

Vaughan Transportation Plan **Executive Summary** July 2023



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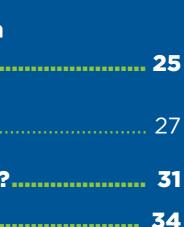






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Message from Mayor Steven Del Duca



On behalf of Members of Council, I am pleased to introduce the 2023 Vaughan Transportation Plan—the City's blueprint for a transportation network that addresses Vaughan's future growth and development. As one of Canada's fastestgrowing municipalities, preserving corporate assets, preparing for exponential growth and advancing a connected transportation system are critical components of the City of Vaughan's ongoing success. This plan lays out the vision for a future transportation system that offers everyone high-quality, competitive and sustainable travel choices, including the critical projects of the Nine Point Action Plan to Fight Traffic Gridlock.

Well-managed infrastructure fosters prosperity and contributes to the overall quality of life for residents, businesses and visitors. The 2023 Vaughan Transportation Plan immediately addresses the limited number of east-west connections in the network through planned road improvements, new road construction and targeted bridge enhancements to resolve bottlenecks and reduce gridlock. We continue to work effectively with our partners at York Region, Ontario's Ministry of Transportation, Metrolinx and national railway carriers to advocate for enhanced transit and GO rail service and upgrades to essential links in the road network.

Continuing the implementation of the 2020 Pedestrian and Bicycle Master Plan is a critical component of the City's plan to create the transportation system of tomorrow. Soon, our communities will be designed better to accommodate pedestrians, cyclists, transit riders and motorists. Also, innovative technologies are changing how travellers think about and use roadways, transit and other transportation services. Vaughan is ready to harness these new technologies as we think ahead and support a future transportation system.

The City of Vaughan's Infrastructure Planning and Corporate Asset Management department is essential to ensuring our city keeps moving forward. Their meaningful work and commitment are helping to develop a connected community in Vaughan and beyond. As we continue to build a world-class city, creating economically sound, safe, accessible and seamless transportation connections will ensure Vaughan remains a city of choice.

I want to express my sincerest gratitude to every member of Vaughan's Infrastructure Planning and Corporate Asset Management team for their continuous effort to address the challenges of today while keeping an eye on the opportunities of tomorrow. Through this plan, the City looks forward to working with residents, businesses, partners and stakeholders to accelerate the transition to a comprehensive and modern transportation system that will Get Vaughan Moving.

STEVEN DEL DUCA Mayor, City of Vaughan





City of Vaughan

Vaughan Transportation Plan

Why do we need a Transportation Plan?

What is the Vaughan Transportation Plan?

The City of Vaughan is one of Ontario's fastest-growing cities—home to approximately 341,600 residents and 240,200 jobs.

Today, the majority of people in Vaughan choose to travel using their private vehicle. This is because Vaughan has developed in a way where travelling by private vehicle is usually the only reasonable travel choice, as homes are often too far from schools, grocery stores, and other amenities to walk, cycle, or take transit to. As a result, traffic in Vaughan can be very congested, especially on major roads, because of the number of people who are trying to go to work, school, home, or run errands, all at the same time on the same roads.

As the city continues to grow, people will need more options to travel from one place to another to make better use of the streets that we already have, to limit the effects of growth on existing residents, businesses and visitors, and to address climate change. The **Vaughan Transportation Plan** (VTP) identifies the steps that need to be taken to take advantage of the opportunities we have, and to address the challenges that we face. The VTP provides directions for future transportation-related studies, projects, initiatives, policies and decisions.

What does the Vaughan Transportation Plan do?



Establishes a Vision

What will the future look like?



Assesses Existing & Future Conditions

Identify transportation needs and opportunities



Defines Actions & Policy Direction

Recommend improvements and policy decisions

I walk everyday, for my own personal health benefit. Crossing at intersections is a high risk to take. Drivers try to speed up to pass me before they have to wait for me to complete my crossing. Or they simply pass me, missing by inches. I think the message is constant—streets are meant for them and not me to use.

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How does the VTP fit with other City plans?

The VTP is a key document that informs the overall planning of Vaughan. Other studies that are underway or have been recently completed which affect the VTP are illustrated in Figure 01.

Vaughan Official Plan

Outlines numerous policies that affect the future growth of the City and its transportation system. The VTP will set the direction for the City's transportation investments that is consistent with the growth management policies of the Official Plan. The City is currently undergoing an Official Plan Review.

Green Directions Vaughan

Approved by Council in 2019, this plan describes the City's environmental and sustainability priorities. It outlines actions that will guide the City of Vaughan and its residents to help achieve a healthier, more natural environment filled with vibrant communities and a strong economy.

Secondary Plans for intensification areas

Secondary Plans are more detailed development policies to guide growth and change in defined areas of the City, typically those with new or planned transit investments that can support more people and jobs. The City has completed plans for several areas that are focused on transit-supportive development. Visit the City of Vaughan website to <u>see the Secondary Plans</u>.

Pedestrian and Bicycle Master Plan

This plan outlines an approach to provide safer and more accessible walking and cycling facilities for people of all ages and abilities. It enables the City to build more facilities in a shorter timeframe by building new facilities as part of road reconstruction or culvert replacement projects, in addition to standalone active transportation projects. It also identifies the City's open spaces as opportunities to expand the recreational trail network and complete the envisioned 100-kilometre Vaughan Super Trail.

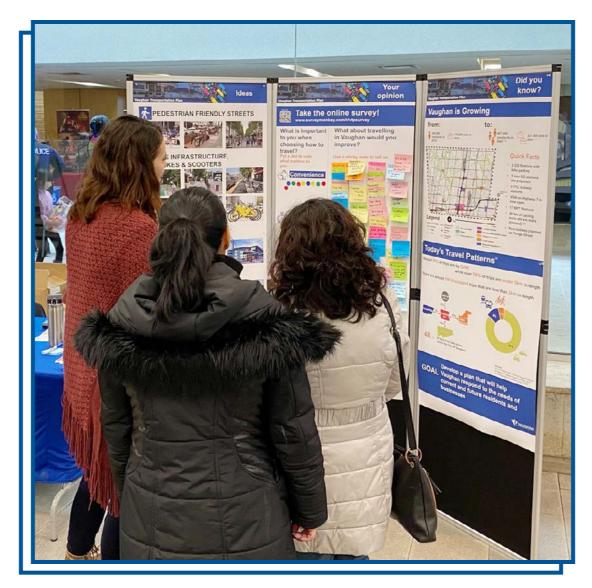
VTP and other City Plans Vaughan Vision 2051 **Corporate Asset** Management Strategy **Corporate Energy** Management Plan Vaughan **Official Plan Active Together** Review Master Plan **Integrated Urban** Water Master Plan Fire and Rescue Services Master Plan Vaughan Transportation **MoveSmart Mobility** Plan **Management Strategy Creative Together: Cultural Plan for the City of Vaughan Economic Development** Vaughan and Employment **Pedestrian** Sectors Study and Bicycle **Master Plan Green Directions** Vaughan **Municipal Energy Plan** Long-range Fiscal **Planning and Forecast**

What have residents and businesses said about travelling in Vaughan today?

Throughout the VTP study process, the City has completed a number of consultation activities to learn about travel preferences, priorities, and ideas for travel choices in Vaughan.



Vaughan Metropolitan Centre/VIVA (Source: WikiCommons, Youngjin Ko)



Winterfest pop-up, February 2020

I walk and take the bus whenever I need. It was hard during the pandemic when they reduced service. I would prefer seeing more bus frequency and more specialized transit options for seniors [...] My biggest frustration is motorists' impatience. They are not paying attention to people getting off busses and crossing the street.

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Public consultation by the numbers





Stakeholder Meetings

Virtual Public Open Houses



Live Meetings

Community Survey





What can we do to manage congestion?

Solution State Action Action State Action Act

As a result, providing choices that allow people to drive less is a vital component of managing congestion in Vaughan. The more people who are able to choose to walk, cycle or take transit

 Miquel-Àngel Garcia-López & Ilias Pasidis & Elisabet Viladecans-Marsal, 2020. "<u>Congestion in highways when tolls and railroads matter: Evidence</u> <u>from European cities</u>," <u>Working Papers</u> wpdea2011, Department of Applied Economics at Universitat Autonoma of Barcelona.

- 2 Hsu, Wen-Tai & Zhang, Hongliang, 2014. "<u>The fundamental law of highway</u> congestion revisited: Evidence from national expressways in Japan," Journal of Urban Economics, Elsevier, vol. 81(C), pages 65-76.
- 3 Duranton, Gilles, and Matthew A. Turner. 2011. "<u>The Fundamental Law of</u> <u>Road Congestion: Evidence from US Cities.</u>" American Economic Review, 101 (6): 2616-52.
- 4 Hymel, Kent, 2019. "<u>If you build it, they will drive: Measuring induced demand</u> for vehicle travel in urban areas," <u>Transport Policy</u>, Elsevier, vol. 76(C), pages 57-66.

rather than drive means fewer vehicles on the road, leaving room for those who must drive to get to where they're going. The choices that enable people to drive less will look different in different places. Many Canadian cities rely on a combination of public transit, including regular buses, rapid transit like buses in dedicated lanes, trains, and subways, as well as walking and cycling to get to transit stops, their workplace, schools, shops and restaurants that are close by.

This doesn't mean that roads shouldn't be improved—new roads will be built in new development areas, and targeted improvements to close gaps in the network and resolve bottlenecks will still be required. Driving will not disappear, but it should no longer be the only reasonable option for the majority of people.

The keys to enabling choices that allow less driving is to build infrastructure that allows people to conveniently and safely use different forms of transportation, and to change habits which were formed when driving was the only option. The VTP will manage congestion by achieving it's Vision, enabling mobility choices that allow people to drive less.



Example of vehicle congestion



Vaughan Metropolitan subway station (Source: WikiCommons)

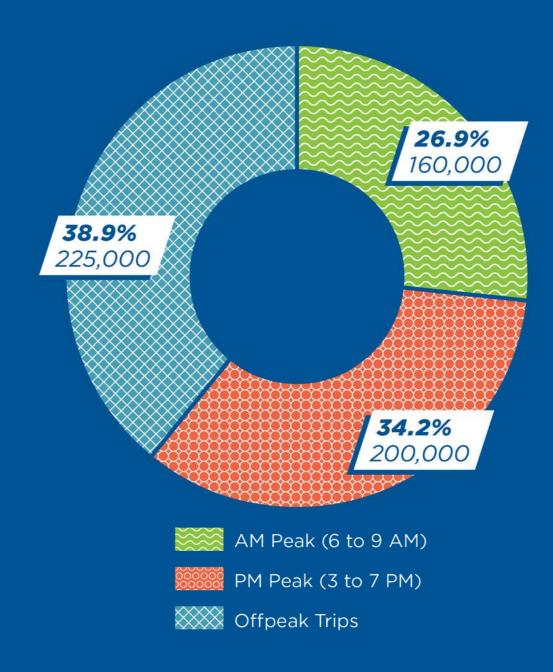
What is travelling in Vaughan like today?

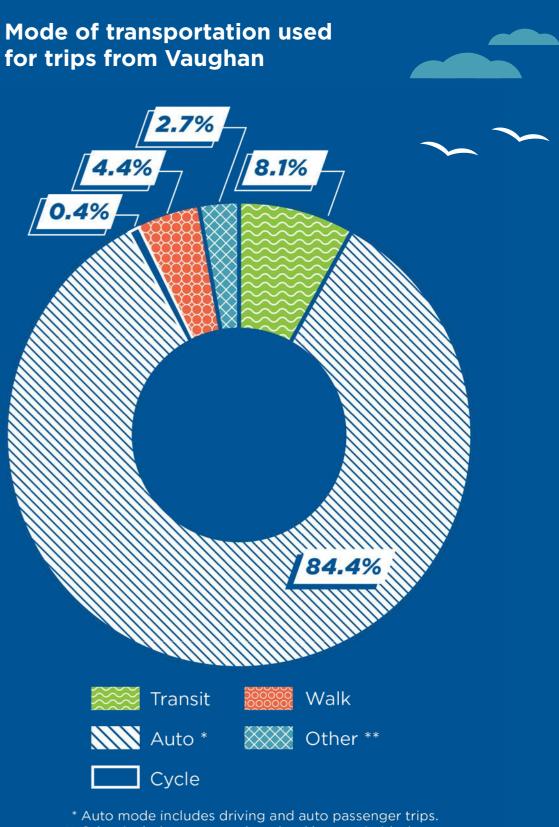
Start time of trips from Vaughan

According to the 2016 Transportation Tomorrow Survey (TTS), residents of Vaughan complete approximately 585,000 trips daily.

The majority of these trips are by vehicles, either as the primary driver or as the passenger. Less than 10% of daily trips are by transit, and less than five percent of trips are by active transportation (walking or cycling). To address congestion as Vaughan continues to grow, while meeting the challenge of climate change, the transportation system will have to provide people with more travel options that allow them to travel without a car.

The transformation of the transportation system in Vaughan has already begun. There is increasing recognition that moving people by transit is more efficient and financially and environmentally sustainable. Recent transit improvements completed in the City include the Toronto-York Spadina Subway Extension to Vaughan Metropolitan Centre in 2017 and the Viva Transitway between Richmond Hill Centre and Pine Valley Drive in Vaughan.





** Other includes motorcycle, school bus, taxi, rideshare and any other categories.

What will the City do to enable more mobility choices?

The City identified three focus areas, each of which is needed to achieve the Vaughan Transportation Plan's Vision:

Build infrastructure

Investing in accessible, safe and efficient infrastructure is key to offering residents and visitors mobility choices. Ensuring that all users, whether they be walking, cycling, riding a bus, or driving, can move around safely and efficiently is a cost-effective and environmentally friendly strategy to manage congestion and accommodate growth in the transportation system. I live in Toronto and work from home but once a week in our office in Vaughan. It's really difficult to take transit just a short distance due to long transfer times between north-south and east-west main routes. Its also a little terrifying walking along many sidewalks and crossing intersections to get to some bus stops or to the office as cars speed through, and there are few road elements to slow cars down at these sensitive crossing locations. Channel right turns and deadly pedestrian islands are the worst!

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2. Empower choice

People are creatures of habit. In Vaughan, because of the convenience of driving, the majority of travellers are used to driving to travel. The VTP wants to ensure that people are aware of other choices for travel that might be available to them, so that if they don't need to drive they don't have to. Each person that is able to use an alternate form of travel is one less car on a congested road, reducing the need for costly new roads and road expansions while reducing greenhouse gas emissions.

>>> The VTP sets and maintains direction for transportation in the City of Vaughan through initiatives, guidelines and operating procedures that support the Official Plan as well as the City's Strategic Plan. Each focus area includes recommended actions and initiatives brought to Council for endorsement/updates/review over its next four-year term.



We need to harness new methods and technologies to meet the transportation needs of Vaughan today and in the future. City intensification and population growth mean that people need different options to get from Point A to Point B safely and conveniently. New ways to move around may provide more pleasant experiences for users while being more environmentally sustainable.

Problem and Opportunity Statement

The findings of the technical needs assessment and feedback from the public is summarized in the VTP's Problem and Opportunity Statement:

>>> Vaughan is one of the fastest growing municipalities in Canada. The VTP is a long-term blueprint to move people and goods safely, efficiently, and sustainably, supporting current and future residents, businesses, and visitors.





One of the key objectives of the VTP is to accelerate As the City grows with support from provincial and regional transit the change towards investments, there are opportunities more sustainable travel. to address the needs for all modes of travel by improving the connectivity and safety of active transportation infrastructure and the accessibility and frequency of transit service. By building the right infrastructure, encouraging a culture change, and thinking forward, the City has an opportunity to provide high-quality, attractive, competitive and sustainable mobility choices.



The City has largely been built for the private vehicle resulting in large distances between land uses, reliance on private vehicle travel, and traffic congestion.

Vision

>>> The vision for the Vaughan Transportation Plan is to provide high-quality, attractive, competitive, and sustainable mobility choices to every resident, business and visitor in Vaughan.



Provide choices

Let people decide how they will travel by providing equally attractive options—instead of having to drive



Move more people & goods

Improve sustainability by moving more people and goods with the same infrastructure





Equitable

Create a transportation system that serves everyone regardless of age, ability, background, and income level



Promote good health

Minimize pollution by reducing greenhouse gases from vehicles, and build safe infrastructure for vulnerable users



Cycle tracks on Clark Ave

How can we achieve the vision?

What we heard about the future of transportation in Vaughan

During the consultation process, we asked the community what they would like to see in the future for transportation in Vaughan. Key topics and frequently noted key messages from the Virtual Open House online materials, live virtual community information meeting, kitchen table guides and comments provided by email include:

- / Improve the pedestrian environment to make it safer to walk recognizing that safer walking conditions are (1) needed and (2) would encourage more active modes of travel.
- / Support improved transit service and new transit infrastructure to make transit a more viable mode of choice for different trips.
- / Continue to provide for safer cycling by providing protected bike lanes and creating cycling facilities along routes and in new developments.

- Support for Alternative 2—Green
 Alternatives and Alternative 3—Multi-modal (alternatives are discussed on page 26)
- / There was broad support for the proposed criteria that were identified for evaluating alternative solutions. The proposed criteria are discussed on page 27. They were:
- Accessible and Connected
- Environmentally Responsible
- Equity
- Financially Sustainable
- Reliable and Resilient
- Safe









Key messages heard from the public

1 Build infrastructure

/ Create a safer walking environment
/ Create protected bike routes for cyclists of all ages and abilities
/ Address gaps in the street network

2 Empower choice

 / Focus on building complete communities to reduce travel
 / Support improved, frequent and reliable transit service

/ Encourage employers to add bike racks, change and shower facilities

3 Think forward

/ Support for green initiatives to address climate change
/ Encourage new development to include electric vehicle charging stations
/ Consider new services such as electric on-demand transportation to improve equity

Build infrastructure



Investment in accessible, safe and efficient infrastructure is one of the key directions of the Vaughan Transportation Plan. Ensuring that infrastructure is targeted in providing mobility choices through multiple modes is a cost effective and sustainable method to manage congestion and manage longer-term growth.



Walking



Example of pedestrian crosswalk

The City will create pedestrian-friendly streets, with a focus on providing a fine-grid network for better connectivity and improving sidewalk conditions between transit and major employment destinations. In particular, there are opportunities to improve the walking experience for crossing major roads such as Highway 400 or Highway 7 and providing increased connectivity in employment areas.

Cycling



Viva Rapid transit bus station and cycling lane

The City will prioritize safe and comfortable cycling routes that give people another mobility choice when traveling to a shorter-distance destinations. The City will provide cycling facilities based on street classification context, separated from motorists and pedestrians when it is best practice, and suitable for all ages and abilities, while continuing to educate on health and other cycling benefits.

Transit



Miway bus station

The City will work with York Region Transit to explore opportunities to improve local transit service, and design communities in a transit-supportive manner. There are opportunities to improve transit by making transit more reliable through signal timing and bus lanes, by providing more frequent transit service, and by reducing the distance people need to walk or cycle to transit stops.

Driving



Example of vehicle congestion

The City will provide connections between blocks and across highways to enhance route choices and reduce the reliance on the major roads to travel. At the same time, it is important to make sure that our existing roads are operating as safely and efficiently as possible, and in a compatible manner with other modes.

GG I get around Vaughan by foot and transit, which is not easy along Dufferin St., close to Steeles Ave. W. and along Steeles Ave. W. This was how I got around before the pandemic and during it. I would prefer to keep taking these options, but I don't always feel safe crossing streets like Dufferin St. or plaza openings. There are a lot of aggressive drivers that get very close to me when I'm crossing even when I have the walking light on. Vaughan can do more to make pedestrians feel safer crossing intersections, i.e., putting signs up for motorists to know that pedestrians and cyclists have the right of way (like at Bathurst St. and Clark Ave W.). This is not just important for a young, able-bodied man. but for the thousands of seniors who walk. They want to stay in their homes and making the streets safer for pedestrians gives them one more reason to call Vaughan home.

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Build infrastructure:

Actions and initiatives



Vaughan Metropolitan Centre

Road improvements

The City will provide a balanced combination of improvements that support all modes of transportation. Supports reducing focus on minimizing (but not eliminating) auto improvements and maximizing non-motorized trips and transit.

Active transportation infrastructure improvements

Active transportation projects are implemented using two methods. The first is by leveraging already planned capital projects and opportunities through development applications, which is referred to as "routine accommodation". The second is through the implementation of "standalone projects", through an active transportation implementation program which is reviewed annually.

Resilient infrastructure design

Resilient infrastructure means that the transportation system can withstand major disruptions or events that can debilitate everyday travel. Integrating resilient infrastructure design will help ensure that impacts on residents, businesses and visitors of extreme weather and other events are minimized.

Transportation monitoring and modelling program

Leveraging new transportation data collection technology and software, as well as the City's agent-based travel demand model to inform decision making and monitor transportation trends.

Build infrastructure:

How Vaughan is accelerating change to more sustainable travel

- / The City of Vaughan and its partners advanced more than 120 km of all ages and abilities active transportation infrastructure projects were advanced in 2022 as part of the City's and Region's capital programs with many projects from 2021 moving to the next phase of implementation. Advancing signature projects as identified in the 2020 Pedestrian and Bicycle Master Plan have been prioritized in the implementation of the Priority Cycling and Multi-use Recreational Networks. The following projects have been advanced:
 - Jane Street Uptown Link
 - The Vaughan Super Trail initiative
 - Thornhill Neighbourhood Network
 - Vaughan Super Trail

- Advanced discussions with York Region regarding to define roles and responsibilities regarding the ownership and use of curb and street boulevard for active transportation. The Municipal Act does not explicitly define the respective responsibilities of the Region or the City of Vaughan for all boulevard elements which has created uncertainty around future ownership and maintenance.
- Continuing to coordinate and work with new development to implement fine-grid street and active transportation networks to increase walkability and connections to transit and other amenities. An example includes the Promenade Secondary Plan Area which consists of a well connected, fine-grid street network and shared path network to provide direct, safe and comfortable connections, in particular for active transportation modes. By establishing early access to multiple transportation options, there is a tremendous opportunity to create the Promenade Centre as a sustainable, transit oriented development area.



Vaughan Community Bike Ride

>>> The Bartley Smith Greenway Feasibility study started in 2021 and continued throughout 2022. It identified a preferred route to close a three-kilometre gap in the trail between McNaughton Road and Rutherford Road along the Upper West Don River corridor. The study is planned to be completed this year and will identify priority phases for construction. Meanwhile further south, constructing a trail underpass beneath the Metrolinx bridge at Langstaff Park is expected to start this year.

Empower choice



A direction of the VTP is to make individuals aware of alternative modes of travel, so that they can choose a non-auto mode if it suits their needs. Encouraging the use of alternative transportation modes will lead to a decrease in the number of cars on the road, ultimately reducing the need for costly new roads and road expansions and decreasing greenhouse gas emissions.



The VTP examined opportunities to create a new city-wide transportation options education and outreach program. This program is intended to complement existing programs, including:

- / The City's new Transportation Demand Management (TDM) Guideline and Toolkit for new developments.
- / Vaughan Active School Travel pilot program.
- / Regional efforts, such as Smart Commute and the MyTrip residential travel program.

The City will lead an outreach and education program that will:

- / Amplify regional TDM outreach initiatives by aligning campaigns and education with regional programs.
- Integrate outreach with new infrastructure investments and services by pairing education and outreach campaigns with ongoing cycling and transit infrastructure improvements.
- / Expand outreach to populations underserved by regional TDM programs by identifying and targeting groups not previously included in existing programs.

For all programs and services, a series of mandates and KPI's will be identified to ensure progress is measurable. It is recommended that the City establish an internal working group to ensure alignment and coordination of sustainable transportation programs and services across all departments.



Vaughan Metropolitan Centre Transit Square

Empower choice: Actions and initiatives

Develop a comprehensive VTP Education, Promotion and Outreach Program

The City will lead a comprehensive VTP Education, Promotion and Outreach program, focused on informing the public on the actions and improvements identified in the Vaughan Transportation Plan.

Develop policies to support providing more travel choices, increasing access and equity of the transportation system, and 15-minute neighbourhoods in intensification areas

15-Minute Neighbourhoods are compact, well-connected places with a diverse mix of land uses. They are complete communities that support active transportation and transit, reduce car dependency, and enable people to live carlight or car-free. New developments within these communities should provide more mobility choices by providing safe and accessible sidewalks and cycle tracks, as well as frequent and reliable transit.

Organize public and private streets to enable more travel choices

The City is preparing its Complete Streets Guideline, and in alignment, part of the VTP involved developing street classificiations from a Complete Streets approach to ensure that the role of public streets are well defined in the transportation network. Private streets have the opportunity to provide pedestrian-friendly environments, and can also improve access and density. The City will ensure that situations in which private streets are implemented by the developer, that criteria to govern them is well defined and supported by Council.

Develop the framework to establish a Community Mobility Hub network for both new and existing communities

Mobility Hubs can provide a place where different modes can interchange, providing transfer points. The City will prioritize active transportation near Major Transit Station Areas (MTSAs), and key destinations in new and existing communities through a clear framework, with the objective of creating a Community Mobility Hub network.



Clark Ave cycle tracks, Vaughan

Empower choice:

How Vaughan is accelerating change to more sustainable travel

- / The City is supporting transit ridership by identifying new opportunities for On-Demand Micro-Transit pilot projects within the City of Vaughan
- / Continuing to administer education and outreach for transportation options by leveraging and complimenting efforts by both the City and York Region
- / Utilizing the City's Transportation Demand Management (TDM) Guideline (2021) for all new development applications and building upon existing programs TDM such as Smart Commute, Active School Travel and continuing to encourage sustainable transportation options for first/last mile trips
- / Developing an Implementation and Business Plan to introduce shared micromobility services to Vaughan

>>> Mobility On-Request Maple-Rutherford GO pilot

The City of Vaughan partnered with York Region Transit (YRT) and Metrolinx to bring Vaughan commuters the Mobility On-Request Maple-Rutherford GO Pilot Project which will help commuters get a ride to and from these two GO stations for free with a PRESTO.

Starting in May 2022, customers can download the Mobility On-Request app. They can then request a pick-up from anywhere in the service area and get dropped off at either Rutherford or Maple GO Station. People will be picked up by a YRT-operated vehicle and this service is free for PRESTO card holders. The same request can be made at the end of the day to get home.



>>> Explore Vaughan by bike

Significant investments have been made to bring policies, plans, design standards and infrastructure delivery up to current best practice to improve transportation and mobility through active transportation.

Think forward:

Actions and initiatives



Thinking forward is the third direction of the VTP which involves conducting research on emergency trends (such as climate change), emerging technologies (such as autonomous and connected vehicles) and finding creative solutions to move people and goods safely and efficiently.

Investigate future mobility

Future mobility refers to a service, mode, transportation infrastructure, or a combination of these that leverages new digital communication platforms and data to connect travelers to mobility options to move, share and use the transportation infrastructure. Investigating the future of mobility as a policy direction helps the City to think ahead, stay up-to date, and prepare for emerging technologies. New mobility technology has the potential to provide numerous benefits, including road safety, decreased emissions, and increased accessibility for those who are unable to operate a vehicle. It's important for the City to investigate and harness these technologies, and understand the regulations, safety standards, and liability implications so that they can benefit all residents and businesses in Vaughan.

Continue to enhance partnerships with other municipalities and employers

The City recognizes the importance of collaborating with the public and private and non-profit organizations to provide transportation infrastructure, programs and services. These partnerships are important to ensure that the importance of infrastructure investments are made known to York Region, Queen's Park and Ottawa.



Example of EV charging stations



Queen's Park

Transportation Data Collection and Analysis Program



Example of electronic bike counter

Collecting and leveraging data, including application and GPS-based collection of travel behaviour data, and in transportation modelling, such as activity-based modelling will change how infrastructure and policies are developed and evaluated in the future. These advancements align with the Build Infrastructure direction to maximize the benefits of transportation investment.

Support and invest in sustainable goods movement



Example of cargo bike delivery

In collaboration with partners such as the City of Toronto, York Region and Peel Region, the City will develop a formal goods movement strategy and strategic goods movement network. The City will partner with businesses to pilot cargo bike and cargo e-bike operations in urban areas of Vaughan.

Maximize value from transportation infrastructure



Example of temporary road closure for a public event

The City will investigate dynamic parking pricing, allowing parklets in front-facing retail areas, and explore the use of flexible streets and temporary road closures for public events and festivals. These actions will allow for flexible use and revenue-generating opportunities for the City. The City will install electric vehicle chargers in residential areas or areas with high curbside activity.

Think forward: How Vaughan is accelerating change to more sustainable travel

The VTP has established a Transportation Innovation Program (TIP) to guide and manage the implementation and development of new technologies. This program will allow the City to 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. The City will be better positioned for the future and able to change direction when entirely new ideas or approaches emerge.

The City of Vaughan is open to testing new transportation technologies. Future mobility requires a different method of testing and implementation, and new modes or services should be trialed and evaluated prior to wider use to ensure safety for vulnerable road users. The Transportation Innovation Program (TIP) framework will be finalized and used for an open call for participants to trial new technologies.

The City is currently studying how a shared program of publicly available bicycles, electric bicycles (e-bikes) or electric scooters (e-scooters) could be used for travel in Vaughan. Micro-mobility devices like bikes, e-bikes and e-scooters are transportation alternatives to vehicles that are lightweight, low-emission and help connect residents to their transit stop or destination. In Vaughan, a shared micro-mobility system could support the city's greater transportation system, helping residents connect to the subway, BRT, active transportation network and key tourism destinations like Canada's Wonderland. The City is working to define a micromobility system that suit's Vaughan's needs and size. This includes examining:

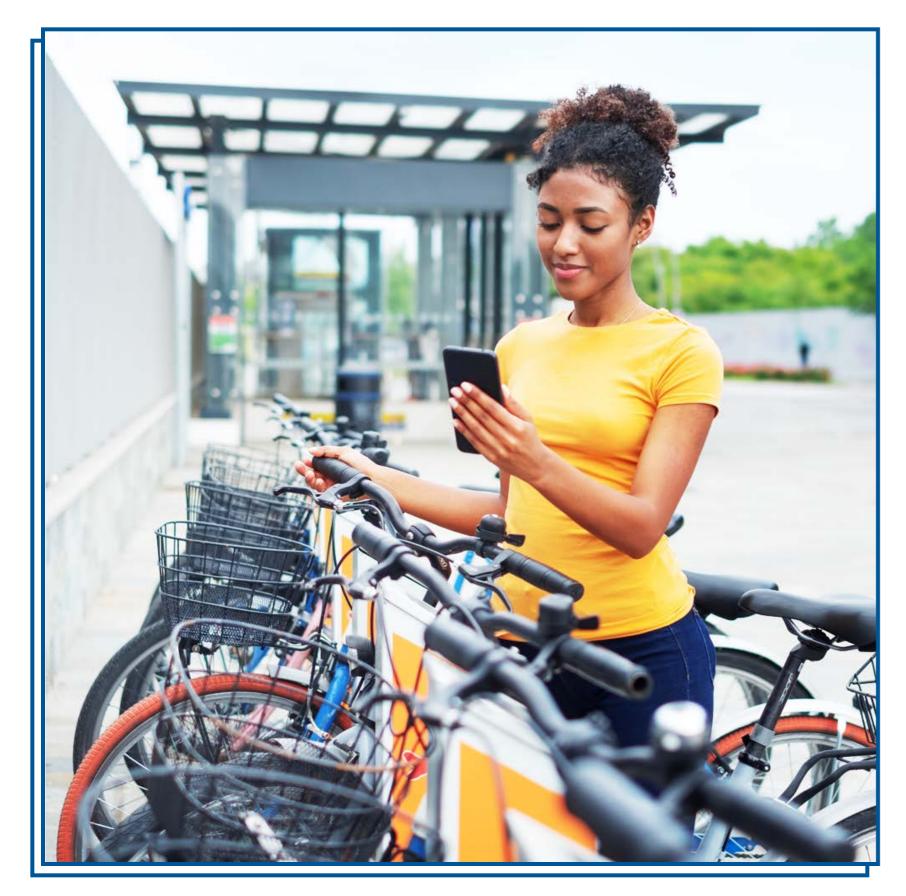
- / the feasibility of the system based on regional integration
- / operations and governance models
- / financial viability
- / strategic fit
- / other economic benefits and deliverability

For transit projects, the City will continue to work with York Region Transit to investigate potential service improvements and identify development areas where improvements could be beneficial. New transit service models, such as on-demand microtransit, are presenting new opportunities to serve existing and new communities as a feeder service to higher-order transit, which the City and York Region Transit can collaborate to pilot, and explore longer-term implementation, where warranted.



>>> Transportation Innovation Program

Smart City is one of the City's strategic initiatives to use technology to solve civic challenges, enhance the citizen experience and promote business growth. The Transportation Innovation Program is a collaboration between Economic Development and Transportation Planning, with objectives including research and development, mobility improvements, environmental sustainability, transit supportive policy and planning, and safer walking and cycling facilities.





Example of bike share

What will the future transportation network look like?

What's included in each network alternative?

Business-as-Usual (BAU)

Road projects identified in previous Vaughan, York Region and provincial transportation plans.

Alternative 1: New Roads

The VTP has analyzed four transportation network alternatives with the intention of building upon these already planned improvements, and measured their performance based on Vaughan's planned future 2051 population of 569,000 people (67% more than today) and 352,000 jobs (47% more than today). The network alternatives proposed different strategies to accommodate growth.

BAU + road improvements and road extensions.

[...] I cycled to school before I got my license. I biked on the sidewalk though, and I feel like asphalt separated bike path from major arterials would be nice. Non-protected bike lanes on major arterials like Major Mackenzie are useless, only paths would entice everybody. After I got my license, I drove to school, which was pleasant, but then I became another single driver on the road, which doesn't help.

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Alternative 2: Green

BAU + more frequent and new transit service, and new sidewalks and cycle tracks.



Alternative 3: Multi-Modal

BAU + more frequent and new transit service, new sidewalks and cycle tracks, and targeted road improvements/new roads.

Evaluation

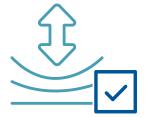
The evaluation criteria were chosen to reflect the effectiveness of each alternative from a variety of perspectives. Structuring the evaluation in this way maximizes the benefits of the future transportation system for as many residents and businesses as possible.

The evaluation criteria are:



Accessible & connected

Does the alternative make it easier for users to get to more route options?



Reliable & resilient

Does the alternative improve the reliability of infrastructure for all modes and users? The results of the evaluation, measuring each alternative against the criteria, and considering feedback received from the public, concluded with Alternative 3 Multi-Modal as the recommended transportation network solution. Alternative 3 Multi-Modal includes all recommendations from



Environmentally responsible

Does the alternative support environmental goals and objectives?



Safe

Does the alternative provide more safe travel choices for all users?

Multi-Modal refers to transportation planning that considers multiple ways people use to get around (walking, cycling, auto, public transit) and focuses on providing connections between different modes of transportation.

Alternative 2 Green and a subset of road network improvements from Alternative 1 New Roads. It ensures that all users, regardless of their chosen mode, can move around safely and efficiently. **Map 1** presents the recommended future multi-modal network for Vaughan.



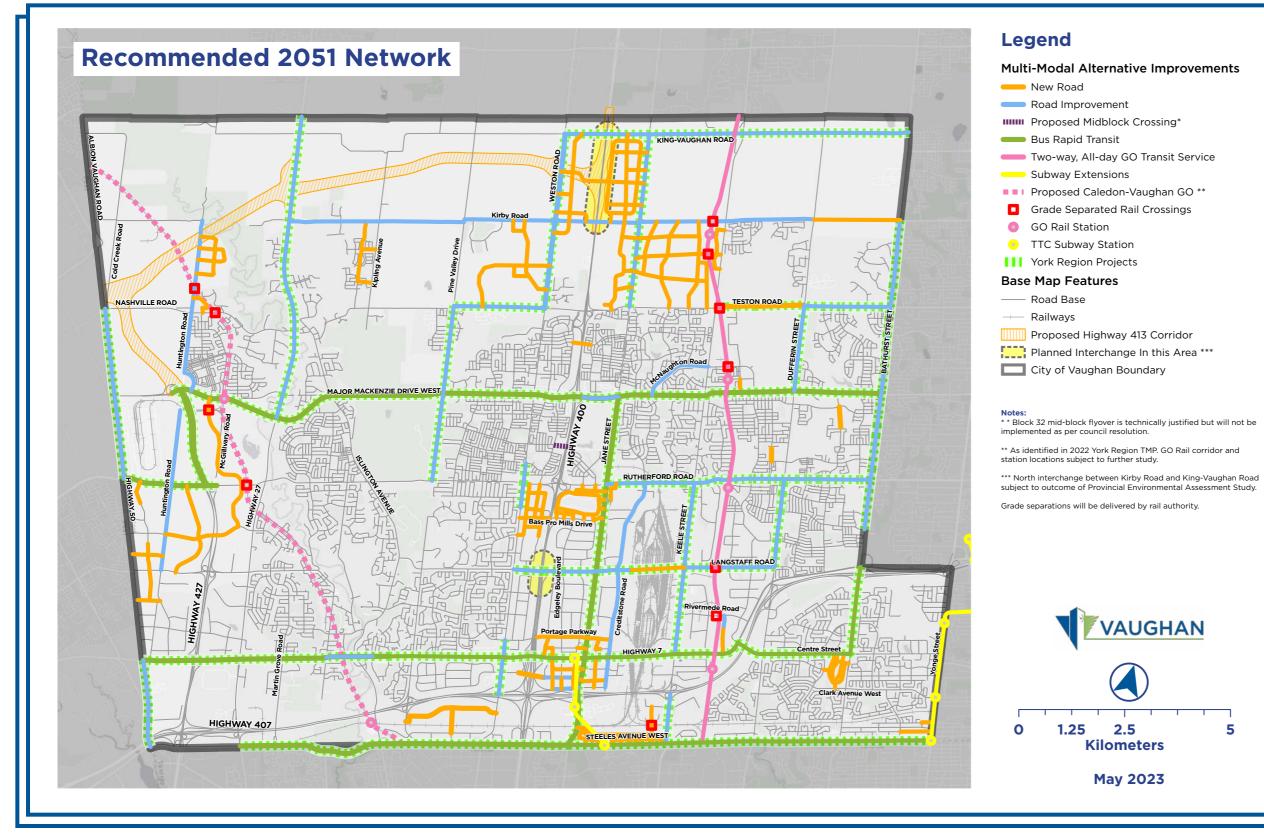
Equity

Does the alternative provide better transportation choices and experiences for all users?



Financially sustainable

Is the alternative cost effective?





Map 1

Vaughan Transportation Plan-**2051 recommended network**

Vaughan's future network is equitable, with all residents, visitors and workers will be served so that social, ethnic or health status does not impact quality of travel. It is a transportation network that enhances transit, walking and cycling, to provide additional mobility choices. The elements of the VTP future transportation network are:

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/ Rapid Transit Service: Corridors planned for rapid transit service in dedicated lanes planned by York Region.



/ Interchange Improvement: An upgraded interchange is planned for Langstaff Road at Highway 400

by York Region.

- / Planned interchange in this area: An interchange at either Kirby Road or King-Vaughan Road with Highway 400 is planned in this area.

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/ All day two-way GO train service: Upgrades to the GO train stations and rails are under construction and will enable the trains to run all day in both directions.



New Roads:

New roads or extensions of an existing road. Active transportation facilities would also be constructed as part of the new road.



/ Grade separated rail crossing: Locations planned to have bridges separating the railway tracks from the roadway.



/ Road Improvements:

Road capacity improvements or urbanization. Active transportation facilities would also be considered and constructed as part of road improvement projects.



/ Integration with land use:

Supporting 15-minute communities through a fine grain street network where non-auto modes can thrive.



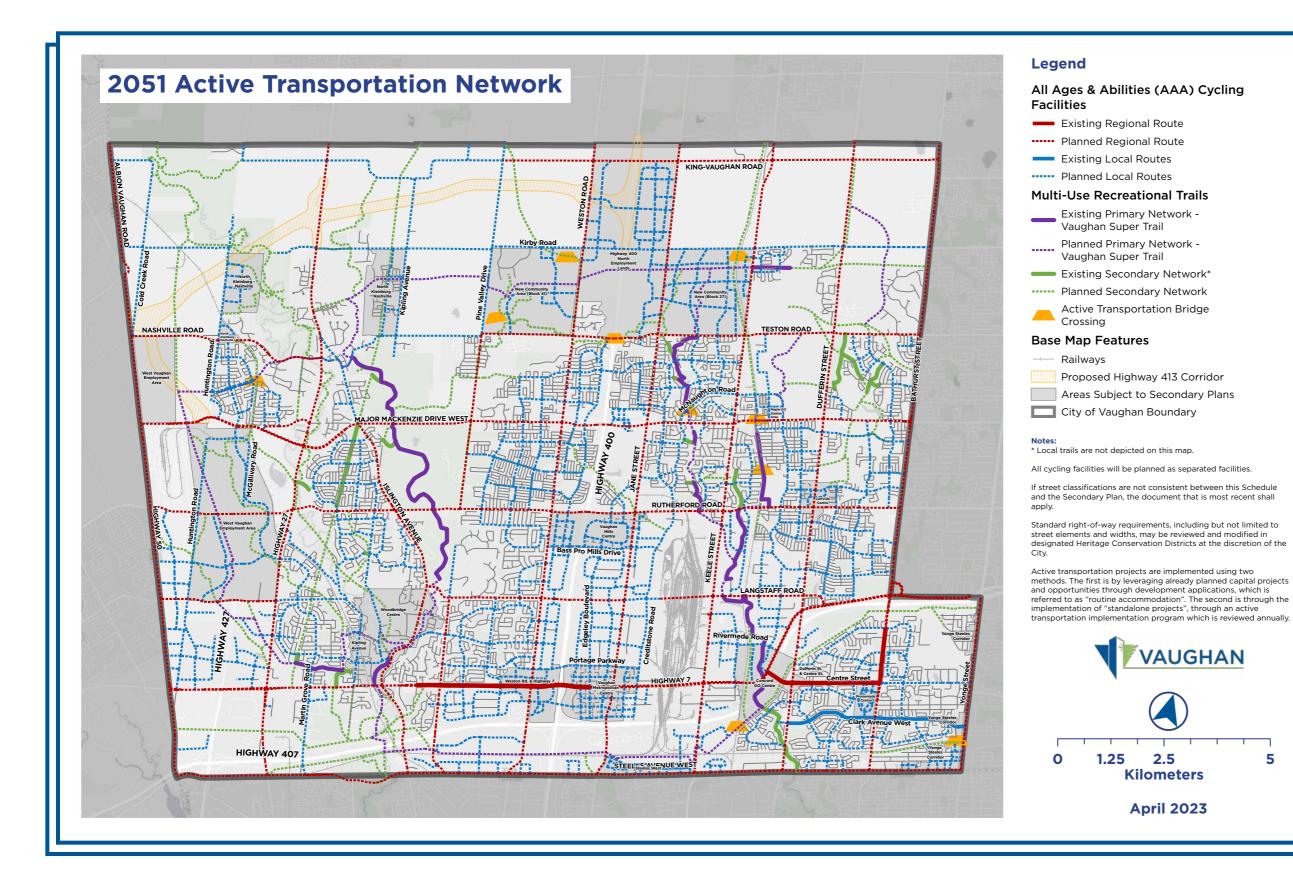
/ Resilient infrastructure: Creating a network prepared for disruptions related to climate change and future mobility.



/ Sustainable decision-making:

The network is sustainable and meets the needs of today without compromising the needs of the future and represents fiscally sustainable choices that support long-term economic growth.









Map 2

Vaughan Transportation Plan-2051 active transportation network





Bike parking at Vaughan Metropolitan Centre

When should new projects be built?

The VTP future transportation network will be built in stages. In order to properly sequence and determine the appropriate time to build infrastructure, the implementation plan recommends the priority for each project based on existing conditions, needs, and constraints.

The implementation plan first prioritizes projects under the following categories and indicators:

- / Transportation indicators, such as travel time and connectivity;
- / Land use indicators, such as population density and presence of intensification areas;
- / Equity indicators, such as areas with a proportion of low-income households and residents new to Canada:
- / Safety indicators, such as the presence of school zones and collision-prone locations.

Secondly, the projects are reviewed against constraints such as capital resources (available funding), delivery resources (staffing), and environmental constraints, such as whether a project's environmental impacts should be studied further in an Environmental Assessment.

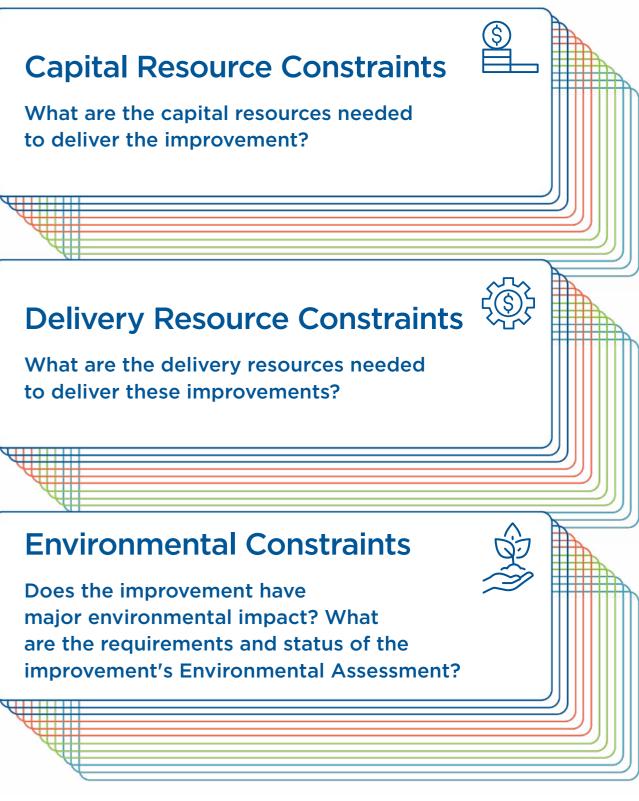
After considering the priorities and constraints, the implementation plan organizes projects within timeframes:

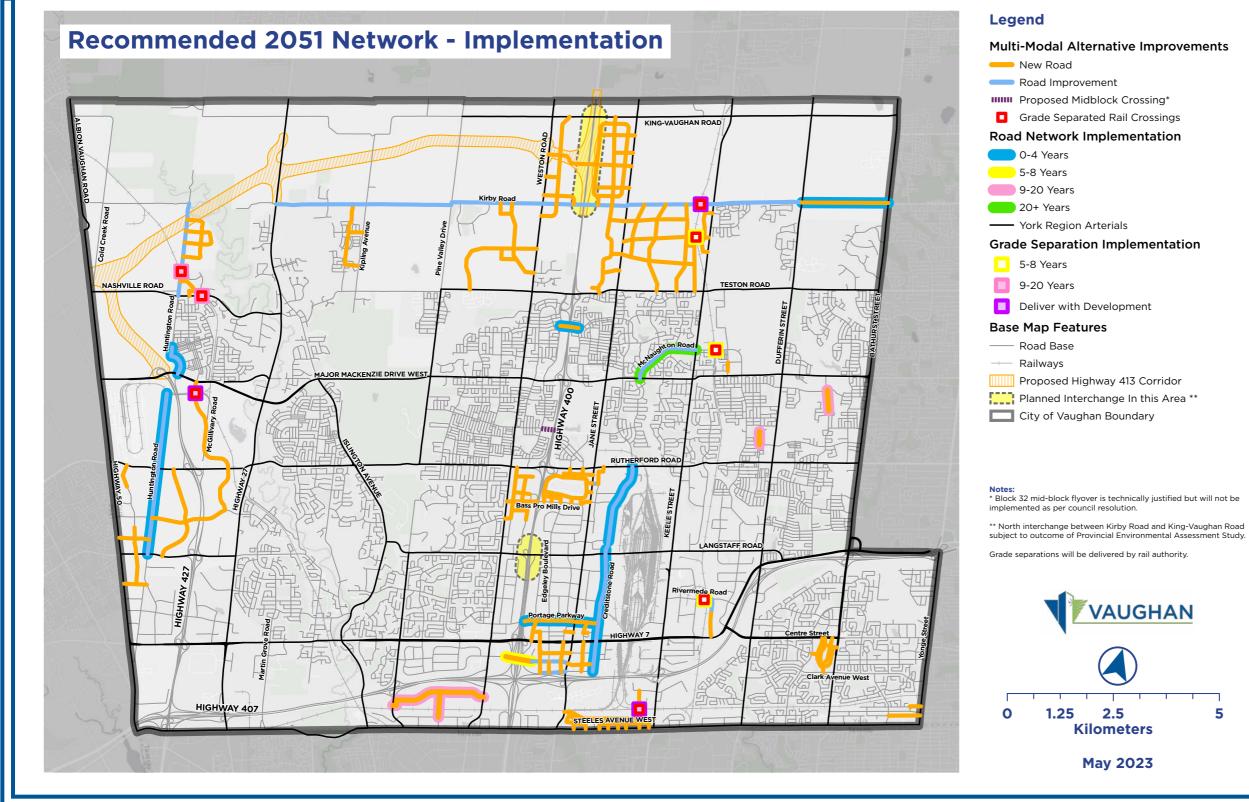
- / Immediate (0 4 years),
- / Short-term (5 8 years),
- / Medium-term (9 20 years),
- / Long-term (20+ years)

Additionally, some projects in areas of new development are not required until development proceeds, which occurs at the discretion of landowners. These projects are identified as improvements to "Deliver with Development".

Finally, each year the City will re-evaluate the priorities and constraints for projects as part of the annual budget process. The prioritized projects presented in this report may change each year as new information is available, as long as it is not already in the design or construction phases. Map 3 illustrates the proposed timing of recommended City projects for the 2051 recommended network. When reviewing the maps, note that as recommended by the Pedestrian and Bicycle Master Plan, all road improvement projects will also incorporate active transportation facilities.

Project constraints





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Map 3

Vaughan Transportation Plan-**2051 recommended network** implementation

Citizens of Vaughan

Mayor and Members of Vaughan Council

External Stakeholders Partners

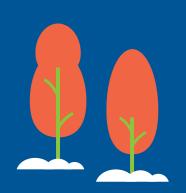
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