



2021

**RIDE & STRIDE: MARKHAM  
ACTIVE TRANSPORTATION  
MASTER PLAN**

# Executive Summary

## KEY DEFINITIONS & ABBREVIATIONS

- **AAA:** All Ages & Abilities
- **AODA:** Accessibility for Ontarians with Disabilities Act, 2005
- **AT:** Active Transportation
- **ATMP:** Active Transportation Master Plan
- **CPAC:** Cycling and Pedestrian Advisory Committee
- **CPSAP:** Cycling and Pedestrian Safety and Awareness Program
- **PIC:** Public Information Centre
- **LPI:** Leading Pedestrian Interval
- **RTOR:** Right Turn on Red
- **STP:** School Travel Planning
- **TAC:** Technical Advisory Committee
- **TDM:** Transportation Demand Management
- **TTS:** Transportation Tomorrow Survey
- **YRT:** York Region Transit

**Active Transportation:** any mode of travel that relies primarily on human power to move people, with a specific focus on walking (including the use of mobility device) and cycling

**All Ages & Abilities:** Best practices approach to cycling facility and network design to ensure the development of safe, accessible and equitable transportation systems for users of all ages and abilities

**Bicycle Boulevards / Quiet Street Routes:** Bikeways on streets with low speeds and low volumes that are specifically designed to enhance cyclist safety and comfort through traffic calming and/or wayfinding

**End-of-Trip Facilities:** Facilities and/or spaces designed for active transportation users that provide safe and secure places to rest and/or store equipment (e.g. bike racks, bike lockers, changerooms)

**First-Last Kilometre Solutions:** Design approaches to help improve connectivity from someone's home to a transit station/stops

**Micromobility:** Small, lower-speed, personal transportation devices, either powered or self-propelled, typically intended for shorter trips; Includes e-bikes, e-scooter as examples

**Mode Share:** The share of all trips taken by a particular mode (method of travel), usually shown as a percentage

**Open Streets:** An event where a pre-selected street or network of streets is closed to vehicles and reserved for walking, cycling and community activities

**Pedestrian Priority Area:** Areas identified for targeted investment in pedestrian improvements beyond improvements identified at the City-wide level based on a variety of factors: pedestrian collisions, walking mode share, access to major transit, existing sidewalk gaps and income

**Pedestrian Crossover:** A specific type of traffic control device which provides pedestrians with the right-of-way over vehicles

**Priority Cycling & Trails Network:** A network of primarily quiet street routes, multi-use paths and protected bike lanes that is intended to be delivered largely within a short-term horizon to provide connectivity across the City

**Road Diet:** A re-organization of the existing road space without significant civil works, which reduces the overall cost and schedule needed to implement cycling facilities (e.g. narrowing lanes or reducing the number of travel lanes)

**Tactical Urbanism:** Tactical urbanism includes low-cost, temporary changes to the built environment, usually in cities, intended to improve local neighbourhoods and city gathering places, traditionally initiated by community members

**Traffic Calming:** Strategies and tools used to manage traffic volumes and speeds (e.g. raised medians, speed humps, chicanes etc.)

**Transportation Demand Management:** Strategies and policies used to reduce congestion and increase the use of sustainable modes of transportation

# OVERVIEW

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An active transportation master plan (ATMP) is a long-term plan to guide the development of active transportation networks, policies and programs as part of the broader multi-modal transportation system.

Markham's ATMP includes recommendations under the following key themes to encourage people of all ages and abilities to walk and cycle as transportation options:



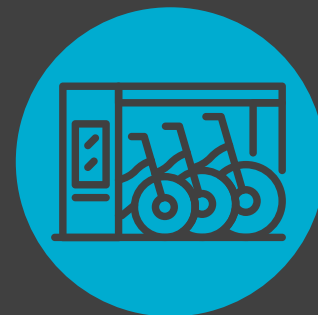
**Pursue Pedestrian  
Network Improvements**



**Connect & Enhance the  
Cycling Network**



**Encourage & Engage our  
Community**



**Evolve Design &  
Maintenance for Active  
Transportation Facilities**

# INVESTING IN ACTIVE TRANSPORTATION

Investment in active transportation has numerous community benefits – it helps to create healthier, happier populations, it improves the environmental outcomes and efficiency of our transportation system, and it has economic benefits such as contributing to local business areas.

During the development of this plan, major events have reinforced the need for a safe, comfortable and well-connected active transportation network in Markham. The COVID-19 pandemic, which hit across Canada and the globe as this report was being prepared, has disrupted traditional travel patterns and behaviours. It has accelerated the use of walking and cycling as viable ways to travel. At the same time, the City has been investigating the safety outcomes of the City street network through a road safety audit and is planning to develop a comprehensive road safety plan.

In addition to the pandemic and safety challenges, the issues of climate change and long-term traffic congestion in Markham emphasize the importance of active transportation. The City's "Getting to Zero: Markham's Municipal Energy Plan" assumes that as part of future scenarios 50% of trips with a length between 1 and 5 km shift to cycling by 2040, and 50% of the potential walking trips that were less than 2 km and were not supporting the travel of another passenger were shifted to walking by 2050. Both goals require a major increase in active transportation infrastructure and programs.

Action is needed now more than ever to provide the infrastructure, programs and policies that are required to ensure safe mobility options are available for all residents, and grow the walking and cycling culture in Markham.

**The Markham Active Transportation Master Plan outlines the policies, directions, steps and projects that need to be undertaken to achieve the goals of the City of Markham and respond to the pressing issues of safety and mobility facing our community.**



# OUR VISION

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## Vision Statement

A vision statement was developed for the ATMP using input from staff, stakeholders, and the public. Key words and phrases identified throughout the consultation were used to build and refine the vision into an aspirational, yet achievable, statement about the future of active transportation in Markham:

**“People walking and cycling in the City of Markham feel safe, encouraged and have a sense of community. Networks are comfortable, accessible, safe, convenient and connected, and provide access to key destinations and transit. Through an on-going culture shift and investment, active transportation is a healthy and effective mode of transportation and a competitive alternative to driving for short trips.”**

## Objectives

The following five objectives guided the development of the Active Transportation Master Plan for Markham:

1. Create education and outreach opportunities in order to raise awareness of active transportation in the City of Markham by engaging and consulting with stakeholders and members of the community in an open and transparent process during the development of the ATMP.
2. Identify facility improvements and design a high quality on-road and off-road active transportation network that is accessible and connects people to where they work, play and live.
3. Develop an active transportation strategy that looks beyond the network/infrastructure needs and provides guidance on gaining public and political support, shifting behaviour to foster complete communities and strengthening active transportation culture in the City of Markham.
4. Provide high quality connections between the local and regional active transportation network and ensure strong collaboration between City of Markham and York Region in the delivery and implementation of active transportation strategies.
5. Develop a feasible phasing plan for the implementation of a City-wide active transportation network and execution of strategies, programs and activities with careful consideration of resources and financial requirements.

## Public Consultation

Public consultation was a major component of developing the ATMP and the proposed networks. It was critical for the study team to understand the community's needs and desires to develop an accessible, safe, and connected network for people of all ages and abilities.

Throughout the study, the project team held numerous consultation events and activities to gain feedback from residents and key stakeholders. Participants were encouraged to provide input on the issues, needs and strategies that could improve active transportation in Markham. The study included three rounds of consultation, with a combination of open houses and pop-up events, presentations, online consultations, etc. The study team also engaged regularly with a technical advisory group of key stakeholders.

Common responses received throughout the three rounds of engagement included:

- Support programming activities and initiatives (e.g. Markham Cycles Hub, educational safety campaigns, etc.);
- Provide more connections to GO stations;
- Help cyclists cross major barriers in the existing network;
- Focus on safety, especially year-round maintenance;
- Identify a network of AAA (All Ages and Abilities) cycling facilities to support children and families;
- Address sidewalk gaps near schools and senior's communities; and
- Establish a clear and connected network of multi-use paths across Markham.



# UNDERSTANDING THE CONTEXT

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## Study Foundations

Prior to the development of the ATMP, the City of Markham's Cycling Master Plan (2010) and the City of Markham's Pathways & Trails Master Plan (2009) were used to guide investment in active transportation. The ATMP updates the networks and strategies that have been identified and implemented from these plans to ensure the development and implementation of a coordinated and connected active transportation network.

## Policy Support

Policy documents at the provincial, regional, and local level demonstrate support for active transportation. The ATMP is intended to reflect the policies of these documents related to safety, sustainability and health, as it strives to achieve Markham's vision for active transportation. Exhibit E-1 lists key policy and plan documents from all levels of government that emphasize support for active transportation.

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## Building Markham's Future Together

The City of Markham developed a Strategic Plan, **Building Markham's Future Together** to guide decisions for Markham's future. One of the strategic actions identified in BMFT was Action 3.1.5 to implement an active transportation master plan and first and last mile solutions (biking, walking, transit). The ATMP will also support key objectives of the Strategic Plan based on:

- **Economic benefits such as lowering the cost of transportation for individuals, reducing traffic congestion, contributing to vibrant local business areas, and reducing externalized societal costs;**
- **Health benefits such as decreasing the risk of obesity, providing opportunities to embed physical activity into daily routines, and improving mental health;**
- **Community benefits such as providing more equitable transportation options for residents, increasing social interaction, and improving quality of life; and**
- **Environmental benefits such as reducing greenhouse gas emissions, providing more efficient forms of transportation, reducing air pollution, and reducing energy consumption.**

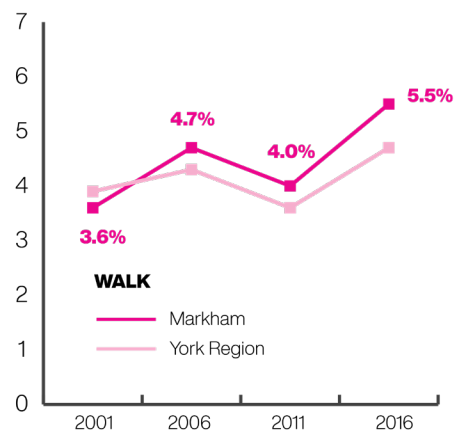
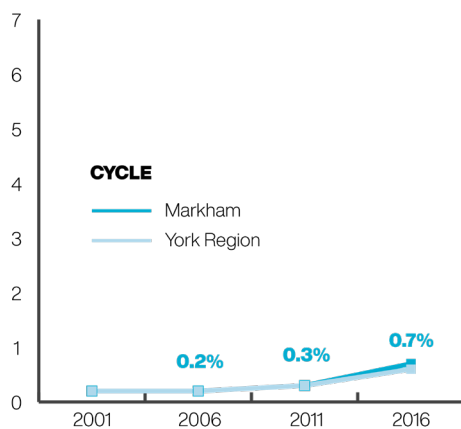
<b>PROVINCIAL</b>	<ul style="list-style-type: none"> <li>• Provincial Policy Statement (2020)</li> <li>• <b>Places to Grow:</b> Growth Plan for the Greater Golden Horseshoe (2017)</li> <li>• #CycleON – Ontario’s Cycling Strategy (2013), Action Plan 1.0 (2014), &amp; Action Plan 2.0 (2018)</li> <li>• Metrolinx 2041 Regional Transportation Plan (2016)</li> <li>• Metrolinx GO Rail Station Access Plan (2016)</li> </ul>
<b>YORK REGION</b>	<ul style="list-style-type: none"> <li>• <b>York Region Vision 2051:</b> strong, caring, safe communities</li> <li>• York Region Official Plan (2016)</li> <li>• York Region Transportation Master Plan (2016)</li> </ul>
<b>CITY OF MARKHAM</b>	<ul style="list-style-type: none"> <li>• City of Markham Official Plan (2014)</li> <li>• <b>Building Markham’s Future Together:</b> Strategic Plan (2020-2023)</li> <li>• Greenprint Community Sustainability Plan (2011)</li> <li>• Markham Municipal Energy Plan (2017)</li> <li>• Integrated Leisure Master Plan (2019)</li> </ul>

*Exhibit E-1: Provincial, Regional and Local Policies and Plans Supportive of Active Transportation*

## How Markham Moves

The ATMP analyzes travel trends for active transportation in Markham and York Region, drawing on data from the Transportation Tomorrow Survey. Key findings of the review include:

- Cycling mode share is small, but growing (from 0.1% in 2001 to 0.7% in 2016);
- Walking mode share is growing (from 3.6% in 2001 to 5.5% in 2016);
- Many short trips have the potential to be converted to active transportation – currently, two thirds of trips under 2 km are taken by car; vehicle ownership per household is decreasing, and there are fewer vehicles per household than throughout York Region; and
- The share of young adults without a driver’s licence is growing as young adults are increasingly opting for other mobility options such as ride sharing, walking, cycling, and transit.



*Exhibit E-2: Mode Share Trends for All Trips from and within Markham and York Region*



# KEY CONSIDERATIONS AND EMERGING TRENDS

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The following factors have emerged in municipalities across Canada in recent years and are taking on increasing importance in active transportation planning. They are key considerations in the development of the plan.

## Equity

Historically, transportation planning has resulted in decisions that disproportionately disadvantage members of our communities based on physical or cognitive ability, age, race, income, gender, spoken language, etc. It is important that transportation planning recognizes the needs of vulnerable populations and uses strategies to overcome barriers to transportation equity. Equity has been incorporated into the ATMP by:

- Providing consultation activities in a variety of formats and venues;
- Explicitly considering factors such as income, access to community destinations and senior/youth populations in network development;
- Focusing on creating a network of All Ages & Abilities (AAA) facilities that serves a variety of residents; and
- Tying key recommendations to needs of specific vulnerable populations (e.g. new immigrants, minority populations, and children and youth).

## All Ages & Abilities

A network of All Ages & Abilities (AAA) cycling facilities aims to target the ‘interested but concerned’ portion of the population – people that are interested and open to cycling but require the provision of an equitable network of safe and comfortable facilities to support them. A network of AAA cycling facilities would increase comfort and safety for more vulnerable users such as children, seniors, people of colour, people with disabilities, etc. This is addressed in the ATMP by:

- Identifying a core network of AAA cycling facilities as part of the short-term priority cycling network, primarily comprised of quiet streets, multi-use paths and protected bike lanes/cycle tracks.

## Micromobility

Micromobility refers to small, lower-speed, personal transportation devices, either powered or self-propelled, typically intended for shorter trips (e.g. bicycles, e-bikes and kick e-scooters). Micromobility options are increasingly viewed as important components of the overall transportation system, particularly for first-last kilometre connections to major transit stations. Micromobility is considered in the ATMP by:

- Encouraging improvements to the walking and cycling networks, indirectly supporting the implementation of micromobility options within the City; and
- Exploring micromobility as a mode of transportation for the first kilometre/last kilometre access to rapid transit stations.

# KEY THEMES

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Recommendations in the ATMP have been divided into four key themes based on the vision and stakeholder input, and ensure the ATMP addresses the safety and comfort of pedestrians and cyclists.



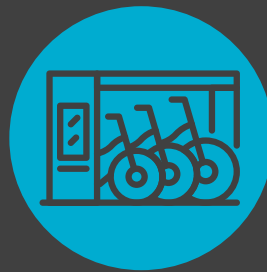
**Pursue Pedestrian Network Improvements**



**Connect & Enhance the Cycling Network**



**Encourage & Engage Our Community**



**Evolve Design & Maintenance**

A high-level overview of each theme is provided in the following sections; detailed recommendations are listed in Exhibit 3. Recommendations within the ATMP can be generally categorized into the following types of recommendations:

- continuing with existing programs;
- expanding existing programs; and
- new programs.

Important new programs of the ATMP are highlighted in each section.



## Theme 1

# PURSuing PEDESTRIAN NETWORK IMPROVEMENTS



Walking is a major component of active transportation in Markham. Active transportation infrastructure should support pedestrians by creating accessible, safe, and comfortable environments for walking. It is important that the ATMP addresses barriers in the existing network for pedestrians to ensure walking is a viable option for residents. The recommendations in this section focus on enhancing pedestrian safety, providing better connections for those travelling on foot, and promoting walking as an attractive transportation option in Markham. The recommendations are grouped into the following four action areas:

Traffic calming is also important for pedestrians - see Theme 4 for more information.

- Address city-wide sidewalk gaps;
- Enhance Pedestrian Priority Areas;
- Facilitate safe crossings;
- Improve accessibility & safety at intersections; and
- Connect school sites.



## NEW PROGRAMS

**Pedestrian Priority Areas:** In addition to addressing sidewalk gaps throughout the City, the ATMP recommends targeting investment in key neighborhoods to help improve connectivity. These high-priority areas were identified based on a variety of factors such as pedestrian-vehicle collisions, proximity to GO stations, income distribution and the concentration of sidewalk gaps. A map of the pedestrian priority areas is appended to the Executive Summary, and area-specific maps describing proposed interventions are appended to the ATMP report.

**Pedestrian Safety Countermeasures at Signalized Intersections:** The ATMP recommends developing a warranting and review program through the City's Road Safety Plan to implement countermeasures such as leading pedestrian intervals (LPI), Right-Turn-on-Red (RTOR) restrictions; and increased walking time for pedestrian phases. It is recommended that the City prioritize signalized intersections with heavy pedestrian volumes, a history of pedestrian collisions, or anticipated use by vulnerable populations such as children, seniors, low income residents, new immigrants and/or aboriginal residents.

**Year-round Maintenance of Pathways near Schools:** The ATMP recommends working with School Travel Planning partners to identify candidate pathways for winter maintenance as a pilot at 5-10 school sites. Pedestrian pathways connecting to school sites not maintained year-round are significant barriers for students walking to and from school. Key links can be identified through the School Travel Planning process, then funding implications can be identified.

## Theme 2

# CONNECTING & ENHANCING THE CYCLING NETWORK

Cycling is a growing mode of active transportation in Markham. The City's Cycling Master Plan (2010) and Pathways and Trails Master Plan (2009) have led to significant improvements to the cycling infrastructure and facilities in Markham. It is important to continue to pursue further network improvements and expansions to make cycling a safer option for people of all ages and abilities in Markham.

This theme focuses on areas of concern in the cycling network and uses core recommendations to address them through network and facility improvements. Supporting maps are appended to the executive summary. The recommendations under this theme are divided into the following key strategies:

- > Upgrade the Existing Network;
- > Create a Short-Term Priority Network;
- > Pursue a Long-Term Network Vision; and
- > Support the Network.

**Existing cycling network length: ~116km\***

**Proposed ultimate cycling network length: ~305km\***

\*Excludes shared roadways and upgrades to existing facilities

## NEW PROGRAMS

**Intersection Upgrades to Existing Cycling Facilities:** Many existing cycling facilities have gaps at intersections where the bikeway has been dropped in order to add vehicular turn lanes. Intersections are where cyclists are most vulnerable to conflicts with vehicular traffic. The City's on-going Road Safety Audit and upcoming Road Safety Plan can be used to identify these gaps and appropriate upgrades, such as lane narrowing, turn lane removal, or localized road widening to improve the accommodation of cyclists at intersections.

**Linear Upgrades to Existing Cycling Facilities:** In order to ensure a consistent, high-quality network, a number of upgrades need to be made to Markham's existing cycling facilities, including recreational trails, multi-use paths, and on- and off-road cycling facilities. Improvements including wayfinding and signage, introducing traffic control measures, and upgrading cycling facilities to better reflect the roadway context. These upgrades generally consist primarily of low-cost solutions that will significantly improve the network.

**Automatic Cycling Counters:** Bundling the delivery of automatic cycling counters with major capital projects that include cycling infrastructure provides an efficient way to improve the data collection capabilities of the City. It will help with the understanding of the usage of individual cycling routes, and the return on investment in the cycling network. Higher profile routes could include an informational totem that displays the number of cyclists that day or year-to-date, building public awareness of cycling use.

## Theme 3

# ENCOURAGING & ENGAGING OUR COMMUNITY

An important aspect of promoting a shift towards active transportation, in concert with developing an active transportation network, is growing a supportive walking and cycling culture in Markham. Recommendations are provided under the following key strategies:

- Support Active School Travel;
- Build a Sense of Community; and
- Inform, Educate, Engage, Encourage.

The recommendations consist of continuation and expansion of existing programs and partnerships such as Ontario Active School Travel, Markham Cycles Hub, Smart Commute Markham Richmond Hill, the City's Transportation Demand Management initiatives, Bike to Work Week, Jane's Walk, Markham Cycling Day, trail & cycling map updates, Bike n' Ride service, York Regional Police online bike registry program, wayfinding for pedestrians and cyclists, and the City's event bicycle parking program.

## EXPANDING PROGRAM



**Markham Cycles Hub:** Markham Cycles is the first community cycling hub in York Region. Initiated in 2019, it offers services, programs, and workshops aimed at establishing a stronger cycling culture in Markham. Markham Cycles has taken over some of the program previously delivered by the City such as cycling and cycling maintenance classes, so they

serve a key role in supporting cycling programming across the City.

Some of these services include:

- Bike Rescue Program
- Group Rides
- Bike Host
- Bicycle Library
- Learn to Ride Class

## NEW PROGRAM

**Communications Strategy for Complete Streets & Road Diets:** The ATMP includes a significant emphasis on implementing lane reconfigurations and road diets to provide improved pedestrian and cycling facilities within a short time-frame. Educational and engagement materials can be developed to illustrate community benefits of complete streets and road diets, such as reducing speeding within residential neighbourhoods, improving ease of midblock crossings, providing additional space for greenery in planters, and improving space and amenities for pedestrians and cyclists.



## EXPANDING PROGRAM



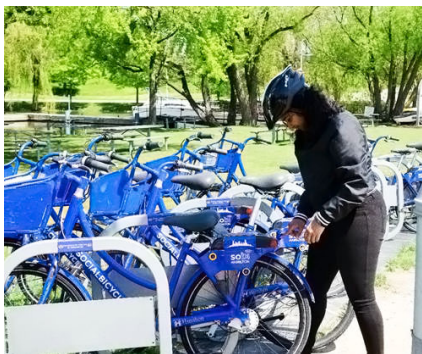
**Open Streets Program:** Markham Cycling Day is an annual day-long event which offers a safe, fun, and educational environment for residents of all ages and abilities to get out and be active on a bicycle. It includes a variety of events for children and adults of all skill-levels and provides an opportunity for the community to come together to support Markham's growing cycling community. As York Region's largest cycling event, there is potential to continue the momentum of Markham Cycling Day and consider a weekly or seasonal Open Streets Program.

## EXPANDING PROGRAM

**Cycling and Pedestrian Safety and Awareness Program (CPSAP):** This program would provide a variety of resources including communication strategies, comprehensive program and webinars, workshops, training etc. related to safe walking and cycling, driver education related to vulnerable road user safety and new infrastructure interventions (for example, pedestrian crossovers). The program can also address interactions between pathway users and path etiquette, including proper behaviours for those on new mobility forms such as e-scooters and e-bikes.

- Build upon work of Smart Commute & Markham Cycles
- Expand beyond communication campaign: Comprehensive program webinars, workshops, training etc. including Bruce Mills Safety Village

## NEW PROGRAM



**Shared Micromobility Program:** Building upon the findings of York Region's Evaluation of Bike Share Program Potential report, the City should investigate the feasibility of a publicly, non-profit or privately owned / operated bike, e-assist bike and/or scooter share system within high-potential areas identified such as Unionville, Mount Joy, and Milliken. A successful micromobility share system can promote efficient ways to travel, especially for shorter trips, and can provide connections to transit for first-last kilometre. City ownership, or a publicly subsidized non-profit operations would allow greater control over operations, the placement of stations, and quality of service. From a user's perspective, micromobility enables one-way trips and increased multi-modal flexibility, removes concern over theft or damage to a personal bicycle or e-scooter, and eliminates the need for secure storage at home, among other conveniences.

## Theme 4

# EVOLVING DESIGN & MAINTENANCE

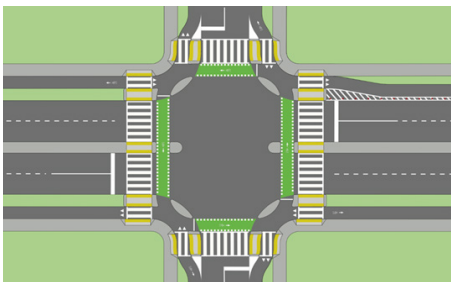
Best practices in active transportation infrastructure design are continuously evolving. Higher-order facilities including cycle tracks and multi-use paths are becoming more commonplace as the focus in cycling facility selection and design shifts towards emphasizing safe mobility for people of all ages and abilities. Maintenance and operations activities are also a key priority identified amongst pedestrians and cyclists we consulted during the plan. Recommendations under this theme are structured around the following key strategies:

- Evolve Facility Selection & Design Practices;
- Support Walking & Cycling through Urban Design, Traffic Calming and Improved Road Design Practices;
- Evaluate a Year-Round Cycling Network; and
- Review Sidewalk Maintenance Prioritization Process.



Evolving design and maintenance is an important component in meeting the objectives of Markham's Strategic Plan, increasing safety, accessibility, and comfort for all users, resulting in healthier and more sustainable communities. For new developments, cycling facility selection process, design criteria, and standard cross-sections and engineering drawings are recommended to be updated to be more supportive of active transportation. Walking and cycling can be enhanced by updating the City's traffic calming policies and practices, and considering traffic calming features when planning and designing AT projects. Sidewalk winter maintenance prioritization should be reviewed to consider community destinations, employment centres, major transit stations/stops, and areas with vulnerable populations.

## NEW PROGRAM



**Design Practices and Guidance for Separated Cycling Facilities and Intersection Treatments:** As part of the development of this Active Transportation Master Plan, new design guidelines focused on separated cycling facilities have been developed. These guidelines highlight midblock, intersection and facility transition treatments for cycle tracks and multi-use paths. At intersections, the guidelines focus on protected intersection treatments that provide dedicated waiting space for pedestrians and cyclists within intersection corners, and provide safety enhancements such as a corner refuge island to slow turning vehicles, and median refuge islands.



## NEW PROGRAM



**Winter Maintenance Pilot Project of a Cycling Spine Network:** An important step in growing winter cycling is the designation of a winter cycling network. This network should be comprised of a connected grid of higher-order cycling facilities that are prioritized to receive the highest level of service for snow clearing and de-icing. A winter cycling network provides a predictable, safe network for cyclists, as they know they will be cleared of snow with the highest priority. A pilot project is recommended to identify a winter maintenance cycling spine network and appropriate maintenance practices and equipment, and evaluate the cost, effectiveness and uptake. It could be expanded over time as the winter cycling culture and ridership builds.

## EXPANDING PROGRAM



**Traffic Calming:** Since vehicular speed is directly linked with the safety of vulnerable road users, traffic calming features that help to control and reduce vehicular operating speeds are important as a tool in improving and enhancing cyclists and pedestrian safety and comfort in retrofit conditions. Many of the proposed cycling and pedestrian facilities identified in the ATMP would be enhanced and supplemented through the introduction of traffic calming features in conjunction with the implementation. Therefore, it is recommended that the City routinely consider opportunities to implement traffic calming features to further enhance pedestrian & cyclist projects as they are planned & designed.





# IMPLEMENTATION

The foundations of a preliminary monitoring plan have been identified in order to ensure that the recommendations of the ATMP can be implemented effectively. A monitoring program will allow the City to evaluate the progress of this plan and ensure accountability and transparency as the recommendations are implemented. The ATMP recommends using network-based indicators to track the progress of cycling and pedestrian network implementations, as well as using 2016 base data from the Transportation Tomorrow Survey to measure the success of the plan. As a critical document that contributes to realizing the City's Strategic and Official Plans, the ATMP is recommended to be reviewed at least every 5 years.

## NEW PROGRAM



Source: HUB/Translink

### **Annual Tracking of Key Performance Indicators & Development of “State of Cycling Report”:**

Tracking the progress of this plan will help keep it on track and maintain the momentum built by initiatives leading up to this study. Key performance indicators, based on available data, can be used to assess the annual progress of implementing the walking and cycling networks. Travel characteristics can be assessed every five years with data from the Transportation Tomorrow Survey, such as mode share, vehicle ownership rates, short trip characteristics, etc. Another important indicator is injuries and deaths of vulnerable users which can be explored and reported within this report. This information can be developed into a “State of Cycling Report”, providing an opportunity for the public to provide feedback to help guide future decision-making. The City will need to develop a cycling data collection program in order to produce a state of cycling report on a five-year basis, and may consider applying a bicycle level-of-traffic stress analysis measuring the comfort of the network as it is upgraded and expanded.

# EXHIBIT E-3: SUMMARY OF RECOMMENDATIONS

ACTION	SHORT-TERM (2021-2026)	MEDIUM-TERM (2026-2036)	LONG-TERM (BEYOND 2036)	PROGRAM STATUS
<b>PURSUING PEDESTRIAN NETWORK IMPROVEMENTS</b>				
P1. Continue to fill sidewalk gaps along collector and arterial roads at an accelerated rate through the established Sidewalk Network Completion Program.	Continue	Complete	–	Existing
P2. Implement a program to address Pedestrian Priority Area recommendations on an on-going basis.	Initiate	Review Areas & Continue	Continue	New
P3. Undertake a network screening process to identify priority locations for midblock pedestrian crossings along multi-lane collector roads with the intent of implementing two new or upgraded crossings annually.	Expand	Continue	Continue	Expanded
P4. Continue to implement AODA upgrades at unsignalized intersections once all City signalized intersection upgrades are complete.	Transition from signalized to unsignalized	Continue	Continue	New
P5. Develop a warranting and review program to implement pedestrian safety countermeasures at signalized intersections.	Initiate	Continue	Continue	New
P6. Consider traffic calming measures and vehicle exclusion zones as tools in the School Travel Planning process.	Expand	Continue	Continue	Expanded
P7. Work with School Travel Planning partners to identify candidate pathways for year-round municipal maintenance as a pilot at 5-10 school sites.	Initiate	Continue	Continue	New
<b>CONNECTING &amp; ENHANCING THE CYCLING NETWORK</b>				
C1. Implement linear upgrades to existing cycling facilities to enhance pavement markings, signage and overall comfort.	Initiate	Continue	Continue	New
C2. Review and identify intersection upgrades to existing cycling facilities to enhance pavement markings & signage, provide continuity through intersections and improve the ease of crossings.	Initiate	Continue	Continue	New
C3. Implement cycling facilities along the priority network within a 5-year horizon to significantly improve the connectivity and appeal of the cycling network over the short-term horizon.	Expand & Continue	–	–	Expanded
C4. Advance projects towards completion of the ultimate cycling network plan, including the bundling of cycling facilities with new development, capital projects and standalone interventions.	Expand	Continue	Continue	Expanded
C5. Launch a bicycle parking business partnership program, providing support for businesses wishing to provide and install bike parking.	Expand	Continue	Continue	Expanded
C6. Bundle the delivery of automatic cycling counters with major capital projects including cycling infrastructure.	Initiate	Continue	Continue	New

ACTION	SHORT-TERM (2021-2026)	MEDIUM-TERM (2026-2036)	LONG-TERM (BEYOND 2036)	PROGRAM STATUS
<b>ENCOURAGING OUR COMMUNITY</b>				
E1. Expand the Active Travel to School Pilot program to other school locations throughout Markham.	Expand	Continue	Continue	Expanded
E2. Coordinate with the Bruce's Mill safety village to promote traffic education and encourage active transportation in children.	Expand	Continue	Continue	Expanded
E3. Support and expand the role of Markham Cycles Bike Hub.	Expand	Continue	Continue	Expanded
E4. Continue to support Transportation Demand Management initiatives.	Expand	Continue	Continue	Expanded
E5. Continue to support the growth of annual bike initiatives.	Expand	Continue	Continue	Expanded
E6. Expand Markham's support for Jane's walk through facilitating the organization of more walks and promotional materials.	Expand	Continue	Continue	Expanded
E7. Continue to support the growth of Markham Cycling Day and explore the expansion of Markham Cycling Day into a broader open streets program.	Expand	Continue	Continue	Expanded
E8. Explore the creation of a tactical urbanism materials lab and supportive programming such as Park(ing) day and design workshops. In addition, develop a process that facilitates the safe implementation of tactical urbanism installations by residents.	Initiate	Continue	Continue	New
E9. Support the development of an active transportation lecture/webinar series.	Initiate	Continue	Continue	New
E10. Continue to support the delivery of cycling maps and explore the development of an app-based map. Coordinate with third party trip planning apps (e.g. google) to ensure up to date route information.	Expand	Continue	Continue	Expanded
E11. Continue to support the Bike n' Ride service, coordinate with VIVA to deliver practice opportunities for residents, and explore the provision of a free barrier crossing service.	Expand	Continue	Continue	Expanded
E12. Support York Regional Police in exploring the expansion of their online bike registry program to include an app-based approach.	Expand	Continue	Continue	Expanded
E13. Establish a Cycling and Pedestrian Safety and Awareness Program (CPSAP).	Expand	Continue	Continue	Expanded
E14. Develop a cycling data collection program to support a "State of Cycling Report".	Initiate	Continue	Continue	New
E15. Adopt the York Region Sustainable Mobility Wayfinding Guidelines and identify pilot projects for wayfinding implementation.	Expand	Continue	Continue	Expanded
E16. Develop a communications strategy to build resident awareness of complete streets projects, and safety benefits of road diets and infill sidewalk construction.	Initiate	Continue	Continue	New
E17. Explore expanding the bicycle parking program to include bike valet services at major events.	Expand	Continue	Continue	Expanded
E18. Explore Markham's contribution to a local or regional shared micromobility program.	Initiate	Continue	Continue	New

ACTION	SHORT-TERM (2021-2026)	MEDIUM-TERM (2026-2036)	LONG-TERM (BEYOND 2036)	PROGRAM STATUS
<b>EVOLVING DESIGN &amp; MAINTENANCE</b>				
D1: Adopt updated cycling facility selection guidance for new developments.	Expand	Continue	Continue	Expanded
D2: Adopt updated standard cross-sections for new development including various cycling facilities such as cycle tracks, protected bike lanes and multi-use paths.	Expand	Continue	Continue	Expanded
D3: Incorporate emerging design practices and guidance for separated cycling facilities and intersection treatments into future design and delivery projects.	Expand	Continue	Continue	Expanded
D4: Review current design criteria and standard engineering drawings for new development to ensure AT-supportive design.	Initiate	Continue	Continue	New
D5: Routinely consider opportunities to implement traffic calming features to further enhance pedestrian & cyclist projects as they are planned & designed.	Expand	Continue	Continue	Expanded
D6: Explicitly incorporate the perspective of pedestrian and cycling safety and connectivity as part of the traffic calming warrant and toolbox update.	Expand	Continue	Continue	Expanded
D7: Implement a pilot project to provide winter maintenance of a cycling spine network to evaluate costs and uptake.	Initiate	Review	Review	New
D8: Review sidewalk winter maintenance prioritization processes periodically to capture changes in pedestrian needs and usage patterns.	Review	Review	Review	Expanded
<b>IMPLEMENTATION</b>				
I1: Annually track key performance indicators and develop a “State of Cycling Report.”	Expand	Continue	Continue	Expanded
I2: Review the Active Transportation Master Plan and key recommendations regularly (every 5 years at a minimum).	–	Review	Review	Existing

# EXHIBIT E-4: SUMMARY OF COST IMPLICATIONS

Overall funding envelopes by recommendation theme are shown in Exhibit E-4. Funding requirements will be subject to annual budget review processes and may evolve over time.

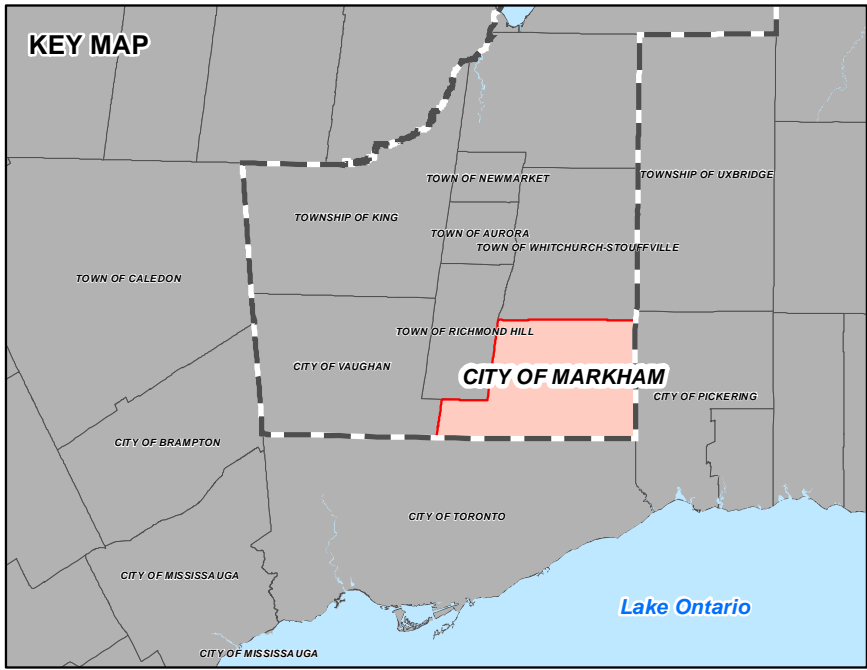
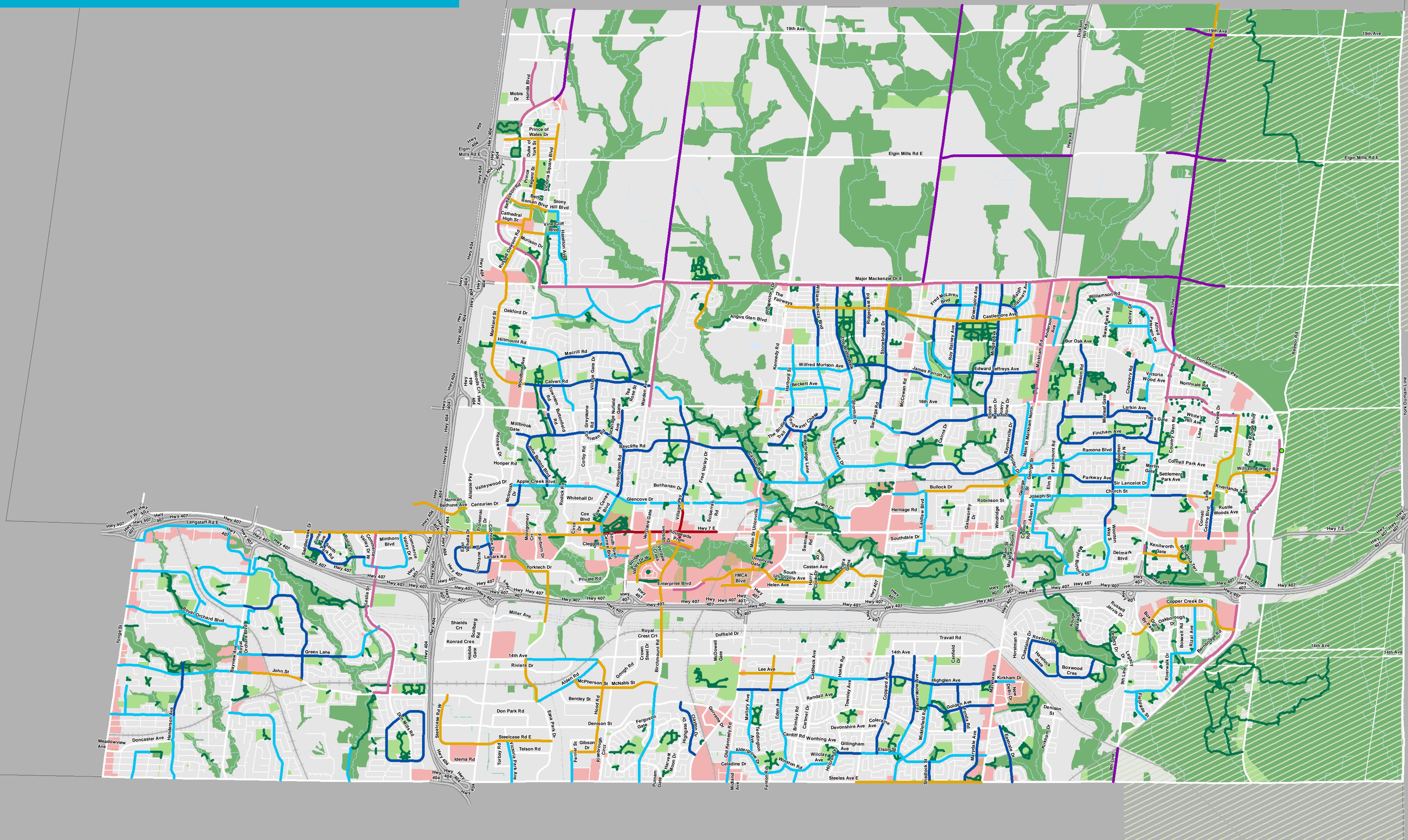
THEME	PROGRAMMING COST (ANNUAL)	SHORT-TERM INFRASTRUCTURE COSTS	ULTIMATE INFRASTRUCTURE COSTS
Pursuing Pedestrian Network Improvements	\$ 35,000.00	\$ 13,050,000.00*	\$ 28,250,000.00*
Connecting & Enhancing the Cycling Network	\$10,000.00	\$ 50,000,000.00	\$ 287,000,000.00
Encouraging Our Community	\$ 307,000.00	\$ -	\$ -
Evolving Design & Maintenance	\$ 50,000.00	Reflected in infrastructure costs	

\*Sidewalk Program costs are subject to change, pending council direction.

# NETWORK MAPS



# Existing Cycling & Trails Network

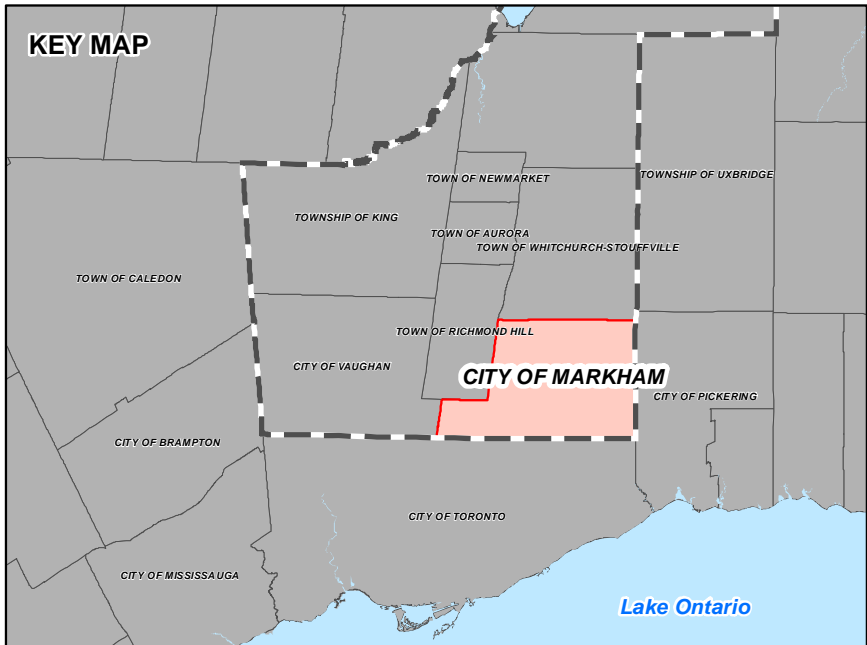
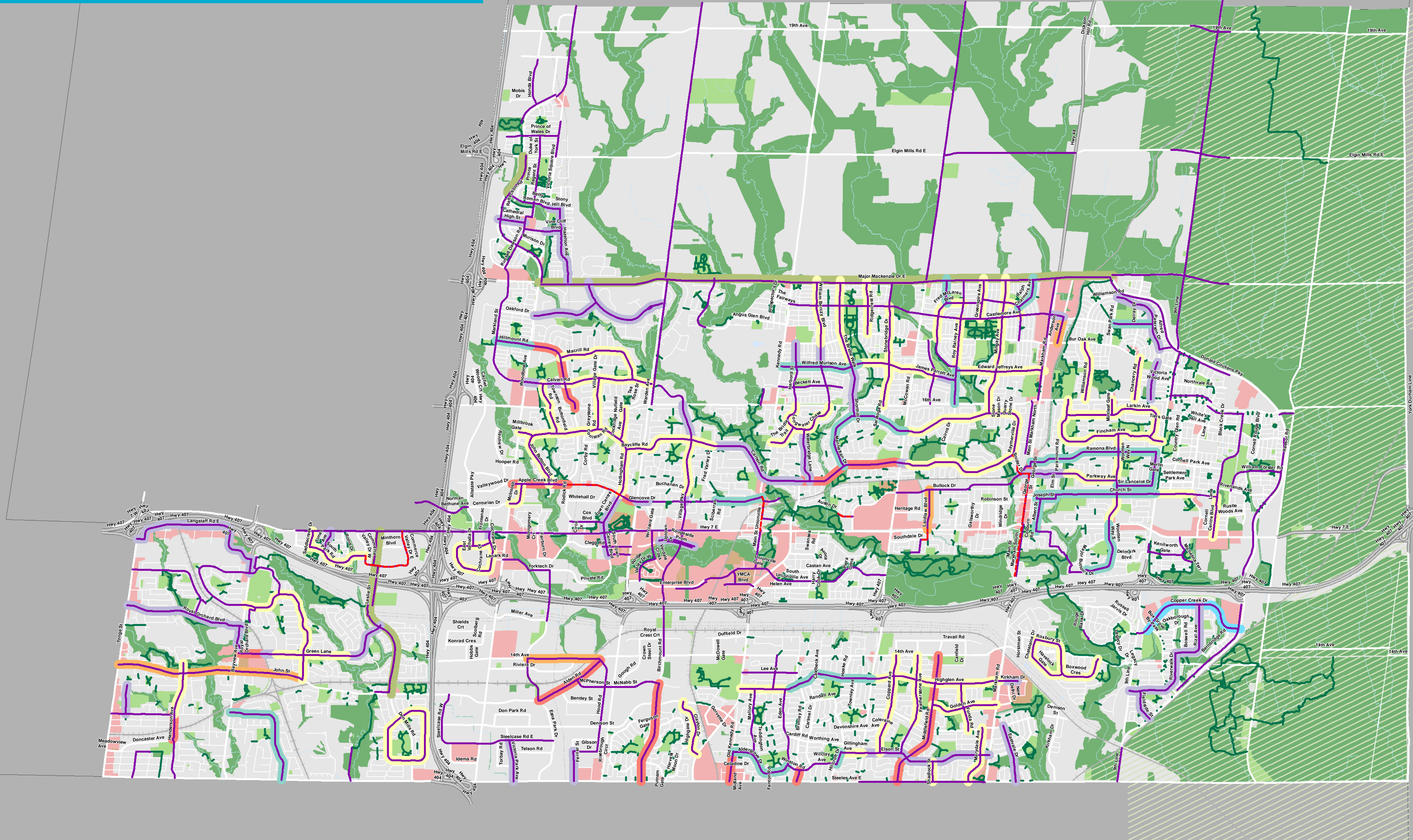


- |                                    |                            |                                |
|------------------------------------|----------------------------|--------------------------------|
| <b>Existing Cycling Network</b>    | Watercourse                | Park                           |
| Bike Lane                          | Utility Line               | Rouge National Urban Park      |
| Cycle Track                        | Rail Line                  | Greenway System                |
| Multi-Use Path or Trail            | Highway / Freeway          | Waterbody                      |
| Paved Shoulder                     | Arterial or Collector Road | Mixed Use and Commercial Areas |
| Shared Roadway with Urban Shoulder | Local Road                 |                                |
| Shared Roadway                     |                            |                                |
| Trail                              |                            |                                |

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# Existing Cycling Network Upgrades



### Existing Cycling Network

Existing Cycling Network

Trail

### Proposed Cycling Network

- Upgrade Existing Shared Roadway with Improved Pavement Markings & Signage
- Upgrade Existing Shared Roadway with Edgelines to Bike Lanes
- Add Bike Lanes / Buffered Bike Lanes to Existing Shared Roadway
- Undertake Road Diet Along a Multi-Lane Road to Provide Conventional, Buffered or Protected Bike Lanes

- Replace Existing Shared Roadway with Separated Cycling Facility (In-Boulevard)
- Desired Connection - No Upgrades Possible at this Time
- Add Multi-Use Path on the Opposite Side of the Street
- Upgrade Existing Bike Lanes to Buffered or Protected Bike Lanes

- Watercourse
- Utility Line
- Rail Line
- Highway / Freeway
- Arterial or Collector Road
- Local Road

- Park
- Rouge National Urban Park
- Greenway System
- Waterbody
- Mixed Use and Commercial Areas

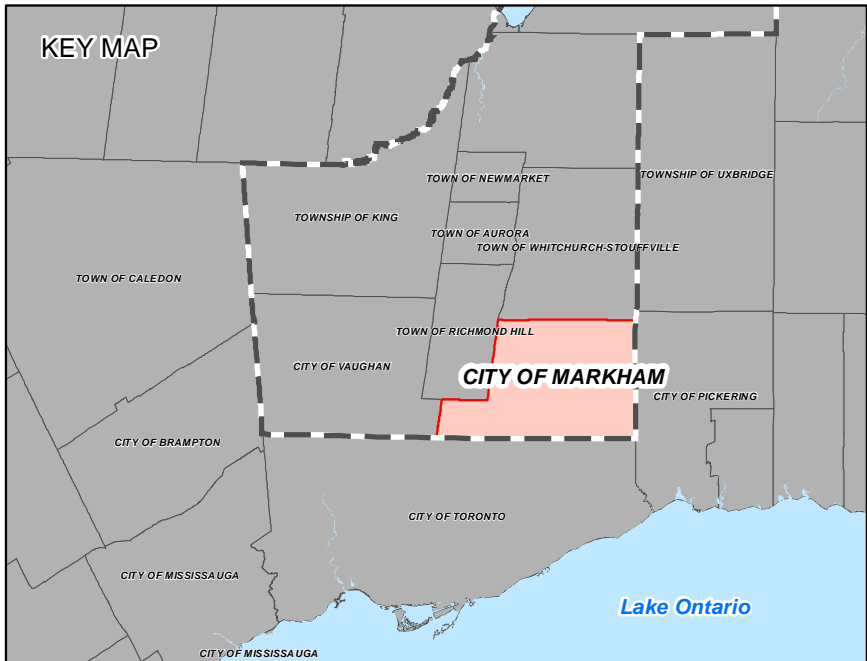
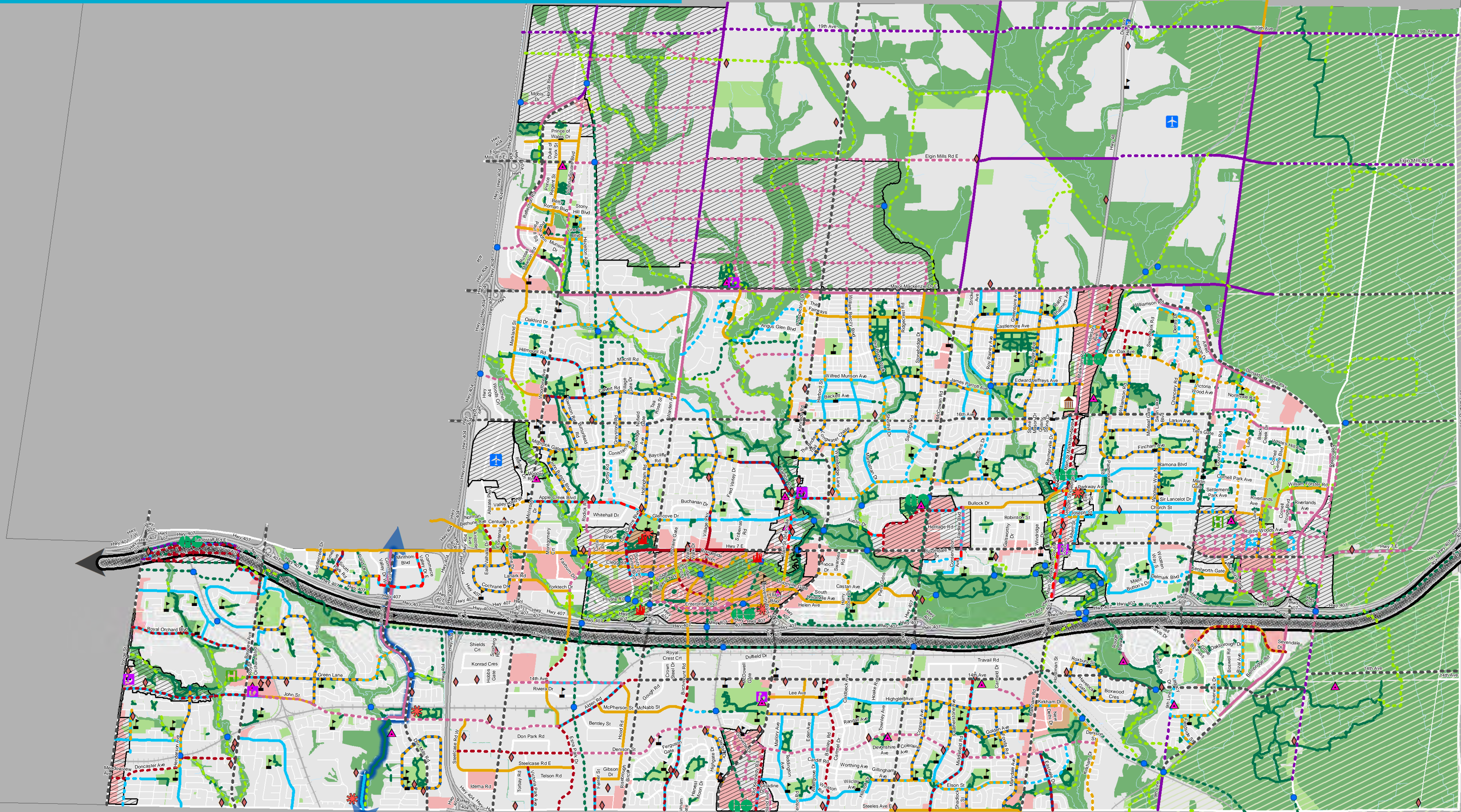


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# Proposed Ultimate Cycling Network & Context



- Existing Cycling Network**
- Bike Lane
  - Cycle Track
  - Multi-Use Path or Trail
  - Paved Shoulder
  - Shared Roadway
  - Shared Roadway with Urban Shoulder
  - Trail

- Proposed Cycling Network**
- - - Bike Lane
  - - - Protected Bike Lane or Cycle Track
  - - - Boulevard Multi-use Path
  - - - Paved Shoulder
  - - - Shared Roadway
  - - - Desired Connection

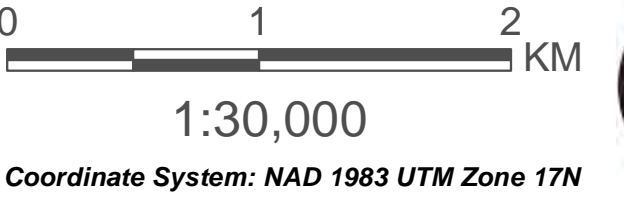
- Regionally Significant Routes**
- Lake to Lake Route
  - Proposed South York Greenway Cycling & Pedestrian Corridor

- Barrier Crossing
- ✈ Airport
- ▲ Community Centre
- ⊕ Go Station
- ⊠ Hospital
- 📖 Library

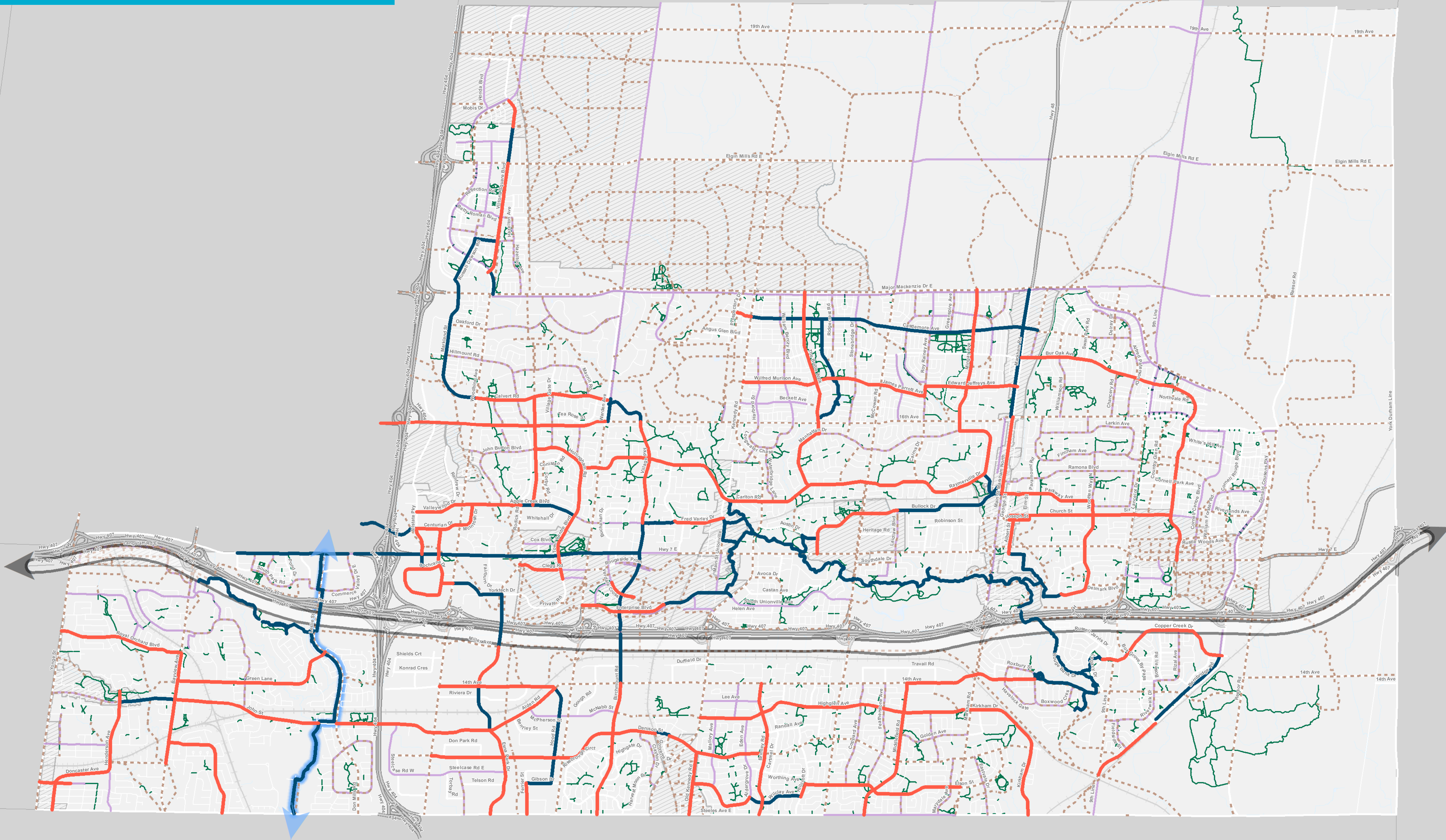
- 🏛 Municipal Government Office
- 🏛 Museum
- ⛪ Place of Worship
- 🌳 Recreational Facility
- 🎓 School

- Watercourse
- Utility Line
- Rail Line
- Highway / Freeway
- Arterial or Collector Road
- Local Road

- Park
- ▨ Rouge National Urban Park
- Greenway System
- Waterbody
- Mixed Use and Commercial Areas
- ▨ Details of Cycling Network Subject to Secondary Plans



# Priority Cycling & Trails Network



- Proposed Priority Network
- Existing Priority Network
- Existing Cycling Network
- Existing Trail
- Lake to Lake Route
- Proposed South York Greenway Cycling & Pedestrian Corridor
- Highway / Freeway
- Arterial or Collector Road
- Local Road
- Watercourse
- Rail Line
- Waterbody
- Details of Cycling Network Subject to Secondary Plans

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