



Pedestrian and Bicycle Master Plan Executive Summary

December 2020



A MESSAGE FROM THE MAYOR

In Vaughan, we are dedicated to championing a healthier and greener environment that will elevate the quality of life for everyone who lives and works here. With more than 230 kilometres of signed cycling and pedestrian routes, including 60 kilometres of multi-use recreational pathways, the city of Vaughan offers countless opportunities for people to get outside and be active.

The health and well-being of citizens remain at the heart of our city-building efforts, and the 2020 Pedestrian and Bicycle Master Plan is a reflection of this. It will serve as our roadmap toward creating a pedestrian- and bicycle-friendly city for years to come.

The City's multi-use paths, tracks, lanes, routes and trails are designed to bring the community together, establish transit connections and get people moving. With more citizens choosing cycling as a transportation method, we continue to expand Vaughan's comprehensive transportation network to promote a full range of options to get around seamlessly. Enhancing existing multi-use networks and installing new active transportation options supports a healthier environment, alleviates traffic and encourages active living. This will contribute to Vaughan's ongoing success. As a truly green city, we remain committed to building safe, accessible and sustainable spaces for future generations.


Sincerely,
Hon. Maurizio Bevilacqua, P.C.
Mayor



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Dufferin Clark Library Bike into Spring community bike ride (2017)

In 2017, the City of Vaughan began a study to update the 2007 Pedestrian and Bicycle Master Plan. The 2017 plan was progressive for its time, setting the City on a path to become a more walkable and bikeable community. It was the first active transportation-focused master plan in York Region and one of only a few in the Province. The original plan was visionary, long-term and included a wide range of innovative recommendations. However, the implementation of the plan faced challenges and updates were required. The updates were focused on:

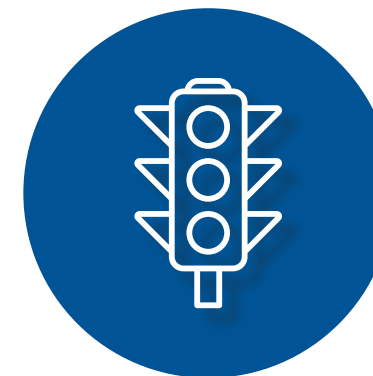
1. building community and internal understanding and support
2. understanding community priorities while also updating technical content to reflect current state practice

The updated plan is evolutionary, building on the original plan, the 2010 Vaughan Official Plan and the 2012 Transportation Master Plan, creating a path forward that is flexible, medium-term and focused on community needs.

COMMUNITY PRIORITIES ARE SHIFTING GEARS

What we heard...

The updated Pedestrian and Bicycle Master Plan outlines a dynamic strategic plan that centres around four key themes that emerged as community priorities through the study.



Safety



Infrastructure



Connectivity



Awareness and Culture

1. **Safety** will be prioritized through physically separated pedestrian and cycling infrastructure (sidewalks and cycle tracks) for all ages and abilities, as well as ongoing seasonal maintenance.
2. **Infrastructure** will be advanced in a cost-effective yet timely manner by leveraging larger capital projects and developments and annual active transportation planning and implementation program budgets to fill the gaps.
3. **Connectivity** will occur by prioritizing bold initiatives such as the Vaughan Super Trail, Vaughan Metropolitan Centre Separated Cycling Network, localized neighbourhood mini-networks and intensification areas, as well as access across physical barriers.
4. **Awareness and Culture** within the organization and broader community will be fostered through ongoing education and outreach as well as expanding active transportation policies and guidelines in applicable City plans.

How we heard it

The community's care and passion for shaping the future of walking, rolling and riding within the city of Vaughan was evident from what we heard throughout the Pedestrian and Bicycle Master Plan Update engagement process. Face-to-face chats and interactions with community members were the focus of the study. In 10 months, 3,089 residents were engaged through 128 hours of face-to-face conversations at 39 local events and two public workshops. Even more participants were reached through digital engagement means that complemented the in-person efforts.



Pedestrian and Bicycle Master Plan Community Engagement at City of Vaughan Tree Lighting Ceremony (2017)



Pedestrian and Bicycle Master Plan Community Engagement at Vaughan Canada Day Celebration, Boyd Conservation Park (2017)

Engagement Highlights

TIMELINE OF ENGAGEMENT

JUNE 2017 — APRIL 2018 — 3 Phases

ACTIVITIES



2
BICYCLE
FRIENDLY
COMMUNITY
WORKSHOPS



2
STAKEHOLDER
ADVISORY
GROUP
MEETINGS



39
POP-UP
EVENTS



128
HOURS OF
FACE-TO-FACE
ENGAGEMENT

ENGAGED PUBLIC



65
STAKEHOLDER
ADVISORY GROUP
MEMBERS

REPRESENTING
19 DIFFERENT
ORGANIZATIONS/
AGENCIES



322
RESPONDENTS
TO ONLINE
MAPPING TOOL

654
RESPONDENTS
TO SURVEY



3,089
RESIDENTS ENGAGED
THROUGH POP-UPS
AND WORKSHOPS



507
PEOPLE SIGNED
UP FOR PROJECT
EMAIL LIST

MEDIA PROMOTION OF STUDY

City of Vaughan
Twitter

City of Vaughan
Facebook

32 tweets
138 likes
4 comments
120 retweets

4 posts
14 likes
3 shares
3 comments



**WINTER
AND SUMMER
RECREATION GUIDE**
distributed to 80,000
homes and 10,000
civic locations
and events



9 LIBRARY
book
displays



10 COMMUNITY
CENTRES
received
handout
information

Also...

- Newspaper notices
- City eNewsletters
- Councillor Newsletters
- City TVs
- Digital Signs

Public and Stakeholder Consultation Highlights Infographic (Pedestrian and Bicycle Master Plan Figure 2-1)

What we are doing...

More than 50 recommendations emerged from the study and have been organized under the four themes to highlight how the City plans to address community priorities. Some are a formalization or expansion of Vaughan's current practices and others highlight next steps for the next five to 10 years.

Progress on these recommendations will be tracked annually and communicated through updates to Council. Annual updates will also highlight the previous year's accomplishments while providing updates to the infrastructure capital program as new information or opportunities become available. The master plan and program are intended to be flexible and dynamic.



Pedestrian and Bicycle Master Plan Community Engagement at York Region Cycling Coalition Annual BBQ (2017)

The recommendations rely on several guidelines and plans:

- **Active Transportation Implementation Framework** (Pedestrian and Bicycle Master Plan Figure 3-2)
- **Implementation Policies for Pedestrian Facilities** (Pedestrian and Bicycle Master Plan Table 4-1)
- **Contextual Guidance for Selecting All Ages and Abilities Cycling Facilities** (Pedestrian and Bicycle Master Plan Table 5-1)
- **Pedestrian Gaps when Applying the Proposed Pedestrian Facilities Implementation Criteria** (Pedestrian and Bicycle Master Plan Figure 4-1)
- **Priority Cycling and Multi-use Recreational Trail Networks** (Pedestrian and Bicycle Master Plan Figure 9-1)
- **Vaughan Metropolitan Centre (VMC) Separated Cycling Network** (Pedestrian and Bicycle Master Plan Figure 5-3)
- **Vaughan Super Trail Proposed Concept Framework** (Pedestrian and Bicycle Master Plan Figure 6-1)

Even though many recommendations address more than one priority, they have only been listed under the priority that is most applicable.

For more detailed information about each recommendation, refer to the full Pedestrian and Bicycle Master Plan report.



KEY RECOMMENDATIONS

Safety

Recommendations	Reference #
Develop pedestrian design guidelines in accordance with current best practices and <i>Accessibility for Ontarians with Disabilities Act</i> (AODA) standards.	4-4a
Include protected intersections/driveways, separated in-boulevard linear cycling facilities on both sides of all new and reconstructed arterial and collector roadways and consider crossings that will service the multi-use recreational trails system in order to provide the most direct and comfortable route for pedestrians and cyclists.	5-4
Use a “protected intersection” type design for intersection and driveway treatment for pedestrians and cyclists.	5-6
Provide active transportation infrastructure (pedestrian, cycling and multi-use recreational trails) that is suitable for all ages and abilities.	5-7
Apply an “all ages and abilities” framework to assess the necessary quality of cycling facilities as per Contextual Guidance for Selecting All Ages and Abilities Cycling Facilities (<i>Pedestrian and Bicycle Master Plan Table 5-1</i>).	5-8
Design cycling facilities where the one-way travel portion of the cycling facility is a minimum of at least 1.8-metres wide or wider in urban areas and appropriate buffers, separation or off-sets.	5-9
Limit the use of minimum width cycling facilities to constrained corridors where desirable or preferred cycling facility widths cannot be achieved after all other vehicular travel lanes or parking lanes (if applicable) have been narrowed to minimum widths appropriate for the context of the roadway.	5-10
Consider and evaluate grade separation infrastructure when multi-use recreational trails intersect key barriers such as major highways, arterial roads and rail corridors.	6-8

Continue to use the 2007 Pedestrian and Bicycle Master Plan Technical Appendix: Planning and Design Guidelines, as well as the Accessibility Design Guidelines for York Regional Forest Trails, Toronto and Region Conservation Authority Trail Planning and Design Guidelines, and the Toronto Multi-Use Trail Design Guidelines, until such a time that the City update or Region develop their own trail standards and guidelines.	6-11
Design multi-use recreational trails for maintenance, waste removal, and/or emergency access as required.	6-13
Design, construct and maintain multi-use recreational trails consistently according to expected user volumes (e.g. as primary and secondary trail classes).	6-14
Design, construct and maintain multi-use recreational trails following best practices to minimize impacts to adjacent environments.	6-15
Undertake a corporate-wide review and identify mechanisms to link operation and maintenance budget needs associated with capital infrastructure and development projects prior to project budget approval.	7-1
Include maintenance and operations staff during the design and approval process for any new active transportation facilities.	7-2
Develop a level of service standard for maintenance and operations specifically related to active transportation facilities.	7-3
Develop a formal maintenance program and Standard Operation Procedures for the pedestrian, cycling, shared-use and multi-use recreational trail networks.	7-6
Adjust and review maintenance costs and impacts to operating budgets, equipment needs and resources on an annual basis.	7-7
Integrate facility maintenance access requirements into open space systems which may dually serve as local trail connections.	7-8
Continue to regularly review the O. Reg. 239/02 Minimum Maintenance Standards for Municipal Highways, O. Reg. 191/11: Integrated Accessibility Standards and other applicable regulations and standards to ensure City practices are consistent with them as they pertain to pedestrian facilities, bicycle facilities and multi-use recreational trails.	7-9

Infrastructure

Recommendation	Reference #
Adopt a two-pronged implementation framework using routine accommodation and active transportation planning and implementation programs for an “all ages and abilities” network of physically separated pedestrian and cycling infrastructure (sidewalk and cycle track) and trail system as outlined in the Active Transportation Implementation Framework (<i>Pedestrian and Bicycle Master Plan Figure 3-2</i>).	3-1
Include or, at minimum, protect the implementation of protected intersections and pedestrian and cycling facilities on both sides of the roadway, and consider crossings that will service the multi-use recreational trails system in all roadway reconstruction, state of good repair and operational improvement design and implementation projects. This includes paving shoulders on rural cross-sections for use by pedestrians and cyclists.	3-2
Continue to identify annual planning and implementation program budgets for pedestrian, cycling and multi-use recreational trail projects.	3-4
Continue to develop agreements with agencies and authorities where partnerships would provide additional investment, synergies and support to implement pedestrian, cycling and multi-use recreational trail network segments.	3-5
Update the City-wide Engineering Design Criteria and Standard Drawings.	3-9
Implement pedestrian facilities based on road classification and the radius surrounding generators of pedestrian traffic as outlined in Implementation Policies for Pedestrian Facilities (<i>Pedestrian and Bicycle Master Plan Table 4-1</i>). For urbanized cross-sections, sidewalks or multi-use pathways may be used to provide pedestrian facilities. For rural/non-urbanized cross-sections, pedestrian accessible paved shoulders are appropriate.	4-1
Refine the proposed multi-use recreational trails network plan with appropriate consideration of secondary trail network connections through, but not limited to, the block, subdivision and/or site planning processes.	6-2
Continue to implement standalone open space multi-use recreational trails in accordance with the Priority Multi-use Recreational Trail Network (<i>Pedestrian and Bicycle Master Plan Figure 6-3</i>) and other opportunities as they arise.	6-3

Develop formal guidelines related to the timing of trail construction, specifically when they form part of a subdivision. It is recommended that trails be built prior to or at occupancy of residential units where feasible.	6-6
Continue to develop a comprehensive inventory of all pedestrian, cycling, shared-use and multi-use recreational trails (official and unofficial) infrastructure.	7-5
Identify and leverage larger capital projects and development to improve active transportation infrastructure (i.e. routine accommodation).	9-1
Identify, prioritize and incorporate infrastructure gaps not addressed through routine accommodation into the annual active transportation planning and implementation programs as per the Priority Cycling and Multi-use Recreational Trail Network (<i>Pedestrian and Bicycle Master Plan Figure 9-1</i>) and other opportunities as they arise.	9-2
Develop a prioritization matrix that builds on the Pedestrian Gaps when applying the Pedestrian Implementation Criteria and Priority Cycling and Multi-use Recreational Trail Network (<i>Pedestrian and Bicycle Master Plan Figure 4-2 and Figure 9-1, respectively</i>) and incorporates new opportunities as they arise to create a dynamic program that responds to emerging needs. The prioritization matrix should be tweaked on an annual basis through the budget approval and capital programming process.	9-3
Include provisions for bicycle parking in the city-wide comprehensive by-law update in line with current best practices.	10-2
Require short and long-term bicycle parking for all new development city-wide.	10-3
Undertake a review of existing bicycle parking (both short and long term) at all municipal buildings and implement accordingly.	10-4
Develop an annual city-wide bicycle parking program.	10-5

Connectivity

Recommendations	Reference #
Develop and update annual active transportation programs as part of the budget approval process. These programs should be supported by a prioritization matrix that is dynamic and tweaked on an annual basis.	3-3
Require developers to extend sidewalks beyond the limits of the subdivision in order to provide a connection with other pedestrian-related facilities.	4-2
Locate mid-block pedestrian connections/mews centrally in blocks that are longer than 200 metres in length and connect to sidewalks, trails or pathways on either end.	4-3
Develop criteria for prioritization of sidewalk infill and standard practice for responding to sidewalk inquiries; requirements under the development review process; and a pedestrian master plan.	4-4 b,c,d,e
Prioritize the buildout of the Vaughan Metropolitan Centre Separated Cycling Network (<i>Pedestrian and Bicycle Master Plan Figure 5-3</i>) as well as other intensification area networks.	5-1
Revisit the active transportation plans for all intensification and secondary plan areas and corridors with an “all ages and abilities” lens. Plan and implement an “all ages and abilities” network in these key areas.	5-2
Prioritize the development of localized mini-networks within existing Maple, Thornhill and Woodbridge communities.	5-3
Prioritize the completion of the 100-kilometre Vaughan Super Trail Proposed Concept Framework (<i>Pedestrian and Bicycle Master Plan Figure 6-1</i>) in the implementation of the Multi-use Recreational Trails Network.	6-1
Identify missing multi-use recreational trail linkages that provide direct access to major destinations and prioritize these routes as the first for winter maintenance.	6-4
Advance the local network through development, relevant capital infrastructure projects, or related environmental assessments put forward by other agencies or parties that may allow key municipal connections.	6-5

Consider mid-block crossings per established guidelines where necessary to connect multi-use recreational trail networks across arterial, collector and/or local roads.	6-7
Develop a seamless and integrated system of multi-use recreational trails that serve a dual recreational and commuter purpose.	6-9
Consider connections within the road allowance where a continuous trail system is not possible and, where possible, design to match the trail facility (width, markings and material).	6-10
Develop a trail-focused master plan and update the 2007 Pedestrian and Bicycle Master Plan Technical Appendix: Planning and Design Guidelines for current best practices and standards of multi-use recreational trail planning and design.	6-12



Pedestrian and Bicycle Master Plan Community Engagement and Bike Valet at City of Vaughan Canada Day Celebration, Boyd Conservation Park (2017)

Awareness and Culture

Recommendations	Reference #
Update policies in the Transportation Master Plan and ultimately the Official Plan as well as other secondary plans and studies in accordance with the Pedestrian and Bicycle Master Plan.	3-6
Include an active transportation schedule(s) in the Official Plan.	3-7
Undertake separate master plan studies for walking, cycling and multi-use recreational trails (for the next update).	3-8
Continue to review, develop and maintain by-laws for pedestrian, cycling and multi-use facilities (in-boulevard and open space).	3-10
Provide an annual report of priority projects as well as Planning and Infrastructure Capital Program to Council. The report will serve as an addendum to the Pedestrian and Bicycle Master Plan highlighting the previous year's accomplishments while providing updates to the program.	5-5
Include cycling as one of the streetscape zones in the next update of the City-Wide Streetscape Implementation Manual and Financial Strategy.	7-4
Continue to use annual events to reach, educate and inform residents about walking, cycling and multi-use recreational trails.	8-1
Promote Bike Month in conjunction with Recreation and Parks Month.	8-2
Develop an annual communications plan and calendar for ongoing annual messaging.	8-3
Develop a consistent and recognizable public "identity" for active transportation to help raise awareness of active transportation within the city.	8-4
Establish an annual education, outreach and awareness plan and program budget for outreach related to active transportation.	8-5
Re-establish the Vaughan Cycling Forum (or similar) as a means of continually exchanging information with residents and building capacity.	8-6
Enhance the trail experience by partnering with organizations and independent groups to develop educational, cultural and other similar engagement programs.	8-7

Facilitate the development of community stewardship programs to support trail building programs, monitoring and maintenance.	8-8
Establish an internal active transportation working group that meets quarterly at a minimum.	8-9
Establish a working group specific to the Vaughan Super Trail to provide strategic advice and general oversight to the Vaughan Super Trail initiative.	8-10
Educate internal staff on the key themes and recommendations of the Pedestrian and Bicycle Master Plan as it relates to their role and department.	8-11
Expand internal knowledge base as it relates to active transportation by organizing learning sessions or webinars on a regular basis.	8-12
Continually monitor and update the School Crossing Guard Program to improve the safety of children and youth as they make their way between home, school and out-of-school-time programs.	8-13
Provide and promote bicycle skills training for people of all ages and abilities interested in riding a bike.	8-14
Celebrate and promote the opening of new active transportation facilities and educate the local community on use.	8-15
Develop a resident-facing Vaughan-specific city-wide cycling and multi-use recreational trails map or guide.	8-16
Develop a branding and wayfinding signage strategy for city-wide trail networks such as the Vaughan Super Trail, identifiable systems such as Bartley Smith Greenway, or local and neighbourhood loops.	8-17
Provide free bike valet services at large City events, such as the Canada Day Celebration.	8-18
Establish and expand dedicated co-ordination teams with expertise in strategic policy and network planning, infrastructure feasibility, design and implementation, education, outreach and communication, operations and maintenance, by-law and enforcement, data collection, monitoring and analysis.	9-4
Continue to research new and emerging trends and technologies such as bike share, e-bikes and e-scooters.	10-1



Pedestrian and Bicycle Master Plan Community Engagement at Woodbridge Library Senior Social (2018)



Pedestrian and Bicycle Master Plan Community Engagement at North Thornhill Community Centre (2017)



Pedestrian and Bicycle Master Plan Community Engagement at Al Palladini Community Centre (2018)

IMPLEMENTATION FRAMEWORK

Cost-effective and Timely Implementation

A key outcome of the Pedestrian and Bicycle Master Plan Update is the two-pronged implementation framework for pedestrian, cycling and multi-use recreational trail infrastructure which will help the City advance active transportation infrastructure in a cost-effective yet timely manner.

Firstly, the implementation framework starts with identifying and leveraging previously planned capital projects and new development to provide active transportation. Secondly, dedicated active transportation planning and implementation programs have been established to flexibly address the remaining gaps in the network.



Bicycle Friendly Community Workshop facilitated by Share the Road Cycling Coalition (2018)



Pedestrian and Bicycle Master Plan Stakeholder Advisory Group Meeting (2018)



Cycle tracks under construction along Clark Avenue (2020)



Bartley Smith Greenway and Vaughan Super Trail underpass at Major Mackenzie Drive, constructed in 2019

Dynamic and Flexible Prioritization of Gaps

Gaps not addressed through routine accommodation will be identified, prioritized and incorporated into the annual active transportation planning and implementation programs based on these opportunities and others as they arise:

- **Pedestrian Gaps when Applying the Proposed Pedestrian Implementation Criteria** (*Pedestrian and Bicycle Master Plan Figure 4-2*)
- **Priority Cycling Network** (*Pedestrian and Bicycle Master Plan Figure 5-2*)
- **Priority Multi-use Recreational Trail Network** (*Pedestrian and Bicycle Master Plan Figure 6-3*)

The network priorities identified in the Pedestrian and Bicycle Master Plan study will be used as a starting point and framework for a dynamic prioritization matrix to be tweaked annually as new opportunities or priorities arise and are confirmed through the annual budget approval and capital programming process.

Active Transportation Implementation Framework

Routine Accommodation - Leveraging Capital Projects and New Development

1. Through development:
 - Intensification Areas / Secondary Plan Areas – Vaughan Metropolitan Centre, Promenade, Weston/Highway 7, Concord, Vaughan Mills Centre, etc.
 - Block Plans, Subdivisions, Site Plans, etc.
2. As part of comprehensive capital projects:
 - a. Internal
 - Capital Projects – State of Good Repair (e.g. in conjunction with watermain replacement, road resurfacing, etc.)
 - Capital Projects – Growth (Sidewalks, Streetlighting, Cycling, Multi-use Recreational Trails and Pavement Markings, etc. in conjunction with new road construction and re-construction, intersection and crossing improvements, etc.)
 - Capital Projects – Traffic (in conjunction with corridor studies, operational reviews, pavement markings contracts, traffic calming, etc.)
 - b. External (Third Party)
 - York Region Road Widening Projects
 - Active Transportation facilities within the boulevard
 - Multi-use Recreational Trails Crossing opportunities
 - The Ministry of Transportation of Ontario, Metrolinx, Link427, Toronto and Region Conservation Authority, etc.
 - Active Transportation facilities incorporated into bridge and interchange designs
 - Multi-use Recreational Trails Crossing opportunities

Active Transportation Programs – Bridging Gaps with Standalone Active Transportation Projects







3. Standalone Sidewalk, Cycling and Multi-use Recreational Trail Projects
 - a. Sidewalk gaps in existing areas
 - b. Standalone Cycling Projects
 - Arterials / Collectors
 - With little to no residential frontage and on-street parking
 - Focused on connecting localized neighbourhood networks, intensification areas or Vaughan Super Trail
 - Collectors in existing local neighbourhoods
 - With residential frontages and on-street parking
 - c. Standalone Multi-use Recreational Trail Projects
 - Strategic gaps within the Vaughan Super Trail Network
 - Multi-use Recreational Trail Secondary Routes connecting to:
 - The Vaughan Super Trail
 - Regional/Primary/Local Centres
 - Major destinations/transit/community facilities








Active Transportation Implementation Framework (Pedestrian and Bicycle Master Plan Figure 3-2)



Multi-use recreational trail through Vellore Village Woodlot 6 at La Rocca Avenue and Via Campanile

PEDESTRIAN NETWORK GAPS

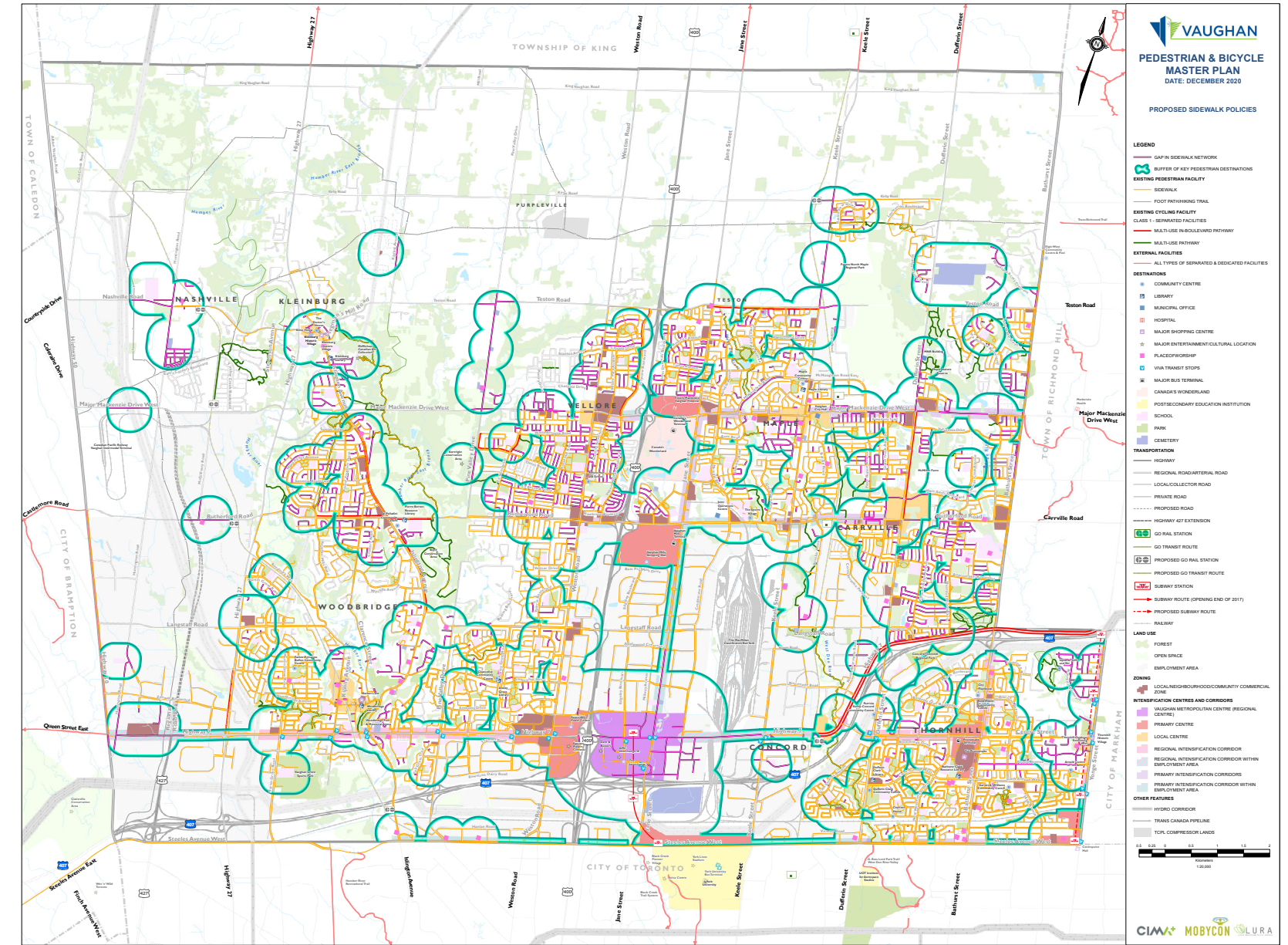
Generator	Pedestrian Facilities Implementation Policies
Arterial Road 	On both sides of arterial roads.
Collector Road 	On both sides of collector roads.
Local Road 	On at least one side of all local roads.
Industrial Road 	On one side of internal industrial roads not served by transit and on both sides of internal industrial roads served by transit.
Transit 	On both sides of every street that serves a transit route, stop/terminal, hub or station. Ensure sidewalks, street lighting and other pedestrian amenities are provided on all streets serviced by transit.
Vaughan Metropolitan Centre (VMC) 	On both sides of every street within 800 metres of the Vaughan Metropolitan Centre (VMC).

Intensification/Urban Area 	On both sides of the street in intensification areas identified by the City of Vaughan or York Region.
School 	On both sides of every street within 800 metres of an elementary school, high school or post-secondary school.
Place of Worship/Cemetery 	On both sides of every street within 400 metres of a place of worship or cemetery.
Community Facilities/Local Amenities 	On both sides of every street within 400 metres of a community facility or local amenity (community centre, municipal office, retail centre or major entertainment/cultural location).
Hospital 	On both sides of every street within 400 metres of a healthcare facility.
Parks and Trails 	On both sides of every street within 500 metres of a park or trail.
Pedestrian and Cycling Network 	To minimize gaps in the street network providing pathway connections, as well as the multi-use recreational trails network.

Recommended Implementation Policies for Pedestrian Facilities
(Pedestrian and Bicycle Master Plan Table 4-1)



In-boulevard multi-use pathway along McNaughton Road East



Pedestrian Gaps when Applying the Proposed Pedestrian Facilities Implementation Criteria
(Pedestrian and Bicycle Master Plan Figure 4-1)

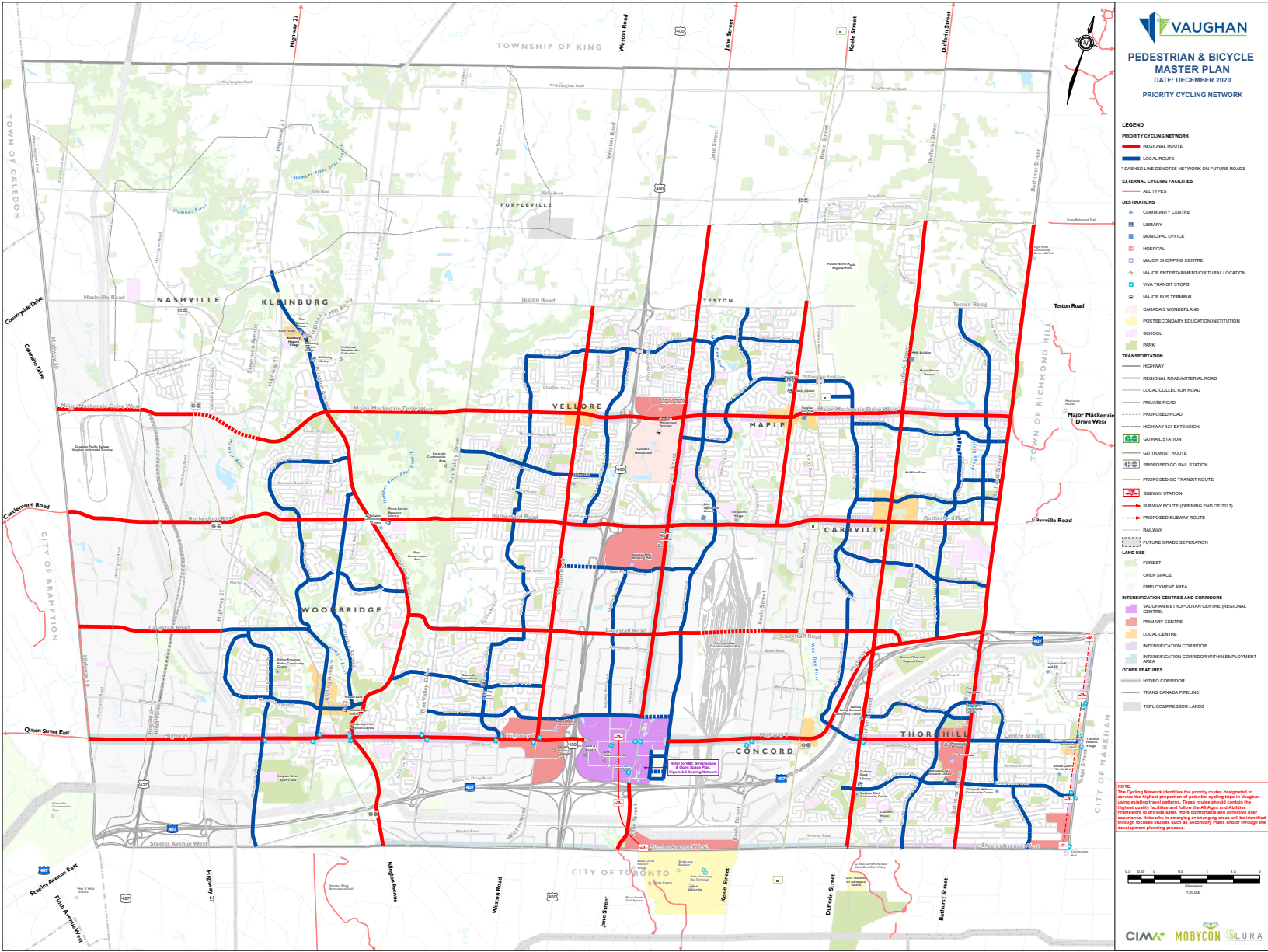
PRIORITY CYCLING NETWORK

All new and reconstructed arterial and collector roads (both major and minor) shall routinely include protected intersections/ driveways, separated in-boulevard linear cycling facilities on both sides of the roadway and consider crossings that will service the multi-use recreational trails system in order to provide the most direct and comfortable route for pedestrians and cyclists. A priority cycling network was developed that identifies key corridors throughout the city which will serve to expand the transportation choices for residents and visitors of Vaughan through the inclusion of comfortable infrastructure that caters to riders of all ages and abilities.

Cycling network priorities not implemented through routine accommodation opportunities will be prioritized as standalone projects and inform the annual active transportation planning and implementation programs.



In-boulevard cycle tracks along Millway Avenue within the Vaughan Metropolitan Centre



(Pedestrian and Bicycle Master Plan Figure 5-2)

A fundamental component of creating a cycling network that caters to riders of all ages and abilities is implementing a connected network of appropriate facility types to the traffic environment. To aid in appropriate facility selection during the implementation of the cycling network, the Pedestrian and Bicycle Master Plan lays out a decision guide that responds to the needs of users of all ages and abilities.

Contextual Guidance for Selecting All Ages & Abilities Cycling Facilities (NACTO 2017)				
Roadway Context				All Ages and Abilities - Bicycle Facility
Target Motor Vehicle Speed	Target Max. Motor Vehicle Volume (ADT)	Motor Vehicle Lanes	Key Operational Considerations	
Any			Any of the following: High curbside activity, frequent buses, motor vehicle congestion or significant turning conflicts***	Cycle Track (Class 1)
≤15km/h	Less relevant	No centerline, or single lane one-way	Pedestrians share the roadway	Shared Street
≤30km/h	≤1,000 - 2,000		<50 motor vehicles per hour in the peak direction at peak hour	Bicycle Boulevard
≤40 km/h	≤500 - 1,500	Single lane each direction or single lane one-way	Low curbside activity or low congestions pressure	Conventional or Buffered Bicycle Lane or Cycle Track (Class 2)
	≤1,500 - 3,000			Buffered Bicycle Lane or Cycle Track (Class 1)
	≤3,000 - 6,000	Protected Cycle Track (Class 1)		
	Greater than 6,000	Multiple lanes per direction		Protected Cycle Track (Class 1)

>40 km/h	≥ 6,000	Single lane each direction or single lane one-way	Low curbside activity or low congestions pressure	Protected Cycle Track (Class 1), or Reduce Speed
		Multiple lanes per direction		Protected Cycle Track (Class 1), or Reduce to Single Lane & Reduce Speed
	Greater than 6,000	Any		Protected Cycle Track, or Bicycle Path (Class 1)
High-speed limited access roadways, natural corridors, or geographic edge conditions with limited conflicts	Any	High pedestrian volume		Bike Path with Separate Walkway or Protected Cycle Track (Class 1)
		Low pedestrian volume		Shared-Use Path or Protected Bicycle Lane (Class 1)
* While posted or 85th percentile motor vehicle speed are commonly used design speed targets, 95th percentile speed captures high-end speeding, which causes greater stress to bicyclists and more frequent passing events. Setting target speed based on this threshold results in a higher level of bicycling comfort for the full range of riders.				
**Setting 40 kilometres per hour as a motor vehicle speed threshold for providing protected bikeways is consistent with many cities' traffic safety and Vision Zero policies. However, some cities use a 50 kilometres per hour posted speed as a threshold for protected bikeways, consistent with providing Level of Traffic Stress level 2 (LTS 2) that can effectively reduce stress and accommodate more types of riders.				
***Operational factors that lead to bikeway conflicts are reasons to provide protected bike lanes regardless of motor vehicle speed and volume.				

Contextual Guidance for Selecting All Ages and Abilities Cycling Facilities (Pedestrian and Bicycle Master Plan Table 5-1)

PRIORITY MULTI-USE RECREATIONAL TRAIL NETWORK

As residents continuously acknowledge their enjoyment of the current trail system and encourage the City to provide a more extensive and connected network, such a network was developed based on community feedback and technical analysis.

The overall network plan is comprised of a primary network, named Vaughan Super Trail, and a secondary network of shorter local neighbourhood loops to create a cohesive and continuous system of recreational facilities throughout the city.

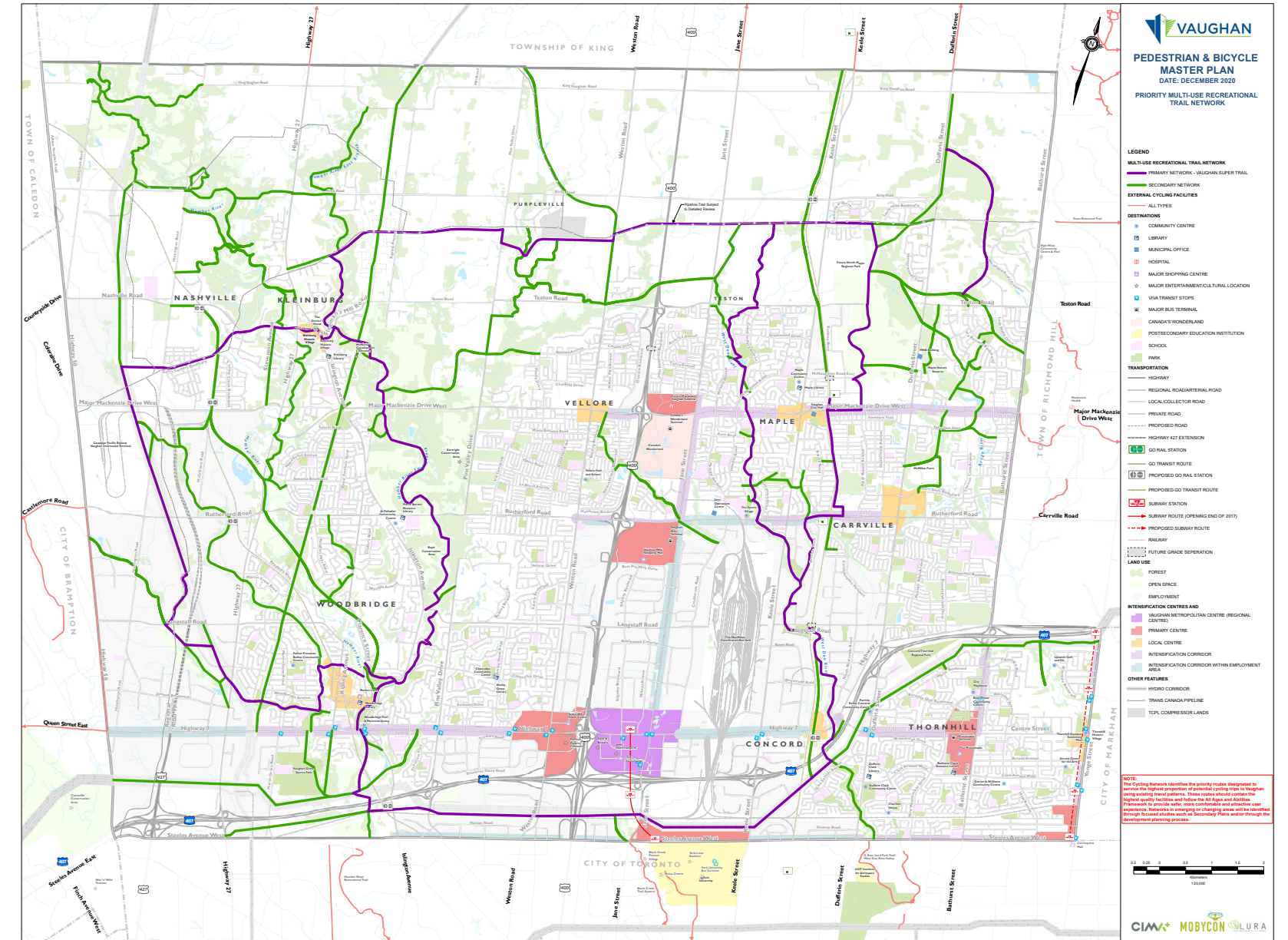
Multi-use recreational trail network priorities not implemented through routine accommodation opportunities will be prioritized as standalone projects and inform the annual active transportation planning and implementation programs.



William Granger Greenway and Vaughan Super Trail at the McMichael Canadian Art Collection



Bartley Smith Greenway Wayfinding Signage at Teston Road and Cranston Park Avenue



Priority Multi-use Recreational Trail Network (Pedestrian and Bicycle Master Plan Figure 6-3)

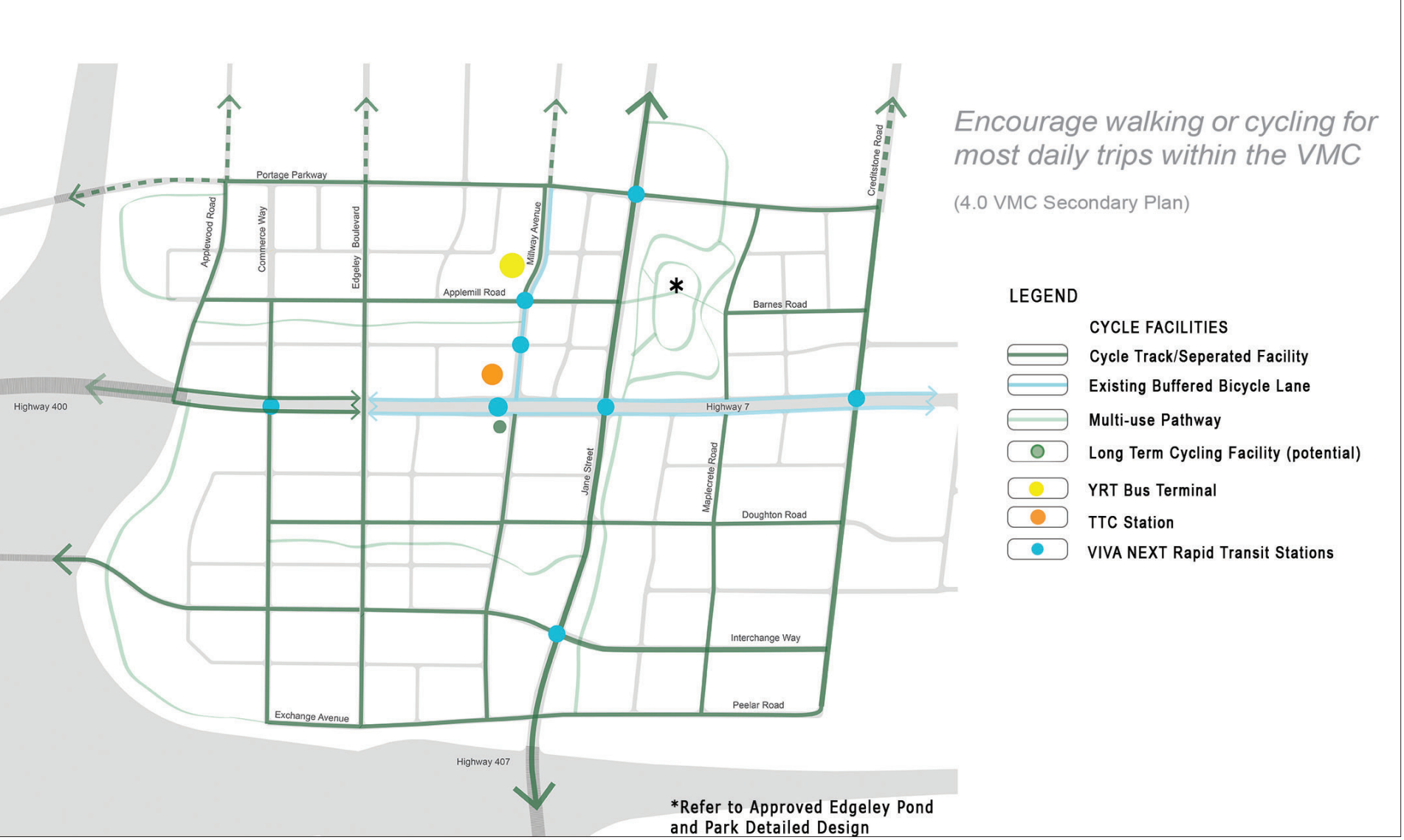
LEADING THE LEADING EDGE WITH BOLD INITIATIVES

Vaughan Metropolitan Centre (VMC) Separated Cycling Network

Given the rapid development in the Vaughan Metropolitan Centre (VMC), a focused review of the VMC street and cycling network was advanced and a revised network plan was brought forth and approved by Council before the completion of the Pedestrian and Bicycle Master Plan study. This plan takes advantage of a unique opportunity to provide access to high-quality and connected networks by allocating space for cycling upfront, reducing the risk of implementing less effective and more expensive retrofits in the future. Now the City of Vaughan is building one of the most progressive downtown cycling networks nationally. Once fully built out, there will be more than 20 kilometres of physically separated cycling facilities and multi-use recreational trails in an area less than two square kilometres, putting all residents, employees and visitors in the City's new downtown core within 250 metres of the network, transforming how people move.



Bike Box at Millway Avenue and Applemill Road within the Vaughan Metropolitan Centre



Vaughan Metropolitan Centre Separated Cycling Network (Pedestrian and Bicycle Master Plan Figure 5-3 and VMC Streetscape and Open Space Plan Figure 5.3)

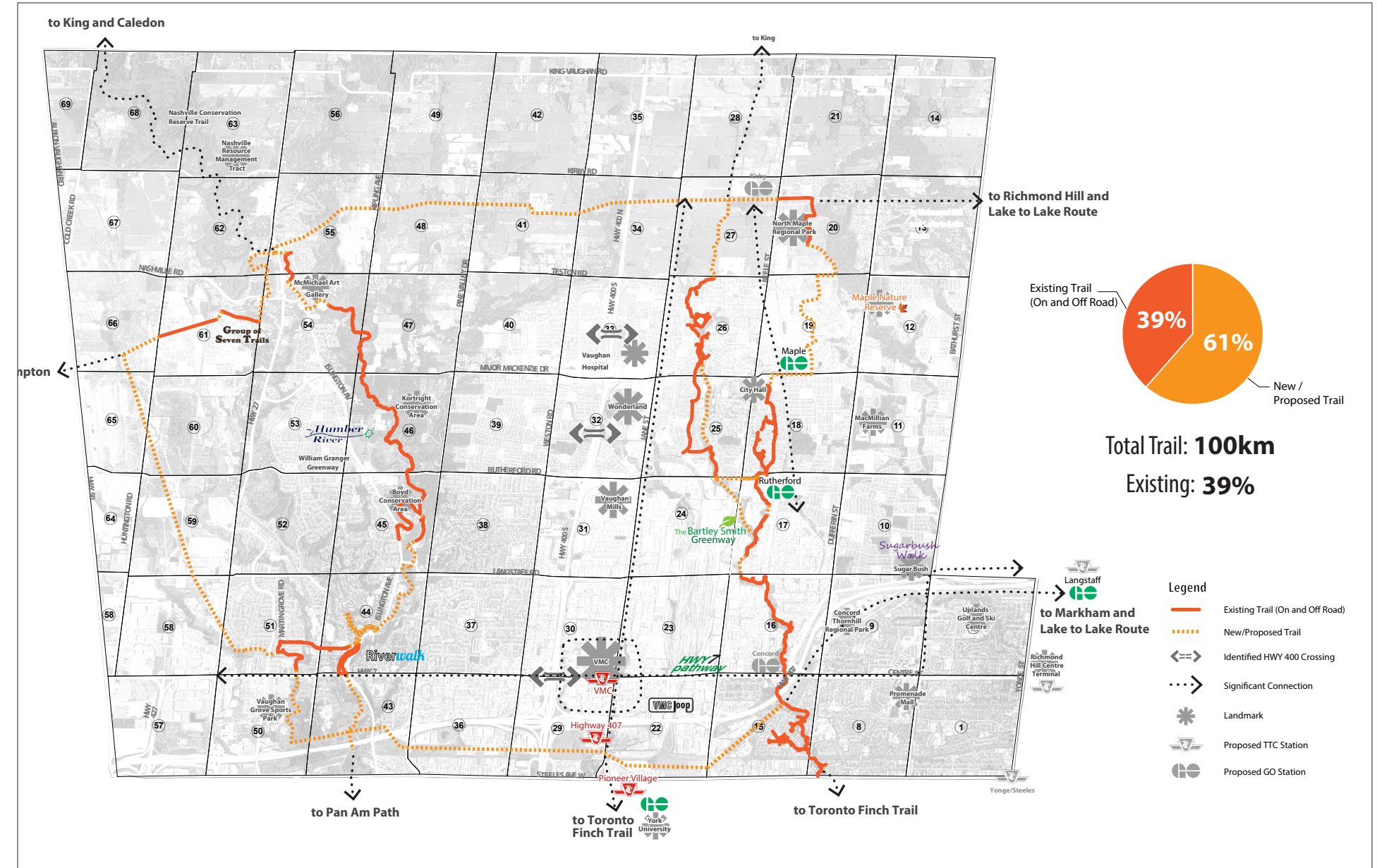
Vaughan Super Trail

The Vaughan Super Trail was identified as a key priority for a city-wide multi-use recreational trail network. This bold initiative to create a world-class, identifiable city-wide trail loop connects communities with a variety of major destinations, greenspaces, local nature, cultural heritage and in-boulevard pedestrian and cycling infrastructure. The idea of the Vaughan Super Trail was first endorsed by Council through the Cycling and Pedestrian Advisory Task Force recommendations in April 19, 2017, and further refined through the Pedestrian and Bicycle Master Plan study.

Through the study, residents acknowledged their enjoyment of the current trail system and showed strong support for the Vaughan Super Trail. The proposed loop is approximately 100 kilometres in length of which approximately 40 per cent exists. A key goal of the Vaughan Super Trail is to link communities and people with local nature, cultural heritage, communities and special destinations throughout the city of Vaughan.



William Granger Greenway and Vaughan Super Trail at Binder Twine Park



Vaughan Super Trail Proposed Concept Framework (2017)
(Pedestrian and Bicycle Master Plan Figure 6-1)

ACKNOWLEDGEMENTS

The study team would like to thank members of the public and Stakeholder Advisory Group, as well as Mayor Maurizio Bevilacqua, Members of Council and Vaughan staff who gave their time and input into the development of the Pedestrian and Bicycle Master Plan Update. It is our hope that this plan provides City staff and its partners with the tools and guidance necessary to advance active transportation.

The master plan and active transportation program have been developed to be flexible and dynamic, evolving with the emergence of best practices, new innovations and responding to ongoing community needs and priorities. Any proposed addendums to the master plan will be brought forward with an annual update to Council.

The vision, goals and recommendations of the City of Vaughan Pedestrian and Bicycle Master Plan were first adopted without amendment by the City of Vaughan Council on Dec. 17, 2019.

The City would also like to acknowledge the Consulting Team that contributed to this project:



Vaughan Super Trail at Rutherford Road and Peter Rupert Avenue



Purpleville Creek pedestrian bridge at Pine Valley Drive and Teston Road



Bike parking at Vaughan City Hall



Wide sidewalks and cycling facilities along Millway Avenue in the Vaughan Metropolitan Centre

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