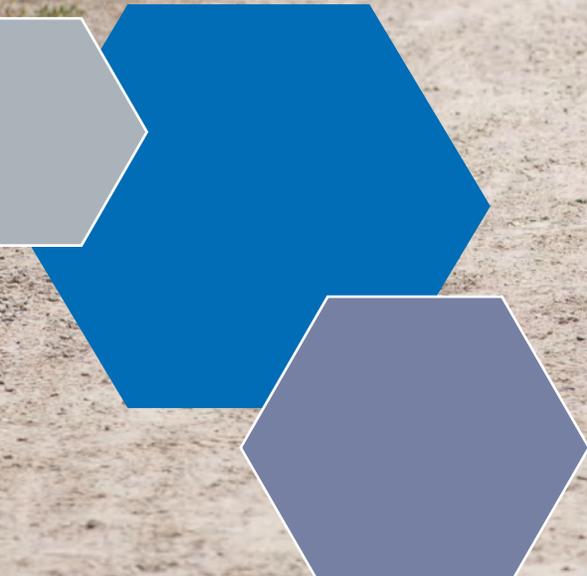


cycling & trails

MASTER PLAN

SUMMARY REPORT

June 2020



connecting
KITCHENER

ACKNOWLEDGEMENTS

The Cycling and Trails Master Plan team would like to acknowledge the contributions of many individuals and groups who contributed to the directions in this document.

City of Kitchener

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CONSULTING TEAM

URBAN
SYSTEMS





EXECUTIVE SUMMARY

INTRODUCTION

The City of Kitchener is a dynamic, growing, and innovative community that is focused on providing safe, walkable and bikeable neighbourhoods, supporting health in all its forms. The Cycling and Trails Master Plan updates and integrates the 2010 Cycling Master Plan and 2012 Multi-Use Pathways and Trails Master Plan and will serve as a catalyst for building a city where people willingly and joyfully choose active transportation to get around.

This new plan creates one integrated plan and provides an opportunity to coordinate with other municipal and regional plans, policies, and initiatives. The ultimate goal of this plan is to identify priorities of projects that will provide connected networks of on-street cycling routes and off-street trails for all users.

The Cycling and Trails Master Plan will guide the development of safe and convenient active transportation options for people of all ages and abilities over the next 20 years. It focuses on creating networks for people of all ages and abilities that reflects current best practices in active transportation.

A PLAN FOR ALL AGES AND ABILITIES | *The Cycling and Trails Master Plan focuses on creating a city-wide network of cycling routes and trails that is comfortable for people of All Ages and Abilities – including children, women, and seniors. This means focusing on safe and comfortable facilities such as off-street trails and protected bicycle lanes that are physically separated from traffic, and cycling routes on streets with low traffic volumes and speeds.*

By developing a Cycling and Trails Master Plan and promoting active transportation the City can work to reduce automobile dependence and greenhouse gas emissions, provide more recreation and leisure options, increase social connections and physical activity, improve public health outcomes, and reduce infrastructure demands.

The Cycling and Trails Master Plan was developed over a fifteen-month period. Through four phases, the plan followed an iterative process that allowed for extensive engagement with stakeholders and the public.

COVID-19 RESPONSE | *The Cycling and Trails Master Plan was developed prior to the global COVID-19 outbreak. COVID-19 has changed mobility patterns in cities across the world, including Kitchener, and has created opportunities for rapid implementation of cycling and trails infrastructure to create physical distancing opportunities.*

Wherever possible, the City should seek to rapidly implement projects identified in the Cycling and Trails Master Plan through tactical urbanism approaches using low cost, temporary, adjustable materials. The City should also seek all opportunities to leverage additional stimulus funding from senior levels of government and to accelerate implementation of the Cycling and Trails Master Plan.

PUBLIC ENGAGEMENT

An effective and meaningful public engagement strategy was critical to the success of the Cycling and Trails Master Plan. As such, the process to develop the plan included several opportunities for residents and stakeholders to participate and provide feedback. We heard from thousands of residents about their issues, challenges, and priorities for cycling and trail use in Kitchener. The Cycling and Trails Master Plan was developed as a Master Plan under the Province of Ontario’s Municipal Class Environmental Assessment Process.

The project followed an engagement-led approach, with an emphasis on hearing from a diverse range of voices and enhancing opportunities for meaningful feedback to be collected at key milestones and decision points along the project process. The needs of trail users and cyclists of all ages and abilities was considered both from a neighbourhood scale as well as a city-wide scale.

The primary goal of the engagement process was to deliver a series of fun and inclusive community engagement activities to get more people involved in the development of the Cycling and Trails Master Plan. Initial engagement on cycling routes and trails was conducted by the City over the summer of 2018 through a series of ‘Workshop on Wheels’ events.

The engagement process for the Cycling and Trails Master Plan that was initiated in spring 2019 built on the feedback heard up to that point through additional engagement and reporting back to confirm the issues, opportunities, and needs of neighbourhoods across the City. Throughout the process, we engaged with over 3,200 residents.



PLAN FRAMEWORK

A vision and goals have been developed for the Cycling and Trails Master Plan that shape the overall directions for the City for improving active transportation. The vision and goals will serve as the basis from which all on-street cycling route and off-street trail improvements and investments are identified and prioritized. The plan includes three overarching themes: Connections, Experience, and Culture. Each theme includes five broad strategies, each of which includes a number of detailed actions to help the City encourage cycling and trail use.



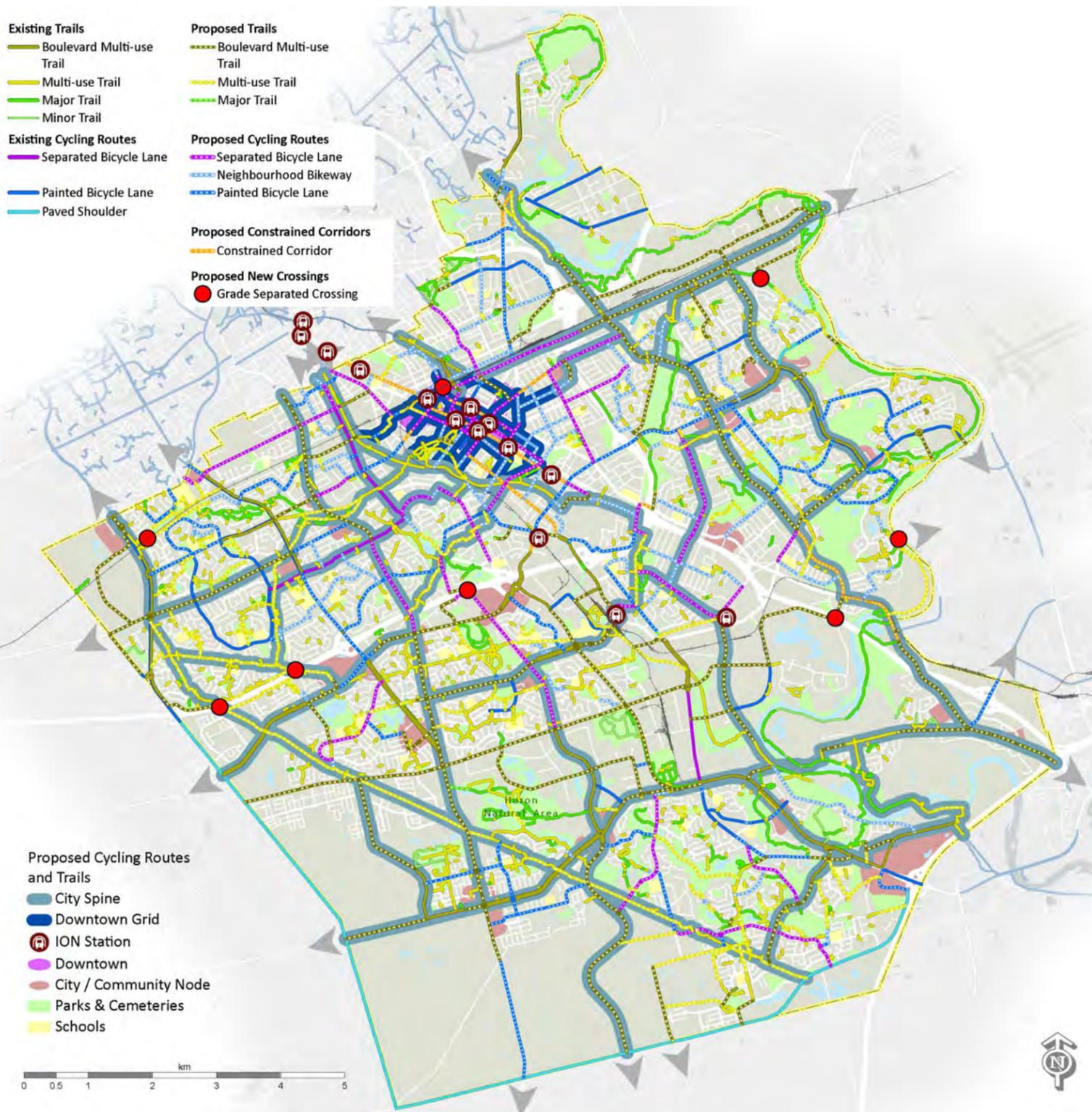
THEMES

Connections. Five strategies under the theme of connections aim to establish a network of on-street cycling routes and off-street trails that is comfortable, complete, and connected. The intent is to create a network that is integrated with other mobility options such as transit, connected to neighbouring communities, and aligned with facilities on roadways under the jurisdiction of the Region of Waterloo. The strategies and actions under the theme of connections will work to achieve the first goal of the plan to build more connections within Kitchener. The proposed cycling network is shown in **Figure ES-1**.

Experience. For cycling and trail use to become more attractive and competitive ways to move around the City, they need to be as safe and convenient as possible. Five strategies are identified that are aimed at improving the user experience. A key focus of this theme is to ensure that using trails and cycling routes in Kitchener is easy, stress-free, and as seamless as possible. This can be done through a variety of approaches, such as providing short-term and long-term bicycle parking, wayfinding, and maintaining the network year-round. This theme also identifies the importance of land use and considerations regarding future technologies and new ways to travel around.

Culture. While the installation of new cycling routes and trails is critical to increase the number of people walking, rolling, and cycling in Kitchener, a range of 'soft' support measures are also important to encourage more cycling and trail use. Five strategies are identified under the theme of culture that focus on the ways the City can work to create an active culture and increase awareness and promotion of cycling routes and trails.

Figure ES-1 - Cycling and Trails Network Map



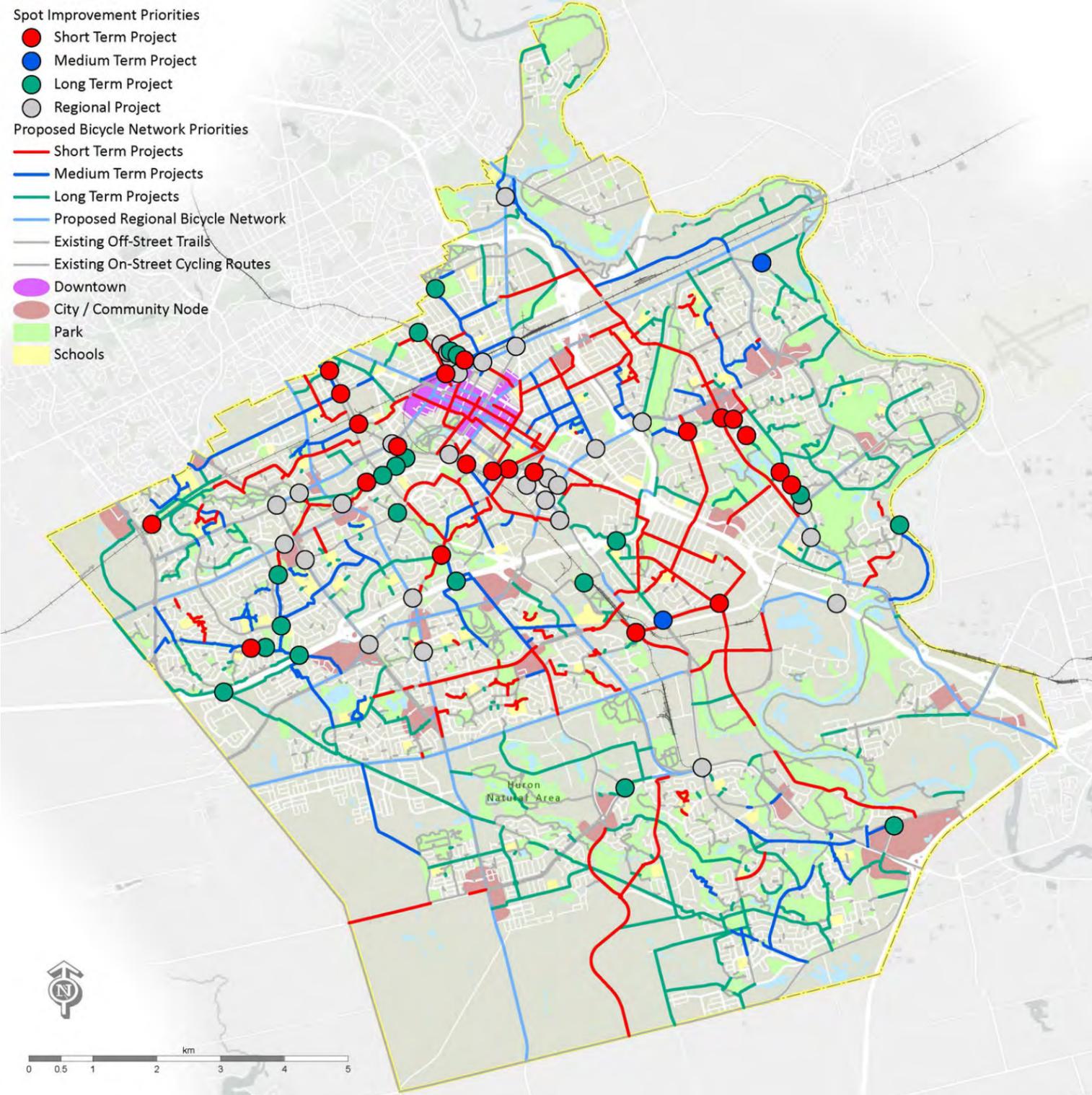
IMPLEMENTATION STRATEGY

The strategies and actions developed as part of the Cycling and Trails Master Plan are intended to guide Kitchener’s capital, operations, maintenance, policy, and programming decisions as well as on-going resource requirements in support of cycling and trail use over the next 20 years and beyond. While the Plan has been developed as a long-term plan, it will require financial investment, staff resources, and an implementation strategy to prioritize improvements over the short-, medium-, and long-term, as shown in **Figure ES-2**.

The total capital cost for the City to implement the Cycling and Trails Master Plan is approximately \$80 million over the long-term, excluding projects included in the City’s 2019 – 2028 Capital Plan and excluding grade separated crossings and other spot improvements. The City can make significant progress with implementing the immediate-term and short-term priorities of the plan, which cost approximately \$24 million over the next ten years. Along with the capital cost estimates for immediate-term and short-term projects, the City should ensure operating costs are included within the capital budgeting process. For every new capital project, the City should include an operating budget on a per kilometre basis for operating costs. The City should seek to leverage all other funding sources to implement the plan, including pursuing external funding from other levels of governments, partnerships with other organizations and the development industry, and integration of cycling and trails projects with other plans and projects. Based on experience in other cities, implementation of the Cycling and Trails Master Plan is anticipated to require approximately 3 Full-Time Equivalent (FTE) staff over the short-term.

COVID-19 FUNDING | As noted previously, it is anticipated that significant stimulus funding will be available from senior levels of government in response to the COVID-19 outbreak. The City should seek all opportunities to leverage this funding and to accelerate implementation of the Cycling and Trails Master Plan.

Figure ES-2 - Cycling and Trail Network Priorities



The implementation strategy for the Cycling and Trails Master Plan is action-oriented and recognizes the need to make early and on-going investments to build a culture for cycling and trail use in Kitchener. Early and on-going investments are identified to act as catalysts to build momentum for cycling and trail use through strategic investments in engineering as well as education and encouragement measures. The plan includes a three year action plan for the City and identifies the immediate-term priorities for the City to build rapid momentum for cycling and trail use. This three-year action plan includes a number of capital, operations, maintenance, policy, and programming initiatives for rapid implementation in each of the three themes of the Cycling and Trails Master Plan to ensure a combination of engineering, education, and encouragement initiatives.

CONNECTIONS

- Implement a **downtown grid network** of cycling facilities that are comfortable for people of all ages and abilities by 2022.
- Develop a **trails capital project plan** for implementing \$1 million of trails and walkways per year over the short-term (3-10 years) based on the short-term priorities.
- Ensure **cycling infrastructure is incorporated on projects** included in the City's 2019-2028 Capital Plan.
- Develop a **spot improvement program** and make safety and network connectivity improvements throughout the City, beginning with locations where trails cross roadways under City jurisdiction.



EXPERIENCE

- Ensure that **all new road projects and streets within new developments follow the recommendations of the Cycling and Trails Master Plan and the Complete Streets Guide.**
- Work with developers and other stakeholders to **ensure new developments are designed to accommodate walking, rolling, and cycling.**
- Install **high quality bicycle parking and end-of-trip facilities** at City-owned and operated facilities.
- Provide **more bicycle parking and end-of-trip options throughout the City** and at special events, including:
 - Develop a program for identifying locations, prioritizing, and implementing bicycle parking within the public right-of-way and at trails
 - Install bicycle parking at high activity bus stops and stations
 - Ensure bicycle parking recommendations outlined in the City's Zoning By-Law are implemented as part of new developments
 - Consider looking for partnership opportunities to expand BikeCheck service
- Implement **service standards for maintenance of trails and cycling routes** based on trail type and the Minimum Maintenance Standards.
- Develop and implement an **inspection program** to ensure adequate surface conditions and quality of bicycle and trail facilities.
- Provide **information about snow clearing timelines and practices** for trails and on-street bicycle facilities to provide clarification on which routes are winter maintained.
- Begin to **implement the wayfinding strategy** for cycling routes and trails.
- Continue to **update the City's cycling and trail network map.**
- Continue to **support a regional bikeshare and micromobility program** and locate stations at high activity locations.



CULTURE

- **Promote new cycling and trail projects** to raise awareness of cycling and trail use.
- **Develop videos, pamphlets, and other tools** to educate all road users on new cycling and trail infrastructure.
- Support programs and initiatives that **educate and encourage people to use cycling routes and trails**, including:
 - Cycling into the Future
 - Active and Safe Routes to School
 - Cycling skills for adults
 - Grand River Accessibility Advisory Committee
- **Update the City's Development Manual** to reflect and reference the Cycling and Trails Master Plan and other documents that support the implementation of trails and cycling routes.
- Develop a **data collection and monitoring program**, including a network of counters on trails and bicycle routes to monitor activity.
- Implement a **reporting program** to communicate results of the monitoring program on an annual basis.
- Develop the first version of a **five-year action plan** for implementing the Cycling and Trails Master Plan, to be updated on an annual basis to reflect changing priorities.

CLOSING

The Cycling and Trails Master Plan provides a comprehensive approach to guide Kitchener's investments in cycling routes and trails over the next 20 years and beyond. The Plan includes recommendations for improving policies, standards, infrastructure, and programs over the long-term, along with priorities for the immediate- and short-term. The Cycling and Trails Master Plan will contribute to increased transportation options by improving the accessibility, comfort, convenience, and safety of active transportation.

The Cycling and Trails Master Plan has been developed based on extensive technical work and engagement with thousands of Kitchener residents. The City of Kitchener would like to thank all community members for their participation in the process and valuable input throughout the development of the Cycling and Trails Master Plan.



1.0 INTRODUCTION

1.0

INTRODUCTION

The City of Kitchener is a dynamic, growing, and innovative community. Kitchener is focused on being a city that provides safe, walkable and bikeable neighbourhoods that support health in all its forms. The Cycling and Trails Master Plan updates and integrates the 2010 Cycling Master Plan and 2012 Multi-Use Pathways and Trails Master Plan and will serve as a catalyst for building a city where people willingly and joyfully choose active transportation for how to get around.

With approximately 255,000 residents, the City of Kitchener is the largest municipality in the Region of Waterloo. As the city grows, and residential development intensifies, Kitchener is striving to be a healthy and thriving city whose residents will continue to enjoy a high quality of life. Rapid growth in the city and region is placing increasing pressures on the transportation system. The City is also working to be an environmental leader and grow a vibrant economy that is attractive to residents, businesses, and visitors.



ACTIVE TRANSPORTATION includes any form of human-powered movement for transportation or recreational purposes. Walking and cycling are often the most well-known forms of active transportation. However, the definition extends much further than that. Provided the action is active and non-motorized, there are a variety of ways you can get around — hiking, skateboarding, wheeling, pushing a stroller, in-line skating, using a mobility aid, and other modes are all considered types of active transportation.

Active transportation is any active trip you make to get yourself, or others, from one place to another, whether it's to work, school, running errands, or visiting with friends and family. Active transportation also includes recreational trips made by active modes — for example, going for a hike or bicycle ride.

Providing mobility choices that support walking, cycling, and rolling (including mobility devices, scooters, and skateboards) on the City's streets and trails can help manage this growth. The City of Kitchener believes that walking, cycling, and rolling are key in supporting mental, social, and physical well-being. Kitchener is also forward-looking and eager to meet the challenges of climate change and building sustainable infrastructure to support its economy. With the new ION light rail and a vibrant downtown core, as well as distinctive employment and educational centres, active transportation is essential in supporting the continued development of the city.

Kitchener has made significant progress implementing on-street cycling routes and off-street trails throughout the city. The city has an existing network of pedestrian and cycling facilities, including more than 265 kilometres of off-street trails and over 80 kilometres of on-street cycling routes. Existing trails including the Iron Horse trail, the Walter Bean Grand River trail, and the Spur Line trail are important community assets for the City to build upon.

COVID-19 RESPONSE | The Cycling and Trails Master Plan was developed prior to the global COVID-19 outbreak. COVID-19 has changed mobility patterns in cities across the world, including Kitchener, and has created opportunities for rapid implementation of cycling and trails infrastructure to create physical distancing opportunities.

Wherever possible, the City should seek to rapidly implement projects identified in the Cycling and Trails Master Plan through tactical urbanism approaches using low cost, temporary, adjustable materials.

The City should also seek all opportunities to leverage additional stimulus funding from senior levels of government and to accelerate implementation of the Cycling and Trails Master Plan.

1.1 STUDY PURPOSE

The Cycling and Trails Master Plan is an update to the City's 2010 Cycling Master Plan and 2012 Multi-Use Pathways and Trails Master Plan to reflect changing priorities and completed recommendations, including newly constructed facilities.

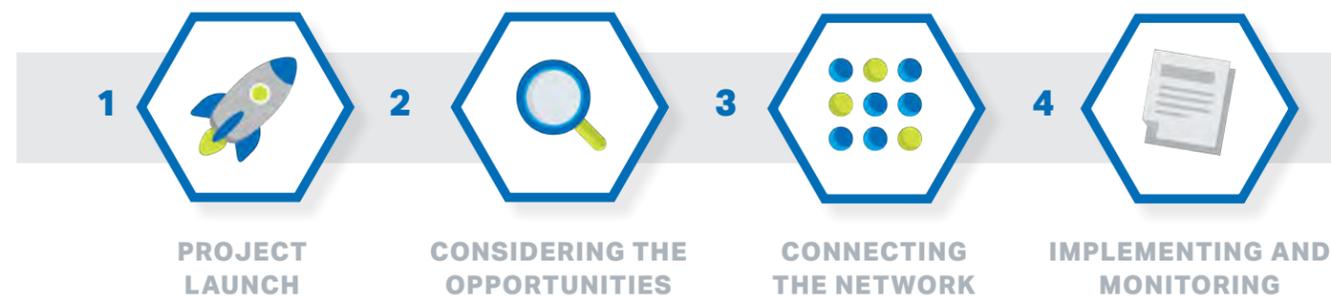
This new plan creates one integrated plan and provides an opportunity to coordinate with other municipal and regional plans, policies, and initiatives. The ultimate goal of this plan is to identify priorities of projects that will provide connected networks of on-street cycling routes and off-street trails for all users.

The Cycling and Trails Master Plan will guide the development of safe and convenient active transportation options for people of all ages and abilities over the next 20 years. It focuses on creating networks for all ages and abilities that reflects current best practices in active transportation.

By developing a Cycling and Trails Master Plan and promoting walking, cycling, and rolling, the City can work to reduce automobile dependence and greenhouse gas (GHG) emissions, provide more recreation and leisure options, increase physical activity and improve public health outcomes, increase social connections, and reduce infrastructure demands.

1.2 STUDY PROCESS

The Cycling and Trails Master Plan was developed over a four-phase process over a fifteen-month period. Through each of the four phases, the plan followed an iterative process that allowed it to be developed with comprehensive input and engagement from stakeholders and the public.



A PLAN FOR ALL AGES AND ABILITIES | The Cycling and Trails Master Plan focuses on creating a city-wide network of cycling routes and trails that is comfortable for people of All Ages and Abilities – including children, women, and seniors. This means focusing on safe and comfortable facilities such as off-street trails and protected bicycle lanes that are physically separated from traffic, and cycling routes on streets with low traffic volumes and speeds.



1.3 HOW TO USE THIS DOCUMENT

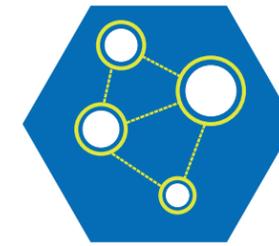
This Summary Report provides a summary of the Cycling and Trails Master Plan. Detailed information can be found in a series of five Companion Reports that provide additional details on the three themes of the plan (Connections, Experience, and Culture), the implementation strategy and the engagement process. Together, these complete Companion Reports make up the Cycling and Trails Master Plan.

COMPANION REPORTS



1.4 PLAN FRAMEWORK

A vision and goals have been developed for the Cycling and Trails Master Plan that shape the overall directions for the City for improving active transportation. The vision and goals will serve as the basis from which all on-street cycling route and off-street trail improvements and investments are identified and prioritized. The specific directions for the plan are included in a series of strategies and actions identified under each of three themes for the plan: **Connections, Experience, and Culture.**



CONNECTIONS

Establish a safe, connected, and high-quality network of cycling routes and trails throughout Kitchener.



EXPERIENCE

Make using cycling routes and trails an easy and effortless experience year-round.



CULTURE

Make cycling and using trails a normal part of everyday life in Kitchener through increased awareness, partnerships, and investments.

1.5 VISION

The vision for the Cycling and Trails Master Plan focuses on the key themes identified throughout the planning process and in other overarching City policy documents. These themes include safety, inclusion, accessibility, sustainability, equity, and health. The vision for the Cycling and Trails Master Plan is:

Trails and cycling will connect Kitchener by creating a sustainable, safe, equitable, and healthy community for everyone year-round



1.6 GOALS

Three supporting goals were developed to provide clear direction on how to achieve the vision. These goals were refined based on input received from the public and stakeholders, and are intended to be both achievable and measurable to ensure the successful implementation of the Cycling and Trails Master Plan. The goals of the Cycling and Trails Master Plan are:

Build More **Connections**

Provide a Safe and High Quality **Experience**

Create a **Culture** of Active Living



VISION Trails and cycling will connect Kitchener and create a sustainable, safe, equitable, and healthy community for everyone year-round.

GOALS Build More **Connections** Provide a Safe and High Quality **Experience** Create a **Culture** of Active Living

THEMES **CONNECTIONS** **EXPERIENCE** **CULTURE**



STRATEGIES

1A Develop an Integrated Cycling and Trails Network

1B Enhance and Expand the Trail Network

1C Improve Regional Connections

1D Improve Safety

1E Improve Integration with Transit

2A Design the City to Support Walking, Cycling, and Rolling

2B Provide More Bicycle Parking

2C Maintain the Cycling and Trail Network Year-Round

2D Make it Easy to Find the Way

2E Investigate New Ways to Travel Around

3A Raise Awareness and Promotion

3B Educate All Road Users

3C Integrate Policy and Funding

3D Establish Business Partnership and Investments

3E Measure Success

IMPLEMENTATION PLAN



2.0 PUBLIC ENGAGEMENT



2.0

PUBLIC ENGAGEMENT

An effective and meaningful public engagement strategy was critical to the success of the Cycling and Trails Master Plan. As such, the process to develop the plan included several opportunities for residents and stakeholders to participate and provide feedback. Through the engagement, we heard from thousands of residents about their issues, challenges, and priorities for cycling and trail use in Kitchener. The Cycling and Trails Master Plan was developed as a Master Plan under the Province of Ontario's Municipal Class Environmental Assessment (MCEA) Process.

Additional details are provided in the companion **Engagement Report**.





The project followed an engagement-led approach, with an emphasis on hearing from a diverse range of voices and enhancing opportunities for meaningful feedback to be collected at key milestones and decision points along the project process. The needs of trail users and cyclists of all ages and abilities was considered both from a neighbourhood scale as well as a city-wide scale.

The primary goal of the engagement process was to deliver a series of fun and inclusive community engagement activities to get more people involved in the development of the Cycling and Trails Master Plan. Initial engagement on cycling routes and trails was conducted by the City over the summer of 2018 through a series of 'Workshop on Wheels' events. The engagement process for the Cycling and Trails Master Plan that was initiated in spring 2019 built on the feedback heard up to that point through additional engagement and reporting back to confirm the issues, opportunities, and needs of neighbourhoods across the City. Throughout the process, we engaged with over 3,200 residents.

NOTIFICATIONS & PROJECT MAILING LIST

A project mailing list was set up and updated throughout the project process. A Notice of Commencement as well as notices for the public events and held were shared with the mailing list, and published in *The Waterloo Record* and the *Kitchener Post*.

PROJECT BRANDING

A project brand - Connecting Kitchener - was developed to create an identifiable look for the Plan. This included a project name, slogan, hashtag, and logo.



PUBLIC LAUNCH EVENT

The project launched at the annual **Neighbours Day** event on June 8, 2019, with interactive family-friendly activities. More than 100 people stopped by the booth.



POP-UP ENGAGEMENT

Nine pop-up booths were set up at existing community events in June 2019, resulting in over 650 interactions. The pop-ups were designed to be fun and interactive using a range of activities to collect input.





THE COMMUNITY WORKING GROUP

A Community Working Group was established to guide the creation of the Cycling and Trails Master Plan. Thirteen stakeholders and 8 members-at-large were appointed, including community members, stakeholders, and city staff.



DESIGN LAB WORKSHOP

A public Design Lab Workshop was held at Victoria Park Pavilion in July 2019 to explore the design of cycling routes and trails. Approximately 70 people participated in the event.



OPEN HOUSE

An open house was held in the Kitchener City Hall rotunda in November, 2019, featuring interactive voting and mapping activities to collect input on the proposed strategies and network improvements. Approximately 35 residents attended the event.



PROJECT WEBSITE AND ONLINE SURVEY

The project website provided information on upcoming engagement activities and results from previous engagements. Two online surveys were administered in June and October 2019, generating approximately 2,300 responses.

WORKSHOPS ON WHEELS & FEET

A total of ten bike rides and two walking tours were arranged across eight City Wards, with 138 participants across all age groups, including children.



3.0 SETTING THE STAGE

3.0

SETTING THE STAGE

Investments in walking, cycling, rolling, and other forms of active transportation can result in a more balanced transportation system and can improve recreational opportunities in the city. Active transportation is typically more accessible, cost effective, and efficient in terms of infrastructure investments. Improved access to active transportation also has significant quality of life, health, safety, recreation, and economic benefits.

This section summarizes the benefits of active transportation, the policy context for the plan, the market for active transportation, and existing cycling and trail use in Kitchener today.





3.1 WHY PROMOTE ACTIVE TRANSPORTATION?



Economic Benefits

Active transportation is one of the drivers of success for economic diversity and prosperity. Communities that support active transportation typically also encourage residents to support local businesses, services, and amenities, as neighbourhood destinations are accessible by foot or bicycle. Active transportation provides choice for people traveling to work and school, which is essential for lower income individuals, youth, seniors, and others who may not have access to a vehicle. Additionally, active transportation is more cost effective than motor vehicle-dependent transportation networks, which tend to require much larger construction and maintenance costs. Active transportation is also a more affordable transportation option, as the average cost to own and operate a motor vehicle is estimated to be approximately \$10,000 per year.



Health Benefits

Scientific evidence has found links between local investments in active transportation and healthier communities by increasing physical activity. Regular physical activity reduces the risk of early death and numerous chronic diseases. It has been proven to improve psychological well-being and prevents weight gain and obesity. While the benefits of physical activity are well documented, low levels of physical activity in children and adults continue to increase. Walking, cycling, and rolling are some of the most affordable and accessible ways to add exercise to a daily routine.



Environmental Benefits

Walking, cycling, and rolling help to reduce vehicle trips, congestion, air pollution, and GHG emissions. Promoting walking, cycling, and rolling also helps with efforts towards climate change mitigation while supporting the protection and improvement of the natural environment.



Safety Benefits

Making active transportation a more visible and viable choice results in reduced risk of collisions and a safer transportation system for all road users. Streets designed for slower vehicle speeds feel safer for vulnerable road users, including people walking, cycling, and using other forms of active transportation. Studies have shown that slower vehicle speeds also exponentially increase survival rates for vulnerable road users. Furthermore, when active transportation rates increase, rates of collisions between vulnerable road users and motor vehicles decreases.



Societal Benefits

Active transportation is a people-friendly transportation mode that provides practical, everyday opportunities for residents to be physically active and promotes mental wellness. Walking, cycling, and rolling can increase social interactions, strengthen social connections, and help to reduce social isolation. High levels of active transportation in a community is a strong indicator of sustainability and livability. Active transportation facilities also provide affordable and accessible transportation choices for people of all ages and abilities. For youth, this also encourages sustainable travel patterns at an early age that can continue later in life.



Multi-Modal Benefits

Active transportation investments can help improve the ION light rail and transit network by linking destinations to transit and providing facilities for transit users. A safe, convenient, and connected active transportation network is crucial for maximizing investments in transit and further alleviating congestion.

3.2 POLICY CONTEXT

The Cycling and Trails Master Plan was informed by many of the City's and the region's key planning documents that contain pedestrian, cycling, and trails related policies, plans, and goals. These documents include broader aspirations for growth and transportation and provide specific directions on how walking, cycling, and rolling can become an integral part of Kitchener's transportation system. The Cycling and Trails Master Plan can reinforce and help further the goals and policies found in other documents.

Kitchener recently developed its 2019-2022 Strategic Plan in dialogue with community members, city staff, and council. As a result of that dialogue, *People-Friendly Transportation* was identified as one of the city's strategic goals. The development of a Cycling and Trails Master Plan was one of the five strategic actions identified in the 2019-2022 Strategic Plan that will help the City realize this goal.

BACKGROUND DOCUMENTS

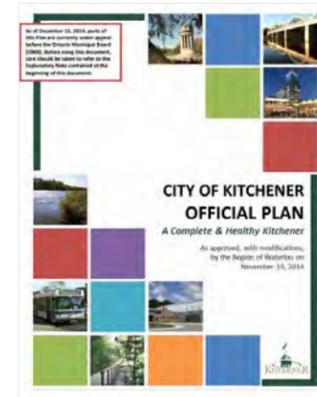


Multi-Use Pathways and Trails Master Plan (2012)



City of Kitchener Cycling Master Plan for the 21st Century (2010)

OVERARCHING PLANS



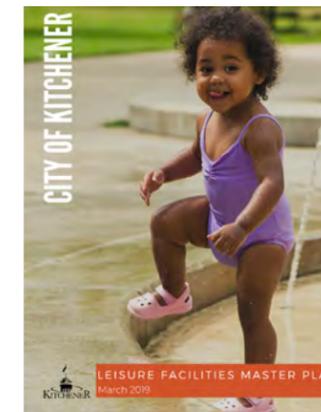
City of Kitchener Official Plan: A Complete & Healthy Kitchener (2014)



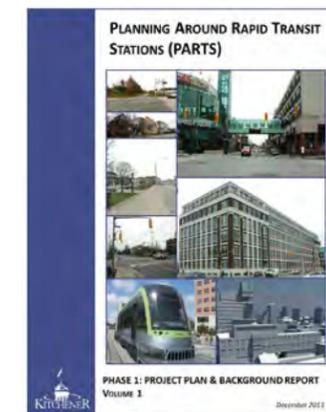
Kitchener's Strategic Plan 2019-2022



Kitchener's Integrated Transportation Master Plan (2013)

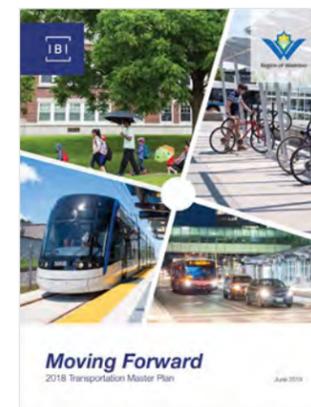


City of Kitchener Leisure Facilities Master Plan (2019)



City of Kitchener Planning Around Rapid Transit Stations (PARTS) (2013)

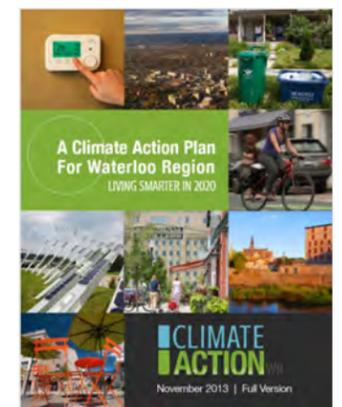
REGIONAL PLANS



Region of Waterloo Moving Forward 2018 Transportation Master Plan (2019)



Walk Cycle Waterloo Region (2014)



A Climate Action Plan for Waterloo Region: Living Smarter in 2020 (2013)

CLIMATE EMERGENCY

Kitchener city council unanimously voted to declare a climate emergency in June 2019 to highlight the urgent need for strong action in addressing the threat posed by climate change. The resolution cites that the City is committed to climate action and understanding its role as a municipality in a globalized world. The directive is to provide continued support to corporate and community climate action at the City and work towards improved targets where possible. Shifting towards sustainable transportation is an important part of climate action.

3.3 THE MARKET FOR ACTIVE TRANSPORTATION

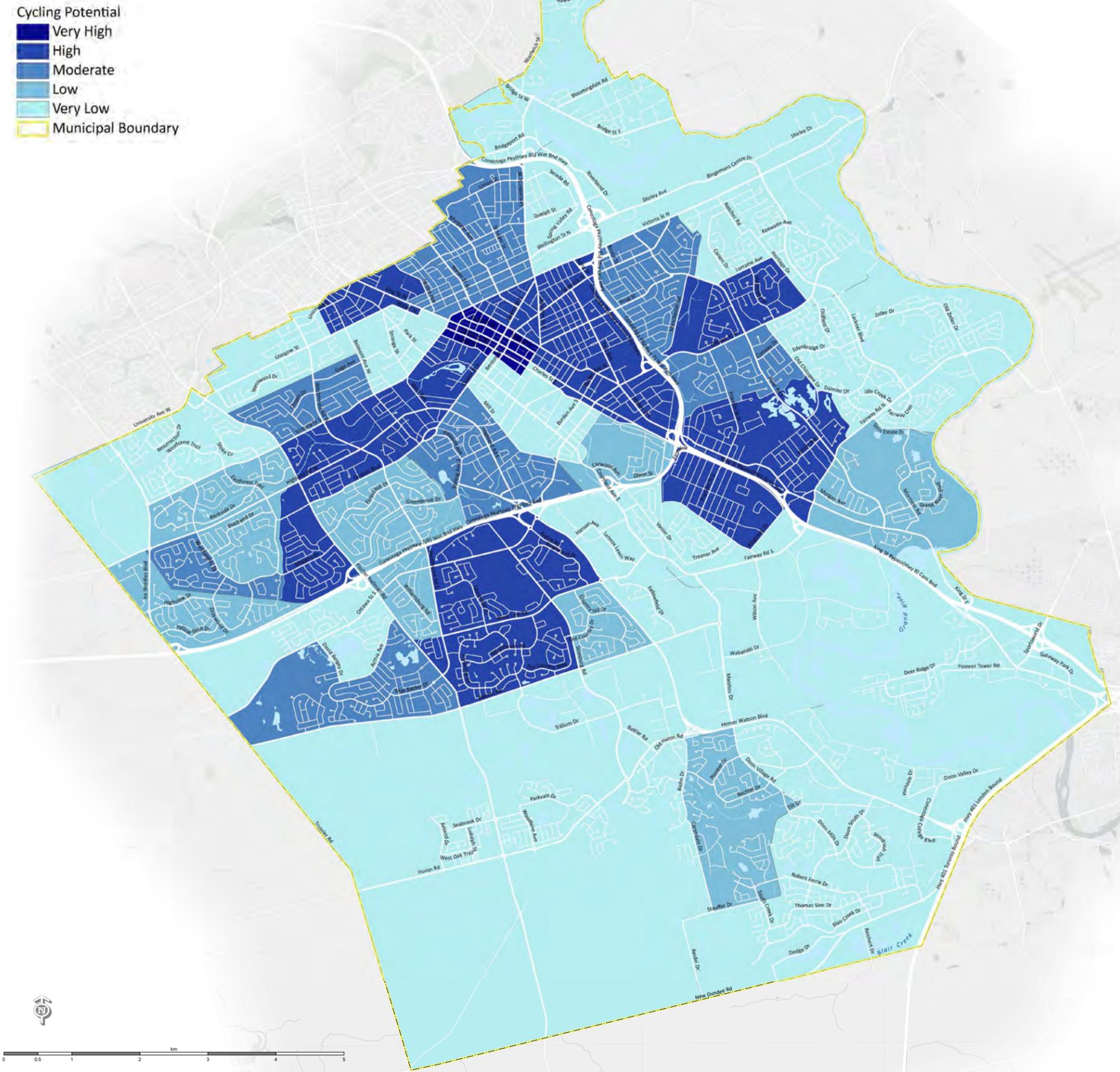
This section summarizes key factors that influence cycling and trails use in Kitchener, including an analysis of the potential for increasing cycling and trail use and an equity analysis.

CYCLING AND TRAIL USE POTENTIAL

An analysis was conducted to identify areas with the greatest opportunity to increase the number of cycling trips on cycling routes and trails. This analysis was based on several factors including road network connectivity, road network density, land use mix, population and employment density, and topography.

The analysis found that the neighbourhoods with the highest potential are the Downtown Core, Civic Centre, Auditorium, Central Frederick, King East, Eastwood, Victoria Park, Victoria Hills, Alpine, K-W Hospital, Country Hills West, and portions of Stanley Park, Heritage Park, Vanier, and Laurentian Hills (see **Figure 1**). It is also important to note that these neighbourhoods have several destinations that were identified by survey respondents.

Figure 1 - Cycling and Trail Use Potential



EQUITY

The results of this analysis identify under-served areas in the city where there is an opportunity to strategically invest in areas where there are higher concentrations of people who are more dependent on active transportation for moving around.

Five indicators were used to examine equity across neighbourhoods, including the percentage of youth populations, senior populations, immigrant populations, Indigenous populations and low-income populations. The analysis identified the neighbourhoods as areas with the greatest equity need (see **Figure 2** and **Figure 3**).

Figure 2 - Combined Equity Analysis Results

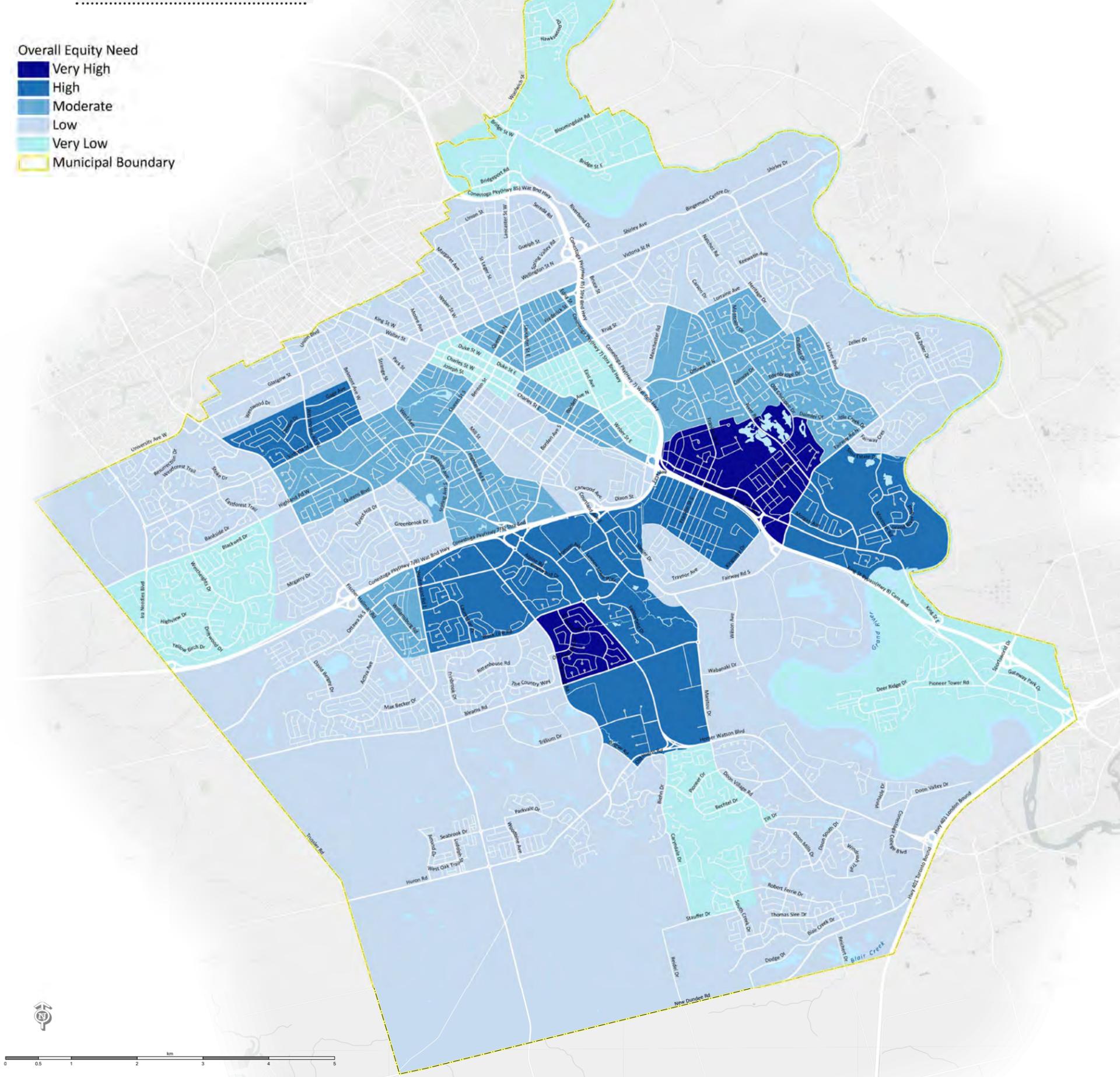
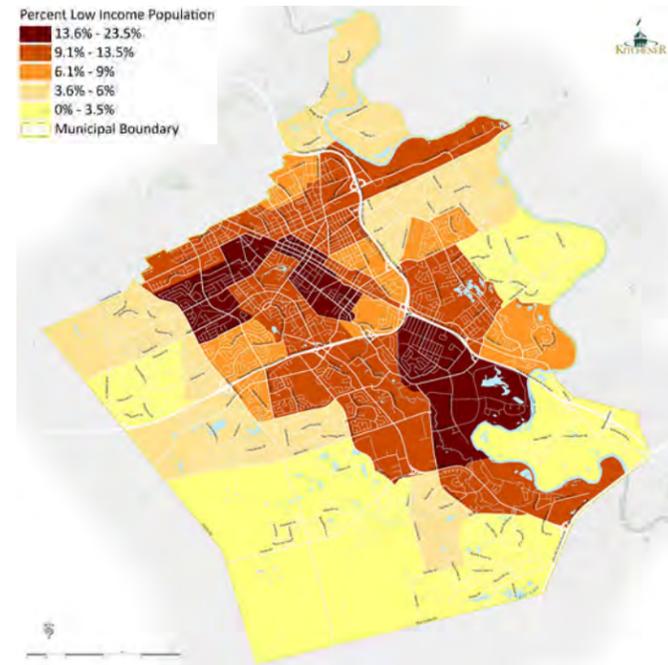
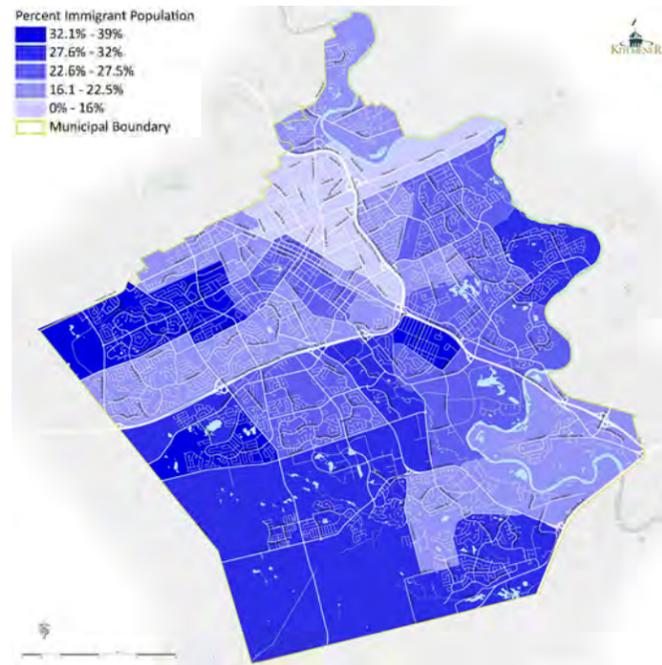


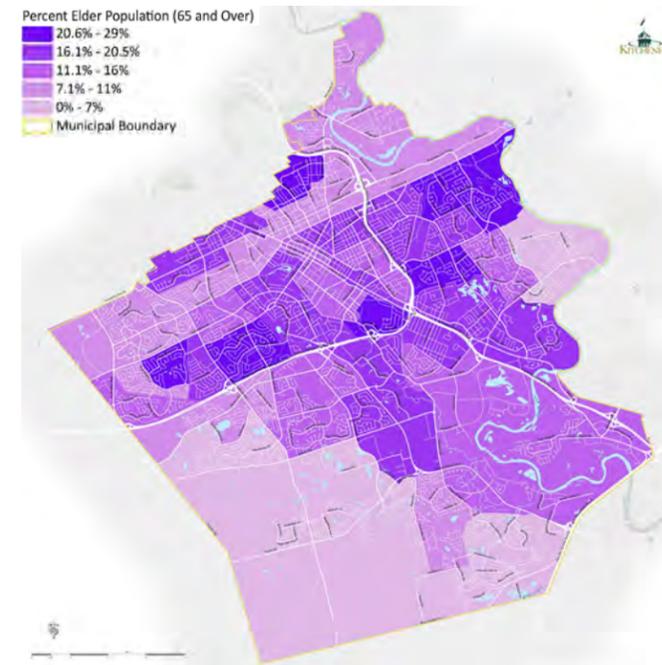
Figure 3 - Individual Equity Analysis Results



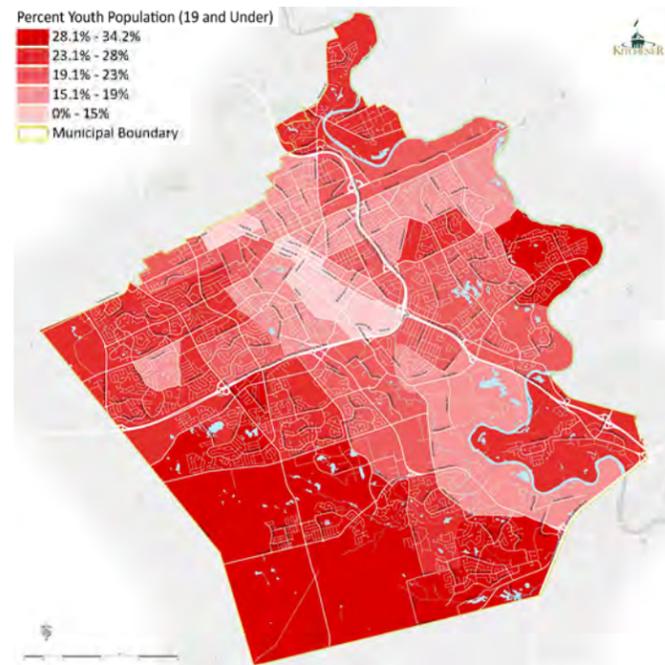
Percent Low Income Population



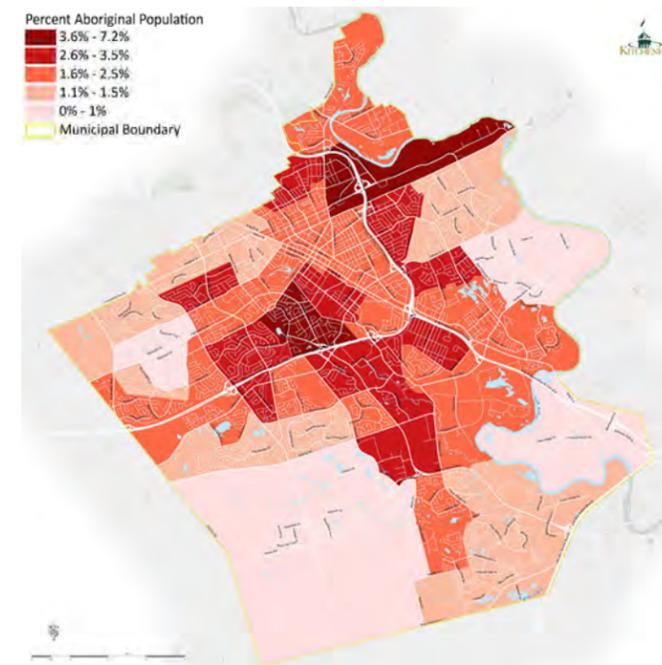
Percent Immigrant Population



Percent Elder Population (65 and Over)



Percent Youth Population (19 and Under)



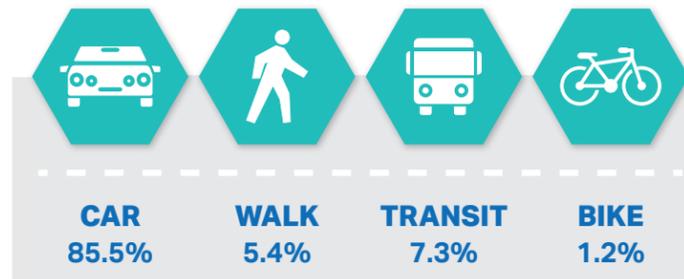
Percent Indigenous Population



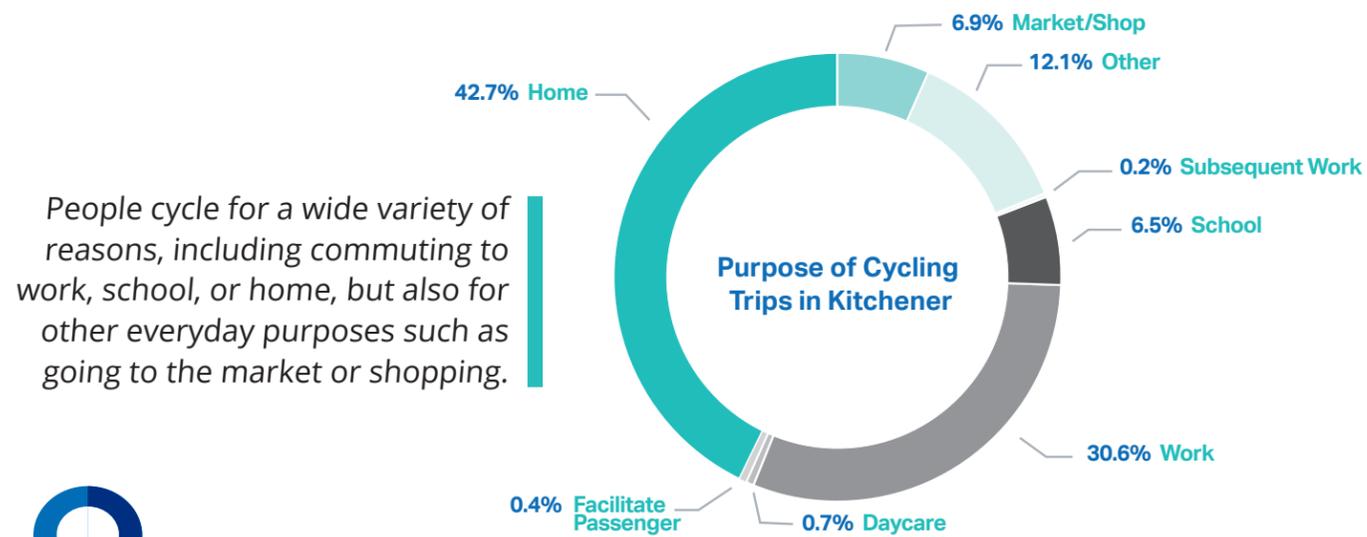
3.4 CYCLING AND TRAILS IN KITCHENER TODAY

HOW WE MOVE

Understanding the existing conditions for walking, cycling, and rolling in the city today sets the context for the Cycling and Trails Master Plan. This section summarizes the information gathered as part of the Transportation Tomorrow Survey (2016) as well as Canadian Census data (2016) and the online survey that was conducted for this project.



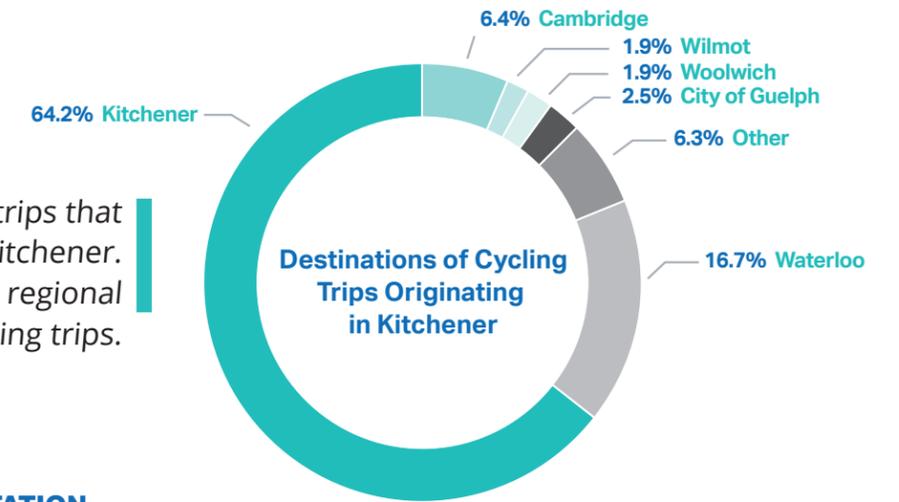
The vast majority of residents in Kitchener commute to work or school by automobile as a driver or passenger, with approximately 7% of trips made by walking or cycling.



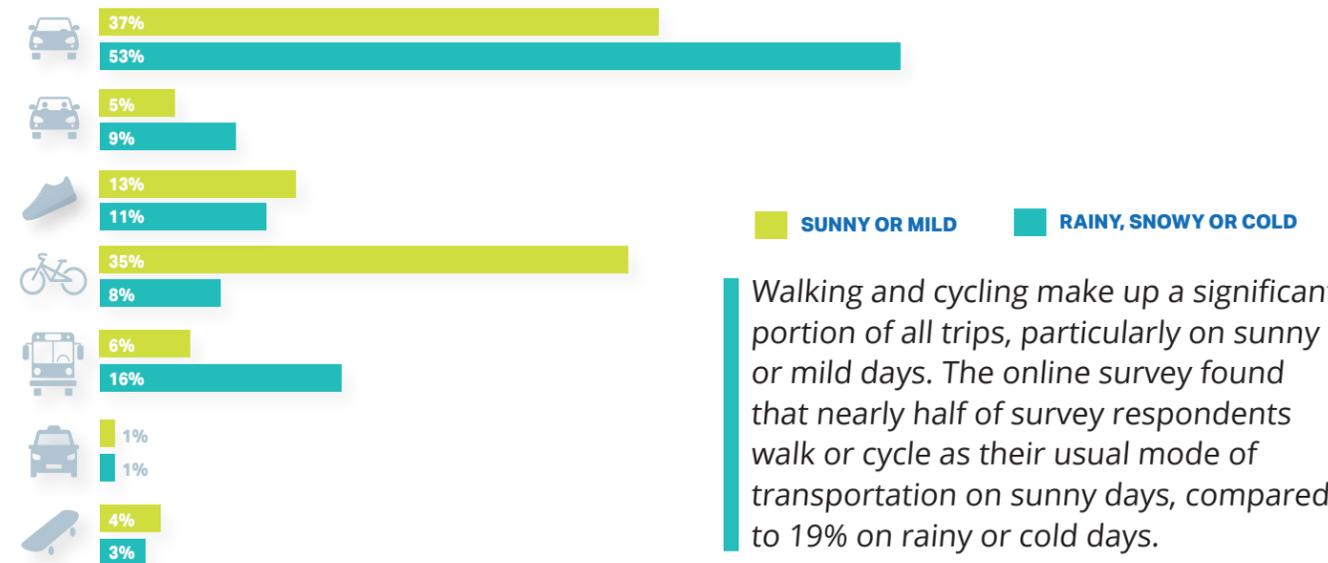
People cycle for a wide variety of reasons, including commuting to work, school, or home, but also for other everyday purposes such as going to the market or shopping.

The average distance for a cycling trip in Kitchener is **3.8 kilometers**.

The majority of cycling trips that originate in Kitchener, stay in Kitchener. Waterloo is the next largest regional destination of cycling trips.



USUAL MODE OF TRANSPORTATION



Walking and cycling make up a significant portion of all trips, particularly on sunny or mild days. The online survey found that nearly half of survey respondents walk or cycle as their usual mode of transportation on sunny days, compared to 19% on rainy or cold days.

Commuting only makes up 1 in 5 cycling trips. The majority of cycling trips are made for other reasons, such as exercise and accessing shops and services

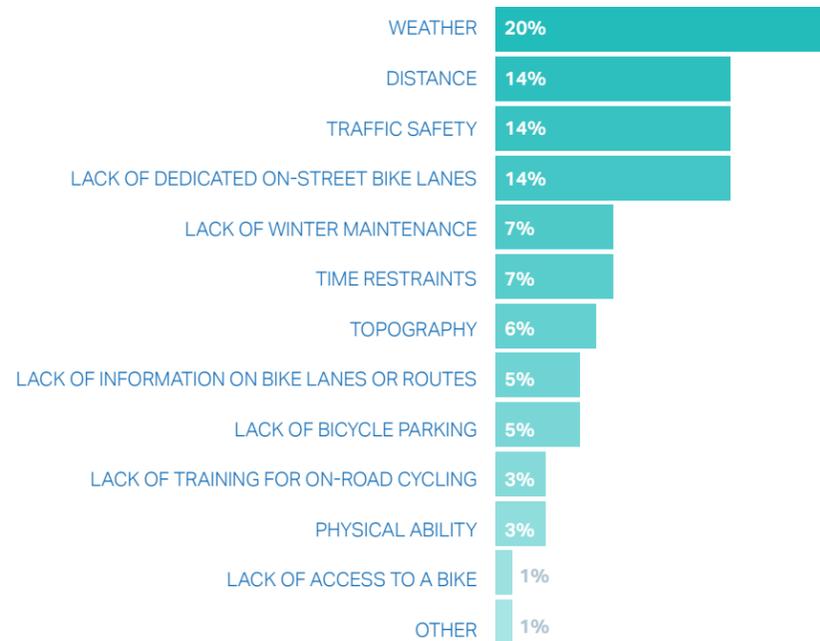


ISSUES

Online survey respondents were asked to identify key issues for cycling and trail use in Kitchener, including both on-street and off-street environments. The top three factors that influence peoples' decision to cycle are weather, distance, and traffic safety. These three factors made up almost half of survey responses. Each of these factors can be addressed through actions in the Cycling and Trails Master Plan. For example, barriers related to weather can be mitigated with winter maintenance and providing weather protected bicycle parking; barriers related to distance can be mitigated by promoting e-bicycles, and integrating walking and cycling with transit; and barriers related to safety can be mitigated by providing dedicated cycling routes and trails.



FACTORS THAT INFLUENCE CYCLING AND TRAIL USE

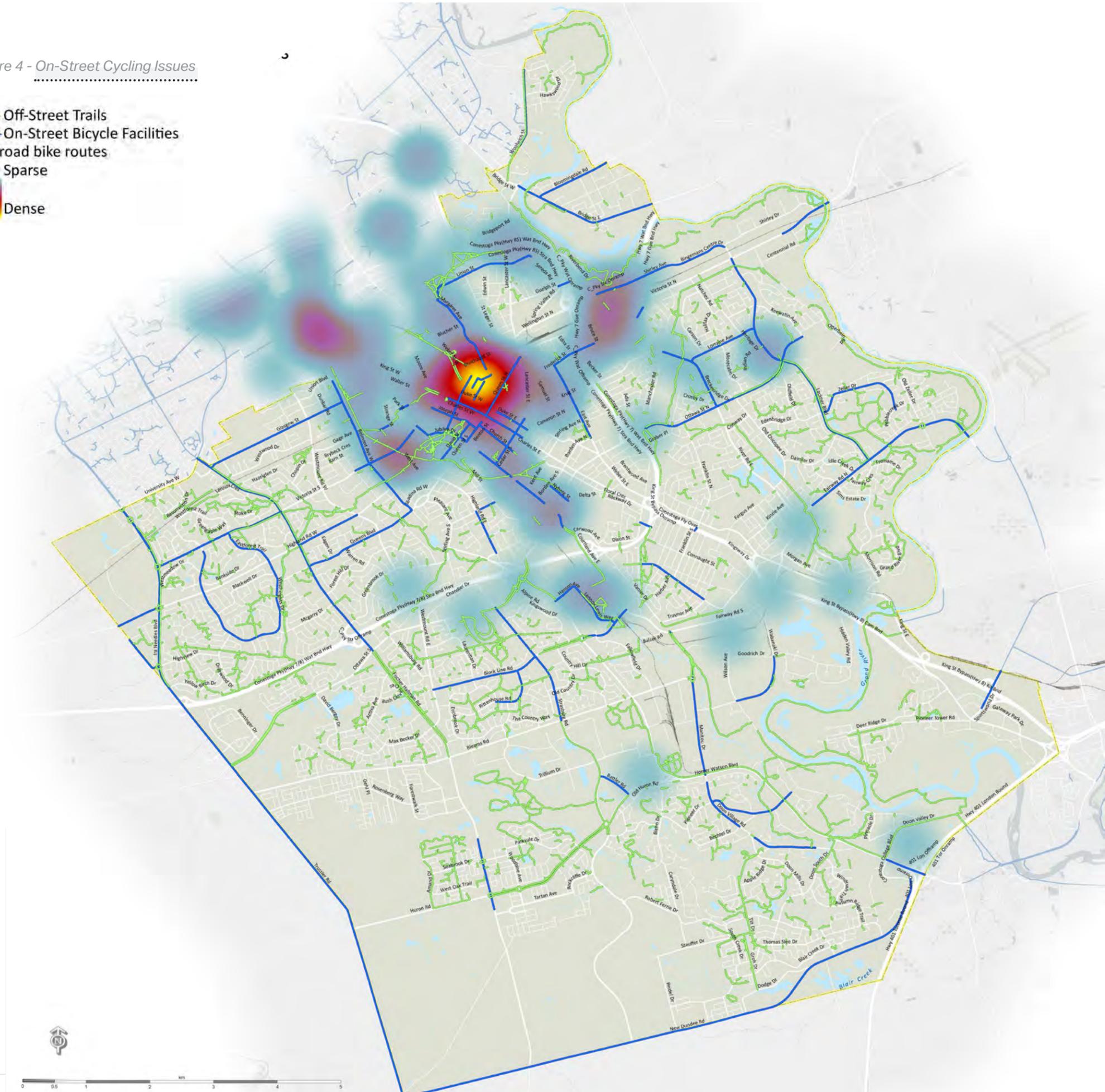
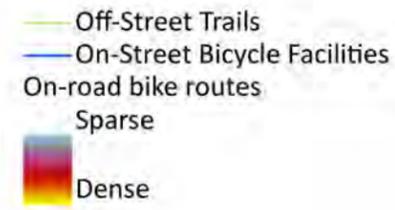


Survey respondents were also able to provide markers on a map to identify key issues at specific locations throughout the city (see **Figure 4**).

Key issues for on-street cycling included:

- Discontinuous cycling facilities;
- Challenging connections;
- Uncomfortable facilities;
- Unsafe road crossings;
- Rail / LRT crossings; and
- Condition of facilities.

Figure 4 - On-Street Cycling Issues



Similarly, survey respondents also identified a number of off-street trail issues (see **Figure 5**), including:

- Gaps in the trail network;
- Unsafe intersections;
- Hills;
- Mid-block crossing; and
- Surface treatments and conditions.

ISSUES

Survey respondents were also asked what the city could do to encourage them to cycle and use Kitchener's trails more often. Overwhelmingly, the highest ranked opportunity from the online survey was building more separated bicycle lanes, which accounted for 61% of survey responses. Other opportunities included filling in gaps in the bicycle network, providing more on-street bicycle lanes, and providing more bicycle routes on quiet streets.

OPPORTUNITIES TO INCREASE CYCLING AND TRAIL USE

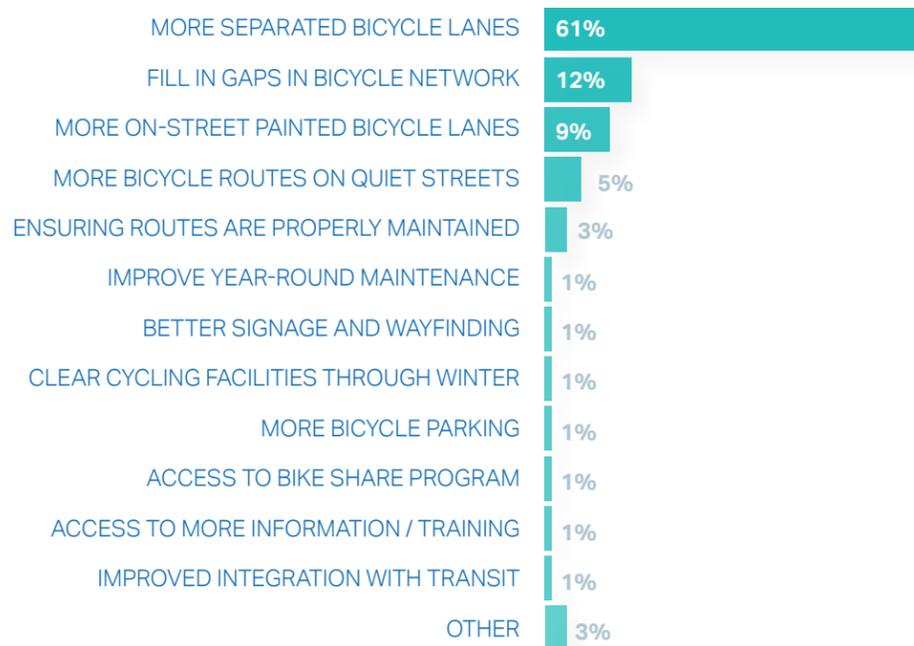
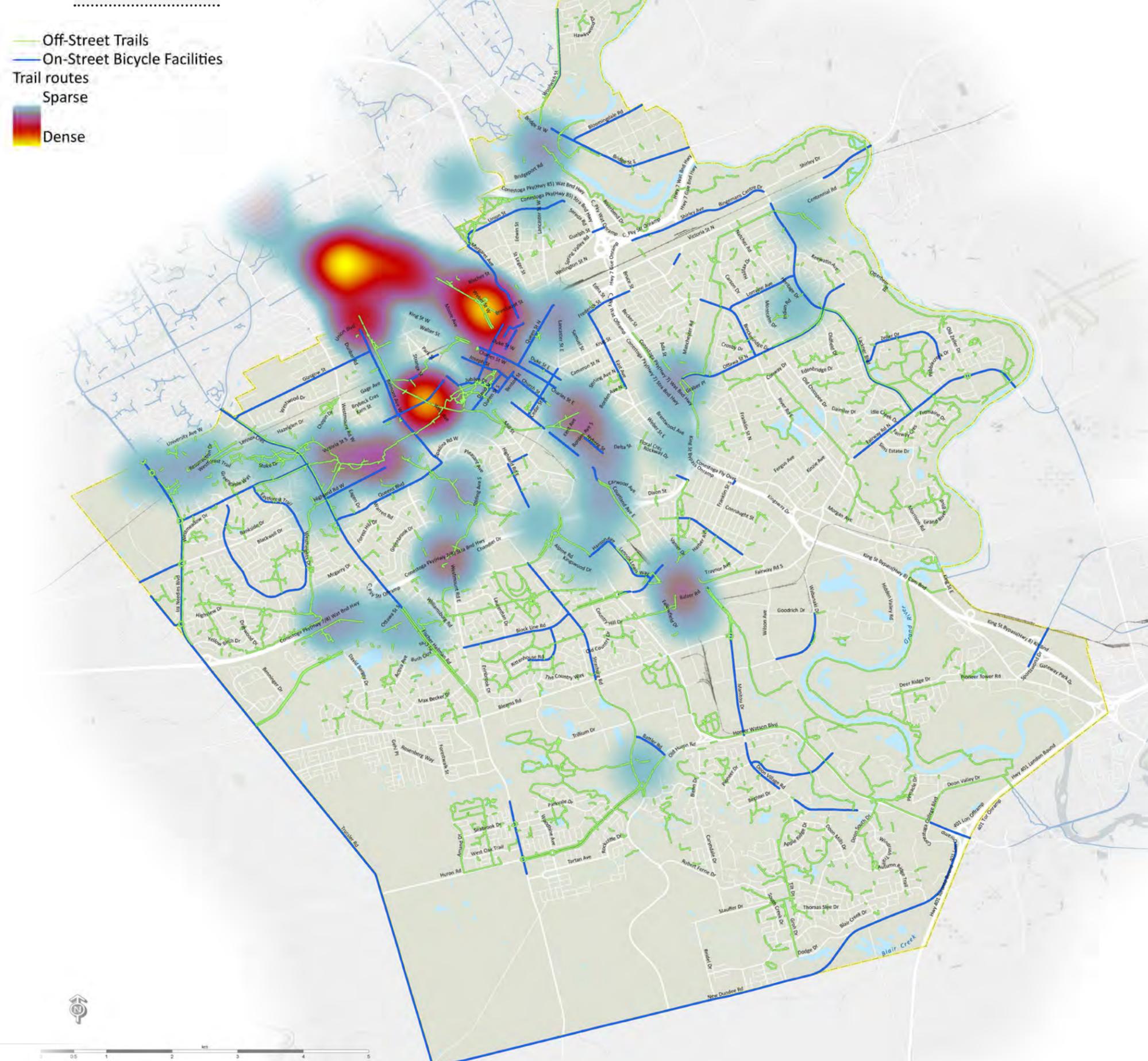


Figure 5 - Off-Street Trail Issues



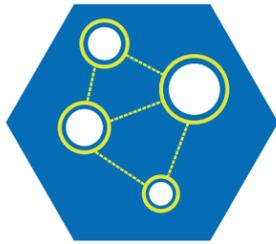


4.0 STRATEGIES & ACTIONS

4.0

STRATEGIES AND ACTIONS

The framework of the Cycling and Trails Master Plan consists of the following three overarching themes:



CONNECTIONS

Establish a safe, connected, and high-quality network of cycling routes and trails throughout Kitchener.



EXPERIENCE

Make using cycling routes and trails an easy and effortless experience year-round.



CULTURE

Make cycling and using trails a normal part of everyday life in Kitchener through increased awareness, partnerships, and investments.

Each theme closely corresponds to the goals of the Cycling and Trails Master Plan and includes a series of strategies, each of which also includes more specific actions. This section outlines the strategies and actions identified to improve on-street cycling routes and off-street trails in Kitchener as they relate to each of these three themes. The recommended strategies and actions identified through community engagement, the Community Working Group, and technical analysis address a variety of identified opportunities and challenges with onstreet cycling routes and off-street trails as well as policies, standards and support programs.

The implementation of these strategies and actions will help the City work towards achieving the vision and goals of the Cycling and Trails Master Plan.





Building connections was identified as a key theme of the Cycling and Trails Master Plan. This includes connecting the on-street cycling and off-street trails network as a way to connect neighbourhoods, people, and destinations.

A key focus of this theme is to create connections that build off the existing on-street cycling and off-street trails network that is already in place throughout the City. The connections should also leverage the existing regional cycling and trail infrastructure to ensure connectivity across jurisdictions. Through the implementation of new routes as well as enhancements to existing infrastructure, the City can work to ensure that walking, rolling, and cycling are safe and comfortable for people of all ages and abilities.

The strategies identified under the theme of connections aim to establish a network of on-street cycling routes and off-street trails that is **comfortable, complete, and connected**. Additionally, the intent is to create a network that is integrated with other mobility options such as transit, connected to neighbouring communities, and aligned with facilities on roadways under the jurisdiction of the Region of Waterloo. The strategies and actions under the theme of connections will work to achieve the first goal of the plan to **build more connections** within Kitchener.

Through public engagement, input was collected on the level of support for the proposed strategies and actions related to the theme of connections. Public input highlighted the importance of enhancing the existing on-street cycling and off-street trails network by filling gaps in the network and making improvements at locations that create network barriers. Community members and stakeholders also noted a strong desire for more facilities that are physically separated from motor vehicles, and cycling routes that are comfortable for people of all ages and abilities.

A well-connected network of on-street cycling routes and off-street trails can significantly improve the ease of moving around Kitchener as well as to and from neighbouring municipalities; provide more recreation opportunities; make traveling in the city safer; and make walking, rolling, and cycling more practical transportation choices.

Five strategies have been developed to improve connections, as summarized below. Further details for these strategies and actions are provided in the companion **Connections Report**.

Strategy 1A: Develop an Integrated Cycling and Trails Network

Providing a complete and interconnected network of on-street cycling routes and off-street trails throughout the city is critical to supporting and encouraging more walking, rolling, and cycling. Kitchener's existing on-street cycling and off-street trails network is over 350 kilometres in length and consists of separated bicycle lanes, painted bicycle lanes, and several types of off-street trails. Despite this existing network, there are gaps and safety barriers that limit connectivity and can prevent cycling and trail use, particularly for those who might be interested in cycling more, but have safety concerns that prevent them from doing so.

To develop the proposed cycling and trails network, a series of guiding principles was established.

- **Comfortable:** the network should be comfortable for people of all ages and abilities.
- **Connected:** the network should provide high quality and direct connections to all major destinations in the city.
- **Complete:** the network should ensure most residents are within 400 metres of a cycling route or trail.

In addition to these guiding principles, there were several other factors that were considered as part of the network planning and decision-making framework, including:

- Available roadway and right-of-way width;
- Parking;
- Motor vehicle volumes and number of lanes;
- Truck routes;
- Transit services;
- Existing sidewalk facilities; and
- Connections to existing trails and bikeways.

- 1A Develop an Integrated Cycling and Trails Network
- 1B Enhance and Expand the Trail Network
- 1C Improve Regional Connections
- 1D Improve Safety
- 1E Improve Integration with Transit

The proposed cycling and trails network is made up of several different types of facilities. The facilities have been broken down into three groups:

ALL AGES AND ABILITIES (AAA) FACILITIES

- **Separated bicycle lanes** provide space exclusively for bicycles and include a form of physical separation from the motorized portion of the roadway
- **Cycle tracks** provide space exclusively for bicycles and are located outside the travelled portion of the roadway with barrier curb separation
- **Neighbourhood bikeways** are quiet, local streets that can be enjoyed in a low-street environment without designated space.
- **Boulevard multi-use trails** are paved off-street pathways that provide two-way travel for people walking, rolling, and cycling in a shared space adjacent to the roadway in the boulevard.
- **Multi-use trails** are paved off-street pathways that provide two-way travel for people walking, rolling, and cycling in a shared space typically in a park, greenway, or rail corridor.

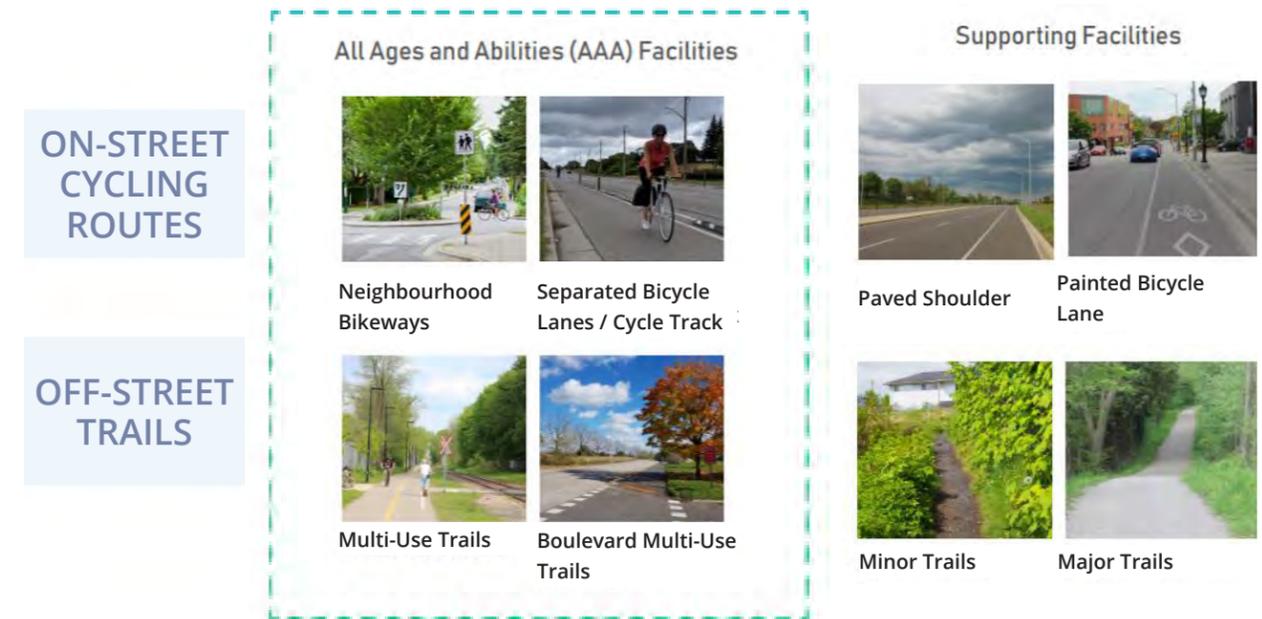
SUPPORTING FACILITIES

- **Painted bicycle lanes** are a designated space for exclusive use by cyclists separated by a painted line.
- **Paved shoulders** are a dedicated space for cyclists on rural roads and highways.
- **Major trails** are unpaved trails that are often stonedust or other granular materials.
- **Minor trails** are authorized trails that are unpaved and often take the form of footpaths that are most commonly used by pedestrians.

CONSTRAINED CORRIDORS

Constrained corridors are identified on roads that are under the jurisdiction of the Region of Waterloo. These are major roads that serve several transportation purposes and have been identified as a desire line and would provide an important cycling connection. Further review is required to consider how cycling routes and trails will be accommodated on these corridors, given the other competing priorities.

The City's Complete Streets Guidelines (Complete Streets Kitchener) provides definitions for the different facility types:



The proposed cycling and trails network provides high quality connections to important destinations throughout the City through a network of “City Spines” and neighbourhood connections. The City Spine network is intended to provide a city-wide grid network of AAA on-street cycling routes and off-street trails that connects all major destinations within the city, such as major commercial and employment areas, parks, schools, and connections to ION rapid transit stations. The City Spine network is the foundation for the development of the complete cycling and trails network.

The City Spine network is shown in **Figure 6**. The All Ages and Abilities network is shown in **Figure 7**. The complete cycling and trails network, including facility types, is shown in **Figure 8**.

Four actions are identified under Strategy 2A:

- **Action 1A-1:** Implement a downtown grid network of cycling facilities that are comfortable for people of all ages and abilities by 2022
- **Action 1A-2:** Implement a city-wide grid network of cycling routes and trails based on the Complete Streets Guidelines
- **Action 1A-3:** Work with other agencies to provide new grade separated crossings of major barriers to ensure regular spaced connections for cycling and trails are provided
- **Action 1A-4:** Develop a spot improvement program and work with the Region to make safety and network connectivity improvements throughout the city

Figure 6 - Cycling and Trails Network Map

Proposed Cycling Routes and Trails

- City Spine
- Downtown Grid
- Downtown
- City / Community Node

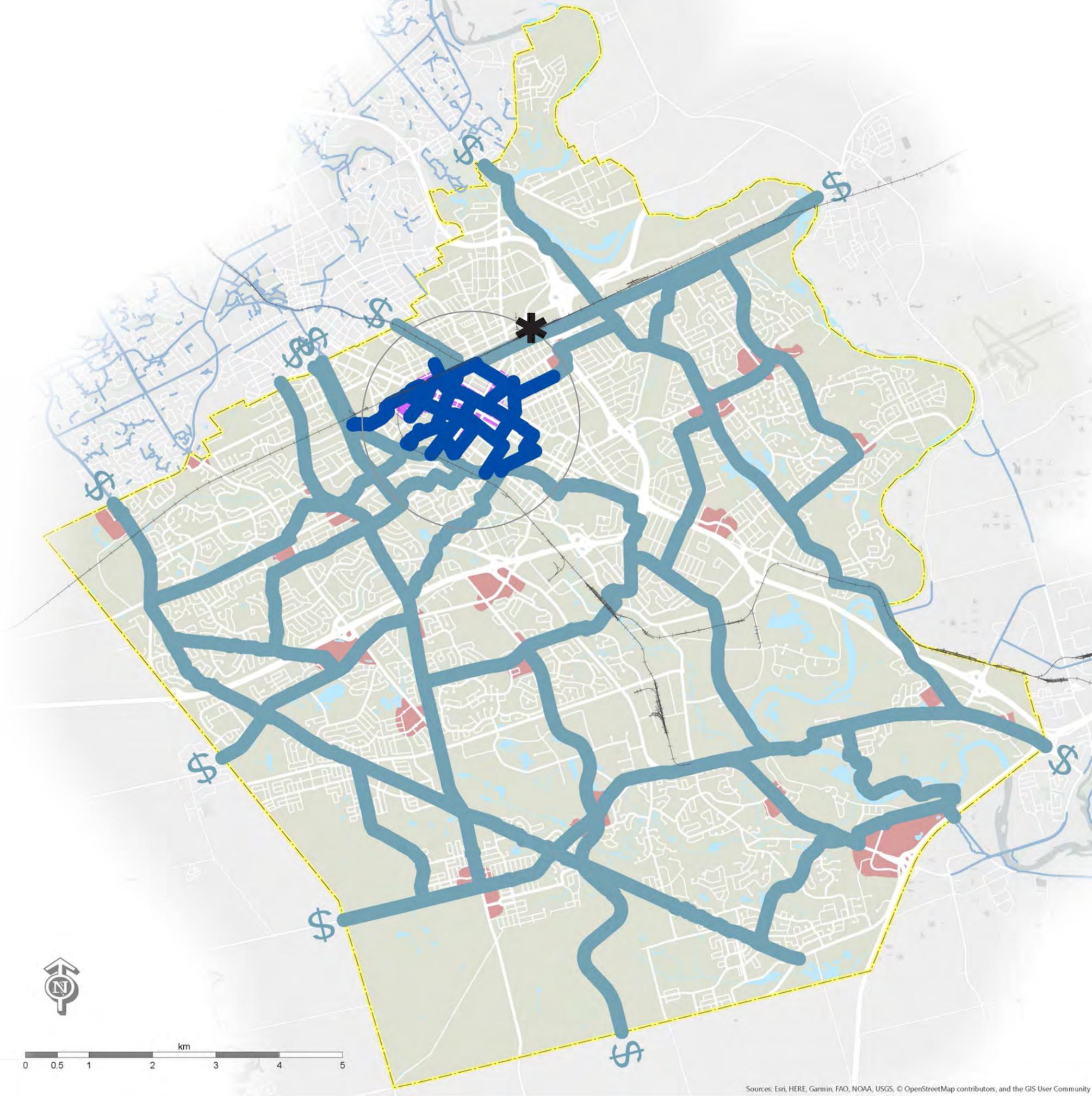


Figure 7 - All Ages and Abilities Network

- All Ages and Abilities Network
- Supporting Network
- Constrained Corridor

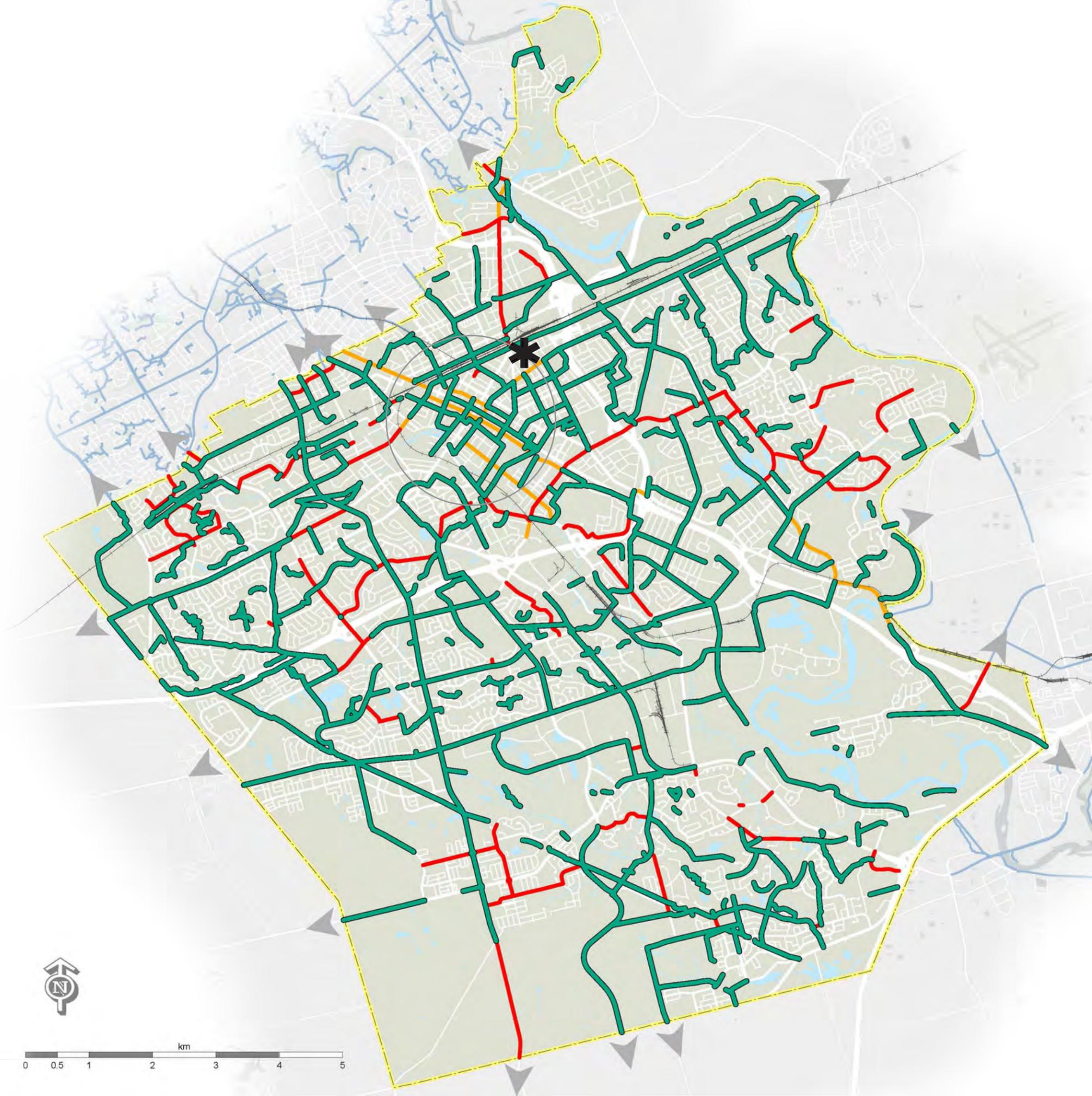
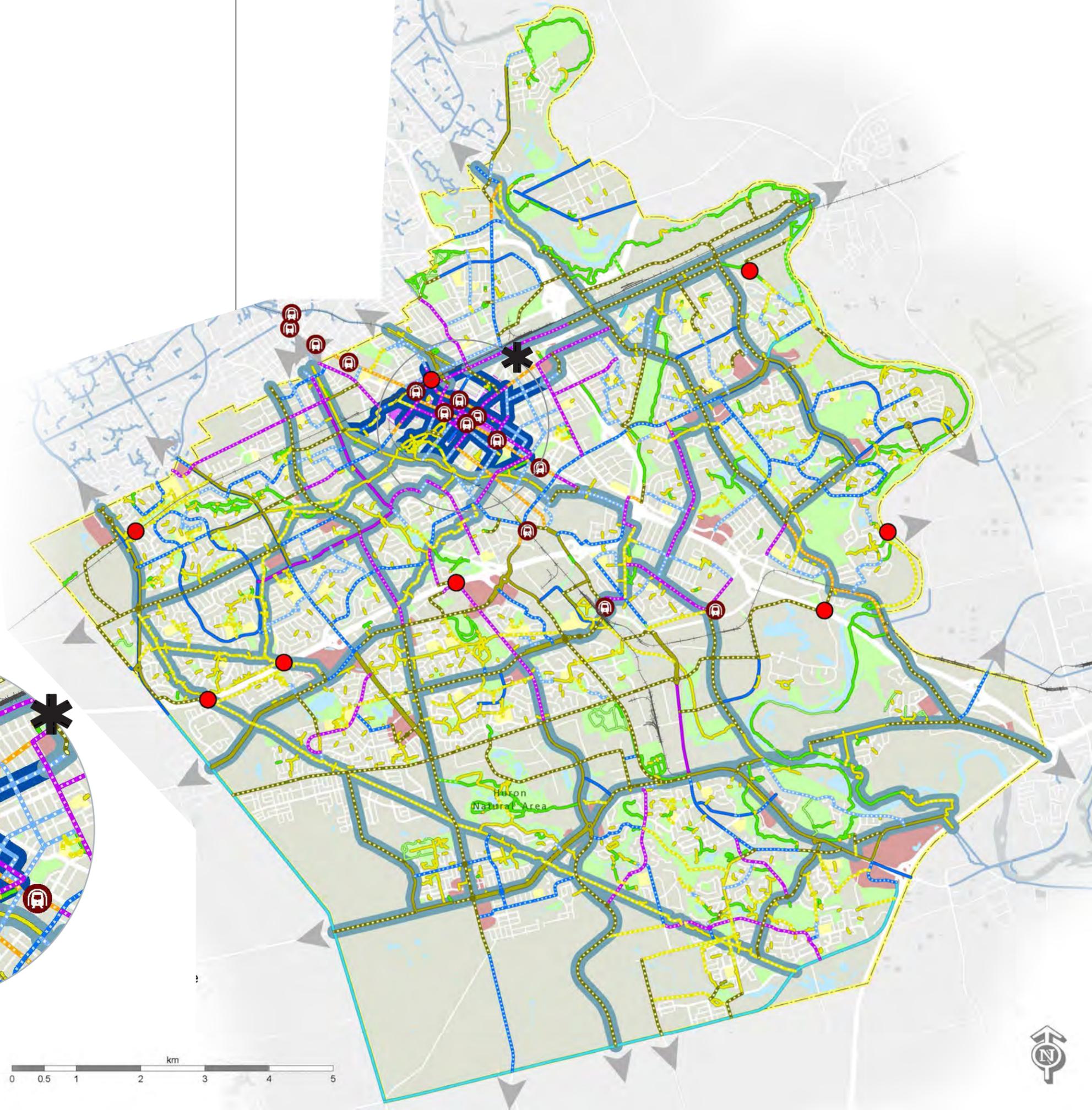


Figure 8 - Cycling and Trails Network Map

- Trails**
- | | | |
|-----------------|-----------------|------------------------------------|
| Existing | Proposed | |
| | | Boulevard Multi-use Trails 2-Sides |
| | | Boulevard Multi-use Trails 1-Side |
| | | Multi-use Trails |
| | | Major Trails |
| | | Minor Trails |
- Cycling Facilities**
- | | | |
|-----------------|-----------------|------------------------|
| Existing | Proposed | |
| | | Separated Bicycle Lane |
| | | Neighbourhood Bikeway |
| | | Painted Bicycle Lane |
| | | Paved Shoulder |
- Proposed Constrained Corridors**
- Constrained Corridor
- Proposed New Crossings**
- Grade Separated Crossing
- Other Features**
- City Spine
 - Downtown Grid
 - ION Station
 - Downtown
 - City / Community Node
 - Parks & Cemeteries
 - Schools





Strategy 1B: Enhance and Expand the Trails Network

Trails are a significant component of the City’s existing cycling and trails network. There are over 266 kilometres of trails in Kitchener that provide excellent recreational, and often commuting opportunities. These trails include the Iron Horse trail and Spur Line trail (owned by the Region of Waterloo), both of which are major paved trails in the city, providing connections within the city and beyond. In addition, the Dom Cardillo and Walter Bean trails are two popular unpaved trails in Kitchener. Five different types of trails have been identified in the plan (see **Table 1**). A key component of the Cycling and Trails Master Plan is to enhance and expand the existing trails network. This includes upgrading existing trails, widening and paving trails where the context is appropriate, and filling in gaps in the trails network with new connections.

Two actions are identified under Strategy 1B:

- **Action 1B-1:** Plan and design new and upgraded trails based on the recommended trail classification system and the Complete Streets Guidelines
- **Action 1B-2:** Implement a strategy to prioritize and upgrade walkways

Trail Type	Characteristics
Significant Trail	A trail (MUT, BMUT, or Major) that has regional or local significance and is usually named
Boulevard Multi-use Trail (BMUT)	A paved trail located adjacent to a roadway within the road allowance
Multi-Use Trail (MUT)	A paved trail located outside of the road allowance. Includes walkway connections
Major Trail	An unpaved trail located outside the road allowance
Minor Trail	A natural trail located outside the road allowance

Table 1 - Types of Trails

Strategy 1C: Improve Regional Connections

The City of Kitchener is the largest city in the Region of Waterloo. It is bordered by the cities of Waterloo and Cambridge along with the townships of Woolwich, Wilmot, and North Dumfries. Together, the cities of Kitchener, Cambridge, and Waterloo make up the Tri-Cities, which is the tenth largest population centre in Canada. Connectivity within the Region is critical, as many residents travel between each of these cities daily to access schools, employment, and recreation. The marketability of the region as an innovation hub and a tourist destination can also be enhanced with the establishment of a regional cycling and trails network.

One action is identified under Strategy 1C:

- **Action 1C-1:** Continue to work closely with neighbouring municipalities and the Region to ensure future cycling and trail connections are well integrated, high-quality, and maintained year-round





Strategy 1D: Improve Safety

Safety and security are important factors that influence whether people choose to use cycling routes and trails to travel around Kitchener. People walking, rolling, and cycling are considered vulnerable road users, as they are subject to higher risk of injury from traffic collisions than people driving or riding transit. Personal safety concerns arising from insufficient lighting, visibility, or poor design of public spaces can also deter people from using trails.

Safety, and the perception of safety, can vary from user to user, and depends significantly on the level of comfort different types of infrastructure offer. The strategy to improve safety received some of the highest support from residents and stakeholders that completed the online survey. Residents and stakeholders noted that improving safety at intersections and providing AAA facilities as part of an integrated and enhanced cycling and trails network would have a significant impact on addressing safety concerns. It was also noted that ongoing monitoring of locations with reported safety issues and providing better lighting on trails would be valuable to ensure people who use cycling routes and trails can do so safely and comfortably.

Two actions are identified under Strategy 1D:

- **Action 1D-1:** Continue to conduct safety studies of collisions involving people cycling and using trails to understand and monitor safety concerns and collisions
- **Action 1D-2:** Develop and implement a strategy for providing lighting on trails based on users, land use context, and trail classification

Strategy 1E: Improve Integration with Transit

Ensuring transit is integrated with cycling routes and trails is an important consideration for several reasons. Firstly, most people using transit are not accessing it by motor vehicle and instead arrive by foot or bicycle. As a result, improving access and connections to transit for people walking, rolling, and cycling can help to not only promote transit use but also to encourage more walking, rolling, and cycling. Secondly, ION rapid transit stations, iXpress bus routes and GO stations are important destinations within the city and generate trips by various modes. Within Kitchener, Grand River Transit (GRT) is responsible for funding, planning, operating, and maintaining transit services and the City is responsible for ensuring people can access transit stops and stations. Additionally, the provision of bicycle parking and the integration of bike share and other micromobility options is crucial for enabling seamless multi-modal transportation.

Two actions are identified under Strategy 1E:

- **Action 1E-1:** Ensure direct trail and cycling connections and that bicycle parking and micromobility stations are provided at ION rapid transit stations, iXpress bus routes, and GO stations
- **Action 1E-2:** Ensure the design of bicycle and trail facilities consider the location of, and access to, bus stops







For cycling and trail use to become more attractive and competitive ways to move around the City, they need to be as safe and convenient as possible. Strategies aimed at improving the user experience in the Cycling and Trails Master Plan relate to how on-street cycling routes and off-street trails are integrated into neighbourhoods as well as the types of supporting infrastructure that is needed to support the convenient and comfortable use of the network across the city. The strategies and actions under the theme of experience focus on achieving the second goal of the Cycling and Trails Master Plan which is **to provide a safe and high quality experience**.

A key focus of this theme is to ensure that using trails and cycling routes in Kitchener is easy, stress-free, and as seamless as possible. This can be done through a variety of approaches, such as providing short-term and long-term bicycle parking, wayfinding, and maintaining the network year-round. This theme also identifies the importance of land use and considerations regarding future technologies and new ways to travel around.

Through the public engagement process, input was collected noting the importance of maintaining the existing cycling and trails network year-round and providing more information about snow and ice clearing and maintenance practices. Having an easy and intuitive way to report maintenance concerns to the City was also identified.

Wayfinding and signage were also identified as critical to making the cycling and trails network easy to navigate and connecting people to the destinations they want to go. Branding and route naming were suggested as a way to make routes more recognizable throughout the City.

Providing a convenient and high quality experience for people every time they use trails or cycling routes will help to make walking, rolling, and cycling a more desirable transportation option.

Five strategies have been developed to improve experience, as summarized below. Further details for these strategies and actions are provided in the companion **Experience Report**.

Strategy 2A: Design the City to Support Walking, Rolling, and Cycling

Land use planning can play a significant role in shaping how people travel around a city, as it can impact how convenient and feasible it is to walk, roll, or cycle to destinations. Even when streets have comfortable cycling routes and trails, residents will be deterred from using them if the route is indirect, circuitous, or if destinations are too far to access.

Land use planning and development throughout the city presents opportunities to ensure that safe and attractive cycling routes and trails are provided, that these facilities are integrated with the broader cycling and trails network, and that they align with the Official Plan and the Planning around Rapid Transit Stations report, among other planning documents.

- 2A Design the City to Support Walking, Cycling, and Rolling
- 2B Provide More Bicycle Parking
- 2C Maintain the Cycling and Trail Network Year-Round
- 2D Make it Easy to Find the Way
- 2E Investigate New Ways to Travel Around

One action is identified under Strategy 2A:

- **Action 2A-1:** Ensure future development areas are connected to and include cycling and trail infrastructure to meet future community needs as identified within the Cycling and Trails Master Plan

Strategy 2B: Provide More Bicycle Parking

End-of-trip facilities encourage people to bicycle as a primary mode of transportation by providing a secure place to leave their bicycle and a place to tidy up and/or change upon arriving at their destinations. Short-term and long-term bicycle parking is provided at various locations throughout the city, including destinations such as downtown Kitchener, community centres, and golf courses. It was noted through the engagement process that limited bicycle parking is provided in the public right-of-way.

Some businesses have requested bicycle racks from the City. There is currently no formal process for responding to requests for bicycle racks from private businesses. Decorative bicycle racks were installed downtown in partnership with economic development, and short-term bicycle parking exists at most transit stations, but there is currently limited secure, long-term bicycle parking throughout the city.



The City operates three secure bicycle parking facilities in the downtown core and two additional facilities have been funded. Several public bicycle maintenance stations are found within Kitchener, including at City Hall, the Kitchener Market, and on Queen Street at the Iron Horse trail. Input received from the public and stakeholders through the planning process for the Cycling and Trails Master Plan found that provision of more safe and secure bicycle parking would help to encourage more cycling in the city.

Two actions are identified under Strategy 2B:

- **Action 2B-1:** Provide high quality bicycle parking and end-of-trip facilities at City of Kitchener owned and operated facilities
- **Action 2B-2:** Provide more bicycle parking and end-of-trip options throughout the city and at special events

Strategy 2C: Maintain the Cycling and Trails Network Year-Round

Maintaining cycling routes and trails is an important component of ensuring that walking, rolling, and cycling is a viable and accessible transportation option for people of all ages and abilities year-round. Year-round maintenance was identified by residents and stakeholders throughout the planning process of the Cycling and Trails Master Plan as a factor that influences the decision to travel on cycling routes and trails.

The installation of new cycling routes and trails is often seen as the top priority to promote more trips by active modes. Through discussions with the public and stakeholders, however, it is clear that ongoing maintenance of existing infrastructure is equally, if not more important, than installing new infrastructure. The ongoing maintenance and operations of infrastructure needs to be considered at all stages of the planning and design process. Maintenance is necessary to

keep cycling routes and trails functional and usable throughout all seasons, which ensures that facilities are universally accessible throughout the year.

Communities such as Kitchener that have extensive trail networks and on-street cycling infrastructure have a substantial population that are interested in using these facilities for transportation and recreation year-round. An important component of a successful cycling and trails network is proper maintenance throughout all seasons; however, this is often challenging to achieve due to tight operating budgets and competing maintenance needs, a lack of appropriate equipment, changing maintenance best practices, or an insufficient inventory of maintenance issues. Over the long-term, all facilities that are part of the City Spine network should be winter maintained. **Figure 9** shows the proposed short-term winter maintenance network for cycling routes and trails. The proposed short-term winter network includes:

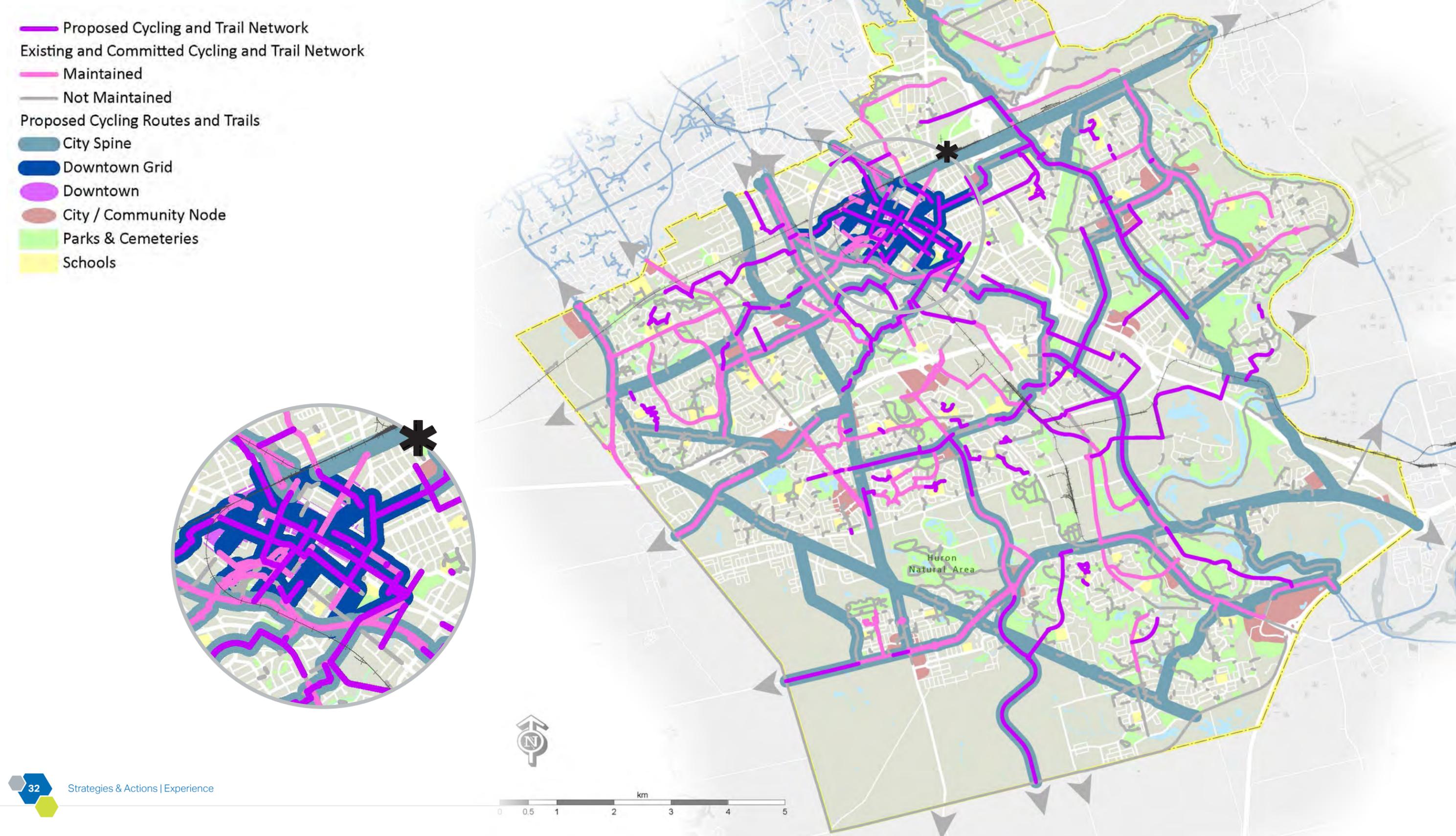
- All cycling routes and trails that are currently part of the existing winter maintenance network;
- An additional 5 km of existing cycling routes and trails have been added to the short-term winter maintenance network; and
- All cycling routes and trails that will be implemented as part of the short-term implementation plan.

It is important to note that the short-term winter network does not include facilities that will be implemented on all Regional roads.

Six actions are identified under Strategy 2C:

- **Action 2C-1:** Implement service standards for maintenance of cycling routes and trails based on trail type and the Minimum Maintenance Standards
- **Action 2C-2:** Review and consider giving streets with bicycle facilities a higher snow clearing priority
- **Action 2C-3:** Design cycling routes and trails to facilitate drainage, snow removal, and snow storage
- **Action 2C-4:** Implement an inspection program to ensure adequate surface conditions and quality of cycling routes and trails
- **Action 2C-5:** Consider the development of an app or tool to allow users to report maintenance issues
- **Action 2C-6:** Provide information about snow clearing timelines and practices for cycling routes and trails to provide clarification on which routes are winter maintained

Figure 9 - Proposed Short-Term Winter Maintenance Network



Trail Type	Who	Timeframe	Winter Maintenance		Non Winter Maintenance	
			De-icing Treatments (Reactive / Proactive)	Pavement Condition (i.e. clear to pavement)	Trail Grooming,	Pruning and Grass Cutting
Significant Trails	Parks Operations	24 hours or less	Monitor weather and patrol Treat for ice within 48 hours	Less than or equal to 8 cm to a 1 metre clear width	N/A	1 metre clear width Every 2 to 3 weeks
Boulevard Multi-use Trails	Parks Operations	24 hours	Monitor weather and patrol Treat for ice within 48 hours	Less than or equal to 8 cm to a 1 metre clear width	N/A	1 metre clear width Every 2 to 3 weeks
Multi-use Trails	Parks Operations	24 hours *	Monitor weather and patrol Treat for ice within 48 hours	Less than or equal to 8 cm to a 1 metre clear width	N/A	1 metre clear width Every 2 to 3 weeks**
Major Trails and Minor Trails	N/A	N/A	N/A	N/A	2 to 3 times a year	0.5 metre clear width 2 to 3 times a year

* All trails that are currently being winter maintained, all new Multi-use trails, and 5 km of existing trails and cycling routes.

** Prioritizing trails that provide direct access to schools or are part of the spine network.

Table 2 - Proposed Winter Maintenance Practices by Trail Type

Strategy 2D: Make it Easy to Find the Way

Providing wayfinding and network information, including signage, pavement markings, and maps, that help people make decisions about how to navigate the cycling and trails network is key to help make it easy to find the way to destinations. Wayfinding is intended to make the cycling and trails network easier to navigate, identify the location of important destinations, and provide information about route type. Branding and naming routes in coordination with signage can also be an effective form of wayfinding. Wayfinding should be seamless, consistent and easy to understand to be effective. In 2019, the City developed the Wayfinding Guidelines for Parks & Trails and is currently piloting wayfinding signage on select routes. Through the engagement process for the Cycling and Trails Master Plan, the public noted that a lack of consistency and integration across the region was a concern. Residents and stakeholders felt that the cities within the Region of Waterloo should have a consistent approach to cycling and trails wayfinding to avoid confusion.

Two actions are identified under Strategy 2D:

- **Action 2D-1:** Implement the wayfinding strategy for cycling routes and trails that is consistent and integrated with surrounding municipalities and the Region of Waterloo
- **Action 2D-2:** Continue to update the City's cycling and trails network map as new infrastructure is implemented

Strategy 2E: Investigate New Ways to Move Around

In recent years, the transportation sector has witnessed an unprecedented increase in both the pace and scale of new technological innovations. Included in these new technologies are Autonomous Electric Vehicles (AEVs), public bike share (both docked and dockless), e-scooter share, microtransit (or On-Demand Transit), and Mobility as a Service (MaaS). While these new technologies serve to offer an expanding suite of transportation choices, cities should be strategic in their implementation and strive to ensure these services support broader community goals. The City is currently conducting a Bike Share and Micromobility Feasibility Study looking at the opportunities for, and impacts of, scooters, e-bikes, and other new technologies within the City.

Two actions are identified under Strategy 2E:

- **Action 2E-1:** Continue to support a regional bikeshare and micromobility program and locate stations at high activity locations
- **Action 2E-2:** Work with partners to ensure sustainable trip planning information is widely accessible through an integrated transportation data system and innovative mobile applications







CULTURE



While the installation of new cycling routes and trails is critical to increase the number of people walking, rolling, and cycling in Kitchener, a range of ‘soft’ support measures are also

important to encourage more cycling and trail use. The strategies and actions under the theme of culture focus on achieving the third goal of the Cycling and Trails Master Plan **to create a culture of active living.**

These measures can help to provide education and raise awareness about cycling routes and trails in Kitchener and help achieve the goal of building a culture of active living. The theme of culture includes a range of strategies and actions that address support measures such as education, encouragement, and heightened awareness. These are all done with the intent of making cycling and trail use a safe, fun, and accessible part of everyday life.

Some of the ways the City can work to create an active culture and increase awareness and promotion of cycling routes and trails is through education and encouragement initiatives, skills-building programs, promotional campaigns, sharing updates on how the plan is being implemented, and public education campaigns.

Education and encouragement initiatives can include providing information to the public on the benefits of active travel, hosting events to promote walking, rolling, and cycling, and supporting programs that teach skills and awareness of road safety. Education and awareness initiatives are important and cost-effective measures to enable residents to feel safer and more comfortable using cycling routes and trails in Kitchener, and are important actions in addition to providing cycling routes and trails.

Five strategies have been developed to improve culture, as summarized below. Further details for these strategies and actions are provided in the companion **Culture Report.**

Strategy 3A: Raise Awareness and Promotion

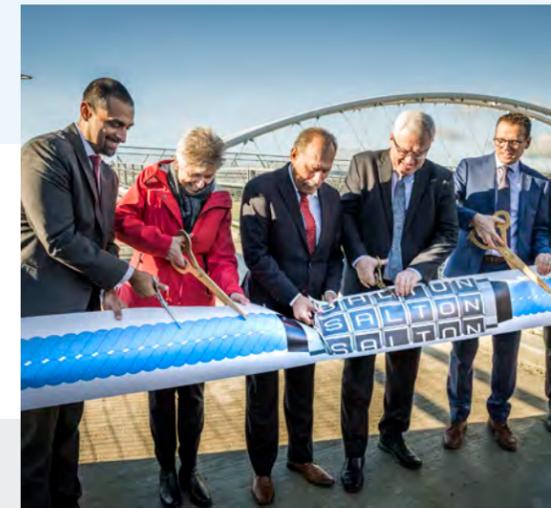
Awareness and promotion of cycling routes and trails are important components that support the implementation of new infrastructure. Community-wide communications and marketing through radio advertisements, transit shelter advertisements, and website and social media content can be effective tools for reaching out to residents, increasing awareness and interest in walking, rolling, and cycling.

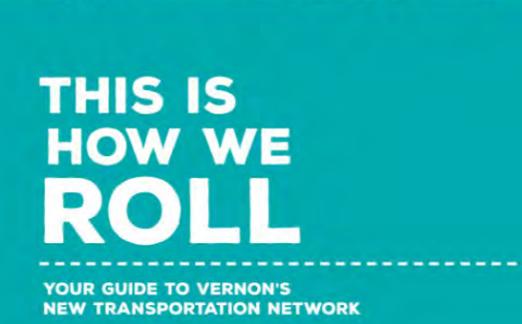
Awareness initiatives can include providing information to the public on the benefits of walking, rolling, and cycling, and hosting events to promote cycling and trail use.

- 3A** Raise Awareness and Promotion
- 3B** Educate All Road Users
- 3C** Integrate Policy and Funding
- 3D** Establish Business Partnership and Investments
- 3E** Measure Success

Two actions are identified under Strategy 3A:

- **Action 3A-1:** Use and encourage City- and Region-wide campaigns to deliver positive messaging to promote cycling and trail use
- **Action 3A-2:** Celebrate cycling and trail related events and new infrastructure projects





Strategy 3B: Educate All Road Users

Education initiatives geared towards all road and trail users are important components of implementing the Cycling and Trails Master Plan. Education initiatives can include developing materials and tools that educate all road users on how to use cycling routes and trails as well as supporting programs that teach skills and awareness of road safety for all road users. Education initiatives are both important as well as cost-effective measures to enable residents to feel more safe and comfortable walking, rolling, and cycling throughout Kitchener. These initiatives provide information for all road users about how to interact with vulnerable road users, and may contribute to increased compliance among all parties. While infrastructure is not built overnight, education items are often “quick wins”. In addition, education and awareness campaigns can actively build community interest for the City’s investments in cycling routes and trails.

Two actions are identified under Strategy 3B:

- **Action 3B-1:** Develop videos, pamphlets and other tools to educate all road users on new cycling and trail infrastructure
- **Action 3B-2:** Continue to support programs and initiatives that educate and encourage people to use cycling routes and trails



Strategy 3C: Integrate Policy and Funding

Ensuring that the City’s policies and internal operations support the implementation of the Cycling and Trails Master Plan can be done by integrating the strategies and actions into other projects and policies. It will be important that the Cycling and Trails Master Plan is reviewed and considered by staff in relation to future road and infrastructure projects and the development of future policy documents. Guaranteeing the Cycling and Trails Master Plan is a referenced document within the City by various departments will result in a cultural shift within the City of Kitchener organization. This strategy also identifies the importance of ensuring adequate budget, funding, and staff resources are available to implement the Cycling and Trails Master Plan and achieve the long-term vision and goals of the Plan.

Two actions are identified under Strategy 3C:

- **Action 3C-1:** Update the City’s Development Manual to reflect and reference the Cycling and Trails Master Plan and other documents that support the implementation of cycling routes and trails
- **Action 3C-2:** Ensure adequate budget, funding, and staff resources are available to implement the Cycling and Trails Master Plan





Strategy 3D: Establish Business Partnerships and Investments

Walking, rolling, and cycling can contribute to a healthy and diverse economy. Neighbourhoods, employers, and destinations that support active travel throughout Kitchener can encourage residents to support local businesses and attract more visitors. Cycling routes and trails provide more choices for people travelling to work, which helps to reduce the amount of household income spent on transportation. They are also essential for individuals who may not have access to a vehicle. The provision of cycling routes and trails can also attract new residents and employers to Kitchener as more transportation options will make Kitchener a more vibrant and livable city. The promotion of walking, cycling, and rolling from a tourism perspective can provide a variety of benefits to the local economy.

Two actions are identified under Strategy 3D:

- **Action 3D-1:** Work with partners to ensure research on the benefits of walking, cycling, and rolling are shared within the City organization and with local businesses
- **Action 3D-2:** Consider reviewing and updating the City's Transportation Demand Management Plan and TDM Checklist

Strategy 3E: Measure Success

Measuring the success of the Cycling and Trails Master Plan means monitoring how well the City is working towards achieving the vision and goals of the Plan. Evaluation is one of the 'Six Es' that makes up a comprehensive approach to bicycle planning and design, along with engineering, education, encouragement, enforcement, and equity. Monitoring bicycle usage, patterns, and trends allows for evaluation to take place. Monitoring and reporting will also

enable the City to appropriately allocate monetary and staff resources to implement prioritized initiatives. Monitoring also provides a means of identifying changing conditions which would require changes to the Cycling and Trails Master Plan.

The approach to measuring success must include a monitoring plan that is:

Meaningful. Monitoring should yield meaningful results and point to the success in achieving the vision and goals of the Cycling Master Plan.

Measurable. Monitoring needs to establish criteria that are measurable and for which data or information can be readily obtained.

Manageable. Monitoring implementation needs to consider resource limitations and identify measures where information is accessible or data is simple to collect.

Monitoring trips on cycling routes and trails, investments, and initiatives can help to tell stories of change and progress of cycling and trails in the city.

Three actions are identified under Strategy 3E:

- **Action 3E-1:** Develop a data collection and monitoring program, including a network of counters on cycling routes and trails to monitor activity
- **Action 3E-2:** Implement a reporting program to communicate results of the monitoring program on a biannual basis
- **Action 3E-3:** Develop a five-year action plan for implementing the Cycling and Trails Master Plan, to be updated on an annual basis to reflect changing priorities



5.0 IMPLEMENTATION STRATEGY



5.0

IMPLEMENTATION STRATEGY

The strategies and actions developed as part of the Cycling and Trails Master Plan are intended to guide Kitchener's capital, operations, maintenance, policy, and programming decisions as well as on-going resource requirements in support of cycling and trail use over the next 20 years and beyond. While the Plan has been developed as a long-term plan, it will require financial investment, staff resources, and an implementation strategy to prioritize improvements over the short-, medium-, and long-term.

This chapter presents an implementation plan, including prioritization of the actions and network improvements identified over the immediate-term, short-term, medium-term, and long-term.

The implementation strategy is action-oriented and recognizes the need to make early and on-going investments to build a culture for cycling and trail use in Kitchener. Early and on-going investments are identified as immediate-priorities over the next 3 years, and other short-term priorities (within 10 years) are intended to act as catalysts to build momentum for cycling and trail use through strategic investments in engineering as well as education and encouragement measures. The implementation strategy focuses on the steps that the City should take over the next 10 years. It is recommended that the City conduct a comprehensive review and update of the Cycling and Trails Master Plan after 10 years to monitor progress and review its priorities.

Additional details regarding the implementation strategy are provided in the companion **Implementation Report**.



COVID-19 STIMULUS FUNDING | As a result of the COVID-19 outbreak, it is anticipated that there will be significant stimulus funding opportunities from senior levels of government. The City should seek all opportunities to leverage additional funding sources and to accelerate implementation of the Cycling and Trails Master Plan.

5.1 IMPLEMENTATION PRINCIPLES

There were several guiding principles that were followed to develop the implementation strategy for the Cycling and Trails Master Plan:

- The Cycling and Trails Master Plan is one step towards achieving the long-term vision, but it is not the last.
- The implementation strategy focuses on short-term actions over the next 10 years.
- The Cycling and Trails Master Plan is a flexible and living document.
- Kitchener will monitor, review, and update the Cycling and Trails Master Plan on a regular basis, as needed.
- Kitchener will engage in further public consultation to implement many recommendations of the Cycling and Trails Master Plan.

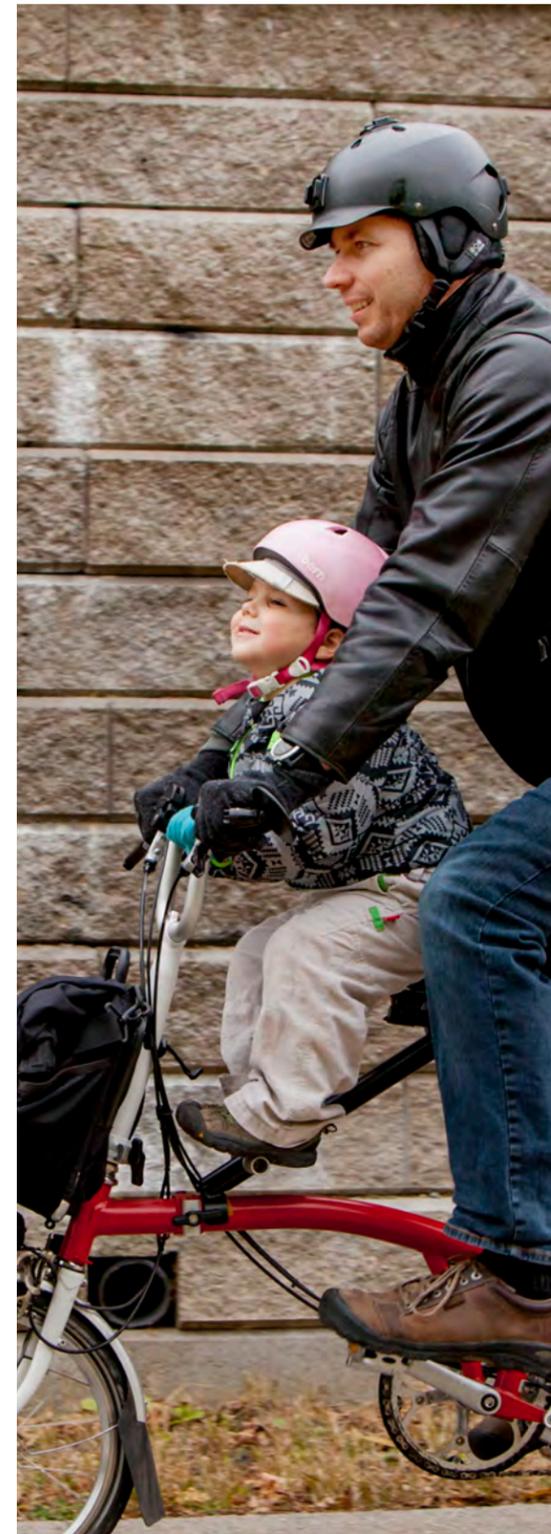
5.2 PRIORITIZING ACTIONS

Strategies for implementing each of the actions identified in the Cycling and Trails Master Plan are outlined in **Tables 3 – 5** on the following pages. These tables provide guidance with respect to:

- **Timeframe.** Each action is identified as either:
 - **Immediate-term** – Within 3 years (implementation between 2020 and 2022)
 - **Short-term** – Within 3-10 years (implementation between 2023 and 2030)
 - **Medium-term** – Within 10-20 years (implementation between 2031 and 2040)
 - **Long-term** – 20 years and beyond.

Many actions will be implemented on an ongoing basis, in which case they are shown under each timeframe.

- **Method of Implementation.** This column identifies how each action will be implemented: as a capital project, through ongoing operations and maintenance, or as a policy or programming initiative.
- **Responsibility.** This column suggests the primary and secondary responsibility for each action. Many actions are the primary responsibility of Kitchener (including the Transportation, Parks & Cemeteries, Roads & Traffic, and Communications departments, while other actions should be led by external agencies, such as Grand River Transit and the Region of Waterloo.
- **Order of Magnitude.** The assumed order of magnitude cost for each action has been provided. These costs include capital and/or operational depending on applicability. The number of dollar signs indicates a high-level cost assumed for each initiative:
 - **\$\$\$** – Major projects (\$1 million plus)
 - **\$\$** – Moderate (\$100,000 to \$999,000)
 - **\$** – Low (less than \$100,000)





THEME 1 | CONNECTIONS

	TIMEFRAME				METHOD OF IMPLEMENTATION			RESPONSIBILITY		MAGNITUDE
	Immediate (0-3 years)	Short (3-10 years)	Medium (10-20 years)	Long-Term (20+ years)	Capital	Operations / Maintenance	Policy / Programming	Primary	Secondary	

Strategy 1A: Develop an Integrated Cycling and Trails Network

Action 1A-1: Implement a downtown grid network of cycling facilities that are comfortable for people of all ages and abilities by 2022 - <i>Committed: 2019-2022 Strategic Plan</i>	√				√	√		Transportation	Parks & Cemeteries / Roads & Traffic	\$\$\$
Action 1A-2: Implement a city-wide grid network of cycling routes and trails based on the Complete Streets Guidelines		√	√	√	√	√		Transportation	Parks & Cemeteries / Roads & Traffic	\$\$\$
Action 1A-3: Work with other agencies to provide new grade separated crossings of major barriers to ensure regular spaced connections for cycling and trails are provided	Ongoing				√			Transportation	Parks & Cemeteries / Roads & Traffic	\$\$\$ w/other contributors
Action 1A-4: Develop a spot improvement program and work with the Region to make safety and network connectivity improvements throughout the city	√	√			√			Transportation	Roads & Traffic / Region of Waterloo	\$\$

Strategy 1B: Enhance and Expand the Trails Network

Action 1B-1: Plan and design new and upgraded trails based on the recommended trail classification system and the Complete Streets Guidelines	Ongoing				√			Parks & Cemeteries	Transportation	\$\$ - \$\$\$
Action 1B-2: Implement a strategy to prioritize and upgrade walkways	√	√			√			Parks & Cemeteries	Transportation	\$

Strategy 1C: Improve Regional Connections

Action 1C-1: Continue to work closely with neighbouring municipalities and the Region to ensure future cycling and trail connections are well integrated, high-quality, and maintained year-round	Ongoing				√			Transportation	City of Cambridge / City of Waterloo	\$
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Strategy 1D: Improve Safety

Action 1D-1: Continue to conduct safety studies of collisions involving people cycling and using trails to understand and monitor safety concerns and collisions	Ongoing						√	Transportation	Waterloo Regional Police	\$
Action 1D-2: Develop and implement a strategy for providing lighting on trails based on users, land use context, and trail classification.		√	√		√	√		Transportation / Parks & Cemeteries		\$\$\$

Strategy 1E: Improve Integration with Transit

Action 1E-1: Ensure direct trail and cycling connections and that bicycle parking and micromobility stations are provided at ION rapid transit stations, iXpress bus routes, and GO stations	Ongoing				√			Transportation / Parks & Cemeteries	Grand River Transit	\$\$
Action 1E-2: Ensure the design of cycling routes and trails considers the location of, and access to, bus stops	Ongoing						√	Transportation	Grand River Transit	\$



THEME 2 | EXPERIENCE

	TIMEFRAME				METHOD OF IMPLEMENTATION			RESPONSIBILITY		Magnitude
	Immediate (0-3 years)	Short (3-10 years)	Medium (10-20 years)	Long-Term (20+ years)	Capital	Operations / Maintenance	Policy / Programming	Primary	Secondary	
Strategy 2A: Design the City to Support Walking, Rolling, and Cycling										
Action 2A-1: Ensure future development areas are connected to and include cycling and trail infrastructure to meet future community needs as identified within the Cycling and Trails Master Plan	Ongoing					√	√	Transportation, Parks & Cemeteries	Development Services	\$\$
Strategy 2B: Provide More Bicycle Parking										
Action 2B-1: Provide high quality bicycle parking and end-of-trip facilities at City of Kitchener owned and operated facilities	√	√			√			Transportation	Facilities Management	\$\$\$
Action 2B-2: Provide more bicycle parking and end-of-trip options throughout the City and at special events	√	√						Transportation		\$
Strategy 2C: Maintain the Cycling and Trails Network Year-Round										
Action 2C-1: Implement service standards for maintenance of cycling routes and trails based on trail type and the Minimum Maintenance Standards	√					√	√	Roads & Traffic / Parks & Cemeteries / Transportation	Region of Waterloo (where applicable)	\$\$
Action 2C-2: Review and consider giving streets with bicycle facilities a higher snow clearing priority		√				√		Transportation	Parks & Cemeteries / Roads & Traffic	Moderate
Action 2C-3: Design cycling routes and trails to facilitate drainage, snow removal, and snow storage	Ongoing						√	Transportation	Parks & Cemeteries / Roads & Traffic	\$\$
Action 2C-4: Implement an inspection program to ensure adequate surface conditions and quality of cycling routes and trails	√					√	√	Transportation / Parks & Cemeteries / Roads & Traffic	GIS	\$
Action 2C-5: Consider the development of an app or tool to allow users to report maintenance issues		√					√	Communications		\$
Action 2C-6: Provide information about snow clearing timelines and practices for cycling routes and trails to provide clarification on which routes are winter maintained	√						√	Parks & Cemeteries	Roads & Traffic	\$

Table 4 - Implementation Plan | Experience (1 of 2)



THEME 2 | EXPERIENCE

	TIMEFRAME				METHOD OF IMPLEMENTATION			RESPONSIBILITY		Magnitude
	Immediate (0-3 years)	Short (3-10 years)	Medium (10-20 years)	Long-Term (20+ years)	Capital	Operations / Maintenance	Policy / Programming	Primary	Secondary	
Strategy 2D: Make it Easy to Find the Way										
Action 2D-1: Implement the wayfinding strategy for cycling routes and trails that is consistent and integrated with surrounding municipalities and the Region of Waterloo	Ongoing				√	√		Transportation / Parks & Cemeteries		\$
Action 2D-2: Continue to update the City's cycling and trails network map as new infrastructure is implemented	Ongoing						√	Transportation / Parks & Cemeteries		\$
Strategy 2E: Investigate New Ways to Move Around										
Action 2E-1: Continue to support a regional bikeshare and micromobility program and locate stations at high activity locations	√					√	√	Transportation	Regional Partners	\$
Action 2E-2: Work with partners to ensure sustainable trip planning information is widely accessible through an integrated transportation data system and innovative mobile applications		√					√	Communications / TIS / Third Party Providers		\$

Table 4 - Implementation Plan | Experience (2 of 2)



THEME 2 | CULTURE

	TIMEFRAME				METHOD OF IMPLEMENTATION			RESPONSIBILITY		MAGNITUDE
	Immediate (0-3 years)	Short (3-10 years)	Medium (10-20 years)	Long-Term (20+ years)	Capital	Operations / Maintenance	Policy / Programming	Primary	Secondary	

Strategy 3A: Raise Awareness and Promotion

Action 3A-1: Use and encourage City- and Region-wide campaigns to deliver positive messaging to promote cycling and trail use	√	√					√	Transportation / Parks & Cemeteries	Communications / Region of Waterloo	\$
Action 3A-2: Continue to look for opportunities to celebrate cycling and trail related events and new infrastructure projects	Ongoing						√	Transportation / Parks & Cemeteries	Communications	\$

Strategy 3B: Educate All Road Users

Action 3B-1: Develop videos, pamphlets, and other tools to educate all road users on new cycling and trail infrastructure	Ongoing						√	Transportation / Parks & Cemeteries	Communications	\$
Action 3B-2: Continue to support programs and initiatives that educate and encourage people to use cycling routes and trails	Ongoing						√	Partners	Transportation / Parks & Cemeteries	\$

Action 3C: Integrate Policy and Funding

Action 3C-1: Update the City's Development Manual to reflect and reference the Cycling and Trails Master Plan and other documents that support the implementation of cycling routes and trails	√						√	Transportation	Engineering	\$
Action 3C-2: Ensure adequate budget, funding, and staff resources are available to implement the Cycling and Trails Master Plan	Ongoing				√	√		City of Kitchener		\$\$\$

Strategy 3D: Establish Business Partnerships and Investments

Action 3D-1: Work with partners to ensure research on the benefits of walking, cycling, and rolling are shared within the City organization and with local businesses		√					√	Transportation / Parks & Cemeteries	Communications	\$
Action 3D-2: Consider reviewing and updating the City's Transportation Demand Management Plan and TDM Checklist		√					√	Planning	Transportation	\$

Strategy 3E: Measure Success

Action 3E-1: Develop a data collection and monitoring program, including a network of counters on cycling routes and trails to monitor activity	Ongoing				√		√	Transportation / Parks & Cemeteries		\$
Action 3E-2: Implement a reporting program to communicate results of the monitoring program on a biannual basis	√	√					√	Transportation / TIS	Parks & Cemeteries	\$
Action 3E-3: Develop a five-year action plan for implementing the Cycling and Trails Master Plan, to be updated on an annual basis to reflect changing priorities	Ongoing						√	Transportation	Parks & Cemeteries	\$\$

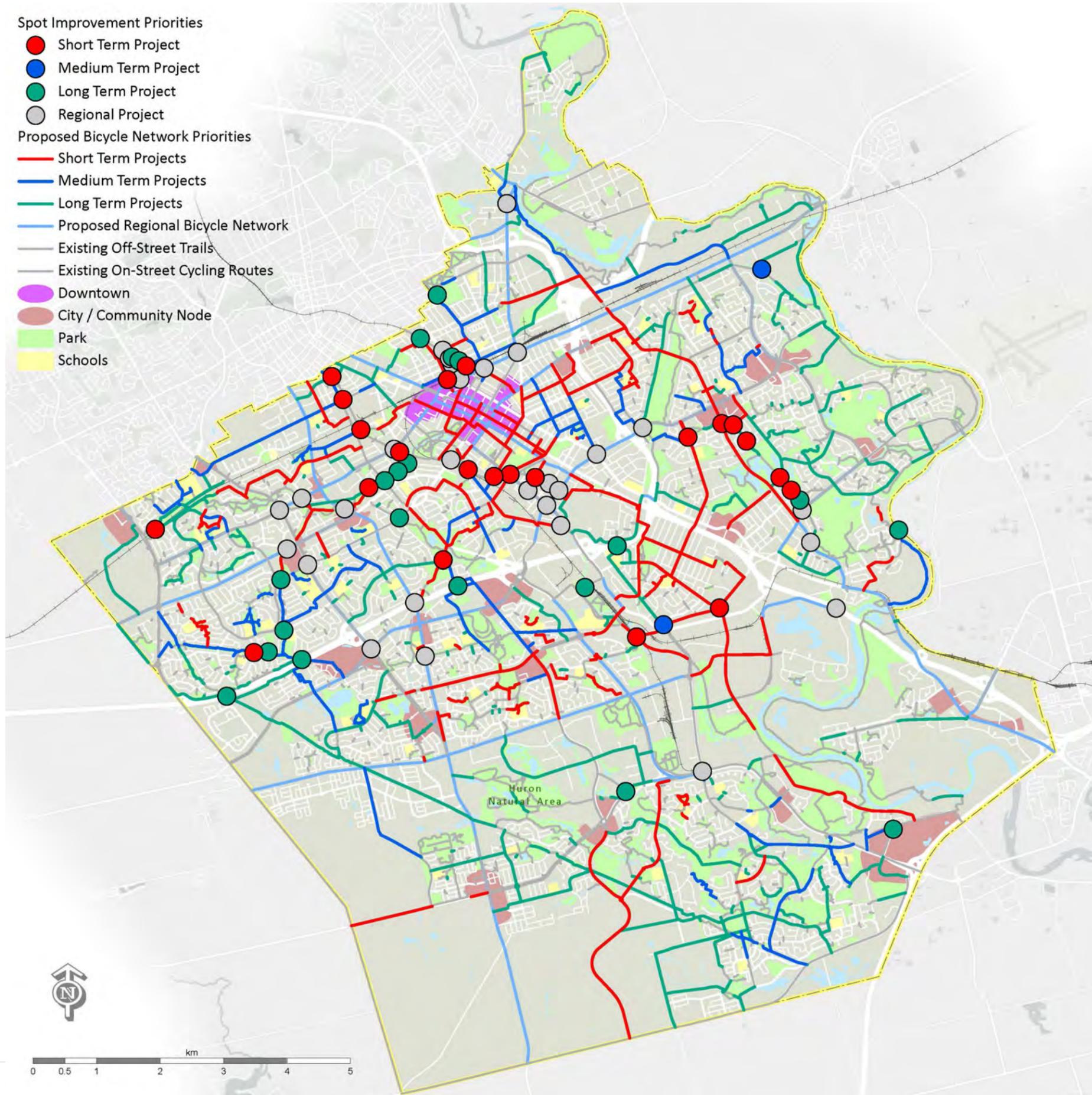
5.3 NETWORK PRIORITIES

This section outlines the prioritization process used to identify priorities to improve the cycling and trails network over the immediate-term, short-term, medium-term, and long-term. An objective, systematic, GIS-based prioritization methodology was developed to help identify priorities for the Cycling and Trails Master Plan. The prioritization methodology includes 13 criteria for the cycling and trails network:

- Network Classification
- Network Connectivity
- Level of Protection
- Type of Improvement
- Transit Integration
- Population Density
- Walking and Cycling Demand
- Walking and Cycling Potential
- Equity
- Walkable Schools
- Land Use Demand (Commercial and Growth Areas)
- Land Use Demand (Schools, Parks, Community Centres, Arenas, and Libraries)
- Piggybacking Potential

The results of the network prioritization analysis were intended to be used as a tool to inform decision-making. These results were reviewed alongside input received from stakeholders, the Community Working Group, and City staff to identify short-, medium-, and long-term priorities for the cycling and trail network, as shown in **Figure 10**.

Figure 10 - Cycling and Trail Network Priorities



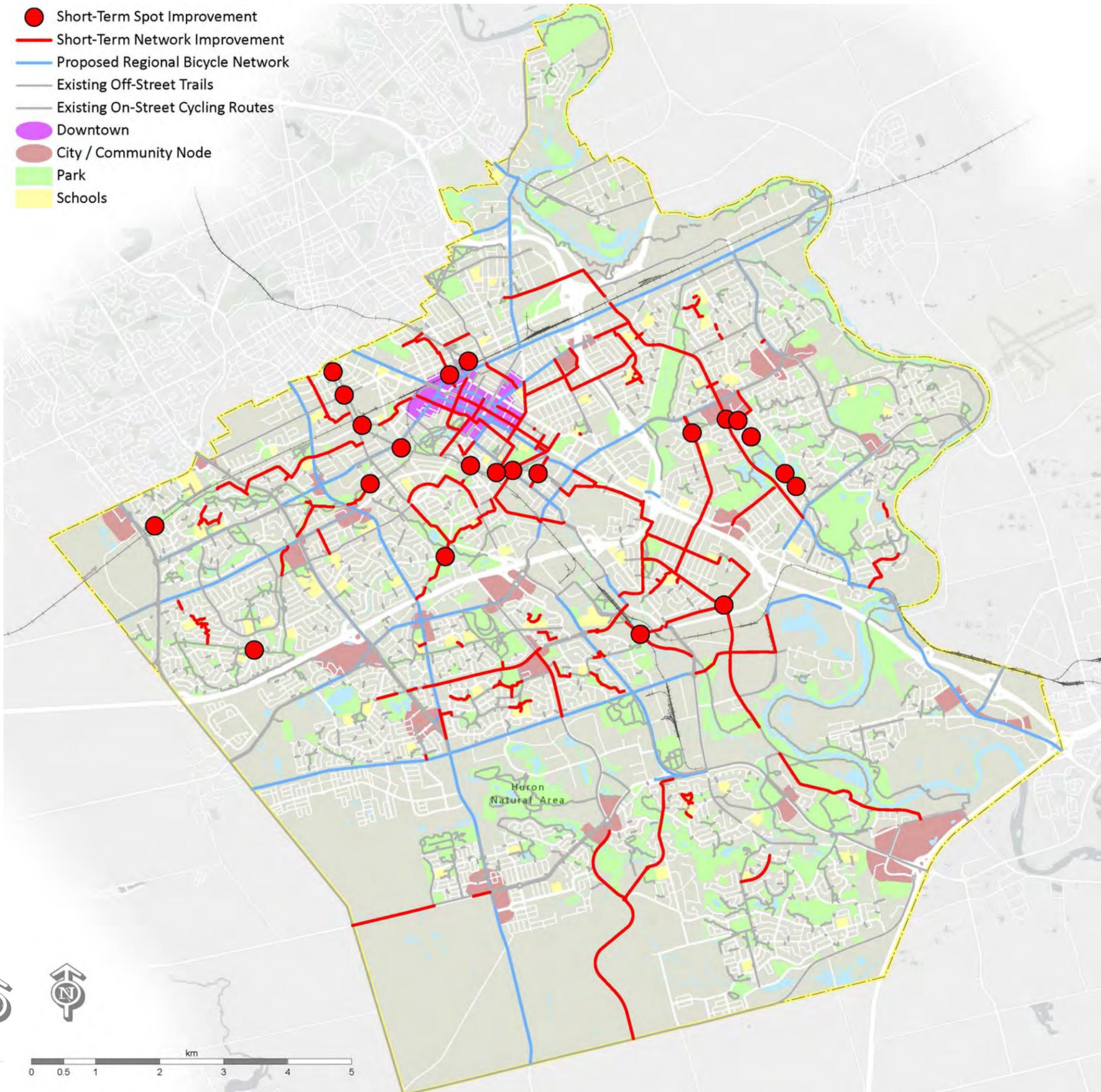
5.4 THREE-YEAR ACTION PLAN

This section summarizes a three-year action plan for the City and identifies the immediate-term priorities for the City to build rapid momentum for cycling and trail use. This three-year action plan includes a number of capital, operations, maintenance, policy, and programming initiatives for rapid implementation in each of the three themes of the Cycling and Trails Master Plan to ensure a combination of engineering, education, and encouragement initiatives.

CONNECTIONS

- Implement a **downtown grid network** of cycling facilities that are comfortable for people of all ages and abilities by 2022.
- Develop a **trails capital project plan** for implementing \$1 million of trails and walkways per year over the short-term (3-10 years) based on the short-term priorities.
- Ensure **cycling infrastructure is incorporated on projects** included in the City's 2019-2028 Capital Plan.
- Develop a **spot improvement program** and make safety and network connectivity improvements throughout the City, beginning with locations where trails cross roadways under City jurisdiction.

Figure 11 - Short-term Priorities



EXPERIENCE

- Ensure that **all new road projects and streets within new developments follow the recommendations of the Cycling and Trails Master Plan and the Complete Streets Guide.**
- Work with developers and other stakeholders to **ensure new developments are designed to accommodate walking, rolling, and cycling.**
- Install **high quality bicycle parking and end-of-trip facilities** at City-owned and operated facilities.
- Provide **more bicycle parking and end-of-trip options throughout the City** and at special events, including:
 - Develop a program for identifying locations, prioritizing, and implementing bicycle parking within the public right-of-way and at trails
 - Install bicycle parking at high activity bus stops and stations
 - Ensure bicycle parking recommendations outlined in the City's Zoning By-Law are implemented as part of new developments
 - Consider looking for partnership opportunities to expand BikeCheck service
- Implement **service standards for maintenance of trails and cycling routes** based on trail type and the Minimum Maintenance Standards.
- Develop and implement an **inspection program** to ensure adequate surface conditions and quality of bicycle and trail facilities.
- Provide **information about snow clearing timelines and practices** for trails and on-street bicycle facilities to provide clarification on which routes are winter maintained.
- Begin to **implement the wayfinding strategy** for cycling routes and trails.
- Continue to **update the City's cycling and trail network map.**
- Continue to **support a regional bikeshare and micromobility program** and locate stations at high activity locations.

CULTURE

- **Promote new cycling and trail projects** to raise awareness of cycling and trail use.
- **Develop videos, pamphlets, and other tools** to educate all road users on new cycling and trail infrastructure.
- Support programs and initiatives that **educate and encourage people to use cycling routes and trails**, including:
 - Cycling into the Future
 - Active and Safe Routes to School
 - Cycling skills for adults
 - Grand River Accessibility Advisory Committee
- **Update the City's Development Manual** to reflect and reference the Cycling and Trails Master Plan and other documents that support the implementation of trails and cycling routes.
- Develop a **data collection and monitoring program**, including a network of counters on trails and bicycle routes to monitor activity.
- Implement a **reporting program** to communicate results of the monitoring program on an annual basis.
- Develop the first version of a **five-year action plan** for implementing the Cycling and Trails Master Plan, to be updated on an annual basis to reflect changing priorities.





5.5 COST ESTIMATES

LONG-TERM COSTS

Cost estimates have been developed to identify the relative cost for implementing the Cycling and Trails Master Plan over the long-term based on typical unit costs and recent construction and operation and maintenance pricing in the City of Kitchener and elsewhere in Waterloo Region and Canada. These cost estimates should only be used for planning purposes and should not be used for budgeting purposes. Cost estimates have been developed for all new and upgraded cycling routes and trails exclusively on City-owned roadways, and do not include any cycling routes or trails under the jurisdiction of the Region of Waterloo.

Additionally, the cost estimates only include projects requiring additional capital and operating and maintenance funding, and do not include projects identified and already budgeted as part of the City's 2019 – 2028 Capital Plan. The City should ensure cycling infrastructure is incorporated on projects included in the City's 2019 – 2028 Capital Plan, and continue to seek new opportunities to work with developers, other agencies, and other levels of governments to establish cost-sharing agreements, or to seek grant opportunities in order to offset total project costs.

The capital cost for the City to implement the Cycling and Trails Master Plan is approximately \$80 million over the long-term, excluding projects included in the City's 2019 – 2028 Capital Plan and excluding grade separated crossings and other spot improvements (Table 6). In addition to the \$80 million cost of the plan for the network improvements, the City should create a spot improvement fund to budget for localized improvements. The annual operating and maintenance cost for the long-term cycling and trails network is approximately \$2.3 million of additional funding to maintain new and upgraded facilities (Table 6). It should be noted that this only includes the maintenance of City-owned facilities.

For context, it is estimated that the current operating and maintenance costs to maintain the existing network is approximately \$1.2 million annually. In addition, the City is responsible for maintaining facilities on roadways under the jurisdiction of the Region of Waterloo. It is anticipated that an additional \$1.9 million is required over the long-term to operation and maintain new facilities on Regional Roads. Although these long-term operating and maintenance costs are significant, it should be noted that it is anticipated that these costs will decrease on a unit basis over time as equipment and resources become more efficient. Nonetheless, annual operating costs are expected to increase relative to the overall plan as it is implemented.

Facility Type	Km (Approx)	Capital Cost Estimate	Annual Operating and Maintenance Cost *
On-Street Cycling Routes			
Boulevard Multi-Use Trail**	46	\$20,870,000	\$440,000
Separated Bicycle Lane / Cycle Track	27	\$27,230,000	\$1,100,000
Neighbourhood Bikeway	36	\$200,000	\$80,000
Painted Bicycle Lane	31	\$110,000	\$70,000
Paved Shoulder	0	N/A	N/A
Total On-Street Cycling Routes	140	\$48,410,000	\$1,690,000
Off-Street Trails			
Multi-Use Trail	62	\$27,710,000	\$525,000
Major Trail	3	\$420,000	\$5,000
Minor Trail	0	N/A	N/A
Walkway	6	\$2,610,000	\$50,000
Total Off-Street Trails	71	\$30,740,000	\$580,000
Total	211	\$79,150,000	\$2,270,000

* Cost estimates do not include operations and maintenance costs on Regional Roads.

** Boulevard Multi-Use Trails are included as On-Street Cycling Routes as they are located within the road right-of-way.

Table 6 - Long-Term Capital and Operating Cost Estimates



PRIORITIZED COSTS AND FUNDING STRATEGY

The long-term cost of the Cycling and Trails Master Plan is estimated to be approximately \$80 million over the long-term, excluding grade separated crossings. Cost estimates have also been developed based on the priorities shown in **Figure 5**. The prioritized cost estimates are summarized in **Table 7**. Based on these prioritized costs, the majority of the costs of the plan – approximately 70% - would be implemented over the medium-term or the long-term. The City can make significant progress with implementing the immediate-term and short-term priorities of the plan, which cost approximately \$24 million over the next ten years.

The costs and funding strategy for the immediate-term and short-term projects are summarized below:

- **Immediate-term:** The implementation of the downtown grid network of cycling facilities that are comfortable for people of all ages and abilities is expected to cost approximately **\$6.3 million** in capital costs, along with approximately \$365,000 in annual operating and maintenance costs. It should be noted that, although the implementation of the downtown grid network is an approved Council priority, this network is not currently included in the City's 2019 – 2028 Capital Budget.
- **Short-term:** Additional short-term priorities for implementation within the next ten years are estimated to cost approximately **\$17.7 million** in capital costs, including \$12.2 million for on-street cycling routes and \$5.5 million for off-street trails, but excluding grade separated crossings. As noted previously, this does not include projects that are currently identified and budgeted as part of the City's 2019 – 2028 Capital Budget. This would result in a cost of approximately \$2.5 million in annual funding between 2023 and 2030. As noted previously, the City's current budget for cycling and trails is approximately \$2.1 million. As such, instead of requiring significant additional funding, the short-

term implementation can be achieved with a modest increase in current funding levels by strategically shifting how the City is prioritizing projects. To implement these short-term priorities, the City should identify a capital project list for off-street trails to be implemented within the trails capital budget of \$1 million per year, and a capital project list of on-street cycling routes to be implemented within a capital budget of \$1.5 million per year, including external sources.

Timeline	Proposed On-Street Cycling Routes *		Proposed Off-Street Trails		Total Combined Capital Cost
	Distance (km)	Capital Cost**	Distance (km)	Capital Cost*	
Immediate-Term	10	\$5,960,000	1	\$330,000	\$6,290,000
Short-Term	33	\$12,200,000	12	\$5,470,000	\$17,670,000
Medium-Term	33	\$12,880,000	17	\$7,630,000	\$20,510,000
Long-Term	61	\$17,370,000	40	\$17,310,000	\$34,680,000
Total	136	\$48,410,000	70	\$30,740,000	\$79,150,000

* Includes Boulevard Multi-Use Trails

** Does not include some planned projects in the City's 2019-2028 Capital Budget (As identified by City Staff)

Table 7 - Prioritized Capital Costs

Along with the capital cost estimates for immediate-term and short-term projects, the City should ensure operating costs are included within the capital budgeting process. For every new capital project, the City should include an operating budget on a per kilometre basis for operating costs based on the unit costs in **Table 7**. It is anticipated that the annual operating cost to operate and maintain the cycling and trails network will be approximately \$2.9 million, an increase from approximately \$1.2 million today, as shown in **Table 8**.

	Existing (\$)	Immediate and Short-Term Projects (\$)
On-Street Cycling Routes	\$950,000	\$2,470,000
Off-Street Trails	\$230,000	\$380,000
Total	\$1,180,000	\$2,850,000

Table 8 - Immediate- and Short-Term Operating Costs



5.6 FUNDING AND LEVERAGE STRATEGIES

Although the Cycling and Trails Master Plan is estimated to cost approximately \$80 million over the long-term, these costs can be shared by pursuing external funding from other levels of governments, partnerships with other organizations and the development industry, and integration of cycling and trails projects with other plans and projects, as described below.

CAPITAL PLANNING

The City should incorporate the Cycling and Trails Master Plan recommendations into its Operating and Capital Budgets to ensure that projects are accounted for in the City's capital planning process. In this regard, the City should seek changes to its Operating and Capital Budget for 2020 and beyond to fund implementation of the Cycling and Trails Master Plan.

INTEGRATION

The City should integrate cycling and trail network improvements with other plans and capital projects, where possible. There are cycling and trail components associated with many upcoming and planned road renewal programs, development projects, and major capital projects which have been identified as a part of the City's cycling and trail network. The best opportunities to provide safe and convenient cycling routes and trails is during the initial planning and design of these projects. Wherever possible, the City should seek out opportunities to integrate cycling routes and trails with new infrastructure or renewal and rehabilitation projects, such as major road resurfacing and servicing upgrades. The City needs to also make necessary amendments to existing policies and standards to ensure opportunities to integrate proposed cycling routes and trails are required as new developments occur.

COVID-19 FUNDING

As noted previously, it is anticipated that significant stimulus funding will be available from senior levels of government in response to the COVID-19 outbreak. The City should seek all opportunities to leverage this funding and to accelerate implementation of the Cycling and Trails Master Plan.

EXTERNAL FUNDING SOURCES

The costs of implementing the improvements identified in the Cycling and Trails Master Plan can be significantly reduced by pursuing external funding sources and partnership opportunities for many of the identified projects. This section describes funding strategies and potential funding sources that the City may want to consider to assist in leveraging its investments, and maximize its ability to implement cycling and trail network improvements. The City regularly checks grant funding opportunities. The City should also pursue all available sources of funding for transportation infrastructure and programs, including the programs identified below:

- Provincial Programs and Initiatives
- Federal Funding
- Green Municipal Funds
- Developers
- Private Sector
- Service Clubs
- Advertising

5.7 IMPLEMENTATION RESOURCING

Based on experience in other cities, implementation of the Cycling and Trails Master Plan is anticipated to require approximately 3 Full-Time Equivalent (FTE) staff over the short-term. For the immediate-term and short-term implementation priorities being developed through the Cycling and Trails Master Plan, existing staff levels within Transportation and Parks & Cemeteries are anticipated to be sufficient to deliver collaboratively on the Cycling and Trails Master Plan. However, one of the existing staff - the Trails Project Manager (Parks & Cemeteries) - is currently a temporary position, with a finite contract end of December, 2020. To maintain the existing staff commitment and deliver on the plan, it is recommended that this position be made permanent.





6.0 CLOSING

6.0

CLOSING

The Cycling and Trails Master Plan provides a comprehensive approach to guide Kitchener's progress and investments in cycling routes and trails over the next 20 years and beyond. The Plan includes recommendations for improving policies, standards, infrastructure, and programs over the long-term, along with priorities over the immediate-term and short-term. The Cycling and Trails Master Plan will contribute to increased transportation options by improving the accessibility, comfort, convenience, and safety of active transportation.

The Cycling and Trails Master Plan has been developed based on extensive technical work and engagement with Kitchener residents over a fifteen-month process. Through this public engagement process, thousands of community members provided input into the development plan at various phases. The City of Kitchener would like to thank all community members for their participation in the process and valuable input developing the Cycling and Trails Master Plan.

