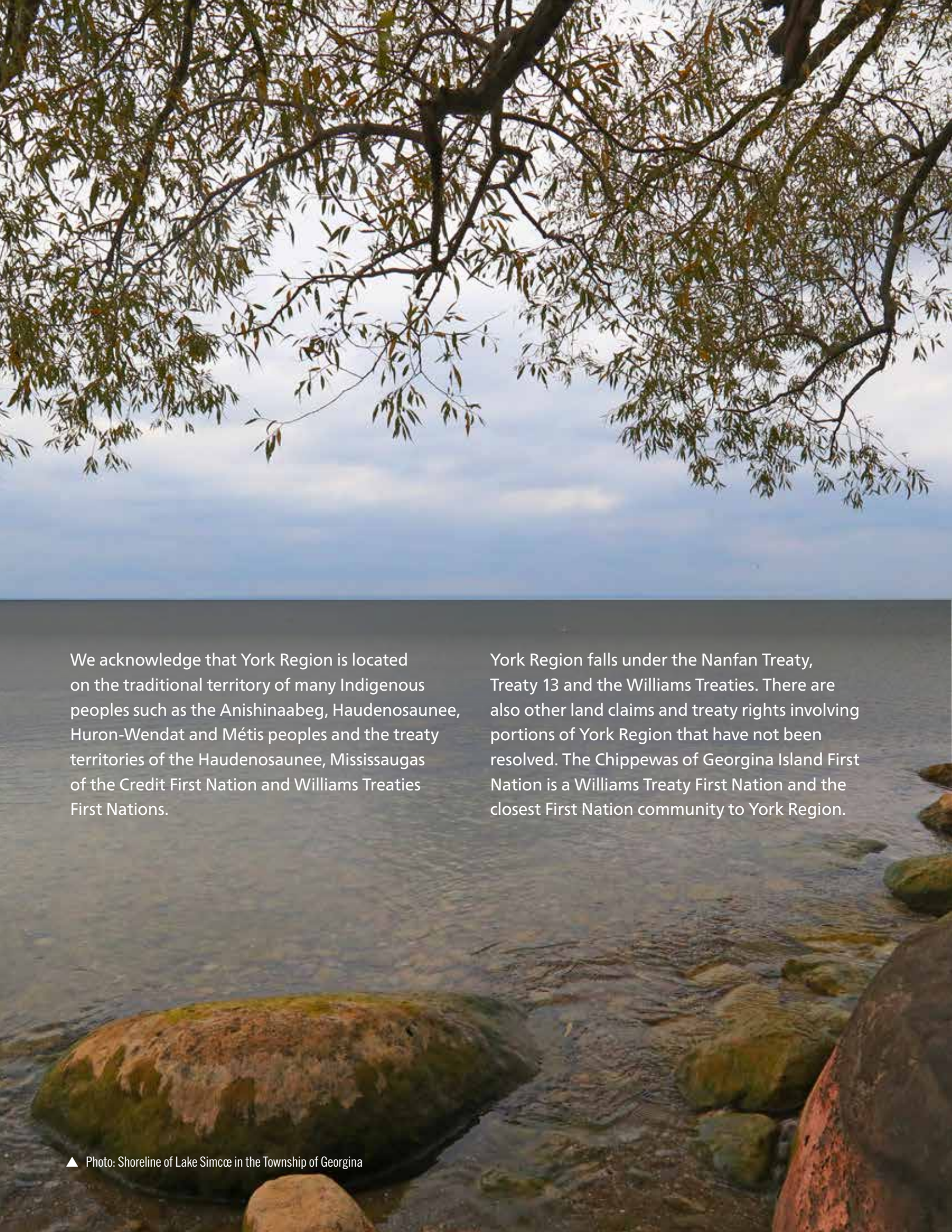
ATTACHMENT 1

2022 YORK REGION

TRANSPORTATION MASTER PLAN

York Region



We acknowledge that York Region is located on the traditional territory of many Indigenous peoples such as the Anishinaabeg, Haudenosaunee, Huron-Wendat and Métis peoples and the treaty territories of the Haudenosaunee, Mississaugas of the Credit First Nation and Williams Treaties First Nations.

York Region falls under the Nanfan Treaty, Treaty 13 and the Williams Treaties. There are also other land claims and treaty rights involving portions of York Region that have not been resolved. The Chippewas of Georgina Island First Nation is a Williams Treaty First Nation and the closest First Nation community to York Region.

▲ Photo: Shoreline of Lake Simcœ in the Township of Georgina

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Chairman & CEO
Wayne Emmerson

Regional Councillor
Joe DiPaola
City of Richmond Hill

A Message from York Region Chairman and CEO and Members of Regional Council

Whether living, working or playing in York Region, transportation remains a vital service, providing travellers with cycling, walking, driving and transit options.

York Region continues to make transportation and transit-related initiatives a key priority, including bringing subway service into the Region and enhancing roads and surrounding infrastructure to support multiple modes of transportation.

The 2022 Transportation Master Plan is a long-term vision for York Region's growing communities, which are expected to grow to more than 2 million people and nearly 1 million jobs by 2051.

The plan looks ahead 30 years and considers transportation infrastructure needs to support growing communities, changing technology and movement of goods.

The 2022 Transportation Master Plan is coordinated with the Region's Official Plan and the Water and Wastewater Master Plan, ensuring a future where Regional services continue to create strong, caring and safe communities.

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▲ Vehicles travel on King Road between Weston Road and Highway 27 in the Township of King.

Executive Summary

York Regional Council's vision of Strong, Caring, Safe Communities guides all Regional departments and staff to be accountable to the communities we serve. The **2022 Transportation Master Plan (TMP)** is the long-term vision for York Region's transportation network and aligns with the Vision's four areas of focus: **Economic Vitality, Good Government, Healthy Communities** and **Sustainable Environment**. The TMP considers the Region's transportation infrastructure needs over the next 30 years to support growth and the changing needs of travellers, while highlighting focus areas for further study.

By 2051, York Region's population is expected to grow to over two million residents and nearly one million jobs. To support growth, the TMP is reviewed every five years to ensure the regional transportation network meets the needs of all motorists, pedestrians, cyclists and transit riders. The 2022 TMP builds upon the elements of the 2016 TMP and has been coordinated to align with the Regional Official Plan and the Water and Wastewater Master Plan updates.

The purpose of the TMP is to guide staff in planning, building, operating and maintaining a connected transportation network that is safe, sustainable, efficient, reliable and ready for the future. It balances the needs of the unique communities across York Region and is further supported by the following objectives:

- **Make the best use of infrastructure and services**: Maximize the effectiveness of the existing road network
- **Encourage all types of travel**: Design Regional roads to accommodate all ages, abilities and modes of travel, including active transportation, transit, passenger vehicles and goods movement
- **Provide a resilient and adaptable transportation network**: Adapt to changing environmental, social, financial and technological landscapes
- **Enhance partnerships**: Recognize the importance of collaborating with the public and private and non-profit organizations to provide transportation infrastructure, programs and services
- **Actively engage and share information**: Learn from all residents and stakeholders
- **Align project costs**: Ensure project costs are consistent with the Region's fiscal strategy, the 10-Year Roads and Transit Capital Construction Program and obtain Regional Council approval annually

The following was considered when updating the 2022 TMP:

- Updates to the Regional Official Plan to accommodate population and job growth in line with new provincial forecasts
- Growing interest in active and eco-friendly travel options, including walking, cycling, carpooling and transit
- Participation and feedback from York Region residents and stakeholders
- Alignment with the Region's fiscal strategy
- Commitments by senior levels of government and the Region to build the Yonge North Subway Extension to the City of Richmond Hill
- Provincial plans for new and extended freeways with provision for parallel corridors dedicated to rapid transit
- New technology to collect and use data to improve efficiency, enhance safety and save costs

▲ Research for the 2022 TMP was conducted during the COVID-19 Pandemic. Unlike previous Master Plans which had in-person Public Information Centres (above left), the 2022 TMP utilized online engagement tools such as virtual consultation, social media and YouTube videos.

York Region's priorities for investment in the 2022 TMP are based on comprehensive input from a wide range of transportation users and other interested parties, including residents, elected officials, municipal, provincial and federal governments, Indigenous communities and other community and agency partners.

The update also reflects long-term trends that have seen transit use grow faster than single-occupant vehicle travel and more reliance on cycling or walking instead of driving for shorter trips.

In developing the 2022 TMP, staff drew on knowledge gained while implementing the 2016 TMP and the impacts of disruptive events like the COVID-19 pandemic. This led to a change in the way the Region now approaches planning:

> **Allow for flexibility**: Having the ability to change plans accordingly to reflect changing travel needs, global events, new technology, regulatory changes and emerging ideas and approaches

> **Advocate for big projects the Region needs**: Advocating for provincial and federal funding as well as approaching other potential funders to share costs will be crucial in delivering the major projects outlined in the 2022 TMP

> **Consider fiscal and environmental bottom lines**: The TMP must align with the Region's ability to pay for the projects outlined, and calls for a prudent approach in planning growth-related capital investments and the impact on the environment

> **Seek and respond to opportunities**: Respond to federal, provincial and other partnership funding opportunities to build roads, transit infrastructure and operating funding

> **Engage more often and more broadly**: Use a variety of techniques / tools, such as online surveys, social media, virtual engagement and post-pandemic in-person opportunities, to ensure as many voices as possible continue to be heard

Over the next five years, staff will monitor and take into consideration the impacts of the COVID-19 pandemic on York Region's transportation network and how it is used.

▼ Pedestrians walk on the sidewalk and cyclists ride in the dedicated on-street bike lane on Timothy Street in the Town of Newmarket.

As a long-term infrastructure plan, the TMP contains three main elements:

1. **Active transportation**: The plan supports a well-integrated and well-connected network of bike lanes, trails and multi-use paths to make these options easier and safer for all users. **(See Maps 1 and 2 in Appendix B)**
2. **Rapid transit**: The Plan recommends additional rapid transit corridors to address the Region's growth to 2051 and beyond. **(See Map 3 in Appendix B)**
3. **Optimized road network**: Investments will target managing traffic flow in the Region's most congested areas, improving roads in new development areas and enabling better access to freeways, Regional Centres, rapid transit and key links to major employment areas by making efficient use of the existing assets, such as roads, lanes and intersections, as well as investing in new projects. **(See Map 4 in Appendix B)**

Transportation network maps have been developed to identify the transportation infrastructure required in York Region by 2051 to provide multiple travel options to serve pedestrians, cyclists, transit users and motorists.

The 2022 TMP identifies five new focus areas that bring together several related priorities:

> **Safety for all travellers**
> **Transportation equity and inclusion**
> **Reduce car travel, especially during rush hours**
> **Fiscal and environmental sustainability**
> **Role and function of Regional corridors**

While many investments and actions within Transportation Operations, Public Works already reflect these priorities, further work and study by the Region and its partners will identify opportunities for new and / or improved approaches. Proposed actions and initiatives will be brought forward to York Regional Council for review and endorsement through the annual capital plans over its next four-year term.

▼ Students cross Leslie Street in the Town of East Gwillimbury with assistance from a crossing guard.

The 2022 TMP was completed following guidance provided by the Municipal Engineers Association. Projects within master plans are subject to provincial environmental legislation, typically under the municipal class environmental assessment process.

The Plan also aligns with other applicable provincial legislation and guidance, including the Provincial Policy Statement, other land-use considerations and Metrolinx and Ministry of Transportation plans.

Progress on achieving the projects and priorities outlined in the 2022 TMP will be monitored through a comprehensive review every five years. In addition, annual status updates will inform York Regional Council and the public on all focus area initiatives and actions, planned and completed work. Developing progress indicators and a framework for reporting will be key initiatives of the first status update.

The draft 2022 TMP identifies five new focus areas that bring together several related priorities: Safety for all travellers, transportation equity and inclusion, reduce car travel, especially during rush hours, fiscal and environmental sustainability and role and function of Regional corridors

▲ Intersection of Yonge Street and Carrville Road in the City of Richmond Hill

In this chapter...

A1 Setting a strategic direction for transportation
A2 Building on past foundations
A3 Understanding travel in York Region and how it is evolving
A4 Traveller feedback was vital to updating the plan

Introduction

A1 Setting a strategic direction for transportation

As York Region grows and changes, the 2022 Transportation Master Plan will set the strategic direction for roads, transit and active transportation options like walking and cycling, allowing people and goods to travel safely and reliably through the Region in environmentally and financially sound ways.

Provincial forecasts, revised in 2020, predict the Region will be home to just over two million residents and almost one million jobs by 2051. The Regional Official Plan, which guides the Region's growth, was updated in 2022 to incorporate this substantial increase. Infrastructure plans, including the TMP, align with the updated Regional Official Plan.

To meet the transportation needs of a growing population, encouraging change in how and when people travel will be needed in addition to expanding Regional roads.

Traveller behaviour is constantly changing. The global COVID-19 pandemic has accelerated a move toward working from home and, while longer-term trends are still uncertain, a large majority of Canadian workers currently show a preference to continue working from home, at least part of the time. This is likely to affect how and when people travel.

▲ Vehicles and YRT bus travel along Yonge Street in the City of Richmond Hill.

The growing urgency to address climate change is also affecting how people travel. Low-carbon transportation options like transit, walking and cycling reduce global greenhouse gas emissions. The Region has set an aspirational goal of net-zero greenhouse gas emissions by 2051 and through its Energy Conservation Demand Management Plan, has committed to shifting its corporate and transit fleets to electric vehicles, including electric buses, by that date. This move and the extension of the Yonge subway line to the City of Richmond Hill represents major steps in the right direction. The move to lower-carbon options will also contribute to healthier communities by encouraging more physical activity and reducing traffic-related pollution and noise.

This TMP builds on a foundation of master plans going back to 2002 that recognized the need for new solutions. With the above factors accelerating the pace of change, the 2022 TMP also provides flexibility as conditions continue to change.

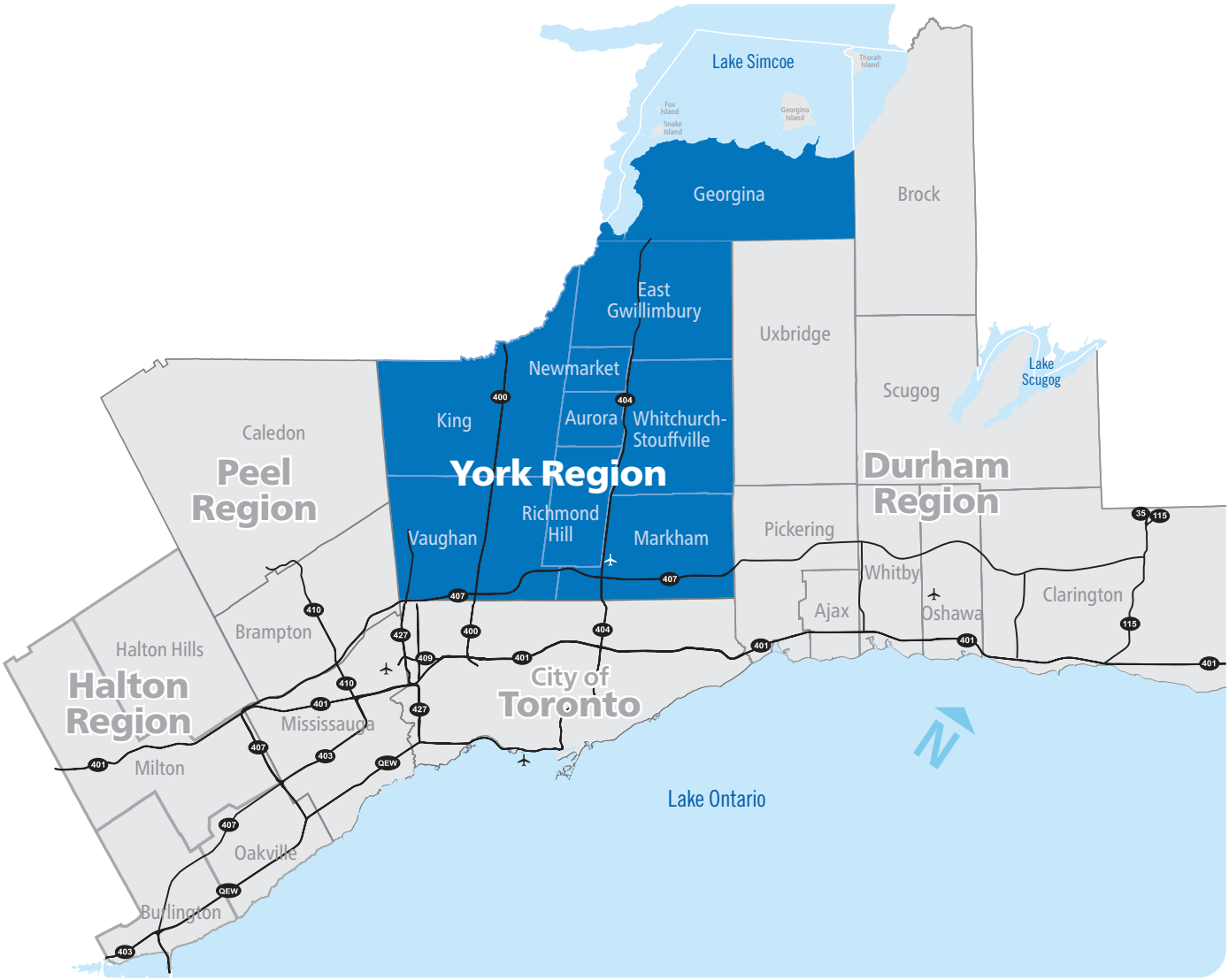
A2 Building on past foundations

Transportation has been critical to York Region's growth since its establishment in 1971 and will continue to play a vital role as the Region continues to accommodate new growth.

The Region was home to 1.2 million people and almost 624,000 jobs in 54,000 business establishments in 2021. Stretching from Steeles Avenue in the south to Lake Simcoe in the north, it encompasses an area of 1,776 square kilometres. Its position directly north of the City of Toronto, as shown in Figure 1, has helped to make it the fastest-growing large municipality in Ontario.

The progressive approach taken in previous transportation master plans has dramatically changed the landscape for transportation in the Region over the past two decades:

- York Region Transit (YRT) operates 34 kilometres of dedicated bus rapidways (or Viva) on Highway 7, Davis Drive and Yonge Street
- YRT service also links to the Vaughan Metropolitan Centre, Metrolinx's GO services and other new stops in the Region along the extended western arm of the subway line (TTC line 1), as well as to Finch station on the Yonge Street line
- Transit services have evolved to reflect new options and changing needs, with a focus on scheduled bus service in high-demand areas and options like on-request service elsewhere
- Numerous growth-related road projects have increased capacity and created connections to transit services and freeways
- Completed projects have filled in missing road links like Bathurst Street north of Green Lane and Bayview Avenue between Stouffville and Bloomington roads and have provided passage across barriers, allowing travellers to cross 400-series highways between interchanges
- The Region has also successfully advocated for the extension of Highway 404 in the towns of East Gwillimbury and Georgina as well as Highway 427 in the City of Vaughan to manage congestion and support planned growth
- Increasing use of intelligent transportation systems, discussed in Section A3.2, is making the network safer and more efficient
- Many road widening projects included the addition of multi-use paths for bicycle and pedestrian traffic or dedicated cycle tracks in roadside boulevards to make active transportation easier and safer for all travellers
- More than 85% of the work on the York Region portion of a 121-kilometre walking and cycling route linking Lake Simcoe to Lake Ontario is complete
- Plans are moving forward for a more than 50-kilometre walking and cycling route (South York Greenway) parallel to Highway 407 to support active and eco-friendly ways of travelling. Details are available at **york.ca / southyorkgreenway**



▲ FIGURE 1: York Region and its nine local municipalities are located centrally within the Greater Toronto Area (GTA).

> The Region continues to support, promote and encourage active and eco-friendly ways of travelling such as walking, cycling, scootering, hiking, carpooling and taking transit

These initiatives provide a strong foundation for continued growth and coordination and connection of transportation in and beyond York Region.

Central to the next phase of growth is the Yonge North Subway Extension which would extend TTC Line 1 to the City of Richmond Hill. This landmark project, which has been a top transit priority for the Region for several years, is being led by the provincial government. Major construction is expected to start in 2023 and to be complete within the next decade.

A3 Understanding travel in York Region and how it is evolving

A3.1 Many travel options within and beyond the Region

The transportation system in York Region includes roads, active transportation, transit and rail lines The Region's direct responsibilities within this network include:

York Region Transit: Operating in all nine local municipalities, YRT offers a range of accessible services, including bus rapid transit, conventional bus and Mobility On-Request and Mobility On-Request Paratransit. It connects travellers to transit services in the City of Toronto, Peel Region, Durham Region and the provincial GO Transit rail and highway bus systems. Strategically located "park and ride" lots encourage drivers to connect to transit for trips into urban areas and key destinations such as Toronto Pearson International Airport. YRT also supports active transportation, with bike racks on the front of buses and bike parking racks at many of its bus terminals, bus stops and Vivastations.

Active transportation and micromobility: Regional road corridors include high-quality facilities such as sidewalks, bike lanes, multi-use paths and bike parking at bus stops and terminals, encouraging travellers to switch to more eco-friendly options. Active transportation includes walking, hiking and cycling. Micromobility, which relies on smaller, electric-powered vehicles like e-bikes and e-scooters, is also emerging as a lower-carbon alternative to gas-powered travel.

Regional roads: The Region is responsible for arterial roads, most of which are typically laid out in a 2-by-2-kilometre grid. These roads are designed to accommodate all types of traffic, including passenger vehicles, trucks for the movement of goods, transit vehicles and bicycles. As the links between local municipal streets and provincial highways, they are critical in moving people and goods throughout the Region.

A3.2 New technology is making travel safer and more efficient

York Region is a leader in adopting intelligent transportation system technologies that collect and use data to improve efficiency, enhance safety and save costs:

- Over 400 Bluetooth sensors installed across the Region allow staff to monitor travel in real time on the road network, identify and respond to bottlenecks and provide alternate route information in response to incidents and adverse weather. This data helps traffic operations staff access the impacts of traffic signal timing changes to alleviate traffic delays and is also used to improve road safety
- YRT has implemented a driver support system to improve ride quality for transit passengers and extend the life of buses. YRT is also piloting a pedestrian warning and collision avoidance system designed to improve the safety of pedestrians and cyclists on increasingly busy streets

The York Region Transportation System includes:

York Region

> Most of arterial roads, typically the 2 km by 2 km grid of roads that criss-crosses the Region
> York Region Transit conventional, Viva and Mobility On-Request services
> Select Regionally designated active transportation infrastructure which can include on-street bike lanes and off-street cycle tracks on Regional roads

Local municipalities in York Region

> Local streets
> Rural arterial roads
> Sidewalks and streetlighting
> Most multi-use paths, trails and other forms of active transportation infrastructure on local and Regional roads

Province of Ontario

> Freeways: Highway 400, 404, 427, 407
> Highways: Highway 9, Highway 48
> GO Transit bus and commuter rail

Partnerships with City of Toronto

> Extending TTC bus service to York Region to provide convenient connections
> TTC subway extension to Vaughan and future Yonge North Subway Extension to Richmond Hill

Rail Authorities

> CN and CP Rail freight rail and intermodal yards

▲ FIGURE 2: Transportation network in York Region.

Safety technologies used in York Region:

Bluetooth and wi-fi sensors

Bus monitoring system

Pedestrian warning and collision avoidance system

Pre-emption for emergency vehicles

- YRT is using a vehicle health monitoring system on electric and diesel transit vehicles to monitor components in real time and identify potential problems early to improve reliability and reduce maintenance costs
- The Region has also undertaken a two-year automated speed enforcement pilot to increase safety in school areas, with the possibility of continuing and expanding the program in the future

A3.3 The network is becoming more coordinated, connected and focused

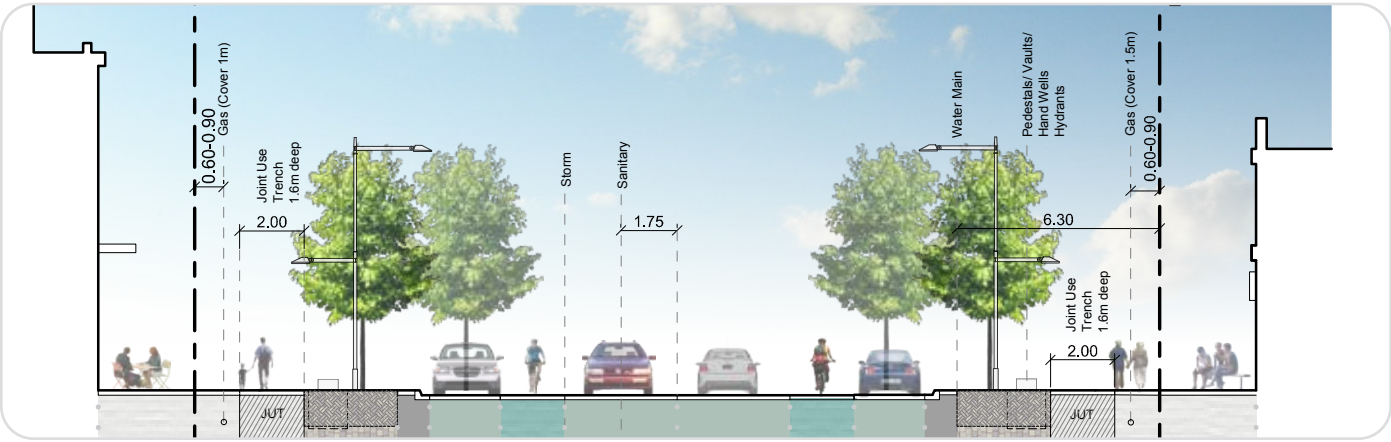
A key aspect of York Region's work is collaborating with other levels of government and the private sector to create an integrated transportation network — one where travellers move not just from street to road to highway in their cars, but where they can travel using several transportation options and transfer easily from one to another.

This is important because travellers are now more likely to use multiple modes of transportation: in addition to or instead of a private vehicle, they are cycling, walking, taking a bus, train or subway and using on-request transit more than travellers in the past. This means the Region and its partners need to include all modes of transportation in the network, including the movement of goods, so they connect, just as Regional roads connect with local streets and provincial highways. The Region and its partners are considering how best to expand this network and add new options, which is discussed further in Chapter E.

The transportation programs and related infrastructure, such as roads, sidewalks, walking and cycling paths, terminals and more, are also evolving to recognize that different population and employment densities call for different transportation options like carpooling, cycling, walking and other human-powered ways of getting around, as well as low-carbon options like e-scooters and e-bikes. These are referred to as "active and eco-friendly options" throughout this document.

For example:

- Supporting investments in bus rapid transit and subway expansion through comprehensive planning and integration with Regional and local official plans and Water and Wastewater Master Plan to align high-density growth, such as in Major Transit Station Areas and Regional Centres, to ensure the efficient movement of people and goods.
- Areas of medium density support conventional scheduled bus service



▲ FIGURE 3: Cross-section of street corridor demonstrating integration of space for multiple modes of travel and utilities. Where feasible, cycling facilities will be relocated to the boulevard.

▲ FIGURE 4: York Region's expected population and employment growth based on Provincial forecasts.

- High- and medium-density areas are also favourable for active and eco-friendly options for trips to school, shopping, work or connecting to public transit
- In communities with the least population, on-request transit services are the most suitable. Cycle tracks and trails are more oriented to recreational use and travel by car for longer trips is more common

The Region's transportation planning is becoming more focused on providing the right services in the right areas at the right time. This supports travel needs effectively while helping to ensure the transportation network and services stay within the Region's financial means.

A3.4 Matching services to land use will be key as communities grow

With roughly 820,000 more people and 366,000 more jobs expected by 2051, York Region will accommodate the largest share of growth of any municipality in the provincial Growth Plan for the Greater Golden Horseshoe Area. This growth (see Figure 4) reflects provincial forecasts.

The updated Regional Official Plan allocates the expected distribution of population and jobs by local municipality, which in turn affects infrastructure needs. It is projected the cities of Vaughan, Markham and Richmond Hill, on the Region's southern border, will account for roughly three-quarters of the Region's population by 2051, similar to the current share.

In the north, the forecast for the Town of East Gwillimbury is to see its population and employment essentially quadruple by 2051. While the Town of Georgina's population increase is projected to be less than the Regional average, the number of jobs is expected to more than double.

The Region must plan now for future transportation needs in these growing communities due to the time it requires to complete major projects like road widening and rapid transit. Anticipating this growth will help to reduce service lags and congestion.

Transportation planning must also integrate with land use planning, including the type of use and expected intensity of development. Growth to 2051 will continue to be focused mainly along two Regional corridors: north-south along Yonge Street and east-west along Highway 7. This is the underlying framework for the Region's Centres and Corridors approach to achieving higher densities, as required under the provincial growth plan for the Greater Golden Horseshoe. The provincial government has recently required upper-tier municipalities, like York Region, to delineate boundaries and set minimum density targets for Major Transit Station Areas around subway, bus rapid transit and GO rail stations.

▲ Traffic congestion at Westburne Drive on Rutherford Road in the City of Vaughan.

The Region's urban system is composed of Regional centres and corridors and major transit station areas within and supporting them, local centres and corridors, community areas and employment areas and several towns and villages. All these areas play a part in accommodating forecasted growth while maintaining their character. It is intended that most new growth for both residents and jobs will be accommodated within these areas.

A3.5 Transportation landscape is changing — and quickly

As new technologies emerge and people choose different ways to travel, transportation planning is required to meet those needs. For example, if more travellers are expected to choose to walk or cycle to their destinations in the future, more walking and cycling paths will be required. The impacts of electric vehicle, e-scooter and e-bike uptake, as well as the continuation of working from home and online shopping trends, are not yet fully understood. The Region will continue to monitor these trends and adjust transportation planning as needed.

▼ Cyclist rides on multi-use path alongside St John's Sideroad in the Town of Aurora.

As the Region continues to grow, options like ridesharing, bike sharing and e-scooter rentals are likely to become more widely available in urban areas, which could change the idea of needing to own a vehicle. These options, which can help manage traffic congestion significantly, are increasingly supported by market-supplied apps that bring data and services together to show travellers the fastest way to get to a destination and allow for easy payment along the way.

There has been much discussion of the future role of autonomous vehicles. Current evidence suggests that, in the short to medium term, the most likely use will be for specific purposes, such as short-local transit trips, with dedicated infrastructure such as fiber optic cable and sensor networks (networks that allow information to be sent to and received from objects and devices), facilities for secure public Wi-Fi and faster mobile networks. Pilot projects around the world are helping to determine how autonomous vehicles might be incorporated safely and more broadly into transportation networks.

York Region has been working with various stakeholders, including the **Canadian Urban Transit Research & Innovation Consortium (CUTRIC)** to identify potential routes to pilot autonomous transit shuttles. Multiple routes have been identified for further evaluation in 2022 to determine suitability for a pilot project.

A4 Traveller feedback was vital to updating the plan

The transportation solutions recommended in the 2022 TMP are estimated to cost $17.2 billion over the next 30 years. Where and how York Region should prioritize investments is based on comprehensive input from a wide range of transportation users and other interested parties, including:

- Residents, neighbourhood associations and community groups
- Businesses and industry, including the development community
- Local municipal councils and staff
- York Regional Council and staff
- Conservation authorities
- School boards
- Emergency services, including York Regional Police
- Neighbouring municipalities
- Indigenous communities
- The provincial government, including the Ministry of Transportation and its transit agency, Metrolinx
- The federal government

Chapter C discusses input into the plan in more detail.

▲ Partnership with York Regional Police on Pedestrian Safety initiative in Holland Landing, Town of East Gwillimbury.

Despite diverse needs across the Region, all residents rely on the transportation network to connect them to homes, workplaces, local businesses, schools and other important destinations.

The Region's economy also depends on a well-designed transportation network. Businesses operate in a global economy that relies on moving people, goods and resources quickly and efficiently. Roads with robust highway, rail and air connections strengthen supply chains and get goods to market faster, while convenient public transit allows employees to get to and from workplaces.

Talking with and listening to a wide range of interested parties helped build a greater understanding of how roads and transit are currently used and, more critically, how the network needs to evolve in the future to continue meeting traveller needs. Ongoing engagement is needed to identify priorities for its transportation investments.

B

In this chapter...

B1 Provincial guidance

B2 York Region Vision, plans and priorities

▲ Runners travel along Nokiidaa Trail in the Town of East Gwillimbury.

Context

The recommendations of the Transportation Master Plan are influenced by legislative requirements of the Province of Ontario and achieve the Region's Vision of "Strong, Caring, Safe Communities." Over the next 30 years, these will continue to evolve, requiring transportation planning to be adaptable and flexible.

Figure 5 provides an overview of York Region's master planning context:

▲ FIGURE 5: Visual demonstrating how the 2022 TMP is shaped.

The next sections in this Chapter provide an overview of the provincial legislation and provincial and regional priorities, polices, and plans that were considered in developing the TMP.

B1 Provincial guidance

The provincial government sets a framework for growth and development in Ontario that municipalities must follow.

This section outlines provincial requirements and plans relevant to the TMP.

B1.1 Provincial Policy Statement

Ontario's Provincial Policy Statement, last updated in 2020, provides policy direction on matters of provincial interest related to land use planning and development, including transportation facilities. The provincial *Planning Act* requires that all planning decisions be consistent with this statement.

The statement supports financial and environmental sustainability, encouraging, and in some cases requiring, municipalities to coordinate infrastructure projects with land use planning, make the best use of existing assets before developing new ones, incorporate green infrastructure where possible and consider climate change impacts.

The statement sets out policies to promote safe and energy-efficient transportation. This includes multiple modes of transportation such as transit, active transportation and private vehicle travel. Municipalities are expected to support this direction with compact development (an urban layout encouraging active transportation, low energy consumption and reduced pollution), mixed land uses and measures to promote a shift to transit, active transportation and other more eco-friendly transportation options.

B1.2 A Place to Grow: Growth Plan for the Greater Golden Horseshoe

The provincial *Places to Grow Act, 2005* and A Place to Grow: Growth Plan for the Greater Golden Horseshoe gives the Ontario government the power to designate growth areas throughout the province and provides population and employment forecasts to 2051. York Region is part of the Greater Golden Horseshoe, an area of some 10,000 square kilometres in south-central Ontario, one of the fastest-growing areas in North America.

The provincial government requires municipalities to identify and plan for infrastructure, such as roads, transit and multi-use paths, needed to support these growth forecasts. York Region and other regional municipalities, in coordination with local municipal planners, identify where the growth can be accommodated and should be focused locally.

The provincial growth plan's policies encourage coordinated transportation planning, inter-connectedness, safety, sustainability and diverse transportation options to reduce reliance on cars.

It focuses heavily on directing growth to areas that are already built up and making intensification a priority. Strategic areas for growth in the plan include urban growth centres and major transit station areas as depicted in Figure 6.

▲ FIGURE 6: Illustration of major transit station area elements.

B1.3 Accessibility for Ontarians with Disabilities Act (2005)

The *Accessibility for Ontarians with Disabilities Act, 2005* sets mandatory standards for private, public and non-profit sectors to remove barriers and ensure equitable access for all individuals with disabilities by 2025. This includes, under Regulation 191 / 11, standards for planning, designing and building transportation facilities. The Region's transportation projects comply with the relevant requirements of the Act and regulation(s).

B1.4 2041 Regional Transportation Plan

Developed in partnership with municipalities and other stakeholders, Metrolinx adopted the **2041 Regional Transportation Plan** in 2018. This plan is the successor to The Big Move, released in 2008, which was the first regional transportation plan for the Greater Toronto and Hamilton Area, also incorporating the Regional Municipality of Waterloo.

The 2041 Regional Transportation Plan sets out a blueprint for a system that puts traveller needs first, reduces traffic congestion, improves air quality and supports economic viability through three goals: strong connections, complete travel experiences and sustainable and healthy communities.

To support these goals, it outlines five strategies:

1. Complete the delivery of current Regional transit projects.
2. Connect more of the plan area with frequent rapid transit.
3. Optimize the transportation system.
4. Integrate transportation and land use.
5. Prepare for an uncertain future.

The 2041 Regional Transportation Plan includes projects that would directly benefit travel in York Region:

> Extending the Yonge subway north from Finch Station (currently underway)

> Filling gaps in the bus rapid transit network along Highway 7 and Yonge Street

> Providing rapid transit on Jane Street, Major Mackenzie Drive and Leslie Street and, in partnership with the City of Toronto, on Steeles Avenue from the TTC line 1 to Milliken GO station

> Providing frequent Regional express bus service on highways 407, 400, 404 and 427

- Improving GO rail service to offer more frequent all-day service
- Enhancing bus service on sections of Major Mackenzie Drive, Yonge Street and Green Lane

The TMP considers the plan's timing, priorities and improvements in its infrastructure models and technical analysis. It also looks at where additional improvements will be needed to support growth in the Region, advocating for these improvements to be included in future updates to the provincial plan.

B1.5 Ministry of Transportation Greater Golden Horseshoe Transportation Plan

Released in March 2022, the Greater Golden Horseshoe Transportation Plan was developed by the Ontario Ministry of Transportation to help set priorities up to 2051, direct spending towards an optimal transportation system and prepare for new technology like automated vehicles. The goals are to support continued prosperity and quality of life while meeting environmental and social needs.

The Greater Golden Horseshoe Transportation Plan is intended to provide direction to municipalities, transportation agencies and service providers. The TMP reflects the directions, technical analysis and recommendations in the Greater Golden Horseshoe Transportation Plan.

B1.6 Provincial Environmental Assessment Act

The TMP describes the future transportation network at a high level and will be implemented through specific projects and initiatives. These projects will be subject to the requirements under the provincial *Environmental Assessment Act*, and *Municipal Class Environmental Assessment (MCEA)*. Chapter C provides more details.

B2 York Region Vision, plans and priorities

B2.1 Vision, Strategic Plan and Regional Fiscal Strategy

Vision helps to guide Regional Council and staff decisions to achieve the quality of life residents want now and in the future. Approved by Council in November 2021, it carries forward the previous vision statement of "Strong, Caring, Safe Communities."

Vision describes a York Region that, among others, has a seamless network for mobility of goods, services and people, and promotes living sustainably. The TMP is designed to help inform and implement infrastructure needs, such as roads, transit terminals and pedestrian and cycling facilities to achieve Vision. Figure 7 illustrates York Region's accountability framework and shows how Vision guides all corporate plans.

York Region's Strategic Plan, updated every four years, is a roadmap emphasizing priorities over each term of York Regional Council that align with the long-term vision. In 2019, Council adopted the 2019-

FIGURE 7: This diagram illustrates York Region's accountability framework and shows how Vision guides all corporate plans.

2023 Strategic Plan. Specific goals and objectives influencing the TMP include:

- Increasing economic prosperity
- Building sustainable communities and protecting the environment
- Supporting community health, safety and well-being
- Delivering trusted and efficient services

This Regional direction is reflected in the TMP through a proposed network that is safe and reliable, provides convenient travel options, promotes economic growth, manages congestion, minimizes impacts on the environment and is financially sustainable.

The Regional Fiscal Strategy helps to achieve long-term financial sustainability by carefully managing the Region's capital plan, reserves and debt. The strategy also influences the Region's annual budget, which includes a 10-year capital plan. Chapter G provides more information on estimated costs of the TMP and expected funding sources.

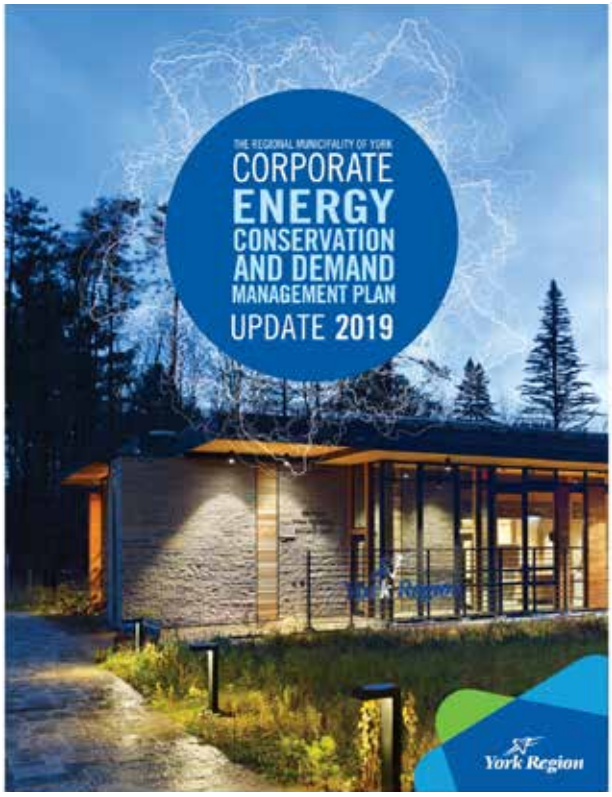
B2.2 Regional Official Plan

The Regional Official Plan outlines how future growth and development will be accommodated while meeting the needs of existing residents and businesses in the Region. Prepared with community input, it provides direction and policies guiding economic, environmental and community planning decisions. The official plans of each of the nine local municipalities must conform to the Regional Official Plan.

The Region's infrastructure plans, including the TMP and the Water and Wastewater Master Plan, are consistent with the Regional Official Plan. The infrastructure plans reflect the Regional Official Plan outlook for growth in population and employment. The Regional Official Plan is in turn informed by provincial growth plan forecasts.

Updates to infrastructure master plans are coordinated with updates to the Regional Official Plan in a process known as a Municipal Comprehensive Review. The Ministry of Municipal Affairs and Housing requires this process through the growth plan. Coordination helps to ensure consistent communication with interested parties and better integration of all plans to manage costs.

The 2022 TMP reflects the revised land use planning projections included in the Regional Official Plan updated in 2022 through the most recent Municipal Comprehensive Review.



▲ Cover page of the 2019 Energy Conservation and Demand Management Plan.

The Energy Conservation and Demand Management Plan (2019) identified a suite of projects, initiatives and other activities to position York Region to achieve its long-term aspirational goal of net-zero carbon emissions:

- Develop an Electric Vehicle Strategy to migrate the Region's fleet of vehicles from gasoline / diesel to electricity to reduce emissions
- Right size vehicles to match the need with the type of vehicle to ensure the most efficient vehicle is used at all times
- Reduce fuel consumption through anti-idling and route optimization
- Enable and maximize transportation through public transit, carpools, cycling or walking

B2.3 Climate change actions

In the face of higher-than-average temperatures and more extreme weather events, both of which can cause damage to infrastructure, communities and ecosystems, York Region recognizes the growing need to address climate change. This involves mitigation, which refers to reducing greenhouse gas (GHG) emissions and adaptation to reduce climate change risk and damage.

To help ease climate change, this TMP aims to increase the use of more active and eco-friendly modes of transportation that help to manage the demand put on the road network by single-occupant vehicles. It also supports the adoption of electric and low-emission vehicles by residents and businesses.

The Region's **Energy Conservation and Demand Management Plan** identifies ways to reduce GHG emissions through Regional energy use. Transit buses, fleet vehicles, trucks and other work vehicles typically account for about three-quarters of the Region's corporate GHG emissions. One objective of this plan is to position York Region to achieve its long-term aspirational goal of net-zero carbon emissions by 2051. For York Region achieving net-zero carbon emissions means that through day-to-day operations and construction practices the Region will decrease greenhouse gas emissions by building retrofits and fleet electrification and offset remaining emissions through activities like tree planting that capture and store carbon.

In **December 2020**, York Regional Council endorsed plans to phase out fossil-fuel-powered vehicles by 2051 in both transit and corporate fleets. A short-term goal in the plan is to convert fleet automobiles to GHG emissions-free technology by 2030.

▲ York Region's charging stations for fleet vehicles and electric buses.

To date, almost 10% of the existing corporate fleet of 381 vehicles is either hybrid or fully electric. Steps are also underway to convert the Region's transit vehicles. By the end of 2021, the Region had bought and deployed 12 electric buses. The expectation is that electric versions of other vehicle types, like snowplows, will become available in the future.

Fleet electrification builds on other measures taken to reduce GHG emissions since the Region's Energy Conservation Plan was launched in 2016, such as changing operator behaviour and introducing in-vehicle technology to reduce idling and other emission sources, right-sizing vehicles and optimizing services through Mobility On-Request.

While Regional actions are important, individual residents and businesses will also need to act to achieve net-zero GHG emissions. York Region is developing a Climate Change Action Plan that identifies actions that can be taken across a range of priority areas to help address climate change. Some actions are aimed at reducing impacts, others at adapting to changes and some are designed to do both. These actions are both corporate-specific and at the community level.

The Climate Change Action Plan:

- Outlines the projected impacts of climate change on York Region
- Describes and prioritizes actions needed in three key areas: resilient communities and infrastructure, low-carbon living and supporting an equitable transition
- Identifies the role York Region will play in implementing actions
- Provides a framework for all levels of government, businesses and communities to work together

In addition to the measures described above, key actions associated with transportation include:

- Adopting emission reduction targets and guidelines for low-carbon construction practices
- Undertaking climate change vulnerability and risk assessments on all Region-owned infrastructure, systems and assets using a common methodology
- Prioritizing infrastructure and asset repairs in climate-vulnerable areas using the asset management framework

B2.4 Protecting and enhancing the natural environment

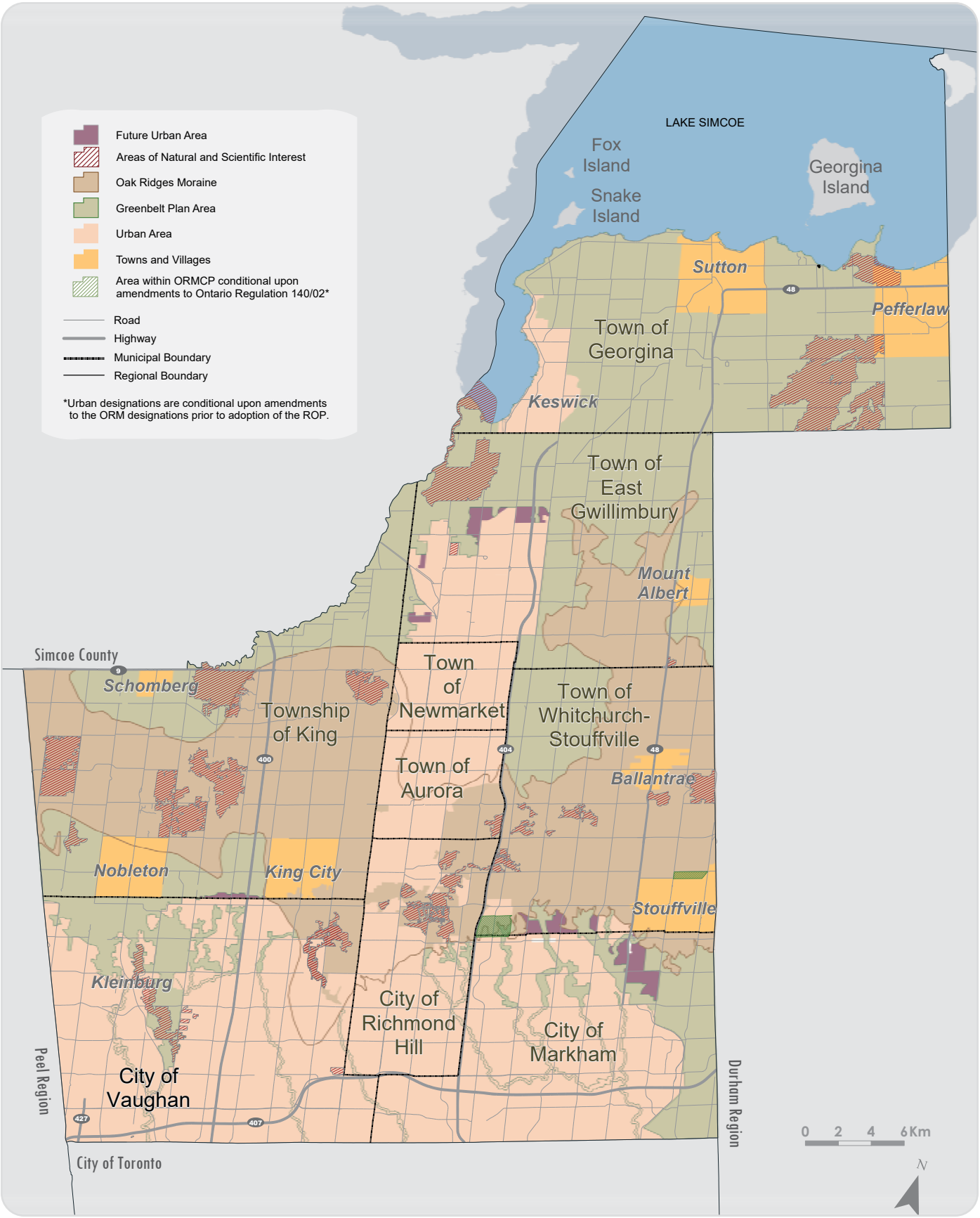
York Region has many natural heritage features. They include the Oak Ridges Moraine, the Greenbelt, Lake Simcoe Protection Plan area and numerous Areas of Natural and Scientific Interest (ANSIs), Environmentally Sensitive Areas (ESAs), lakes, watercourses, wetlands and woodlots. The map shows the Oak Ridges Moraine, Greenbelt, and Areas of Natural and Scientific Interest in York Region. Further maps showing the Regional green lands system, key hydrologic features, woodlands, wellhead protection areas, Oak Ridges Moraine aquifer vulnerability areas and watershed boundaries as well as agricultural and rural areas are included in the York **Region Official Plan** and were referenced in the development of this TMP.

Natural heritage features, along with forestry, agriculture, source water areas, are a key consideration in the evaluation of road and transit projects. As described in Chapters C and G, for required projects, York Region is committed to completing phases 1 through 5 of the Municipal Class Environmental Assessment for each transportation project in the TMP. Detailed assessment of the natural, social, and economic environments which are to be considered when reviewing the effects of each project.

York Region has created a Greening Strategy with the goal of fostering strong and sustainable communities with healthy natural environments. Green infrastructure takes many forms including natural environment lands and features, street trees, agricultural lands, green roofs and green walls, parks, gardens and stormwater ponds. These features provide health, environmental, social and economic benefits to communities. Studies have shown that forests improve air quality, provide natural shade, reduce urban heat island effects, lessen climate change, reduce energy consumption, reduce flood risks, improve water quality and water quantity and reduce the risk of developing chronic diseases. One part of its environmental land securement plan is to create natural heritage trail linkages.

Another element of the Greening Strategy is to create natural heritage trail links to help extend the active transportation network of pathways and trails. The Region owns and manages the 2,500 hectares made up of 24 forest tracts, which offer more than 150 kilometres of public trails.

The Region is working in partnership with local municipalities and other stakeholders to create links among all natural trails, also a goal of the 2022 TMP.



▲ This map shows the Oak Ridges Moraine, Greenbelt and Areas of Natural and Scientific Interest in York Region which are taken into consideration as part of environmental assessments for each project.

▼ Photo of pedestrians on a boardwalk overlooking the Holland Marsh near 2nd Concession, Town of East Gwillimbury.

B2.5 Collaboration and partnerships

York Region works with internal partners such as Public Health and York Regional Police and with local municipalities, school boards, Indigenous communities and other external partners to support a Regional transportation system that is safe, accessible and equitable.

Important goals of these partnerships include better health for people and communities, promoting active transportation to schools, making roads safer and encouraging cycling, carpooling and other eco-friendly travel options. Section D3.3 outlines how the TMP supports these goals.

▲ Aerial view of Major Mackenzie Drive West in the City of Vaughan including agricultural land and storm water management ponds.

In this chapter...

C1 The Plan followed recommended processes

C2 Consultation and engagement were key elements in updating the TMP

C3 Indigenous Communities Engagement

C4 Discover, Explore, Reveal

C5 Approach to planning has evolved

Framework and approach

C1 The Plan followed recommended processes

The provincial ***Environmental Assessment Act*** provides a streamlined approval process, called the municipal class environmental assessment, for projects that are similar in nature, are carried out routinely, have a predictable range of environmental effects and respond to mitigating measures. The Region's transportation projects are typically completed under this framework.

The Municipal Engineers Association provides a manual to guide the municipal class environmental assessment process. The guidance defines master plans for infrastructure as "long range plans which integrate infrastructure requirements for existing and future land use with environmental assessment planning principles." Master plans are often updated in conjunction with other plans, as discussed in Chapter B.

The 2022 Transportation Master Plan:

- Evaluates needs at a strategic, system-wide level, allowing the Region to look at the transportation system as a whole and make recommendations for improvements
- Considers the broad land use and environmental context
- Looks at infrastructure geographically and / or by function
- Can be implemented through individual projects

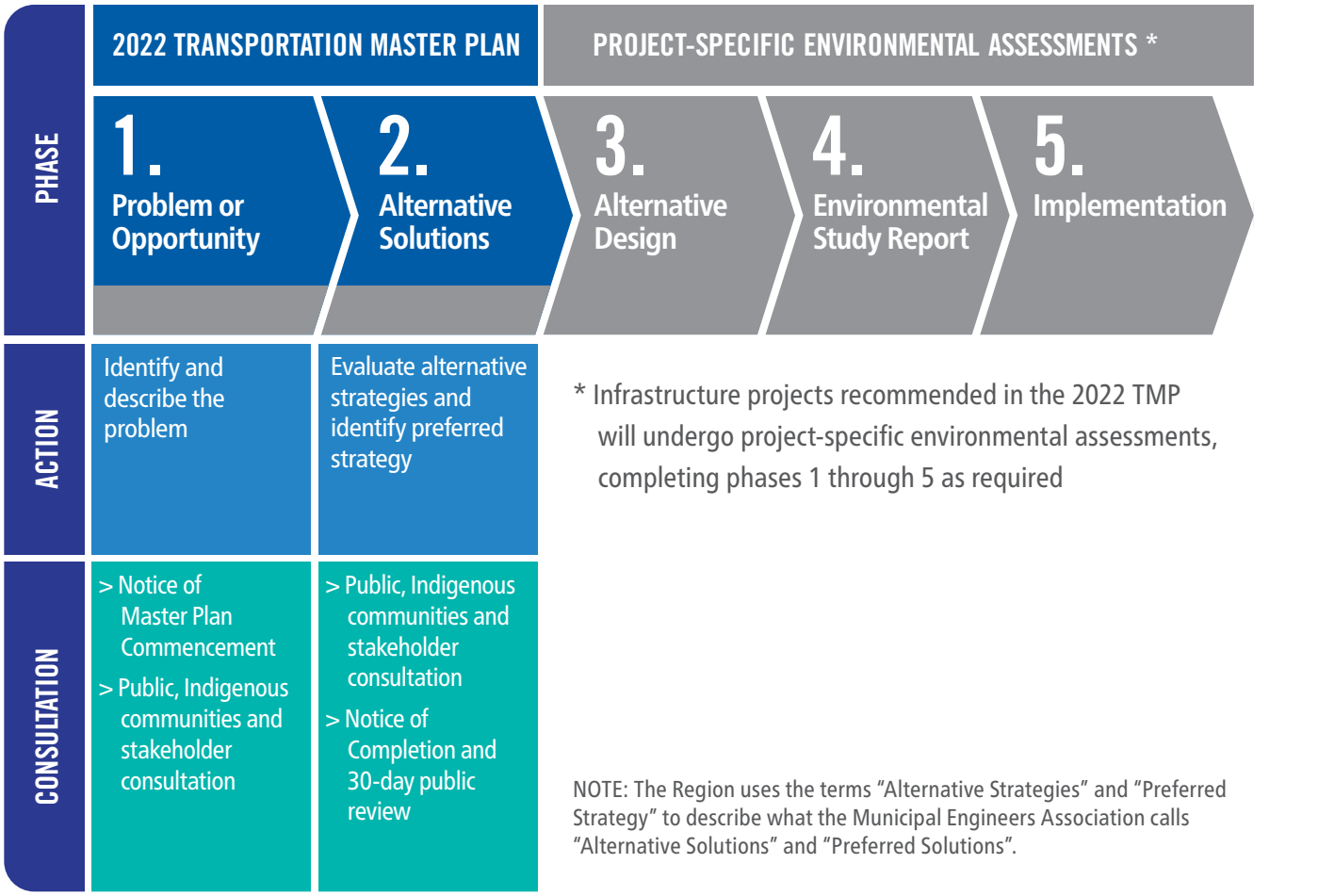
The outcome is a high-level plan identifying and justifying the need for future individual projects.

The municipal class environmental assessment process consists of five phases, and a master plan must address phases 1 and 2 at a minimum.

The Region followed Approach 1 for master plans set out in Appendix 4 of the Municipal Engineers Association Municipal Class Environmental Assessment document. This document fulfills the requirement in Approach 1 that decisions be documented at the end of Phase 2.

Approach 1 involves looking at the current road, transit and active transportation networks and expected needs to make recommendations on future projects. The foundation for understanding current conditions is the Transportation Tomorrow Survey, which is normally carried out every five years as a co-operative effort by local and provincial government agencies. Major trends are highlighted in Chapter D. Chapter E then presents a high-level discussion of projects to meet expected needs using tools, such as a model, to analyze travel demand and forecast the impacts of growth on the network.

The municipal class environmental assessment process requires more detailed investigation of each project as the plan is implemented, as outlined in phases 3, 4 and 5 in Figure 8 (see next page).



▲ FIGURE 8: Municipal Class Environmental Assessment Process.

C2 Consultation and engagement were key elements in updating the TMP

The Region consulted and engaged with a diverse and inclusive range of travellers, residents, Indigenous communities, community partners, stakeholders and other interested parties in updating the TMP.

The TMP utilized a variety of engagement tools to seek resident, local municipal and stakeholder input. Those identified as having an interest in the TMP were notified of opportunities to give feedback at each milestone. The engagement opportunities used during the TMP study included:

- Three virtual public information centres (PIC) (July 2021, October 2021, April 2022), supporting advertisements, social media campaigns and email outreach
- Public opinion and stakeholder group surveys
- Government Agency Partnership Advisory group meetings and outreach (March 2021, September 2021, March 2022)
- Meetings with York Region and local municipal accessibility advisory committees
- Meetings with York Region's Agriculture and Agri-Food Advisory Committee
- Presentations to local municipal councils

- Meetings with Indigenous communities coordinated with the Municipal Comprehensive Review and Water and Wastewater Master Plan update
- Meetings with BILD (Building Industry and Land Development) Association in conjunction with the Development Charges Bylaw
- Regional Councillor and Heads of Council interviews

In-person events were not possible due to restrictions related to the COVID-19 pandemic.

To better understand the needs of residents and businesses owners in York Region, a market research firm was hired to conduct randomized telephone and online Transportation and Community Values surveys. The surveys collected information about travel patterns, behaviours and transportation preferences today and how they may change in the future. The telephone survey sampled approximately 1,000 people across the Region's nine local municipalities and was designed to provide statistically valid results. Approximately 750 responses were also received through an online survey posted on the project web page. The rest of this chapter provides highlights of these findings. This survey was supplemented with targeted micro-surveys to further understand the needs of travellers of all ages, incomes, and abilities.

Feedback was taken into consideration when updating the TMP, as discussed in chapters E and F. All input about the TMP received throughout the consultation and engagement process was reviewed and considered for inclusion in the final plan. More information on the consultation and engagement approach and those identified as having an interest can be found in the plan's supporting documents, which are available upon request.

C3 Indigenous communities engagement

Engagement with Indigenous communities was coordinated through the Municipal Comprehensive Review process to update the Regional Official Plan and Transportation and Water and Wastewater master plans. The Region coordinated engagement with each community individually based on its interest, capacity and availability as there is currently no provincially approved framework for engaging Indigenous communities. This engagement was initiated specifically with this plan in addition to a consultant and Indigenous facilitator supported all engagement activities when meeting with Indigenous communities. The opportunity to engage with and learn from Indigenous communities was valuable, as the communities' unique historic and cultural relationship to the land and water gave rise to important perspectives on managing the natural environment and land resources. The Region looks forward to continuing these conversations.

Feedback was received from several Indigenous communities and is summarized below:

- Indigenous communities encourage York Region to develop lasting, long-term relationships; this would provide a more proactive approach to involve communities in projects and initiatives at the outset allowing time for meaningful engagement and input
- Many comments focused on protecting and sustaining the natural environment to address impacts arising from growth that may affect traditional Indigenous ways of life:
  - Understanding the cumulative impacts of development on lands
  - Protecting natural habitats in the transportation planning processes
  - Ensuring inclusion of Indigenous communities in archaeological studies
  - Opportunities to collaborate on presenting traditional travel routes along ancestral lands and natural heritage

York Region acknowledges the relationship Indigenous communities have with the natural environment and the central importance of land in the culture and lives of Indigenous people. York Region is committed to protection of the natural environment not only in the present, but also over the long term for future generations by:

- Sharing the importance of traditional lands and continued need for conservation and stewardship within its communities
- Continuing to deliver high-quality transportation services

Implementation of projects identified in the Master Plan will also recognize the archeological importance of the lands in York Region to Indigenous communities and will follow applicable regulatory requirements to consult and engage communities with Aboriginal or Treaty rights.

York Region notified the following Indigenous communities through PIC Notices, correspondence and meetings (where possible):

- Chippewas of Georgina Island First Nation
- Chippewas of Mnjikaning First Nation (Chippewas of Rama First Nation)
- Coordinator Williams Treaties First Nations
- Beausoleil First Nation
- Hiawatha First Nation
- Curve Lake First Nation
- Alderville First Nation
- Mississaugas of Scugog Island First Nation
- Mississaugas of the Credit First Nation
- Six Nations of the Grand River
- Haudenosaunee Confederacy Chiefs Council
- Kawartha Nishnawbe First Nation
- Huron-Wendat Nation
- Métis Nation of Ontario

C4 Discover, Explore, Reveal

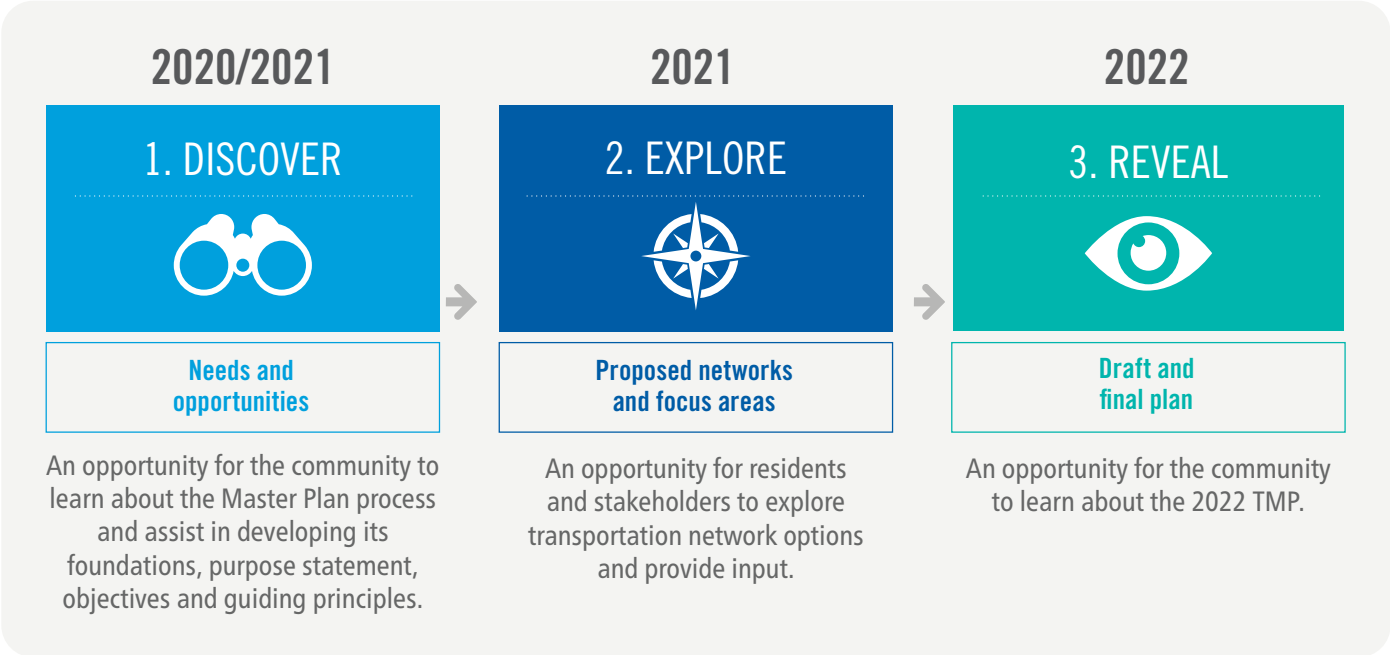
Engagement focused on three elements: discover, explore and reveal, as shown in Figure 9.

Discover: Needs and opportunities
Discover was the first phase of the TMP study. It provided an opportunity for the community to learn about the master plan process and to envision the future of transportation in York Region. By first identifying transportation needs and future opportunities, this element of engagement focused on developing the foundations of the TMP:

- Purpose statement, which serves as the vision for the 2022 TMP, with all recommendations in the plan aiming to help achieve this vision
- Objectives, which support the purpose statement in the short to medium term as projects are delivered
- Guiding principles, which reflect the Region's values and guide how to realistically achieve the purpose statement

Chapter D provides more detail on each of these elements.

The TMP purpose statement: "Plan, build, operate and maintain a connected transportation network for all travellers that is safe, reliable, future-ready, sustainable and balances the needs of the unique communities we serve."



▲ FIGURE 9: Three elements of focus during the engagement phase of the 2022 TMP.

▲ TOP: York Region staff discuss boulevard plans and drafting of Regional roads. BOTTOM: A cyclist and vehicles at the intersection of Keele Street and Major Mackenzie Drive in the City of Vaughan.

Explore: Proposed networks and focus areas

This element focused on encouraging residents and interested parties to explore transportation network options and provide input through a variety of engagement tools including an interactive mapping tool and a virtual idea wall. This input helped shape the proposed active transportation, rapid transit and road networks described in Chapter E and areas of focus discussed in Chapter F.

Reveal: Draft and final plan

The third and last step was to reveal the outcomes of engagement, technical assessment, background studies, planning and other work that went into drafting the 2022 TMP, including:

> The purpose, objectives and guiding principles
> Recommended transportation networks
> Areas of focus for further study and action
> Approaches to funding and implementing the transportation plan

Through the engagement process, staff learned residents and stakeholders see connected communities and safe, sustainable and convenient travel options as high priorities. While most residents now travel mainly by car, many are interested in using other options.

▲ Buses stop to pick up and drop off riders at the Allstate Parkway Vivastation on Highway 7 in the City of Richmond Hill.

C5 Approach to planning has evolved

Transportation Operations, Public Works gained valuable insights since the 2016 TMP and relied on those learnings when developing an approach to this Master Plan.

External factors with long-term impacts, including climate change, disruptive new technologies and the COVID-19 pandemic, served as a reminder that all plans are subject to uncertainty. In addition, the Region's fiscal capacity did not allow some proposed projects to move forward.

The Plan is therefore based on the following principles:

Be more flexible and agile.
Adapt to factors like changing travel behaviour and patterns, global events, technological innovation, shifting provincial priorities and regulatory changes as the plan is put into action. Also be ready for the future and able to change direction when entirely new ideas or approaches emerge.

Advocate for the big projects the Region needs.
This plan identifies all projects needed to serve future growth, while at the same time, it must be financially sustainable. The Region cannot independently fund several major projects discussed in this plan, including Regional interchanges with new, expanded or upgraded 400-series highways, the remaining portion of the bus rapid transit network, further subway extensions and complex projects to close gaps on Teston and Langstaff roads. These projects benefit not just the Region, but the economy of Ontario as a whole. Advocating for the provincial and federal governments and other potential funders to share in those costs will be crucial going forward.

Watch the fiscal and environmental bottom lines.
As previously mentioned, the TMP must align with the Region's ability to pay for it. Through its fiscal strategy, the Region reduced its reliance on borrowing funds and, as a result, saw its debt levels peak in 2017. Since then, however, the need to fund its share of

the subway extension to the City of Richmond Hill means it will face a new and higher debt peak in 2028. This calls for prudence in planning growth-related capital investments. Planning also needs to reflect the environmental impacts, both of constructing the network and how it will be used. This is discussed in more detail in Chapter G.

Seek out and respond to opportunities.
Respond to federal and provincial funding opportunities and explore public-private partnership opportunities. Potential public-private partnership opportunities include transit-oriented development around major transit hubs and new developments.

Engage more often and more broadly.
Use a variety of techniques / tools, such as online surveys, social media and virtual and post-pandemic in-person opportunities, to ensure as many voices as possible continue to be heard.

▲ TOP: York Region staff discuss and collect feedback on proposed changes to public transit system at a Public Information Centre held in 2019.

▼ BOTTOM: A screenshot of a virtual engagement and public consultation in 2022 using an interactive mapping tool to gather feedback from attendees on areas throughout York Region.

▲ Cyclist travels on separated bike path along St John's Sideroad in the Town of Aurora.

In this chapter...

D1 Travel patterns are changing

D2 Foundations of the 2022 Transportation Master Plan

D3 2022 Transportation Master Plan reflects evolving attitudes and options

Listening and learning

Transportation is changing dramatically around the world and within York Region due to increasing urbanization, new technologies and climate risks. The pace of change makes it more important than ever to listen to users of the transportation network and learn from their ideas and expectations while updating the Transportation Master Plan.

D1 Travel patterns are changing

The engagement described in Chapter C made it clear residents understand the connection between how transportation is provided and how welcoming and livable a community is. While residents want to be able to easily get to transit hubs, schools and stores in their communities and even to further destinations using options other than their car, they want to feel safe and supported while doing so.

These themes are not new, as they have been raised in previous TMP updates. What is new, however, is the extent to which residents are not just talking about these changes — they are adopting them:

> People are walking or cycling more, especially for shorter and non-work-related trips:

- Trips by walking and cycling grew by 30% between 2011 and 2016, after being near flat in the previous five years
- The number of car trips of less than 2 kilometres fell by 21.6% from 2011 to 2016, reaching a level slightly below that in 2006
- Car use decreased from 86% to 83% of total non-work trips between 2011 and 2016

Source, Transportation Tomorrow Survey

Possible factors behind this major shift could include increasing traffic congestion, higher-density growth putting more destinations within easy reach, the availability of more transit options and more accessible sidewalk and cycling infrastructure.

Another notable trend is total trips by all modes not growing as fast as the population over the same period. This may be related to retirement: in the 2021 telephone survey carried out for the TMP, just over one in five residents said they were retired, with the highest proportion in the City of Richmond Hill at 28%. Another factor is that even before the COVID-19 pandemic, more people were working from home some or all of the time and doing more shopping online.

Over the longer term, there has been a trend towards greater use of transit. Data from the 2016 Transportation Tomorrow Survey show that transit mode shares have increased since 2001, while auto driver shares decreased. This means transit trips are increasing at a faster pace than car trips.

Recent transit ridership figures and traffic counters show:

> Ridership increased to 10.1 million in 2021, but continues to remain low compared to pre-pandemic ridership of 22.9 million in 2019

> At the onset of the pandemic, YRT ridership was approximately 20% of pre-pandemic ridership.

▲ Passengers board a York Region Transit bus at the SmartVMC Bus Terminal in the City of Vaughan.

In 2022, YRT ridership was approximately 60% of pre-pandemic ridership and is expected to continue growing gradually

> GO Transit ridership in York Region was approximately 5% of pre-pandemic ridership. A Metrolinx survey in 2021 found that users expected their main transit use in the future would not be commuting to work but instead taking personal / pleasure trips

> The TTC Line 1 Subway extension opened in December 2017 and provided 4.5 million passenger trips in York Region throughout 2019

> The Highway 7 East and Davis Drive rapidways have proven to be a positive investment with ridership increasing approximately 23% and 55% respectively

> Ridership declined on routes along rapidway construction corridors due to traffic delays. In 2019, ridership on routes along rapidway construction corridors decreased by about 1.1 million or 9%, compared to 2015

> The Highway 7 West, Yonge Street North and Yonge Street South rapidways opened in November 2019, January 2020 and December 2020, respectively, but did not realize potential ridership gains due to the COVID-19 pandemic

> Traffic on the road network also fell in early 2020, although recovery was quicker: by 2021, volumes were back near pre-pandemic levels. The pattern, however, had changed, with a flattening of the historic morning and evening peaks

> Workplace closures and a shift to working from home sparked major interest in active transportation. Studies in 2020 estimated that for the Greater Toronto and Hamilton Area as a whole, walking and cycling trips during the morning rush hour increased by 83% from 2016. Visits to york.ca for cycling and trail information more than doubled between 2019 and 2020

Recent trends and survey data considered while updating the Master Plan are summarized in the following sections. For more information about the survey, visit **york.ca/TMP**.

▶ Individual working on laptop in home office.

D1.1 Most want to continue working from home at least part of the time

The longer-term impacts of the move to working from home are not yet clear, but Statistics Canada surveys show that most employees want to continue working from home at least some of the time after the COVID-19 pandemic. A survey by the Workforce Planning Board of York Region indicated that many employers also support working from home in industries where this is feasible.

At the time of the TMP telephone survey, more than half of those in the workforce were working from home, with 70% indicating they were both working from home and at a worksite (hybrid). Three in ten workers across the Region were working on-site only, the highest proportion being in the northern six communities. Overall, about 80% of those who travelled to a worksite used a private vehicle.

Before the COVID-19 pandemic, travelling to a worksite was by far residents' main use of the transportation system and, as such, contributed to increased rush-hour congestion. A permanent shift to working from home for some business sectors would have profound impacts on the transportation system within and beyond the Region. For example, the Region's network of Bluetooth sensors showed travellers on the road system in the morning rush hour were able to travel 15% faster than before the COVID-19 pandemic, averaging 46 kilometres per hour. This reflects a flattening of the morning peak volume, with evening peak showing a similar decline.

D1.2 Interest in other travel options is growing

The telephone survey also carried out for the 2022 TMP found that 36% of respondents would like to travel to work or school by some means other than a private vehicle. Prior to the COVID-19 pandemic, upwards of 90% of trips to work or school were by private vehicle. Barriers identified in the survey to using other modes include the convenience of a car for making multiple stops and carrying groceries or sporting equipment, the extra time required to use another mode of transportation and a lack of cycling, walking and transit infrastructure.

Across the Region, the preference for options other than private vehicle travel was highest in the City of Richmond Hill, at 47%, with transit taking a 24% share against 18% for the rest of the Region. Cycling and walking were also more favoured in the City of Richmond Hill than in the Region as a whole.

Travelling to work or school by options other than private vehicle was favoured by more than half of the approximately 750 individuals who completed a similar survey online. Their ideal travel choices were transit, cycling and walking in that order, and the major barriers to using these were trip time and lack of infrastructure. These responses reflect an average younger age among online survey participants.

D1.3 A larger share of people both live and work in the Region

The percentage of people who both live and work in York Region has been gradually increasing for many years, reaching 56% in 2016. This trend may help explain the growth in morning peak car trips, despite strong ridership gains for the GO Transit system, which is oriented towards Toronto-bound commuters.

D1.4 A shift to electric is underway among car owners

Despite more walking and cycling for trips under 2 kilometres, car ownership is still considered high in the Region, with 88% of telephone survey respondents reporting they were car owners. This compares to roughly 72% across the City of Toronto, with ownership rates in its suburbs similar to the Region's but under 50% in some downtown areas. In York Region, however, there is no clear correlation between population density and car ownership.

Increasingly, cars on York Region's roads are powered by electricity instead of fossil fuels. Electric vehicles include hybrid, plug-in hybrid electric and electric vehicles where either a portion of or all of traditional combustion engine is replaced by an electric engine. Just under 10% of York Region car owners reported owning an electric or hybrid vehicle in the 2021 surveys carried out for the TMP, which is higher than the Canadian average.

While comparable Regional data from earlier years is not available, the adoption of hybrid and electric vehicles is growing rapidly in Canada. Hybrid, battery electric and plug-in hybrid vehicles accounted for 9.5% of total new registrations in the first half of 2021, up from 5.5% a year earlier, according to Statistics Canada.

The trend away from fossil fuel vehicles is likely to continue as the Government of Canada has set a mandatory target for all new light-duty cars and passenger trucks to be zero-emission by 2035, accelerating Canada's previous goal of 100% sales by 2040. Among survey respondents who do not already own an electric or hybrid vehicle, 43% of those surveyed by telephone and 58% of those surveyed online said it was somewhat or extremely likely they would choose an electric or hybrid option for their next vehicle. The likelihood rose with income level. The Federal Government through the **2030 Emissions Reduction Plan** has sales targets for zero-emission light-duty vehicles of 20% share by 2026, at least 60% by 2030 and 100% by 2035. The Region also continues to leverage federal funding to build electric vehicle charging stations at Regional facilities to support transition to electric vehicle. By the end of 2022, York Region will have 64 publicly accessible electric vehicle chargers across 12 locations.

By the end of 2022, York Region will have 64 publicly accessible electric vehicle chargers across 12 locations.

There are concerns that electric vehicles, while beneficial to the environment, could have negative impacts on the transportation system. If drivers of electric vehicles follow the same travel patterns as in the past, traffic congestion could continue to be a problem. The UK-based Centre for Research into Energy Demand Solutions suggests a switch to electric vehicles might worsen congestion because operating costs are low, meaning there is the potential for more vehicles on the roads taking more trips.

Electrification could both help the environment and manage congestion if e-scooters and other micromobility options were more widely used. The Ontario Ministry of Transportation regulates the use of e-bikes under the *Ontario Highway Traffic Act*. They are permitted on roads and highways where conventional bikes are permitted, unless specifically prohibited by a local restriction. Beginning January 1, 2020, the ministry launched a five-year pilot framework to permit e-scooters.

York Regional Council approved a bylaw change in 2020 to allow e-scooters and e-bikes in Regionally designated bike lanes and high-occupancy vehicle (HOV) lanes in line with provincial guidance. This demonstrates the Region's commitment to allowing and encouraging more sustainable transportation options that get people out of their cars, especially during peak travel periods.

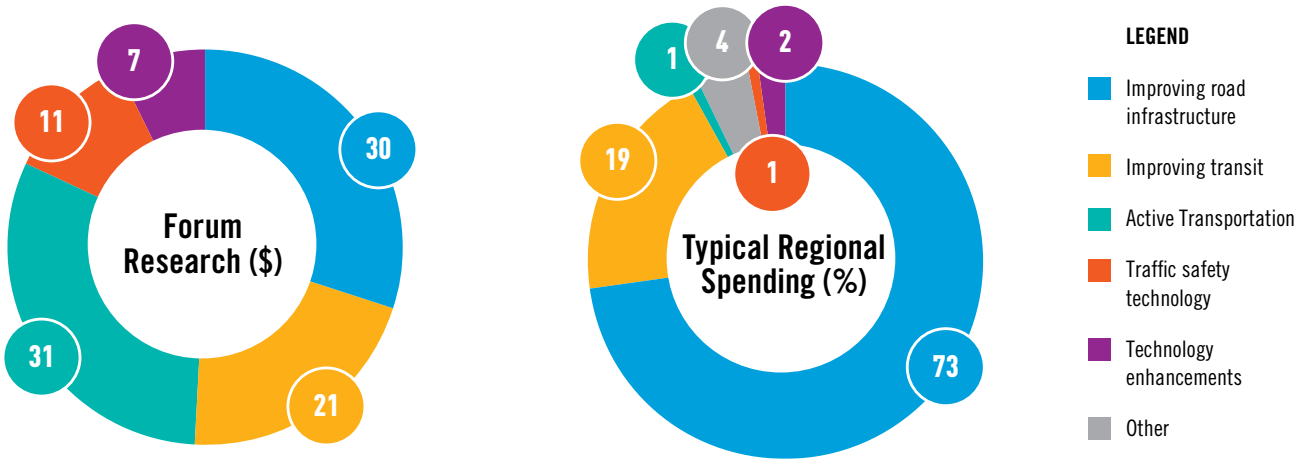
Chapter F discusses the consideration to extend their use to multi-use paths and trails.

D1.5 Respondents would invest half the budget in transit, walking and cycling options

Survey participants were asked how they would spend $100 on transportation options. Investments in transit, pedestrian, cycling and multi-use path options were given a total of $52 by telephone respondents and more by online respondents.

Improving road infrastructure was given $30 on average by the telephone respondents, with the remaining $18 going to technological improvements and safety measures.

Figure 10 shows a comparison of the survey results and York Regions 10-year roads and transit capital budgets. Although improving road infrastructure is shown as significantly higher at 73% compared to the



▲ FIGURE 10: As this comparison shows, survey respondents would spend more on active transportation and transit than in a typical Regional budget.

30% shown in the survey, the Region's roads projects include investments in active transportation and safety infrastructure, which bring the charts closer in practice. Based on feedback received through the TMP, the Plan identifies key transportation issues, or Focus Areas, for further study and exploration including Safety for all travellers, Reduce Car Travel, and the Role and Function of Regional Corridors, Transportation Equity and Environmental and Fiscal Sustainability. More information on the focus areas can be found in Chapter F.

D1.6 Youngest and oldest age groups least likely to own / drive a car

Mirroring a widespread trend, young people in York Region are now less likely to get a driver's licence soon after turning 16. In 1991, 82% of those aged 18 to 24 had a licence, but this figure had dropped to 69% by 2016. The telephone survey found that 58% of those aged 18-24 own a vehicle, significantly less than older respondents.

The current pattern, however, is that driving increases once people get their first job and form their own families. Survey results from 2016 show that among those aged 25 to 64, some 83% are drivers — the highest share of any age group. Driving then declines, falling to 76% in the 65-74 age group and 65% for those 75 and older.

▲ Transit riders taking a bus to school.

The cost of purchasing a car has also increased due to a supply challenge caused by the COVID-19 pandemic, which may further contribute to fewer people owning cars.

The survey results have different implications for the transportation network, based on respondent age. Walking, cycling and transit are modes of transportation that most young people readily use instead of driving. The question is whether these will remain viable choices as they are employed and form their own households.

For older individuals who have driven their entire lives, giving up driving can feel like a major loss of freedom and the survey data suggests they are resistant to other options like transit, walking and cycling.

D1.7 Residents and stakeholders value fiscal prudence and innovative solutions

Feedback from the engagement process also stressed the importance of staying within the Region's budget by taking a "common sense" approach to spending. In addition, it was suggested the Region should work closely with its partners and explore opportunities for innovation in programs and infrastructure.

D2 Foundations of the 2022 Transportation Master Plan

The engagement, research and data collection described in Section D1 helped in the development of the strategic direction of this TMP by pinpointing what is important for the plan and why. The purpose statement, guiding principles and objectives below capture this direction.

These foundational elements in turn provide the basis for moving forward as outlined in Section D3, which sets out what the Region needs to do at a broad level, while Chapter F outlines focus areas for future work over the short term.

Guiding Principles: Reflect York Region's values and set the direction for realistically achieving the purpose statement.

Objectives: Guide the delivery of projects over the short and medium term.

Focus Areas: Identify short and medium term implementation priorities that support the objectives of the TMP.

▲ FIGURE 11: Pyramid demonstrating the 2022 TMP process.

D2.1 Purpose Statement

Plan, build, operate and maintain a connected transportation network for all travellers that is safe, reliable, future-ready, sustainable and balances the needs of the unique communities we serve.

The purpose statement serves as the vision for the 2022 TMP, and all recommendations in the plan aim to help achieve it. Feedback on the vision was positive, especially with the focus on safety, fiscal and environmental sustainability, connectivity, diversity and adaptability.

D2.2 Guiding Principles

The guiding principles reflect York Region's values and set the direction for realistically achieving the purpose statement. Future transportation initiatives should support one or more of the following principles:

> **Safety**: Measures that help reduce transportation-related fatalities and serious injuries with a focus on vulnerable road users

> **Inclusive and equitable**: Transportation infrastructure, programs and services that are available to all residents, regardless of location, personal abilities, age, gender, income, culture or faith

> **Protect the environment**: Addresses transportation needs with consideration for social and environmental impacts

> **Affordable today and tomorrow**: Balances the transportation costs and needs of the present without compromising the ability of future generations to meet their own needs

> **Balance the needs of communities and commuters**: Develop a transportation network that considers both the movement of people and

▷ OPPOSITE PAGE: Intersection of Highway 7 and Millway Avenue in the City of Vaughan showing vehicular traffic, buses, pedestrians and cyclists.

goods and the importance of community building and neighbourhood placemaking and paying particular attention to creative patterns of use and the physical, cultural, and social identities that define a place and support its ongoing evolution

> **Future-ready**: Transportation solutions and initiatives that are flexible and can be adapted to address changing needs, processes and technologies

The feedback from consultation and engagement through the TMP showed general agreement with the principles and approval of a focus on people (not just drivers) living and travelling safely in sustainable, complete communities. Complete communities are described in more detail in Section D3.3.

D2.3 Objectives

The objectives are intended to support the purpose statement in the short to medium term as projects are delivered.

> **Make the best use of infrastructure and services**: Maximize the effectiveness of the existing road network

> **Encourage all types of travel**: Design regional roads to accommodate all ages, abilities and modes of travel, including active transportation, transit, passenger vehicles and goods movement

> **Provide a resilient and adaptable transportation network**: Adaptable to changing social, environmental, financial and technological landscapes

> **Enhance partnerships**: Recognize the importance of collaborating with the public, business, non-profit organizations and public sector to provide transportation infrastructure, programs and services

> **Actively engage and share information**: Learn from all residents and stakeholders

> **Align project costs**: Ensure project costs are consistent with the Region's fiscal strategy and the 10-year capital plan and obtain Regional Council approval annually

The draft objectives were well received by stakeholders and comments indicated approval of focusing on resiliency, connectivity, a range of travel options and partnerships.

D3 2022 Transportation Master Plan reflects evolving attitudes and options

The engagement and surveys discussed in this chapter show travel patterns across the Region have been changing for some time and will continue to do so, especially where active and eco-friendly options are concerned. At the same time, new transportation options and ideas, like micromobility, are emerging.

The TMP process brought these streams together and used the principles and objectives outlined above to develop a plan that supports and guides progress towards the transportation system the Region will need over the next 30 years. This section outlines key themes, and Chapter G provides more details on future work that will continue to inform the Region's plans.

D3.1 Making life without a car an option

Not all residents can afford a car, or are willing or able to drive, as the telephone survey results showed:

- Those earning less than $60,000 were significantly less likely to own a vehicle than higher-income earners
- Younger residents are less likely to drive compared to those aged 25-64 and are comfortable with other transportation options
- Older drivers might be at risk of losing their independence once driving is no longer an option

For those living on a low income, finding an affordable place to live in the Region can also be a challenge. From 2008 to 2020, average home resale prices increased by 155%, while household incomes rose by only 20%. In addition, York Region has the lowest share of rental units across the Greater Toronto and Hamilton Area. The survey done for the Plan found that among those considering a move out of the Region, the cost of living and housing affordability were the top reasons.

The link between housing affordability and access to more travel options is a key factor in planning communities. If the only low-cost housing is far from workplaces and is poorly served by transit or other options, low-income residents may need to have one or more cars, which cuts further into their income.

The Region is helping to address this issue in its planning for urban centres and major transit station areas. The York Region Official Plan requires that 35% of new housing in these areas be affordable, while 25% of new housing be affordable outside these specified areas. The goal is to increase the percentage of affordable housing and give residents with the greatest need better access to work, school and other important destinations.

For many young people, the Region may not be the place where they will live long term: the survey found almost half of respondents aged 18 to 24 expect to leave. The most frequent reasons cited were the distance from school or work and the high cost of living, including housing. Keeping more young people in the Region may depend on creating communities where owning a car (a major expense) isn't necessary even after getting a job and forming a household.

▼ Pedestrians use a multi-use path in German Mills Settlers Park in the City of Markham.

The telephone survey also found that, compared to younger respondents, a far smaller number of those over 65 would consider a switch to transit, cycling or walking instead of driving. As they age, many residents are less inclined or able to drive. Without access to another way to travel, this severely limits their ability to get around and increases their risk of social isolation, both of which might make it hard for them to continue living independently. This is another instance where creating communities in which car ownership isn't needed is important.

D3.2 Making transportation healthier

York Region's transportation system has an important role to play in improving residents' health. Chronic diseases such as diabetes, hypertension and heart disease are the main cause of illness and death in the developed world, including York Region, and physical inactivity is a major contributor.

Walking at the beginning or end of a trip taken by public transit is an excellent way to increase physical activity. Shifting away from vehicle use towards active transportation and public transit is also linked to less air pollution and a lower risk of traffic-related injuries.

Moving to an electrified transit and corporate fleet will also improve air quality and reduce noise pollution in communities, which will provide further health benefits.

As the survey results show, many residents would like to walk, cycle or take transit more but have concerns about how convenient it is, how much time it takes, if it's safe and whether the related infrastructure is in place.

D3.3 Creating complete communities and complete streets

York Region envisions a complete community as one that meets people's needs for daily living through all stages of life. Homes are close together, destinations like schools, natural areas, shops and workplaces are easy to get to by active or eco-friendly transportation and accessibility needs are met. Housing options are available at a range of price points and residents benefit from local jobs, services, clean water and air and great recreational opportunities. The built environment offers safe and connected transportation options that can be used in most weather conditions. As well as reducing the environmental impacts of growth, complete communities help residents to be more physically active and socially connected.

◀ Mother and children use a pedestrian crosswalk on Leslie Street in the Town of East Gwillimbury.

Creating complete communities requires integrated thinking. Land use needs to align with investments, for example, in active and eco-friendly transportation options. How and where human services are delivered through medical facilities, schools and community centres is another important consideration. Policies in the **Regional Official Plan** are designed to encourage coordination and collaboration that will result in complete communities.

A recent example of how transportation can support complete communities is a pilot program that started in 2021 in partnership with the Town of Newmarket and local school boards to encourage students and their parents to walk or cycle to school. The pilot, involving six schools, combines education, outreach and infrastructure and uses wayfinding, including markings on pavement and new curb markings, to better control traffic in active school transportation areas, along with fun touches like hopscotch grids painted on sidewalks. The hope is that, in addition to giving children more opportunities to be active, the project will help manage traffic congestion and make school zones safer. If successful, the Region hopes to broaden and extend the initiative across its nine local municipalities.

"Complete streets" are an important element of complete communities. In 2017, Ontario adopted a policy requiring that streets be designed for all users. The Region subsequently developed two complementary documents, its **Pedestrian and Cycling Planning & Design and Designing Great Streets guidelines**. Together, these shift the focus of road design from planning for vehicle capacity to planning streets everyone can use to better connect to the community. An important element when designing streets is including boulevards that run alongside them to provide safer cycling options.

Policies in the Regional Official Plan will help coordinate more detailed planning by the Region and local municipalities to create complete communities. Partnerships are needed to ensure that other initiatives, including public health programs, the **Region's Seniors Strategy**, and investments in green infrastructure, also support this direction.

▲ York Region staff discuss plans at a road construction site.

In this chapter...

E1 How the proposed network was developed
E2 Testing options
E3 Recommended transportation networks for Active Transportation, Rapid Transit and Roads

Mapping the Region's transportation future

E1 How the proposed network was developed

The 2022 Transportation Master Plan responds to the need for a transportation network that offers travellers more options, protects the environment and fits within the Region's budget. It aims to achieve this by:

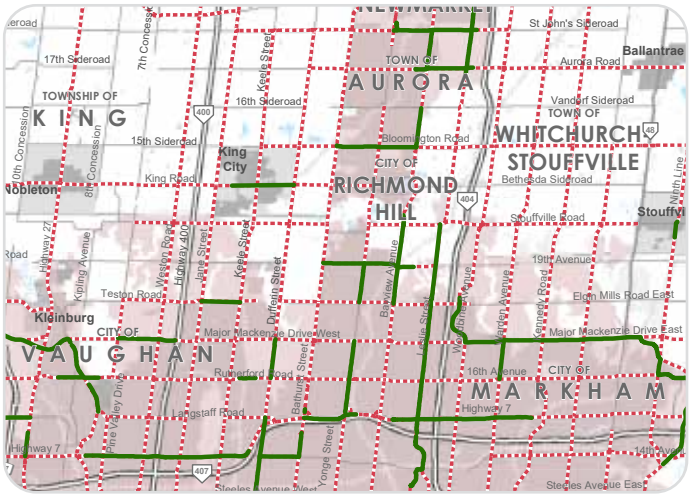
- Supporting a critical shift towards active and eco-friendly travel by making those options readily available to more residents
- Continuing to help make the entire transportation network safer for all users
- Focusing on the transportation needs of all road users, including drivers, passengers, transit riders, pedestrians and cyclists
- Using assets like boulevards along roads and underused public lands for active and eco-friendly travel

This chapter focuses on capital investments aimed at giving communities complete and connected transportation networks for all modes of travel, providing reliable and easy access to destinations and balancing the needs of various communities and travellers. It includes maps showing proposed cycling, rapid transit and road networks to provide a look at how all modes of travel are expected to evolve to support the Region's growth over the next 30 years.

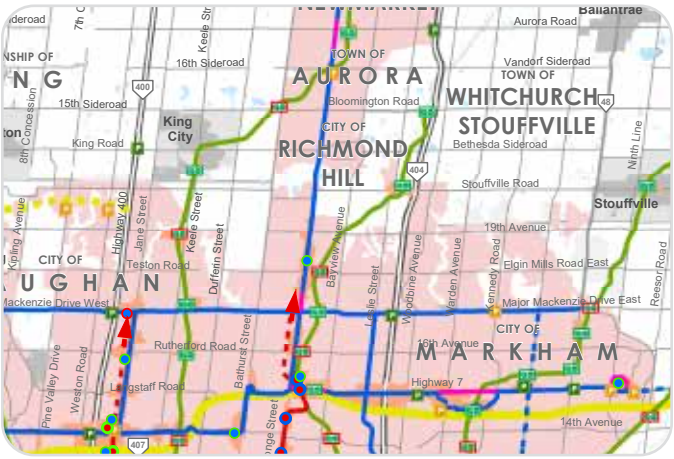
Chapter F (Strategic approach to change) discusses areas of focus that may help develop future transportation programs and initiatives, in line with the plan's purpose statement, principles and objectives.

As a long-term infrastructure plan, the TMP is made up of three main elements:

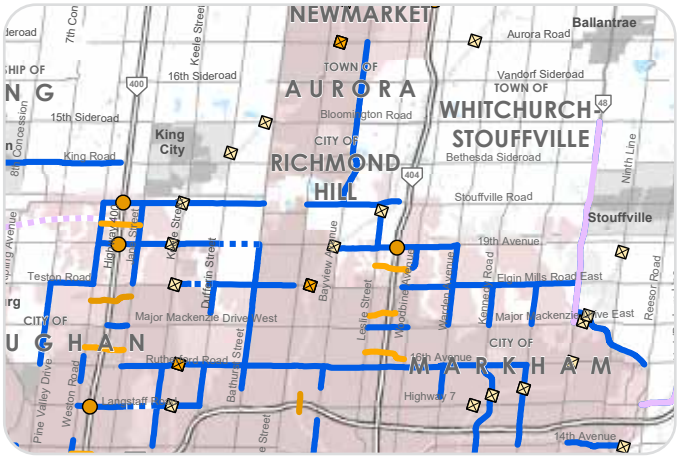
1. **Active transportation**: Travellers are walking, cycling and using other human-powered options to get to work or school, run errands or simply enjoy being outdoors more often. The plan supports a well-integrated network of bike lanes, trails and multi-use paths to make these options easier and safer for all users. **(Maps 1 and 2 in Appendix B)**



▲ Map 1 above and Map 2 show the proposed cycling and trail networks (see Appendix B for full map area).



▲ Map 3 shows proposed rapid transit network (see Appendix B for full map area).

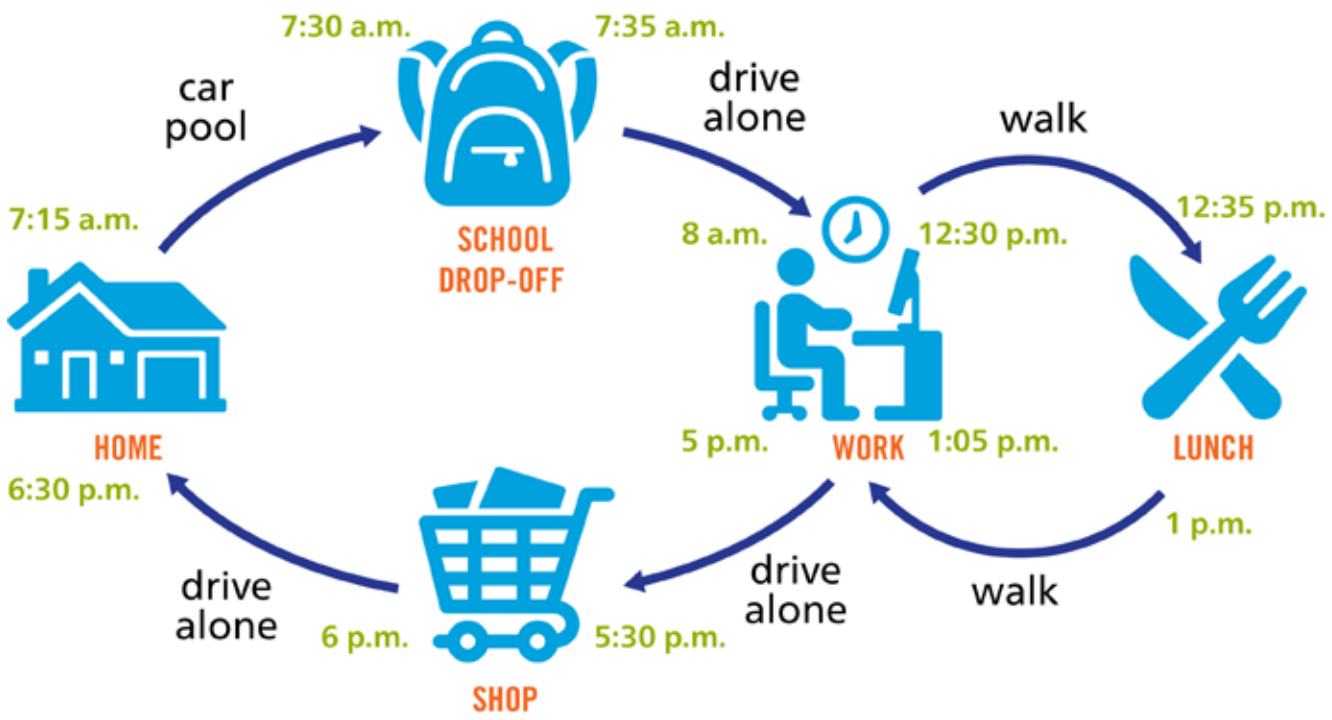


▲ Map 4 shows proposed road network (see Appendix B for full map area).

2. **Rapid transit**: Identifying and protecting corridors for rapid transit infrastructure, such as dedicated bus lanes, is critical as the Region grows. Recognizing changes since the release of Metrolinx's 2041 Regional Transportation Plan in 2018, the 2022 TMP recommends additional rapid transit corridors to address the Region's growth to 2051 and beyond. In addition, the updated Regional Official Plan identifies new major transit station areas that need to be supported with transportation infrastructure, such as new and improved bus rapid transit corridors, GO Transit rail stations and conventional transit service. **(Map 3 in Appendix B)**

3. **Optimized road network**: Investments in this TMP will generally target managing traffic flow in the Region's most congested areas, improving roads in new development areas and enabling better access to freeways, Regional Centres, rapid transit and key links to major employment areas. The proposed road network focuses on what is needed to make the best use of such existing assets as roads, lanes and intersections, as well as on investing in new projects. This process, also called optimizing the network, includes adjusting signal timing and making road or intersection upgrades to resolve bottlenecks and pinch points wherever possible, instead of undertaking major construction like road widenings. This approach goes hand in hand with other steps taken to manage demand by single-occupant vehicles on the road network by making options like active transportation more readily available. **(Map 4 in Appendix B)**

A shift to active transportation and sustainable transit makes the road network more efficient by managing the number of single-occupant cars it must accommodate as the Region grows. This results in financial benefits by reducing wear and tear on roads and reducing the need for widenings and other costly road projects.



▲ FIGURE 12: York Region's activity-based model estimates all trips over a 24-hour period to help forecast the impacts of growth on the transit and roads networks.

E2 Testing options

Decisions about transportation investments reflect the feedback and factors outlined in the previous chapter, forecasts for growth and employment to 2051, current capacity of the transportation network, how various factors might change and what the impacts will be.

The Region uses an activity-based model to analyze travel demand and forecast the impacts of growth on the network. Reflecting data gathered in the 2016 Transportation Tomorrow Survey and Cordon Count Program, it simulates the daily travel patterns of drivers, carpoolers, pedestrians, cyclists and users of transit, including GO Transit bus and rail, in York Region and the rest of the Greater Golden Horseshoe Area.

The model considers key factors that determine trip-making patterns, such as changes in household makeup over time, availability of cars to household members, how and where employment will grow, how people organize their trips in sequence and the extent to which traffic congestion will cause drivers to shift to other modes of transportation such as transit, walking or cycling.

For the Region, population and employment forecasts included in the updated Regional Official Plan are key considerations and help determine which transportation projects should be invested in and when. Chapters A and B provide more detail.

▶ Cars and a bus travel along Major Mackenzie Drive in the City of Vaughan.

A 2051 base network model was developed reflecting current Regional and provincial plans, including the 2016 TMP and Ministry of Transportation's **Southern Highways Program**. Most of the existing 400-series highways serving the Region, including highways 400, 404, 407 and 427, will be extended and / or expanded. Plans for new roads include Highway 413 (GTA West Corridor), which would cross the City of Vaughan from Peel Region to Highway 400, and a bypass that would connect Highway 404 to Highway 400 (commonly referred to as the Bradford Bypass) in the north. The impacts of these projects on the Regional road network were considered during the planning process.

The model then tested how the network would perform given the location of population and employment projected for 2051.

Assumptions could be changed to create a range of scenarios to find a better fit between capacity, costs and transportation options. Six scenarios were tested for the 2022 TMP update. The first three scenarios would involve policy and / or funding from the Region and its partners or would have financial impacts on residents. These scenarios were:

1. Providing more frequent YRT bus service.
2. Eliminating transit fares.
3. Charging for parking in high-demand areas where transit is available as an alternative.

Scenarios 1 to 3 resulted in the reduction of traffic congestion; however, the financial impacts on the Region would vary for each.

The next three scenarios would depend on changes in resident behaviour and would involve little or no policy changes or funding from the Region:

1. Half of trips taken under 5 kilometres would be completed by walking or cycling.
2. 25% of the labour force would continue to work from home and daily shopping trips would fall by 15% due to online shopping.
3. Travellers would avoid morning and evening traffic peaks and spread trips out over the day.

Scenarios 4 to 6 would reduce traffic congestion with minimal impacts on the Region's infrastructure investments. Of the three, scenario 4 — more active transportation like walking or cycling for short trips — is the most feasible, based on current information. The **Transportation Tomorrow Survey** data show a growing interest in active transportation among York Region residents, and this trend is expected to continue over the next 30 years.

The Region's roles in helping to make it happen include adding active transportation infrastructure and planning complete communities.

For more information on the development of the recommended transportation networks, please visit **york.ca/TMP**

▲ Cyclist uses on-street dedicated bike lanes alongside vehicular traffic on Yonge Street in the Town of Newmarket.

E3 Recommended transportation networks for Active Transportation, Rapid Transit and Roads

The transportation improvements recommended in the following sections for active transportation, rapid transit and roads are designed to support regional growth to 2051. These programs are directly linked to the pace of growth and provide the infrastructure needed to support new development. As described in Section G3 (Balancing services with financial needs) and Section G5 (Approach to implementation) with the completion and adoption of the 2022 TMP, 10-year programs for roads and transit capital investments will provide more details. The recommended networks are shown in Maps 1 to 4 in Appendix B.

E3.1 A larger, more integrated active transportation network

A well-planned active transportation network lets people move within and beyond the Region in ways that are convenient and safe for everyone and connects off-road trails to lanes and pathways on or beside roads.

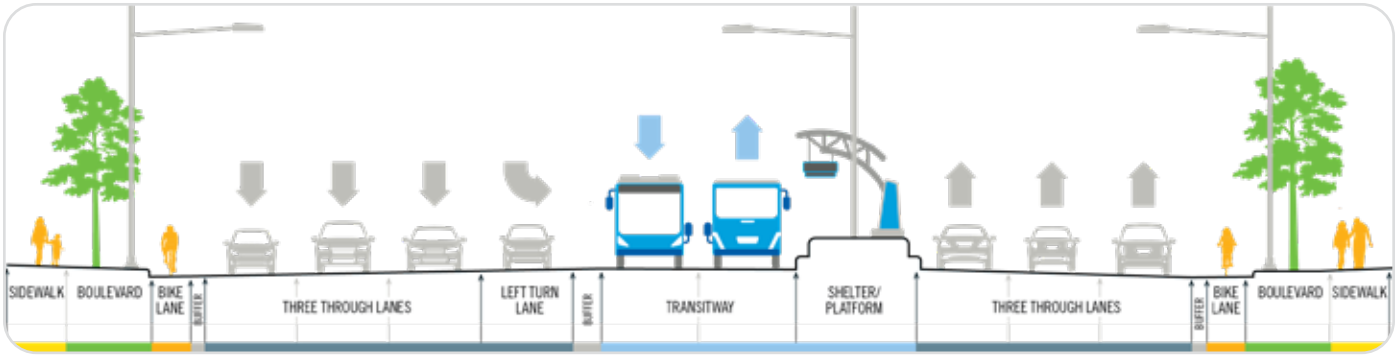
The active transportation network should provide direct connections to workplaces, schools, libraries, shopping, recreation and other destinations, as well as link to transit for longer trips. Enabling more travellers to reach major transit stations and hubs as well as local transit stops by walking, cycling or micromobility means is an important part of managing traffic congestion in urban areas.

Collaboration is essential in creating and expanding the network. York Region has formed important partnerships with the provincial government, local municipalities, neighbouring municipalities, the Toronto and Region Conservation Authority and the Lake Simcoe Region Conservation Authority, as well as with school boards, advocates and other interested parties.

Updating the active transportation network was guided by the following goals:

> Active transportation users should feel safe throughout the network, including where there is a highway interchange on a Regional road (in partnership with the Province), at intersections and along roads with faster traffic speeds or more traffic

> All Regional roads should accommodate all modes of travel, including walking and cycling, and design should reflect the Region's Pedestrian and Cycling Planning & Design Guidelines



▲ FIGURE 13: Illustration of typical rapid transit corridor cross-section.

- Where possible, cycling lanes should be located off the road rather than on the road next to vehicle traffic
- The network should consider underused or unused land to expand, such as hydro corridors or old rail lines
- Active transportation, such as walking and cycling, should be an option for everyone
- Outreach to encourage the shift to active transportation should target areas where new cycling / walking features are available or planned, as well as to more general audiences

The active transportation networks are shown on two maps — the Regional cycling network and the Regional trail network. While both maps are needed to provide the level of detail required for this plan, the Region views routes on the road network and on trails as one, forming a connected network for commuting and recreational use.

Multi-use paths on Regional roads allow for multiple users, including pedestrians, and the trail network is open to walking, hiking and cycling. Sidewalks, which also form part of the active transportation network, are a local municipal responsibility and as such are not shown on the maps.

Regional road cycling network (Map 1)

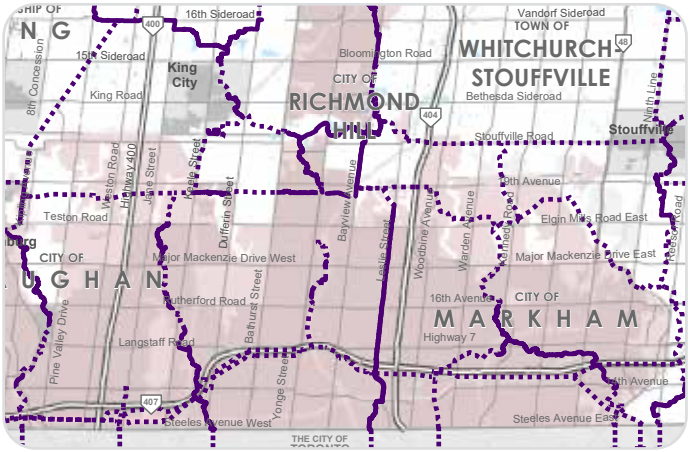
This map shows the existing and proposed Regional road cycling network. Green indicates existing multi-use paths and cycling tracks separated from the roadway and dedicated on-street bike lanes. The dotted red lines show where these new features might be in the future. The road-based cycling network will be expanded by Regional road projects, in partnership with stakeholders and through the review of new development applications. Where a lane or path within the Region will reach a border, the Region will work with neighbouring municipalities to identify logical connections so cyclists and pedestrians can continue their journey safely.

Trail network in York Region (Map 2)

Trails enable cyclists and others to connect to neighbouring municipalities as well as destinations within the Region. Arrows show conceptual connections that can be further explored in collaboration with our neighbouring municipalities. Solid lines show existing trails and dotted lines indicate trails that are under development, planned or being explored in partnership with local municipalities and conservation authorities.

Two trails of significance are:

- The Lake to Lake Cycling Route and Walking Trail, which will provide a 121-kilometre link from Lake Simcoe to Lake Ontario with connections to other major trails when complete. As of 2022, the portion of the route in York Region is more than 85% complete



▲ Map 2 showing proposed trail network (see Appendix B for full map area).

▲ Bus serving travellers at Vivastation along Yonge Street in the City of Richmond Hill.

> The future South York Greenway cycling, pedestrian and micromobility corridor, which will parallel Highway 407, providing connections to subway stations, other major mobility hubs and existing and future communities. When complete, it will run more than 50 kilometres from the City of Vaughan to the eastern limits of the City of Markham

These routes will provide a safe and largely separated travel network for potentially thousands of cyclists, pedestrians and micromobility users in the most heavily populated areas of the Region, which will help reduce automobile pressure on major arterial roadways.

Active transportation network improvements, such as the construction of walking, cycling or multi-use paths, will be considered in capital road improvements and included in accordance with the Municipal Class Environmental Assessment as described in Chapter C in partnership with local municipalities. When road projects do not include active transportation, design elements for the road project such as utility locations, placement of street trees, and intersection design should not preclude the future implementation of active transportation.

E3.2 More rapid transit corridors

The proposed 2051 rapid transit network, shown on Map 3 in Appendix B, identifies and protects rapid transit corridors to support York Region's planned growth needs. Rapid transit infrastructure may include physically separated lanes for the exclusive use of buses or light-rail vehicles. In York Region these are also referred to as "rapidways".

Because the TMP guides long-term capital investment, the proposed rapid transit network focuses on infrastructure needs, including bus rapidways and the Yonge North Subway Extension. However, this does not preclude investment in more frequent transit service on regional roads. The capital needs of other transit services, like changes to the Frequent Transit Network, local bus routes and Mobility On-Request, are adjusted in response to shorter-term demand and reflected in annual service plans, YRT's five-year plans and the 10-year capital plans in the Region's budget. For more information, visit **yrt.ca**

The proposed rapid transit network is consistent with the 2016 Transportation Master Plan, with some adjustment to reflect budgeting needs. Its foundation is a body of background knowledge, including approved environmental assessments and technical analysis in provincial plans and previous Regional TMPs.

While the rapid transit network plan generally aligns with **Metrolinx's 2041 Regional Transportation Plan** that was released in 2018, it also recognizes that long-term planning has since evolved:

- In the provincial **Greater Golden Horseshoe Transportation Plan**, the Ministry of Transportation is moving towards including parallel transitway corridors along new or extended 400-series highways
- The provincial government has also signalled an interest in shifting from the current mode of focusing all rapid transit on Union Station to one that includes a loop to bypass Toronto's downtown core and connects new major transit hubs, including Richmond Hill Centre, with Toronto Pearson International Airport and other important destinations
- Infrastructure investments also reflect new forecasts for population and employment growth in the updated Regional Official Plan and the Region's designation of new major transit station areas

The rapid transit network includes the following infrastructure elements that could be added to the network by 2051:

Subway

The rapid transit network map reflects the Yonge North Subway Extension to connect the Richmond Hill / Langstaff urban growth centre with the existing TTC subway at Finch Station. The provincial government, through Metrolinx, is leading planning of the project, including route alignment and construction of the line and stations. Both this line and the line currently ending at the Vaughan Metropolitan Centre might be extended further north in the future, subject to further study.

GO Transit

In addition to improvements along the Barrie, Richmond Hill and Stouffville GO Transit lines, the rapid transit network map also includes the Bolton rail corridor in west Vaughan and Havelock rail corridor in east Markham. These were identified in the Metrolinx Regional Transportation Plan as potential projects beyond 2041. The Plan also identifies future GO Rail stations to support the Region's growth to 2051.

◁ OPPOSITE PAGE: TTC rider waits for subway train; train travels along tracks; transit rider purchases ticket from fare station.
▼ Aerial view of Yonge Street and Gamble Road intersection in the City of Richmond Hill.

York Region Bus Rapid Transit

Building on the success of 34 kilometres of bus rapid transit (or Viva) completed to date, remaining segments totalling more than 100 kilometres are needed to complete the YRT rapid transit network of dedicated bus lanes, including 10 kilometres that are subject to further studies. This would include building out the rapid transit network westward along Highway 7 to connect to Peel Region bus rapid transit, making it easier to get to Toronto Pearson International Airport.

A future study will also consider the extension of the Leslie Street Rapid Transit Corridor via Major Mackenzie Drive and/or Woodbine Avenue to support the employment lands in the Markham Innovation Exchange (MiX) district.

Other rapid transit

Additional rapid transit could include parallel transitways on new and extended 400-series highways, including highways 427 and 407 and the proposed Highway 413 (GTA West Corridor). The proposed transitway on Highway 407 would be another option to link York Region to the Toronto Pearson International Airport. Metrolinx has also identified 37 kilometres of future planned rapid transit along Steeles Avenue.

Via Rail, in partnership with Transport Canada, is also exploring a new possible high-frequency rail corridor that would run between the cities of Toronto and Ottawa in Ontario. The project may use the existing Canadian Pacific Railway line through Peterborough known as the Havelock corridor.

The Region is also working with the provincial government to explore a potential rapid transit loop to bypass Toronto's downtown core. The **Ministry of Transportation plan for the Greater Golden Horseshoe** and future updates to **Metrolinx's Regional Transportation Plan** will provide more details.

The proposed number of commuter parking lots to support YRT and / or GO Transit services has been reduced since 2016. This was based on focusing on parking lots that would directly enable a connection from a private vehicle to transit at a significant YRT or GO Transit bus stop, terminal or station.

The proposed rapid transit network was refined through discussions with internal partners, York Region Rapid Transit Corporation and consultation with the public.

E3.3 A more strategic approach to the road network

The development of the 2051 road network included:

- Building on the extensive work done annually for the 10-year roads and transit capital construction program
- Recognizing financial constraints and better aligning with the Regional Fiscal Strategy
- Using data-driven decision making

Decisions about specific projects considered growth-related needs, expected impact, project costs and commitments of partners, such as local municipalities and the Ministry of Transportation. With respect to the ministry, York Region has also identified improvements needed on several roads under provincial jurisdiction, such as portions of highways 48, 9 and 7, and advocates for these to be priorities in updates to the Southern Highways Program.

Evaluating potential Regional road improvements

For improvements to Regional roads, staff reviewed the technical recommendations of the 2016 TMP and examined the results of the proposed demand on the transportation network using the Region's travel demand forecasting model discussed in Section E2.

Projects were then ranked using the Region's priority-setting model, a process endorsed by York Regional Council, that determines the benefit scores of each project, looking at such aspects as how much the road capacity would be increased, what type and intensity of development is expected nearby, whether the road is close to important destinations or freeways and what uses — such as trucking, transit and car travel — the road will support.

The priority-setting model was valuable for initially ranking projects based on historical and forecasted traffic volumes, then refined qualitatively in consultation with subject-matter experts looking at factors such as making the overall network more efficient by including eco-friendly and active transportation infrastructure.

To align with the principle "Affordable today and tomorrow" and the Regional Fiscal Strategy, projects identified in the 2016 TMP were removed from the recommended network. The recommended 2051 road network is summarized in the following subsections and depicted in Map 4 in Appendix B.

Implementing transportation Improvements through the Rouge Urban National Urban Park

Extending from the shores of Lake Ontario in the City of Toronto and encompassing eastern portions of the City of Markham, the 47-square-kilometre Rouge National Urban Park provides York Region's residents with a rich assembly of natural, cultural and agricultural landscapes, amazing active transportation opportunities and human history dating back over 10,000 years, including some of Canada's oldest known Indigenous sites.

By law, national parks are protected for public understanding, appreciation and enjoyment, while being maintained in an unimpaired state for future generations. This may present York Region with construction and implementation challenges related to building and managing infrastructure within the park boundaries.

The park will require York Region and Parks Canada to navigate the need for new and improved active transportation, transit and road improvements through the park corridor to support continued growth in Canada's largest urban area.

York Region is committed to working with Parks Canada in developing context sensitive and sustainable design solutions while supporting the implementation of the Rouge National Park. The key transportation improvements close to the Rouge National Park include:

- Extension of Highway 7 bus rapid transit to Durham Region
- Improving Highway 7 and 14th Avenue, including future grade separations at the Canadian Pacific Havelock corridor, Steeles Avenue, 16th Avenue and Elgin Mills Road
- Arterial road improvements to support the future Pickering Airport
- South York Greenway, Cycling, Pedestrian and Micromobility corridor which would connect active transportation users east-west across the Region and into Rouge National Urban Park
- Future Highway 407 Transitway
- Via Rail's high-frequency rail project on the Havelock corridor and potential future GO service on the same line
- Other projects to expand GO Transit train service

Protecting for new Rail to Road Grade Separations

The 2051 road network includes separations between Regional roads and rail lines used by Metrolinx's GO Transit commuter trains, as well as Canadian Pacific Railway and / or Canadian National Railway. These separations, also known as grade separations, support GO Transit's expansion plan for two-way service and for all GO Transit lines to carry more trains.

Recent experience in the Region and elsewhere in the Greater Toronto Area shows that a crossing typically costs more than $100 million to build. Construction is disruptive for communities and, once built, these crossings become barriers within communities and are very costly to maintain. The significant construction and operating costs might not justify the traffic benefits.

Grade separations included in the Region's 2016 TMP but not yet underway continue to be protected from development in the 2022 TMP. Since projects

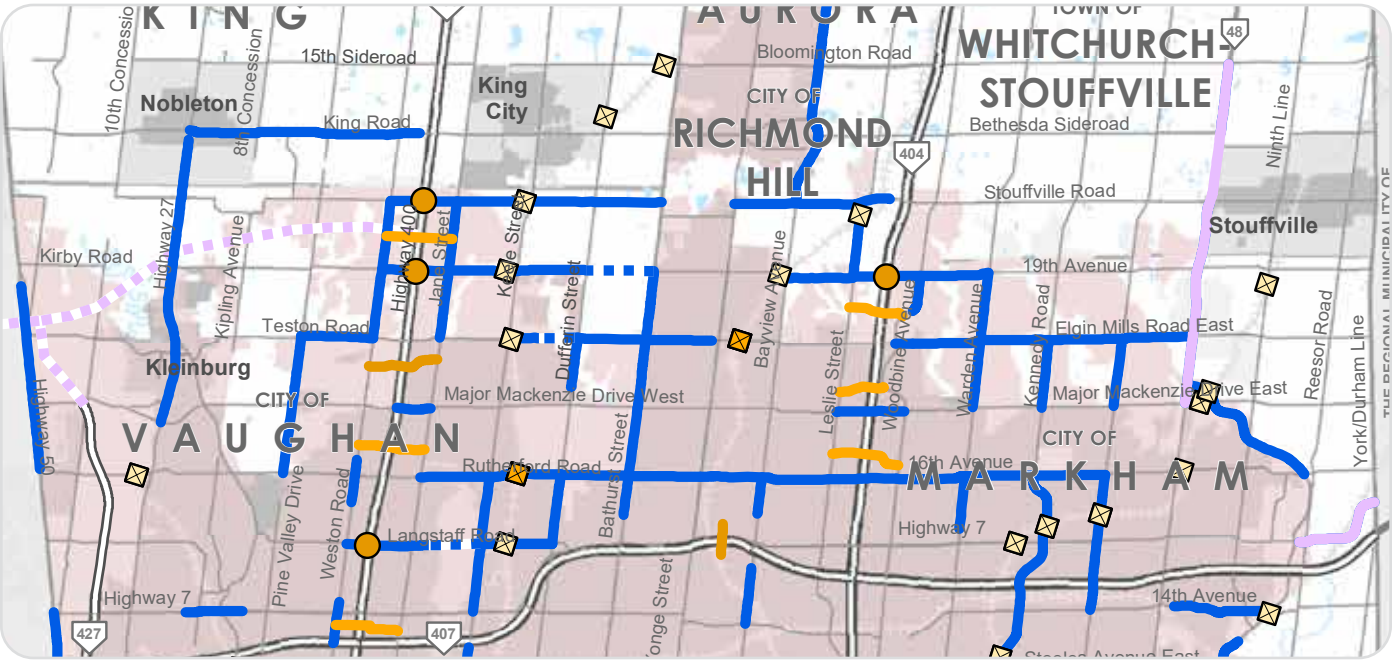
▲ Transit rider makes GO Train station connection to YRT service in the Town of Aurora.

of this nature involve shared jurisdiction, the Region typically works with Metrolinx and other rail authorities to plan for and prioritize them. Negotiation will be needed to determine roles, responsibilities and cost contributions, the last of which will also be subject to assessing priorities in the Region's capital and operating budgets.

Recommended 2051 road network

As **Map 4 in Appendix B** shows, the proposed 2051 road network focuses on:

- Improving roads located near new development areas and in the most congested core urban areas
- Building mid-block crossings (crossings over freeways between interchanges) and completing missing links in mature urban areas to offer more route options
- Constructing of a new section of Teston Road between Keele and Dufferin streets
- Continuing to advocate for interchanges required to support growth and considered by the Ministry of Transportation to be a Regional or local municipal responsibility, including three linking to Highway 404 (at 19th Avenue, St. John's Sideroad and Doane Road) and one to Highway 400 (at King-Vaughan Road), as well as improving the partial interchange at Mulock Drive and Highway 404
- Protecting the areas around planned grade separations between Regional roads and rail lines and completing four projects already underway: on Rutherford Road east of Keele Street and Wellington Street east of Yonge Street on the



▲ Map 4 showing proposed road network (see Appendix B for full map area).

Barrie GO Transit line, Elgin Mills Road east of Yonge Street on the Richmond Hill GO Transit / CN line, and Steeles Avenue east of Kennedy Road on the Stouffville GO Transit line

The Region is undertaking an environmental assessment for a new section of Langstaff Road to cross the Canadian National Railway MacMillan Yard. This is included on a contingency basis as it could proceed only if additional funding were available from third parties.

The 2022 TMP identified the need for one interchange with Highway 400 north of Teston Road, which could be at either King-Vaughan Road or Kirby Road. The preferred option is subject to further study and consultation with local municipalities and the Ministry of Transportation, as either location would be affected by options to connect Highway 400 to Highway 413.

The 2010 Regional Official Plan included a potential westward extension of Donald Cousens Parkway, which currently runs from Fieldside Street (north of Steeles Avenue) to Major Mackenzie Drive. A section of Ninth Line between Steeles Avenue and Fieldside Street is in the Region's program to be widened to four lanes in the near future, completing the southern end of the Donald Cousens Parkway within the Region. The 2016 TMP provided more details of this potential four-lane arterial road that would connect to an interchange at Highway 404 at 19th Avenue. The 2022 TMP proposes that the capacity that would have been provided by the extension be provided by expanding the existing road network around its planned route instead.

▲ Construction of Rutherford GO rail grade separation on Rutherford Road in the City of Vaughan.

E3.4 Transportation needs continue to evolve to support changing land use

The TMP recommends transit, active transportation and road investments to support planned and approved development. However, the Plan recognizes the recommendations discussed in Chapter E (Mapping the Region's transportation future) and in the accompanying maps in Appendix B are only a snapshot in time. This is why the Municipal Class Environmental Assessment process requires master plans be reviewed every five years.

The TMP recognizes the Region, Province (through Minister Zoning Orders) and municipalities (through Secondary Plans), are continuing to review how to implement transit supportive, complete communities and economic sectors. The changing land use in these development areas requires future review of the transportation infrastructure needed to support the development needs. York Region commits to continuing to work with all levels of government to continue to review the rapid transit, active transportation, and road improvements and to meet the evolving needs of these communities.

▲ Early phase of construction of Major Mackenzie Drive West bus terminal near Canada's Wonderland in the City of Vaughan.

▲ Pedestrians use the crosswalk at Highway 7 and Chalmers Road in the City of Markham.

In this chapter...

F1 New and evolving areas of focus
F2 Safety for all travellers
F3 Transportation equity and inclusion
F4 Reduce car travel
F5 Fiscal and environmental sustainability
F6 Reviewing roles and functions in Regional corridors

Strategic approach to change

F1 New and evolving areas of focus

The TMP identified five focus areas, each of which brings together several related priorities:

- Safety for all travellers
- Transportation equity and inclusion
- Reduce car travel, especially during rush hours
- Fiscal and environmental sustainability
- Role and function of Regional corridors

The focus areas replace the many transportation policies and actions included in the 2016 TMP, because the Regional Official Plan is the major policy document for managing growth and development. The TMP focuses on setting and maintaining direction for transportation in York Region through initiatives, guidelines and operating procedures that support the Regional Official Plan, as well as the Region's Vision and the Strategic Plan.

F1.2 Focus areas

Each focus area will require further study by Regional staff and potentially additional engagement with agency partners, as discussed in the balance of this chapter. Proposed actions and initiatives will be brought forward to York Regional Council for review and endorsement over its next four-year term.

Safety for all travellers

- Although safety is always top of mind for transportation projects and initiatives, the need for a Regional plan for traveller safety will be explored

Transportation equity and inclusion

- Attention will be given to transportation options that are inclusive of all ages, abilities, income levels, genders, races, cultures, etc

Reduce Car Travel, especially during rush hours

- Options that allow travellers who are able and interested to use methods of travel other than car, especially during the busiest travel times, will be assessed

Fiscal and Environmental Sustainability

- Ensuring transportation investment decisions are affordable and consider environmental impacts

Review the role and function of Regional Corridors

- A number of important actions will be explored, including: ownership of cycling facilities; micromobility; the effectiveness of HOV and transit lanes; parking and goods movement

F1.3 Alignment of Focus Areas with Objectives

The TMP's objectives are identified in Section D2 (Foundations of the 2022 Transportation Master Plan). The following icons represent these objectives and appear in sections F2 to F6 to demonstrate the alignment between each focus area and the objectives. Each focus area aligns with at least three objectives. This will help maximize the value of actions and initiatives related to the focus areas.

▲ FIGURE 14: Icons representing objectives of the 2022 TMP.

F2 Safety for all travellers

Safety is a long-standing priority of the Region. As the transportation network evolves and changes, there will be opportunities for the Region and its partners to help make it even safer for all travellers. The 2022 TMP outlines specific investments and commitments to increase safety. In addition, Transportation Operations, Public Works expects to propose a traveller safety strategy to York Regional Council in 2023.

Additional initiatives may include:

> Reviewing posted speed limits to ensure they are consistent with the goals of more active transportation and livable communities

> Using communication campaigns to share information with road users and build awareness of safe behaviour, such as the "Be Visible. Be Seen." campaign that provides tips for drivers, pedestrians and cyclists

> Implementing engineering measures and initiatives to improve safety for all travellers

> Using safety-oriented planning and design and providing safety enhancements for pedestrians and cyclists by using the Region's Pedestrian and Cycling Planning & Design Guidelines, including:

- Protected bike lanes, also called cycle tracks, with physical barriers to separate cyclists from both cars and sidewalks
- Permanent two-stage left-turn queue bike boxes in boulevards at several intersections on Highway 7 to allow cyclists to complete a left turn across multiple lanes of traffic safely
- Pedestrian crossings, like the pedestrian bridge over the Holland River and GO Barrie rail corridor, to eliminate the need for pedestrians and cyclists to cross at street level

▲ TOP: Two students at a sidewalk decal that is part of the Be Visible. Be Seen. safety campaign. BOTTOM: Dedicated off-street bike lanes and sidewalks along Highway 7 in the City of Markham.

F3 Transportation equity and inclusion

The Region designs transportation options and assets to make it easier for people of all ages, income levels, abilities and identities to use services. This aligns with York Region's Inclusion Charter, which has the goal of making all people feel they belong and have access to the same opportunities and moving towards recognizing mobility as a right. It is important to note the distinction between what is meant by transportation equity versus transportation equality. Equality ensures each individual or group of people is given the same resources or opportunities, whereas equity recognizes each person has different circumstances and ensures everyone is provided with what they need to reach an equal outcome.

A central goal of transportation is to facilitate social and economic opportunities by providing equitable levels of access to affordable and reliable transportation options based on the needs of the populations being served, particularly populations that are traditionally underserved, or which current trends in mobility could disadvantage[1]. By recognizing the inequities present within our transportation system, the Region will work to apply an equity lens to future projects to ensure transportation networks are inclusive and recognize diversity of personal abilities, ages, genders, incomes, races and cultures. This focus area will explore whether there are opportunities for all travellers to access transportation in York Region and identify whether new policies or initiatives are needed.

▲ Transportation options aim to serve York Region's diverse population and be inclusive.

1 World Road Association, "Call for Proposals: Social equity and social accessibility of transport systems", March 2022.

▲ Mobility on-request client exits vehicle; mother with stroller and child exiting a bus.

Current initiatives like the **MyRide Travel Training Program** are designed to help make customers, including seniors, newcomers to the Region and people with disabilities, more comfortable by providing additional knowledge and skills needed to help them use YRT independently.

YRT offers fare discounts for senior citizens, children and youth, and children under five years of age ride for free. The Region is also piloting a **Transit Assistance Program** to make transit more affordable for eligible adults.

Other initiatives to support greater transportation equity and inclusion include:

- Building on York Region's understanding and definition of transportation equity and inclusion
- Expanding Mobility On-Request to provide transit services to more rural communities and new riders in areas without access to large-scale transportation systems or mobility hubs
- Accepting more payment methods so it is easier to pay fares and use the system
- Expanding transportation options available to residents and commuters
- Making transit more convenient by offering better fare and service integration with neighbouring systems and aligning transit options with traveller needs
- Ensuring intersections comply with provincial accessibility requirements
- Communicating in more ways to ensure messages reach as many people as possible

▼ York Region Transit bus travels in dedicated bus lane along Highway 7 at the Town Centre vivastation in the City of Markham.

F4 Reduce car travel, especially during rush hours

The road network, air quality and the environment would benefit from having fewer cars on the road, especially during rush hours, as the population and economic activity increase.

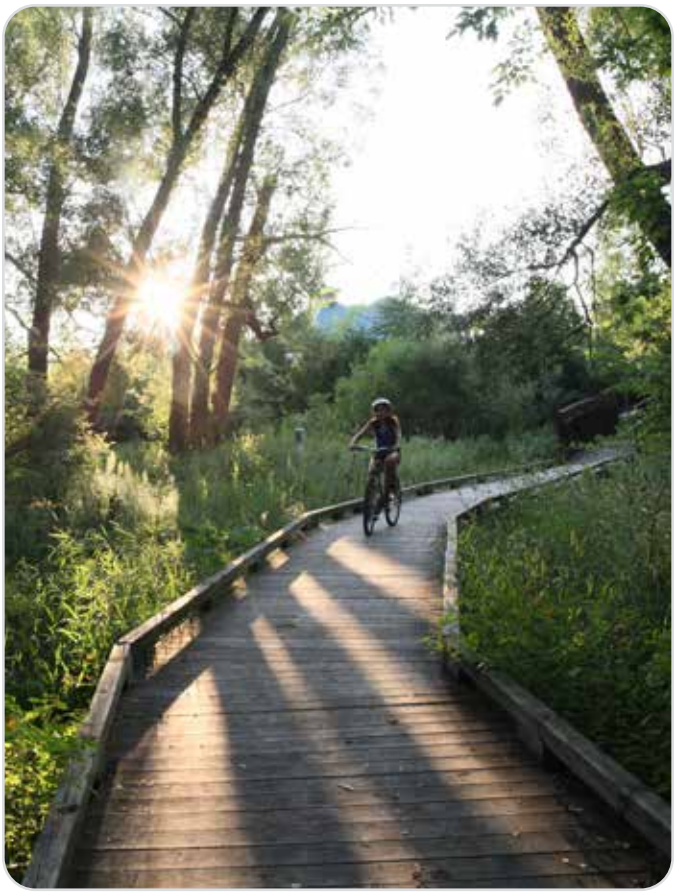
There are many ways to build on the growing interest in walking, cycling, transit, carpooling and other eco-friendlier options, including non-travel alternatives such as working from home. For example, a developer will work with York Region and local municipalities to provide transit incentives and sustainable transportation information to residents and businesses to help reduce the dependence on automobiles.

The 2022 TMP continues York Region's commitment to managing traffic congestion, including looking at new ideas and approaches.

▼ TOP: Cyclist travels along multi-use path between Woodland Hills Boulevard and Cliff Trail in the Town of Aurora. BOTTOM: Cyclists and pedestrian travel along multi-use path in the City of Markham.

A key element will be encouraging a shift to more active and eco-friendly options. Examples of how to achieve this include:

- Supporting transit ridership recovery from the COVID-19 pandemic with marketing efforts, enhanced cleaning programs and actions to address overcrowding in high ridership areas
- Adding more active transportation infrastructure (such as cycle tracks and multi-use paths)
- Advancing the Lake to Lake Cycling Route and Walking Trail and South York Greenway project and building stronger links throughout the trails network
- Better understanding the opportunities for transportation over short distances via eco-friendly, single-person vehicles such as e-scooters and e-bikes and how to accommodate their use in the transportation network
- Working with the development community to ensure new communities are designed to be walkable and provide eco-friendly options through urban design elements such as window streets to avoid reverse lot frontage and sound reduction walls, pedestrian connections between streets and to trail systems and lower parking space requirements
- Creating a comprehensive transportation demand management strategy, building on such initiatives as Smart Commute, including its website and app, carpooling, MyTrip and Active School Travel pilot programs, encouragement of walking, cycling and other eco-friendly options for the first / last kilometre of longer trips and providing access to major mobility hubs by transit or active transportation



F5 Fiscal and environmental sustainability

The 2022 TMP looks at sustainability from both an environmental and financial lens. For environmental sustainability, York Region considers natural heritage features as well as agricultural and rural lands to avoid any negative impacts of capital projects where possible and applies context-sensitive mitigation solutions when necessary. For example, preserving the 70,000 trees planted on Regional roads and rights-of-way is considered as part of the road project planning process and when trees must be removed, they are replaced.

Section B2.3 discusses York Region's commitment to meet net-zero targets by moving to full electrification of the transit and corporate vehicle fleets.

Financial sustainability ensures that York Region can keep the cost of growth affordable while maintaining its existing infrastructure in a state of good repair. It means preserving fiscal flexibility in the face of changing needs and being able to effectively respond to unforeseeable events, such as the COVID-19 pandemic. In updating the Regional Official Plan, the Region also strengthened policies on coordinating the timing of projects with growth to improve efficiency and phasing the construction needed for future communities to ensure costs stay within the Region's means. Policies throughout the Regional Official Plan were updated to highlight the importance of integrating land use, infrastructure and financial planning. More information on how York Region proposes to implement the TMP can be found in sections G3 and G4.

▲ One of 12 electric buses that YRT has piloted along Davis Drive in the Town of Newmarket since the launch in February 2020.

There are additional ways to lessen environmental impacts of the transportation network and support fiscal sustainability. Examples of such initiatives include:

- Improving the way priorities for capital projects are set by updating the definition of a project's benefits, building in financial constraints, looking at benefit / cost ratios and assessing the ability to lessen environmental impacts, for example by reducing GHG emissions and waste by re-using construction materials (where appropriate)
- Managing assets to minimize costs and environmental impacts over their service lives
- Coordinating the Region's transportation networks with those of local and adjacent municipalities to minimize infrastructure needs and enhance the natural environment
- Advocating for provincial and federal governments to support programs to reduce GHG emissions from transportation and their community impacts
- Identifying partnership and pilot programs to help support electric vehicle technology as a method to reduce the community impacts of GHG emissions

▲ TOP: Poviding meadows along Regional boulevards helps protect natural heritage features. BOTTOM: Maintaining Regional vehicles promotes fiscal and environmental sustainability.

F6 Reviewing roles and functions in Regional corridors

As the transportation network evolves, York Region needs to consider issues around ownership, new technologies for micromobility and measures to manage demand on the system. This focus area looks at the complex relationship between Regional roads and how the corridors, the public space between private development on opposite sides of the road, support our communities, placemaking and how travellers use and envision the corridor space.

The Master Plan has identified the following five sub-focus areas to outline the key priorities around corridors. The term "corridor" refers to the travel lanes for vehicles, active transportation corridors, boulevards and streetscaping features or ditches and above and below ground utilities. The corridor extends from the property line on one side of the roadway to the property line on the opposite side. In Ontario, the ***Municipal Act*** prescribes that York Region is responsible for the ownership and maintenance of some elements in the corridor and the nine local municipalities are responsible for other elements of the corridor, including.

- Ownership and use of boulevard
- Micromobility
- HOV lanes / transit lanes
- Parking
- Movement of goods using large trucks

Each of these focus areas is further defined below.

F6.1 Ownership and use of boulevard

Elements in boulevards (the strips of land located between the road curb and private property) include cycling paths, sidewalks, streetscaping and lighting. The ***Municipal Act*** does not explicitly define the respective responsibilities of York Region and its local municipalities for all boulevard elements. For example, along a Regional road, York Region is responsible for drainage such as ditches or storm sewers, street trees, street lighting at intersections and maintaining the grass and Regionally owned streetscaping, whereas the local municipality is responsible for the sidewalks and the street lighting between intersections.

◁ OPPOSITE PAGE: Vehicles travel along Major Mackenzie Drive West in the City of Vaughan.

However, responsibilities for other features, including multi-use and cycling paths, are not defined. This creates uncertainty about ownership and maintenance, especially as the Region is moving to shift cycling facilities from the road into the boulevard for greater safety.

Examples of initiatives York Region will explore include:

> Working with its partners to clearly define boulevard roles and responsibilities, especially where the goal is providing safer and more comfortable options for active and eco-friendly transportation, reducing reliance on single-occupancy vehicles and making the road network more efficient

> Considering what needs to be included on boulevards and what could go onto the road to make more space available for trees and other features as many utilities are contained above and below the ground

F6.2 Micromobility

New micromobility choices, such as e-bikes and e-scooters, are gaining in popularity among York Region's residents. As noted in Section D3, they offer convenience as well as benefits on both the environmental and the traffic congestion fronts. Users can cover longer distances compared to walking or cycling, the devices take up less space on the road than a car and it is easier to connect to mobility hubs or key destinations as parking is less of a concern.

Successful integration of these devices into Regional and local networks will require collaboration and communication. Particular attention must be given to how they would be safely integrated into sidewalks or trail systems that see high volumes of pedestrians.

▲ Travellers using escooters and ebikes along separated sidewalks and bike lanes.

Going forward:

> The Region and its partners will work to define pedestrian, cyclist and micromobility infrastructure to support both safety for all travellers and the shift away from single-occupant car trips

> Special consideration will need to be given to issues such as municipal and / or third-party rental e-bikes and e-scooters as they are introduced into the marketplace, pick-up / drop-off locations, winter maintenance, charging facilities, age restrictions, speed limits in some settings, enforcement and legal / risk issues

▲ Travellers carpool and vehicles park on Main Street / Highway 48 in the City of Markham.

F6.3 HOV lanes / transit lanes

High-occupancy vehicle (HOV) lanes are reserved for public transit, emergency vehicles, taxis and private vehicles carrying more than one person. Their main purpose on Regional roads is to increase the total number of people moving through the corridor.

A Regional standard for six-lane roads requires the inclusion of two all-purpose travel lanes in each direction, an HOV lane and a dedicated 1.5-metre cycling lane, at a minimum.

The Regional Official Plan includes a policy to "require transit or high-occupancy vehicle lanes and cycling facilities within the rights-of-way of existing and future six-lane Regional roads based on established thresholds and criteria." Consistent with that policy, this focus area will explore opportunities to redefine how HOV lanes are proposed and implemented across the Region's existing four- and six-lane and future six-lane roads.

Potential work in this area could include:

> Carpooling lane incentives

> Building additional bus-only lanes on major Regional corridors

> Reviewing Regional policy on six-lane roads

F6.4 Parking

In York Region, local municipalities are largely responsible for managing on-street parking through official and secondary plans, zoning of new developments and parking bylaws. The Region, however, has two closely related functions:

> Its **Official Plan** directs growth largely to Regional Centres and Corridors

> It is working on several fronts to make active and eco-friendly travel options more attractive

These roles are linked. Effective parking policies and programs can help achieve transportation goals like encouraging people to walk, cycle and use micromobility, especially in high-density areas.

Parking on a Regional road is considered only when all the following criteria are met:

> It would be located within or along the Region's designated Centres and Corridors or in a Major Transit Station Area

> It would be part of an overall parking strategy for those locations, not a stand-alone provision

> It would be safe and not impact pedestrian and cycling facilities, sightlines, streetscaping, access, intersection operations or the road's integrity

Additional work may include:

> Looking at a broad-based policy and standards around parking on Regional roads to support the goals of the 2022 TMP

> Charging for on-street parking in some areas

F6.5 Movement of goods using large trucks

Trucks of all sizes are allowed on all Regional roads, supporting the economy as well as moving people. The 2014 Ministry of Transportation of Ontario Commercial Vehicle Survey (CVS) found that 21% of weekly truck trips in Ontario originated from, were going to, or crossed through York Region. An update to the survey started in 2019, but was postponed due to the COVID-19 pandemic. Approximately $3.8 billion worth of goods are moved in the Region weekly.

Truck traffic in the City of Vaughan accounts for more than half of all truck travel to and from the Region. This is because two major rail freight hubs, Canadian National Railway MacMillan Yard and Canadian Pacific Railway Vaughan Intermodal Terminal and several major distribution centres are located in the City of Vaughan. Truck volumes are also higher around key employment areas along provincial highways, in the cities of Markham and Richmond Hill as well as Vaughan.

The Region has been working to improve goods movement, manage congestion and reduce conflicts between road users through:

> **Greater efficiency**. The Regional Official Plan recommends the Region work with the provincial government, local municipalities and nearby jurisdictions on an efficient, multimodal goods movement network that uses rail corridors, provincial highways and Regional roads to meet current and future needs. This is reflected in such projects as the proposed widening of Langstaff Road to six lanes between Weston Road and Dufferin Street and potential crossing of the MacMillan Yard (contingent on third-party funding)

▲ A transport truck turns onto Jane Street from Rutherford Road in the City of Vaughan.

> **Operational practices**. Section D3.3 discusses the Region's Designing Great Streets Guidelines focused on road design for all users. One concern is ensuring the turn radius, also known as curb return radius, at intersections used by trucks is sized right to minimize conflicts with opposing traffic and pedestrians

York Region is collaborating with Peel Region and several academic partners on the **Smart Freight Centre**, a centre of excellence for goods movement. The goal of the Smart Freight Centre is to provide innovative evidence-based research, decision support, advocacy, training, and monitoring to coordinate transportation infrastructure, land development, regulation, technology tools, and resources that improve goods movement activities.

Through this partnership, York Region will apply the learnings from projects such as Peel Region's Off-Peak Delivery Pilot Project, in delivering similar solutions. The pilot project, completed in partnership with major retailers, found that making deliveries outside of peak traffic periods can help reduce congestion.

▲ Transport trucks stop at a red traffic light on Highway 7 at Creditstone Road in the City of Vaughan.

▲ Road surface improvements along Bathurst Steet just north of Bloomington Road in the Town of Aurora.

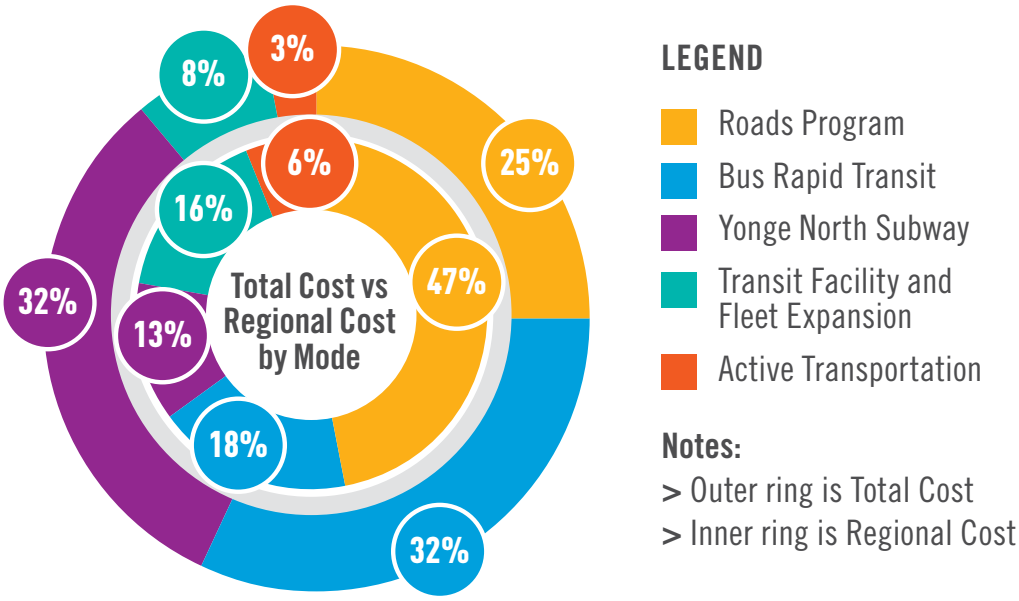
In this chapter...

G1 Cost of the Plan
G2 Funding the Plan
G3 Balancing services with financial needs
G4 How asset management supports growth
G5 Approach to implementation
G6 Total costs of the transportation network
G7 Measuring and monitoring performance
G8 Updating the Transportation Master Plan

From plan to action

G1 Cost of the Plan

This TMP identifies the need for both specific and groups of projects to meet the needs of growth and provides an estimate of total costs of these projects. The cost of a project may be shared in part or fully by local municipalities, rail authorities and senior levels of government. The following section discusses funding sources, including contributions from other levels of government.The estimated costs of the networks and related programs recommended in this update are $12.4 billion for transit, $496 million for active transportation and $4.2 billion for roads. Additional cost would be required for annual rehabilitation, maintenance and end-of-life replacement of existing infrastructure such as reconstructing a road, replacing a bridge or a transit vehicle. It is anticipated that where technology is available the Region's existing fleet of fossil fueled vehicles will be replaced with a new hybrid or electric vehicle. This cost would be included in the Region's asset management program.



▲ FIGURE 15: TMP projects are delivered in partnership with the Province of Ontario and local municipalities. The two graphs show the percentage of capital cost between transit, active transportation and roads and York Region's share of those costs.

Estimated Plan Capital Cost (Millions $)*		
Component	**Total Cost**	**Regional Cost**
Transit		
Bus Rapid Transit corridors	5,445	1,565
Yonge North Subway Extension	5,600	1,120
Transit facilities / fleet (expansion)	1,385	1,385
Subtotal	12,429	4,069
Active Transportation		
Subtotal	496	496
Roads		
Road improvements	2,267	2,200
New road links	190	190
Mid-block crossings	289	98
Interchanges	121	121
Grade separations	76	71
Minor and miscellaneous capital	839	838
Transportation Demand Management	72	72
Programs and Growth Management Studies	29	29
Fleet and maintenance facilities	353	353
Subtotal	4,237	3,971
Total Cost	17,162	8,536

* Totals may not add up due to rounding

By 2051, York Region's $8.5 billion contribution to the $17.2 billion investment in the active transportation, transit and road networks will:

- Expand the active transportation system including completion of The Lake to Lake Cycling Route and Walking Trail, South York Greenway micromobility corridor and constructing missing links in the network
- Extend the Yonge North Subway to Highway 7
- Expand the Regional Bus Rapid Transit Network
- Connect communities across barriers such as 400 series highways by constructing mid-block crossings or constructing missing links in the road network
- Implement road improvements considering the needs of the local community
- Prioritize road improvements in congested areas and growing communities
- Contribute to provincial investments such as rail-to-road grade separations and new and improved freeway interchanges

York Region's $8.5 billion investment in transportation could increase over the next 30 years depending on the number of future highway interchanges and road-rail grade separations initiated by the Province of Ontario or others.

G2 Funding the Plan

Growth-related infrastructure is mainly funded by development charges (DC). These fees are collected from developers to build water, wastewater and transportation-related infrastructure to support new residential and non-residential development.

The ***Development Charges Act, 1997*** provides the legislative framework for development charges. As required by the Act, municipalities set out development charges in a bylaw that is updated at least every five years.

The **2022 Development Charges Bylaw and Background Study** are aligned with the TMP, and reflects $11.2 billion in growth-related transportation projects, of which $5.2 billion is eligible for cost recovery within the 2041 planning horizon of the 2022 bylaw, and $0.9 billion is eligible for cost recovery under future DC bylaws and the remainder will be funded through non-DC sources such as tax levies, grants and subsidies. The 2022 Development Charges Bylaw helps fund the Region's share of the Yonge North Subway Extension, as well as Bus Rapid Transit investments, and investments in roads.

While the 2022 Development Charges Bylaw provides a funding source for growth-related projects, the annual budget provides the spending authority for projects through the annual budget.

G3 Balancing services with financial needs

York Region plans according to funds available, as it must remain financially self-sufficient while providing services to more people and jobs in the Region, especially in growing areas.

The Region's financial plan, also known as the Regional Fiscal Strategy, is designed to strike the right balance between the needs of the community and funds available by carefully managing when infrastructure is built, saving funds in reserves for future needs and limiting the borrowing of funds that come with additional expenses like interest, which is repaid from development charges when received.

Through the **Municipal Comprehensive Review** and updates to the master plans, two key goals were identified. The first is to direct growth to local municipalities that have existing infrastructure like roads, transit and sidewalks that can be further built upon to support an increasing population rather than to local municipalities where new infrastructure would need to be constructed. The second is to time new construction projects with actual growth rather than with forecasts. Based on the fiscal strategy, these goals are in line with principles endorsed by York Regional Council in June 2019 and are key to creating the fiscal room needed for the next generation of infrastructure projects, including the Region's share of the Yonge North Subway Extension.

In updating the Regional Official Plan, the Region also strengthened policies on coordinating the timing of projects with growth to improve efficiency and phasing the construction needed for future communities to ensure costs stay within the Region's means.

Policies throughout the Regional Official Plan were updated to highlight the importance of integrated land use, infrastructure and financial planning. The TMP follows this direction by addressing transportation needs while being responsible to both current and future residents:

- Making cost-effective investments while major road and rapid transit projects will be needed over the next 30 years, the plan also includes less costly ways of carrying more travellers, such as multi-use paths and bike lanes
- Watching for trends that support new, more eco-friendly directions. For example, the use of e-bikes and e-scooters, which help manage traffic congestion and reduce GHG emissions, is on the rise, and the Region will encourage these and similar trends, while also adding more electric vehicles to the YRT and corporate fleets
- Monitoring road and traffic conditions, along with the pace and location of growth, to adjust 10-year capital plans as needed

These activities will help provide the right service at the right time. To further ensure costs are managed responsibly, capital and operating plans will help to minimize the total costs of the transportation network now and as it grows to meet the needs of higher population and employment as well as the longer-term lifecycle cost of the regional infrastructure. Sections G4 and G5 discuss this and other implementation challenges in more detail.

G4 How asset management supports growth

York Region manages existing and invests in new assets, including roads, transit vehicles and more, that serve our nine local municipalities. Proper management and investment of these assets, through growth and renewal, serves and supports strong, caring and safe communities. York Region identifies and invests in new assets, such as constructing new roads or purchasing new buses, through its Growth Portfolio, which falls under the annual capital program. Expanding existing assets, such as widening roads or replacing small buses with larger buses, helps to expand services to meet the needs of a growing community. Before constructing new assets, a comprehensive review is done to determine if the Region can afford to own, operate and maintain it. For example, a new or widened road requires more funds to snow plow, paint lines and keep in good condition. Tax levy budgets are adjusted to reflect the cost of operating and maintaining new assets.

When a new asset is built through the annual capital program, York Region takes ownership of the asset and it is added to the renewal portfolio, which is focused on investing in existing assets. Much like buying a new car, when York Region purchases a new bus, ongoing investments include oil changes, tires and engine

▲ FIGURE 16: Time line for roads and transit capital investments.

tune ups to ensure it continues to operate efficiently. Roads also require maintenance including the upkeep of the road surface and prevention of cracks in the pavement. This proactive care prevents more costly repairs and extend the lifespan of the road to support residents and businesses now and in the future. Short-, medium- and long-term investment plans help maximize the return on investment from the tax levy and development charge contributions and offers the best service delivery to communities for dollars spent.

Because the Region's asset portfolio grows every year, asset management is of the utmost importance.

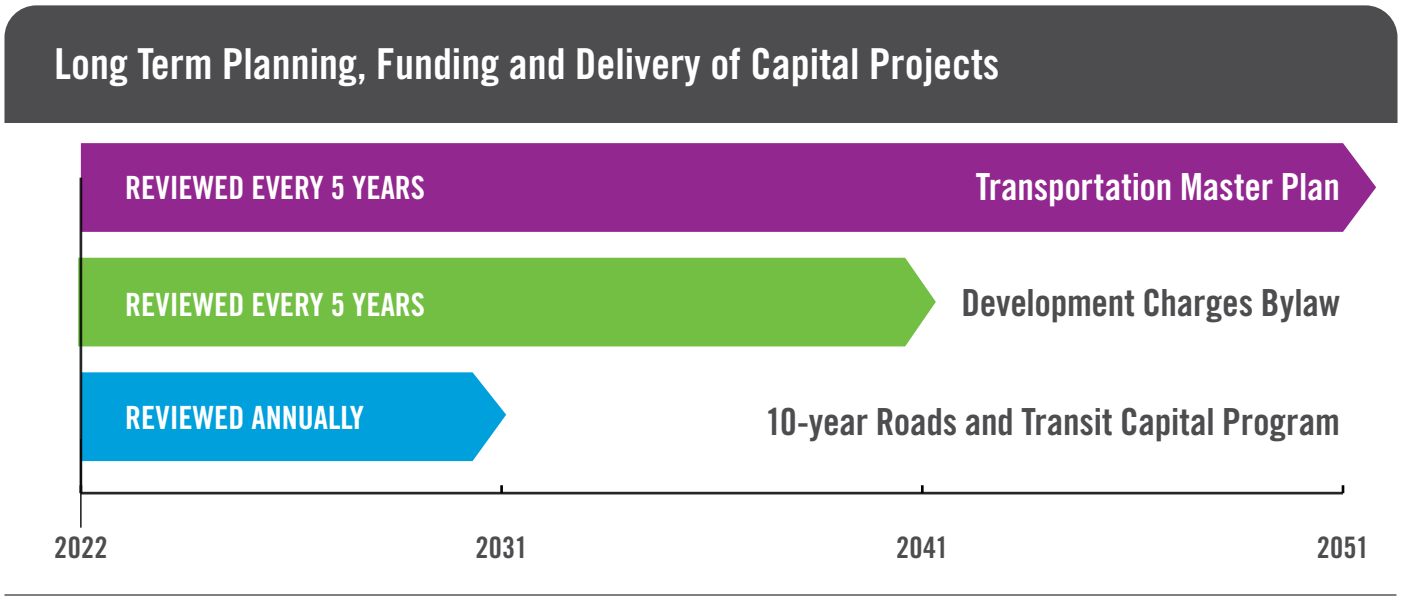
Each year, growth and renewal capital projects support the nine local municipalities and optimize investment across the entire Region. While communities across the Region are forecast to see differing rates of growth, all benefit from the renewal program, which aims to ensure assets provide optimal service over time.

G5 Approach to implementation

With the adoption of the TMP, 10-year programs for roads, active transportation and transit capital investments provide more details about implementation. These programs are directly linked to the pace of growth by providing the infrastructure needed to support new development.

The programs also consider the time to complete construction. On average, it takes eight to ten years to complete a major road improvement, like adding regular traffic lanes or dedicated bus lanes to an existing road. Planning, environmental assessments, design and construction are all part of the process and take time to complete. For major projects like extending the subway line, which involves multiple levels of government, getting funding commitments and coordinating plans can add several more years.

The road, active transportation and transit capital programs feed into the 10-year capital plan in York Region's annual budget. Through the budget process, the 10-year capital plan may be adjusted as needed to reflect available funds, regulatory or construction delays, growth that is different from the forecasts and other factors.



▲ FIGURE 17: Time line for long-term planning, funding and delivery of capital projects.

As noted in Section E3.4, changes made by third parties, especially the provincial government, can impact planning. For example, a Minister's Zoning Order to change the allowed use of a specific piece of land from employment to residential would change travel patterns and needs of the area. In addition, reversing previous direction on expanding provincial highways extensions, like those discussed in Section E2, could also affect the Region's plans for how land is used and serviced.

These unknown or unplanned changes could require York Region to fund and deliver additional capital projects and related long-term operating costs. This would affect the Region's fiscal capacity and might result in other planned projects being deferred.

Although the TMP defines the need for improvements to a corridor it does not predetermine the recommended solution. For each project, York Region is committed to re-evaluating Phase 1 (Problem or Opportunity) and Phase 2 (Alternative Solutions) of the MCEA as described in Section C1 of this plan.

This will include working directly with local stakeholders on evaluating the transportation solution in their neighbourhood to ensure interested individuals have an opportunity to comment on projects that may affect them. This process also includes considerations and decisions about design. To reduce the total cost of a project and disruption to the public, the Region also aims to combine growth with rehabilitation projects and to coordinate all work within a transportation corridor.

▲ Aerial view of Highway 7 in the City of Markham.

G6 Total costs of the transportation network

York Region owns $4.1 billion in road assets, such as pavement, bridges and traffic signals, and $2.0 billion in transit assets, including bus garages, buses, transit stops and terminals.

Each year, over $260 million is needed to operate and maintain the Regional road network and an additional $250 million is needed for the transit network.

Examples of day-to-day operations include clearing snow, cutting grass along boulevards, filling potholes, providing transit services and maintaining buses.

As described in Section G4, the Region's existing road, active transportation and transit infrastructure have annual maintenance and rehabilitation and ultimately need to be replaced. Together, rehabilitation and replacement are often referred to as renewal costs. Each year, on average, the Region spends $150 million on renewing transportation assets.

These figures demonstrate the importance of planning for the ongoing costs of new infrastructure. As soon as an asset goes into service, the Region draws up a plan to operate and maintain it and plans for its eventual replacement.

The road projects in the TMP will increase the department's operating and asset management budget by roughly $6 million a year from 2022 to 2031, rising to $13.6 million a year from 2032 to 2041 and $21.2 million a year for the following decade. This reflects higher operations, maintenance, preservation and asset management costs over the current operating outlook and is in addition to up-front construction costs. The incremental cost of the 2051 rapid transit network is $48.1 million a year.

The incremental cost figures include funds that would need to be set aside in reserves for asset management. The Region follows two provincial regulations on maintaining assets in a state of good repair. One, under the Infrastructure for ***Jobs and Prosperity Act***, guides how municipalities plan the management of all major assets. The other, under the ***Municipal Act***, sets out maintenance standards for municipal highways. Asset management is important for maintaining service quality and keeping costs in line. It helps the Region ensure safe and reliable road and transit systems, extends the life of assets and reduces total costs over their life cycle.

▲ Resurfacing of Mulock Drive, East of Yonge Street in the Town of Newmarket.

This also extends the life of a road before full replacement is needed.

For instance, every dollar spent on pavement preservation, including resurfacing, results in spending five to ten times less in future rehabilitation or reconstruction costs. This also helps maintain the capacity of the road by reducing the instances of potholes, the need for preventative construction and major rehabilitation, and extends the life of the road before replacement is needed. Another important consideration is the impact of invasive plant species in the Region. Invasive plants such as Japanese knotweed are known to grow through materials such as asphalt and concrete, while Phragmites (European common reed) fill ditches and plug culverts, resulting in drainage issues and flooding. Although the impacts of invasive species can be mitigated, the cumulative impact of climate change on the expansion of invasive species in range and growth rates will continue to pose a threat to the Region's infrastructure.

As part of the Region's corporate asset management initiative, the Transportation Operations, Public Works Department maintains a 100-year forecast of the maintenance, rehabilitation and replacement needs of roads, bridges and transit assets. This helps determine how many dollars of the tax levy need to be placed in the asset management reserve.

G7 Measuring and monitoring performance

It is important for York Regional Council, stakeholders, partners and the public to see progress being made towards the TMP's vision, goals and objectives.

Progress will be monitored through an annual TMP status update and a lengthier progress report every five years that help determine when the next update is needed.

The annual update will show the status of all focus area initiatives and actions in the TMP. It will keep York Regional Council and the public informed about the work the Region has done and plans to do. The status update will also be used by staff in annual work planning and budgeting.

Developing progress indicators and a framework for reporting will be key initiatives of the first status update as measurement is key to evaluating effectiveness. The indicators are intended to be:

- **Meaningful**: Reflect the community priorities as set out in the TMP purpose statement and objectives
- **Timely**: Prioritize what can be delivered in the short term while keeping line of sight to the medium- and longer-term priorities based on the evolving environment for transportation
- **Achievable**: Ensure objectives are within the Region's ability to deliver, control or influence
- **Measurable**: Be based on readily available information and data

G8 Updating the Transportation Master Plan

The TMP is reviewed every five years. Two other factors influence reviews:

> **TMP Progress Report**: The annual progress report described in the previous section will be used to gauge how the plan is performing and how extensive of a review or more comprehensive update to the TMP is needed

> **York Region Official Plan Review**: Provincial legislation requires a review and update of the Regional Official Plan at least every ten years. Major infrastructure plans, including the TMP, are typically updated at the same time to inform the Official Plan update

▲ Aerial view of Yonge Street and Eagle Street intersection in the Town of Newmarket.

Appendix A

Glossary

Boulevards are the strips of land located between the road curb and private property that can include cycling paths, sidewalks, streetscaping and lighting.

Centres and Corridors, as defined in the Regional Official Plan, are the primary locations for the most intensive and greatest mix of development (high, medium and low density residential, commercial, employment, etc) within the Region. Regional Centres expand on the urban growth centre and anchor hub concepts, as detailed in the provincial, A Place to Grow: Growth Plan for the Greater Golden Horseshoe and the Metrolinx Regional Transportation Plan: The Big Move.

Commuter parking lot refers to a parking facility which allows a commuter to park their own personal vehicle and then transfer to / from a different mode of travel (e.g., public transit) to complete their commute.

Cycling facility refers to pieces of infrastructure that are shared or specifically designated for use by bicycles or other designated forms of transportation. Examples can include (but are not limited to) bike lanes or multi-use paths.

Dedicated / separated facilities refers to bike lanes or shared paths designed for use by cyclists and are separated from motor vehicles by signage, markings and / or barriers.

Facilities refers to a place, amenity or piece of equipment provided for a particular purpose, e.g., bike lanes, bus rapid transit, road widenings, streetscaping, etc.

GO Transit rail corridor refers to a commuter rail service within a right-of-way, operated by Metrolinx.

GO Transit rail station is a regular stopping place on a GO train route, which includes platforms and often one or more buildings, operated by Metrolinx.

GO Transit rail station subject to further study is a future GO rail station identified for further review.

Grade separation refers to an underpass / tunnel or an overpass / bridge that allows a road or rail line to travel over or under the other, without the need for vehicles travelling on the road to stop.

Grade separation (capital program) refers to a grade separation between road and rail, identified as part of York Region's 10-year roads and transit capital construction program.

Grade separation (prioritized) refers to a grade separation identified as a priority, but not currently included in the 10-year capital construction program.

High-occupancy vehicle (HOV) lane refers to a reserved right-of-way or dedicated lane in a road for use by public transit vehicles and other vehicles such as emergency vehicles, taxis or multiple-person vehicles.

Interchange is a crossing of a Regional road over or under a provincial freeway with connecting ramps for traffic turning between the intersecting freeway and roadway.

Interchange (municipal initiative) is an interchange requested by a municipality and not within the Region's or provincial government's capital construction plan.

Major transit station area refers to the area Including and around selected existing or planned higher-order transit stations or stops (bus rapid transit stations, GO stations and subway stations) within a settlement area. Major transit station areas generally are defined as the area within an approximate 500- to 800-metre radius of a transit station or stop, representing about a 10-minute walk. A minimum density target and boundary delineation are assigned to all protected major transit station areas in the Regional Official Plan.

Micromobility is transportation over short distances provided by eco-friendly, usually single-person vehicles such as electric bicycles and scooters

Mid-block crossing is a road connection over or under a major highway without ramp access.

Mobility hub consists of major transit stations and the surrounding area. They serve a critical function in the Regional transportation system as the origin, destination, or transfer point for a significant portion of transit trips. They are places of connectivity where different modes of transportation – from walking to riding transit – come together seamlessly and where there is an intense concentration of working, living, shopping and / or playing.

New road link is a new road designed to provide continuous access across communities.

Neighbourhood placemaking refers to strengthening connections between residents and the places they share through better urban design, including designing roads and other transportation infrastructure to encourage physical activity, make people feel safer and widen travel options.

Official Plan comprises a municipality's policies on how land should be used. Prepared with community input, it helps ensure that future planning and development will meet the specific needs of the community and growth forecasts prescribed by the provincial government. The Official Plan prepared for York Region is typically referred to as the Regional Official Plan. Each of the nine local municipalities within the Region has its own Official Plan.

Provincial freeway refers to an express highway with controlled access, such as highways 400, 404 and 427, maintained by the provincial government, and Highway 407, maintained by ETR 407.

Provincial highway is a road connecting regions, counties and / or cities, maintained by the provincial government. Provincial highways in York Region include Highway 9 west of Highway 400 and Highway 48.

Rapid transit corridor refers to transit infrastructure where lanes are for the exclusive use of buses or light-rail vehicles and are physically separated from other modes of travel within its own section. In York Region, a rapid transit corridor may also be referred to as a "rapidway."

Rapid transit subject to further study refers to a future rapid transit corridor identified for further review.

Rapidway is a dedicated lane in the centre of the road for use by YRT bus rapid transit vehicles (Viva) and emergency services.

Regional Centres and Corridors See Centres and Corridors.

Regional Official Plan See Official Plan.

Regional trail network is a connected series of shared facilities typically located outside the roadway for use by cyclists, pedestrians and other forms of active transportation.

Road improvement refers to a change to a road and / or its elements, including widening, reconfiguring and / or adding new structures or facilities such as bike lanes, cycle paths, high-occupancy vehicle (HOV) or transit lanes to improve travel options and traveller experience.

Road improvements (provincial jurisdiction) refers to a change to the road and / or its elements, including widening, reducing, re-configuring and / or adding new structures on a provincial highway.

Transit hub See mobility hub.

Transitway on existing / proposed provincial highway refers to transit infrastructure that is either adjacent to or separated from parallel provincial 400-series highways and is exclusively dedicated for buses or light-rail vehicles to accommodate longer-distance (express) passenger needs.

Transportation Tomorrow Survey is a co-operative effort by local and provincial government agencies to collect information about urban travel in southern Ontario. The survey has been undertaken every five years since 1986 to collect household travel data about travel origins and destinations, travel mode, trip purpose and more. The data collected helps local and regional governments, as well as the provincial government and its agencies, make informed transportation decisions on future planning and investment for roads, public transit and other transportation facilities.

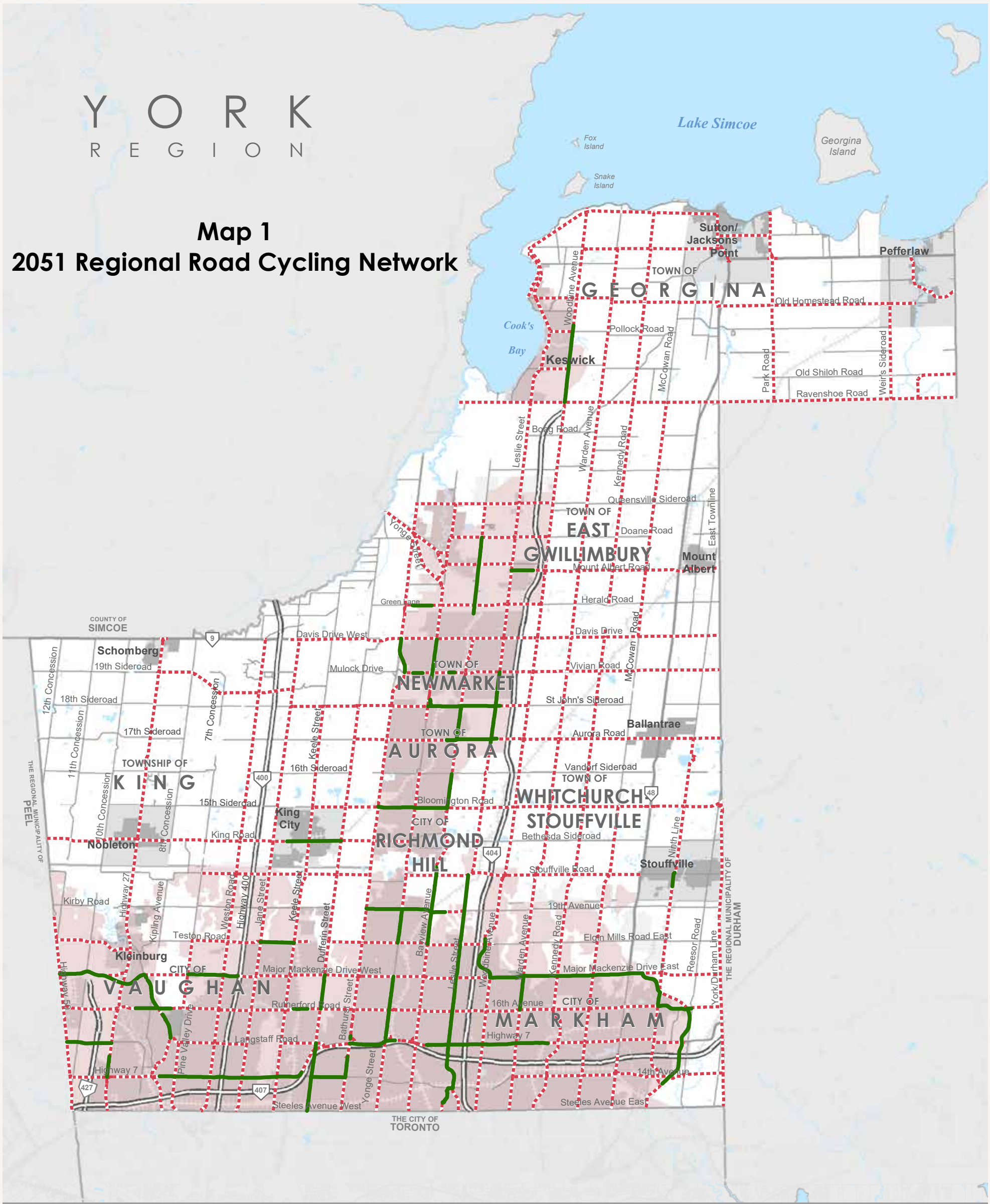
Urban area refers to an area identified for existing or future urban uses.

Urban boundary defines the limit for development within an urban area serviced with infrastructure like public transit, water and sewage pipes and recreation facilities to help control urban sprawl.

Window street is a road carrying traffic parallel to but not necessarily adjoining a highway.

Appendix B

Maps



Map 1
2051 Regional Road Cycling Network

Existing Network*

Dedicated/Separated Facilities *(Protected Bike Lane, Shared Pathway, Bike Lane)*

Proposed Cycling Facilities

Cycling facility to be determined in consultation with Pedestrian and Cycling Planning and Design Guidelines

*Wherever possible, existing cycling network is subject to infrastructure improvements in order to algin with the Pedestrian and Cycling Planning and Design Guidelines.

BASE MAP INFORMATION

- Provincial Freeway
- Provincial Highway
- Road
- Railway
- Urban Boundary
- Built-up Area
- Designated Urban Area

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York Region yorkmaps

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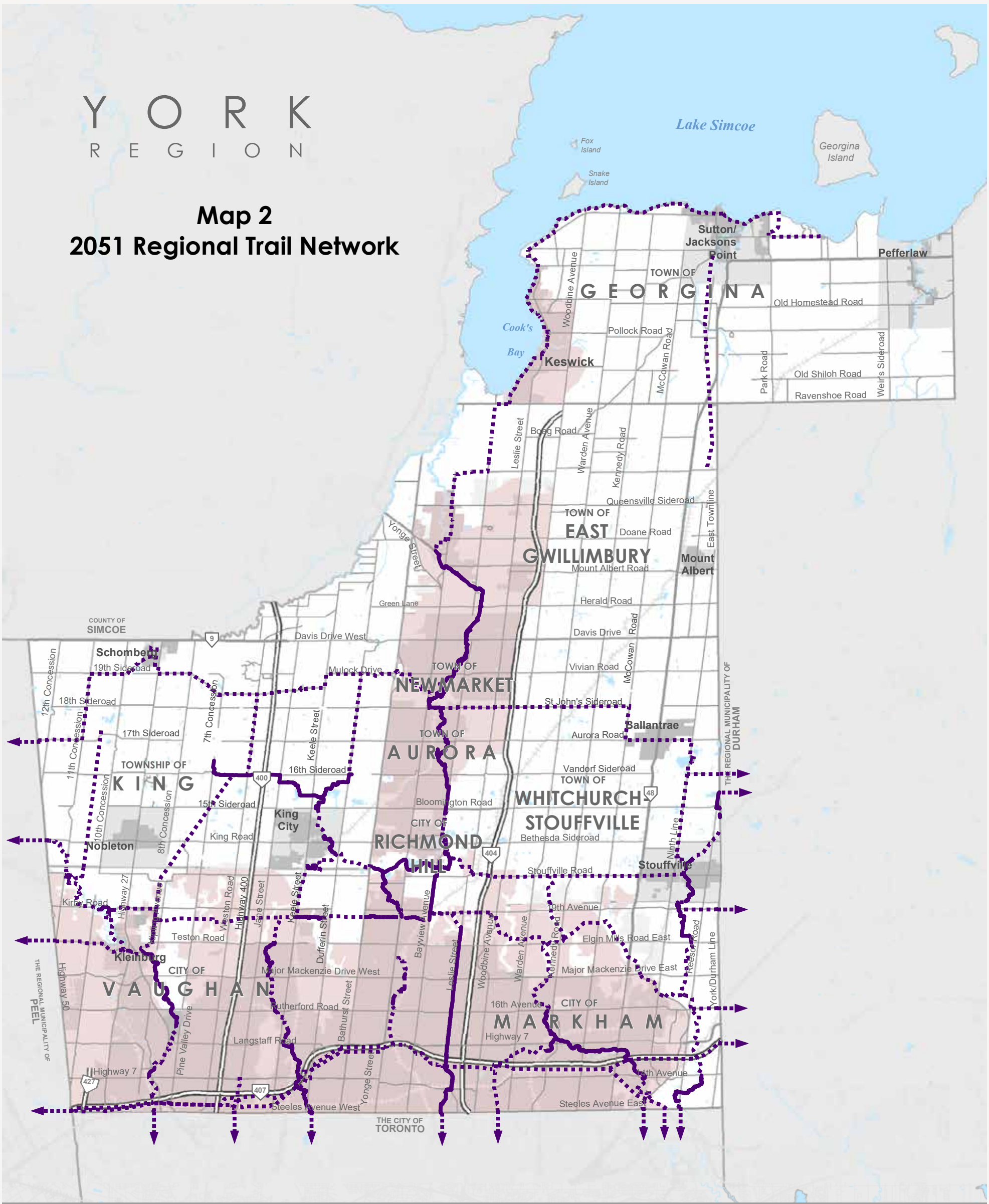

Map 2
2051 Regional Trail Network

Trails of Regional Significance

- Existing Region-Wide Trail Network
- Proposed Region-Wide Trail Network

BASE MAP INFORMATION

- Provincial Freeway
- Provincial Highway
- Road
- Railway
- Urban Boundary
- Built-up Area
- Designated Urban Area

0 1 2 4 6 8 km

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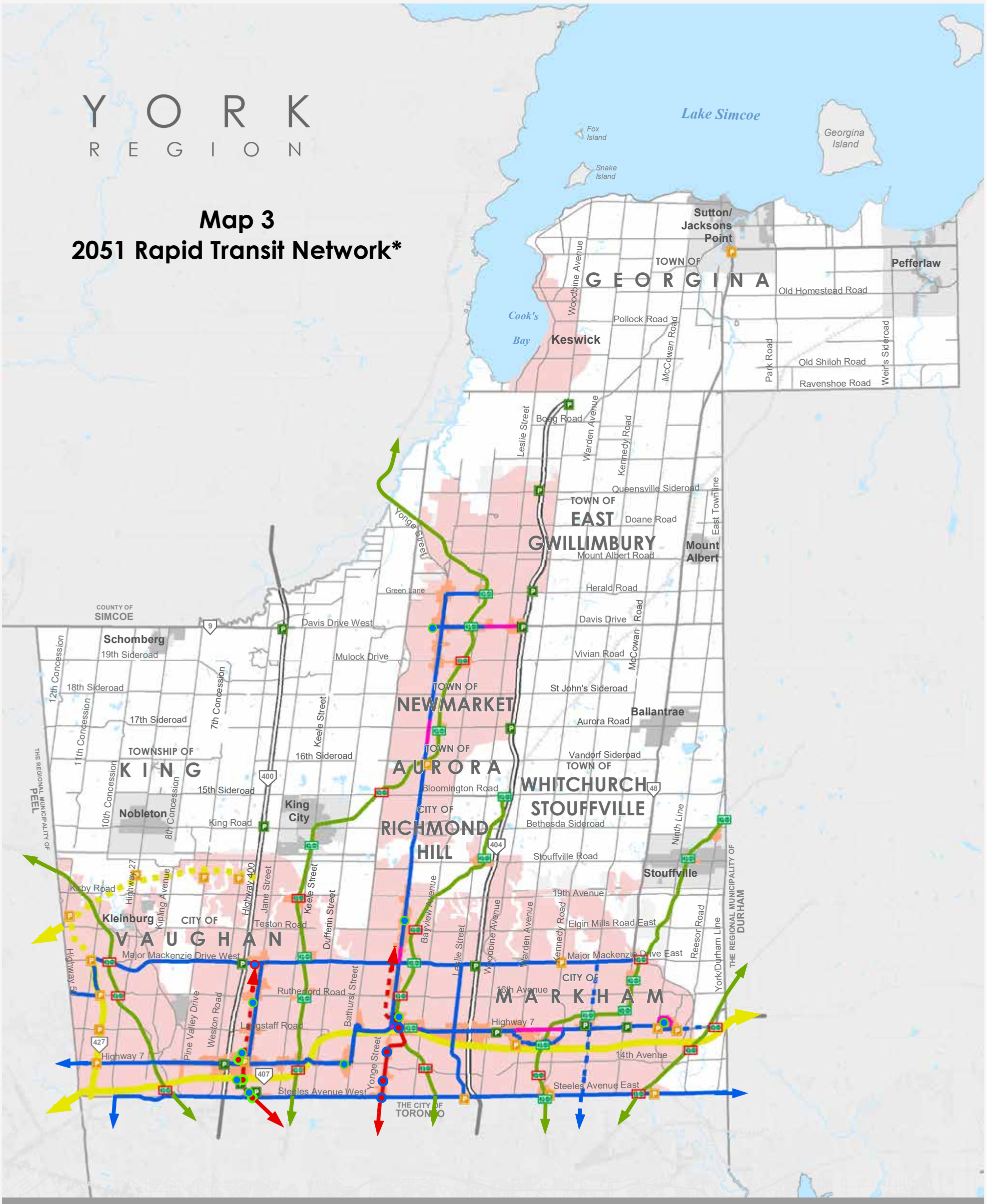

Legend

Bus Terminals
- Existing Bus Terminal
- Future Bus Terminal

Subway Stations
- Proposed Subway Station
- Existing Subway Station

GO Rail Stations
- GO Rail Station
- GO Rail Station subject to further study

Commuter Parking Lots
- Existing Lot
- Potential Lot

Rapid Transit Service
- Rapid Transit Corridor
- Rapid Transit subject to further study
- BRT Curbside Service

Subway Service
- Subway
- Subway subject to further study

Provincial GO Rail
- GO Rail Corridor

Transitway Service
- Transitway Alongside Existing Provincial Highway
- Transitway Alongside Proposed Provincial Highway
- Major Transit Station Area

BASE MAP INFORMATION
- Provincial Freeway
- Provincial Highway
- Road
- Railway
- Urban Boundary
- Built-up Area
- Designated Urban Area

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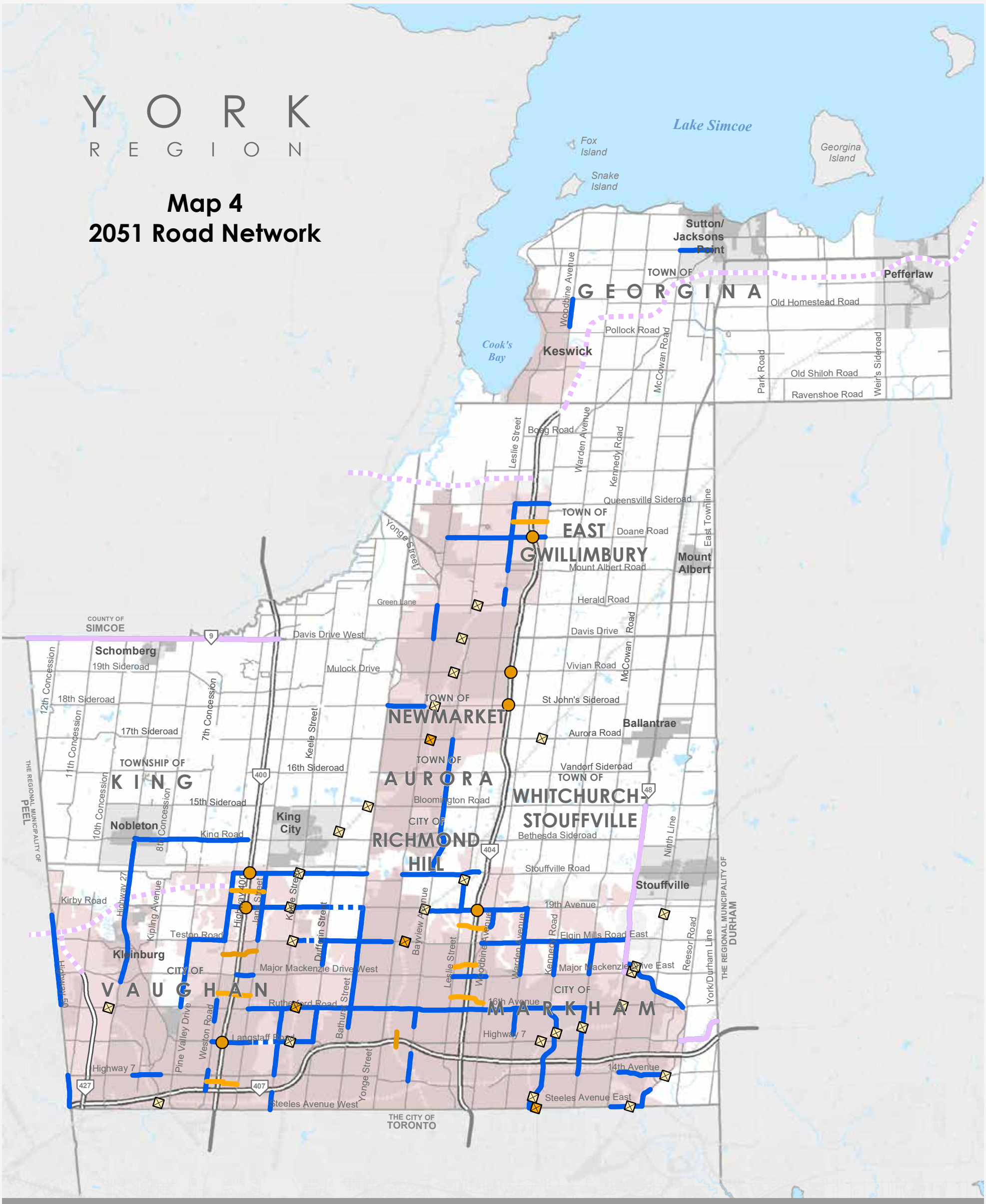
* Note: This map represents the long-term transit plan for the Region. For more information on current transit services, please visit www.yrt.ca.



Legend

Road Projects

- Midblock Crossing
- Road Improvements
- New Road Link
- Road Improvements (Provincial Jurisdiction)
- Future Highway

Grade Separations

- Grade Separation (Included in 10-Year Capital Program)
- Grade Separation (Subject to Future Study)

Interchanges

- Potential Interchange or Interchange Improvements

BASE MAP INFORMATION

- Provincial Freeway
- Provincial Highway
- Road
- Railway
- Urban Boundary
- Built-up Area
- Designated Urban Area

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York Region

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