Appendix J: Parking Management Strategy

VMC
Transportation Master Plan Update

Parking Strategy

August 2025

DOWNTOWN
vaughan
METROPOLITAN CENTRE

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Executive Summary

The City of Vaughan Official Plan (VOP) 2010 Volume 1 identifies the Vaughan Metropolitan Centre (VMC) as a 'Regional Centre' with an intense concentration of development including a mix of different land uses, such as residential, retail, office, civic, and cultural uses. Development interest in the VMC has surpassed expectations, hence resulting in residential intensity that initially was not anticipated when the VMC Secondary Plan (VMCSP) was first developed.

At present, the auto usage in the area is high, contributing to congested traffic conditions. A significant shift toward non-auto modes is essential for accommodating the high-density mixed uses proposed for the VMC while managing traffic congestion on the road network.

The VMC is anticipated to have a robust multimodal transportation network in the future featuring a fine grid road network with improved pedestrian and bicycle connections, frequent transit circulator service connecting to the VMC and Highway 407/Jane Subway Stations and the Vaughan Metropolitan Bus Terminal (SmartVMC Bus Terminal), and amenities (such as benches for pedestrians, bicycle parking, shelters for transit users) to improve transit and active transportation user experience. In addition, as per the Vaughan Transportation Plan (VTP), dated May 25, 2023, the City plans to collaborate with York Region Transit, the Ontario Ministry of Transportation (MTO), and Metrolinx to improve transit service within the City by identifying new corridors for rapid transit services, achieving a transit service headway of 10 minutes or less during peak periods throughout the City, identifying locations for service extensions or frequency improvements, and exploring innovative models to serve communities. Further, as per the VTP, a regional cycling route along Jane Street and several local cycling routes are proposed for the VMC with connections to Weston 7 and other areas within the City.

This parking strategy was developed as part of the VMC Transportation Master Plan (TMP) based on a review of the existing and planned future transportation network, the VMC Secondary Plan, current planning and transportation policy context, and a jurisdictional scan of parking approaches in other urban settings.

Parking on Development Sites

Developments in the VMC must be self-sufficient in parking. It is equally important that the maximum parking requirements be adhered to, to control the total parking supply and the associated traffic impacts on the area road network. There are no longer minimum parking requirements in the VMC due to the passage of Bill 185.

Maximum parking requirements are proposed to be reduced for key land uses within the VMC. **Table ES - 1** provides the existing and proposed parking requirements in the VMC, as well as applicable policies regarding privately operated paid public parking and electric vehicles (EVs).

The proposed parking requirements are supported by a planned robust multimodal transportation system to enable first mile and last mile trips to and from the subway stations and bus terminal. The proposed rates provide the flexibility to provide sufficient parking to make businesses more viable and to attract residents, customers, and employees, while managing the overall parking supply.

The City's current Zoning By-law 001-2021 (the Zoning By-law) requirements for accessible parking and bicycle parking should continue to apply. It is expected that bicycle parking requirements will be updated as part of future Zoning By-law reviews.

Table ES - 1: Proposed Parking Requirements

Land Use	Existing[1]	Proposed	Policies
Residential Apartment: Resident[2]	1.5 max	0.4 max	100% of required parking should be EV ready.
Residential Apartment: Visitor[2]	no maximum	0.15 max	Privately operated paid parking permitted. 25% of required parking should be EV ready.
Office[3]	2.5 max	1.5 max	Privately operated paid parking permitted.

Land Use	Existing[1]	Proposed	Policies
Retail, Service Commercial[3,4]	4.0 max (for retail up to 5,000 sq.m and personal service) 4.0 max (for retail over 5,000 sq.m)	2.0 max	25% of required parking should be EV ready.
Accessible Parking Spaces Accessible parking requirement to be calculated based on By-law 001-2021 Table 6.4: Required Barrier-free Parking Spaces.			
Bicycle Parking Bicycle parking to be provided per By-law 001-2021 Section 6.5: Bicycle Parking Spaces Requirements.			

Note:
[1]Rates obtained for the VMC from the City of Vaughan's Comprehensive Zoning By-law 001-2021.
[2]Rates are provided per dwelling unit.
[3]Rates are provided per 100 square metres of Gross Floor Area.
[4]The parking requirements are applicable for the following land uses included in the City's Zoning By-Law: 1) Art Studio, 2) Business Service, 3) Clinic, 4) Financial Institution, 5) Health and Fitness Centre, 6) Personal Service, 7) Pet Services Establishment, 8) Retail, 9) Service or Repair Shop, 10) Shopping Centre, and 11) Supermarket. These parking rates are applicable for all sizes of these land uses.

To improve the efficiency of the parking supply in the VMC, developments should be permitted to provide non-resident parking as privately operated paid public parking where feasible and appropriate (while adhering to parking maximums). Parking for multiple phases of development may be consolidated in one centralized paid public parking facility.

Transportation Demand Management

The implementation of aggressive TDM measures on development sites is important for residents, employees, and visitors to best utilize the available non-auto infrastructure and reduce single-occupancy vehicle (SOV) trips.

The City of Vaughan Transportation Demand Management Development Guideline (TDM Development Guideline), dated September 2021, divides the City into different character areas based on the groups of zones considered for the parking requirements section in the City's Zoning By-law. The VMC is categorized as a separate character area. As per the TDM Development Guideline, all TDM initiatives except for 'Launch Shuttle Services' are applicable to the VMC character area.

This includes the following six initiatives included under the 'Parking' category:

- Provision of dedicated parking spaces for car-share vehicles (for residential uses)
- Provision of preferential parking spaces for car-pool (for non-residential uses)
- Unbundling parking from unit cost
- Implementation of employee parking cash-out programs
- Implementation of paid parking
- Implementation of pick-up and drop-off zones

Additional TDM measures mentioned in the TDM Development Guideline to be considered for the VMC include:

- Provision of long and short-term bicycle parking - Long and short-term bicycle parking should be provided based on the requirements included in the City's Zoning By-law.
- Provision of separated bicycle access to long-term bicycle parking - An entrance segregated from vehicular traffic and accessible to cyclists should be allocated to increase the safety and convenience of cyclists. In case of a ramp entrance, the ramp must be compliant with AODA requirements, should have adequate heating facility in the exterior, and should have a minimum width of 3 m to accommodate bi-directional travel.
- Provision of shower and change room facilities - Shower and change room facilities should be provided as per the requirements included in the City's Zoning By-law.
- Installation of bike repair stations - As per the City's TDM Development Guideline, at least one permanent bicycle repair station should be installed adjacent to a long-term bicycle parking area with at least 50 long-term bicycle parking spaces. Additionally, the station should have adequate workspace surrounding it with a minimum area of 4 sq.m and a minimum aisle width of 1.5 m.

Implementation of aggressive TDM strategies will support the continued growth of the VMC and the reduction of parking supply for residential and non-residential uses.

It should be noted that minimum car-share, car-pool, and PUDO requirements are not recommended based on the findings of a jurisdictional scan. These elements should continue to be addressed through the TDM Development Guideline and considered on a site-by-site basis through development review.

When assessing the adequacy of PUDO design and supply during development review, considerations should include the increasing prevalence of ridesharing and delivery services as well as the future potential to accommodate PUDO by autonomous vehicles.

Smart Parking Technology

Smart Parking refers to a series of technologies that optimize the use of parking facilities, improve user experience, and enable better management of parking facilities. The following technologies may be used to support good functioning of parking:

- Parking guidance systems
- Mobile payment systems
- Digital parking permit systems
- Parking reservation systems
- Parking elevators, stacked or mechanical parking, and automated or robotic parking
- Future proofing for autonomous vehicles

Micromobility

The VTP recommends the implementation of mobility hubs and electric micromobility Transportation Innovation Programs (TIPs) within new development areas including the VMC.

The following guidelines are recommended for micromobility parking:

- Designate corrals or specific zones for on-street micromobility parking. Demarcate the parking zones with appropriate signage or other means for easy identification.
- Provide at least one parking corral every 200 m and up to three parking spaces per permitted micromobility device.

- Designate covered areas for bike share or e-scooter stations near building entrances, and within walking distance of major destinations (as per the City's TDM Development Guideline).
- Establish micromobility hubs at strategic locations across the VMC to provide safe and secure parking options for micromobility devices (as per the VTP).
- Allow micromobility parking on sidewalks in the furniture zones only.
- Implement restrictions on on-street objects that can be used for locking 'lock-to dockless' micromobility devices.
- Establish penalties for non-compliance with micromobility parking requirements. Penalties may include graduated fines and possible suspension from the micromobility program.

The City should provide the following amenities throughout the VMC:

- Micromobility hubs including bicycle and scooter parking at strategic locations such as immediately adjacent to large trip generators, the VMC Subway Station, the SmartVMC Bus Terminal, and the VIVA Bus Rapid Transit (BRT) stops.
- The hubs should include secure, weather-protected short-term and long-term bicycle and scooter parking that is conveniently placed for commuters switching to or from transit, air pumps, and self-service mechanic kits (bicycle repair stations).
- The City should pursue opportunities to establish or participate in programs offering shared micromobility devices including bicycles and scooters. Docking stations for shared micromobility devices should be incorporated into the micromobility hubs, alongside facilities for privately owned devices.
- Micromobility parking (for bikes and scooters) in parks, privately owned public spaces (POPS) and where appropriate within the right-of-way (ROW), in addition to micromobility hubs.
- Signage and Pavement Markings as part of a wayfinding system.
- Signs should be placed at major decision points along bicycle routes and at other key locations leading to and along the routes. Pavement markings should be installed to help reinforce routes and provide directional signage.

To further micromobility, the City has launched a two-year Shared Micromobility Pilot Program in June 2025, deploying and operating e-scooters and e-bikes in the central area of the city bounded by Pine Valley to the west, Teston Road to the north, Dufferin

Street to the east, and Highway 407 to the south (the pilot program encompasses the VMC study area). Shared e-scooters can only be operated in bike lanes, cycle tracks, in boulevard multi-use paths, and on roadways with a speed limit of 50km/h or less. They are prohibited on sidewalks, trails and in park areas. Shared e-bikes are permitted anywhere conventional bicycles are allowed, including bike lanes, cycle tracks, in-boulevard multi-use pathways and on most roadways. They are not permitted on sidewalks, trails, park areas or where e-bikes are prohibited. A hybrid parking model that includes both physical and digital parking corrals has been implemented; digital corrals that are highly utilized will be upgraded with markings and other identifying features into physical corrals.

The City will utilize a robust performance evaluation plan to review the data collected, as well as key metrics such as public feedback, operational successes/challenges to evaluate the program and provide Council with recommendations on program permanency, changes or expansions at the end of the two-year Pilot.

Curbside Management

It is recommended that the City develop a curbside management strategy for the VMC. Decisions to provide on-street parking, PUDO and loading must consider compatibility with the street typology and available spacing and be weighed against other competing curbside uses for traffic, transit, active transportation, curbside cafes and others. When developing the curbside management strategy for the VMC, the following parking-related functions should be considered:

- Consider passenger drop-off and pick-up facilities as appropriate near transit and key destinations, considering the increasing popularity of rideshare services such as Uber and Lyft as first and last mile solutions
- Short-term parking (10-minute) to support a variety of uses including convenience stops at local businesses, ride shares, and small deliveries

Parking-related curbside uses that should be discouraged in the VMC include:

- Long-term parking, such as daily parking or commuter parking
- Residential permit parking
- On-street passenger drop-off and pick-up facilities for residential and office uses

- On-street loading zones

Education and Communication

The City should encourage trip planning by providing information on how to access the VMC emphasizing the use of transit and other non-SOV modes. Information should be available through mobile phone applications, social networking sites, and websites, and must be readily available, accessible, and understandable to the public.

Provided resources should include interactive maps and trip planning tools for travel by transit, cycling, micromobility, walking, and driving. Parking information should include:

- Parking location
- Number of parking spaces, and real-time parking availability if available
- Parking pricing
- Breakdown of available EV, car-pool and accessible spaces

Links should be provided for users to access information and services including those from third parties, such as:

- Parking reservation, payment and pre-payment
- Car-share registration and reservation
- Bicycle and scooter share registration

Implementation

Table ES - 2 summarizes the key implementation steps for the parking recommendations. Implementation will require updates to existing policies and regulations and in some cases partnerships with third parties such as transit and shared micromobility providers. In 2018, The City conducted the VMC Parking Study in anticipation of the VMC Subway Station opening. Recommendations that are carried forward are also indicated in **Table ES - 2**.

Table ES - 2: Summary of Implementation Steps

Recommendation		Key action items to be undertaken by the City	Alignment with the 20118	Impact to Existing Policies	Potential Partnerships
1	Apply updated vehicular parking requirements	- Develop reduced parking requirements for all applicable land uses based on the TMP recommendations - Update the Zoning By-law parking requirements	Yes	Yes	
2	Update bicycle parking requirements as part of future Zoning By-law reviews	- Monitor bicycle parking demands and emerging trends - Update the Zoning By-law, if required. This can be done as part of regular Zoning By-law updates.		Yes	
3	Permit privately operated paid public parking for non-resident parking	- Approve through development review		Yes	
4	Apply EV parking requirements	- Update the Zoning By-law		Yes	
5	Permit implementation of smart parking technology	- Consider Secondary Plan TMP policies in the development review process			

Recommendation		Key action items to be undertaken by the City	Alignment with the 20118	Impact to Existing Policies	Potential Partnerships
6	Provide micromobility hubs including bicycle and scooter parking at strategic locations	- Conduct a study to determine appropriate micromobility hub design and locations - Incorporate shared micromobility docking stations when this service is available			Yes
7	Provide Transportation Innovation Programs	- Pursue opportunities to establish or participate in programs providing shared micromobility devices			Yes
8	Provide micromobility parking outside of micromobility hubs	- Develop a micromobility parking plan			Yes
9	Provide micromobility wayfinding	- Develop and implement an appropriate pavement markings and signage plan			Yes
10	Provide on-street parking, PUDO, and loading zones	- Develop a curbside management strategy for VMC to determine appropriate conditions for providing on-street parking, PUDO and loading zones - Develop an on-street parking plan including PUDO and loading zones, if appropriate	Yes		

Recommendation		Key action items to be undertaken by the City	Alignment with the 20118	Impact to Existing Policies	Potential Partnerships
11	To encourage trip planning, provide multimodal transportation and parking information for VMC in an online portal	- Develop a VMC transportation information portal accessible by mobile app, social media and website - Regularly update the transportation information portal to show current information - Advertise the transportation information portal to promote its use	Yes		Yes

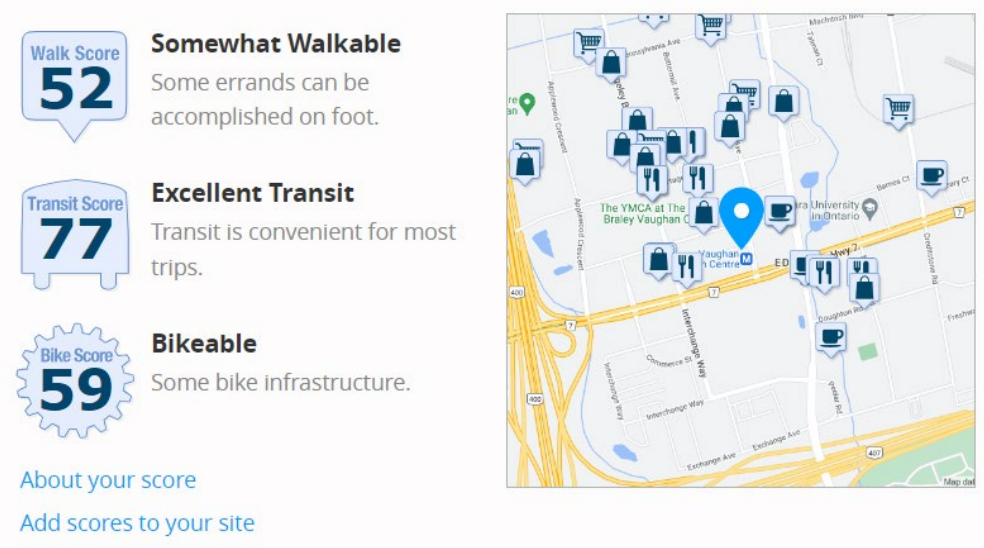
1 Introduction

1.1 Purpose of the Parking Strategy

The City of Vaughan Official Plan (VOP) 2010 Volume 1 identifies the Vaughan Metropolitan Centre (VMC) as a 'Regional Centre' with an intense concentration of development including a mix of different land uses, such as residential, retail, office, civic, and cultural uses. Development interest in the VMC has surpassed expectations, hence resulting in residential intensity that initially was not anticipated when the Vaughan Metropolitan Centre Secondary Plan (VMCSP) was first developed. While historically the area has a suburban character primarily comprised of employment uses and large retail stores, the City of Vaughan envisions the VMC to be an intense and dynamic downtown which will evolve to become the heart of the City, physically, economically and culturally.

High auto usage in the VMC and surrounding area contributes to congested roads even under existing conditions. As seen in **Figure 1-1**, though the community is car-dependent, it is moderately walkable and bikeable, and has excellent transit options including service by York Region Transit (YRT) bus routes, Viva Bus Rapid Transit (BRT), Brampton Transit, and the Toronto Transit Commission (TTC) subway line Yonge-University (Line 1) which has its terminal station at the VMC. With additional multimodal transportation improvements proposed to be implemented in the future, there is potential for reduced auto mode share, and therefore, lower parking requirements.

Figure 1-1: Walk, Transit, and Bike Score in the VMC



Source: https://www.walkscore.com/

The VMC Transportation Master Plan (TMP) aims to support mixed-use intensification with a multimodal transportation network, to shift lifestyles and travel habits away from auto use toward transit and active modes. To reduce auto dependency and increase usage of alternative modes, key elements of the TMP include:

- Improved transit services with the introduction of a high-frequency transit circulator connecting different blocks in the VMC to the VMC Subway Station, Vaughan Metropolitan Bus Terminal (SmartVMC Bus Terminal), and different parts of Weston Road and Highway 7
- Improved pedestrian and bicycle connections
- Improved amenities supporting the multimodal transportation system such as benches for pedestrians, parking for cyclists, shelters for transit users, and
- Reduced parking requirements

The purpose of this Parking Strategy is to provide appropriate parking standards and policies, as well as City-led initiatives for the VMC.

The scope of this study includes consideration for:

- Maximum vehicular parking requirements
- Barrier-free parking
- Bicycles parking

- Privately operated paid parking
- Electric vehicle (EV) parking
- Transportation Demand Management (TDM) measures including car-share, car-pool, pick-up and drop-off and micromobility
- Smart parking technology

This strategy also provides guidance for City-led initiatives related to micromobility, curbside management, and education and communication.

The parking reductions and TDM measures proposed in this report can help achieve reduced auto usage and traffic congestion only if supported by a robust multimodal transportation system. Therefore, investment in multimodal transportation improvements is critical. Implementation of the recommendations in the Parking Strategy is anticipated to contribute towards fulfilling the goals for the VMC.

2 Existing Conditions

2.1 Road Network

The existing road network within the VMC is presented in **Figure 2-1** and **Figure 2-2**. A description of the key roadways and corridors within the VMC is provided below.

- **Highway 7 (Y.R. 7)** is an east-west Regional Arterial corridor with a six-lane cross-section. The segment of Highway 7 under consideration for this TMP runs from the west of Highway 400 to east of Creditstone Road. The vivaNext Bus Rapid Transit (BRT) currently runs along the median lane from west of Ansley Grove Road to east of the VMC. Due to the median BRT lane, the Highway 7 intersections operate with a 'protected-only' phases for the eastbound-left and westbound-left movements. The posted speed limit on Highway 7 is 60 km/h throughout the VMC study area.

- **Jane Street (Y.R. 55)** is a north-south Regional Arterial corridor with a four-lane cross-section. The segment of Jane Street under consideration for this TMP runs from Portage Parkway to the north and 407 ETR to the south. It runs parallel to Highway 400 and provides a connection to 407 ETR, via a Parclo A2-Diamond interchange. The posted speed limit on Jane Street is 60km/h throughout the VMC study area.

- **Creditstone Road** is a north-south Municipal Minor Arterial corridor with a two-lane cross-section, servicing the employment areas east of Jane Street. The segment of Creditstone Road under consideration for this TMP runs from the projected future extension of Portage Parkway to the north and 407ETR to the south. The posted speed limit is 50km/h throughout the VMC study area.

- **Edgeley Boulevard** is a north-south Municipal Major Collector corridor with a four-lane cross-section. The segment of Edgeley Boulevard under consideration for this TMP runs parallel to Highway 400 and Jane Street, from Portage Parkway

to Highway 7, providing connections to the employment areas between Langstaff Road and Highway 7. The posted speed limit is 50 km/h throughout the VMC study area.

- **Interchange Way** is a Municipal Major Collector corridor with a two-lane cross-section, running north-south from Highway 7 connecting east-west from Commerce Street to Jane Street. The posted speed limit in this segment is 50 km/h. This segment extends further west and continues north to Commerce Street. A proposed extension of Interchange Way to Creditstone Road will be considered under the EA Study. Additionally, a corridor protection area is proposed for a street connecting Colossus Drive (in Weston 7) over Highway 400 to Interchange Way.

- **Portage Parkway** is an east-west Municipal Major Collector corridor with a four-lane cross-section from west of Highway 7 to Edgeley Boulevard, and a two-lane cross-section from Edgeley Boulevard to Jane Street, providing an alternative route for crossing Highway 400, north of Highway 7. The current Portage Parkway overpass has a highly elevated structure due to the short span. The posted speed limit is 50 km/h throughout the VMC study area.

- **Millway Avenue** is a north-south Municipal Special Collector that extends from Portage Parkway to the north to Highway 7 to the south, with a four-lane cross-section (two-lane cross-section north of Portage Parkway). The posted speed limit is 40 km/h throughout the VMC study area. A proposed extension of Millway Avenue to Interchange Way will be considered under the EA Study.

- Other Municipal roads within the VMC study area include Applewood Crescent, Apple Mill Road, Buttermill Avenue, Commerce Street, Doughton Road, Maplecrete Road, Peelar Road and Exchange Avenue.

Figure 2-1: Existing Road Network Hierarchy

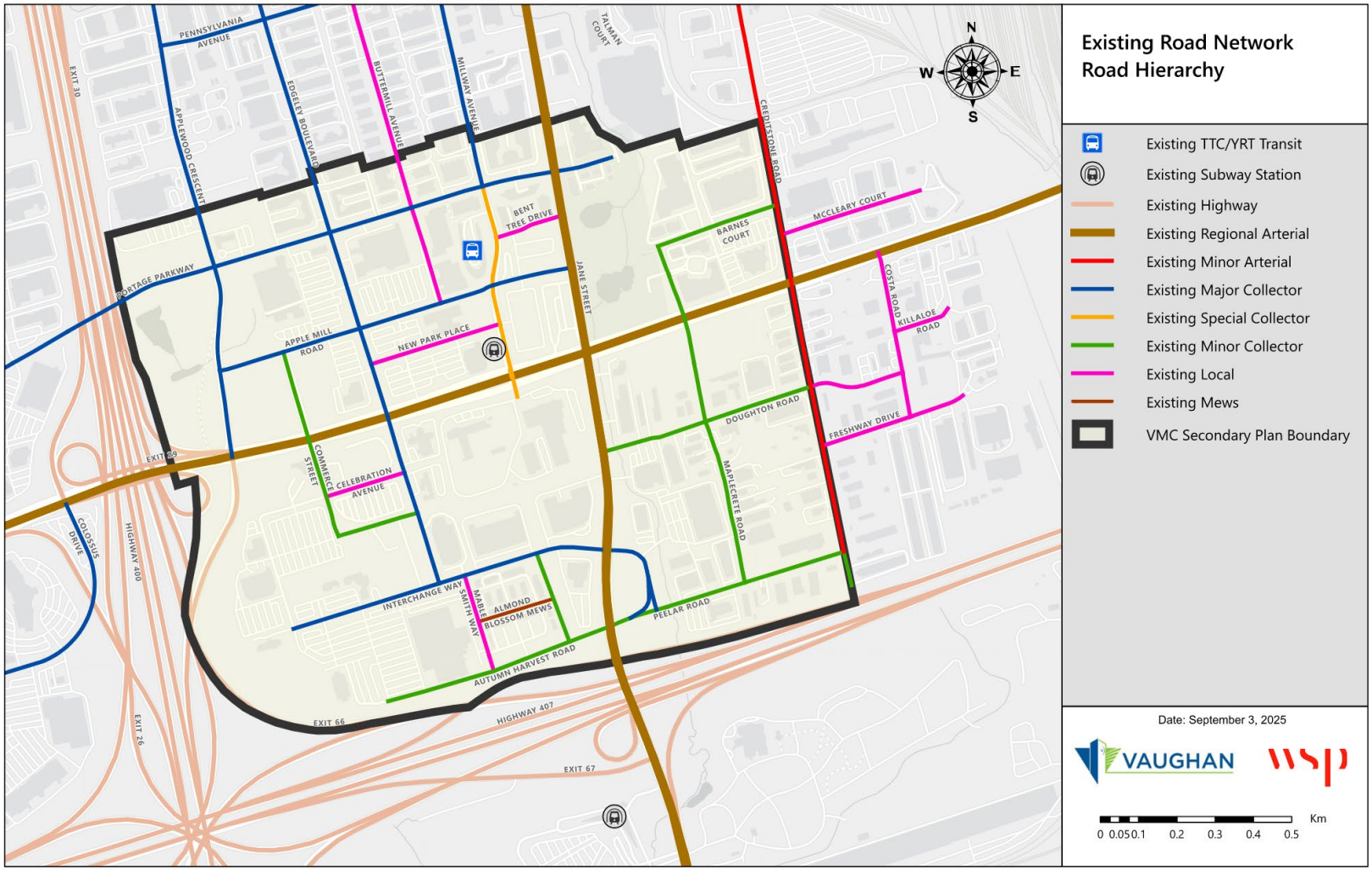
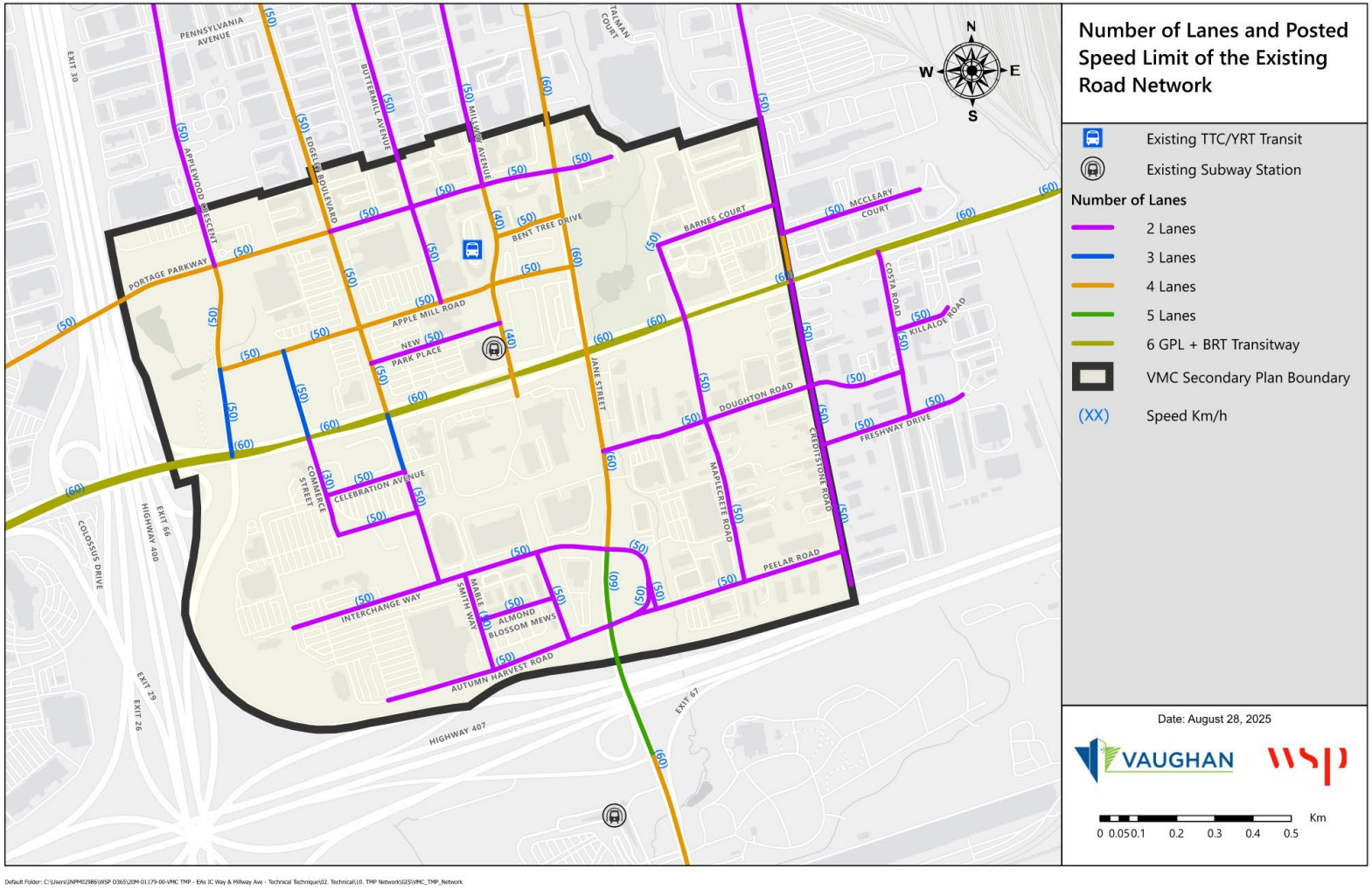


Figure 2-2: Number of Lanes of the Existing Road Network



2.2 Transit

The VMC is serviced by the following transit routes:

- **York Region Transit Routes**:
    - **YRT Route 20** operates between Pioneer Village and Teston Road via Jane Street, seven days a week, with an approximate headway of 12 to 13 minutes during the morning and afternoon peak periods. The route connects the Pioneer Village Station, the commercial/employment lands abutting Jane Street north of Highway 407, the Vaughan Metropolitan Bus Terminal (SmartVMC Bus Terminal), Vaughan Mills Mall, Canada's Wonderland, the residential lands north of Major Mackenzie Drive West, and the Baitul Islam Mosque.
    - **YRT Route 26** operates along Edgeley Boulevard, Portage Parkway, Millway Avenue and Jane Street with an approximate frequency of 16 to 20 minutes during weekday peak periods. The route serves the SmartVMC Bus Terminal, commercial/employment lands north of Highway 7 to Rutherford Road, Vaughan Mills Mall, and the residential lands north of Rutherford Road.
    - **YRT Route 77** runs predominantly east-west along Highway 7 and Centre Street, between the Finch GO Bus Terminal and the Gore Road in Brampton, seven days a week. It operates with an approximate headway of 15 minutes during weekday rush hour, 28 minutes during weekday non-rush hours, 35-45 minutes on Saturdays and 51 minutes on Sundays. The route connects the Finch GO Bus Terminal with the predominantly residential lands abutting Yonge Street and Centre Street in Markham, Promenade Shopping Centre area, the Vaughan Metropolitan Centre, and the (predominantly) commercial and employment lands abutting Highway 7 from Centre Street to Highway 50.
    - **YRT Route 720** runs north-south along Jane Street and serves the Highway 407 Subway Station, the SmartVMC Bus Terminal, Vaughan Mills Mall, Canada's Wonderland, Cortellucci Vaughan Hospital, and the Major

Mackenzie West Terminal. It has a peak hour headway of approximately 10 to 12 minutes.

- **YRT Route 10 (Mobility On-Request Woodbridge)** is a stop-to-stop request-responsive service route. A YRT-marked vehicle will pick-up and drop-off passengers at the requested bus stop serviced. Within the VMC, the service runs along Ansley Grove Road, Blue Willow Drive, and Chrislea Road/Portage Parkway, during the daytime seven days a week.

- **Viva Orange Route** is the only Viva line that services and passes through the VMC and has a total number of 17 stations on this line. The route operates on Highway 7 and Centre Street between the Richmond Hill Centre Terminal and Martin Grove Road, serving the Promenade Terminal, the VMC, and the (predominantly) commercial and employment lands abutting Highway 7 from Centre Street to Martin Grove Road. Viva Orange serves with an approximate headway of 15 minutes during weekday rush hours, 22-29 minutes during weekday non-rush hours, 22-24 minutes on Saturdays and 20-25 minutes on Sundays.

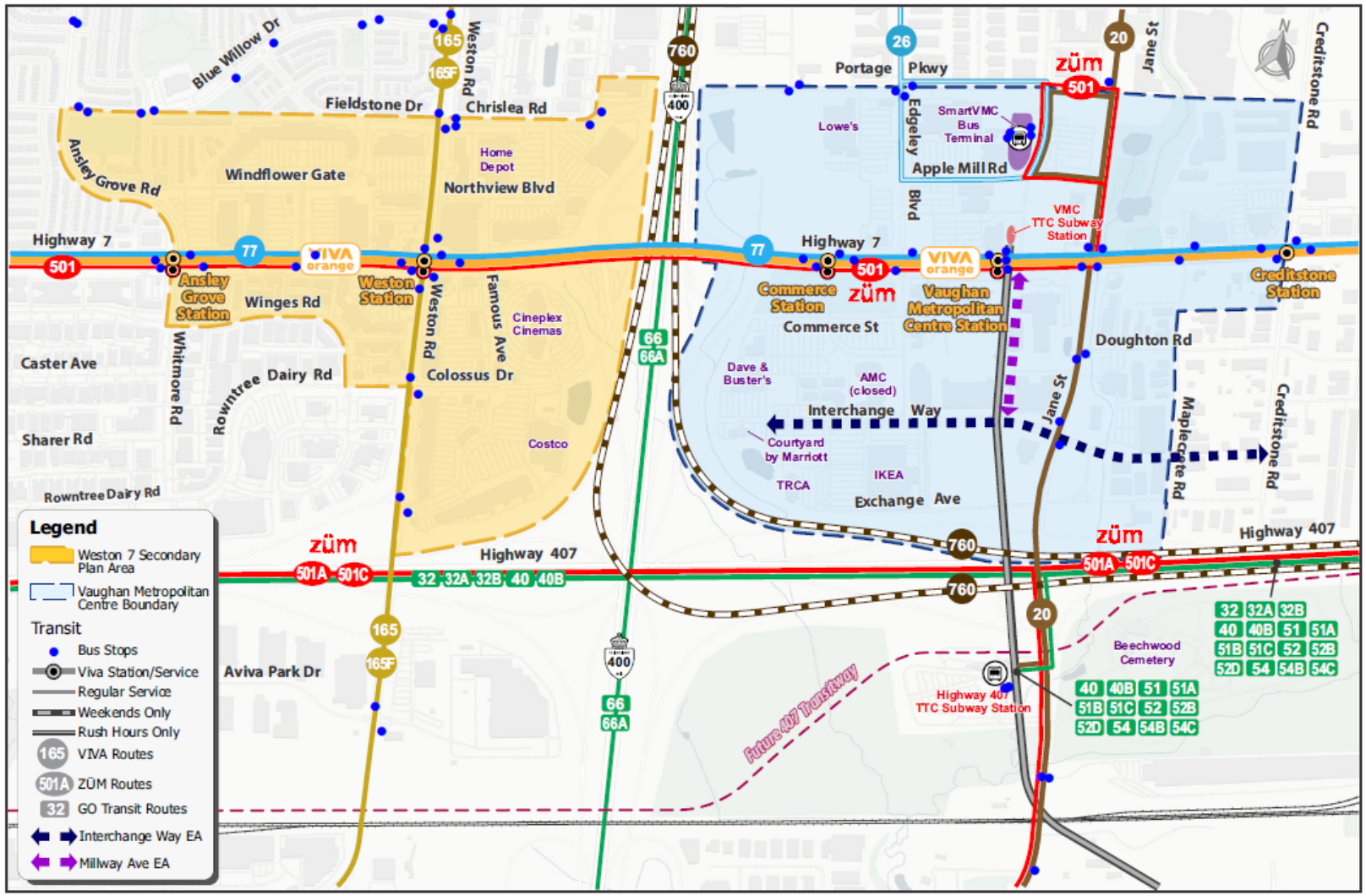
- The **Brampton Transit Züm Queen – Route 501** is a Rapid transit service which provides connections to City of Mississauga, City of Toronto, and York Region (the Region). The 501 route operates on Queen Street and Highway 7 between the Brampton GO Station and the SmartVMC Bus Terminal, seven days a week with an approximate frequency of 6 to 12 minutes during the weekday peak periods. It serves the Brampton GO Station and Downtown Brampton, the Bramalea Bus Terminal, the commercial/employment lands abutting Highway 7, and ultimately SmartVMC Bus Terminal. Variations 501A and 501C operates express on Highway 407 to the York University Terminal via Kelle Street/Steeles Avenue/Jane Street.

- The **VMC TTC Subway Station** is located at the intersection of Highway 7 and Millway Avenue. The **Yonge-University Subway Line (Line 1)** generally operates in the Spadina Avenue and Allen Road corridors between Union Station and the VMC, every 2 to 3 minutes during the morning and afternoon peak periods. The route connects the VMC with key destinations in Toronto, including Pioneer Village, York University, Downsview Park, Yorkdale Mall, Eglinton West

Station, Queen's Park, and Union Station. The route also intersects the TTC east-west subway line along Bloor Street at Spadina Station.

An overview of the existing transit network and routes is shown in **Figure 2-3**.

Figure 2-3: Existing VMC Transit Network



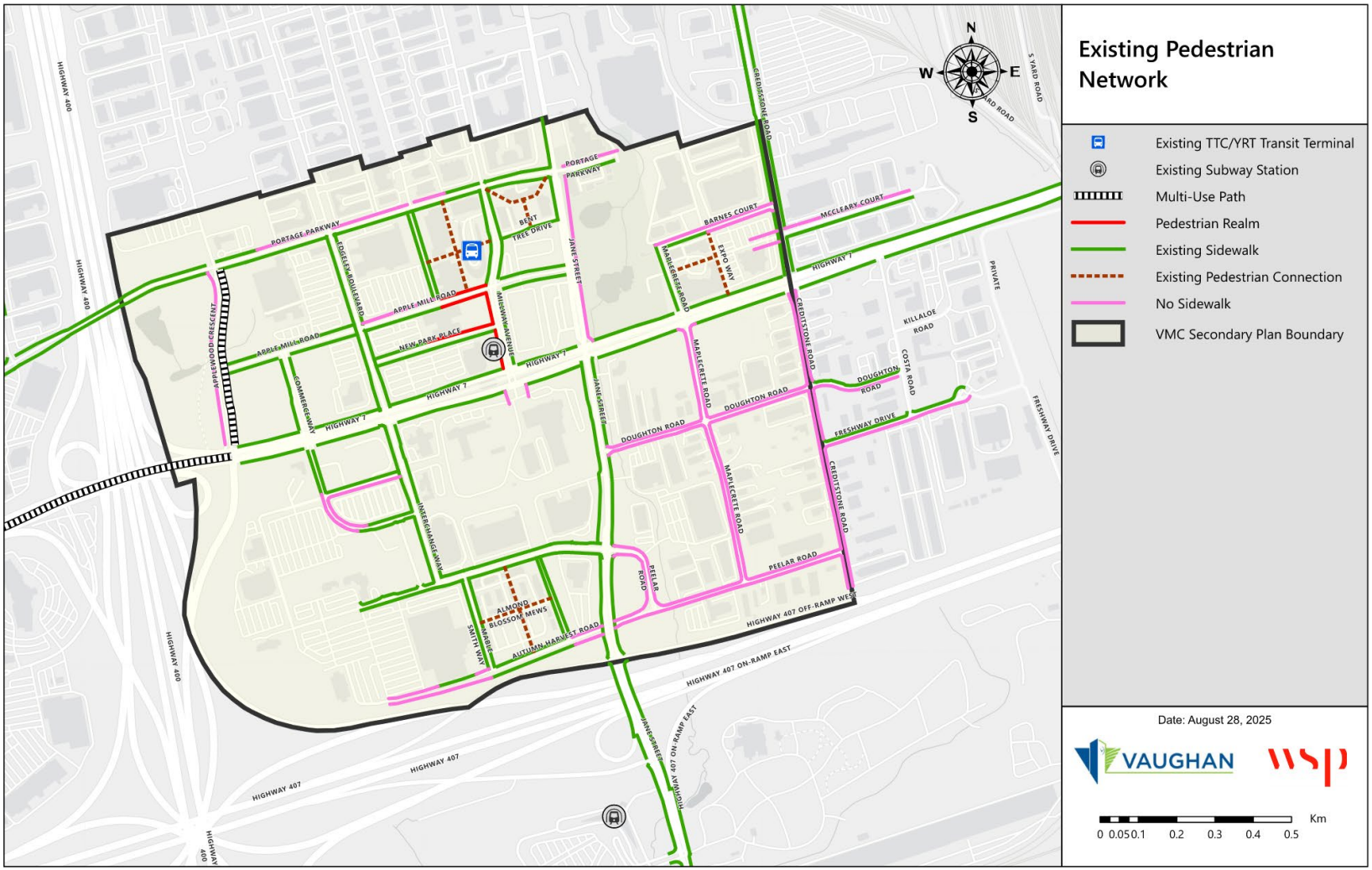
2.3 Active Transportation

2.3.1 Pedestrian Network

The existing pedestrian network within the VMC has sidewalks along majority of major and minor roadways, excluding the industrial areas in the south-east quadrant. Highway 7, New Park Place, Apple Mill Road and Millway Avenue, between Portage Parkway and Highway 7, have all been re-designed to provide appropriate active transportation facilities and improved conditions for pedestrians. This includes a wider pedestrian realm, pedestrian amenities such as benches and tree canopy for shade.

The existing VMC pedestrian network is illustrated in **Figure 2-4**.

Figure 2-4: Existing VMC Pedestrian Network



The reconfiguration of Highway 7 has vastly improved pedestrian conditions along this busy corridor, by providing greening between the sidewalk and vehicle lanes that separate pedestrians and vehicles. Additionally, as illustrated in **Figure 2-5**, a multi-use path (MUP) is provided in the centre of the Highway 7 overpass (over Highway 400) which connects to intersections to the east and west side of the overpass. The MUP has also recently been expanded to the east side of Applewood Crescent, between Portage Parkway and Highway 7.

Enhanced pedestrian facilities connecting to the Transit Square and TTC Plaza (associated with the subway) are provided on Apple Mill Road, New Park Place, and Millway Avenue, as presented in **Figure 2-4**. As illustrated in **Figure 2-5**, the pedestrian realm is more generous than traditional sidewalks, which serve the pedestrians with wider clearways typically ranging from 2-3 m in width.

Figure 2-5: Pedestrian Realm on New Park Place

The available sidewalks are at least 2 m wide within the VMC and are separated from traffic by green space. On some streets, the sidewalks are separated by an asphalt buffer that occasionally contain street furniture or a vegetation area (commonly lined with trees). However, some of the existing sidewalks are curb-faced sidewalks (with no separation from vehicular lanes), Edgeley Boulevard's west side between New Park

Place and Highway 7, and a part of Jane Street segment between Highway 7 and Doughton Road in the northbound and southbound directions.

The existing sidewalk network in the VMC is mostly comprehensive, except for a few roadways with limited or no pedestrian facilities. The following arterial/collector segments do not have sidewalks.

For East-West Major Links:

- North side of Portage Parkway east of Jane Street and a few sections between Applewood Crescent and Millway Avenue
- North side of Apple Mill Road between Edgeley Boulevard and Buttermill Avenue;
- Both sides of Barnes Court and Doughton Road;
- North side of Interchange Way for 180m east of Courtyard Marriott; and
- Both sides of Peelar Road and Exchange Avenue, except for a short stretch of the sidewalk on the north side of Exchange Avenue facilitating IKEA deliveries.

For North-South Major Links:

- West side of Applewood Crescent between Portage Parkway and Highway 7;
- Both sides of Commerce Street south of Highway 7, and Jane Street north of Highway 7;
- Both sides of Peelar Road and Maplecrete Road, except for the east side of Maplecrete Road north of Highway 7; and
- Both sides of Creditstone Road south of Highway 7.

2.3.2Cycling Network

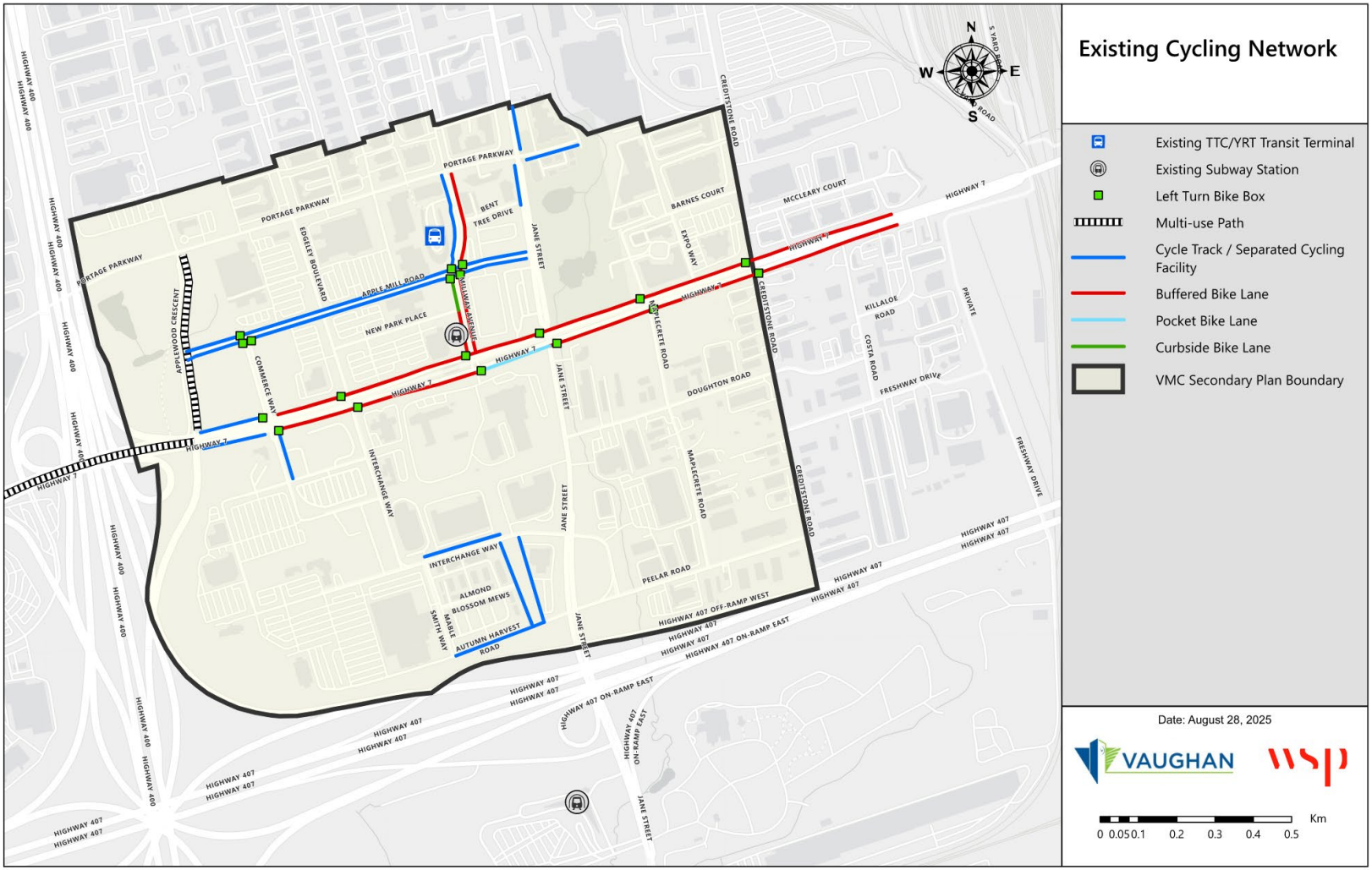
There are multiple existing cycling facilities located within the VMC. The cycling facilities identified in the VMC study area are:

- Multi-use path in the center of Highway 7 with physical separation extending between Famous Avenue and Applewood Crescent (across Highway 400);
- Unidirectional raised cycle tracks (physically separated bike lanes) on Highway 7 between Applewood Crescent and Commerce Street, the facility continues westbound along Highway 7;

- Bike lanes on both sides of Highway 7 east of Commerce Street;
- Pocket bike lane (bike lane sandwiched between vehicular through or left turning lanes on the left side and vehicular right turning lane on the right side) of Highway between Millway Avenue and Jane Street;
- Physically separated bike lanes on both sides of Apple Mill Road extending between Applewood Crescent and Millway Avenue;
- Multi-use path on the east side of Applewood Crescent connecting to Portage Parkway in the north and Highway 7 in the south; and
- Buffered bike lanes on the Millway Avenue segments between Portage Parkway and Highway 7 with two other cycling facilities on the west side of Millway Avenue – physically separated bike lane between Portage Parkway and Apple Mill Road, and Curbside bike lane (with no buffer) between Apple Mill Road and New Park Place.

The existing VMC cycling network is illustrated in **Figure 2-6**.

Figure 2-6: Existing VMC Cycling Network



2.4 Existing Parking

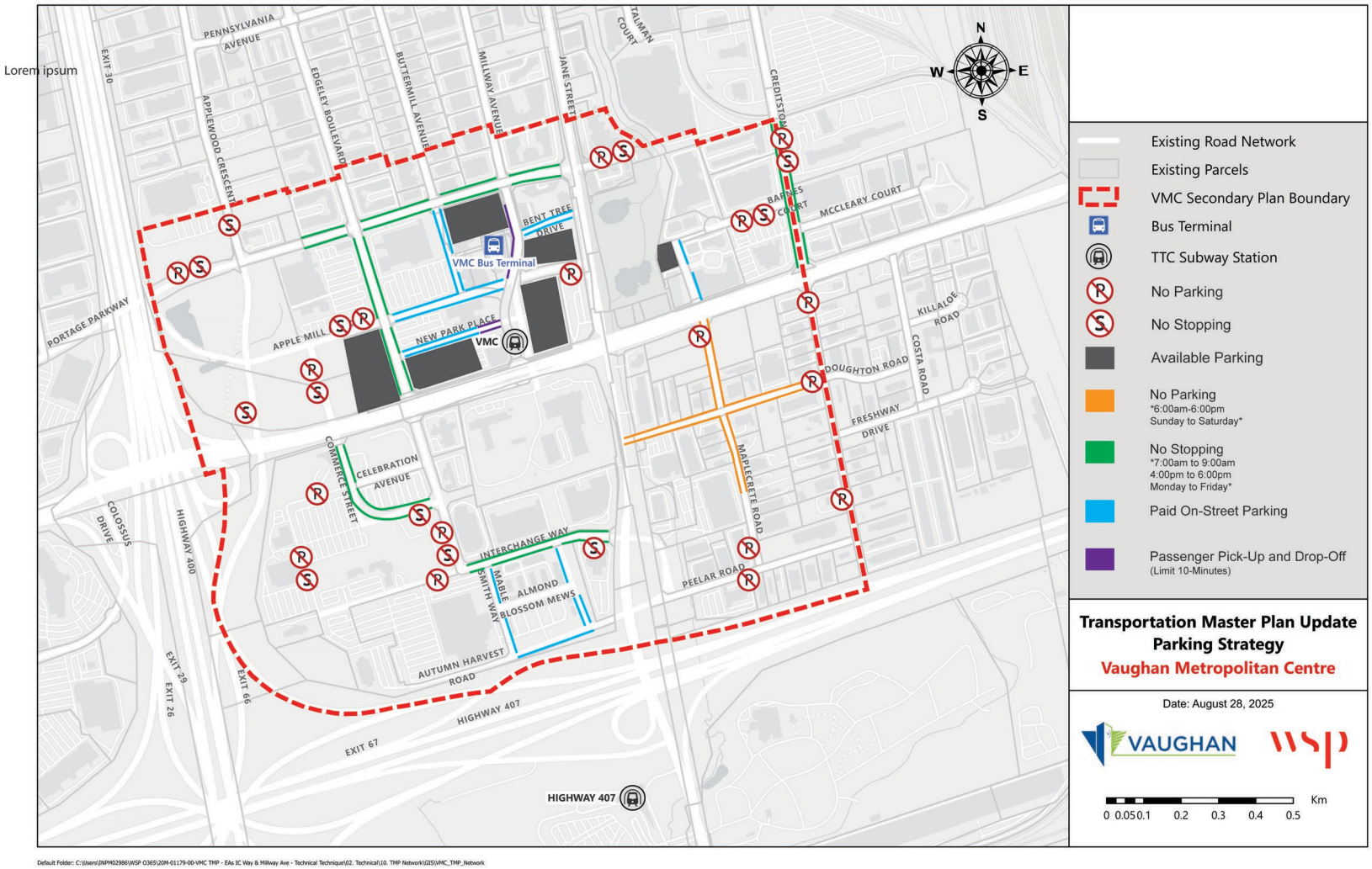
An overview of the available on-street parking is displayed in **Figure 2-7.** Paid on-street parking is available around the bus terminal and TTC subway station on Buttermill Avenue, New Park Place and Applemill Road. The rates for paid parking are $1.25 per 20-minute interval or $3.75 an hour to a $11.25 maximum for up to three hours.

Additionally, there are sections of Bent Tree Drive, Maplecrete Road, Mable Smith Way, Autumn Harvest Road, and portions of Millway Avenue south of Interchange Way available for on-street paid parking.

Passenger pick up and drop off for the subway is on New Park Place and for the bus station is on Millway Avenue.

Currently, the VMC has multiple commercial/retail parking lots available for customers to utilize. In areas around the bus terminal and TTC subway station, there are privately owned and operated public parking facilities for general use, these parking facilities are marked in **Figure 2-7**.

Figure 2-7: Existing Private Parking Lots and On-Street Parking within the VMC



3 Future Citywide Transportation Context

3.1 City Structure

Figure 3-1 illustrates Schedule 1A: Strategic Growth Areas of the City of Vaughan Official Plan (VOP) June 2024. The VOP establishes a hierarchy of Strategic Growth Areas that range in intensity of use and identifies the VMC as a 'Regional Centre'. It is described to be the major focus for intensification with the most intense concentration of development including a mix of different land uses, such as residential, retail, office, civic, and cultural uses.

Policy 2.2.5.1 of the VOP notes that the VMC shall be planned to:

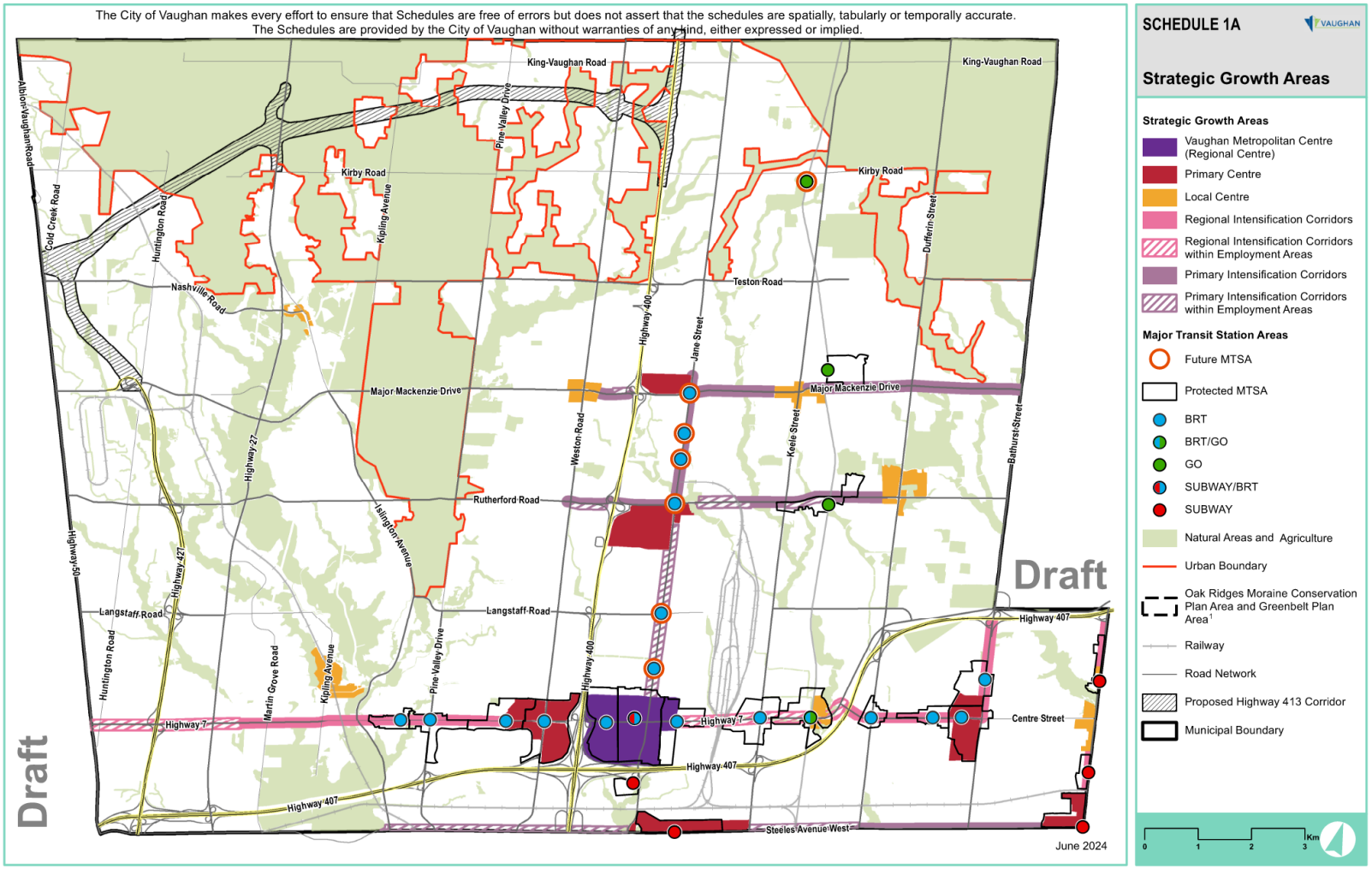
> a. "be the focus of city life and identity for the City as a whole; and,
>
> b. be developed with the highest intensity and widest mix of uses including but not limited to commercial, office, residential, retail, entertainment, hospitality and institutional uses, as well as parks and squares."

As per Policy 2.2.5.2, the VMC shall be planned to meet or exceed the density requirement of 200 people and jobs per hectare established in the Growth Plan for the Greater Golden Horseshoe and the York Region Official Plan. A minimum average floor space index of 2.5 per development block shall be planned, with blocks adjacent to the subway station having a minimum floor space index of 3.5. Additionally, Policy 2.2.5.4 states that at least 35 percent of the housing units within the VMC shall be affordable housing.

The VMC has been identified as an area requiring a Secondary Plan in Schedule 14A: Areas Subject to Secondary Plans as presented in **Figure 3-2**.

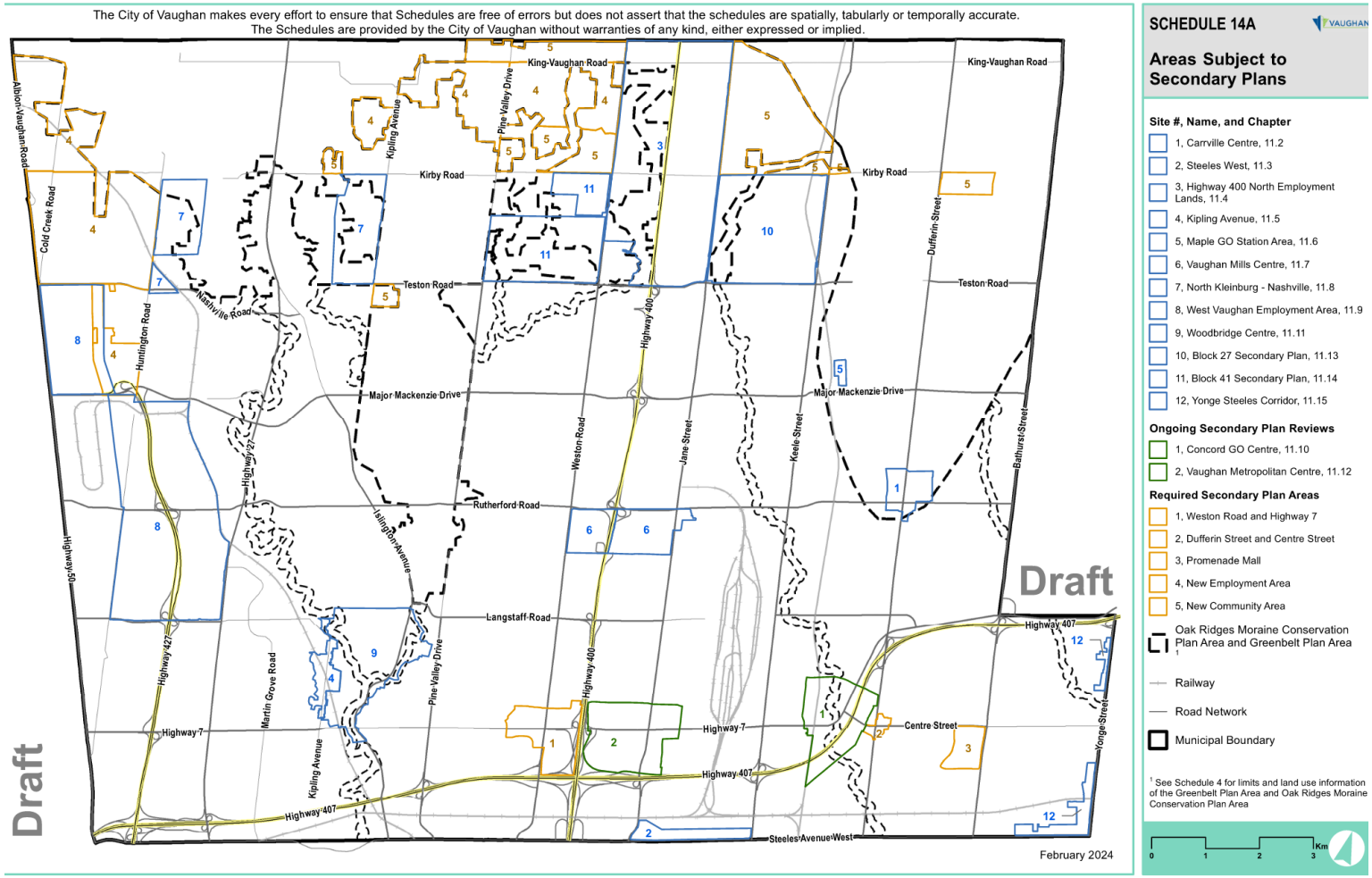
DOWNTOWN vaughan METROPOLITAN CENTRE

Figure 3-1: City of Vaughan Official Plan: Schedule 1A – Strategic Growth Areas



DOWNTOWN vaughan METROPOLITAN CENTRE

Figure 3-2: City of Vaughan Official Plan: Schedule 14-A – Areas Subject to Secondary Plan



3.2 Planned Transportation Network

The Official Plan Amendment (OPA), dated June 2024, shows the street types for existing and proposed roads, illustrated in **Figure 3-3**.

3.2.1 Road Network

The street classifications are illustrated in **Figure 3-4**. The street classifications were developed based on existing functional classifications, urban structure, and land use designations in the OPA, the relationship between street-oriented and non-street-oriented uses, and the existing and proposed transportation network.

As shown in **Figure 3-4**, the street classifications show intensification of the street network in the VMC, as well as the proposed Colossus Drive extension across Highway 400.

3.2.2 Transit

Figure 3-5 illustrates the 'Complete 2041 Frequent Rapid Transit Network' per the Metrolinx 2041 Regional Transportation Plan (RTP). As illustrated in **Figure 3-5**:, Vaughan will have strong regional transit connectivity in the future with the extension of the Queen Street/Highway 7 BRT in the west to Brampton, the implementation of the Jane Street BRT/Light Rail Transit (LRT), as well as other frequent regional express bus routes passing through the City.

Figure 3-6 illustrates the '2051 Rapid Transit Network' per the 2022 York Region Transportation Master Plan. In addition to the proposed transit connections illustrated in **Figure 3-5**, **Figure 3-6** illustrates the existing and proposed transit stations in the area.

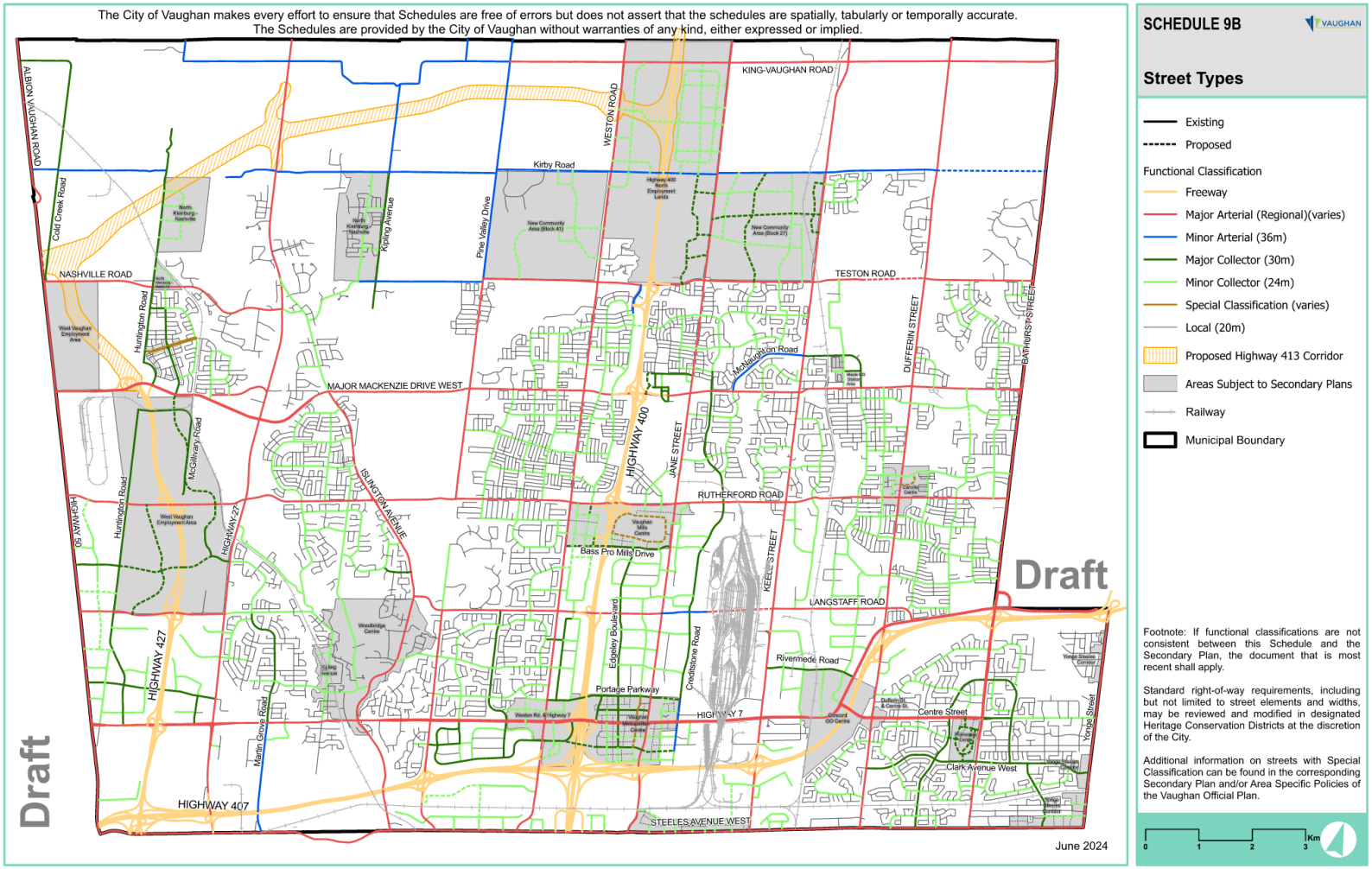
As per the VTP, the City plans to collaborate with York Region Transit, MTO, and Metrolinx to improve transit service within the City by identifying new corridors for rapid transit services, achieving a transit service headway of 10 minutes or less during peak periods throughout the City, identifying locations for service extensions or frequency improvements, and exploring innovative models to serve communities.

3.2.3Active Transportation

Figure 3-7 illustrates the City's 2051 Active Transportation Network per the comprehensive Official Plan Amendment (OPA). As shown in **Figure 3-7**, several local cycling routes are proposed for the VMC with connections to Weston 7 and other areas within the City. Additionally, a regional cycling route is also proposed along Jane Street.

An Evaluation of Bike Share Program Potential for York Region, dated April 2019, reviewed the bike share potential in the VMC and determined a very low bike share potential score of 5. However, the study states that future development patterns influenced by the VMC Subway Station along with significant increases in population and employment densities are anticipated to improve the bike share potential of the area. At present, the City has a new shared micromobility pilot (e-bikes and e-scooters). The Shared Micromobility Pilot refers to a range of small, lightweight vehicles being shared amongst different users. The City of Vaughan launched this Pilot to explore the opportunities and challenges that shared e-bikes and e-scooters may contribute to a more connected, accessible, and sustainable transportation network. Through a two-year pilot program, three approved operators are now offering shared e-scooter and e-bike rentals across the city. This program is being monitored in collaboration with the City's By-law department, York Regional Police and micromobility operators Bird Canada, Lime, and Neuron.

Figure 3-3: Street Types of Existing and Proposed Roads



DOWNTOWN vaughan METROPOLITAN CENTRE

Figure 3-4: Street Classifications

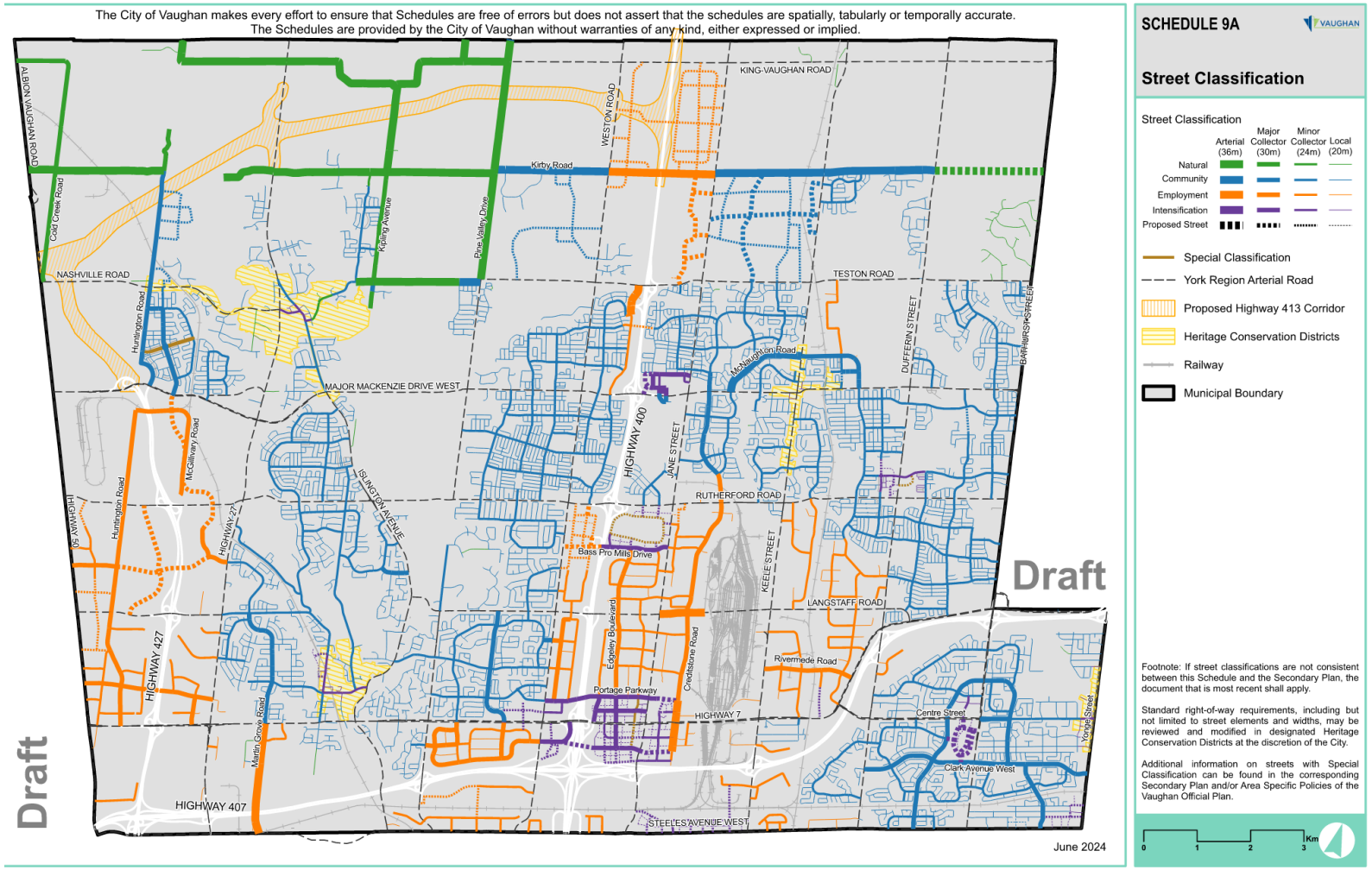
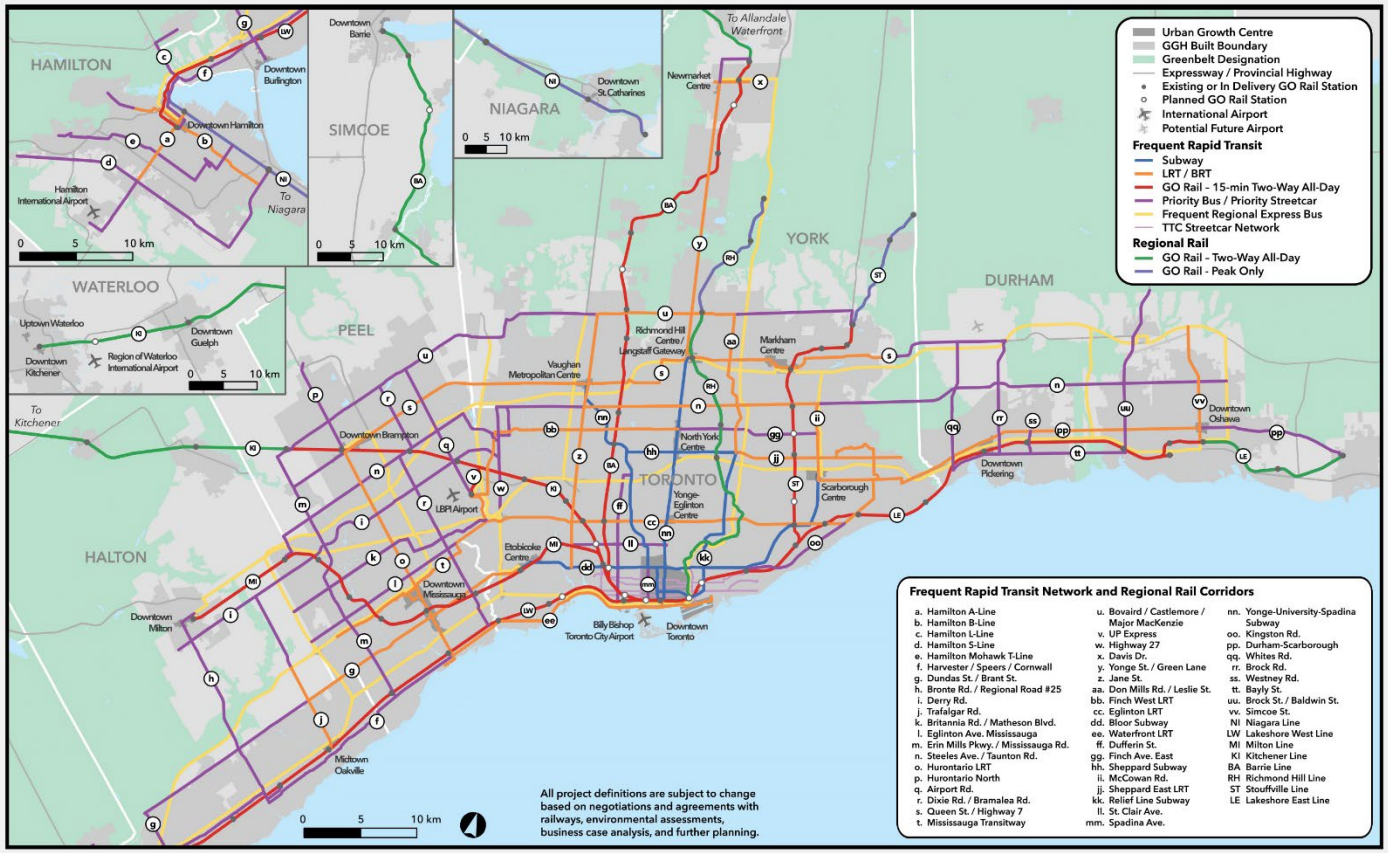
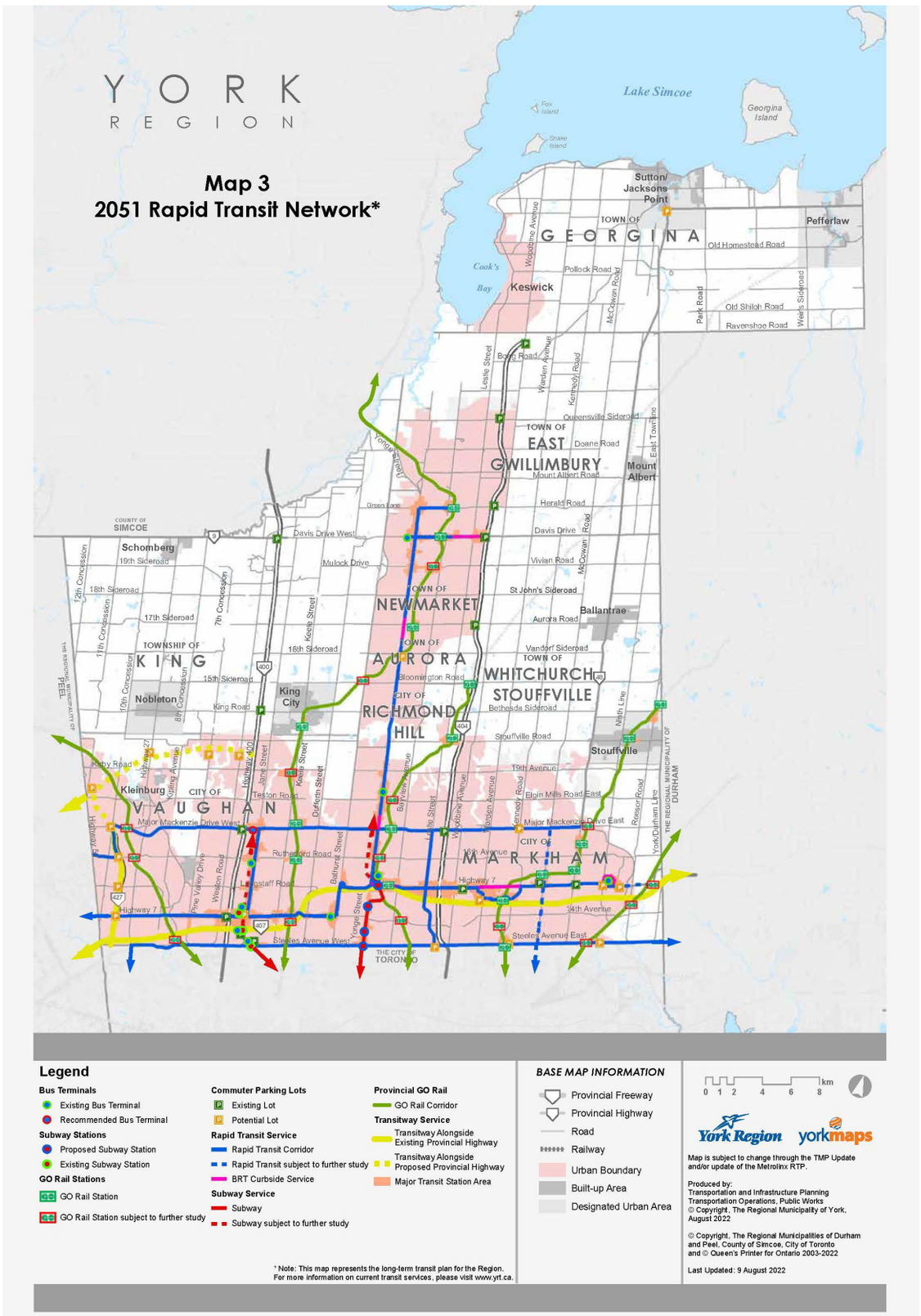


Figure 3-5: Metrolinx 2041 Regional Transportation Plan: Complete 2041 Frequent Rapid Transit Network



Source: Metrolinx 2041 Regional Transportation Plan

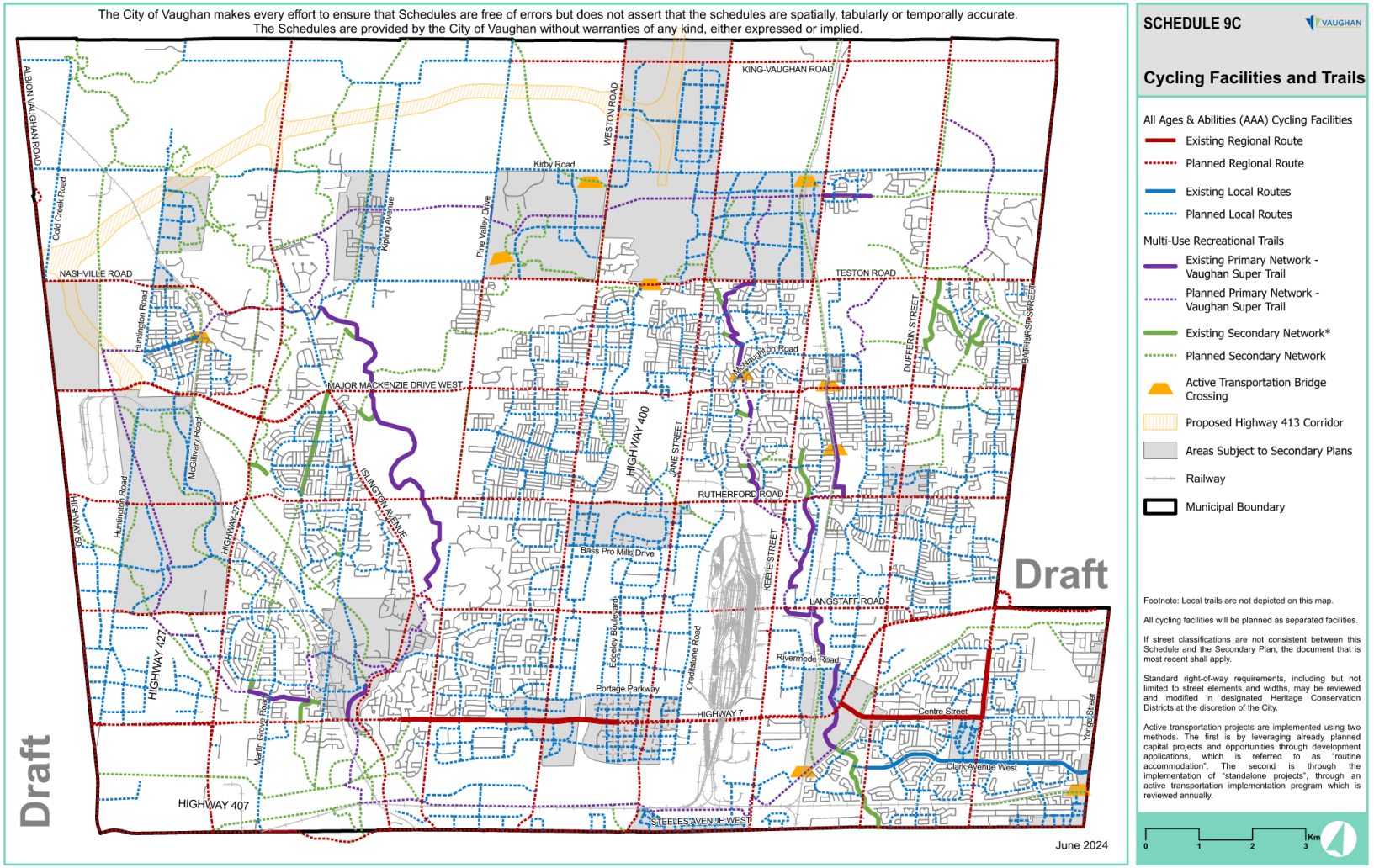
Figure 3-6: York Region Transportation Master Plan: 2051 Rapid Transit Network



Source: 2022 York Region Transportation Master Plan

DOWNTOWN vaughan METROPOLITAN CENTRE

Figure 3-7: Vaughan Transportation Plan: 2051 Preferred Active Transportation Network



4 Vaughan Metropolitan Centre Secondary Plan

The initial Vaughan Metropolitan Centre Secondary Plan (VMCSP) had been approved in 2010. However, since then the VMC has experienced rapid growth resulting in the commencement of the VMCSP study. The following section provides an overview of the framework that has been developed through the Secondary Plan.

4.1 Vision and Principles

The City of Vaughan envisions the VMC to be a downtown that will become of the heart of the city economically, culturally, and physically. The long-term vision for the VMC had been developed in consultation with the citizens of Vaughan and described through principles summarizing what the VMC should strive to be. These principles are summarized in **Table 4-1**.

Table 4-1: VMC Guiding Principles

Principle	Overview
Transit-oriented	• The highest development densities will be concentrated around the subway station, York Region Rapid Transit ("VIVA") stations, and regional bus station. • Transit stations will be attractive and contain passenger amenities. • Access to transit will be enhanced by direct, safe and comfortable routes from the entire VMC area. • Transit stations will be integrated with surrounding development, including direct connections to the subway station from adjacent development. • New transit infrastructure and improvements to existing infrastructure will be made to support the VMC as it grows.
Walkable	• A fine-grain network of streets and pathways will minimize walking distances and provide route options.

Principle	Overview
	• A broad mix of uses will be provided within short walking distance of homes and workplaces. • Buildings that frame the street, and streetscape elements, will support a safe, comfortable and interesting pedestrian environment. • A diversity of interconnected parks and open spaces will further contribute to enjoyable walking experiences.
Connected	• The street network and transit system will facilitate easy access to and from the downtown by transit, car, bicycle and other modes of active transportation. • A network of bicycle lanes and paths, linked to the city-wide bicycle network, will be established. • The VMC will remain accessible to and from Highways 400 and 407
Diverse	• The VMC will accommodate a variety of housing forms, tenures and unit sizes to support a diverse population. • Development will feature a mix of built form, land uses and architectural treatment that creates areas of different character. • A range of jobs will be accommodated. • Housing will be provided for families at all income levels, and more than a third of new housing units will satisfy criteria for affordability. • There will be a variety of parks and open spaces offering a range of amenities and experiences.
Vibrant	• Key streets and open spaces will be lined with commercial and other active ground-floor uses to enliven the downtown. • Civic and cultural facilities, and other destinations, will attract people from across the city and region. • Institutional uses, community centres, parks and other gathering spaces will provide focal points for social interaction and civic life.
Balanced	• The provision and delivery of parks, community services and retail will proceed in step with the population as the VMC grows to support its needs and enrich its quality of life.

Principle	Overview
	• Development will create a ratio of people to jobs that supports the vision of the VMC as the city's Central Business District ("CBD"). • The pace of development will be coordinated with the provision of transportation infrastructure scaled to the demands of the population and supporting efficient movement by a variety of modes of travel. • Development will be coordinated with the phasing of improvements to municipal water and wastewater services.
Sustainable	• Downtown will be a model of sustainable development. • The VMC will feature compact, mixed-use development patterns that support rapid transit and active transportation, in order to reduce the length and carbon intensity of trips. • Growth will feature built form, energy systems, infrastructure and transportation systems that enable the City to reach its greenhouse gas emissions reduction targets and create a low-carbon economy and resilient community. • Alternative energy systems, such as renewable energy, on-site generation and district energy systems that improve efficiency and reduce the amount of harmful emissions to the environment, will be explored and developed, and a Community Energy Plan will be prepared. • Existing significant natural features will be maintained and/or enhanced, the local hydrological system will be designed to maximize positive impacts on the natural environment, and the natural functions of the Black Creek corridor will be improved. • Areas containing stormwater management facilities will be naturalized and, where feasible, non-conventional stormwater management facilities with a park at the surface may be considered. • Low Impact Development ("LID") measures will be encouraged for site development/redevelopment, where feasible. • Civic buildings will demonstrate the highest green building standards, and private development will be encouraged to do the same.

Principle	Overview
Beautiful	• The architecture of buildings will be of a high standard and complement their planned surroundings. • Naturalized open spaces will frame downtown, major parks will define neighbourhoods, and plazas and intimate green spaces will be found throughout the area. • Civic buildings and parks will be held to the highest standards of design. • Public art will be prominent in all civic spaces and along key streets. • Trees will line all streets and in time become a defining feature of the downtown

4.2 Land Use Plan

The VMC is currently home to approximately 13,500 residents and 1,900 jobs. As Vaughan's future downtown, population and employment within the VMC are expected to soar by 2051, to a combined 105,500 people and jobs.

Population and employment forecasts for VMC by quadrant are displayed in **Table 4-2.**

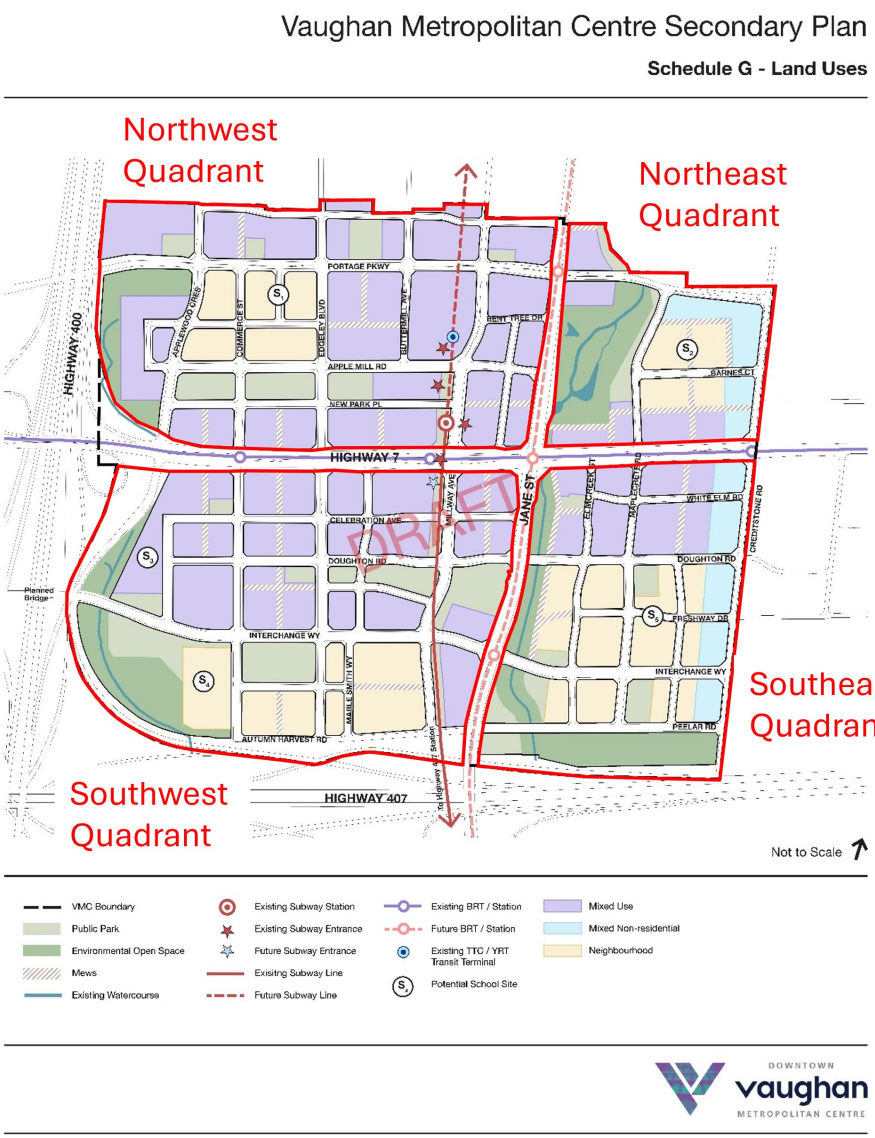
Table 4-2. Total Population and Employment for and 2051

Location	Population	Employment
NW quadrant	24,683	8,605
SW quadrant	30,455	15,649
SE quadrant	14,398	1,890
NE quadrant	7,886	2,050
Total	**77,423**	**28,194**

Note: These forecasts have been purposefully rounded to 105,500 for this report.

The locations of the quadrants and the preferred land use plan are shown in **Figure 4-1**.

Figure 4-1: VMC Preferred Land Use Option



Source: City of Vaughan, The VMC Plan: Secondary Plan for the Vaughan Metropolitan Centre April 2025 Draft

4.3 VMC Transportation Master Plan

The City of Vaughan is carrying out the VMC Transportation Master Plan (TMP) to further refine the City-wide TMP road network for the VMC specifically.

The Vaughan Metropolitan Centre Secondary Plan Area Transportation Plan was first developed as part of the City-Wide Transportation Master Plan (A New Path 2012). Since then, transportation in the City and the VMC have evolved, including the introduction of

Vaughan Metropolitan Centre Station, VMC bus Terminal and Highway 7 viva Rapid Transit which anchors the VMC. The City's TMP had called for additional analysis for four locations to support the new Official Plan's Focused Area Studies and Secondary Plan Areas, including the VMC. As more people are living, working and traveling through the VMC, the existing TMP needs to be updated to support its evolution.

4.3.1Street Network

The recommended street network in the VMC TMP meets the transportation needs of VMC residents, employees, and visitors through a logical road hierarchy. Highway 7 and Jane Street are classified as arterials, moving the highest volume of people via transit routes, bus corridors, bike lanes, sidewalks, and general road lanes. Creditstone Road will be a minor arterial, serving a similar purpose without the same regional connections.

Major collectors, such as Interchange Way, Edgeley Boulevard, Portage Parkway, Applewood Road, and Apple Mill Road, will move medium to high volumes of people, focusing on active transportation facilities, transit routes, and vehicle traffic. They will connect arterials to local streets. Millway Avenue will be a special collector, serving the VMC Bus Terminal and subway at the heart of the area.

Minor collectors in the network will include Commerce Road, Autumn Harvest Road/Peelar Road, Barnes Court, Maplecrete Road and Doughton Road. These streets will support more modest volumes, while still offering direct connections to the wider street network. They will also focus on accommodating active transportation and surface transit.

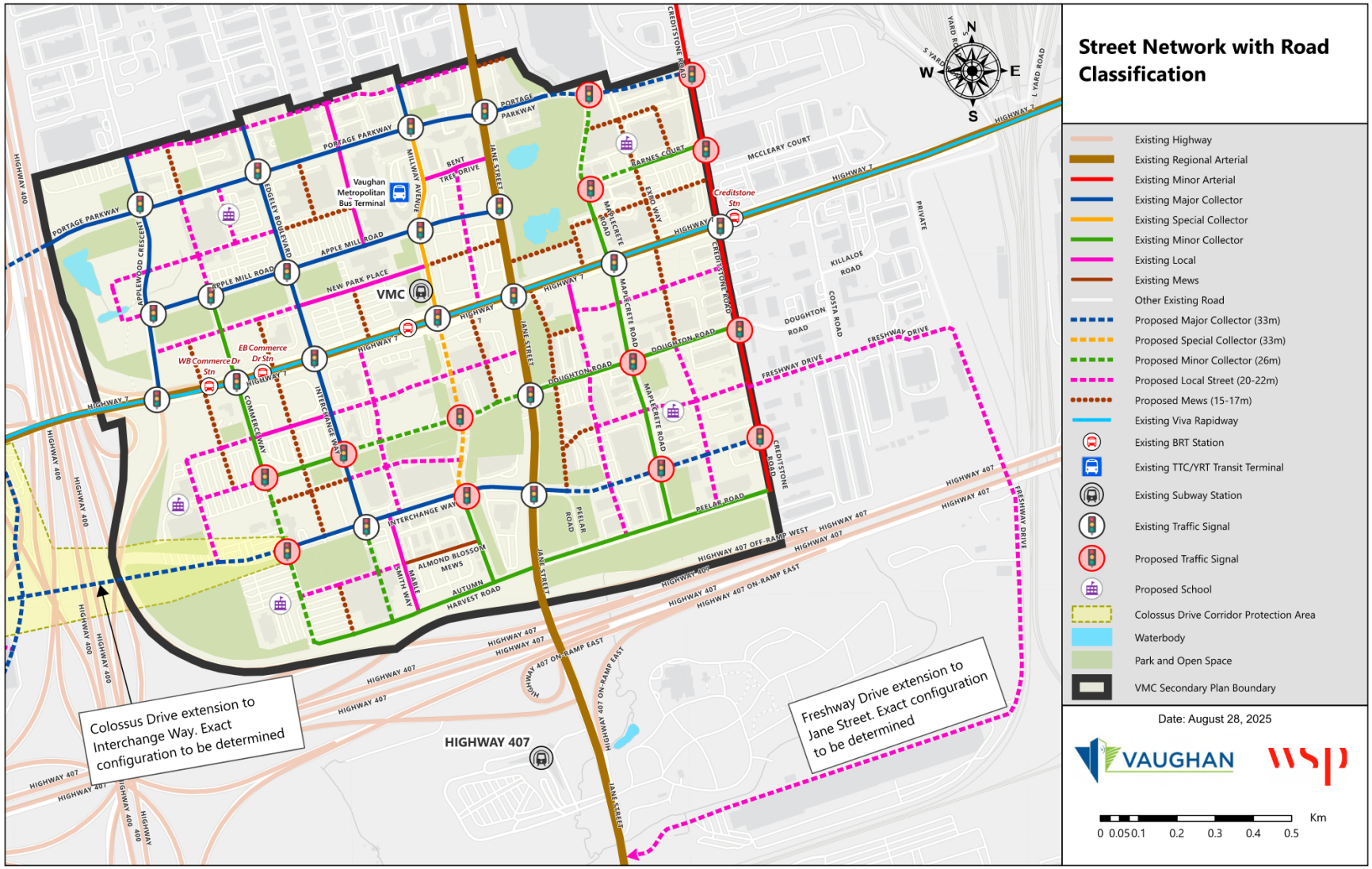
The network's local streets will be pedestrian-focused slow-speed environments, planned more for placemaking rather than mobility. These streets will not offer through connections but rather serve to make up a more intimate portion of the street network. **Figure 4-2** indicates the local streets in the preferred network.

The higher traffic volumes expected in the area, as well as new roads, will also necessitate additional traffic signals to be installed at various intersections. Figure 7 3 highlights those locations.

An extension of Freshway Drive to Jane Street south of Highway 407 is also proposed to improve connectivity with the surrounding network, as is a connection between Interchange Way and Colossus drive over Highway 400.

The proposed street network also includes a goods movement corridor to bypass the heart of the VMC, via Creditstone Road, Portage Parkway, and Applewood Crescent. This will reduce freight volumes along Highway 7.

Figure 4-2: Street Network with Road Classification



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4.3.2Transit

The transit plan in the VMC TMP has been developed around higher-order transit services within the VMC. The plan incorporates TTC subway service, rapidways, the Highway 407 transitway (or a potential cross-regional east-west transit line, as planned by MTO), and a transit circulator route. Micromobility hubs are also identified in the plan as the integration between transit and active transportation modes is critical to bolstering transit ridership.

The core of the system lies at Highway 7 and Millway Ave, where the VMC subway station and the Highway 7 Rapidway station interface. The subway accesses are found on the north and south side of Highway 7, on the west side of Millway Ave. The Highway 7 Rapidway station is also conveniently located on the west side of Millway Ave, in the median, with direct subway access through the concourse.

The Highway 7 Rapidway should remain a key east-west transit connection. Improving frequencies from current service levels will be an integral part in building a higher transit mode share, and an upgrade of the rapidway to LRT should be considered. An LRT would enable greater capacity along the corridor.

The Jane Street Rapidway is another critical piece of the transit plan for VMC, with stations to be located at Interchange Way, Highway 7, and Portage Parkway (with a potential extension to Highway 407 subway station). The corridor should offer 5-minute frequencies and work towards establishing higher-order infrastructure such as a BRT, LRT, or subway. The rapidway would attract transit trips from further north in Vaughan, where it is planned to extend to Major Mackenzie, and elsewhere in York Region. It would also connect directly at Steeles Avenue with Toronto's planned curbside bus lanes along Jane Street to the future Jane-Eglinton station on the Eglinton Crosstown West Extension. This would significantly expand north-south transit capacity to VMC, in conjunction with Line 1 subway service, and provide more robust connections to the wider regional transit system. It would also expand the 5-minute walking radii to transit to improve access for residents, employees, and visitors.

In addition to, or as an alternative to, the Jane Street Rapidway, an extension of the subway to Major Mackenzie Drive can be considered. This extension would have stops at Langstaff, Vaughan Mills-Rutherford. and Major Mackenzie-Wonderland-Cortellucci Hospital. This would allow the VMC to attract more transit trips into the existing station from elsewhere in Vaughan.

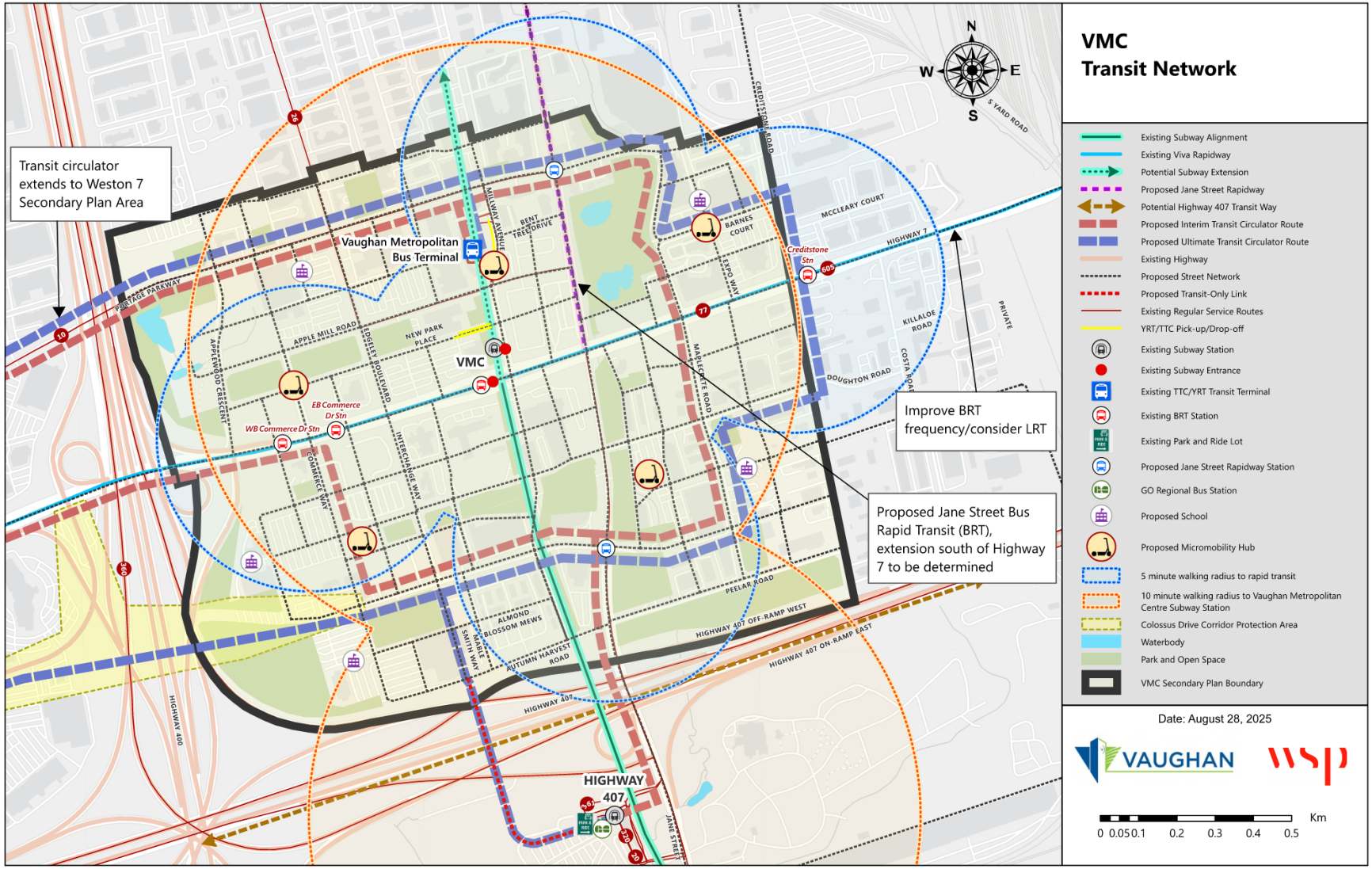
The Highway 407 Transitway is planned to provide BRT service along the highway, with potential conversion to LRT, connecting VMC to Halton, Peel, Durham, and York. This would significantly expand east-west transit connections and capacity, alongside the Highway 7 Rapidway. A station at the Highway 407 subway station on Jane Street would offer direct

transfers to the Jane Street Rapidway and Line 1. The park & ride at the station would keep auto trips outside of VMC, offering frequent transit options into the area.

A new transit circulator would provide local connections within VMC and the neighbouring Weston Road – Highway 7 Secondary Plan Area, which is also expected to grow significantly. The circulator would serve the Highway 407 subway station and connect to key rapidway stations along Jane Street and Highway 7 within VMC. An interim routing can be seen in **Figure 4-3** to be used as proposed infrastructure is implemented, with the ultimate route coming into service once the full transportation network is in operation. The implementation of the transit circulator will be a collaborative effort with York Region, with details to be confirmed at a later date.

Micromobility hubs have been strategically located as a part of the plan to maximize access to transit and encourage multimodal trips. This will best leverage planned transit service to improve alternatives to the automobile. The five micromobility hubs can be seen in **Figure 4-3**.

Figure 4-3: Transit Network



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4.3.3Active Transportation

The active transportation network shown in the VMC TMP was developed to make walking, cycling, and micromobility safe, convenient, and attractive modes of travel for people of all ages and abilities. The network is designed to integrate seamlessly with the transit network to facilitate longer-distance trips to start and end as active transportation modes.

Separated cycling facilities/cycle tracks will form the backbone and the bulk of the network. Planned facilities are to be located on all collector and arterial roads within the VMC, such as Highway 7, Creditstone Road, Jane Street, Millway Avenue, Portage Parkway, Interchange Way, Edgeley Boulevard, Apple Mill Road, and Applewood Road. **Figure 4-4** shows these facilities along with cycle tracks on minor roadways in the VMC. This infrastructure will ensure cycling in the area is safe, pleasant, and efficient, as cyclists have their own realm separate from both vehicles and pedestrians. In addition, the separated cycling facilities can provide space for micromobility devices such as e-bikes and e-scooters which are rising in usage across the City and primarily in the VMC.

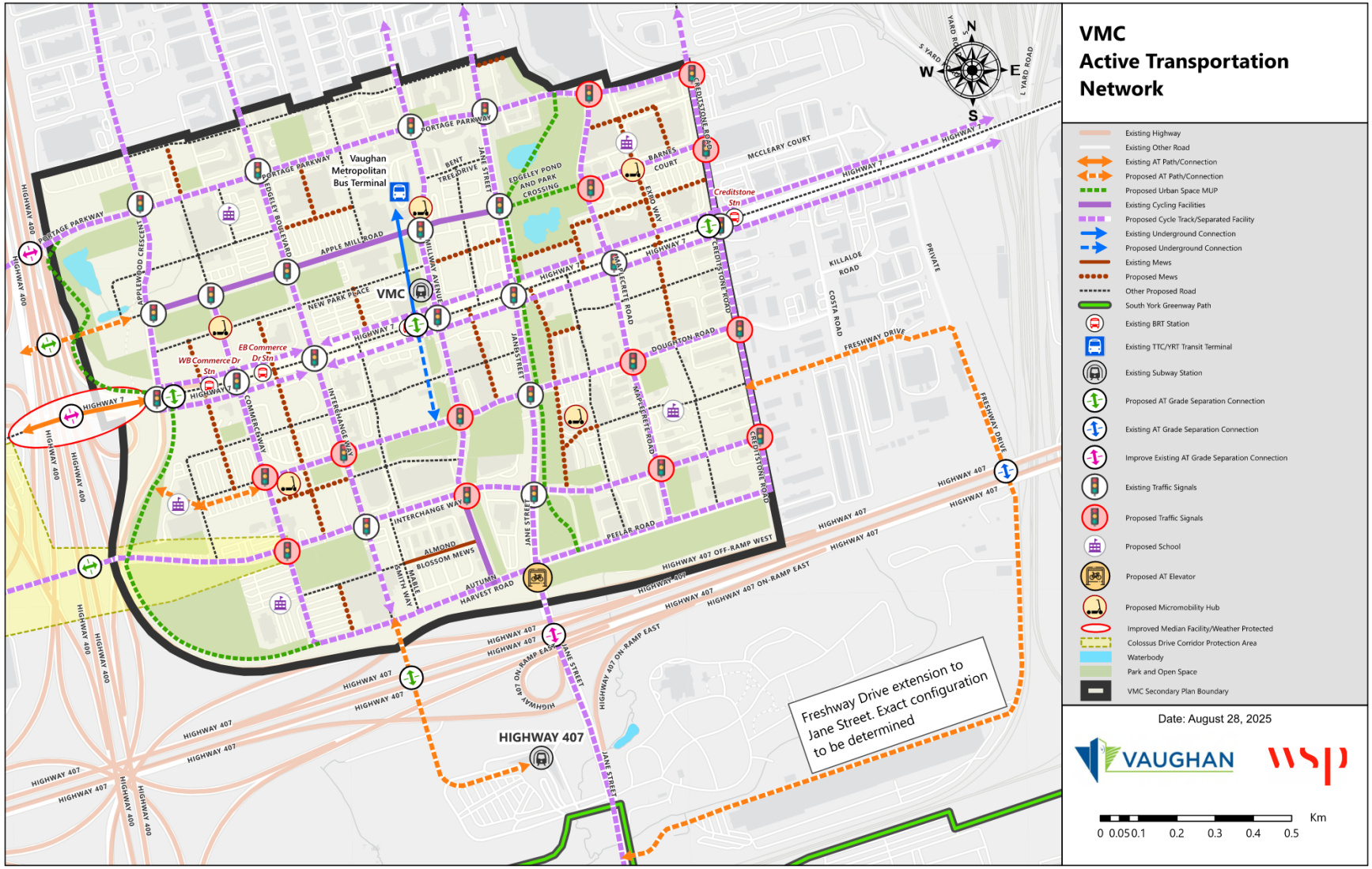
Multi-use paths recreational trails (MURTPs) will be another aspect of the network, connecting both built up areas and open spaces in the VMC, and designed in a loop system, with the urban loop on Maplecrete Road, Freshway Drive, Doughton Road, Applewood Road, and Apple Mill Road. The open space loop, on the peripheries of the VMC, will run north of Portage Parkway, east of Jane Street, and along Exchange Avenue and Highway 400. MUPMURTs will allow inexperienced riders to more comfortably bike at slower speeds in a shared space with pedestrians. The open space loop will also allow for a way around the dense urban area, providing increased comfort and leveraging open space to be both recreational and utilitarian.

Active transportation paths and connections will fill missing links and improve network connectivity. Seven new connections are recommended, as seen in **Figure 4-4**, including the extension of Freshway Drive to Jane Street and Edgeley Boulevard to Highway 407 station. This will help to make walking and cycling a more convenient way to travel within the area.

Grade-separated active transportation facilities have also been planned to improve the experience of crossing wide roadways, including at multiple points along Highway 7. These include upgrades to pedestrian and cyclist infrastructure along the Jane Street overpass of Highway 407, the Portage Way overpass of Highway 400, and future Colossus Drive grade separation of Highway 400. In addition, a new active-transportation-only crossing of Highway 400 is recommended tying the Weston 7 Secondary Plan Area to Apple Mill Road. Additionally, weather protecting the existing Highway 7 median multi-use pathway is recommended across Highway 400 to reduce the impact of physical barriers on pedestrian and cyclist circulation. An elevator will also create a connection between the Jane Street

bridge over Highway 407 and the at-grade Autumn Harvest Road. All grade-separated facilities can be seen in **Figure 4-4**.

Figure 4-4: Active Transportation Network



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4.4 Summary

The multi-modal transportation network planned through the VMC TMP supports alternatives to auto travel and reduced parking maximums to help shift trips to more sustainable modes. The heavy emphasis on transit, walking, and cycling, work hand in hand with the recommendations that are made in this Parking Report to reduce the overall demand and supply of parking in the VMC and to manage the parking supply to best meet the vision for the Secondary Plan area.

5 Review of Existing Parking Conditions

5.1 City of Vaughan Policies

5.1.1 City of Vaughan Official Plan

The City of Vaughan Official Plan 2010 Volume 1 provides Policy 4.3.2.2 for parking reductions to overcome auto dependency based on the following guiding principles:

"To reduce parking requirements where feasible by:

a. Establishing minimum and maximum parking standards in zoning by-laws for all types of developments;

b. Establishing context-sensitive parking requirements that respond to diverse settings, including intensification areas, historic places, and other settings;

c. Reducing parking requirements in intensification areas where transit, walking and cycling alternatives exist;

d. Supporting parking for carpool, carshare, and zero emission vehicles through preferential designated parking spots and/or reduced parking fees, where charged by municipal parking authority, as appropriate;

e. Considering the variability of peak parking periods throughout the day for different types of uses for the purpose of sharing parking between such uses when developing parking standards in mixed-use areas;

f. Working with school boards to reduce or preferably eliminate the provision of student parking;

g. Considering the availability of on-street parking on collectors and local streets when determining parking requirements; and

h. Regularly reviewing and evaluating city-wide parking standards to meet parking needs while minimizing the provision of excess parking."

5.1.2Vaughan Transportation Plan

The Vaughan Transportation Plan (VTP) Section 6.3 states that in '15-Minute Neighbourhoods', compact neighbourhoods with good connections and variety of land uses, "it will be important for their long-term financial and environmental sustainability to plan for car parking only where it's absolutely needed to encourage the use of sustainable modes and allow for other land uses." It also recommends prioritizing "active transportation infrastructure and shared micromobility (e-bike and e-scooter) hubs near major transit station areas and key destinations."

Additionally, Section 7.1 of the VTP recommends dynamic parking prices as a measure for curbside management in areas with high curbside activities to improve parking utilization, to better distribute parking demand during the day and reduce peak hour congestion, and to improve urban mobility and customer experience.

Section 7.3.4 of the VTP recommends the implementation of such mobility hubs and electric micromobility Transportation Innovation Programs (TIPs) within new development areas including the VMC. The VTP defines a Mobility Hub as follows:

"A Mobility Hub is an integrated mobility interchange for multimodal systems. These hubs are conceptualized to leverage emerging technologies and improve transportation efficiency, providing a single access point for multimodal systems such as bike-sharing, ridesharing, and car-sharing. Mobility Hubs are envisioned to serve as intermediate transfer points between transit hubs and trip ends. They can also range in size and scale, from a small bike/scooter sharing station with a bus stop to an on-street car-sharing station. sharing station."

The purpose of the TIPs is to better guide and manage the implementation and development of new technologies. These initiatives are anticipated to establish better first mile and last mile connections between the major rapid transit stops and the final destinations, decrease single-occupant vehicle (SOV) travel, and provide additional travel choices without any significant expansion of the transportation network.

5.1.3Pedestrian and Bicycle Master Plan

The City of Vaughan Pedestrian and Bicycle Master Plan, dated December 2020, Section 10.3 states the following four recommendations for bicycle parking:

- "Through the comprehensive by-law update, the City should include provisions for bicycle parking City-wide in line with current best practices.
- All new developments should require short and long-term bicycle parking. Short-term bicycle parking should be visible from the destination for security and should be in a

high-traffic area with passive surveillance but located in such a way as not to unnecessarily impede pedestrian movement. Short-term bicycle parking should be provided with medium-high security bike racks with two points of contact such as the inverted 'U' rack permanently anchored to the ground (i.e. with an in-ground mount) preferably sheltered by an awning or equivalent. Long-term bicycle parking should be located on the ground floor or first parking level (P1) of a building if accessible via an elevator or ramp to provide convenient access to users. Parking garage ramps should include bike lanes and wayfinding signage for long-term bicycle parking.

- The City should undertake a review of existing bicycle parking (both short and long-term) at all municipal buildings. Short-term bicycle parking should be provided or upgraded in accordance with the above recommendation for new develops. Long-term bike parking should be implemented at City Hall and the Joint Operations Centre.
- The City should develop an annual city-wide bicycle parking program. The program should be supported by a plan that outlines location, justification, purchase, and installation of bike racks city-wide."

It is noted that the Pedestrian and Bicycle Master Plan was prepared before the City's Zoning By-law was updated. The City's current Zoning By-law 001-2021 includes provisions for bicycle parking (both long-term and short-term) in all zones.

5.1.4Zoning By-Law

The City of Vaughan's Comprehensive Zoning By-law 001-2021 (the Zoning By-law), dated March 2023, has some reduced vehicle maximum parking requirements compared to the previous Comprehensive Zoning By-law 1-88 (also referred to as By-law 1-88). A comparison of the parking requirements in the current and previous Zoning By-laws is summarized in **Table 5-1**.

Table 5-1: Parking Rates in the City of Vaughan Zoning By-laws 001-2021 and 1-88

Land Use	Zoning By-law 001-2021 (Current)	Zoning By-law 1-88 (Previous)
	Maximum	Maximum
Apartment Dwelling – Resident Parking[1]	1.5 spaces per DU	1.0 spaces per DU
Apartment Dwelling – Visitor Parking	-	-

Land Use	Zoning By-law 001-2021 (Current)	Zoning By-law 1-88 (Previous)
	Maximum	Maximum
Retail[2]	4.0 spaces per 100 sq.m of GFA	4.0 spaces per 100 sq.m of GFA
Restaurant	2.5 spaces per 100 sq.m of GFA	10.0 spaces per 100 sq.m of GFA
Office	2.5 spaces per 100 sq.m of GFA	2.5 spaces per 100 sq.m of GFA

Notes:
DU=Dwelling Unit; GFA=Gross Floor Area
[1]The rate for bachelor/1 bedroom units was considered for Zoning By-law 1-88.
[2]The rate was considered for retail uses less than or equal to 5,000 sq.m for both zoning by-laws.

The current Zoning By-law also includes provisions for bicycle parking (long-term and short-term) for all zones, compared to the previous versions which only included bicycle parking requirements for the VMC Zone. The bicycle parking requirements are discussed in Section 5.5.4 of this report.

5.1.5Transportation Demand Management Development Guideline

The City of Vaughan Transportation Demand Management Development Guideline (TDM Development Guideline), dated September 2021, divides the City into different character areas based on the groups of zones considered for the parking requirements section in the City's Zoning By-law. The VMC is categorized as a separate character area.

The TDM Development Guideline identifies 'Parking' as one of the TDM initiative categories. The guideline recommends minimizing parking requirements and using parking management strategies to discourage automobile usage. Specific TDM initiatives under the 'Parking' category in Exhibit 5-1 of the TDM Development Guideline are as follows:

- Provision of dedicated parking spaces for car-share vehicles
- Provision of preferential parking spaces for car-pool
- Unbundling parking from unit cost
- Implementation of employee parking cash-out programs
- Implementation of paid parking
- Implementation of pick-up and drop-off zones

Additionally, under the 'Active Transportation' category, specific TDM initiatives include the provision of long and short-term bicycle parking, the provision of separated bicycle access to long-term bicycle parking, and bicycle amenities such as showers, change room facilities, and bike repair stations. Initiative 5.2 'Offer Micromobility Services' recommends designating areas in covered locations near entrances for future bike share or e-scooter stations. The areas should be within walking distance from key destinations.

5.1.6 On-Street Residential Permit Parking

The City of Vaughan Policy No. 19.C.01: On-Street Parking Criteria in Assumed Residential Areas (January 2018) includes the criteria for applying for paid on-street parking permits in assumed residential areas. The minimum eligibility criteria are:

- Street width must be at least eight metres wide.
- Streets must have at least one sidewalk.
- Street must be assumed.
- Citizen must reside on the (defined area of) street requested for on-street parking.

5.2 York Region Policies

5.2.1 York Region Official Plan

The 2022 York Region Official Plan (ROP), dated June 2023, Policy 2.3.19 states that local municipalities shall consult with the Region and other agencies to incorporate different policies for parking management in their planning and development tools. The policies should include the following:

a. "Reduced minimum and maximum parking requirements that reflect the walking distance to transit and complementary uses, where appropriate;

b. Shared parking requirements, where possible, reflecting variances in parking demand between complementary uses on a time-of-day, weekday/weekend, and monthly basis;

c. Site design that orients the main building entrance(s) to face the public street(s), provides a pedestrian friendly urban form, and where appropriate, as determined by the local municipality, does not permit the placement of surface parking spaces between the main building entrance and the major street;

d. An approach that anticipates and plans for the adaptive reuse of surface parking to above grade structured or underground parking as site development evolves;

e. Preferential locations for carpooling, car-sharing spaces, electric vehicle charging stations and bicycle storage requirements;

f. Accommodate designated parking for on-demand deliveries and vehicles; and

g. Requirements for the implementation of best management practices for use of winter de-icing chemicals (including road salt) in the design of parking lots, roadways and sidewalks."

Additionally, Policy 4.2.16 of the ROP states that one of the goals of the TDM measures implemented in New Community Areas should be to ensure that "parking standards, consistent with policy 2.3.19, encourage and support transit use and include reduced minimum and maximum parking standards." Further, Policy 4.3.25 states that "development within existing and new Employment Areas be designed to minimize surface parking, maximize walkability, provide for a mix of amenities and open space and enhance access and connectivity to a range of transportation modes including transit and active transportation where appropriate."

5.2.2Transportation Master Plan

The 2022 York Region Transportation Master Plan recommends a reduced number of commuter parking lots that support York Region Transit and GO Transit services. Additionally, it states that "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."

5.2.3Policies Adopted by York Region Municipalities

This section of the report provides an overview of parking policies adopted in Markham and Richmond Hill, which are considered to be Vaughan's peer municipalities in York Region. Other municipalities within the Region are primarily suburban and not comparable to the urban context of the VMC.

The Markham Centre Zoning By-law 2004-196, dated January 2013, establishes maximum parking requirements.

The City of Richmond Hill Yonge and Bernard Key Development Area (KDA) Secondary Plan Zoning By-law 111-17, amended December 15, 2021, and the Draft Yonge and Carrville/16th Key Development Area Secondary Plan Zoning By-law 30-18, dated May 2018, include maximum parking requirements for different land uses which have been considered in the parking benchmarking comparison in Section 5.5.1 of this report.

The Richmond Hill Centre Secondary Plan, dated April 2023, Section 10.4.6 states that parking in the Richmond Hill Centre (RHC) will be provided with a focus on shifting to sustainable modes of transportation. Further, new developments should encourage the use of electric vehicles and bicycles with the provision of required charging facilities for electric vehicles. Provision of parking for car-share facilities is also recommended.

5.3 Metrolinx Regional Transportation Plan

The Metrolinx 2041 Regional Transportation Plan (RTP)'s "Optimize the transportation system" Strategy states that better multimodal options for first mile and last mile connections will help enhance travel experience. Priority Action 3.2 for Strategy 3 of the RTP recommends full implementation of the GO Rail Station Access Plan (2016) in order to improve multimodal transportation connections to major destinations and achieve high shares of transit station access by walking, biking, public transit, car-pooling, and passenger pick-ups and drop-offs. It suggests that the cost of providing parking at GO stations should be recovered, and investments should be made in alternative modes of transportation that do not require parking but provide first mile and last mile connections to and from rapid transit stations.

Strategy 4 "Integrate Transportation and Land Use" emphasizes making parking management a "regional priority." It addresses the problems of excessive parking mandated by zoning by-laws which encourage more people to drive and make developments more expensive. The strategy emphasizes the need to apply best practices in parking management to address both on-street and off-street parking demands created by on-demand services and autonomous vehicles in the near future. Therefore, it advocates that the land use planning process should focus on reducing parking demands by promoting multimodal travel. Priority Action 4.8 for Strategy 4 of the RTP recommends the following parking policies in the future:

- "Coordinate the development of a region-wide policy that:
    - Provides guidelines and encourages best practices in parking management;
    - Identifies common goals for on- and off-street parking management, especially near transit stations;
    - Supports land use and transportation objectives;
    - Acknowledges the varied urban, suburban and rural contexts of the GTHA;

  - Anticipates autonomous vehicles and shared mobility;
  - Incorporates environment friendly features;
  - Can be leveraged for local policy making; and
  - Includes public education and demonstrates the benefit of new parking practices."

- Coordinate station area parking requirements with the expansion of transit infrastructure and services (amend applicable transit station area by-laws as a condition for transit station approval to support local mode share targets). Zoning standards should be reviewed, with the expectation that minimum parking requirements will be reduced, particularly in transit supportive neighbourhoods.

- Adopt a region-wide approach to parking management for the arrival of shared mobility and autonomous vehicles.

- Research and regularly publish existing parking-related data and emerging trends to improve parking planning and management."

Additionally, different parking management approaches recommended in the RTP include "shared parking, unbundled parking for multi-family housing, the provision of bike parking and preferential parking spaces for car-sharing, electric vehicles and carpools." The RTP also recommends establishing parking maximums at new transit stations.

5.4 Provincial Policies

A Place to Grow: Growth Plan for the Greater Golden Horseshoe, dated August 2020, Section 2.2.4 recommends the use of reduced parking standards "within all Major Transit Station Areas." Additionally, Section 2.2.5 states that for employment-based uses, "surface parking will be minimized and the development of active transportation networks and transit-supportive built form will be facilitated."

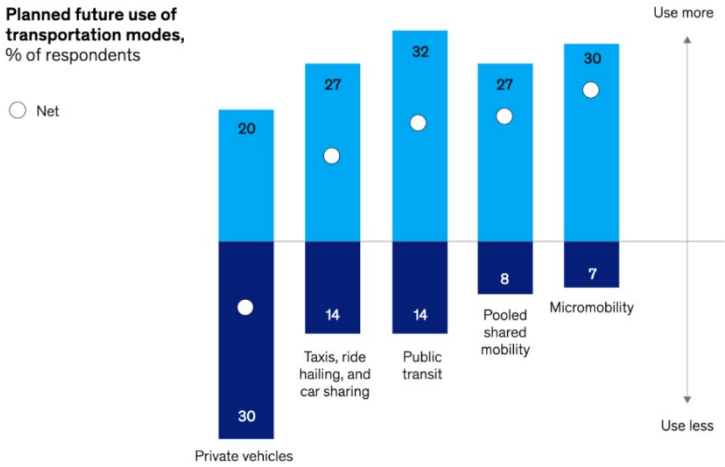
5.5 Jurisdictional Scan of Parking Policies and Framework

In recent years, there has been a global shift from privately-owned automobiles to alternative modes of transportation (including transit, shared mobility, and micromobility). This is substantiated by the results of an international consumer survey on travel shown in **Figure 5-1**. The survey shows that a higher percentage of respondents may choose to reduce automobile usage and switch to transit, shared mobility, and micromobility options. Per the

North American Bikeshare & Scootershare Association (NABSA) 4th Annual Shared Micromobility State of the Industry Report (2022), shared micromobility in North America returned to pre-pandemic levels in 2022, with an increase of 22.6 percent trips compared to 2021. This is illustrated in **Figure 5-2**.

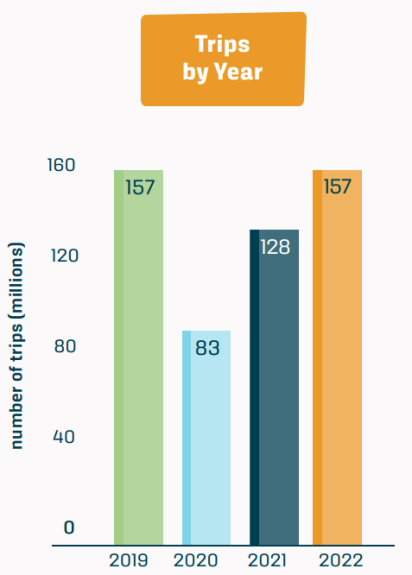
Subsequently, a reduction in automobile usage will also lower vehicle ownership. The impact of various shared mobility services on vehicle ownership is shown in **Table 5-2**. These trends shed light on the importance of emerging shared mobility in alleviating the parking demand.

Figure 5-1: Travel Trend for Different Modes of Transportation



Source: https://www.mckinsey.com/featured-insights/sustainable-inclusive-growth/chart-of-the-day/the-shift-to-shared-mobility

Figure 5-2: Shared Micromobility Use in North America



Source: NABSA 4th Annual Shared Micromobility State of the Industry Report (2022)

Table 5-2: Impact of Shared Mobility on Vehicle Ownership

Variable	Effect on Vehicle Ownership
Carshare	11.27 fewer cars per carshare vehicle
Carpool /Ride-splitting	0.2 fewer cars per carpool user
Vanpool[3]	.26 fewer cars per vanpool user
Bikesharing	0.16 fewer cars per bikeshare bike
Transit Commuters	0.22 fewer cars per new transit commuter
Working Population	1.31 cars added per person

Source: https://sharedusemobilitycenter.org/wp-content/uploads/2016/07/SUMC-Toolkit-Final-Report.pdf

One measure of this change is that some municipalities have now introduced parking maximums, especially in areas with rapid transit and high frequency transit corridors. Such policies adopted by different Canadian municipalities are summarized in the following sections.

5.5.1Vehicular Parking

This benchmarking exercise focuses on municipalities that have recently adopted new parking requirements using a “precinct” approach where different parking requirements apply to different geographic areas.

This benchmarking review included the cities of Oakville, Toronto, Vancouver, Victoria, Ottawa, Edmonton, Kitchener, Mississauga, and KDAs in Richmond Hill – the Yonge and Bernard KDA and the Yonge and Carrville/16th KDA. For all these jurisdictions, the vehicular parking rates were obtained for the zones similar in context to the VMC.

While an effort was made to draw comparisons between peer municipalities and equivalent precincts, it is acknowledged that some of these benchmarked municipalities beyond the York Region may not be completely comparable. Each municipality has its own unique approach to defining its precincts, and the VMC has its own historical, planning policy, and transportation contexts. Therefore, the findings of the benchmarking could be considered as one of the project inputs but could not dictate the proposed parking requirements. **Table 5-3** shows a comparison of the parking rates for the benchmarked municipalities and the rates included in the City of Vaughan Zoning By-Law for the VMC Zone.

Table 5-3: Existing Vehicular Parking Benchmarking

Land Use	Maximum Parking Requirement	
	Range in other Municipalities	VMC Zone
Apartment – Residents[1]	0.3 – 1.5 spaces per DU	1.5 spaces per DU
Apartment – Visitors[1]	0.1 – 0.2 spaces per DU[2]	-
Retail Store	0.87 – 5.0 spaces per 100 sq.m of GFA	4.0 spaces per 100 sq.m of GFA
Restaurants	0.87 - 6.67 spaces per 100 sq.m of GFA	2.5 spaces per 100 sq.m of GFA
Office	0.8 – 3.5 spaces per 100 sq.m of GFA	2.5 spaces per 100 sq.m of GFA

Note:

DU=Dwelling Unit; GFA=Gross Floor Area

[1]Rates considered for bachelors or apartment units with the smallest size.

[2]The maximum parking requirement range is based on the rate obtained from the City of Toronto Zoning By-law 569-2013. As per the Zoning By-law, the maximum parking rate is 1.0 per dwelling unit for the first five dwelling units and 0.1 per dwelling unit for the sixth and subsequent units.

The benchmarking of the parking requirements indicates opportunities to reduce maximum parking requirements for both residential and non-residential uses.

5.5.2Elimination of Minimum Parking Requirements

The Cutting Red Tape to Build More Homes Act, 2024 (Bill 185) eliminated minimum parking requirements in MTSAs. This Act applies directly to the VMC. The City of Vaughan can now only require a maximum amount of parking. It is up to the developer what the minimum amount of parking could be, and no parking at all may be provided.

Municipalities such as Toronto have adopted parking maximums in conjunction with no minimum parking requirements to limit parking supply. Parking maximums can be implemented using a zone or district-based approach, specifically in areas with available alternative transportation infrastructure.

The City of Edmonton was the first major Canadian city to abolish minimum parking requirements from its Zoning By-law (except accessible parking). This was promoted as “Open Option Parking”, a concept that encouraged “right-sizing” parking that allowed developers, homeowners and businesses to provide parking according to their needs.

Maximum parking requirements apply in the downtown, Transit Oriented Development (TOD) and main street areas. So far, the elimination of parking minimums has not resulted in an abrupt change in the City's parking supply. Parking generally continues to be provided in developments, with few projects proceeding with minimal or no parking.

5.5.3Electric Vehicles

Parking requirements for EVs have been implemented in several jurisdictions across the province of Ontario.

- As per the City of Toronto Zoning By-law 569-2013, dated December 21, 2022, all in-building parking spaces for residents and 25 percent of all other in-building parking spaces must be identified for charging of EVs and provided with energized outlets capable of Level 2 charging.
- Section 3.1.1.12 of the Mississauga Zoning By-Law No. 0225-2007 states the minimum requirements for EV-ready parking spaces for different land uses. A minimum of 1 parking space for exclusive use garages is required for all residential uses except condominiums, rental apartments, and back-to-back and stacked townhouses. For condominiums and rental apartments, the minimum number of EV-ready parking spaces should be the greater of 1 space or 20 percent of the total required parking spaces for residents and 10 percent of the total required parking spaces for visitors. For back-to-back and stacked townhouses, the minimum number of EV-ready parking spaces should be the greater of 1 space or 20 percent of the total required parking spaces. For non-residential uses, the minimum number of EV-ready parking spaces should be the greater of 1 space or 10 percent of the total required parking spaces.
- The Town of Aurora Electric Vehicle Charging Policy, dated March 23, 2021, states that projects located at Town facilities and providing surface parking should assess EV infrastructure and consider installation of EV chargers based on the latest Leadership in Energy and Environmental Design (LEED) requirements. Additionally, all new Town facilities and major facility renovations should provide minimum EV charging facilities based on the latest LEED requirements. An additional 10 percent of parking spaces should be made capable of future installation of EV infrastructure for both existing and new facilities and parking lots.
- Section 6.3 of the City of Waterloo Zoning By-law 2018-050, dated 28 July 2022, includes the EV parking requirements for surface parking spaces. As per Table 6C of this by-law, the minimum EV parking requirement ranges from 1 to 4 spaces for a total of 20 to 149 surface parking spaces, with 3 percent of total parking spaces to be provided for EVs for more than 150 parking spaces. Additionally, for EV parking

requirements for residential uses, a minimum of 50 percent of the required spaces should be assigned to visitors.

- Section 3.1 of the Waterloo Region District School Board Administrative Procedure 4895 'Electric Vehicle Charging Stations', dated May 2022, states that all new facilities should include a minimum of 2 EV parking spaces with one additional space for an increase in every 40 parking spaces, or as necessary based on municipal or provincial regulations.
- As per the City of Kitchener Zoning By-law 2019-051 Section 5.8, a minimum of 20 percent of the parking spaces for multiple dwellings are required to be designed to facilitate future installation of EV supply equipment. Additionally, for parking spaces for non-residential uses and large residential care facilities not located within a building, a minimum of 17.5 percent of the parking spaces are required to be designed to permit future installation of EV supply equipment, while a minimum of 2.5 percent of the overall parking spaces shall be EV parking spaces.

A jurisdictional scan performed in the EV-Ready Requirements for Municipalities by Clean Air Partnership, states that several Canadian jurisdictions, primarily located in British Columbia, are establishing a requirement that 100 percent of parking spaces for residential uses should be EV-ready. However, the requirement for commercial uses is much lower, between 20 to 45 percent.

5.5.4Bicycles

Section 6.5.3 of the City's Zoning By-law includes minimum long-term and short-term bicycle parking rates for different land uses in the VMC zones, while Section 6.5.6 of the By-law states the requirements for change and shower facilities.

A benchmarking review was performed to compare long-term and short-term bicycle parking rates provided in the City's Zoning By-law for the VMC Zone with other jurisdictions. This benchmarking review included the cities of Oakville, Toronto, Vancouver, Victoria, Ottawa, Edmonton, Kitchener, Mississauga, and two KDAs in Richmond Hill – the Yonge and Bernard KDA and the Yonge and Carrville/16th KDA. For all these jurisdictions, the bicycle parking rates were obtained for the zones similar in context to the VMC. Bicycle parking rates are not provided in the Markham Centre Zoning By-law. Therefore, it was excluded from this jurisdictional scan.

While an effort was made to draw comparisons between peer municipalities and equivalent precincts, it is acknowledged that these benchmarked municipalities beyond the York Region may not be completely comparable. Similar to the vehicular parking requirements, the findings of the benchmarking could be considered as one of the project inputs but could not dictate the proposed bicycle parking requirements.

Table 5-4 shows a comparison of the long-term and short-term bicycle parking rates for the benchmarked municipalities and the rates included in the City of Vaughan Zoning By-Law for the VMC Zone.

Table 5-4: Existing Bicycle Parking Benchmarking

Land Use	Long-term Bicycle Parking		Short-Term Bicycle Parking	
	Range in other Municipalities	VMC Zone	Range in other Municipalities	VMC Zone
Apartment [1]	0.45 – 1.5 spaces per DU	0.8 spaces per DU	0.03 – 0.25 spaces per DU[2,3]	0.2 spaces per DU, or 6 spaces, whichever is greater
Retail Store	0.13 – 0.64 spaces per 100 sq.m of GFA	0.1 spaces per 100 sq.m of GFA	0.07 – 0.6 spaces per 100 sq.m of GFA[4]	0.2 spaces per 100 sq.m of GFA, or 6 spaces, whichever is greater
Restaurants	0.13 – 1.0 spaces per 100 sq.m of GFA	0.1 spaces per 100 sq.m of GFA	0.07 – 1.0 spaces per 100 sq.m of GFA[4]	0.2 spaces per 100 sq.m of GFA, or 6 spaces, whichever is greater
Office	0.13 – 0.66 per 100 sq.m of GFA	0.2 spaces per 100 sq.m of GFA	0.07 – 0.4 spaces per 100 sq.m of GFA[4]	0.2 spaces per 100 sq.m of GFA, or 6 spaces, whichever is greater

Notes:
DU=Dwelling Unit; GFA=Gross Floor Area

[1]Rates considered for bachelors or apartment units with the smallest size.

[2]The minimum of the short-term bicycle parking requirement range is based on the rates for the Richmond Hill KDAs, both of which have a visitor bicycle parking requirement of 5 percent of the minimum required bicycle spaces for residential use. Since the parking requirement for residential use is 0.6 per DU, the visitor parking requirement was calculated as 0.03 spaces per DU.

[3]The maximum of the short-term bicycle parking requirement range is based on the rate obtained from the Town of Oakville Zoning By-law 2014-014 which states a minimum bicycle parking space requirement of 1.0 per DU, of which 0.25 of the spaces per DU shall be designated as visitor bicycle parking spaces. Therefore, the visitor parking requirement was calculated as 0.25 spaces per DU.

[4]The minimum of the short-term bicycle parking requirement range is based on the rate obtained from the City of Edmonton Zoning By-law 12800 which states that the minimum bicycle parking requirement is 1 space per 140 sq.m of floor area and that at least 10 percent of bicycle parking spaces shall be short-term spaces. Therefore, the short-term bicycle parking requirement was calculated as approximately 0.07 spaces per 100 sq.m of floor area.

It is to be noted that for all land uses, both the long-term and short-term bicycle parking requirements in the City of Vaughan Zoning By-law fall within the ranges obtained from the jurisdictional scan with the exception of the long-term bicycle parking requirements for retail and restaurants. For these two land uses, though the City's Zoning By-law bicycle parking rates are lower than the ranges obtained from the jurisdictional scans, the differences are nominal. Therefore, it can be concluded that the City's bicycle parking requirements are generally in line with the best practices for bicycle provision.

Section 6.5.6 of the City's Zoning By-law requires minimum change and shower facilities for all non-residential uses where long-term bicycle parking spaces have to be provided. As such, the required change and shower facilities are as follows:

- None – for less than 5 required long-term bicycle parking spaces
- One – for 5 to 60 required long-term bicycle parking spaces
- Two – for 61 to 120 required long-term bicycle parking spaces
- Three – for 121 to 180 required long-term bicycle parking spaces
- Four – for 181 or greater required long-term bicycle parking spaces

5.5.5Car-Share

The City's Zoning By-law Section 6.9.3 states that for apartment dwellings in a Residential VMC Zone, the maximum number of car-share parking spaces shall be calculated as the total number of dwelling units divided by sixty, rounded to the nearest whole number.

Car-share parking policies obtained from other jurisdictions are also listed below:

- Parking reductions due to the provision of car-share spaces are also included in Section 7.4 of the City of Richmond Hill Yonge/Bernard Key Development Area Peer Review and Transportation Assessment Update, dated May 1, 2020. It is stated that "required tenant parking may be reduced by up to 4 spaces for every dedicated car-share space", with a parking space reduction limit calculated as the greater of "4 * (total number of units / 125), rounded down to the nearest whole number; or 1 space."
- The City of Kingston Zoning By-law Number 2022-62 Section 7.1.19 states that for apartment buildings, dwelling units in mixed-use buildings, stacked townhouses, and common element townhouses, in addition to the minimum required number of parking spaces, a minimum number of car-share spaces are also required to be provided at the rate of 0.05 per dwelling unit. Additionally, the By-law Section 7.1.15 states that

one of the requirements for increasing the maximum number of parking spaces in Parking Areas 1 through 5 is by providing one EV ready car-share space for every four parking spaces provided beyond the maximum ratio.

5.5.6Pick-up and Drop-off

As stated in Section 5.1.5 of this report, the implementation of pick-up and drop-off (PUDO) zones is listed as one of the parking management strategies in the City's TDM Development Guideline. The guidelines for this strategy include:

- Provide on-site pick-up and drop-off zones that are fully accessible at grade to facilitate short-term pick-up and drop-off activities.
- Provide adequate space so queueing will not spill back onto driveways or public roads or disrupt traffic flow on site.
- Use design interventions (curbs, islands), pavement markings and textures to delineate pedestrian facilities and pick-up and drop-off zones.
- Where possible, passenger pick-up and drop-off zones and loading zones should not conflict with pedestrian facilities by locating the zones at an alternate accessible building entrance.

Additionally, the City of Toronto Curbside Management Strategy: Improving How Curbside Space is Used, dated November 14, 2017, recommends certain PUDO policies such as:

- Allocating curbside PUDO, loading, and parking "in a balanced manner by matching users and need to the most appropriate locations by time-of-day and by time-of-year."
- Accommodating the needs of the accessibility community "by providing frequent convenient curbside access for pick-ups and drop-offs, and ensuring adequate suitable parking availability."
- Encouraging off-street PUDOs, loading, and parking activities "whenever and wherever reasonable and practicable, to free up on-street curbside space."

Some of the recommended tactics include improving guidance on PUDO areas via social media, mobile apps, and the City website, promoting the appropriate use of accessible parking permits and exploring the curbside needs of accessible communities.

Further, the City of Vancouver Parking By-law 0659, dated November 2022, Section 7 Off-Street Passenger Space Regulations includes guidelines to determine the number of spaces for off-street discharging or picking up of passengers. The spaces are classified into three categories – Class A, Class B, and Class C. The three spaces are defined in Section 2 of the By-law as follows:

- "Passenger Space, Class A means a designated space, clear of any driving or manoeuvring aisles or means of emergency egress, for loading passengers to or from an automobile.
- Passenger Space, Class B means a designated space, clear of any driving or manoeuvring aisles or means of emergency egress, for loading passengers to or from a custom transit vehicle.
- Passenger Space, Class C means a designated space, clear of any driving or manoeuvring aisles or means of emergency egress, for loading passengers to or from a bus."

The number of spaces by class for some of the major land uses is summarized in **Table 5-5.**

Table 5-5: Off-Street Passenger Space Requirements

Land Use	Required Passenger Space		
	Class A	Class B	Class C
Apartment	A minimum of one space for any development with 50 to 125 DUs, plus one space for every additional 150 DUs.	No requirement	No requirement
Retail and Service	A minimum of one space for each 4,000 sq.m of GFA.	No requirement	No requirement
Office	A minimum of one space for each 10,000 sq.m of GFA.	No requirement	No requirement
Health Care Offices	No requirement below 4,000 sq.m of GFA, a minimum of one space from 4,000 sq.m of GFA to less than 6,500 sq.m of GFA, a minimum of two spaces from 6,500 sq.m of GFA to less than 10,000 sq.m of GFA, and a minimum of three	No requirement below 2,000 sq.m of GFA, and a minimum of one space for 2,000 sq.m of GFA or greater.	No requirement

Land Use	Required Passenger Space		
	Class A	Class B	Class C
	spaces for 10,000 sq.m of GFA or greater.		

Notes:
DU=Dwelling Unit; GFA=Gross Floor Area

5.5.7Micromobility Parking for Developments

As stated in Section 5.1.5 of this report, the City of Vaughan TDM Development Guideline includes 'Offer Micromobility Services' as one of the TDM initiatives and recommends designating areas in covered locations near entrances for future bike share or e-scooter stations.

On performing a review of policies established in other jurisdictions, it is understood that some Canadian jurisdictions, primarily located in British Columbia, have gradually started introducing micromobility parking requirements in their zoning by-laws. However, these requirements cater to a wide range of micromobility devices and the contexts are not similar to the VMC. Therefore, they were not considered as appropriate precedents for this study.

5.5.8City of Vaughan Shared Micromobility Pilot

The City of Vaughan launched a two-year Shared Micromobility Pilot Program on June 4, 2025, with three approved operators, Bird, Lime and Neuron, deploying and operating e-scooters and e-bikes in the central area of the city bounded by Pine Valley to the west, Teston Road to the north, Dufferin Street to the east, and Highway 407 to the south.

The City launched this Pilot to explore the opportunities and challenges that shared e-scooters and e-bikes may present in achieving a more connected, accessible, and sustainable transportation network. This Pilot responds directly to:

- Growing public interest in using e-bikes or e-scooter as part of their travel
- A desire to expand first- and last-mile connections to transit and local destinations
- The need for safe and equitable alternatives to car travel
- Lessons learned from other Canadian cities with successful micromobility programs

By piloting shared micromobility devices, Vaughan aims to:

- Enable a new form of convenient transportation to access major destinations and transit
- Showcase safe and responsible use of micromobility devices through device programming rather than enforcement
- Provide information on how best to leverage these devices in the transportation system
- Understand the potential environmental, economic and financial impacts of e-bikes and e-scooters
- Provide a framework to guide future infrastructure investments and policy development

This Pilot gives the City an opportunity to engage the public, work collaboratively with operators, and make informed decisions about long-term micromobility options that reflect the unique needs of Vaughan's residents, businesses, and neighborhoods.

The regulations for e-scooter and e-bike usage through the Pilot aligns with those established by the provincial government. Shared e-scooters can only be operated in bike lanes, cycle tracks, in boulevard multi-use paths, and on roadways with a speed limit of 50km/h or less. They are prohibited on sidewalks, trails and in park areas. Shared e-bikes are permitted anywhere conventional bicycles are allowed, including bike lanes, cycle tracks, in-boulevard multi-use pathways and on most roadways. They are not permitted on sidewalks, trails, park areas or where e-bikes are prohibited.

Through the Pilot, the City has developed a detailed screening process to review parking locations proposed by the operators, including but not limited to property ownership, proximity to transit, equitable distribution of parking across the operating area, accessibility for other users, access to community services and/or commercial uses, and space requirements. A hybrid parking model that includes both physical and digital parking corrals was implemented; digital corrals that are highly utilized will be upgraded with markings and other identifying features into physical corrals. Experience from other jurisdictions indicates that parking compliance increases substantially with physically identifiable parking corrals. Physical corral designs will consider specific neighbourhood's look and feel to improve aesthetics and minimize maintenance requirements whilst primarily encouraging good parking behaviour. Users are required to end trips within designated parking locations; parking outside of these locations, such as on sidewalks, in parks, or on streets, may result in user penalties. The designated parking locations do not apply to privately owned e-scooters and e-bikes.

A primary objective of the Pilot is to encourage safer behaviours for users of micromobility devices. Prior to and since the launch of the Pilot, City staff have engaged residents through various channels, including City events such as Earth Hour, Bike Month Bonanza, Concerts in the Park, as well as direct emails and phone calls. Throughout the Pilot, staff will continue engaging with residents to educate and encourage proper rider etiquette to ensure safety for both riders and other road users.

The City will utilize a robust performance evaluation plan to review the data collected, as well as key metrics such as public feedback, operational successes/challenges to evaluate the program and provide Council with recommendations on program permanency, changes or expansions at the end of the two-year Pilot.

6 Parking Framework

The proposed multimodal transportation network provides future residents, visitors, and employees within the VMC with attractive opportunities to travel by active transportation and transit. An orientation to non-auto modes is essential for accommodating the high-density mixed-uses proposed for the VMC while managing traffic congestion on the road network. The proposed parking framework aligns with other aspects of the TMP to support multimodal travel and considers parking on development sites and parking management within the public realm (right-of-way). Specifically, TDM measures, parking requirements and guidelines, bicycle parking, micromobility, shared mobility, on-street parking, pick-up and drop-off, smart parking technology, and parking management measures are considered.

6.1 Parking on Development Sites

To support the significant intensification levels in the VMC and in line with the applicable policy and transit context, maximum parking requirements are proposed to be reduced for the Secondary Plan area.

Significant parking reductions are proposed based on an understanding of the goals of the VMC Secondary Plan, societal changes, and current trends in parking requirements in the Greater Toronto Area (GTA) and a high level of the non-auto mode of travel planned for this area. Traffic modelling results indicate very congested conditions under existing and future horizons. This drives the coordinated efforts across multiple aspects of the TMP to enable travel using non-auto modes and to limit the availability of parking to discourage auto trip making where appropriate. The proposed reduction of parking maximums below the current Zoning By-law rates is appropriate given the updated urban development and transportation context established through the Secondary Plan and TMP. The proposed parking requirements are supported by a robust multimodal transportation system shown in the VMC TMP to enable first mile and last mile trips to and from the subway station and bus terminal. In addition to the existing transit and active transportation network within the VMC, as stated in the previous chapters, several improvements are proposed to be implemented in the future. These improvements are listed below:

- Extension of the Queen Street/Highway 7 BRT in the west to Brampton
- Implementation of the Jane Street BRT/LRT
- Transit circulator service connecting different blocks in the VMC with the VMC and Highway 407 Subway Stations and the SmartVMC Bus Terminal, TTC subway, and Weston Road and Highway 7 Secondary Plan Area
- Active transportation improvements within the VMC as proposed in the VMC TMP

Table 6-1 shows the proposed maximum parking rates for the VMC.

Table 6-1: Proposed Parking Requirements

Land Use	Existing[1]	Proposed	Policies
Residential Apartment: Resident[2]	1.5 max	0.4 max	100% of required parking should be EV ready.
Residential Apartment: Visitor[2]	No maximum	0.15 max	Privately operated paid parking permitted. 25% of required parking should be EV ready.
Office[3]	2.5 max	1.5 max	Privately operated paid parking permitted. 25% of required parking should be EV ready.
Retail, Service Commercial[3, 4]	4.0 max (for retail up to 5,000 sq.m and personal service) 4.0 max (for retail over 5,000 sq.m),	2.0 max	
Accessible Parking Spaces Accessible parking requirement to be calculated based on By-law 001-2021 Table 6.4: Required Barrier-free Parking Spaces.			
Bicycle Parking Bicycle parking to be provided per By-law 001-2021 Section 6.5: Bicycle Parking Spaces Requirements.			

Notes:
[1]Rates obtained for the VMC from the City of Vaughan's Comprehensive Zoning By-law 001-2021.
[2]Rates are provided per dwelling unit.
[3]Rates are provided per 100 square metres of Gross Floor Area.
[4]The parking requirements are applicable for the following land uses included in the City's Zoning By-Law: 1) Art Studio, 2) Business Service, 3) Clinic, 4) Financial Institution, 5) Health and Fitness Centre, 6) Personal Service, 7) Pet Services Establishment, 8) Retail, 9) Service or Repair Shop, 10) Shopping Centre, and 10) Supermarket. These parking rates are applicable for all sizes of these land uses.

6.1.1 Residential Parking Requirements

The maximum parking requirement for apartments in the City's Zoning By-law is 1.5 spaces per dwelling unit. Additionally, there is no maximum parking requirement for visitor parking spaces. Based on a review of recent development applications, it is our understanding that the average approved rate for residential developments in the VMC is 0.4 spaces per dwelling unit. However, it was also observed that there has been a downward trend in the approved parking rates over the years. It can be assumed that this downward trend will continue in the future especially when key elements of the VMC transportation network are in place and it becomes highly accessible by transit and active modes. Residential developments within the VMC will be attracting more individuals who value an urban, car-less lifestyle with convenient transit, shared micromobility, and amenities within walking and cycling distance. Based on these assumptions and our understanding of the goals of the VMC Secondary Plan, societal changes, and current trends in parking requirements in the GTA, significant parking reductions have been proposed to maximum parking requirements. The following changes to the parking requirements are recommended:

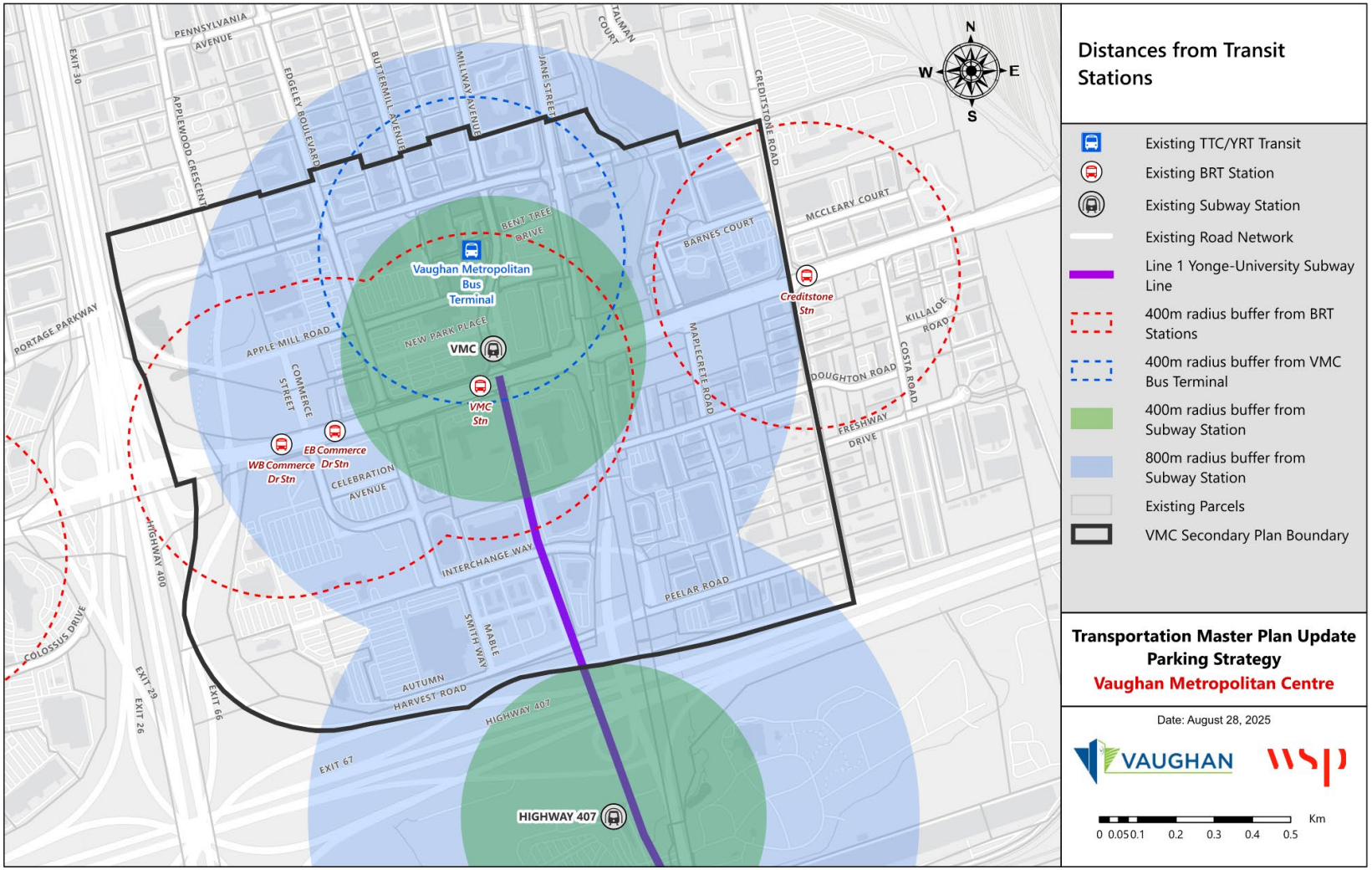
- It is recommended that the maximum parking requirement be reduced to 0.4 parking spaces per unit.

  Additionally, it is recommended that the maximum parking requirement for visitors be implemented as 0.15 parking spaces per unit. This parking supply provides flexibility to accommodate those visiting from areas where transit may not be readily available.

It is anticipated that most development blocks within the VMC will be within walking distance to the VMC subway station or Highway 7 / Jane subway station, where very low resident parking rates can be supportable. **Figure 6-1** illustrates the areas located within 400 m and 800 m of the VMC subway station.

In addition, to manage congestion, there will be paid parking for a limited number of hours for non-residents to discourage travel by private vehicles. The restricted parking supply along with paid parking, if implemented on the site, could encourage some visitors to choose car-pooling or non-auto modes.

Figure 6-1: Distances from VMC Subway Station



6.1.2Office Parking Requirements

The strategy to reduce parking requirements for office uses has been implemented by considering the majority of employees to be local employees that may rely more heavily on foot traffic, biking, or transit, and less on automobiles, thereby requiring less parking. The office parking reductions proposed are intended to encourage the use of non-auto modes while protecting the viability of local businesses and allow them to operate similar to the current context.

The maximum parking requirement for office in the City's Zoning By-law is 2.5 spaces per 100 sq.m of GFA. Based on a review of recent development applications, it is our understanding that the maximum approved rate for office uses in the VMC is 1.5 spaces per 100 sq.m of GFA. In the future, when key elements of the VMC transportation network are in place and it becomes highly accessible by transit and active modes, it is anticipated that office employees in the VMC will prefer non-auto modes of travel. Based on these assumptions and our understanding of the goals of the VMC Secondary Plan, societal changes, and current trends in parking requirements in the GTA, the following changes to the parking requirements are recommended:

- It is recommended that maximum parking requirement of office use be reduced to 1.5 parking spaces per 100 sq.m of GFA consistent with the trend of recent development applications.

6.1.3Retail and Service Commercial Parking Requirements[1]

The strategy to reduce parking requirements for retail and service commercial has been implemented by considering the majority of employees to be local employees and a customer base that may rely more heavily on foot traffic, biking, or transit, and less on

[1] Note: The parking requirements are applicable for the following land uses included in the City's Zoning By-Law: 1) Art Studio, 2) Business Service, 3) Clinic, 4) Financial Institution, 5) Health and Fitness Centre, 6) Personal Service, 7) Pet Services Establishment, 8) Retail, 9) Service or Repair Shop, 10) Shopping Centre, and 10) Supermarket. These parking rates are applicable for all sizes of these land uses.

automobiles, thereby requiring less parking. The retail and service commercial parking reductions proposed are intended to encourage the use of non-auto modes while protecting the viability of local businesses and allowing them to operate similar to the current context.

The maximum parking requirement for retail (up to 5,000 sq.m of GFA) and personal service in the VMC is 4 parking spaces per 100 sq.m of GFA. Based on a review of development applications, it is our understanding that the average approved rate for retail developments in the VMC that have been recently completed and occupied is 2 parking spaces per 100 sq.m. However, it was also observed that there has been a downward trend in the approved parking rates over the years. It can be assumed that this downward trend will continue in the future especially when key elements of the VMC transportation network are in place and it becomes highly accessible by transit and active modes.

Based on these assumptions and our understanding of the goals of the VMC Secondary Plan, societal changes, and current trends in parking requirements in the GTA, the following changes to the parking requirements are recommended for retail and service commercial uses within the VMC:

- Reduce the maximum parking requirements to 2 spaces per 100 sq.m of GFA consistent with the trend of recent development applications.

6.1.4Privately Owned Paid Public Parking

In the VMC, it is important that developments are self-sufficient in parking. It is equally important that the maximum parking requirements be adhered to, to control the total parking supply and the associated traffic impacts to the area road network.

Developments in the VMC should be permitted to provide non-resident parking as privately operated paid public parking where feasible and appropriate. Parking for multiple phases of a development may be consolidated in one centralized paid public parking facility.

6.1.5Electric Vehicle Parking Requirements

EV uptake is increasing, and the prevalence of EV charging is becoming more common (provided through EV parking spaces) in both residential and non-residential

developments. The City's Zoning By-law does not include any specific requirements for EV parking. However, as stated in the jurisdictions scan in Section 5.5.3of this report, a lot of jurisdictions have already established requirements for EV-ready parking spaces for developments. Though jurisdictions in Ontario have relatively lower requirements for EV-ready parking spaces compared to those in other parts of Canada, especially British Columbia, considering the emerging trends and also as a progressive and future-ready strategy, higher EV requirements are recommended for the VMC. The EV-ready requirements are as follows:

- 100 percent of resident parking spaces in residential developments
- 25 percent of visitor parking spaces in residential developments
- 25 percent of all parking spaces in non-residential developments

EV-ready parking spaces will include energized outlets to support future installation of Level 2 chargers.

6.1.6Barrier-Free Parking Space Requirements

Barrier-free parking space requirements are to be provided as per the City's Zoning By-law Section 6.4: Barrier-free Parking Space Requirements, which is consistent with the Accessibility for Ontarians with Disabilities Act (AODA) requirements. It is recommended that the by-law requirements continue to apply to the VMC. **Table 6-2** shows the proposed barrier-free parking space rates.

The applicability of the existing Zoning By-law accessible parking requirements to the proposed reduced parking standards should be reviewed to ensure compliance with AODA and the City's accessibility standards.

Table 6-2: Proposed Barrier-free Parking Requirements

Total Required Parking Spaces	Required Barrier-free Parking Spaces
12 or less	1
13 – 100	4%
101 – 200	1, plus 3% of the total required parking spaces
201 – 1,000	2, plus 2% of the total required parking spaces
Over 1,000	11, plus 1% of the total required parking spaces

6.1.7Bicycle Parking Requirements

Bicycle parking requirements have been established for all zones in the City's current Zoning By-law. Short-term and long-term bicycle parking as well as change and shower facility requirements for major land uses applicable to the VMC are included in Section 5.5.4of this report.

The current bicycle parking requirements are generally in line with best practices for bicycle provision. It is recommended that zoning requirements continue to be applied. It is expected that future Zoning By-law reviews will include updates to bicycle parking requirements to align with emerging trends and monitoring of bicycle parking demand.

6.1.8Transportation Demand Management Measures

Policy 4.1.5 of "The VMC Plan" states that "Travel demand management (TDM) will be critical to achieving a balanced transportation system in the VMC, one that provides and promotes attractive alternatives to the automobile. The City shall work with the Region of York and transit agencies, and with developers and businesses in the VMC, to develop and implement measures that promote the use of transit, walking and cycling. Applications for development generally shall be required to include TDM plans prepared by a qualified consultant that describe facilities and programs intended to discourage single-occupancy vehicle trips, minimize parking, and promote transit use, cycling, car and bike sharing, and car-pooling."

A Transportation Demand Management Plan is a set of programs and policies that reduce travel demand, specifically during peak periods and for SOV trips. TDM balances the people-focused and infrastructure-focused ways, in which problems like traffic

congestion, infrastructure costs, parking challenges, and environmental impacts can be managed or reduced. Furthermore, the TDM aims to provide information, incentives, resources, and support to people who want to make the best possible use of sustainable transportation options. These options include public transit, cycling, walking, car-pool, car-share, ride share (Uber and Lyft), micromobility, bike share, and scooter share. Some conceptual models also include telecommuting (working remotely or from home) as a TDM initiative, and this measure has proven to be critically important during times of emergencies like the COVID-19 pandemic. It is believed that the pandemic has forever changed our travel and commuting behaviours and telecommuting will become a larger and more important TDM measure.

TDM is also related to urban design and municipal planning. Specifically, TDM strategies can be used to encourage broader engagement with transportation alternatives and guide residents and business owners to use them more often. At this level, key concepts include walkability indices, “complete streets” design, sustainability, urban livability, and the integrated management of key transportation corridors.

In the VMC, the proposed multimodal transportation network includes active transportation facilities and a transit circulator to connect the internal blocks of the VMC with the VMC Subway Station and the Vaughan Metropolitan Bus Terminal, among other destinations. This provides a greater mobility context upon which site-specific TDM plans can be built.

The implementation of aggressive TDM measures on development sites is important for residents, employees, and visitors to best utilize the available non-auto infrastructure and reduce SOV trips.

The TDM strategies in the City’s TDM Development Guideline are applicable to the VMC character area. This includes the following initiatives included under the ‘Parking’ category:

- Provision of dedicated parking spaces for car-share vehicles (for residential uses)
    - Car-share is recommended to be addressed through the TDM Development Guideline and development review. No minimum car-share requirement is recommended.
- Provision of preferential parking spaces for car-pool (for non-residential uses)

    - Car-pool parking is recommended to be addressed through the TDM Development Guideline and development review. No minimum car-pool requirement is recommended.
- Unbundling parking from unit cost.
- Implementation of employee parking cash-out programs.
- Implementation of paid parking.
- Implementation of pick-up and drop-off (PUDO) zones.
    - PUDO is recommended to be addressed through the TDM Development Guideline and development review. No minimum PUDO requirement is recommended. The increasing popularity of ridesharing and delivery services should be considered when assessing the adequacy of on-site PUDO design and supply. The potential to accommodate PUDO by autonomous vehicles may also be considered.

Additional TDM measures mentioned in the TDM Development Guideline to be considered for the VMC include:

- Provision of long and short-term bicycle parking
    - As stated in Section 6.1.7of this report, long and short-term bicycle parking should be provided based on the requirements included in the City's Zoning By-law.

- Provision of separated bicycle access to long-term bicycle parking
    - An entrance segregated from vehicular traffic and accessible to cyclists should be allocated to increase the safety and convenience of cyclists. In case of a ramp entrance, the ramp must be compliant with AODA requirements, should have adequate heating facility in the exterior, and should have a minimum width of 3 m to accommodate bi-directional travel.

- Provision of shower and change room facilities
    - Shower and change room facilities should be provided as per the requirements included in the City's Zoning By-law.

- Installation of bike repair stations
    - As per the City's TDM Development Guideline, at least one permanent bicycle repair station should be installed adjacent to a long-term bicycle parking area with at least 50 long-term bicycle parking spaces.

Additionally, the station should have adequate workspace surrounding it with a minimum area of 4 sq.m and a minimum aisle width of 1.5 m.

Implementation of aggressive TDM strategies will support the continued growth of the VMC and the reduction of parking supply for residential and non-residential uses.

6.1.9 Smart Parking Technology

Smart Parking refers to a series of technologies that optimize the use of parking facilities, improve user experience, and enable better management of parking facilities. The following technologies may be used to support efficient functioning of parking in the VMC:

- **Parking guidance systems** that employ sensors to determine the state of a parking space (occupied or vacant), analyze, and transmit real-time parking availability information to various channels such as mobile applications, web applications, and dynamic signage. This helps users find parking, reduces the need for vehicles to circulate to find parking, and improves the efficiency of parking facilities. Parking guidance can be implemented for individual facilities and on an area-wide basis.
- **Mobile payment systems,** which allow payment of parking by phone with a credit card. The latest available technology allows customers to scan a QR code posted on a sign at the parking facility, which directs them to pay on a web-based platform. This is more convenient for occasional users who may not prefer parking apps and has significantly lower costs than installing payment machines on site.
- **Digital parking permit systems** where license plates are registered into a database and parking is enforced through license plate recognition (LPR) technology. This can be implemented in lots and garages where an LPR camera is installed at the access point, as well as on-street where LPR cameras are mounted on the enforcement vehicles. The digital parking permit replaces traditional parking permits that are affixed to the windshield of the car.
- **Parking reservations** are also possible through some digital parking permit systems. License plates and parking times can be registered into the system ahead of time. This can help visitors better plan their trip to Weston 7 and improve user experience.
- **Parking elevators, stacked or mechanical parking, and automated or robotic parking** are becoming popular in urban areas where land costs are high and parking

is at a premium. These technologies, as shown in **Figure 6-2**, improve space efficiency in a building by reducing the need for vehicular ramps and parking access aisles. Automated parking also greatly reduces the distance driven indoors, associated indoor vehicle exhaust emissions and accidents caused by human errors, increasing wellness and safety for tenants.

Some multi-unit residential buildings in Vancouver and Toronto have implemented mechanical parking. In 2012, Vancouver introduced a 240-space robotic parking garage, located at 838 West Hastings Street, a mixed-use 38-storey building. The robotic parking garage is the largest of its kind in North America and the first in Canada.

Figure 6-2: Parking Technologies

Parking Elevator | *Stacked Parking* | *Robotic Parking*

Source: Global Robotic Parking Systems Market 2018, Gulf Feed, 2018.

Autonomous vehicles should be considered as part of future-proofing for developments. Potential design features that can accommodate future autonomous vehicle functions include passenger pick-up and drop-offs at building entrances, parking garages with wider column spacing, higher ceiling heights, and level floors to allow for potential future reconfiguration for denser autonomous vehicle parking dimensions and layouts or installation of robotic parking systems.

6.2 Parking in the Public Realm

Development sites within the VMC should be self-sufficient in meeting their own parking needs. Flexible parking policies permit non-resident parking to be provided in the form of privately operated paid public parking. This reduces the need for on-street parking and allows valuable ROW width and curb space to be prioritized for non-auto modes.

It is noted that as the City does not own any parcels in the VMC, municipal parking lots and garages are not being considered.

Parking provision within the public ROW should be focused mainly on accommodating micromobility and vehicular pick-up/drop-off and deliveries. Provision of on-street parking may be appropriate under certain conditions. These are discussed below.

6.2.1 Micromobility Amenities

To encourage the use of bicycles and micromobility devices, the City should provide the following amenities throughout the VMC:

- **Micromobility hubs** including bicycle and scooter parking are recommended at strategic locations within the VMC, such as immediately adjacent to the VMC Subway Station, the Vaughan Metropolitan Bus Terminal, and VIVA BRT stops. This will help establish good first mile and last mile connections between these transit stops and final destinations.
    - The hubs should include secure, weather-protected short-term and long-term bicycle and scooter parking that is conveniently placed for commuters switching to or from transit, air pumps, and self-service mechanic kits (bicycle repair stations).
    - The City should pursue opportunities to establish or participate in programs offering shared micromobility devices including bicycles and scooters. Docking stations for shared micromobility devices should be incorporated into the micromobility hubs, alongside facilities for privately owned devices.
- **Micromobility parking** (for bikes and scooters) should be provided in parks, privately owned public spaces (POPS) and where appropriate within the ROW, in addition to micromobility hubs.
- **Signage and Pavement Markings** should be implemented as part of a wayfinding system. As per the NACTO Urban Bikeway Design Guide, signs should be placed at major decision points along bicycle routes and at other key locations leading to and along the routes. Additionally, pavement markings should be installed to help reinforce routes and provide directional signage. An

appropriate bicycle/micromobility wayfinding system must be established to provide directions to major destinations within the VMC. This will encourage more users and increase the visibility of cycling and micromobility as transportation options.

6.2.2Curbside Management

It is recommended that the City develop a curbside management strategy for the VMC that considers street typology and the hierarchy of various necessary and desirable curbside functions. Although vehicular parking and PUDO are to be accommodated on development sites, there may be appropriate circumstances for providing this on-street as well. Decisions to provide on-street parking and PUDO must consider compatibility with the street typology, and available spacing, and weighed against other competing curbside uses for traffic, transit, active transportation, micromobility, curbside cafes and so on. When developing the curbside management strategy for the VMC, the following parking-related functions should be considered:

- Micromobility hub, including bicycle and scooter parking for personal devices and docking stations for shared devices;
- Micromobility parking in additional locations outside of the hubs;
- Consider passenger drop-off and pick-up facilities as appropriate near transit and key destinations, considering the increasing popularity of rideshare services such as Uber and Lyft as first and last mile solutions; and
- Short-term parking (10-minute) to support a variety of uses including convenience stops at local businesses, ride shares and small deliveries.

Parking-related curbside uses that should be discouraged in the VMC include:

- Long-term parking, such as daily parking or commuter parking;
- Residential permit parking;
- On-street passenger drop-off and pick-up facilities for residential and office uses; and
- On-street loading zones.

6.2.3Education and Communication

The City should promote travel planning by providing information on how to access the VMC emphasizing the use of transit and other non-SOV modes. Information should be

available through mobile phone applications, social networking sites, and websites, and must be readily available, accessible, and understandable to the public.

Provided resources should include interactive maps and trip planning tools for travel by transit, cycling, micromobility, walking, and driving. Vehicle parking information should include:

- Parking location
- Number of parking spaces, and real-time parking availability if available
- Parking pricing
- Breakdown of available EV, car-pool, and accessible spaces

Links should be provided for users to access information and services including those from third parties, such as:

- Parking reservation, payment, and pre-payment
- Car-share registration and reservation
- Bicycle and scooter share registration

7 Implementation

Table 7-1 summarizes the key implementation steps for the parking recommendations. Implementation will require updates to existing policies and regulations and in some cases partnerships with third parties such as transit and shared micromobility providers.

In 2018, The City conducted the VMC Parking Study in anticipation of the VMC Subway Station opening. Some of the study recommendations have already been implemented, including the following:

- Restrict on street parking
- Launch a communication plan regarding parking in the VMC
- Increase enforcement resources
- Establish a public parking plan (on-street)
- Establish paid parking
- Monitor development and parking supply

The 2018 VMC Parking Study recommendations that are carried forward are also indicated in **Table 7-1**.

Table 7-1: Summary of Implementation Steps

Recommendation		Key action items to be undertaken by the City	Alignment with the 2018 Study	Impact to Existing Policies	Potential Partnerships
1	Apply updated vehicular parking requirements	- Develop reduced parking requirements for all applicable land uses based on the TMP recommendations - Update the Zoning By-law parking requirements	Yes	Yes	
2	Update bicycle parking requirements as part of future Zoning By-law reviews	- Monitor bicycle parking demands and emerging trends - Update the Zoning By-law, if required. This can be done as part of regular Zoning By-law updates		Yes	
3	Permit privately operated paid public parking for non-resident parking	- Approve through development review		Yes	
4	Apply EV parking requirements	- Update the Zoning By-law		Yes	
5	Permit implementation of smart parking technology	- Consider Secondary Plan TMP policies in the development review process			

Recommendation		Key action items to be undertaken by the City	Alignment with the 2018 Study	Impact to Existing Policies	Potential Partnerships
6	Provide micromobility hubs including bicycle and scooter parking at strategic locations	- Conduct a study to determine appropriate micromobility hub design and locations - Incorporate shared micromobility docking stations when this service is available			Yes
7	Provide Transportation Innovation Programs	- Pursue opportunities to establish or participate in programs providing shared micromobility devices			Yes
8	Provide micromobility parking outside of micromobility hubs	- Develop a micromobility parking plan			Yes
9	Provide micromobility wayfinding	- Develop and implement an appropriate pavement markings and signage plan			Yes
10	Provide on-street parking, PUDO, and loading zones	- Develop a curbside management strategy for VMC to determine appropriate conditions for providing on-street parking, PUDO and loading zones - Develop an on-street parking plan including PUDO and loading zones, if appropriate	Yes		

Recommendation		Key action items to be undertaken by the City	Alignment with the 2018 Study	Impact to Existing Policies	Potential Partnerships
11	To encourage trip planning, provide multimodal transportation and parking information for VMC in an online portal	- Develop a VMC transportation information portal accessible by mobile app, social media and website - Regularly update the transportation information portal to show current information - Advertise the transportation information portal to promote its use	Yes		Yes