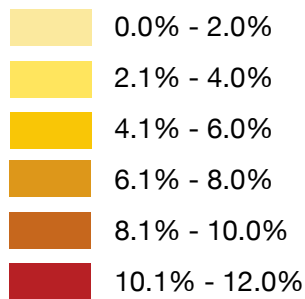


Figure 4-2: Percent of employed people over 15 years of age cycling to work in the City of Peterborough in 1996, 2006, and 2016

Source: Statistics Canada Census of Population, 1996, 2006, 2016



Cycling Rates Across the City

Evaluation tools help us identify common cycling routes and fluctuations of use in real time. This data can tell us how successful infrastructure projects have been and help us predict the impact of future infrastructure projects.

The top 10 cycling corridors in 2018 manual counts

George Street at McDonnell Street

491 bikes/day

New bike lanes were added here 2016

George Street at railway tracks
(by Holiday Inn)

393 bikes/day

New bike lanes were added here 2018 NEW
IN THE TOP 10

Rotary Greenway Trail
at Whitaker Street

384 bikes/day

NEW IN THE TOP 10

Bethune Street at Hunter Street

280 bikes/day

Rotary Trail at Nassau Mills Road
(by rowing club)

276 bikes/day

Rotary Trail at Parkhill Road
(by Auburn Street)

260 bikes/day

Hilliard Street at the Parkway Trail

242 bikes/day

NEW IN THE TOP 10

Charlotte Street at Aylmer Street

242 bikes/day

Aylmer Street at Charlotte Street

217 bikes/day

Rotary Greenway Trail
at Hunter Street

215 bikes/day

In 2018, the IBI Group analyzed the City of Peterborough's count data to provide insight into cyclist use patterns. From 2012 to 2017, there was a 21% overall increase in cyclists. There remains a significant difference in cycling by gender, as only 26% of cyclists in the manual count appeared to be female in 2017.

Infrastructure

Although several factors influence cycling rates, studies have shown a strong correlation between quality cycling infrastructure and rates of cycling.^{43,44} The Share the Road Cycling Coalition's 2018 cycling survey identifies that more people in Ontario would cycle if there were better cycling infrastructure in their community.⁴⁵

A review of the historical change in travel mode shows that changes in travel behaviour can be influenced by investment in infrastructure and a policy environment that supports all modes of travel.⁴⁶ We now have local evidence demonstrating that people will cycle if we build quality cycling infrastructure. In the city, for every kilometre of new cycling infrastructure installed between 2012 and 2017, there was a 1.5% increase in the number of cyclists counted during annual counts. The correlation in Peterborough is not surprising given similar outcomes in other municipalities across North America.



City of Peterborough

The City embarked on a path towards cycling and trails in 1995 with the building of the Rotary Greenway Trail and the pilot cycling lanes on George Street and Water Street. Since then, the network has been steadily growing with several new trails and many new bike lanes.

In 2012, the Comprehensive Transportation Plan was updated, including an expanded Cycling Network (Figure 4-3). Progress towards implementing the Cycling Network is shown in Figure 4-4.

With 71 km of trails and bikeways, Peterborough has implemented almost 40% of the Cycling Network (Figure 4-5). 12% of arterial and collector roads now have cycling infrastructure. From 2014 to 2018, 18km of the cycling network was added.

Infrastructure and Rates of Cycling

With every 1 km of new cycling infrastructure there has been a 1.5% increase in the number of cyclists counted during annual counts.⁴⁷

1km of new cycling infrastructure **= 1.5% increase in cyclists counted**



Legend

- Existing cycling routes
- - - Existing cycling routes to be upgraded
- Projects to be constructed in the short-term horizon (2011-2021)
- Projects to be constructed in the medium-term horizon (2021-2031)
- Projects to be constructed in the long-term horizon (beyond 2031)

0 200 500 1000 1500 2000

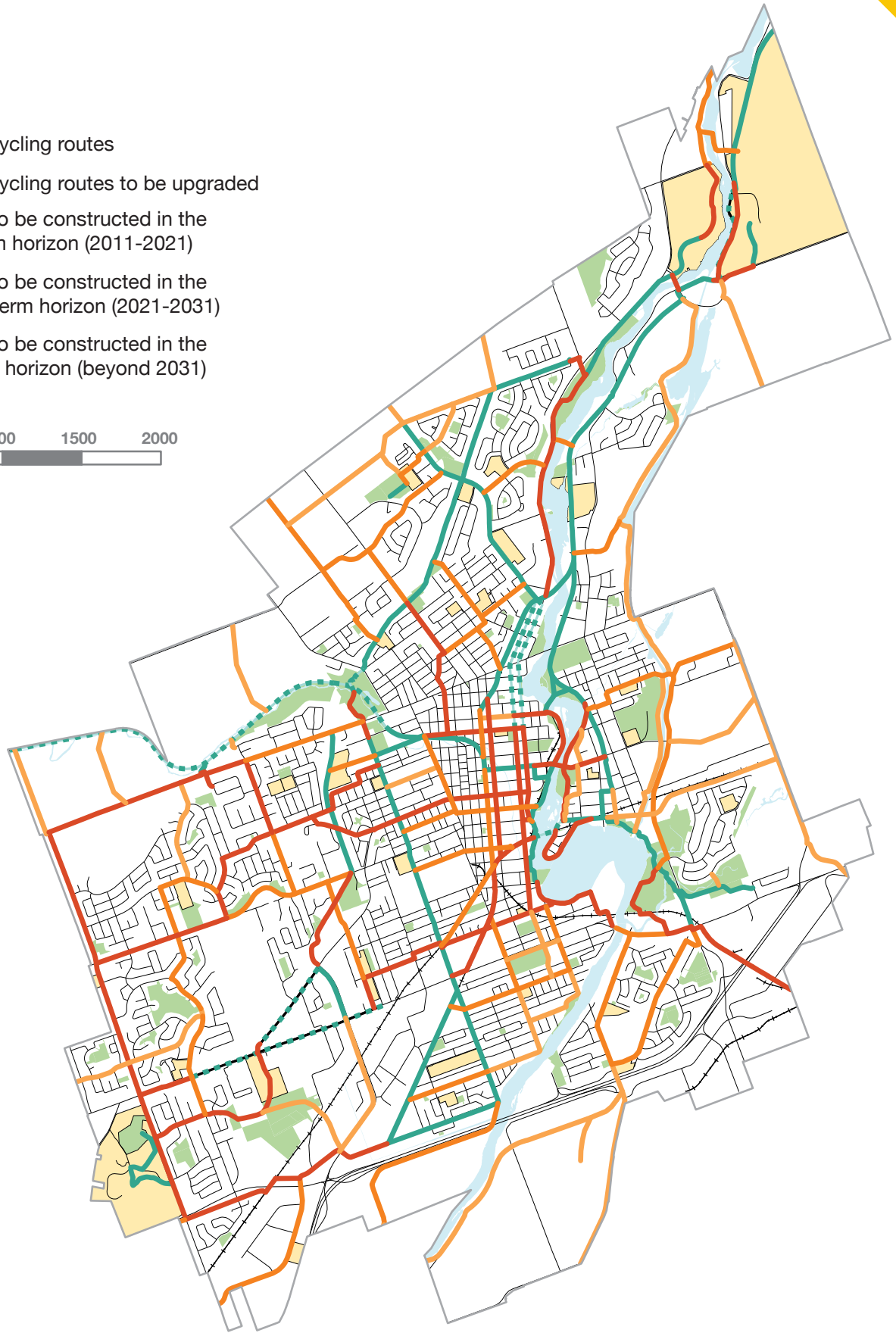



Figure 4-3: Proposed Cycling Network for the City of Peterborough

Source: City of Peterborough Comprehensive Transportation Plan, 2012

Legend

- Cycling Infrastructure Existing when 2012 Transportation Plan Approved
- Significant Improvements to Existing Cycling Infrastructure since 2012
- New Cycling Infrastructure Implemented from 2013-2018

Kilometres
0 0.5 1 1.5 2 2.5

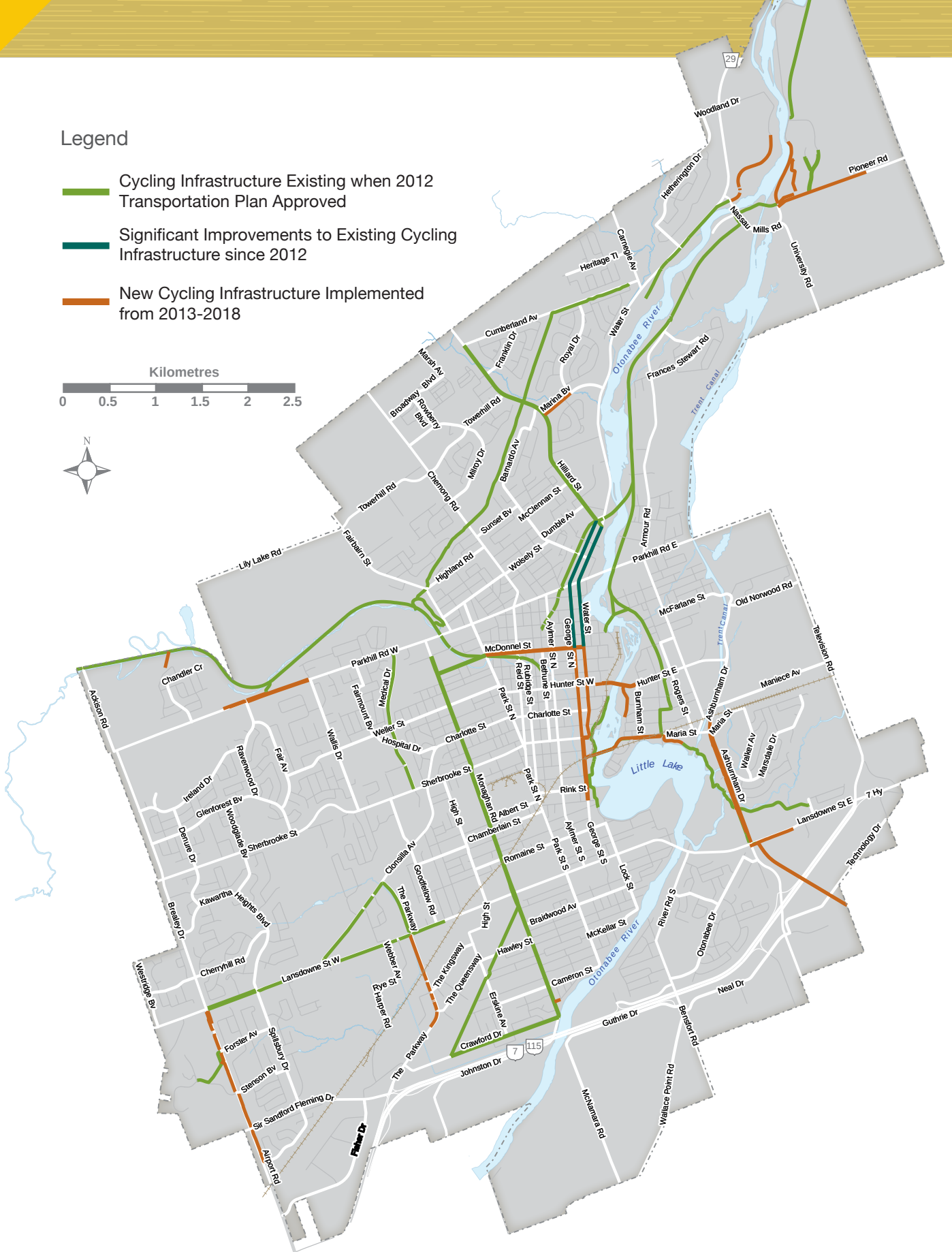


Figure 4-4: Completed sections of the Proposed Cycling Network, showing existing, new and improved infrastructure installed as of 2018

Source: City of Peterborough, 2019, unpublished

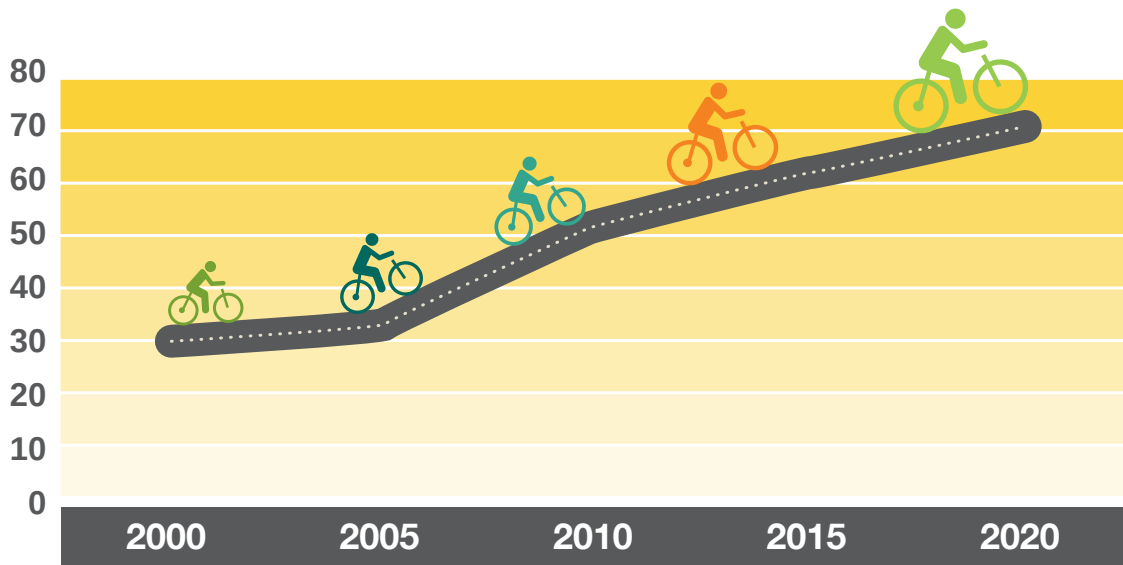


Figure 4-5: Total kilometers of trails and bikeways in the City of Peterborough from 2000 to 2019

Source: City of Peterborough, 2020, unpublished

Peterborough's Planned Cycling Network – Total 183 km

39% complete (71km)

61% to be completed (112km)

Source: City of Peterborough, 2019, unpublished



Protected Bike Lane Demonstration Project

A demonstration protected bike lane was installed in 2017 on George Street between London and McDonnell Streets. It showcased a number of features that can serve as physical barriers between the vehicle and bicycle travel lanes, including planters, curbs, and bollards. This project came out of the City's participatory budgeting process. The associated evaluation survey indicated support by most respondents for the protected bike lane.

Pedaling Forward

In 2018 there were three cycling infrastructure “firsts” in Peterborough:



Protected Bike Lane:
westbound on Sherbrooke Street between
Water and George Streets



Bike Signals:
westbound on Sherbrooke Street at
George Street



Road Diet:
George Street between Sherbrooke Street
and Perry Street



County of Peterborough

The County of Peterborough has also been making progress on cycling infrastructure. As a result of the county's geography and size, there are opportunities to appeal to the long-distance cyclist – both commuter and recreational – from the county, the city, and farther afield. Recreational cyclists commonly use an app called Strava to record their rides (Figure 4-6).

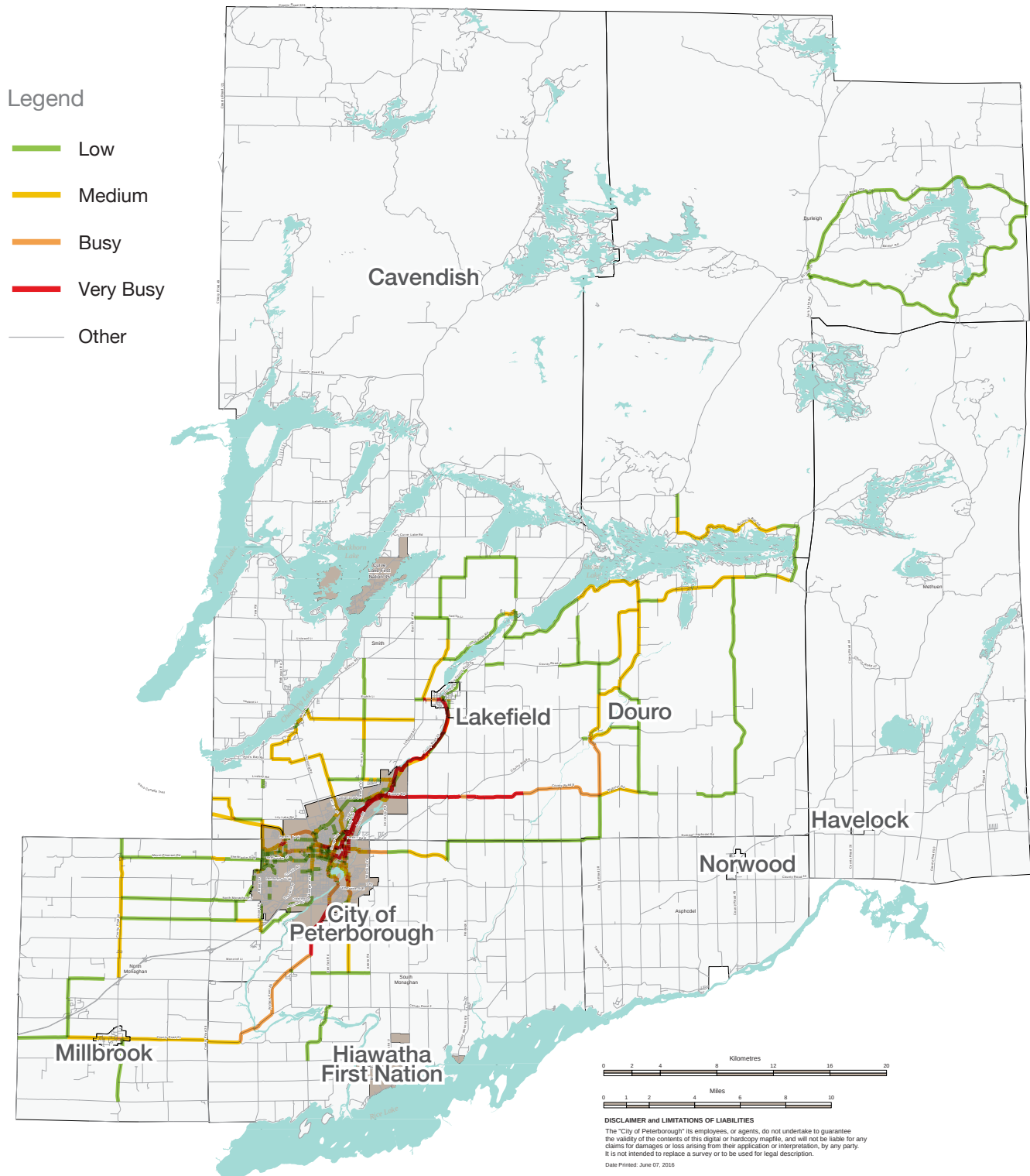
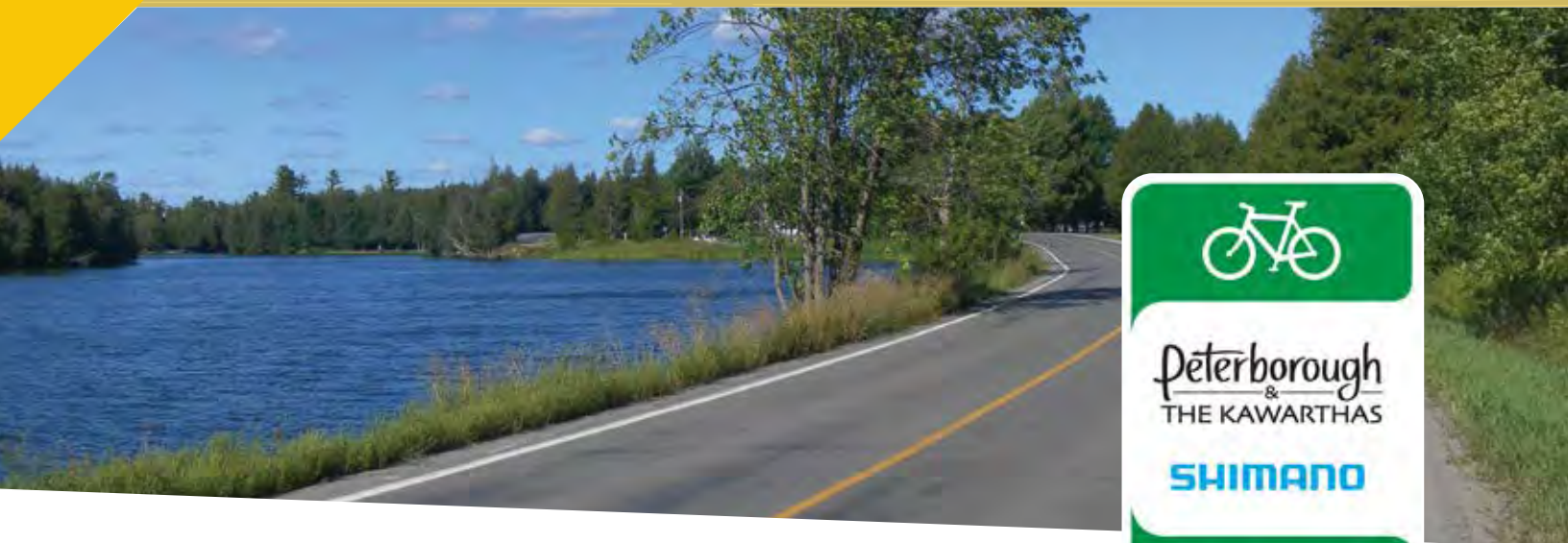


Figure 4-6: Cycling activity recorded by Strava users in the County of Peterborough from November 2014 to February 2016

Source: Strava, 2014-2016



Paved Shoulders

As of 2019, 10% of County roads have paved shoulders (141 km of 1,420 shoulder lane km).⁴⁸ On provincial roads within the County of Peterborough, 100 km of paved shoulders were added to Highway 28 from Lakefield to Bancroft in 2018.

Peterborough & the Kawarthas Cycling Routes

Connecting neighbouring communities through trails and cycling infrastructure not only addresses the needs of residents but is shown to boost local economies through tourism.⁴⁹

In 2015, Peterborough & the Kawarthas Tourism, Shimano Canada, the County of Peterborough, and the City of Peterborough partnered to create the region's first official set of road cycling routes. Named the Peterborough & the Kawarthas Classics, this series features three double-loop routes for road cyclists (Figure 4-7).

The Kawartha Classics routes were designated through a collaboration between avid local road cyclists and the coordinating partners. Together, they feature 400 km of scenic rural roads in the County of Peterborough. Through signage, riders are encouraged to visit area businesses throughout the region. The routes range from 45 to 100 km long and tie into Peterborough's trail systems.

Regional Cycling and Trails Map

In 2016, the Cycling and Trails Map was updated, showcasing key routes for cycling in the City and County of Peterborough. This 4th edition recruited Peterborough and the Kawarthas Tourism as a partner, where they also highlight the map on their website:

www.thekawarthas.ca/cycling.



Figure 4-7: Signage for the Peterborough & the Kawarthas Classics cycling routes in the County of Peterborough



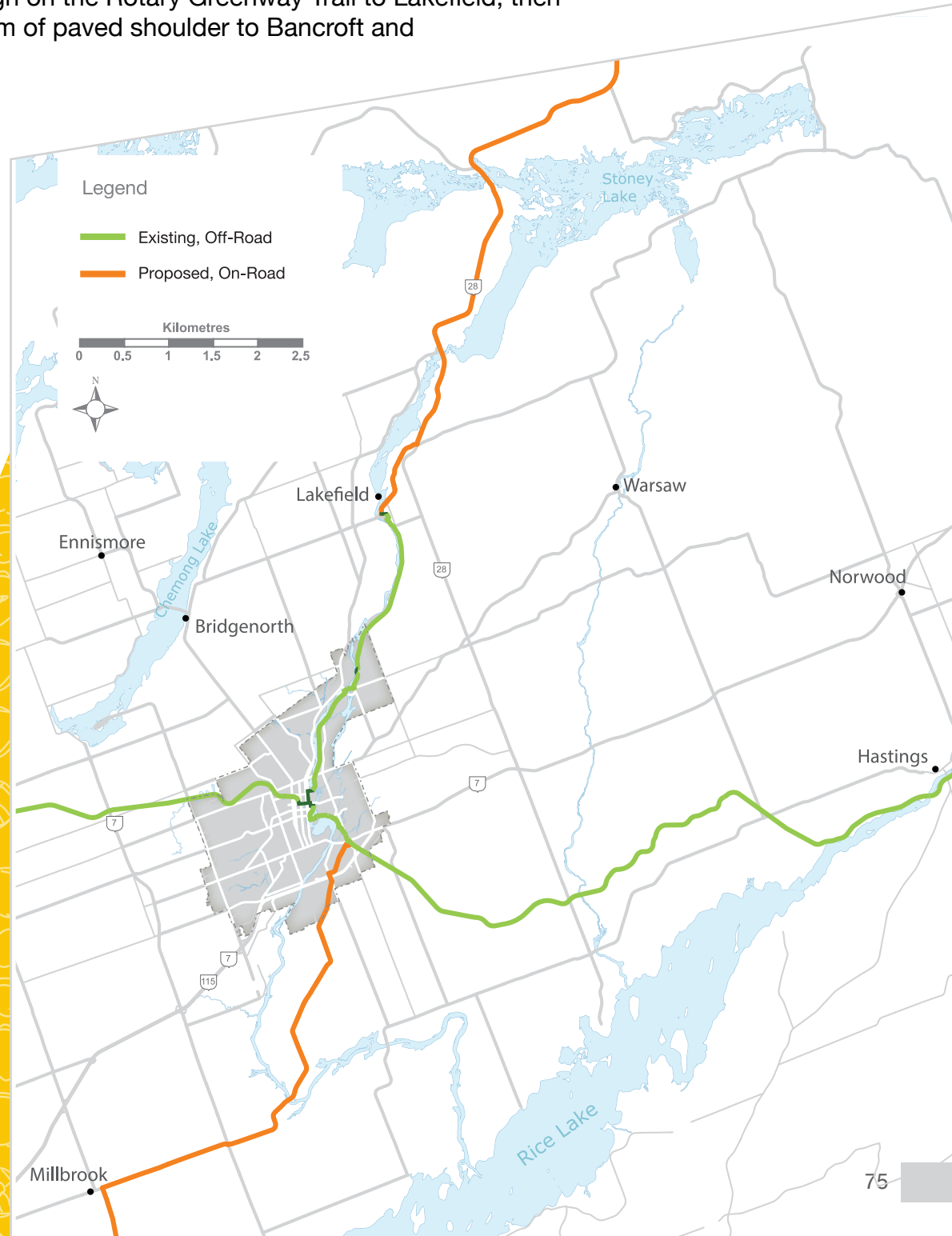
Ontario Bikeway Network

One of the most influential milestones in active transportation in the last five years is the degree to which the province has become involved in and supportive of cycling. This commitment has led to the development of the Ontario Bikeway Network, a vision for connected bikeways across the province much like the well-known Route Verte network in Quebec.

Locally, the network includes The Great Trail (formerly known as the Trans Canada Trail) moving east-west, and a north-south route running through Peterborough on the Rotary Greenway Trail to Lakefield, then Highway 28 on 85 km of paved shoulder to Bancroft and beyond (Figure 4-8).

Figure 4-8:
Province-wide
Ontario Bikeway
Network in the GPA

Source: Province of
Ontario, 2019



Other Supports

Bike Share

Bike sharing programs can be designed to meet the needs of communities, neighbourhoods, institutions, and workplaces. They can be formal systems with rental payment or informal initiatives. In 2016, Fleming College contracted with Zagster to bring a bike share to the city with three stations and 15 bicycles. This is a small bikeshare for a city the size of Peterborough. In 2018, there were 1,600 trips made with the Zagster bikes.⁵⁰

In 2018, both the County of Peterborough and Peterborough Public Health set up an internal bike share program for their employees. In addition, Selwyn Township now has a formal bike share rental program at the Lakefield Marina. There are four bicycles available for daily or hourly rental at the site, a popular stop for Trent Severn Waterway travelers.

Bicycle Parking

Good bicycle parking provides security for both the bike and rider while meeting length-of-stay needs. Best practices⁵¹ recommend regular bike racks, preferably covered, for short-term parking of up to several hours, and secure bike parking for longer durations during the day and overnight, such as bike storage rooms, lockers, or secure space in a parking garage.

The City of Peterborough has made good progress on providing short-term bicycle parking downtown and along Hunter Street in East City.

Between 2014 and 2018, the number of municipally provided bike parking spaces jumped **88% from 599 to 1,125.**

40: number of public covered bike parking spots now available in downtown Peterborough⁵²



375 new bike parking spaces

were added at local elementary schools in 2016, with support from the Healthy Kids Community Challenge and Active School Travel Peterborough. Since then, approximately 45 new spaces have been added annually through the Car Free Wednesday program.



There is a need for long-term secure bike storage at workplaces and multi-unit residential buildings, and for sheltered bike parking at elementary and secondary schools. The best way to ensure this need is fulfilled in the City of Peterborough is to update Section 4 of the Zoning By-law to include bike parking requirements at these locations. Another way is to allow other reductions (e.g., minimum parking requirements) if the developer includes protected bike storage.

In the county, bike racks are available in some of the settlement areas. Installing bike racks and secure bike lockers is listed among the programs in the county's new Active Transportation Master Plan.

Bike Theft Prevention

The threat of theft can discourage people from riding their bikes. Project 529 is a non-profit organization that is working to put an end to bike theft. Since 2018, the City of Peterborough has been working with Project 529 to lessen this risk locally.

When a bike owner registers with Project 529, identification data is placed in a database that is accessible to participating police departments across North America. Registration stickers, which can be applied to registered bicycles, are available at B!KE and GreenUP (Figure 4-9).



Figure 4-9: Registration sticker used in the Project 529 anti-bicycle-theft program

E-bikes

E-bikes can extend the boundaries of bicycle travel for the average user and can contribute to increased ridership.⁵³ They are used most often for utilitarian trips, such as running errands or transporting goods and/or children, as well as as a primary means of getting around.⁵⁴ With production improvements they can now travel greater distances and are faster and more affordable than ever. Together, these factors suggest their potential to transform the transportation systems in which they operate.

A recent multi-study evaluation of the health impacts of e-cycling showed that it “provided physical activity of at least moderate intensity, which was lower than the intensity elicited during conventional cycling, but higher than that during walking.”⁵⁵

As well as supporting health, providing services and infrastructure geared to e-bikes has the potential to improve transportation-related equity. A survey delving into potential e-bike use showed respondents with lower education levels (high school, no degree) were more likely to be interested in e-bike ownership.⁵⁶

The province currently classifies scooter-style and bicycle-style e-bikes as “bicycles” under the Highway Traffic Act. Locally, municipalities can regulate where e-bikes are permitted. At this time, the City of Peterborough permits e-bikes on roads and in bicycle lanes; however, only bicycle-style e-bikes that are pedaled are allowed on multi-use trails.

New direction from the province on regulations for both e-bikes and new micro-mobility options, such as e-scooters, is on its way, as Ontario, and more broadly North America, begin to embrace these new transportation modes.



Transit



Transit

Highlights

City

Peterborough Transit ridership increased 34% between 2014 and 2018. Contributors to this increase include the integration of transit fees into student fees at Fleming College and increased service levels for Fleming Express routes.



Per-capita ridership increased 97% from 29 rides per capita in 2001 to 57 in 2018.



Plans for 2020 to provide real-time information, on-line trip planning services, and enhanced security on buses and at the Transit Terminal will support an ongoing increase in the use of transit.

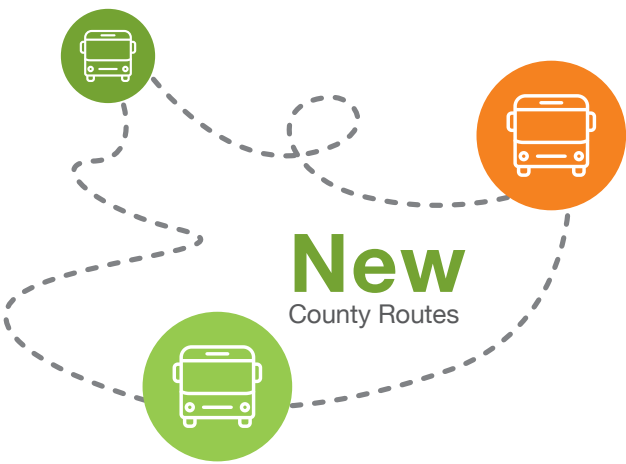
Transit has achieved its goal of a fully accessible fleet, undertaken a major capital program to increase the number of fully accessible transit stops, and introduced the Community Bus.



County

New initiatives to provide transportation services within the county are essential. The Selwyn Township pilot transit service, which will serve Lakefield, Bridgenorth, and Curve Lake, is an exciting initiative to promote and monitor.

Peterborough Transit provides a vital connection to inter-regional bus services, such as GO Transit.





Safe, accessible, integrated, and effective public transit systems are a critical piece of the healthy community puzzle. In its Public Transit: Building Healthy Communities issue paper, the Canadian Urban Transit Authority concludes that transit:

- Boosts physical activity levels
- Reduces air pollution caused by single-occupancy vehicles
- Reduces greenhouse gas production from single-occupancy vehicles
- Improves road safety, and
- Makes cities more equitable⁵⁷

Most transit trips start and end with a walking link. In a Montreal study, researchers concluded that the average transit round trip includes 2,500 walking steps.⁵⁸ Researchers have found that public transit users walk more and are more likely to meet recommended physical activity levels than non-transit users. This has been associated with health outcomes, such as reduced odds of becoming obese.⁵⁹

City of Peterborough

Peterborough has had transit service since 1893. Initially managed by private companies, the municipal corporation took it over in 1978.⁶⁰ Peterborough Transit has 12 regular routes and several express routes. In addition, the Community Bus and the Handi-Van are designed to meet the needs of people that have difficulty using regular buses, mainly due to physical ability. Peterborough Transit also offers a Trans-Cab service that enables residents to reach parts of the city not serviced by bus. The latest draft of the Official Plan identified the importance of transit-supportive development and transit-oriented urban design.

Ridership

City of Peterborough transit trips have more than doubled since 2001 (Figure 5-1). Ridership increased by 34% between 2014 and 2018, with the launch of the expanded Fleming Express in 2017 being a major contributor. Per capita transit trips rose from 29 trips per person in 2001 to 57 in 2018, a 97% increase.

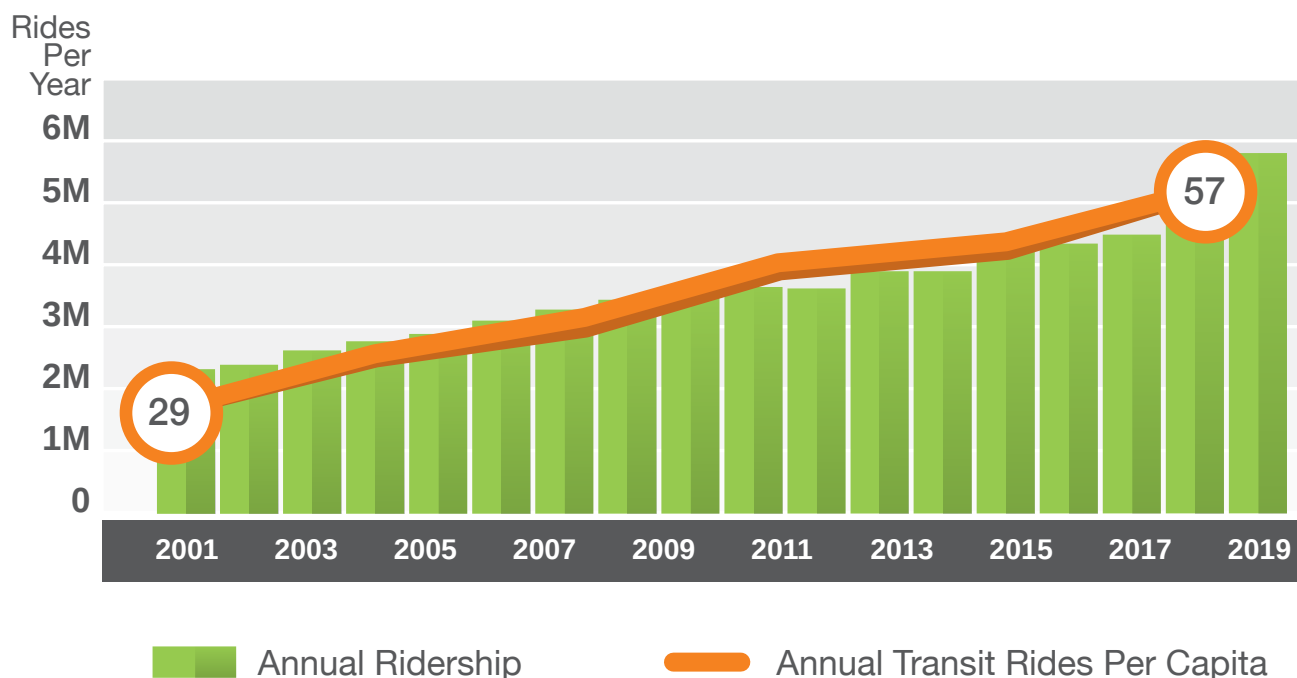


Figure 5-1: Annual ridership for Peterborough Transit from 2001 to 2018 and Annual transit trips per capita for Peterborough Transit from 2001 to 2018

Source: City of Peterborough, 2019, unpublished

Convenience

“Convenient access to public transit is not to be confused with access to public transit. Typically, access to public transit refers only to spatial measures – for example, how far away a bus stop is from your house or place of work. Conversely, convenient access to public transit also includes a temporal measure – it refers to how long you may need to wait at a bus stop before the bus arrives (headway), how many buses come every hour (frequency) and how long that bus will take to get to your destination (duration of trip). Including a measure of convenience is important because, although an individual may live in close proximity to a bus stop, the frequency of the service and directness of route affects the utility of public transit to riders.”

~ excerpt from Measuring Winnipeggers’ Convenient Access to Public Transit, Policy Brief, International Institute for Sustainable Development, 2018.

Convenience is critical to promoting and increasing transit use. While 96% of the City of Peterborough’s residents live within 400 m of a bus stop, an analysis of convenience that factors in bus frequency and length of travel time provides a more complete picture. The International Institute for Sustainable Development created a methodology for measuring transit convenience in a 2018 study.⁶¹ The standards used in that study were modified to reflect Peterborough’s smaller size, as larger municipalities can support more frequent service. Criteria used for evaluating frequency of service are displayed in Figure 5-2.

Level of Convenience	Very High	High	Moderate	Low	Very Low
Institute study (Winnipeg)	>6	6-10	10-15	15-30	30+
Peterborough		5-10	15-20	30-40	60

Figure 5-2: Frequency of transit service evaluation criteria (minutes)

Source: City of Peterborough, 2018, unpublished

The City of Peterborough conducted a geomatics analysis, using 2016 Statistics Canada Census of Population and Peterborough Transit data, which used bus frequency to determine the convenience of using transit from different areas in the city (Figures 5-3 and 5-4).

Legend

- High = 5-10 minutes
- Moderate = 15-20 minutes
- Low = 30-40 minutes
- Very Low = 60 minutes

Kilometres
0 0.5 1 1.5 2

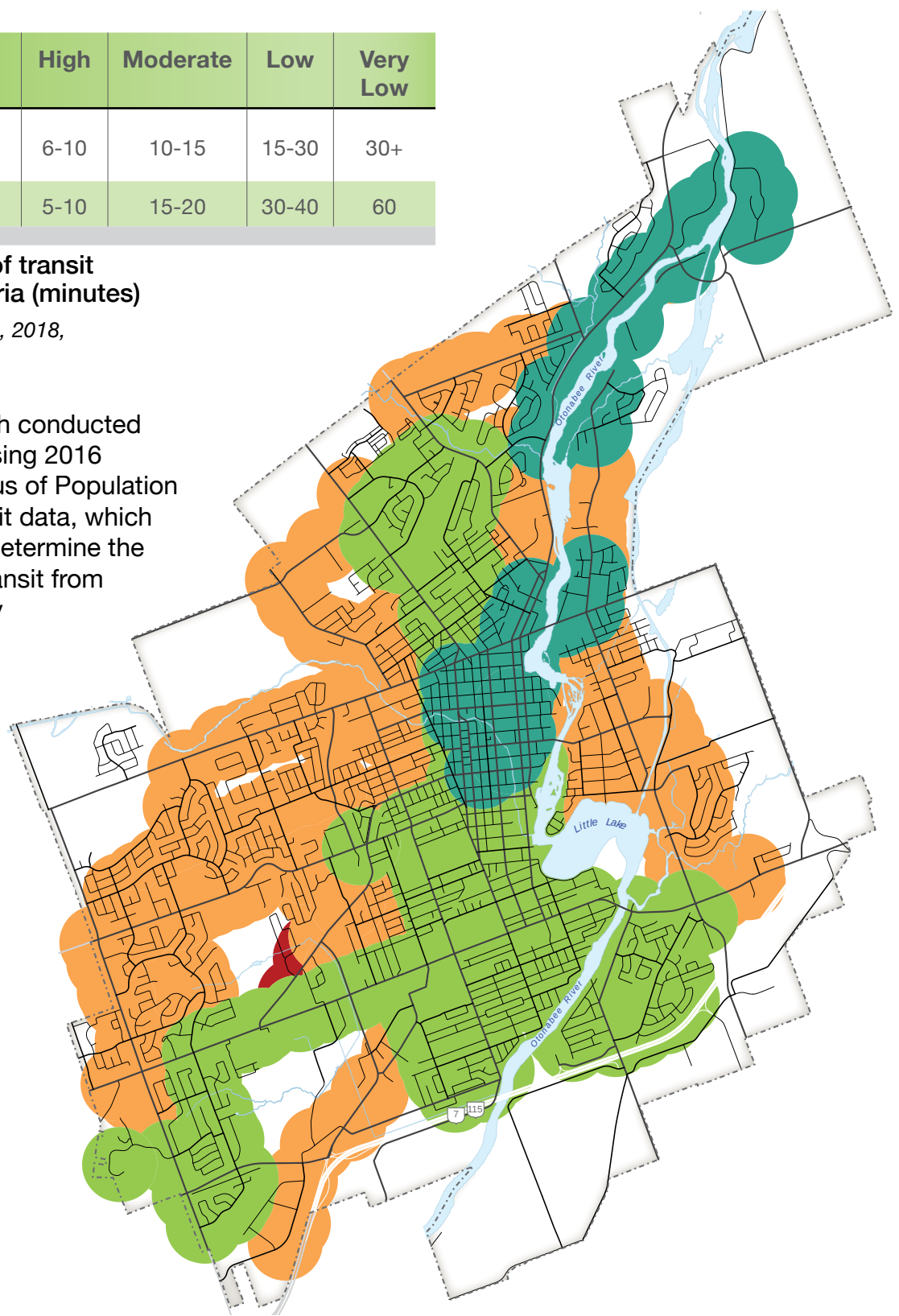


Figure 5-3: Level of convenient access to Peterborough Transit on weekdays at peak times*

Source: City of Peterborough, 2018, unpublished

*On weekdays, four routes operate on a 20-minute frequency during the peak times of 7:00-9:00 a.m. and 2:00-6:00 p.m., as compared to off-peak times when route frequency is 40 minutes.

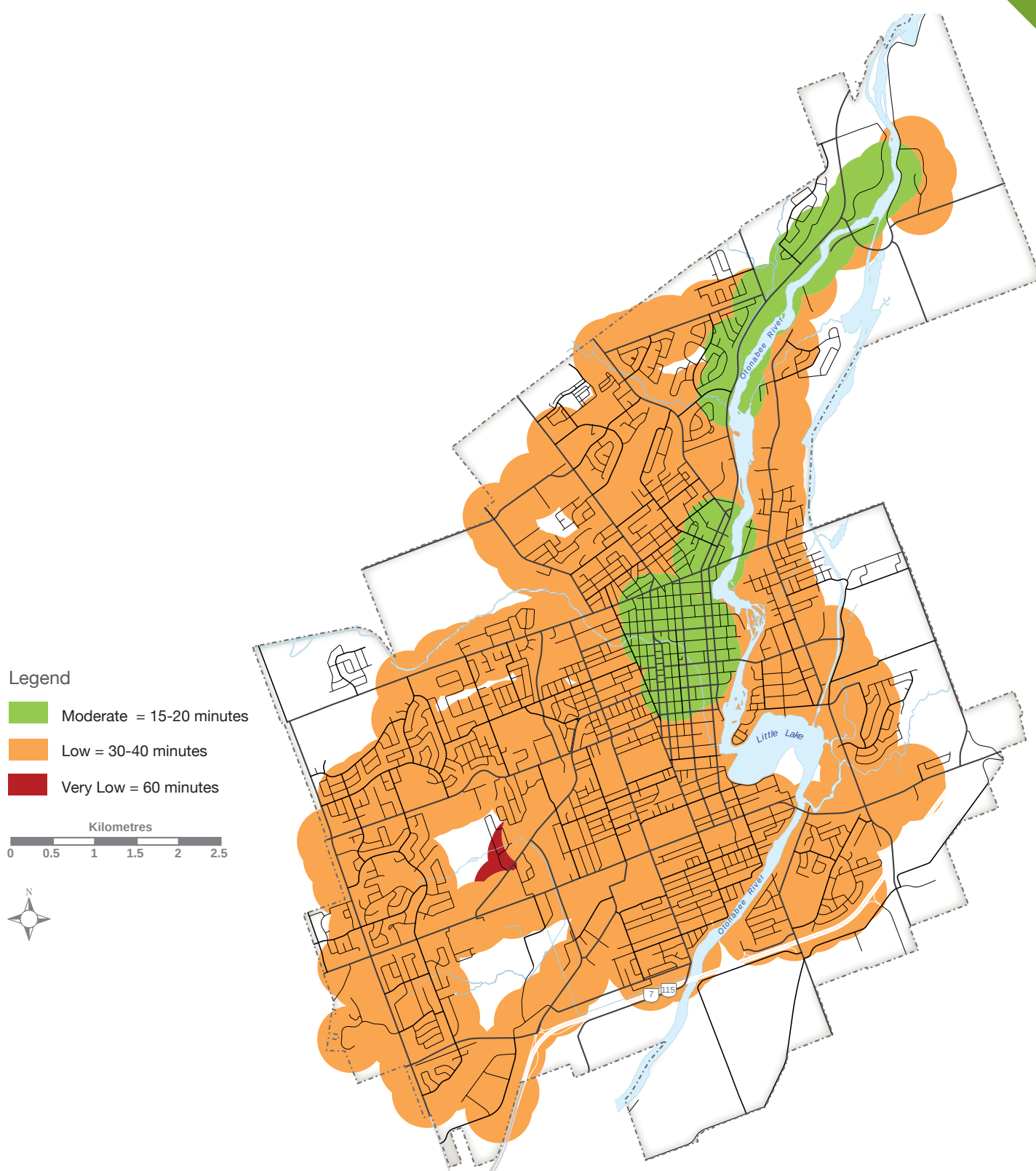


Figure 5-4: Level of convenient access to Peterborough Transit on Saturdays

Source: City of Peterborough, 2018, unpublished

The results of the level of convenience analysis above were overlaid with the city's population distribution. At peak times, 55% of the city's population has convenient access to public transit at a frequency of 20 minutes or less (Figure 5-5). On Saturdays, when frequency on most routes is 40 minutes, over 85% of city residents have less convenient access to public transit (Figure 5-6).

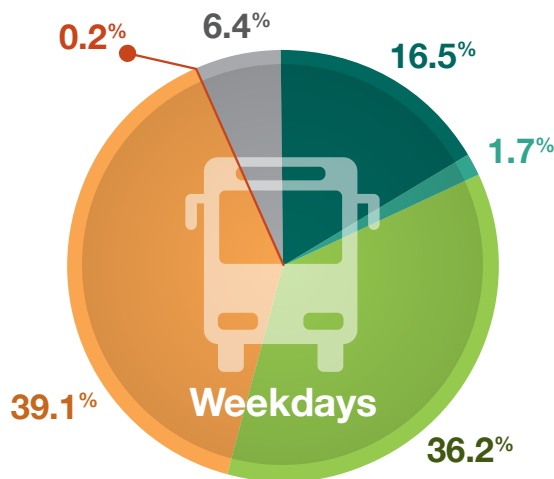


Figure 5-5: Proportion of population with different levels of convenient access to Peterborough Transit at peak times* on weekdays

Source: City of Peterborough, 2018, unpublished

* On weekdays, four routes operate on a 20-minute frequency during the peak times of 7:00-9:00a.m. and 2:00-6:00p.m., as compared to off-peak times when route frequency is 40 minutes.

Legend

- Very High Convenience (5-10 min)
- High Convenience (15 min)
- Medium Convenience (15-20 min)
- Low Access (30-40 min)
- Very Low Access (60 min)
- No Transit Stop within 400m

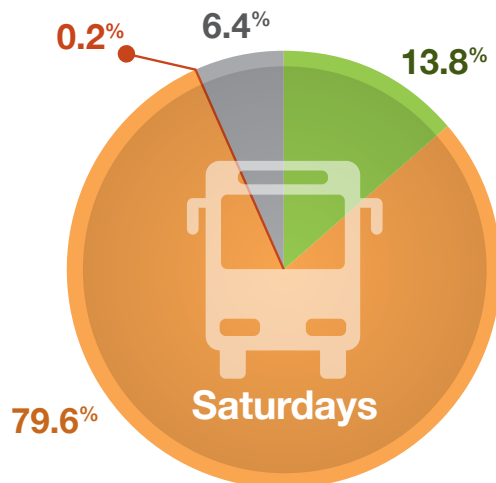


Figure 5-6: Proportion of population with different levels of convenient access to Peterborough Transit on Saturdays

Source: City of Peterborough, Geomatics analysis using 2016 Statistics Canada Census of Population and Peterborough Transit data

The level of convenience of a transit system can impact whether people who have other options, such as a car, will use transit and whether people with low stamina, such as some older adults, can use the service.⁶² This is not intended to imply that all areas of the city should have high and equal levels of transit service but to show how levels of convenience change when route frequency changes.

Enhancing Trip Planning

The use of technology to help people plan their routes has grown over the past 10 years. Many jurisdictions connect Google maps to their transit schedule so transit users can consider options for routes and their associated timing. Technology advances are also supporting real-time tracking of transit vehicles. Peterborough Transit's plans to launch Google Transit in early 2020, followed by real-time transit planning and Where's my Bus? locate features in late 2020, will enhance the perception of convenience for transit users.

Multi-modal travel, the ability to combine two or more modes of transportation to get to a destination, is an integral travel feature of sustainable, healthy communities. The more seamless and convenient a transition between modes, the greater the number of users.⁶³

To support multi-modal travel, transit stops should be safe, convenient, and comfortable, and the walk to the bus should have sidewalks and pedestrian crossings on busy streets. Wayfinding should be clear, accessible, and promote a comfortable and confident travel experience. Secure bike parking and/or buses with the capacity to carry bikes are also necessary to support multi-modal travel.



Fares for Children

Several transit authorities, such as GO, Kingston, Barrie, and Edmonton offer free access to transit services for children (typically up to age 12). This strategy may help young families meet their transportation needs and build a future generation that is confident and knowledgeable about using transit.⁶⁴ Peterborough currently offers free fares for children under age 2. Offering free access for children, potentially to age 12, could be considered in Peterborough to support the lower income families that likely have a higher reliance on public transit.



Taking Transit to Work

Commuting by transit increased across the city over a 20-year period (Figure 5-7). These changes highlight the success of the City of Peterborough's investment in transit over the years and demonstrate that these investments have translated into increased ridership.

Encouraging trends are emerging. From 2006-2016, use of transit for the trip to work increased from 3.6% to 5.6% of commuters. In some neighbourhoods, transit commutes showed strong growth (Sherbrooke-Clonsilla-Goodfellow, 5.2% to 8.1%; Wolseley-Barnardo, 5.2% to 9.5%; east of downtown, 1.8% to 5.5%; downtown 9% to 16%).

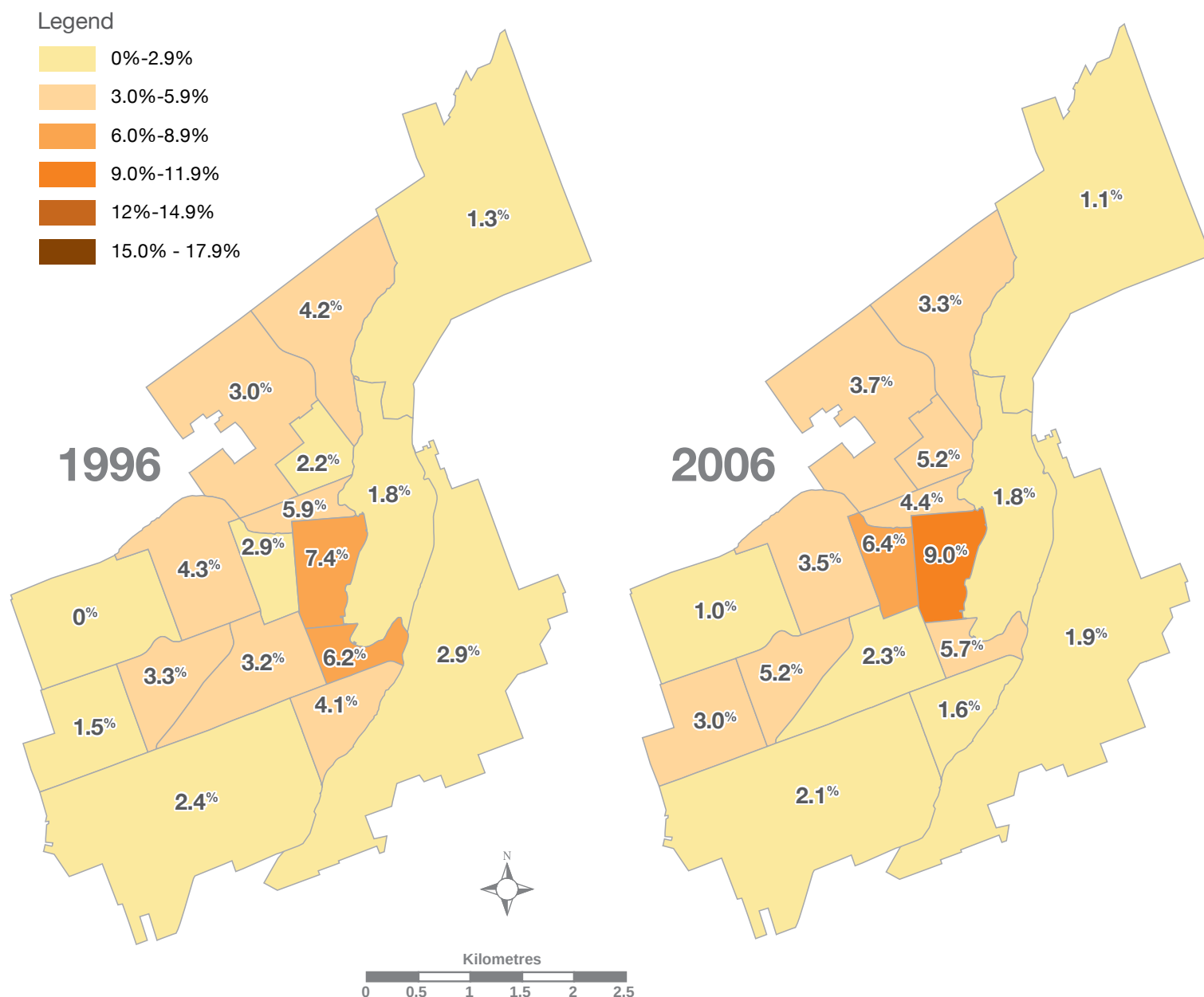
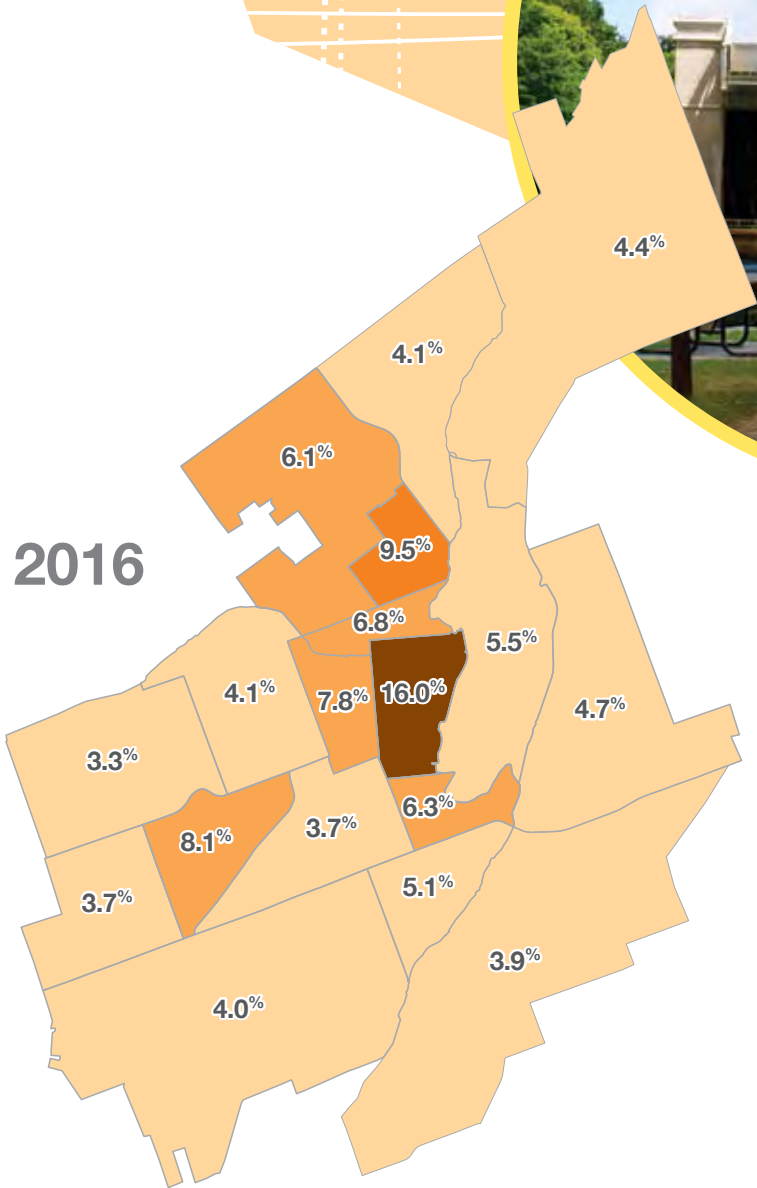


Figure 5-7: Percent of employed people over 15 years of age riding transit to work in the City of Peterborough in 1996, 2006, and 2016

Source: Statistics Canada Census of Population, 1996, 2006, 2016

2016





Transit Service to Post-Secondary Institutions

Both of Peterborough's post-secondary institutions, Trent University and Fleming College, have express bus service, coordinated in partnership with their respective student unions and available throughout the year. The Trent Express has been in operation since 1981, and ridership has remained strong over the years. The Fleming Express expanded service started in January 2017 with increased service on the Fleming Lansdowne route. This was followed by the introduction of the Fleming Sherbrooke route in September 2017. Ridership quickly escalated to come into line with Trent numbers (Figure 5-8).

Used primarily by students, the express service expansion was made possible when a portion of student registration fees were dedicated to transit. This arrangement benefits not only the students, who have unlimited use of the express and regular Peterborough Transit services, but also the community as a whole, because all transit users have access to the express services.

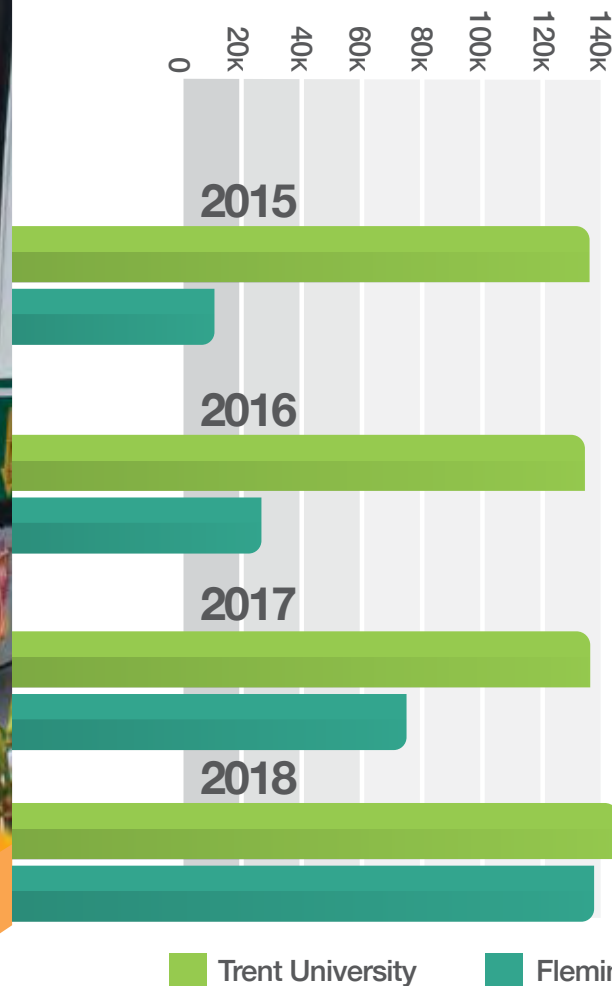


Figure 5-8: Annual transit ridership by post-secondary students in the City of Peterborough, 2015-2018

Source: City of Peterborough, 2019, unpublished

Getting Creative – Community Bus and Handi Van Initiatives

Peterborough's Community Bus was a creative response to improve transportation options for people who are not always able to use conventional bus service.

Commencing operation in March 2018, the Community Bus provides direct hourly service on a large looped route around the city, stopping at malls, grocery stores, seniors' residences, medical clinics, and the hospital.

The Handi-Van provides critical transportation needs for people with disabilities. Currently, trips must be booked in advance and are by-appointment only. New customers now benefit from Travel Training, a service that explores options for conventional bus service and accessible service to optimize options and independence for users.

By the Numbers: Transit Accessibility

Peterborough Transit has made major progress in accessibility since 2013:

- **100%** of the fleet is accessible (up from 69% in 2013)
- **140 transit stops** were upgraded to be fully accessible as part of the Public Transit Infrastructure Funding received in 2017 and 2018.
- **About 65%** of the 620 transit stops in the city are now fully accessible.
- **117 of 622 stops (19%)** have transit shelters (up from 75 in 2013)

Source: City of Peterborough, 2019, unpublished



County of Peterborough

Access to employment, education, recreation, and other quality-of-life amenities is as critical to rural residents as urban residents. The low population density and large geographic area of the townships make providing rural transit a challenge. The Ontario Rural Institute and Ontario Healthy Communities Coalition report, *Accelerating Rural Transportation Solutions: Ten Community Case Studies from Ontario*, analyzes ten unique rural transit initiatives and concludes that “significant benefits accrue to communities that invest in transportation services.”⁶⁵

Provincial funding to support a new bus service connecting Bridgenorth, Curve Lake, Ennismore, and Lakefield with the City of Peterborough was announced in 2018. This service will commence in 2021, starting with weekday operation. The City of Peterborough Transit Division is partnering with Selwyn Township to operate a three-year service pilot.

Community Care Caremobile

Community Care Peterborough, which has offices in each of the County of Peterborough’s townships, manages the Caremobile. This door-to-door service, staffed by specially trained employees, is for rural residents with physical challenges who are unable to access conventional transportation. It is funded by the County of Peterborough, the Central East Local Health Integration Network, and individual donors.

Inter-city Transit

The partnership between inter-city and inter-regional transit can fill service gaps experienced in rural communities. For example, Millbrook residents now have access to Peterborough services and Trent University through GO Transit and city-wide connections on Peterborough Transit. Although Metrolinx, a provincial Crown agency, has increased GO Transit service to the GPA by one return trip since 2014, private operator services have decreased or been discontinued (Figure 5-9).

Service Provider	2014	2018
GO Transit (Peterborough, Millbrook, Oshawa, Toronto)	10 return trips/day	11 return trips/day
Greyhound (Peterborough, Toronto)	7 return trips/day	5 return trips/day
Greyhound (Peterborough, Ottawa) [Norwood, Havelock]	2 return trips/day [2 return trips/day]	2 return trips/day [1 return trip/day]
Greyhound (Peterborough, Apsley)	2 trips/week	discontinued
Coach Canada (Peterborough, Lakefield)	2 return trips/day (Curve Lake 1/week)	discontinued
Coach Canada (Peterborough, Indian River, Westwood, Hastings, Norwood, Trent River, Havelock)	1 return trip/week	discontinued

Figure 5-9: Inter-city transit service offered in the GPA, 2014 and 2018

Safety



Safety

Highlights

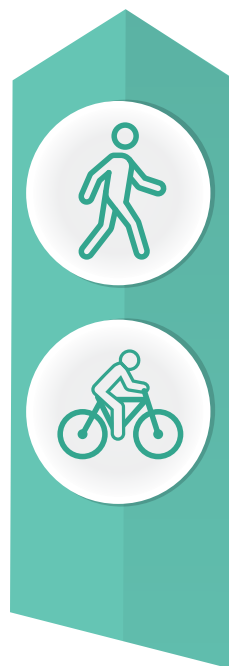
Rates of collisions involving pedestrians and cyclists are decreasing locally, even though the rates of walking and cycling have increased.

Rates of Emergency Department (ED) visits and Hospitalizations of pedestrians is quite low. While the rate of ED visits made by cyclists in Peterborough continues to be greater than the Ontario average, the hospitalization rate is quite low and on par with the Ontario average. There have been very few fatal incidents involving pedestrians and cyclists between 2000 and 2015.

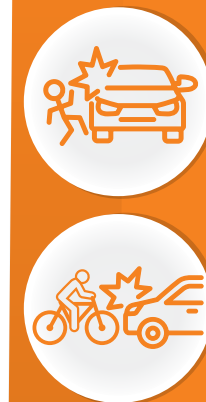
Most cyclist ED visits and hospitalizations are reported as non-collision incidents, such as falling off a bicycle. We are not able to determine if the fall is due to cyclist error, infrastructure problems, road conditions, or behaviour of other vehicles or pedestrians.

70% of traffic signals in the city do not accommodate cyclists by turning green when they are present, which can lead to a confusing experience and unsafe behaviour.

**Increase
in cyclists &
pedestrians**



**Decrease
in collisions**



Pedestrian crossing infrastructure improvements have been a priority for the City of Peterborough as it works to address AODA requirements.

An increasing number of Canadian jurisdictions have implemented Road Safety Plans incorporating a Safe Systems Approach and/or Vision Zero.

The patterns of collision locations for both pedestrians and cyclists should be evaluated to identify opportunities for infrastructure enhancements and other ways to reduce collisions.



Along with the proposal to increase active and sustainable transportation use – for our health, our community and economic vitality, and our environment – must come the important discussion of road safety.

Although the health benefits of active transportation are notably greater than the risk of injury from traffic,⁶⁶ pedestrians and cyclists are still much more vulnerable than other road users. They are less visible to drivers and have less physical protection.⁶⁷ The development of road systems has been largely focused on enhancing efficiency and flow of vehicles. To safeguard our current and future walkers and cyclists from harm, road design is changing and roads are increasingly built for all users.

Local Data

Data retrieved from hospitals (including emergency departments and hospital admissions) and the Ontario Ministry of Transportation helps us to understand on-road collisions and transport-related injuries, including those that involve pedestrians and cyclists. With this information, we can design programs and plan communities and traffic systems that make our transportation system safer for all users.



What Data Do We Have?



Ontario Ministry of Transportation collision data includes information on collisions where there is an injury and/or where a vehicle has sustained damage of \$2,000+. The location of the collision is recorded, however the demographics (e.g., age, gender) of the individuals involved are not available at the level of the city or county. This report presents a summary of such collisions taking place in the city, as well as on County-managed roads. Collisions on township-managed and provincially managed roads are not included.



Hospital data used for this report provides information on injuries and fatalities acquired from a “transport accident.” The accident must include a vehicle (includes bicycles), but does not necessarily involve a motor vehicle. The record notes whether the incident occurred on a public roadway or occurred off the roadway (e.g., a trail or private property). The record is based on the patient’s residential address and does not reflect the location of the injury. This means that the reported statistics do not capture local incidents involving individuals with addresses outside of the GPA, which could include visitors and students. On the other hand, the statistics may include injuries of local residents where the incident took place outside the GPA. The data presented combines records of city and county residents.



Another important limitation of these data sources is that they miss the minor bumps, nudges, and near misses that inform pedestrians’ and cyclists’ perception of road safety. As such, qualitative data from users may help to balance local views of road safety.



Collisions

City of Peterborough

There was an average of 1,579 collisions each year from 2014-2017, with vehicle-only collisions representing the vast majority (95%) (Figure 6-1).

Year	Vehicles Only	Involving Pedestrians	Involving Cyclists	Total Collisions
2014	94% (1,353)	3.5% (51)	2.5% (36)	1,440
2015	94.5% (1,470)	3.2% (50)	2.3% (35)	1,555
2016	94.6% (1,565)	3.5% (58)	1.9% (32)	1,655
2017	95.9% (1,597)	2.5% (41)	1.7% (28)	1,666
Average Collisions per Year	1496	50	33	1579
Share of Collisions by Mode	94.7%	3.2%	2.1%	
Actual Mode Share in 2016	89.7%	6.7%	3.5%	

Figure 6-1: Percentage and number of collisions per year by travel mode in the City of Peterborough from 2014 through 2017

Source: Ontario Ministry of Transportation Collision Reporting Statistics 2014-2017, as presented in City of Peterborough Report IPSTR18-015, 2018. Mode share source is Transportation Tomorrow Survey.

While the total number of collisions increased 16% over this time period, the number of collisions between vehicles and pedestrians or cyclists has decreased. This is good news, because pedestrians and cyclists are more likely to sustain injuries in collisions.⁶⁸ Ideally, the percentage of collisions for vulnerable road users should be less than their mode share. This is the case in Peterborough.

Pedestrian Collision Locations

The maps below (Figures 6-2 and 6-3) feature pedestrian collision locations, indicating injury severity, that occurred between 2014 and 2017. The highest density of collisions is in the downtown where there is the highest level of pedestrian activity.

Legend

- No Injury
- Minor Injury
- Major Injury
- Fatal Injury

Kilometres
0 0.5 1 1.5 2 2.5

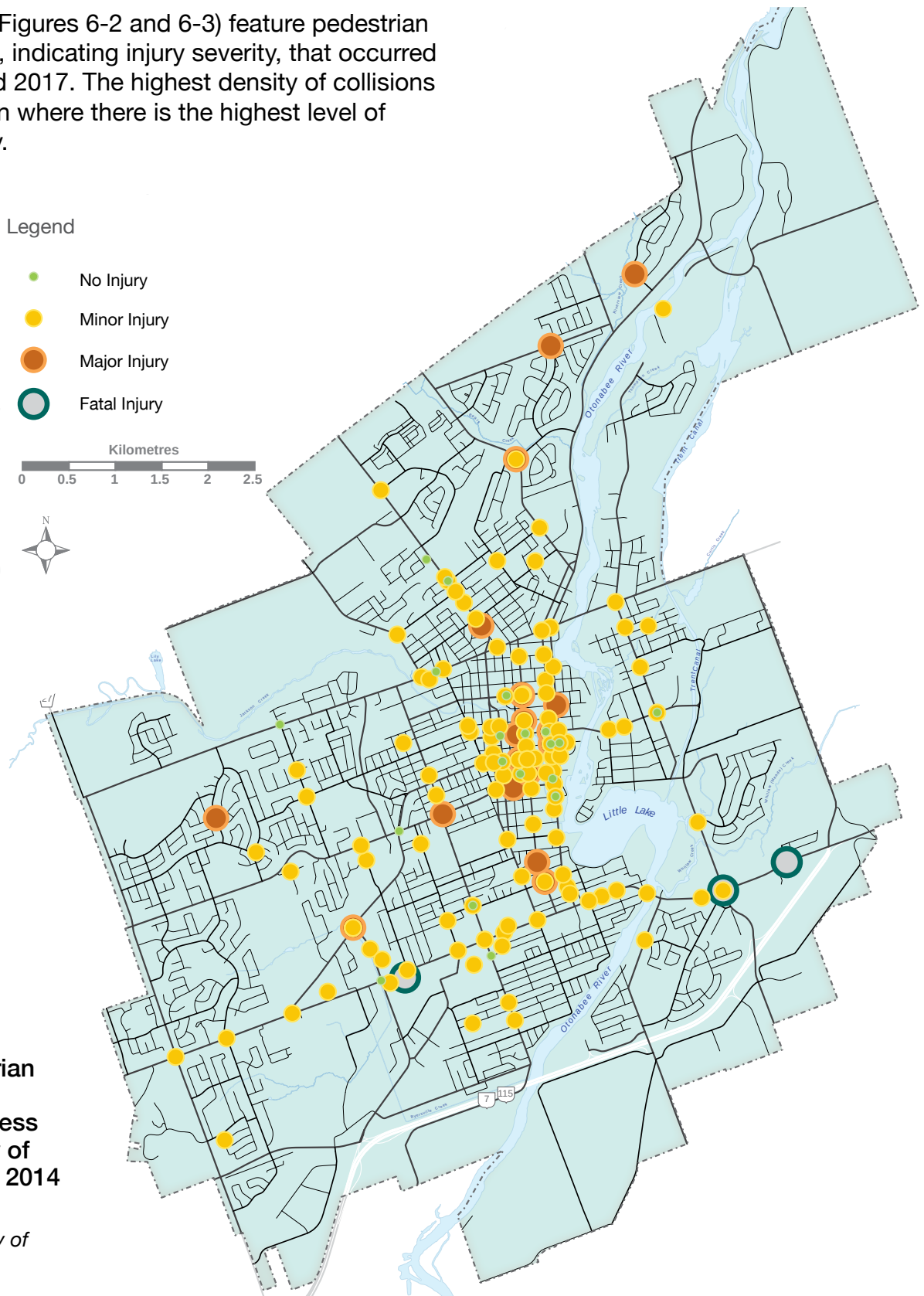


Figure 6-2: Pedestrian collision locations, indicating seriousness of injury, in the City of Peterborough from 2014 through 2017

Source: Ontario Ministry of Transportation, 2017

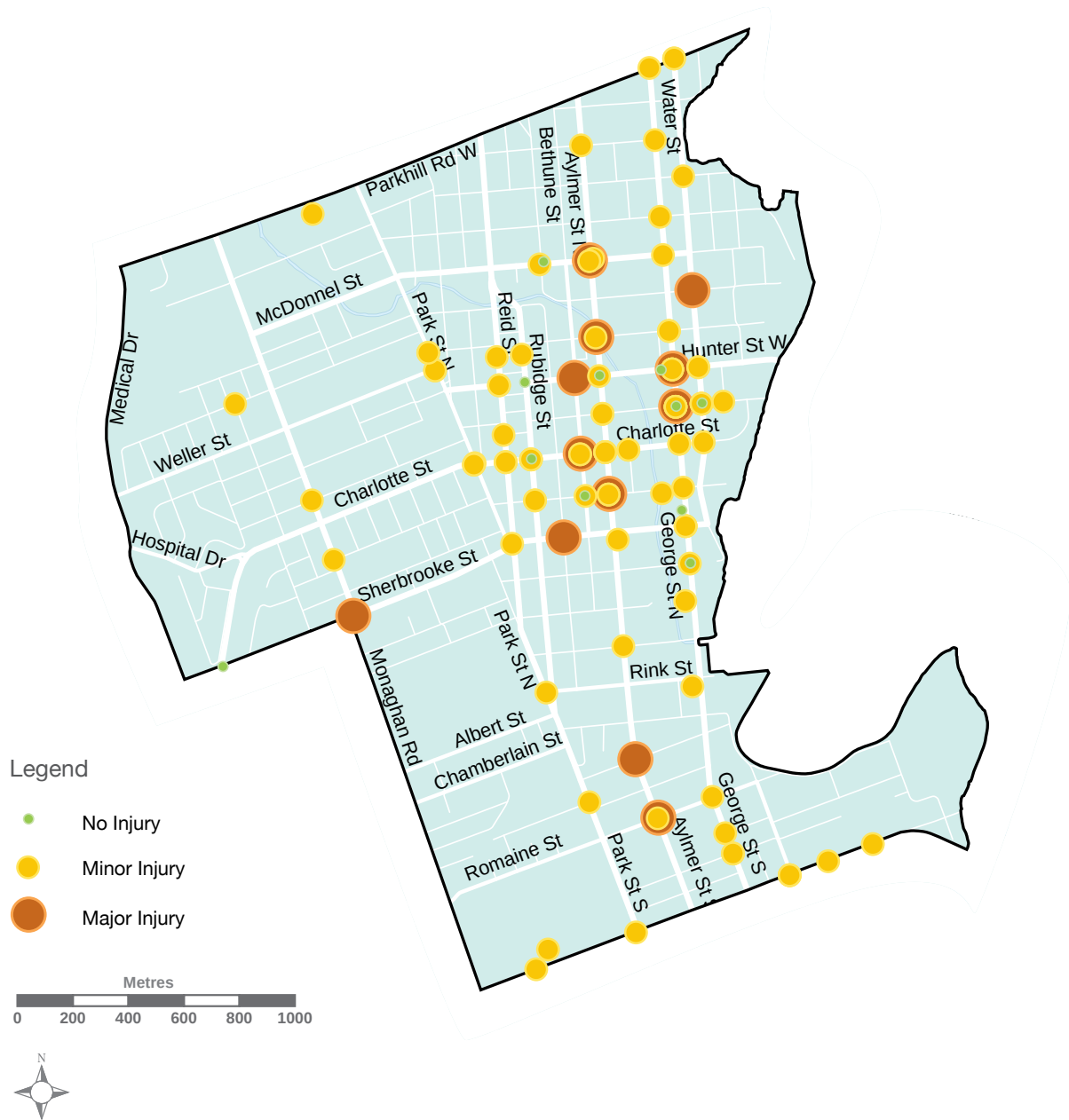


Figure 6-3: Pedestrian collision locations, indicating seriousness of injury, in downtown Peterborough from 2014 through 2017

Source: Ontario Ministry of Transportation, 2017

Cycling Collision Locations

Cycling collisions are most common along George Street, Water Street (south of Hilliard Street), Lansdowne Street, Monaghan Road, Hunter Street, and Charlotte Street (Figures 6-4 and 6-5).

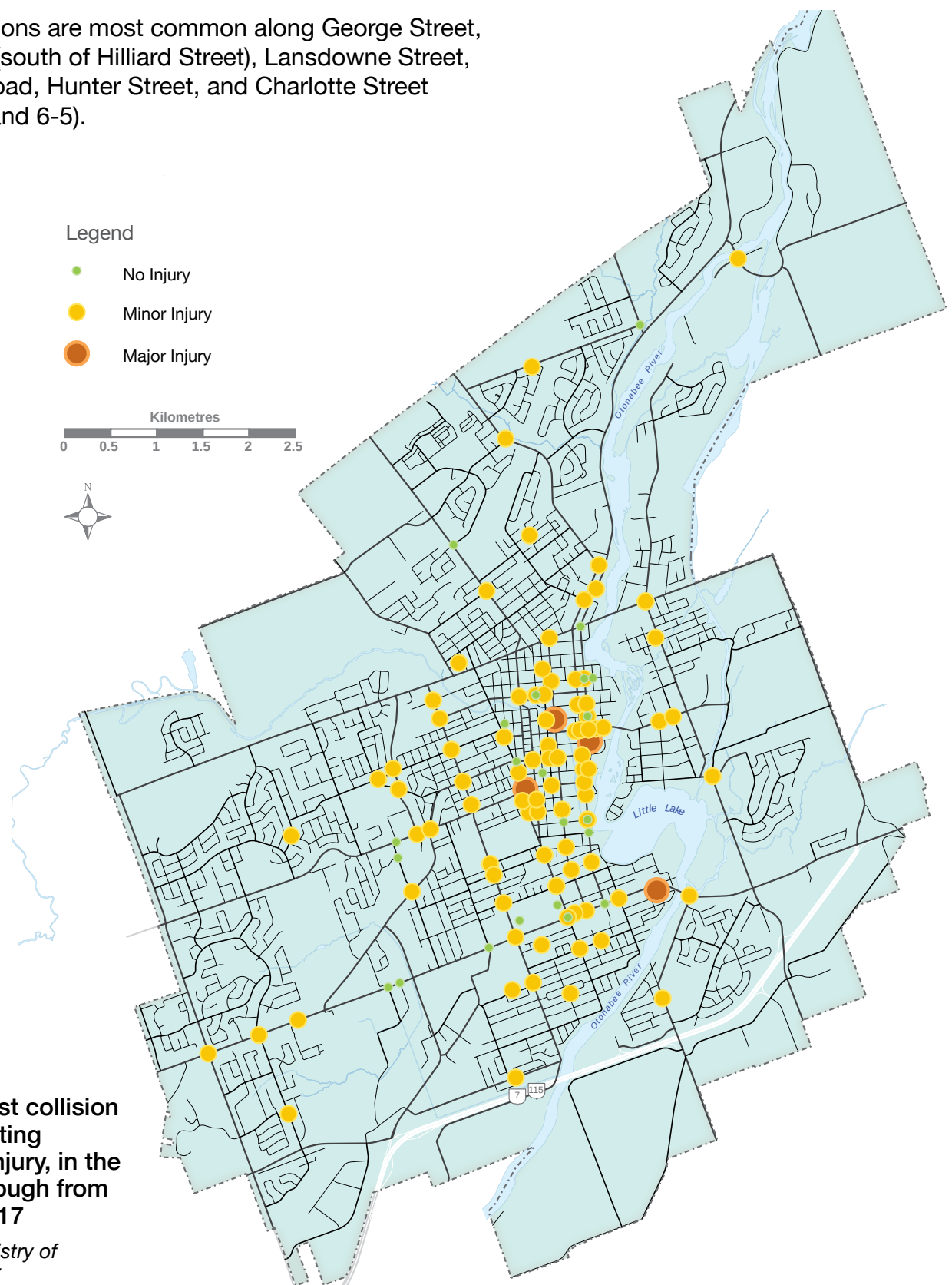
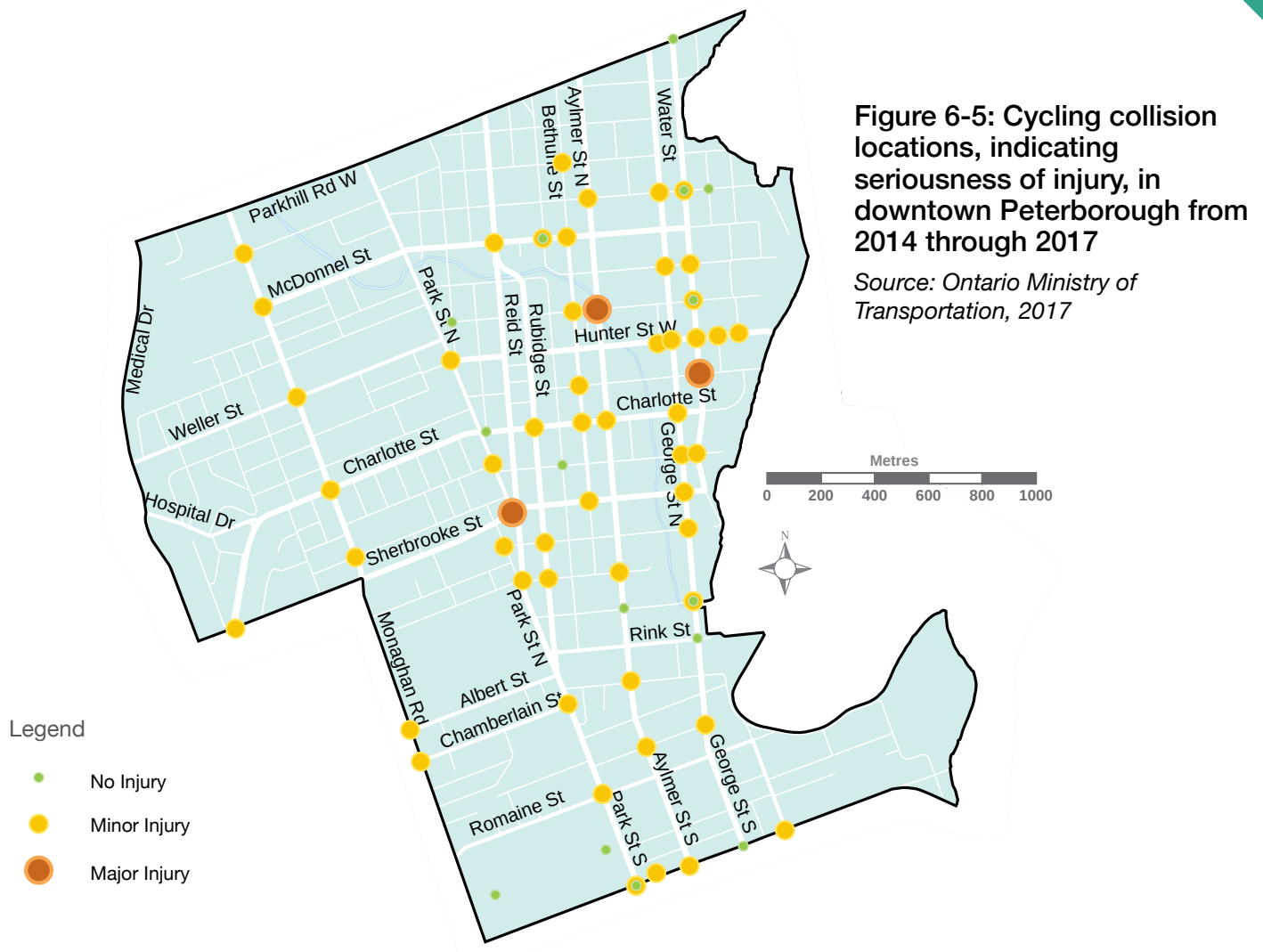


Figure 6-4: Cyclist collision locations, indicating seriousness of injury, in the City of Peterborough from 2014 through 2017

Source: Ontario Ministry of Transportation, 2017



County of Peterborough

On County of Peterborough-managed roads, collision data over a four-year period shows few collisions involving pedestrians or cyclists (Figure 6-6). We do not have access to data for provincially-managed highways or township-managed roads at this time.

Data Item	Vehicles Only	Involving Pedestrians	Involving Cyclists	Total Collisions
Total collisions 2015-2018 (% of collisions)	2,753 (99.3)	14 (0.5)	5 (0.2)	2,772 (100)
Average number of collisions per year	688.2	3.5	1.3	693

Figure 6-6: Number of collisions per year by travel mode on County of Peterborough roads, 2015-2018

Source: Ontario Ministry of Transportation, 2018

Injuries and Fatalities

As with the collision data, hospital data shows that the majority of Emergency Department (ED) visits and hospitalizations (hospital admissions) acquired from an on-road (“traffic”) incident, are experienced by motor vehicle occupants (Figure 6-7).

Hospital Data Category	Total	Motor Vehicle Occupant (total, %)		Pedestrian (total, %)		Cyclist (total, %)	
Emergency Department visits	5,014	3,759	75.0%	329	6.6%	926	18.5%
Hospitalization	321	247	76.9%	45	14.0%	29	9.0%

Figure 6-7: Emergency Department visits & hospitalization of residents of Peterborough City or County injured in a traffic (on-road)* accident between 2013-2017

Sources: NACRS, CIHI, and DAD, CIHI, 2013-2017

*This analysis excludes records that code for a non-traffic accident. For the purposes of this mode comparison, records coding that the injured individual’s mode of transport was as an animal rider, occupant of a train or streetcar, or the mode was unknown or unspecified, were also excluded.

For the remainder of this chapter, data summarized for pedestrian and cyclist injury will be inclusive of all transport-related injuries and fatalities and is not just limited to on-road (“traffic”)-acquired injuries.



Pedestrians

Between 2013 and 2017, there were 390 ED visits of GPA residents due to pedestrian injuries; with approximately one-eighth of these visits leading to a hospital admission (Figure 6-8).

Years	Emergency Department Visits	Hospitalization
2003 - 2012 (10-year period)	836 avg 84/year	99 avg 10/year
2013 - 2017 (5-year period)	390 avg 78/year	49 avg 10/year

Figure 6-8: Emergency Department visits & hospitalization of residents of Peterborough City or County that were pedestrians injured in a transport accident, 2003-2017

Sources: NACRS, CIHI, and DAD, CIHI, 2003-2017

Emergency Department Visits

Emergency Department (ED) data compared over 15 years (2003-2017) tells us that pedestrian ED visit rates have been slowly declining (Figure 6-9). In 2017, they were at their lowest since before 2003 with 49.58 visits per 100,000 people (comparable to Ontario's 50.24 per 100,000 rate).

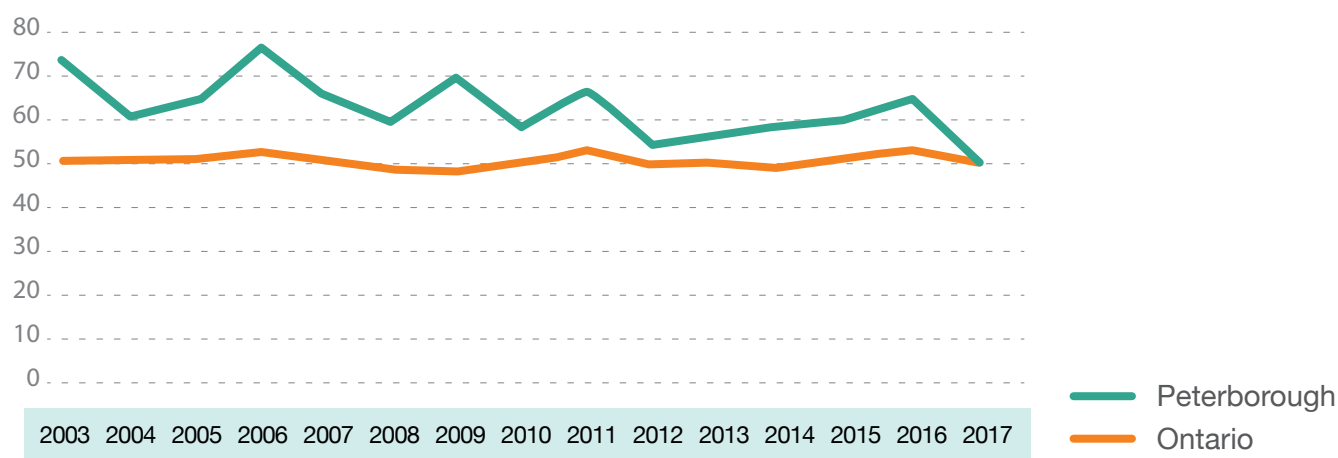


Figure 6-9: Age-standardized rates (per 100,000) of pedestrian Emergency Department visits for residents of the Greater Peterborough Area and for Ontario from 2003 to 2017

Source: NACRS, CIHI, 2003-2017

Of those visiting the ED between 2013 and 2017:

- Overall, males and females were equally affected
- Most visits were made by individuals under the age of 40 (53.9%), with visits peaking for those aged 15 to 29 (35.1% of total visits)⁶⁹

Hospitalizations

Hospitalization numbers for pedestrian injuries are quite low: 148 admissions over 15 years, averaging 10 admissions each year. Peterborough's average rate from 2003 to 2017 reflects the Ontario average (comparing age- and sex-standardized rates). The number of hospitalizations fluctuate each year, so there is no clear trend. Overall, about 12.1% of ED visits led to a hospital admission. From 2013 to 2017 there are some points to note:

- While most ED visits involved people under the age of 40, this group only makes up 30.6% of hospital admissions. This corresponds with approximately 7% of these ED visits leading to a hospital admission.
- Older pedestrians (55+) contribute to 55.1% of hospital admissions. By comparison approximately 23% ED visits led to a hospital admission for this age category.⁷⁰
- Notable cohorts include males and females aged 55-59, making up 20.4% of hospital admissions, and females aged 75-84 making up another 20.4% of the total.⁷¹

Pedestrian Deaths

There were 8 pedestrian deaths between 2003 and 2009 (7-year period) and fewer than 5* pedestrian deaths between 2010 and 2015 (6-year period).⁷²

*When incidents number fewer than 5, the number is not reported so that the incidents and affected individuals are not identifiable.



Cyclists

Between 2013 and 2017, there were 1,441 cycling-related ED visits by GPA residents; only 3% of ED visits led to a hospital admission (Figure 6-10).

Years	Emergency Department Visits	Hospitalization
2003 - 2012 (10-year period)	3,283 Avg 328/year	137 Avg 14/year
2013 - 2017 (5-year period)	1,441 Avg 288/year	46 Avg 10/year

Figure 6-10: Emergency Department visits & hospitalizations of residents of Peterborough City or County that were cyclists injured in a transport accident, 2003-2017

Sources: NACRS, CIHI, and DAD, CIHI, 2003-2017

Emergency Department Visits

Cyclist injury data collected over 15 years (2003-2017) shows that the rate of cyclist ED visits decreased over this period; however, as of 2017, the rates were still significantly higher than the Ontario average (212.2 per 100,000 compared to 170.3 per 100,000; Figure 6-11).

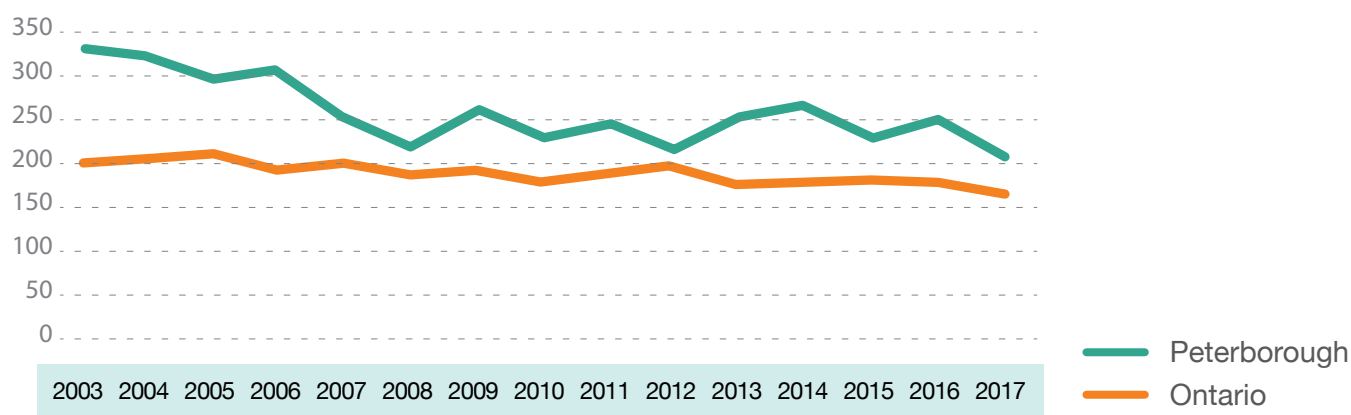


Figure 6-11: Age-standardized rates (per 100,000) of cyclist Emergency Department visits for residents of the Greater Peterborough Area and Ontario from 2003 to 2017

Source: NACRS, CIHI, 2003-2017

Of those visiting the ED between 2013 and 2017 with cycling injuries:

- 72.0% were male; 28.0% were female
- Most visits were made by individuals under the age of 30 (56.8%), with visits peaking for males aged 10-24 (29.2% of the total visits).
- Males aged 45-59 also contribute a notable proportion of visits: 13.0% of the total.⁷³

Hospitalizations

Hospitalization data for cycling injuries from 2003-2017 shows that there has been an average of 12 admissions per year. Peterborough's average rate from 2003 to 2017 reflects the Ontario average (comparing age- and sex-standardized rates). Hospitalization rates have fluctuated somewhat, but there does appear to be a decreasing trend. Overall, only about 3.9% of ED visits led to a hospital admission. From 2013 to 2017 there are a few notable points:

- 82.6% were male; 17.4% were female
- While most ED visits were by people under the age of 30, this group only makes up 21.7% of hospital admissions. Only 1.2% of ED visits led to a hospital admission for this age group.
- No females under the age of 45 were admitted to the hospital for a serious bicycle injury.
- Older cyclists (50+) contribute to 58.7% of hospital admissions. This corresponds with approximately 8.6% ED visits leading to a hospital admission.⁷⁴

Cyclist Deaths

There were fewer than five cyclist deaths from roadway-related injuries from 2000 to 2015.⁷⁵

Most Emergency Department visits and hospitalizations involving cyclists are the result of non-collision incidents, such as falling off or being thrown from a bike (79% and 61%, respectively, based on 2013-2017 data). Just over half of these incidents occurred on a roadway. We are currently unable to identify the initial cause of these non-collision incidents (e.g., cyclist error, road or trail conditions, or if influenced by other vehicles or pedestrians). Thus, hospital data is limited in what it can tell us.

Minimizing Risks

Helmet Use

Wearing a helmet while cycling is an important strategy to reduce the risk of head injury if the rider is thrown from their bike or collides with something.⁷⁶ A helmet can protect the rider from the serious and even fatal effects of head and brain injuries.⁷⁷

In 2013, 47% of cyclists recorded as part of the city-wide cyclist count were wearing a helmet. In 2018, it was 51%.

Safe Road Crossing

Many collisions resulting in injury occur in intersections. As such, an important safety factor is how well intersections serve vulnerable users. Design elements that have been shown to reduce collisions include countdown signals showing the walk time remaining⁷⁸ and high-visibility pavement markings highlighting the pedestrian crossings. High-visibility crosswalk markings are most needed at uncontrolled crossings,⁷⁹ such as a mid-block trail crossing. The City of Peterborough is making good progress towards implementing high-visibility pavement markings and countdown signals at intersections with traffic signals.

Audible signals, which provide verbal direction at the intersection for people with low vision to assist them in crossing the intersection, are also being installed.

- Intersections with High-Visibility Pavement Markings: 24 (of a total of 132)
- Countdown Signals: 49
- Audible signals: 11

Out of **132**
intersections
with traffic
signals:

24 
have high
visibility paint


49
have
countdown
signals


11
have
audible
signals

Bicycle Detection

Only 30% of the traffic lights in the city accommodate bicycles, meaning they detect bicycles or the lights change automatically on a timer. Traffic signals are installed where vehicle volumes are high. When traffic signals do not detect bicycles and change to allow access through the intersection, cyclists do not receive the safety benefits of the signal. The City is in the process of working to install camera-based detection technology devices at 80 intersections in 2020. If this technology is successful at regularly detecting bicycles, this will be a significant gain for being bicycle friendly.

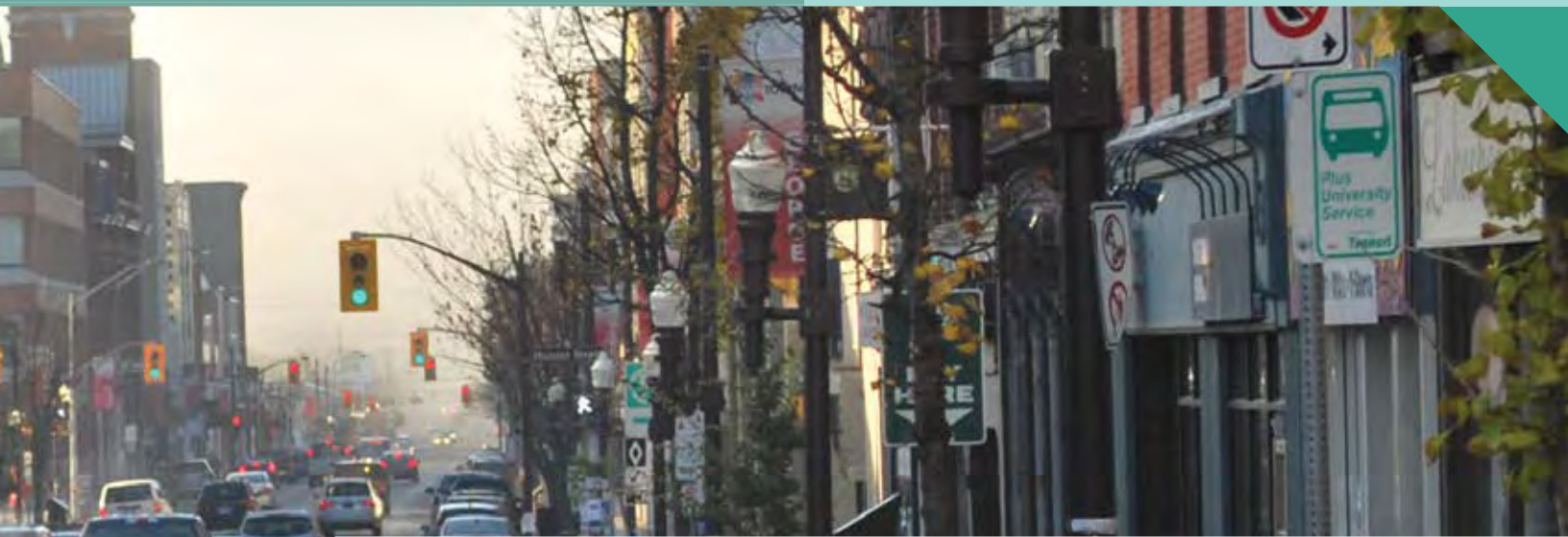


A Safe Systems Approach

Collision and hospital data tell us that, although collisions involving pedestrians and cyclists are decreasing, there are still considerable numbers of these incidents. The collision data shows that there are certain areas of the road network where there is a higher incidence of collisions leading to major or minor injuries. Hospital data shows that a considerable number of community members suffer serious injuries each year as a result of walking or cycling on the road system, with certain demographic groups being notably impacted. For pedestrians, people in their late 50s and elderly females are more likely to experience a serious injury from a transport accident. For cyclists, it is again people aged 50 and older that are more likely to experience a serious injury from a transport accident. In addition to vulnerable road users, there are serious injuries and deaths of occupants of motor vehicles each year in the GPA. Relating to deaths, from 2010 to 2015 between 6 and 10 GPA residents died each year as a result of an on-road accident.⁸⁰

Using local collision and hospital data to inform a comprehensive road safety strategy to address these issues is something for our community to consider.

“Safe Systems” is an approach to road safety management based on the philosophy that no one should be killed or seriously injured while using the road transport system. The first country to adopt this approach to road safety was Sweden in the 1990s, calling it Vision Zero. Sweden now has one of the world’s lowest traffic-related fatality rates.⁸¹



Guiding Principles of a Safe Systems Approach:

- **Ethics:** human life and health are paramount and take priority over mobility and other objectives of the road traffic system (i.e., life and health can never be exchanged for other benefits within the society)
- **Responsibility:** providers and regulators of the road traffic system share responsibility with users
- **Safety:** road traffic systems should take account of human fallibility and minimize both the opportunities for errors and the harm done when they occur
- **Mechanisms for change:** providers and regulators must do their utmost to guarantee the safety of all citizens; they must cooperate with road users; and all three must be ready to change to achieve safety⁸²

Canada has had a national road safety vision or strategy since 2001. The latest strategy, Canada's Road Safety Strategy 2025 has the vision "Towards Zero: The safest in the world," embracing a Safe Systems Approach and encouraging road safety stakeholders from all levels of government to collaborate and unite efforts to make Canada's roads the safest in the world. The Strategy has been adopted by the federal government and all provinces and territories, including Ontario. An increasing number of Canadian jurisdictions have implemented Road Safety Plans incorporating a Safe Systems Approach and/or Vision Zero.

Parachute, a charity organization focused on injury prevention, has taken a lead in presenting and supporting the Vision Zero concept in Canada. Information, resources, and a list of Road Safety Plans that incorporate Vision Zero and/or a Safe Systems Approach can be found on their website (www.visionzeronetwork.ca).

Health & Wellbeing



Health & Wellbeing

Highlights

Active transportation and transit contribute to increased physical activity, which can lead to enhanced health outcomes and increased quality of life. Active transportation exposes the traveler to fresh air and often to green space, which can provide added benefits.

.....

Brisk walking and cycling count as moderate intensity activities, making active transportation one way for adults and children to meet their recommended targets of 150 min/week and 60 min/day, respectively.

.....

While the majority (84%) of Canadians do not meet the recommended physical activity guidelines, there appears to be a higher proportion of adults in the GPA meeting or exceeding the guidelines than Ontario as a whole.

.....

Compared to the 1990s and early 2000s, the number of days with poor air quality in Peterborough appears to be significantly reduced. In the last five years, there has been only one day with a special air quality statement.

.....

A Climate Emergency was declared by the City of Peterborough and by the federal government in 2019. Making more trips by foot, bike, or transit lowers climate-damaging carbon emissions and reduces air pollution.

.....





Active transportation is healthy!

Highlights





If you walk, cycle, or bus you are doing much more than getting from point A to point B. In fact, the rewards of active transportation and transit are great: they can improve our personal health, enhance the vitality and equity of our communities, and help protect our natural environment and resources.⁸³

Physical Activity and Health

Simply put, active transportation is physical activity. And physical activity is critical to good health. When we include regular physical activity in our lives, we are healthier, more mentally resilient, and more likely to avoid illness and injury. This often leads to a longer life with a greater number of quality years.

Physical Health

Physical activity supports healthy growth, aging, and muscle and cardiovascular function, and reduces the risk of heart disease, some types of cancer, diabetes, and osteoporosis.⁸⁴

Physical activity can prevent:

- **Cardiovascular diseases:** Physical inactivity is a risk factor contributing to about 12% of heart attacks.⁸⁵ Keeping active helps to prevent and control cardiovascular disease risk factors like high blood pressure, high cholesterol, type 2 diabetes, osteoporosis, certain types of cancer, and obesity.⁸⁶
- **Cancer:** Physical inactivity is a risk factor for many types of cancers, including breast, colorectal, and lung cancers. Overall, it was attributable to over 9,000 or 4.9% of cancer cases in 2015 in Canada.⁸⁷
- **Diabetes:** Physical inactivity is a risk factor for type 2 diabetes.⁸⁸ In 2013-14, one in ten adults in Canada was living with diagnosed diabetes, with 90% of cases being type 2.⁸⁹ Walking and cycling reduce this risk.⁹⁰
- **Musculoskeletal diseases:** Physical activity improves musculoskeletal health and maintains or enhances mobility.⁹¹ Walking and cycling have shown to be beneficial in reducing overall risk of musculoskeletal pain.

Altogether, physical activity is associated with a reduced risk of dying. It has been found that each hour of moderate or vigorous activity per week is associated with a 4% to 9% reduction in the risk of death from all causes.⁹² Walking and cycling, specifically, have been shown to reduce risk of mortality in a dose response relationship, adjusting for other physical activity. Depending on the intensity level, walking 240 minutes per week or cycling 120 minutes per week⁹³ could result in a 10-11% reduction in risk of mortality.⁹⁴

The shift to less physically active lifestyles over the past several decades is leading to considerable population health consequences.⁹⁵ It is essential that we build more physical activity into our lives to improve health, and active transportation is one key strategy to achieve this.

In the GPA, cancer and circulatory (cardiovascular) diseases are the leading causes of death.⁹⁶ Research shows that both chronic diseases are directly linked to inactive lifestyles.⁹⁷



Mental Health

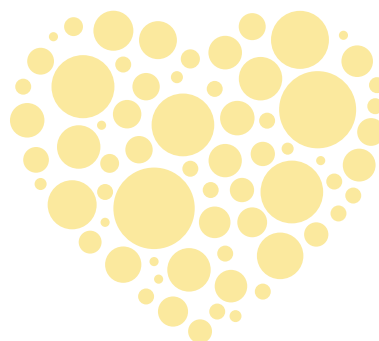
Our mental health benefits from regular physical activity⁹⁸ because of a combination of physiological, psychological, social, and neurological impacts.⁹⁹ Being active can help with:

- self-esteem¹⁰⁰
- mood¹⁰¹
- life satisfaction¹⁰²
- managing day-to-day stress¹⁰³

There is also growing evidence that physical activity is protective against the development of depression.¹⁰⁴

Physical activity has been found to support the treatment of many mental health disorders, including:

- anxiety¹⁰⁵
- depression¹⁰⁶
- dementia/Alzheimer's disease¹⁰⁷



For some people, walking in their neighbourhood or taking transit can protect against social isolation, a factor that can negatively impact mental health. Older adults, which make up one in five GPA residents, are especially vulnerable to this. Locally, the Age-Friendly Peterborough Community Action Plan lists “A safe, well-maintained, and connected active transportation network” as a strategy to support older adults in getting around the community.

Kids, Physical Activity & Mental Health

In Canada, an estimated 23%, or over 1 million young people (ages 9-19), live with mental illnesses such as ADHD, substance use disorder, oppositional defiant disorder, mood disorders,¹⁰⁸ and, most commonly, anxiety.¹⁰⁹ While many factors can influence a child’s mental health, there is some evidence that physical activity can:

- contribute to improved self-esteem¹¹⁰
- protect against depression¹¹¹
- reduce symptoms of depression and anxiety¹¹²
- benefit ADHD and related symptoms¹¹³

How Much is Enough?

The Canadian Society for Exercise Physiology (CSEP) makes recommendations for our physical activity based on age. Many Canadians are not meeting these recommended guidelines (Figure 7-1).

Age Group	Recommended physical activity (minutes/day or week) ¹¹⁴	% Meeting Targets in 2016 - 2017 ¹¹⁵
Children & Youth ages 5-17	average 60 minutes/day (moderate to vigorous)	39.2% 47% aged 5-11 31% aged 12-17
Adults 18 +	150 minutes/week (moderate to vigorous, in bouts of 10 or more minutes)	16.4%

Figure 7-1: Percentage of Canadians meeting physical activity recommendations, measured during the Canadian Health Measures Survey* (CHMS), 2016-2017

*The Canadian Health Measures Survey uses accelerometer data to assess physical activity, which is more objective and accurate than surveys that rely on self-reporting of physical activities.

Locally, the Canadian Community Health Survey is a source for assessing our community's physical activity levels. It is based on self-reporting, and the survey questions used to assess physical activity levels were updated in 2015. These updated questions should help give us a better picture of what proportion of our population is achieving the physical activity recommendations, as well as how much active transportation contribute to these results. Participants are asked to report on their physical activity in the last seven days. In 2015-2016, the GPA had a greater proportion of the population meeting or exceeding the physical activity recommendations, compared to Ontario (Figure 7-2).

Level of Physical Activity	GPA	Ontario
At or above recommended level	63.3	57.7
Below recommended level	19.9	22.2
No physical activity	16.8	20.1

Figure 7-2: Rates* of self-reported levels of physical activity of adult (aged 18 and older) residents of the Greater Peterborough Area, compared to Ontario 2015-2016

*Rates are age-standardized to account for differences in age distribution in GPA and Ontario for the purposes of comparing rates.

Source: Canadian Community Health Survey (CCHS), 2015-2016

The different findings of these two data sources - 16.4% Canadian adults meeting the guidelines through CHMS, compared to 57.7% of Ontarians through CCHS - highlight the issue of accuracy and bias in self-reported data.

Active Travel – A Key to Quality of Life

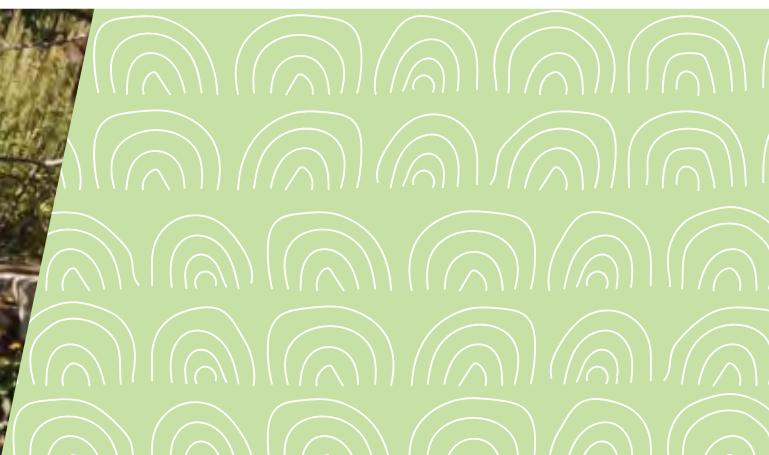
Even though the health benefits of being active are well recognized, an estimated 39%¹¹⁶ of GPA adult residents are not meeting the physical activity targets required to realize those health benefits. Brisk walking and bike riding both qualify as moderate-intensity physical activities.¹¹⁷ Therefore, active travel, whether for commuting, going to school, running errands, or visiting a neighbour or a nearby park, is a way to increase physical activity levels each day without having to ‘make time’ to exercise.¹¹⁸

Walkable, bikeable neighbourhoods, and transit systems that efficiently meet the needs of the community, can contribute to a more active and healthier population. Additionally, active transportation in Peterborough can often expose the traveler to fresh air and green space. Exposure to green (natural) spaces has been found to be beneficial for mental health, over and above the benefits associated with being physically active.¹¹⁹



Transit boosts activity too!

Studies show that taking public transit increases walking and overall physical activity levels of individuals, compared to relying on an automobile.¹²⁰ After all, every transit trip begins and ends with a walk!



Transportation and Environmental Health

Air Quality

While Peterborough's overall air quality has improved steadily in the past 20 years – in large part due to the closure of coal-fired electricity generating stations and stricter emissions standards – vehicle emissions continue to affect the health of Canadians, as well as infrastructure, and natural environment.¹²¹

The main vehicle exhaust culprits are nitrogen oxides (NO_x), volatile organic compounds (VOCs), and fine particulate matter¹²². Ground-level ozone may also be created as a result of NO_x and VOCs reacting in the presence of sunlight¹²³. All, in one way or another, compromise our respiratory and cardiovascular systems, damage crops, trees, soils, and waterways.¹²⁴

Exposure to air pollution is linked to an increased risk of premature death from heart disease, stroke, respiratory disease, lung cancer, diabetes, and respiratory infections.¹²⁵ Even at low levels, our respiratory and cardiovascular health is impacted, especially for those living with lung conditions like asthma.¹²⁶

By increasing our walking, cycling, and transit-taking habits, we reduce our personal vehicle use and contribute to the reduction of air pollution. And, while being active outside does expose us to potential pollutants, the health benefits of exercise outweigh the risks.

National air pollution trends are towards reduced pollution (Figure 7-3). Continued commitment from the federal and provincial governments to reduce pollution are needed to keep this trend moving in the right direction. The trends in air pollution will be interesting to see with electric vehicle use predicted to increase.

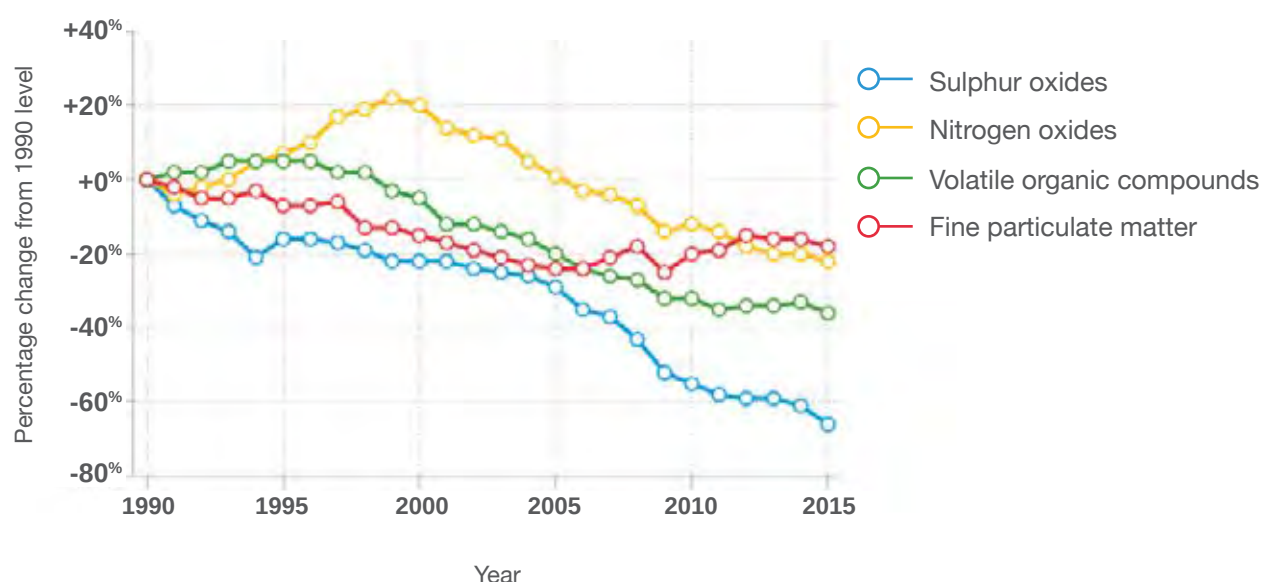
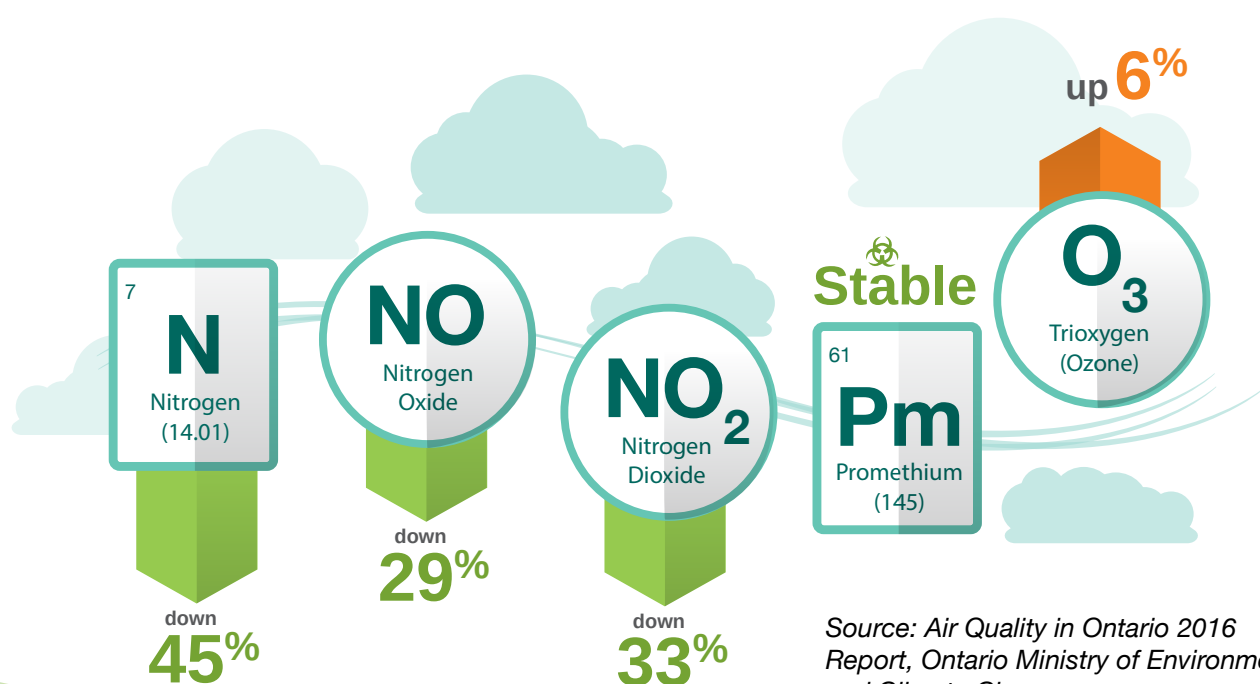


Figure 7-3: Canadian air emission trends from 1990-2015

Source: National Air Pollution Surveillance Program, Environment and Climate Change Canada (2018)

Air quality in Peterborough is tracked daily. When a day registers as having poor air quality, a special air quality statement is issued. Compared to the 1990s and early 2000s, the number of days with poor air quality appears to be significantly reduced. In the last five years, there has been only one day with a special air quality statement.¹²⁷

Changes in Air Quality Indicators in Peterborough (2007-2016):



Source: Air Quality in Ontario 2016 Report, Ontario Ministry of Environment and Climate Change

Climate Change

Climate change may be the most important reason to encourage and support walking, cycling, and using transit in our communities. In November 2018, the United Nations' Intergovernmental Panel on Climate Change (IPCC) issued an alarming report calling for an accelerated reduction in greenhouse gas emissions to limit global warming to 1.5°C above pre-industrial levels. Ninety-one authors and editors from 40 countries assessed and cited 6,000 scientific references to produce a report calling the world to action. One of the key messages that comes out very strongly from this report is that we are already seeing the consequences of 1°C of global warming through more extreme weather, rising sea levels and diminishing Arctic sea ice, among other changes.¹²⁸

Locally, climate change impacts include increasingly unpredictable weather patterns, heavy rains and flooding, high winds and storms, water quality and quantity issues, and heatwaves and drought.¹²⁹ As well as causing harm to our natural environment, these impacts affect our health and economic stability. Climate change will also continue to impact GPA weather patterns. Scientists project that the GPA will have warmer and wetter winters, among other changes in 30 years (Figure 7-4).

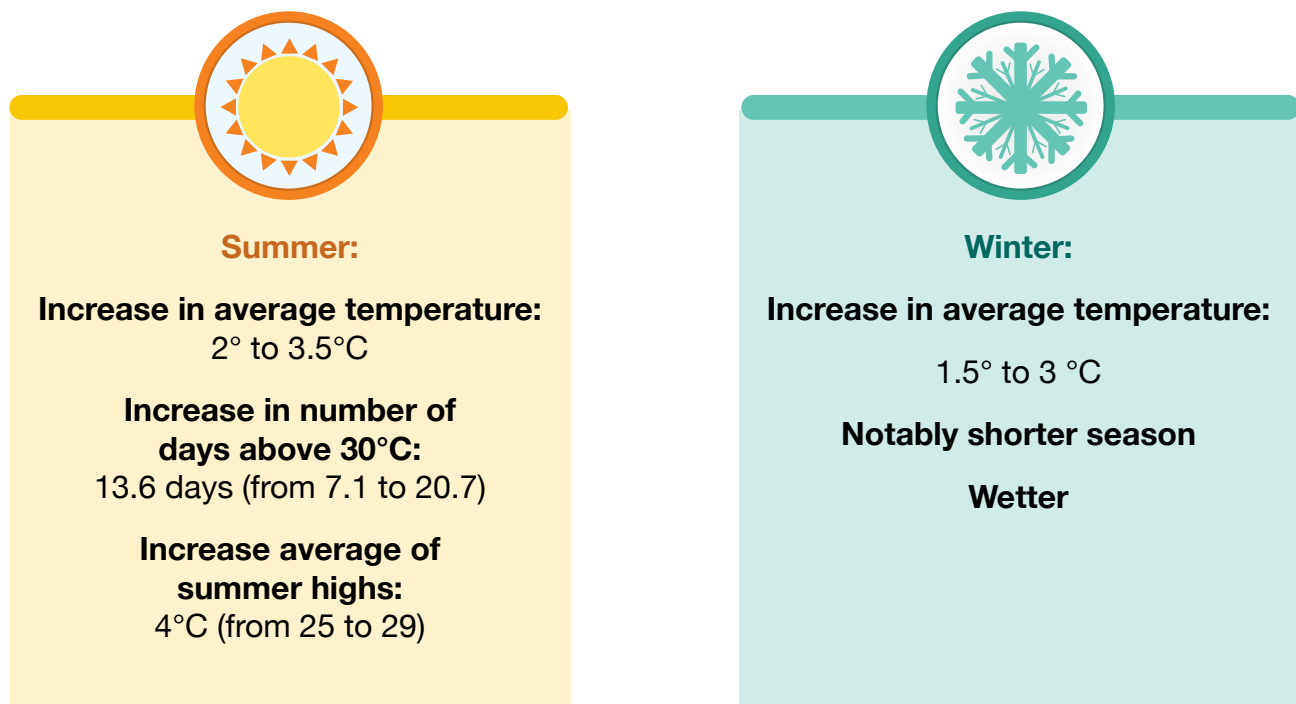


Figure 7-4: Projections for climate in the GPA over the next 30 years¹³⁰

Currently in Canada, increases in emissions from transportation, oil, and gas are offsetting decreases made by other sectors to the point that Canada has reduced annual emissions by only 2% from 2005 levels.¹³¹ In Ontario, personal vehicles are responsible for almost 20% of our total emissions.¹³²

These numbers indicate that personal transportation will have an important role in climate mitigation strategies for our community. In fact, the IPCC identifies “Walking or cycling rather than driving for short distances as an energy saving behaviour that can help mitigate climate change.”¹³³ This is also a strategy put forward by the Environmental Commissioner of Ontario, alongside changes to urban planning and uptake of low-emission vehicles.¹³⁴

In 2017, the GPA completed the development of a Climate Change Action Plan, described further in the Policies and Plans section of this report. The plan recognizes the influence of transportation on climate change and provides several recommendations for supporting active transportation and transit options for our region. In 2019, both the City of Peterborough and the Government of Canada declared a Climate Emergency, in response to data indicating that the window for responding successfully to the climate crisis is narrowing quickly. Transportation and land use planning will have a significant role in moving our region towards its Action Plan goals and in responding to the Climate Emergency.

Since transportation is the second-largest contributor to greenhouse gases in Peterborough, responding to the Climate Emergency will require accelerating investment in programs and infrastructure to support walking, cycling, and transit, as per the Climate Change Action Plan.





Education & Engagement



Education & Engagement

Highlights

Active School Travel Peterborough successfully strengthened local and provincial partnerships and built capacity for new projects, including school travel planning.

Over 4,000 local students have benefitted from in-school cycling education programs and encouragement events since 2013.

GreenUP and B!KE were able to leverage local support to bring over \$1,000,000 into the community for programs that encourage active and sustainable transportation use.

Peterborough's first Open Streets event, Peterborough Pulse, has become an annual community celebration of healthy, active living, attracting an average of 7,725 participants for the one-day car-free event.



An annual average of
7725
Open Streets
Participants



BIKE's Open Shop program nearly doubled in use, from 1,700 annual users in 2013 to over 3,000 every year since moving to George Street in 2016.

After gaining attention with 1-metre advocacy rides for two years, the Peterborough Bicycle Advisory Committee partnered with the City and County of Peterborough to promote the new regulation region-wide in 2018.

There were over 5,600 engagements with local residents through participatory planning activities of NeighbourPLAN, Sustainable Urban Neighbourhoods, and School Travel Planning programs delivered by GreenUP.

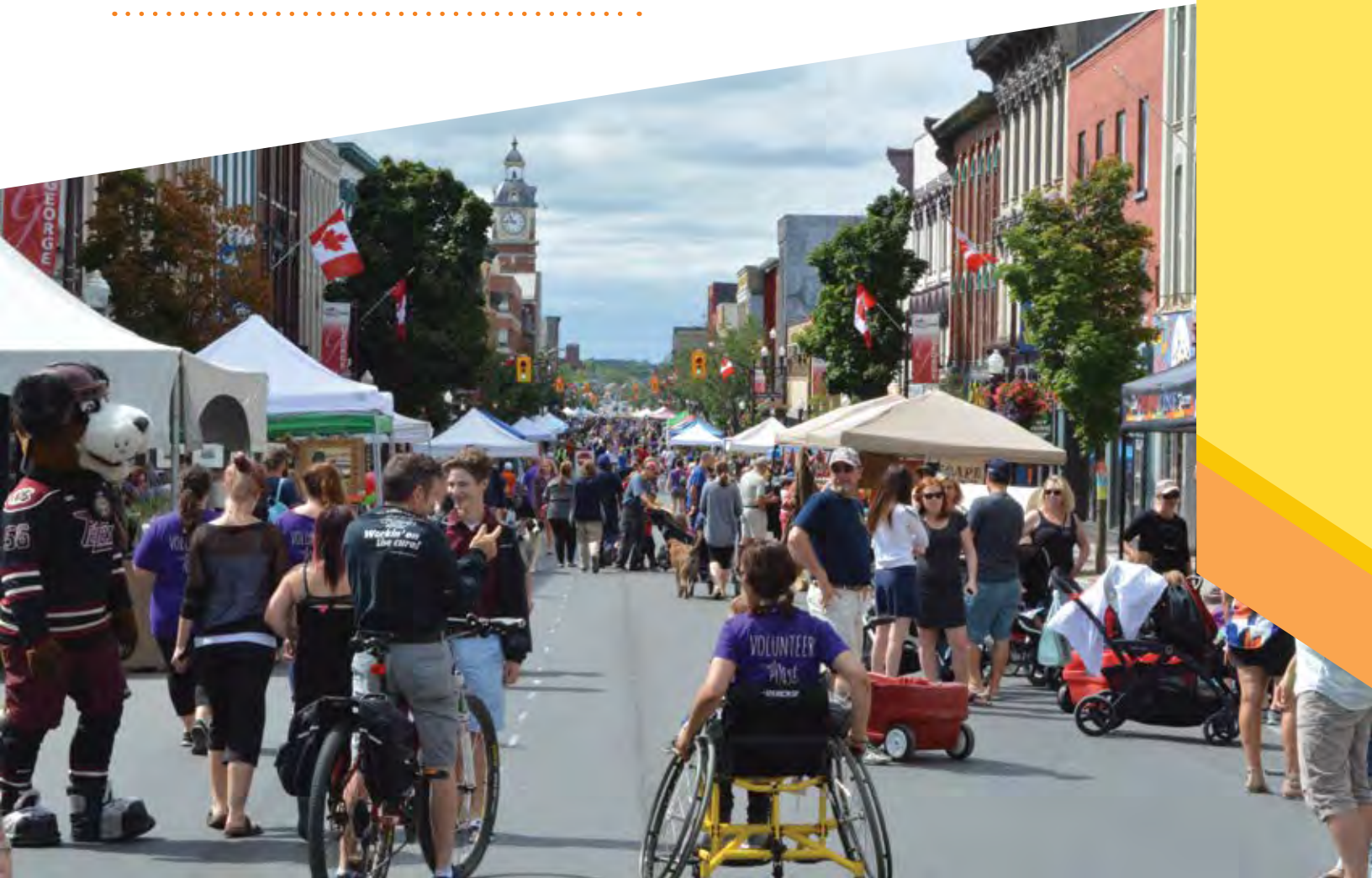


Amateur mechanics

using Open Shop grew from

1700 to 3000

Highlights

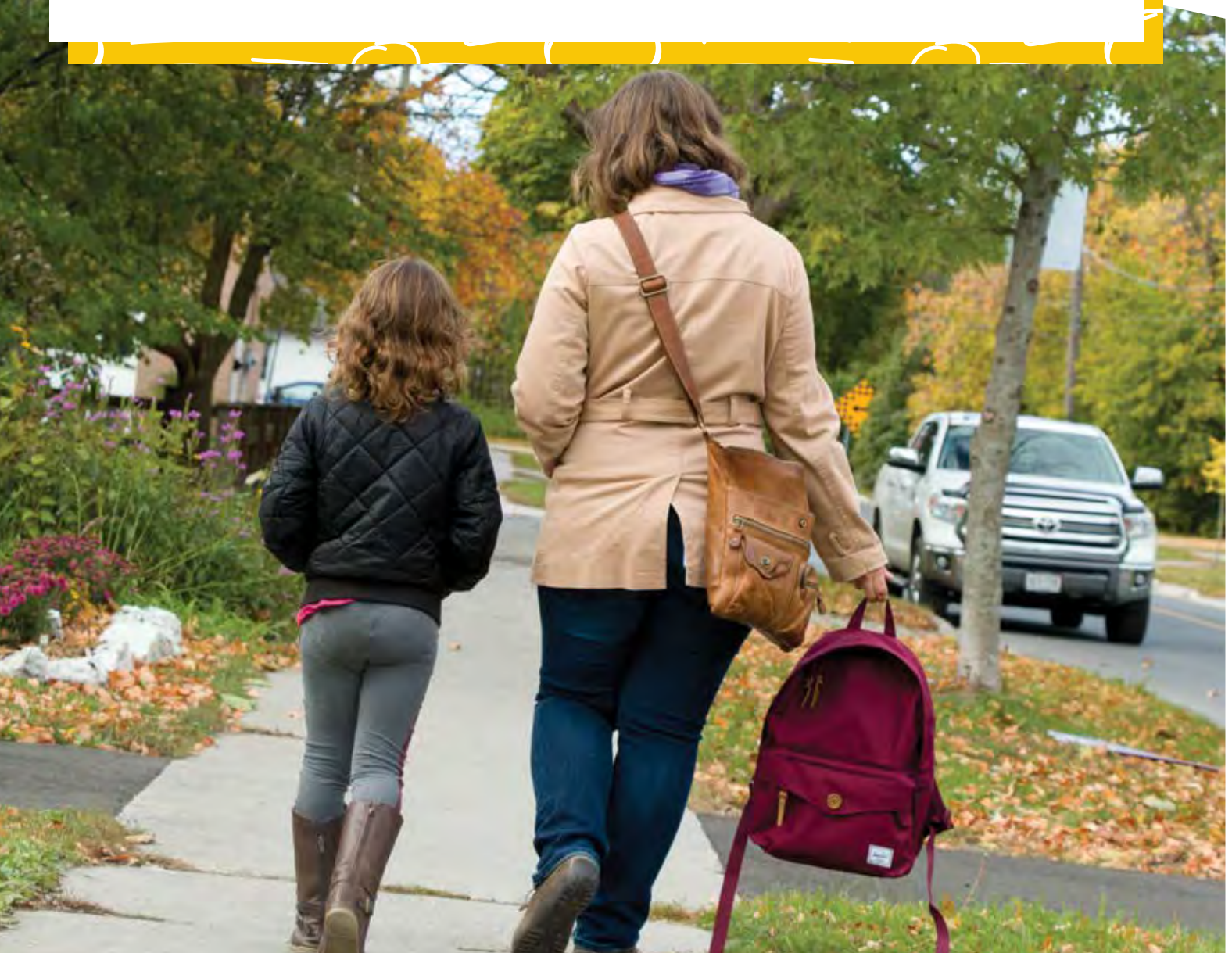


The way to get more people using active transportation and transit is to make these travel options easy, convenient, and even enjoyable. Uptake will be slow if these travel choices appear to be inconvenient or requiring a lot of effort.

While factors such as land use planning and infrastructure are important in helping make walking, biking, and transit use easier choices for moving around Peterborough, these changes can take years or even decades to come to fruition.

While these longer-term projects are underway, there is an opportunity to build a public that wants to use these travel options, one that is ready and eager to embrace active transportation and transit. This can be achieved with initiatives that build community capacity by supporting and celebrating the choice to use active transportation and advocating for changes necessary to make these choices a more viable option for all.

Peterborough has a commendable track record for developing innovative and meaningful active transportation and transit initiatives through partnerships among municipalities, community organizations, educational institutions, and businesses. Since the last report, there has been significant growth in this area with initiatives spanning education, engagement, advocacy, and tourism and recreation.





Active School Travel PETERBOROUGH



23% of morning trips
in the City of Peterborough
are related to the
trip to school

Active School Travel

Walking, biking, and riding the bus to school bring all kinds of benefits to students, including more daily physical activity^{135,136}, enhanced focus and mental health^{137,138}, cleaner air¹³⁹ and less congestion in the school zone, and often good time spent with family and friends. With 23% of morning trips in the City of Peterborough being related to the trip to school,¹⁴⁰ it becomes clear that minimizing the number of driving trips could have benefits for the broader community and road network.

With these goals in mind, Active School Travel Peterborough (previously Active and Safe Routes to School Peterborough) delivers celebratory, educational, and travel planning initiatives to schools throughout the GPA. With representatives from GreenUP, Peterborough Public Health, the City of Peterborough, the County of Peterborough, the Student Transportation Services of Central Ontario, and two local school boards, initiatives seek to encourage and support walking, biking, and busing to school. The annual suite of programs includes Car Free Wednesdays, On the Bus, Grade 8 Transit Quest, Student Travel Surveys, and special events, such as International Walk to School Day and Bike Rodeos.

Program capacity received a boost since the last report. First, recognizing that increasing active school travel is a great way to get some daily physical activity, the Healthy Kids Community Challenge provided special funding to Active School Travel Peterborough. This allowed the group to increase capacity and refresh materials for the Car Free Wednesday and Grade 8 Transit Quest programs, and in 2016, to install 375 new bike parking spaces at local elementary schools. Since 2016, approximately 45 new spaces have been added annually through the Car Free Wednesday program.

Then, in 2018, GreenUP was one of 28 successful applicants to the Ontario Active School Travel Fund, supported by Green Communities Canada and the government of Ontario. The additional staffing capacity provided through this fund is supporting the pilot of School Travel Planning, development of new evaluation methods, and strengthening of local partnerships through to 2020.

2014-2018 by the numbers - Active School Travel¹⁴¹

3300
students

Each year, 3,300 students learn about walking, biking, taking the bus, and now Park and Stride, through the Car-Free Wednesdays program delivered by Active School Travel Peterborough.

.....

18%
more

At Car Free Wednesday schools, approximately 18% more students in the school's walk zone walk to school and 5% more students with bus designation ride the bus.

.....

4250
grade 8's

4,250 Grade 8 students received free access to Peterborough Transit so they could travel their city with ease on March Break through Grade 8 Transit Quest.

.....

1500
grade 3's

Another 1,500 Grade 3 students have explored Peterborough with the On the Bus program.

.....

28
bike
racks

28 new bike racks, equaling 420 new bike parking spots, were installed at schools in Peterborough city and county.

.....

4000
students

Over 4,000 local students have benefitted from in-school cycling education programs and encouragement events in the city and county of Peterborough.

.....

6
schools

Six schools are working to develop School Travel Plans.

.....



Cycling Education in Schools

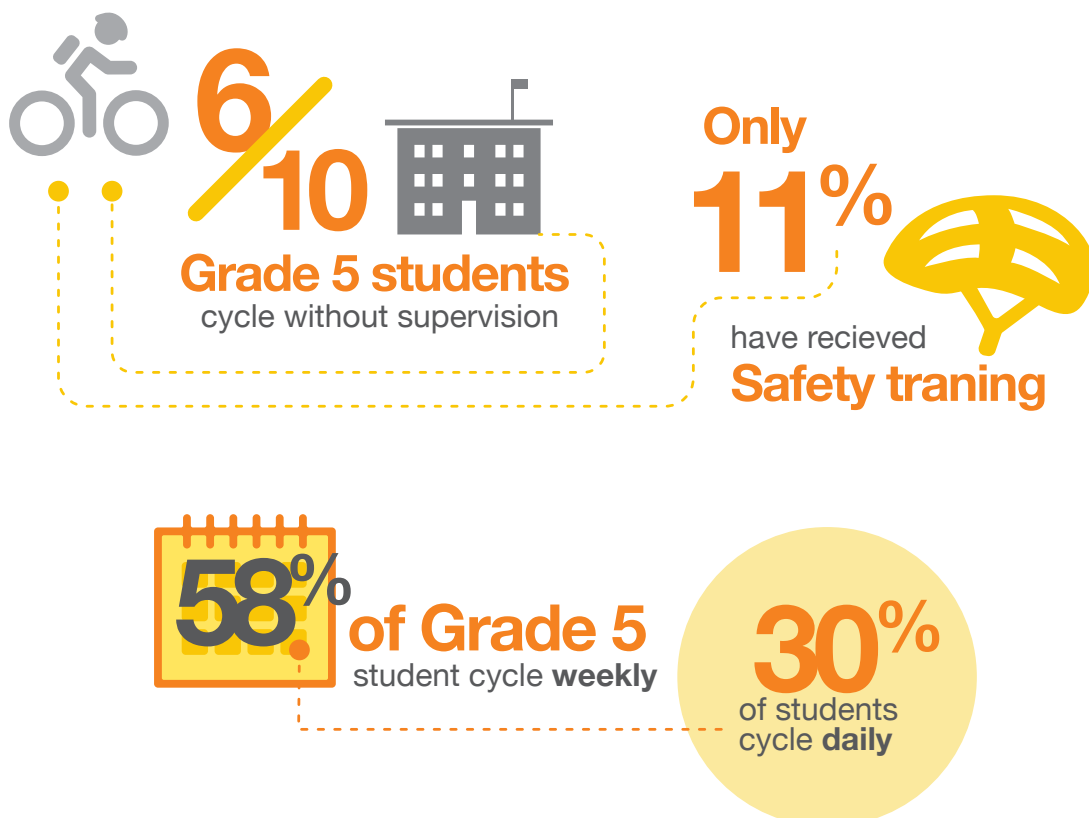
Teaching people fundamental cycling skills at an early age is key to successfully working towards a population that is comfortable cycling in our urban environment. In 2013, GreenUP and BIKE developed the Pedal Power program, which provides 5 weeks of in-school bicycle safety education for Grade 5 students in Peterborough. Pedal Power helps students become skilled at handling their bicycles and knowledgeable about the rules of the road. It also gives the students a chance to practice riding to school and provides schools with an opportunity to assess how to make cycling to school an easier choice for students.

This comprehensive cycling education program has been delivered by GreenUP and BIKE since 2013 with funding from the Ontario Trillium Foundation, the Goodlife Foundation, the Healthy Kids Community Challenge, the Ministry of Transportation's Cycling Education Fund, and the City of Peterborough. Funding is being sought to expand the program to all schools in the GPA.

Results from participant surveys show that¹⁴²

Six out of ten Grade 5 students ride on the road and ride alone or with friends (i.e., without supervision), yet only 11% of Grade 5 students had received bike safety training before Pedal Power.

58% of Grade 5 students claim to ride weekly and 30% ride daily.





Capacity and Culture Building in the Community

It can be a great relief and motivator to have the support of an expert, team, or friend when making a change or learning something new. Peterborough's early adopters of 'life by bike' are always eager to share what they know and help others to make the shift.

Making the Shift

A fun and motivating springtime event, Shifting Gears is a community challenge that encourages citizens to try active transportation, transit, carpooling, and telecommuting throughout the month of May. Delivered by GreenUP, the City of Peterborough, Peterborough Public Health, and B!KE: The Peterborough Community Cycling Hub, this 20-year-old contest has employers, schools, and individuals – motivated by points, prizes, and workplace active transportation workshops – vying for the Most Travel-Wise award. The peterboroughmoves.com website is used for trip tracking and sharing local sustainable transportation information.

Typically, approximately 950 employees, students, and community members log 25,000 sustainable trips during the annual Shifting Gears Challenge.

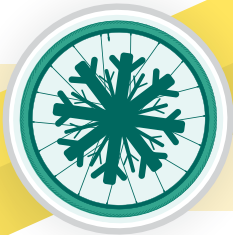
On average, 37% of trips logged during Shifting Gears are by bicycle, 36% are by walking, 17% are by carpool, and 10% are by transit.¹⁴³

Annually, Shifting Gears supports hundreds of commuters in choosing new transportation options. A majority of those choices lead to bicycles, with commuters finding this option serves their needs in terms of distance, time, and, for many, building activity into their day.

With this in mind, Shifting gears piloted the Shop by Bike program to the community in 2018. Through the program participants were provided with essential gear, such as bike racks, baskets, or panniers, and coached to use their bikes for errands. Working one-on-one, shop by bike instilled confidence by demystifying everyday

tasks while helping participants set their personal bikes up for functional use. Over 30 people participated in the program in its pilot year.

Many Shifting Gears participants make the shift to bikes for only three seasons, but there is potential with this growing crew of confident bicycle commuters to make the shift year-round. In 2017, the City of Peterborough partnered with B!KE to provide Winter Wheels, a program in which participants are set up with winter bike gear (studded tires, for example) and coaching in exchange for a commitment to ride their bikes in the winter. The program aims to increase the number and visibility of people on bikes throughout the year by helping them to “get a grip on winter.” In the Winter Wheels program, participants share their experiences on social media and are involved in making winter biking more visible through photo and video events.



30 participants are accepted annually into Winter Wheels.¹⁴⁴

In 2018, the City of Peterborough also began a new partnership with Commute Ontario, a provincial organization that provides a carpool matching service (Carpool Ontario), a trip tracking tool (Active Switch), and other resources and promotions that employers can use to engage and reward their staff for choosing active and sustainable travel modes.



Building the Bike Community



Community Bike Shop

B!KE is a local community cycling hub that provides educational programming and facilitates a community bike mechanic shop in Peterborough's downtown core.

During the summer of 2017, B!KE provided 45 hours a week of Open Shop instruction in bicycle maintenance and repair. This number of contact hours represents a staggering growth in the amount of time the public can access services: five times what was offered in 2011 and almost twice what was offered in 2016.

24 volunteers contributed to Open Shop, and 316 bicycles were donated to support B!KE's programming in 2017.

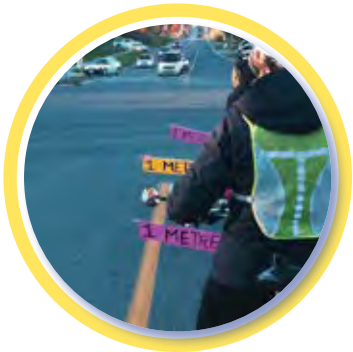


Community Bike Programs

Between 2014 and 2018, GreenUP and B!KE successfully leveraged local support from the City and community to bring over \$1,000,000 into the community for programs that encourage active and sustainable transportation use. In addition to the important work being completed in schools, the increase in capacity and resources allowed the organizations to diversify their community offerings.

Over 2,500 enthusiastic cyclists of all ages took part in bike maintenance and road safety courses, bicycle playground pop-ups, glow rides, kiddical masses, discovery rides, and special events.

By offering inclusive programming for families and emphasizing the fun that can be found when riding a bike (alongside important safety messaging), the organizations were able to increase participant numbers 14-fold over the previous five-year total.



Peterborough Bicycle Advisory Committee (P-BAC)

Comprised of representatives from stakeholder organizations and individual volunteers, P-BAC's mission is to foster a culture of cycling in Peterborough City and County through advocacy, education, and event planning. Since 2010, P-BAC has provided leadership in publishing an e-newsletter called Cycling News, applying for Bicycle Friendly Community designation for the City, leading bike safety awareness events, and participating in Pulse with fun and engaging displays. P-BAC is well-known for leading events that draw cycling advocates, local politicians, municipal staff, businesses, and community leaders together for conversations about building a bike-friendly community. Annual events, such as the Peterborough and the Kawarthas Cycling Summit, Vernal Velo, and Shift into Summer, host on average 90 participants.



Peterborough Cycling Club

Starting out in 2003 as a casual road cycling club, the Peterborough Cycling Club now boasts a membership of 463 multi-generational adult members (39% women; 61% men) and 100 child and youth members. For 10 years in a row, the club has had the highest per capita membership in the province. They offer 16 rides per week, ranging from very casual recreational outings to competitive rides. The group hosts mountain biking and safety skills workshops and runs cycling fundraisers and events, including the 2018 and 2019 Shimano Canadian Cyclo-cross Championships.



Tour by Bike

Cycling is now identified by the Regional Tourism Organization 8 and Peterborough and the Kawarthas Tourism as a key area for growth. The first product developed was the Peterborough & the Kawarthas Classics, a series of signed on-road routes geared to the keen road cyclist. Through hosting the National Cyclo-cross Race in 2018 and 2019, they are introducing more people to the cycling available here, and cycling tourism is predicted to increase. The initiative introduced in the County Active Transportation Master Plan to pave shoulders on County roads will further improve the experience of cycling here, drawing both local cyclists and those from farther afield.

2014-2018 by the numbers – Building the Bike Community¹⁴⁵

- Over **2,500 people** took part in bike-focused community courses and events
- B!KE members accessed the community bike shop over **9,585 times**
- **60 Youth now have a new bike** and know how to maintain it through the Earn-a Bike program
- **B!KE's Open Shop program nearly doubled in use**, from 1,700 annual users in 2013 to over 3,000 every year since moving to George Street in 2016
- Peterborough Cycling Club now boasts **a membership of 463** multi-generational adult members (39% women; 61% men), and 100 child and youth members
- An average of **90+ cycling enthusiasts** attended P-BAC's annual bike events

Re-imagining Streets

Open Streets

In 2014, after a few years of hosting the annual Peterborough & the Kawarthas Cycling Summit, P-BAC shifted their outreach strategy to reach more community members. They decided to host the region's very first open streets event, Peterborough Pulse. Enlisting the Downtown Business Improvement Area, the City of Peterborough, Peterborough Public Health, GreenUP, B!KE: The Peterborough Community Cycling Hub, Peterborough Square, and many downtown businesses and community clubs, the partnership set up a festive, family-oriented day of activities - - - with a twist. At Peterborough Pulse, downtown George Street is officially car-free for one day. The road is set up with demonstration activities and sports, temporary bike lanes, round-a-bouts, and pop-up playgrounds and parks. To support travel by bike, a bike valet is available.

Axe throwing! Yoga! Tai chi! Every corner of the street offers something new for visitors to discover. This is all done to encourage citizens and visitors to reimagine their city streets as a vital community space that supports active transportation and healthy living, enhances community bonds, and celebrates our local economy. Five years later, the event is still a vital, celebratory, and exciting way to spend a summer's day!

| Taking Peterborough's Pulse¹⁴⁶ – Average of:



7,725 participants



58 volunteers



117 local business and community organizations



105 minutes of physical activity per participant



10% reported biking or rollerblading, while
100% walked

Play Streets

Between 2014 and 2018, GreenUP and B!KE worked with residents of eight neighbourhoods to hold Pulse Pop-Ups, a.k.a. Play Streets. By removing automobile traffic from the local street, these community events created safe, inclusive places for children to play and neighbours to gather... right outside their front door!

1,000 citizens gathered for fun and play on car-free neighbourhood streets during Pulse Pop-ups between 2014 and 2018



Safe Streets

In 2015, the Making Ontario Roads Safer Act made it mandatory for vehicle drivers to provide a 1-metre space between themselves and a cyclist when passing. Quickly after that, P-BAC began organizing annual 1-metre rides that garnered media and social media attention. In 2018, community partners teamed up to spread the word. The City and County of Peterborough received funding from the Province of Ontario to develop and implement the 'A Metre Matters' campaign with a messaging blitz of television, radio, and bus and County truck tailgate ads, while P-BAC secured Road Safety Challenge funding from the province to create 1-metre passing bumper stickers and magnets (Figure 8-1).

The City created a booklet called "How to Use a Bike Lane" to explain to both cyclists and drivers what the new infrastructure markings mean, including the green pavement markings.



Figure 8-1. Image of P-BAC's 1-metre bumper stickers and magnets

Enhanced Engagement to Inform Planning

A key strategy for community planning with a health equity lens is to involve members of the community, especially vulnerable populations who are most at risk of the outcomes, in the planning process. Participation in all stages of the process, including the initial shaping of priorities, will aid in addressing equity imbalances.¹⁴⁷

Another exciting area of investment in the last five years has been in the area of participatory planning. In 2014, GreenUP teamed up with The Centre for Active Transportation and the Montreal Urban Ecology Centre to bring the Active Neighbourhoods Canada pilot project to Peterborough. The project worked with residents of the Stewart Street neighbourhood and City planning professionals to develop a portrait of and vision for the neighbourhood's public space, including streets. Coinciding with a large design project that the City of Peterborough was completing for Bethune Street, the Stewart Street project and resulting Vision acted to embed neighbourhood knowledge and priorities into the larger Bethune Streetscape design process and concepts.

The success of the pilot project led GreenUP to pursue funding from the Ontario Trillium Foundation for the NeighbourPLAN program to work with three new neighbourhoods: Jackson Park-Brookdale, Downtown Jackson Creek, and Talwood. In each neighbourhood, participatory planning tools are used to engage over 300 residents in the development of resident-led Portraits and Visions.

These participatory planning tools are also now being used by the Student Travel Planning and the Sustainable Urban Neighbourhoods projects, as they engage with residents in five additional neighbourhoods to gather local knowledge that will inform plans designed to enhance active and sustainable communities. To date, the projects have had over 5,600 resident engagements to hear how people in our community envision the spaces and services that serve them.



5600 resident engagements
in planning activities
between 2014 and 2018





Participatory Planning

“is an approach to designing active, livable cities, which makes urban planning accessible, community-driven, and fun. It is grounded in the belief that blending local knowledge and expert knowledge leads to strong outcomes. We work on the neighbourhood scale, and take an integrated view of planning. Since land use, urban design, architecture, transportation infrastructure, and placemaking all inform residents’ experiences of their neighbourhoods, we involve professionals across these disciplines.”¹⁴⁸



Policies & Plans



Policies & Plans

Highlights

The County of Peterborough created, adopted, and began implementation of their Active Transportation Master Plan.

.....

The role of active transportation and transit in contributing to community wellbeing has been acknowledged in various local community plans, including Vision 2025, the Accessibility Plan, the Peterborough Community Wellbeing Plan, the Age-Friendly Peterborough Community Action Plan, and the GPA Climate Action Plan.

.....

Provincial direction through the #CycleON strategy and action plans resulted in significant funding and progress on cycling initiatives.

.....

The Provincial Policy Statement and Growth Plan for the Greater Golden Horseshoe call for the development of complete communities that support active transportation and transit.

.....

Canada's Road Safety Strategy 2025 adopts a safe systems approach and a vision of moving towards zero transportation-related deaths and serious injuries.

.....



For the purposes of this report, Plans refer to the guiding documents created to shape our communities and inform decision making. Plans contain policies and strategies that reach towards a collective vision, one identified through a combination of both expert and user input. Ultimately, they are a formal expression of what is valued as communities, provinces, or nations.

In the last five years, the City of Peterborough, County of Peterborough, and Province of Ontario have approved a notable number of plans and policies that support the local growth of walking, cycling, and transit. The following is a list of those with the greatest potential to influence active transportation decisions.

City

Shifts in behaviours across a population (e.g. active transportation, active commuting) can be stalled if relevant environments and systems are not supportive (i.e. convenient, safe, enjoyable).

To accelerate the shift towards environments and systems that are more supportive of these behaviours, it is important that community planning documents include commitment to such changes. There are several community planning documents that have an influence on active transportation, which are described in this chapter.

Official Plan

At the time of writing, the City of Peterborough had released the 2019 Draft of its latest Official Plan for review. The last full Official Plan Review was completed in 1981. Since that time, the city has seen growth and changes in demographics and societal norms. The broader approach to Land Use Planning has also changed over the past 30 years.

The new Official Plan is a very important document for Peterborough. It will guide the most important decisions to be made for our community and ultimately our well-being over the next 20 years, such as those about our neighbourhoods, natural areas, roads, trails, recreational spaces, shopping, and employment. The draft plan, expected to be finalized in early 2020, adopts a complete communities approach to land use planning, complete streets, and intensification that supports active transportation and transit.

Promoting Population Health Through Long-Term Planning

“Healthy Transportation Systems” was one of the focus areas in the reports that Peterborough Public Health submitted to the City and County in 2018 to inform their Official Plan Reviews. The reports were titled, **Health in Official Plans: A Toolkit** and were tailored to each municipality. The report provides an excellent summary of relevant research evidence, informing the recommendations relating to Healthy Transportation Systems and other focus areas. For planners, the reports cite a variety of tools and examples from other municipalities.

The project team received a recognition award from Health Promotion Canada in 2019 for this work.

Comprehensive Transportation Plan

The City of Peterborough’s Comprehensive Transportation Plan 2012 includes targets and strategies for increased walking, cycling, and transit use. Strategy highlights include implementing a Complete Streets Policy, ramping up the maintenance and safety of cycling and pedestrian corridors, and the development of a Cycling Master Plan (expected 2020) that will recommend tripling current cycling infrastructure.¹⁴⁹ An update of the Transportation Plan is planned to be completed by the end of 2021.

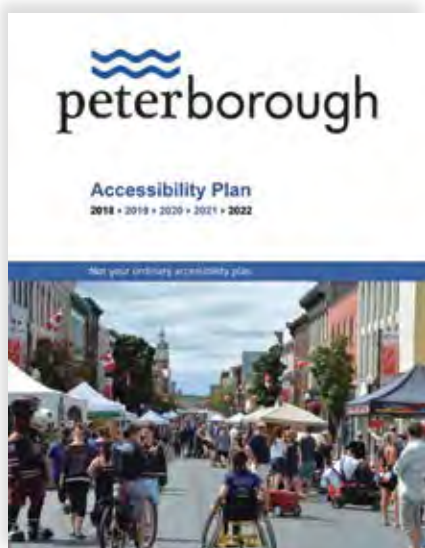
Planning for Growth

The City of Peterborough is projected to grow to a population of 115,000 in 2041, from 81,032 in 2016.¹⁵⁰ Land use planning and transportation planning are key tools to accommodate this growth and supporting active transportation and transit will be key to reducing both congestion on roads and transportation emissions.

Accessibility Plan

The city's Accessibility Plan was updated in 2018. The section on exterior paths of travel features several targets for improving walking and cycling for all users, regardless of ability, including:

- ✓ Developing a Complete Streets policy as per the Growth Plan for the Greater Golden Horseshoe
- ✓ Educating businesses on the importance of maintaining a clear path of travel on sidewalks
- ✓ Developing a plan with the DBIA to clear snow windrows at street corners in the downtown area
- ✓ Installing countdown pedestrian signals and enhanced ladder crosswalk pavement markings at busy intersections across the city
- ✓ Expanding the number of pedestrian signals that automatically activate with traffic signal changes
- ✓ Expanding the number of mid-block pedestrian crossing facilities where appropriate
- ✓ Adding walkway networks to connect park amenities to sidewalks at city parks and sports fields¹⁵¹



Vision 2025

Ratified in 2016, Vision 2025 is a 10-year strategic plan for Peterborough's recreation, parks, arenas, and culture. During the community and stakeholder consultation, strong support for active transportation – in this case, walking, running, hiking, cycling, and cross-country skiing – emerged. At the top of the list of priorities is a network of trails and on-road cycling routes. Consultation participants envisioned:

“(A) city with a fully integrated trail/pathway and on-road cycling network that connects all parts of the city, reaches into every neighbourhood, connects natural heritage areas and compatible land uses, and links to the countryside in all directions.”¹⁵²

Local Active Transportation Projects Featured in Publications



The Centre for Active Transportation (TCAT)'s 2017 report, Active Transportation Planning Beyond the Greenbelt: The Outer Ring of the Greater Golden Horseshoe Region¹⁵³ features Peterborough as one of 13 small or rural municipalities delivering active transportation planning initiatives. In this report, the redesign of George and Water Streets for multiple users and traffic calming is highlighted. Brealey Drive in Peterborough is featured in another one of TCAT's road redesign reports, Complete Streets Transformations in the Greater Golden Horseshoe Region (2016).¹⁵⁴

County of Peterborough

Official Plan

At the time of writing, the County of Peterborough's Official Plan was under review. As part of this process, a survey was distributed to the public in 2017. It revealed the planning priorities for residents, which included natural environment, public safety, and healthy communities in the top four. The current plan serves as the Official Plan for four lower-tier municipalities (Selwyn, Asphodel-Norwood, North Kawartha, and Douro-Dummer). Once the new Official Plan is in effect, it will serve as the Official Plan for all eight local municipalities enabling a more comprehensive and integrated strategy for the area.

Transportation Master Plan

The County of Peterborough's Transportation Master Plan guides the County in decision making related to infrastructure and safety improvements, and policy and standards development for transportation within the county. The plan undergoes regular updates to ensure it is on-track. The last one was completed in 2012/2013, and the next is scheduled for 2020/2021.

Active Transportation Master Plan

Approved in 2017, the County of Peterborough's Active Transportation Master Plan (ATMP) envisions the county as a healthy, prosperous, and sustainable community with a safe, accessible, and integrated active transportation system at its heart (long-term goal). The ATMP recognizes that through active transportation, the County can:

- Capitalize on eco-tourism and support area businesses
- Support residents in their pursuit of healthier lifestyles through physical activity
- Decrease greenhouse gas emissions and pollution from motor vehicles
- Improve accessibility for individuals of all ages, levels, and abilities
- Improve safety for all modes of travel by adopting a Complete Streets approach to future transportation projects

Suggested actions include:

- Making provisions for paved shoulders and multi-use pathways
- Using a Complete Streets approach to improve walking and cycling-friendly environments
- Protecting future multi-use pathways and linkages to adjacent communities (e.g., municipal rights-of-way, utility easements, and abandoned railway corridors)
- Adopting Ontario Traffic Manuals as guiding documents for pedestrian crossings and cyclist facilities
- Installing bicycle parking, amenities (e.g., benches), and signage
- Supporting existing active transportation programs (e.g., Active School Travel Peterborough)
- Continuing to nurture local partnerships (e.g., GreenUP, Peterborough Public Health, Peterborough Economic Development)¹⁵⁵

Small Communities Embracing Active Travel

Many townships incorporate considerations for active transportation in community plans. A couple of local townships have Trails Master Plans, while others have included things like enhancements to walkability in Community Improvement Plans.



Municipal Resources for Designing Multimodal Networks

The Transportation Association of Canada's Geometric Design Guide for Canadian Roads (2017) is a key resource for designing roads and includes chapters on cycling- and pedestrian-integrated design. The Ontario Traffic Manual (Ministry of Transportation) also has a couple of books to guide the design of cycling facilities and pedestrian crossing treatments. Regarding Complete Streets, various jurisdictions in Canada have created Complete Streets Design Guidelines. To access relevant resources, visit [CompleteStreetsForCanada.ca](https://www.completestreetsforcanada.ca). There are also a growing number of relevant resources with a smaller or rural community focus.

Finally, the Transportation Association of Canada has recently released an extensive resource intended to further enhance the integration of the transportation, land use and health related work done in Canada. The Integrating Health and Transportation in Canada Report (2019) is a valuable resource for community decision makers, staff, and relevant collaborative groups to review and refer to.



Greater Peterborough Area

Peterborough Community Wellbeing Plan

A Community Wellbeing Plan was created in 2019 for the City of Peterborough, County of Peterborough, and Curve Lake First Nations, with the aim of identifying community priorities for improving quality of life. Seven community-identified themes emerged including:

- “Environmental Stewardship: all residents and future generations can live in a healthy and stable environment
- Democratic and Community Engagement: all residents feel included and engaged in their community and local government
- Good Jobs: all residents have access to good jobs
- Healthy Community: all residents have access to high-quality health, community, and social services

- Housing: all residents have access to a range of safe, affordable housing options
- Income and Poverty: all residents have access to income to cover basic needs
- Transportation: all residents can get around by walking, riding, driving, or public transit.”¹⁵⁶

The plan acknowledged that these themes were interdependent, using the example of “when discussing accessible and affordable transportation it could be about reducing carbon footprint, getting to work, staying active or just being able to pay for a bus ticket.” It also acknowledged that transportation equity was important to the community, and that options must be available to all ages, abilities, and those in more rural areas.

Age-Friendly Peterborough Community Action Plan

Adopted by the City of Peterborough, County of Peterborough, and local townships in 2017, the Age-Friendly Peterborough Community Action Plan was developed using significant public consultation. Of the four goals identified in the plan, one is ‘Older adults able to get around the community.’ This is particularly relevant, because 25-30% of the local population is projected to be over 65 by 2041.¹⁵⁷

The transportation-related strategic directions of the plan are:

- “Affordable and flexible rural transportation options: rural transportation options help older adults access services and take part in social activities, supporting them to remain in their community of choice as they age
- Improved public transit in the City of Peterborough: reliable, affordable, accessible, and convenient public transit systems increase older adults’ mobility and ability to travel independently in the community
- A safe and well-maintained road network: well-maintained roads with enhanced safety features can support older adults to travel safely and confidently throughout the region
- A safe, well-maintained, and connected active transportation network: active transportation infrastructure supports people to remain active as they age
- Adequate, accessible parking: accessible parking can enable older adults to complete daily tasks, run errands, and easily access services
- Complete community design: communities that include a mix of housing, services, and recreation spaces support older adults to remain in their community of choice as they age.”¹⁵⁸

Greater Peterborough Area Climate Change Action Plan

In 2017, the Greater Peterborough Area Climate Change Action Plan (CCAP) was completed by Sustainable Peterborough, a community-based collaborative that includes representation from the City of Peterborough, County of Peterborough, each of the eight townships, Curve Lake First Nation, and Hiawatha First Nation. The overarching objective of the plan is to reduce local greenhouse gas (GHG) emissions, 25% of which are related to transportation activities. The plan identifies goals, actions, and emissions reduction targets appropriate to the unique needs of each municipal and First Nations partner.

The CCAP transportation strategies are to:

- Build an active transportation network and support active transportation
- Facilitate alternatives to single-occupant vehicle use to reduce the frequency of personal vehicle use
- Make public transportation more appealing to increase its usage
- Help transition vehicles to use cleaner and lower greenhouse gas emitting fuel sources

Of the recommended actions, ones that apply to this report are:

- Supportive land use policies that encourage higher density and walkable communities
- Developing an Active Transportation Master Plan for Peterborough County
- Accelerated implementation of the city's cycling network
- Expanding public transit service in the City of Peterborough¹⁵⁹

Province of Ontario

Provincial Policy Statement

The Provincial Policy Statement (PPS) is the primary provincial land use planning policy document used by municipalities to guide decisions related to where and how we grow. It acknowledges the complex relationship and importance of environmental, economic, and social interests while guiding municipal land use decisions towards a sustainable future. The PPS is issued under the Planning Act and applies province-wide. Municipalities must “be consistent with” the PPS and integrate it into their local policy documents, including their Official Plan, zoning by-laws, and other planning strategies.¹⁶⁰

The PPS was updated in 2014 and includes the following content relating to active transportation and transit:

- Encourages “Land use patterns (that) promote a mix of housing, including affordable housing, employment, recreation, parks and open spaces, and transportation choices that increase the use of active transportation and transit before other modes of travel (p.4)
- Planning public streets, spaces and facilities to be safe, meet the needs of pedestrians, foster social interaction and facilitate active transportation and community connectivity (p.15)
- A land use pattern, density and mix of uses should be promoted that minimize the length and number of vehicle trips and support current and future use of transit and active transportation (p.18).¹⁶¹

In 2019, the province proposed policy updates to the PPS.¹⁶² The changes do not directly affect content relating to active transportation.

Growth Plan for the Greater Golden Horseshoe

A Place To Grow

Alongside provincial and local land use planning policies, The Places to Grow Act, 2005, allows for the creation of long-range regional growth plans to guide population and employment growth, land use and development, resource management and protection, and provincial investment. Peterborough City and County fall within the Greater Golden Horseshoe growth plan area, as designated by Ontario Regulation 416/05, an area acknowledged as one of the fastest growing regions in North America.

In 2017, the Growth Plan for the Greater Golden Horseshoe (2006) received its first update in a decade. This update sought to “establish a unique land use planning framework for the GGH that supports the achievement of complete communities, a thriving economy, a clean and healthy environment, and social equity.”¹⁶³

In May 2019, A Place to Grow - Growth Plan for the Greater Golden Horseshoe replaced the 2017 update. Though the 2019 Plan reduced intensification targets, much of the policy regarding land use and transportation remains the same. Specifically, it maintains the direction to municipalities to:

- feature a diverse mix of land uses and housing options
- have convenient multimodal access to stores, jobs, housing, schools, parks, and more
- have convenient access to a range of transportation options with an aim to reduce automobile trips, and promote transit and active transportation
- adopt a complete streets approach in the design and reconstruction of streets¹⁶⁴



#CycleON Action Plans

In 2013, the province ramped up its support for cycling with the release of its #CycleON: Ontario's Cycling Strategy. Recognizing the economic and healthy community value cycling can bring to all communities, rural and urban, the 20-year vision is "to have cycling recognized as a respected and valued mode of transportation across Ontario."¹⁶⁵ The five strategic directions for #CycleON are to:

- design healthy, active, and prosperous communities
- improve cycling infrastructure
- make highways and streets safer
- promote cycling awareness and behavioural shifts
- increase cycling tourism opportunities

Through the two subsequent #CyclingON Action Plans, released in 2014 and 2018, the province introduced several significant cycling initiatives, including new regulations to increase cycling safety (i.e., the 1-metre safe passing law), funding for cycling education initiatives, a new Cycling Tourism Plan, and the development of an Ontario Bikeway Network.

In 2016, for the first time, the province offered funding to municipalities for cycling infrastructure. Locally, funding was applied to paving road shoulders in the County of Peterborough. In the City of Peterborough, the George Street cycling lanes and trail projects were completed. This funding ended in 2018.

Provincial and National Direction

Canada's Road Safety Strategy 2025

Canada's Road Safety Strategy 2025, is the latest iteration of this national strategy, which was first adopted in 2001. Approved in 2016, the current strategy has a 10-year timeline and maintains the long-term vision of "Towards Zero: Having the safest roads in the world."¹⁶⁶ It suggests that we work towards zero transportation-related fatalities and serious injuries using a Safe Systems approach.

The Strategy provides Canadian jurisdictions and road safety stakeholders with an inventory of road safety initiatives that can be adopted or adapted to address their specific road safety challenges, including some relating to vulnerable road users such as pedestrians and cyclists. It has been adopted by the federal government and all provinces and territories (www.roadsafetystrategy.ca).

Endnotes

- 1 Greater Peterborough Area Climate Change Action Plan, 2016
- 2 Note: The interpretation of these statistics should be made with caution, as the margin of error is not available to determine whether changes are significant.
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- 4 Ministry of Finance, 2017
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- 6 Pucher & Buehler, 2008; Sener et al., 2009; Winters et al., 2007
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- 37 AASHTO, 2004
- 38 Green Communities Canada and Canadian Automobile Association, 2015c
- 39 City of Peterborough, 2018b
- 40 World Health Organization, 2017
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- 42 Walk Score®, n.d.
- 43 Verlinden et al., 2019
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- 50 City of Peterborough, 2019, unpublished
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- 52 City of Peterborough, 2019, unpublished
- 53 Ling et al., 2017
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- 67 Parachute, 2015
- 68 Brain on Board, n.d.
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- 70 Note: The authors recognize that it is to be expected that older adults are more likely to be admitted to hospital than young adults. They are more likely to have mobility issues or pre-existing conditions to monitor and in general may require more support to recover from such an incident.
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Glossary

active transportation:

Human-powered travel, including but not limited to, walking, cycling, inline skating, and travel with the use of mobility aids, including motorized wheelchairs and other power-assisted devices moving at a comparable speed.

all ages and abilities infrastructure:

allows people of different abilities to travel comfortably and safely along and across streets

built environment:

Anything in our physical environment that is human-created. In addition to things like buildings, parks, and neighbourhoods, it includes land use patterns, transportation systems, and design features of communities.¹⁶⁷

Census Metropolitan Areas:

An Urban Census Metropolitan Area (CMA) is an area consisting of one or more neighbouring municipalities situated around a major urban core. A CMA must have a total population of at least 100,000, of which 50,000 or more live in the urban core. The Peterborough CMA includes the City of Peterborough and the Townships of Selwyn, Cavan Monaghan, Otonabee-South Monaghan, and Douro-Dummer.

complete communities:

“Places such as mixed-use neighbourhoods or other areas within cities, towns, and settlement areas that offer and support opportunities for people of all ages and abilities to conveniently access most of the necessities for daily living, including an appropriate mix of jobs, local stores,

and services, a full range of housing, transportation options and public service facilities. Complete communities are age-friendly and may take different shapes and forms appropriate to their contexts.”¹⁶⁸

complete street:

Complete Streets are streets that are designed to be safe for everyone: people who walk, bicycle, take transit, or drive, and people of all ages and abilities.¹⁶⁹

Greater Golden Horseshoe:

Encompasses the western end of Lake Ontario, with outer boundaries stretching south to Lake Erie and north to Lake Scugog. It includes the Greater Toronto Hamilton Area.

Greater Peterborough Area (GPA):

Encompasses the City and County of Peterborough.

hospitalization:

Being admitted to hospital. Relating to transport injury, admission to the hospital will follow an Emergency Department visit if the injury is deemed serious enough to require further care and/or monitoring in the hospital.

infrastructure:

Physical elements and structures that support the use of active transportation include sidewalks, bike lanes, streets, and pathways.

mode:

A specific type of transportation, including cycling, driving, and walking.

micromobility:

A relatively new classification of light vehicles, including e-scooters, e-bikes, and e-skateboards.

mode share:

The proportion of trips taken using a particular method – or mode – of travel (e.g., walking cycling, busing, driving).

road diet:

Vehicle travel lanes are reduced to achieve system improvements, as the newly available space can be used for left-turn lanes, bike lanes, or wider pedestrian walkways.

safe systems approach:

This is an approach to road safety management based on the principles that our life and health take priority over other road system objectives, that road systems should aim to minimize user errors and the harm from them, and that system providers and regulators share safety responsibility with the user.

sustainable transportation:

This term generally refers to transportation options that have a lower impact on the environment, for example walking, biking, riding the bus, carpooling, car sharing, electric vehicles, etc. The term also refers to balancing current and future social, environmental, and economic needs.

transit service:

Passenger services using the authorized transit system; does not include private charter buses, school buses, or taxis.

transit-supportive:

Relating to development that makes transit viable and improves the quality of the experience of using transit. It often refers to compact, mixed-use development that has a high level of employment and residential densities.¹⁷⁰

transportation equity:

Distribution of transportation-related benefits and costs is distributed fairly and appropriately. Transportation planning decisions can influence the ability of residents to have a safe, accessible, and convenient way to access employment, school, health care, and more. Active transportation and transit planning are particularly influential on mobility for population groups that are less likely to own a car.

vulnerable (road) user:

Pedestrians, cyclists, and motorcyclists. These road users are most susceptible to injury in collisions, because they do not have the physical protection of a motor vehicle. For the purposes of this report, we are referring only to pedestrians and cyclists.

Data Sources

Canadian Community Health Survey, Statistics Canada, 2015/2016

The Canadian Community Health Survey (CCHS) is an annual survey of about 65,000 Canadians aged 12 and over from across the country. The survey provides health information at the provincial and regional levels. The sample is selected using a combination of methods, including selecting from an area, a list of phone numbers, and a Random Digit Dialing frame. Responding to the survey is voluntary. Estimates from CCHS data are made using the Ontario Share File provided by the Ministry of Health and Long-Term Care. Data included in this report is from the most current available survey (2015/2016). Because the survey questions were updated in 2015, the current statistics are not comparable to past CCHS findings.

Census of Population, Statistics Canada, 1996, 2006, 2016

Mandatory Census, 1996, 2006, 2016

Statistics Canada's Census Program has two mandatory Censuses of Population: Short-Form and Long-Form. The Short-form Census includes 8 questions and probes basic household composition information. It is sent to 100% of Canadians, and the response rate is generally over 95%. The Long-Form Census includes an additional 53 questions, asking respondents a variety of demographic, social, and economic questions, including education, income, housing, and transportation. Transportation data collected is limited to the trip to work. The Long-Form Census is sent to 25% of Canadians.

National Ambulatory Care Reporting System (NACRS), Canadian Institute for Health Information (CIHI), 2013-2017. Distributed by the Ontario Ministry of Health and Long-Term Care: IntelliHEALTH ONTARIO.

The data collected through the National Ambulatory Care Reporting System includes information for hospital-based and community-based ambulatory care, day surgery, outpatient clinics, and emergency departments. For the purposes of this report, only emergency department visits were collected. For persons injured in a transportation-related incident, the mode of transportation and cause of incident is recorded using ICD-10 codes. Data is recorded according to the residential address (postal code) of the patient.

Discharge Abstract Database (DAD), CIHI, 2013-2017. Distributed by the Ontario Ministry of Health and Long-Term Care: IntelliHEALTH ONTARIO.

The data collected through the Discharge Abstract Database captures administrative, clinical, and demographic information on hospital inpatient discharges (persons who have been admitted to the hospital for an overnight stay). For persons injured in a transportation-related incident, the mode of transportation and cause of incident are recorded using ICD-10 codes. Data is recorded according to the residential address (postal code) of the patient.

Collision Reporting Statistics, Ontario Ministry of Transportation, 2014- 2018

Collision reports are prepared by the Peterborough Community Police and submitted to the Ontario Ministry of Transportation. The data is integrated into the provincial information system and then shared back with communities that have data sharing agreements with the Ontario Ministry of Transportation.

Pedestrian and Cycling Counts, City of Peterborough, 2012-2018

The City of Peterborough has done manual pedestrian and cyclist counts annually since 2012. These counts use the count and expansion methodologies published by the National Documentation Project in the U.S., as there are very few Canadian municipalities engaging in counts and no published national methodologies. This survey counts pedestrians, cyclists, and people using wheelchairs and scooter-style e-bikes. It also records the gender of cyclists, helmet use by cyclists, and direction of travel for cyclists.

Strava

Strava is an app used by recreational cyclists to track the length and speed of their rides. Strava counts used in this report make up a small portion of the total cycling trips made, but they are the best data currently available of the routes that cyclists take in the city and county. The City purchased GPA data in 2016 and 2017.

Transportation Tomorrow Survey, University of Toronto, 1996, 2001, 2006, 2011, 2016

The Transportation Tomorrow Survey is the largest and most comprehensive travel survey conducted in Ontario. It is conducted every five years on behalf of municipalities and has been undertaken in the Peterborough area since 1996. Trip data is collected for persons over the age of 11 years. Collected trip data details a ledger of travel information over an entire weekday, including mode selection; trip start times, origin, and destination points; and trip purpose, which includes various personal trip categories, as well as work-based trips. Demographic data related to household and personal characteristics are also collected. One weakness of this survey is that only walking trips to work or school are included. Due to sampling challenges, the 2011 data is weaker than the other years.

Ontario Registrar General, Statistics Canada, 2000-2015. Distributed by the Ontario Ministry of Health and Long-Term Care: IntelliHEALTH ONTARIO.

The Ontario Registrar General provides Vital Statistics Mortality Data, which includes cause of death. For persons killed in a transportation-related incident, the mode of transportation and cause of incident are recorded. Death data were extracted by the lead cause group on the International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD10) code for the primary cause of death. Data are provided by the Ministry of Health and Long-Term Care.

Walk Score® and Bike Score™

Walk Score® measures the walkability of specific addresses and communities using a patented system. For each address, Walk Score® analyzes hundreds of walking routes to nearby amenities. Points are awarded based on the distance to amenities in each category. Amenities within a 5-minute walk (0.25 miles) are given maximum points. A decay function is used to give points to more distant amenities, with no points given after a 30-minute walk.

Other criteria include measures of pedestrian friendliness according to population density and road metrics, such as block length and intersection density. Data sources include Google, Factual, Great Schools, Open Street Map, the Census, Localeze, and places added by the Walk Score® user community.

Walk Score® Description:

90-100 **Walker's Paradise:** daily errands do not require a car

70-89 **Very Walkable:** most errands can be accomplished on foot

50-69 **Somewhat Walkable:** some errands can be accomplished on foot

25-49 **Car-Dependent:** most errands require a car

0-24 **Car-Dependent:** almost all errands require a car

Bike Score™ is created by the same organization and measures whether a location is good for biking on a scale from 0 - 100 based on four equally weighted components:

- Bike lanes
- Hills
- Destinations and road connectivity
- Bike commuting mode share

Like Walk Score® and Transit Score, the goal of Bike Score™ is to provide an easy way to evaluate bikeability at a specific location. Bike Score™ can be used by people looking for a bikeable place to live or urban planners looking to do research on bikeability.

Bike Score™ Description:

90-100 **Biker's Paradise:** daily errands can be accomplished on a bike

70-89 **Very Bikeable:** biking is convenient for most trips

50-69 **Bikeable:** some bike infrastructure

0-49 **Somewhat Bikeable:** minimal bike infrastructure

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