

VMC Parks & Wayfinding Master Plan

Assessment
Report



October 21st, 2022

VMC Parks & Wayfinding Master Plan and Implementation Study:

Assessment Report

Prepared for the City of Vaughan, 2022



Prepared by:

Janet
Rosenberg
& Studio

Table of Contents

Introduction	7
Planning Context	8
Growth in the VMC	11
Park Provision in the VMC	12
Park Provision - Benchmarking	14
Facilities Provision	18
VMC Parks & Open Space Inventory	21
Urban Parks	23
Millway Promenade	24
Neighbourhood Parks	25
Public Squares	26
Black Creek	27
Environmental Open Space	28
POPS, Mews & Other Public Spaces	29
Alternative Ownership Arrangements	30
Circulation in the VMC	31
Parks & Open Space Outside the VMC	32
North of Highway 407	33
South of Highway 407	34
Tree Canopy in the VMC	36
Synthesis	38
Appendices	39



1.0 Introduction

1.1 Vaughan Metropolitan Centre

The Vaughan Metropolitan Centre (VMC) is a secondary plan area within the City of Vaughan intended to become the City's downtown. A comprehensive and evolving planning framework for the VMC is guiding a collection of capital works, development projects, and strategic initiatives that together aim to build a city centre that fosters community well-being and sustainability. A key objective for the VMC is to develop a generous and remarkable parks and open space system.

1.2 VMC Parks & Wayfinding Master Plan

To help realize the parks and open space system envisioned for the VMC, the City of Vaughan has commissioned Janet Rosenberg & Studio Inc. to complete the VMC Parks and Wayfinding Master Plan Project (VMC Parks Master Plan). The VMC Parks Master Plan will outline how a system of parks and open spaces can be implemented for the VMC that meets the City's planning goals and, most importantly, the needs of the people that live, work and visit in the VMC.

1.3 Assessment Report

This report is the culmination of the first phase of the VMC Parks Master Plan. In this phase, the current state of the VMC parks and open space network has been assessed against the goals of the planning framework, while also considering that the pace of growth in the VMC is exceeding original assumptions. In subsequent phases of the project, gaps and opportunities identified in this report will be reflected in the development of different design options for VMC's parks and open spaces. These options will be refined into a preferred master plan, which will be presented together with recommendations on implementation.

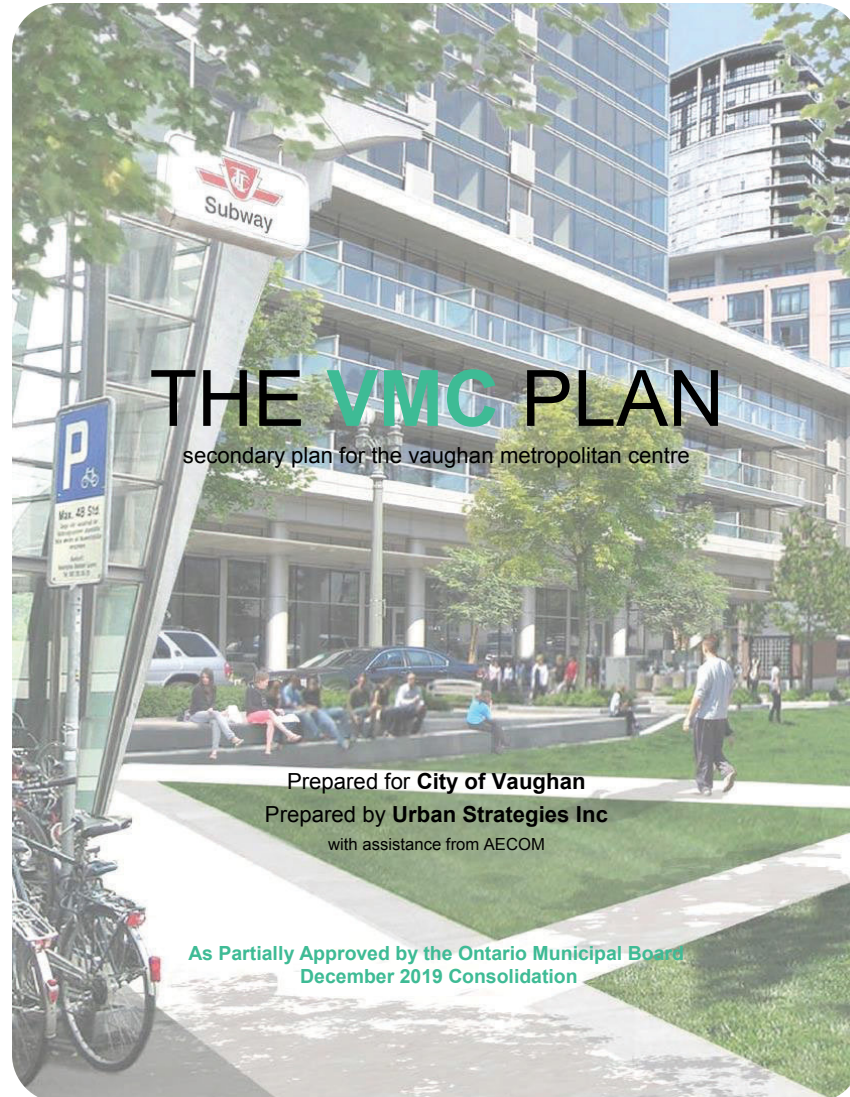
All of this work will be guided by input received through a considered plan of community engagement, which will include online surveys, landowner meetings, community sessions, focus groups, interactive "Have Your Say" webpages on the City website, and stakeholder meetings. Additionally, ongoing collaboration and coordination with City of Vaughan staff and working groups will take place.



2.0 Planning Context

Planning of the VMC has been ongoing for over 20 years, beginning with its designation as a centre for growth in the City of Vaughan's Official Plan in 1998. There is a Secondary Plan for the VMC, and with it a comprehensive series of plans, studies and guidelines that cover all aspects of land use and development within the VMC. All VMC-specific planning documents exist within the broader plans of the Region of York, the City of Vaughan, and public agencies like Metrolinx and the Toronto and Region Conservation Authority (TRCA).

In all, there are over 35 planning documents that will guide the development of the parks and open spaces in the VMC. The most important of these are the VMC Secondary Plan, the VMC Streetscape and Open Space Plan, the VMC Urban Design Guidelines, the Active Together Master Plan, the Black Creek Renewal Study and the VMC Servicing Master Plan. These plans set out the key goals, policies and requirements against which this report has assessed the current state of the VMC's parks and open spaces. The scope of each of these key planning documents is summarized on the following pages.



2.1 VMC Secondary Plan (2019 Consolidation)

The VMC Secondary Plan is a land use plan developed specifically for the VMC and forms part of the City of Vaughan's Official Plan. It sets out policies on a wide range of planning matters that are intended to guide both public and private development in the VMC. The VMC Secondary Plan includes policies and goals concerning the quantity, location, function and character of parks and open spaces within the VMC. This Assessment Report evaluates how fully the current state of parks and open spaces in the VMC meets the policies and goals of the VMC Secondary Plan.

The pace of development in the VMC requires an update to the VMC Secondary Plan. This update process has only just begun at the time of this report. If this update results in new goals and policies applicable to parks and open spaces that affect the assessments made in this report, these assessments will be modified and the changes reflected in subsequent phases of the VMC Master Plan.



2.2 VMC Streetscape and Open Space Plan (2018)

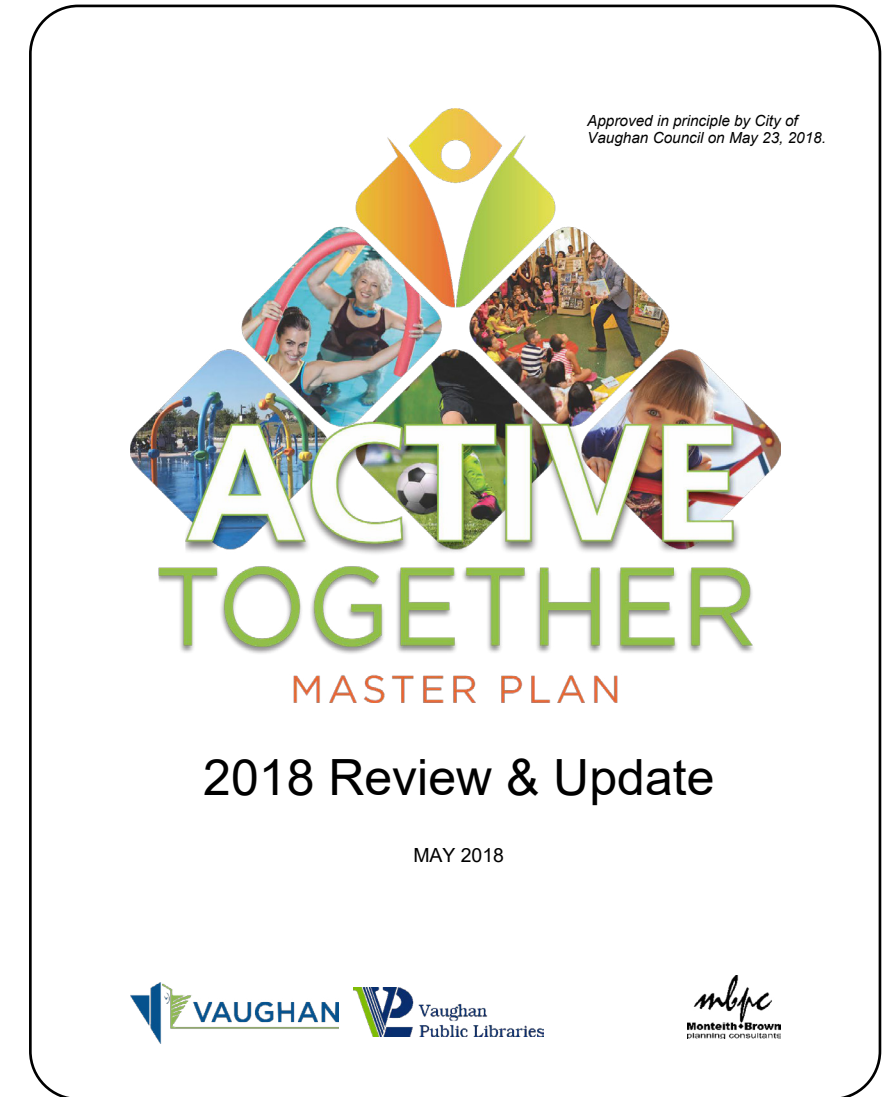
The VMC Streetscape and Open Space Plan (SOS Plan) outlines a comprehensive landscape framework and set of design guidelines for the implementation of all aspects of the public realm in the VMC. Building on the VMC Secondary Plan, the SOS plan identifies the different park and open space typologies planned for the VMC, and outlines specific criteria for developing these spaces in a manner that meets planning goals and addresses public input. This Assessment Report evaluates existing and proposed parks and public open spaces against the criteria set out in the SOS plan.

The SOS plan sets overall and open-space specific targets for tree canopy coverage in the VMC, as required by the Secondary Plan. It provides guidelines on how to plant trees to meet these tree canopy coverage targets. This Assessment Report considers the progress made to date on meeting the tree canopy coverage requirements of the SOS Plan.



2.3 VMC Urban Design Guidelines (2016)

The VMC Urban Design Guidelines (Urban Design Guidelines) provide a toolkit to guide private development in the VMC. Just as the SOS Plan sets standards for the public realm, the Urban Design Guidelines provides guidelines for the private realm, including buildings, privately owned public spaces (POPS) and mid-block connections. This Assessment Report evaluates existing and proposed POPS and private mid-block connections against the framework set out in the Urban Design Guidelines.



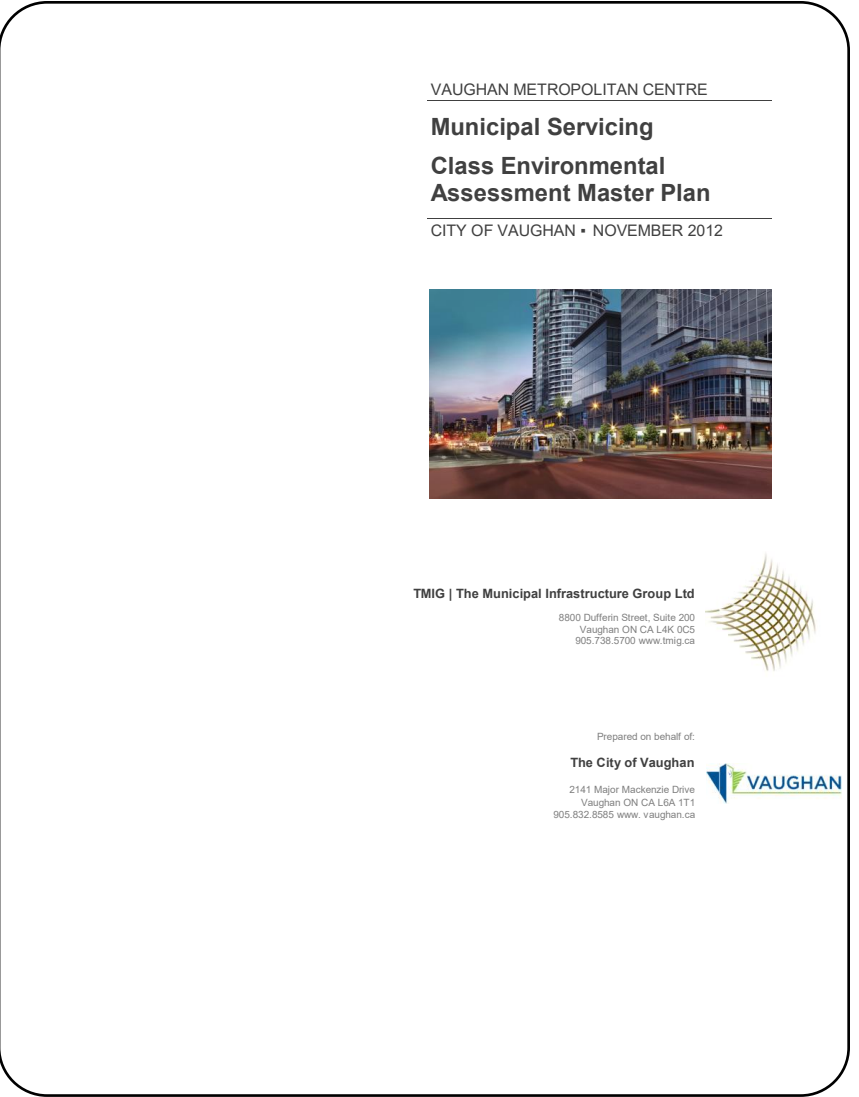
2.4 Active Together Master Plan (2018)

The Active Together Master Plan Review and Update (ATMP) is a long-range planning study for parks, recreation and library facilities across the entire City of Vaughan. The ATMP includes analysis and recommendations on parkland provision levels and outdoor recreational facilities for the City. Some of the ATMP recommendations relate specifically to the VMC. In this Assessment Report, the ATMP is used as a starting point for outdoor recreational facilities provision in the VMC. Where there are differences in the VMC when compared to the rest of Vaughan, such as in typical housing type and anticipated demographics, these differences are taken into consideration and used to develop a more accurate set of facility provision recommendations.



2.5 Black Creek Renewal Class EA (2018)

The Black Creek Renewal Class EA (BCRC) is a Municipal Class Environmental Assessment. The BCRC recommends a channel alignment and physical form for the Black Creek for the section located between Highway 7 and Highway 407. The BCRC alignment is designed to address flooding and erosion problems in Black Creek, as well as to enhance the associated natural heritage system and public realm. This Assessment Report considers the impact of the BCRC on planned active parkland within the Black Creek renewal area.



2.6 VMC Municipal Servicing Master Plan (2012)

The VMC Municipal Servicing Master Plan is a Municipal Class Environmental Assessment that outlines a strategy for water servicing, sanitary servicing, and stormwater servicing, drainage and management for the VMC. This Assessment Report notes the impact of proposed stormwater management ponds on planned environmental open spaces and active parkland in the VMC.

3.0 Growth in the VMC

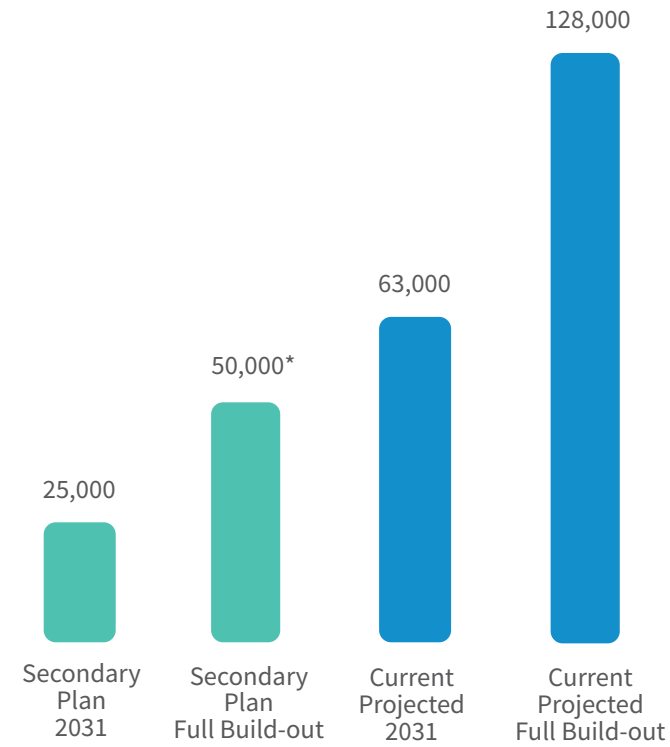
The VMC Secondary Plan establishes a population target of 25,000 residents and 11,500 jobs by 2031 to achieve the critical mass necessary for a downtown. It originally permitted as-of-right density supporting a maximum population of approximately 50,000 residents at full build-out. Revisions approved by the Ontario Municipal Board in 2017 increased the full build-out population to 72,000 (Figure 2).

Actual growth is far exceeding these targets. Based on development applications received to date, the 2031 resident population is projected to reach 63,000. According to the VMC Secondary Plan Update Background Study Report, the uplift in development proposal FSI represents an approximate average rate of 1.6 times the as-of-right permissions. If this trend continues, the population at full build-out may reach 117,000. An alternative analysis, looking at current units and areas under development and extrapolating to the entire VMC, suggests a trend toward a population of 138,000 at full build-out. This study projects a future resident population of 128,000 at full build-out, which is the average of these two estimates. This estimate allows the study to build in the flexibility for the City to calibrate parkland and facilities to population increases overtime, while acknowledging that not all of the VMC should see the same FSI increases, and also that population projections may go down proportionately.

Projected jobs in the VMC are not exceeding estimates to the same degree, and are more speculative given COVID-19, but there is no indication that they will be less than the original target.

The impact of this growth can be captured in a surprising fact. If development continues at the current pace, and reaches an estimated population of 128,000, the VMC is likely to become the most densely populated area in Canada, surpassing the St. Jamestown neighbourhood in Toronto, and one of the most densely populated areas in North America, comparable to the Upper East Side in New York City (Figure 3).

VMC Resident Population Projections



*Revised to 72,000 in 2017.

Figure 2 - VMC Resident Population Projections

Urban Areas with Greatest Population Density (Residents per hectare - not to scale)

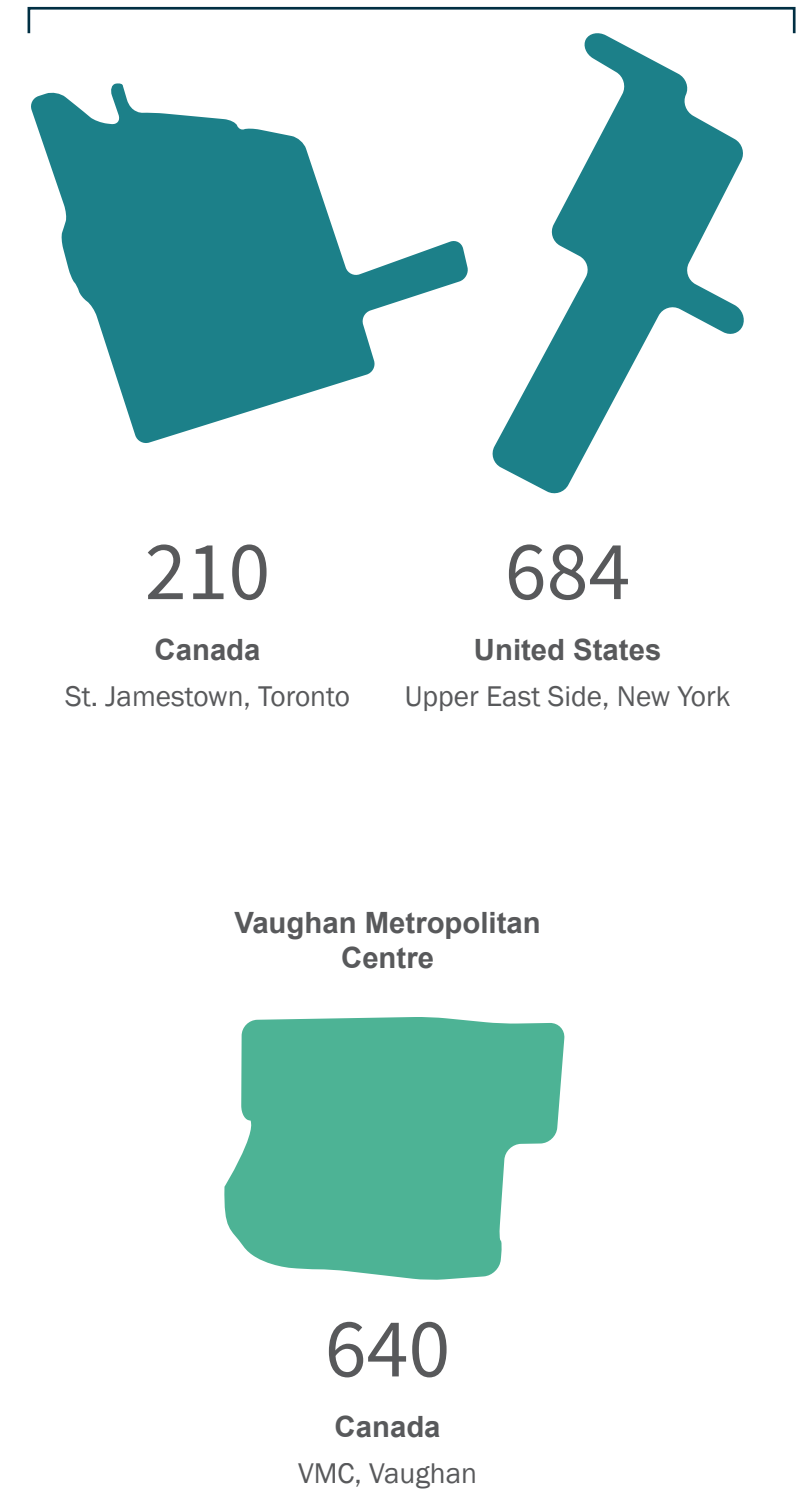


Figure 3 - Urban Areas with Greatest Population Density

4.0 Park Provision in the VMC

4.1 Current Parks and Open Space

Throughout this report, parks and other open spaces are divided into two types according to the definitions contained in the City of Vaughan planning documents. "Active parkland" typically consists of tableland suitable for built recreational facilities, although it may also incorporate natural features; It also includes public squares. "Open space lands" are sites with low development potential used primarily for environmental purposes, but which may also include trails or other facilities for passive recreation. "Total parks and open space" is active parkland and open space lands combined.

The VMC Secondary Plan proposes a minimum of 20 hectares of active parkland, divided into different types of parks: Urban Parks, Neighbourhood Parks, active parkland adjacent Black Creek, and Public Squares. It also proposes significant open space lands, called Environmental Open Space, which may also support passive recreation. The planning vision for each type of parkland is discussed below under "Parks & Open Space Inventory - VMC".

For the purposes of assessing the current level of park provision in the VMC, parks and open space at three stages of development are included: built parks and open space, parks and open space proposed in development applications submitted to date, and parks and open space set out in the VMC Secondary Plan that remains feasible to develop. Based on this definition, and as shown in *Figure 4*, current parks and open space in the VMC total 17.6 hectares of active parkland and 17.2 hectares of environmental open space lands, for a combined total of 34.8 hectares of parks and open space.



Figure 4 - Current Parks & Open Space in the VMC Secondary Plan

Total Parks & Open Space in Use by 2031

4.2 Park and Open Space Provision Rates

Based on current plans for 17.6 hectares of active parkland and a projected population of 128,000 in the VMC at full build-out, the rate of active parkland provision will be approximately 0.14 hectares per 1000 people. The VMC Secondary Plan, by comparison, originally proposed 20 hectares of active parkland, a minimum population of 25,000 and a maximum population of 50,000, for a provision rate ranging from 0.8 to 0.4 hectares per 1000 people. This, on its own, indicates that the VMC is on track to provide substantially less parkland on a per resident basis than was originally envisioned in the VMC Secondary Plan.

Additionally, the VMC is projected to provide less active parkland per resident than the citywide average, which, according to the 2018 Active Together Master Plan and based on a population estimate of 324,100, is 1.86 hectares per 1000 people. It is important to note that this citywide average benefits from the less dense, more suburban characteristics that are common across much of the City of Vaughan and this average rate is not necessarily an appropriate target for a dense urban centre.

If Environmental Open Space is included, the rate of total parks and open space provision in the VMC is 0.27 hectares per 1000 people. This rate benefits from a total of 17.2 hectares of Environmental Open Space in the VMC, which, although no specific area target was specified, is in line with the areas identified in the VMC Secondary Plan.

In assessing park provision in the VMC, it is also important to recognize the anticipated schedule for parks and open space becoming available for use. As shown in *Figure 5*, only 5.0 ha of active parkland is expected to be in use by 2031. Based on a projected 2031 population of 63,000, this represents a provision rate of just 0.08 hectares per 1000. An additional 10.5 hectares of Environmental Open Space is also scheduled for 2031, but proposed stormwater management ponds may limit the use of some of these open space lands for recreation.



Figure 5 - Total Parks & Open Space in Use by 2031

5.0 Park Provision - Benchmarking

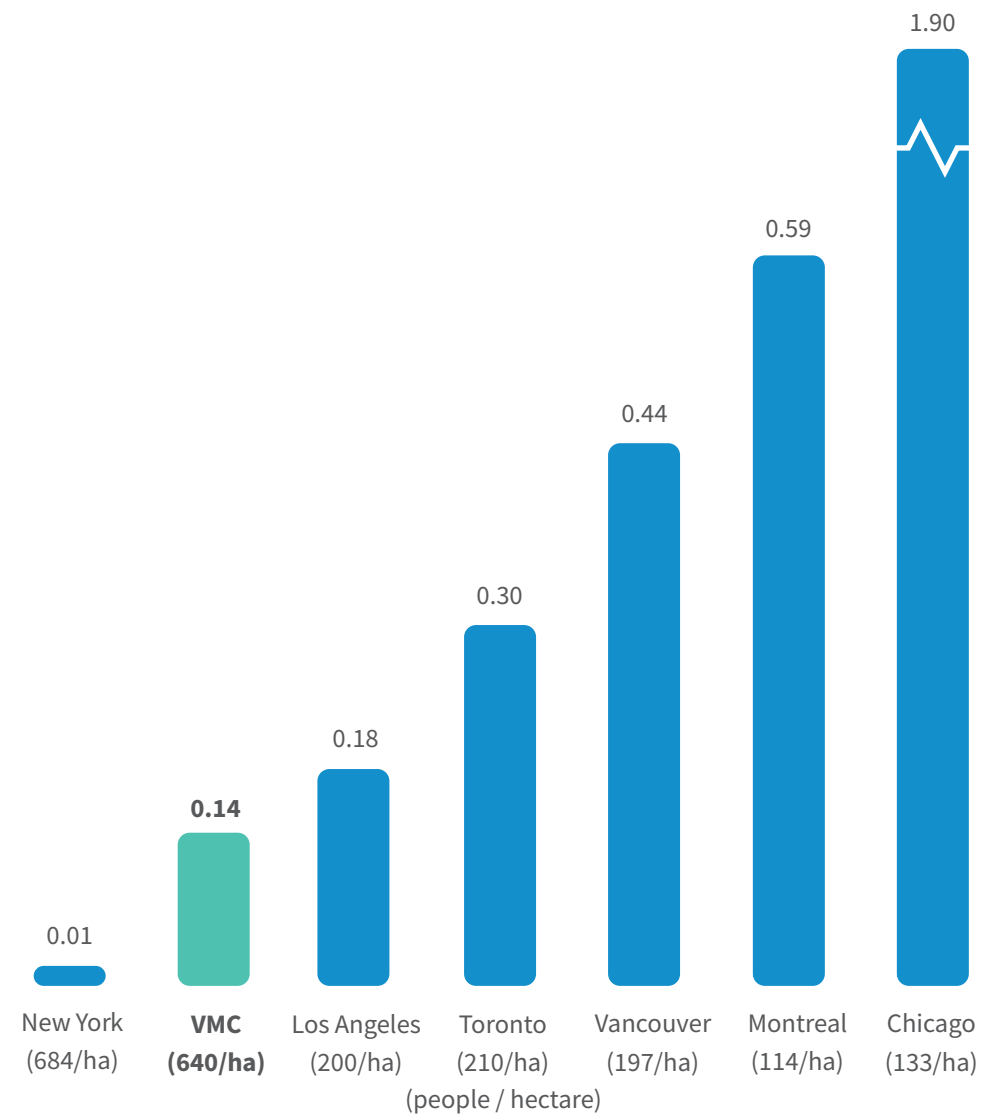
5.1 Park Provision - North America

In order to compare park provision rates in the VMC to other large cities, total parks and open space in the VMC at full build-out was compared to current park areas in the three largest cities in Canada and the United States. In each city, the most dense areas, with populations over 100,000, were studied.

As shown in *Figure 6*, the supply of active parkland in the VMC at full build-out, measured as hectares per 1000 residents, falls below that of every city studied, with the exception of New York. When open spaces are considered in addition to active parkland, as shown in *Figure 7*, the supply of total parks and open space in the VMC at full build-out falls below only New York and Los Angeles.

Importantly, many of the cities currently providing more parks and open space than the VMC, including Toronto, Montreal and Vancouver, have characterized park provision in their city core areas as inadequate. To address this, these other cities are trying to add more parkland to existing downtown areas, requiring solutions that are not optimal. Examples include the new 0.32-hectare Smithe and Richards Park in Vancouver (a piecemeal solution), the proposed 1,600-hectare Grand parc de l'Ouest in Montreal (an expensive solution located outside downtown), and the proposed 8.5-hectare Rail Deck Park in Toronto (a piecemeal and expensive solution with an uncertain future).

A comparison to the densest core area of other North American cities suggests that Vaughan should take advantage of the VMC's early stage of development to ensure that the original targets for parkland provision set out in the VMC Secondary Plan are met, especially for active parkland, thereby avoiding the need for expensive or inadequate measures in future.



Active Parkland in City Cores
(Hectares per 1000 residents)

Notes:

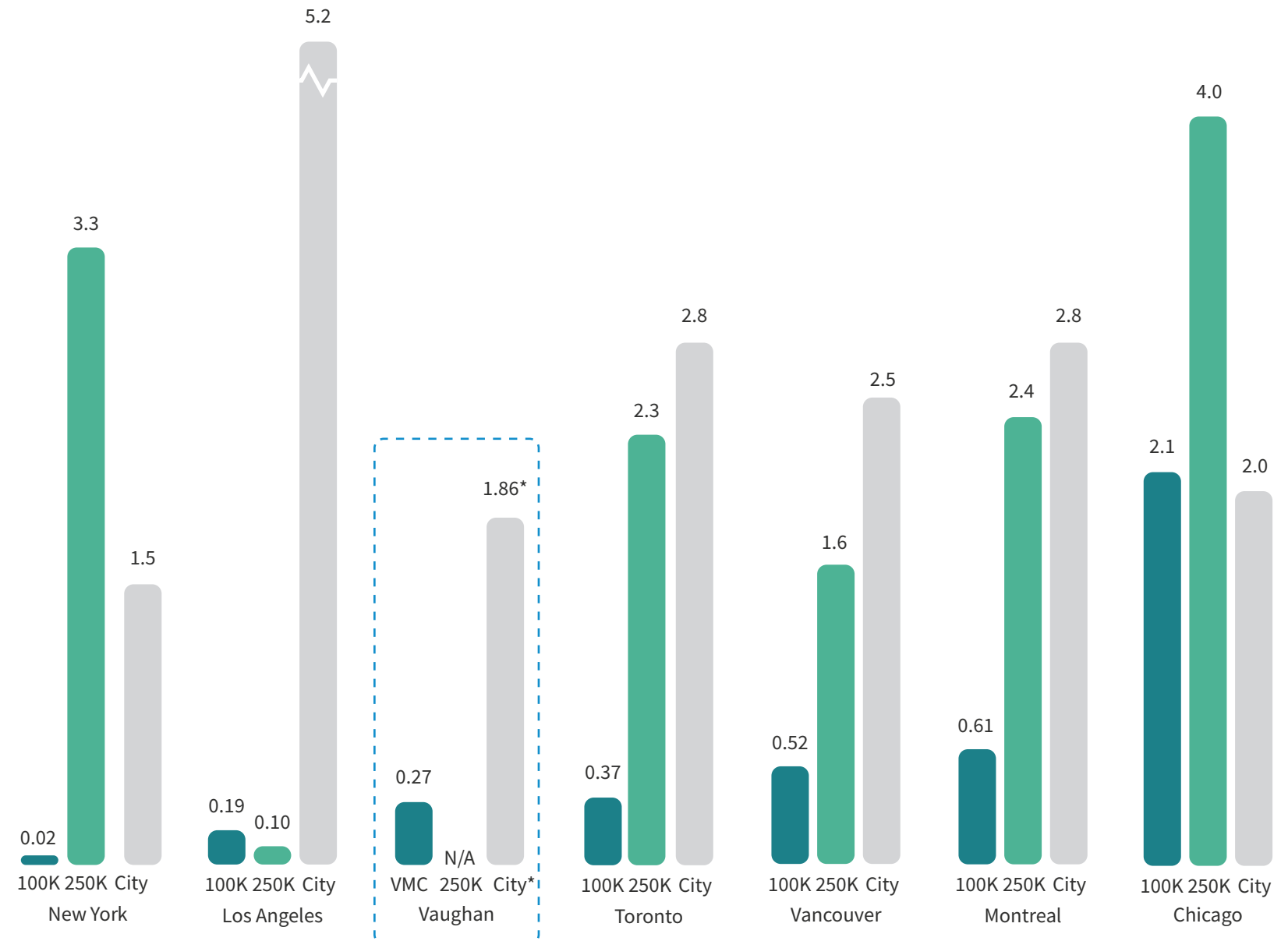
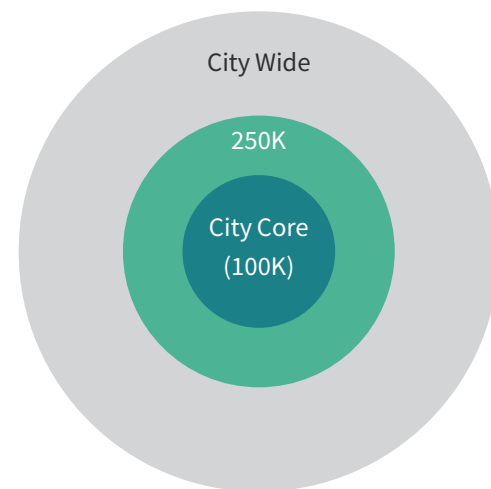
1. City cores comprise adjacent census areas with the greatest population density which total approximately 100,000. The VMC is the area defined by the VMC Secondary Plan.
2. 'Active parkland' is per the City of Vaughan definition, which includes public parks and squares, but excludes other types of open space such as Environmental Open Space.
3. For the VMC, active parkland includes those parks currently existing or proposed in publicly-available development proposals or planning documents.
4. The VMC population is based on the projected resident population of 128,000 upon full build-out. Resident population for cities is based on 2016 census data.
5. Figures below city names show population density (resident population per hectare). The VMC figure is based on a projected population of 128,000 upon full build-out.

5.2 Park Provision - North America (cont'd)

While city cores of 100,000 were studied for the purposes of benchmarking parkland provision in the VMC, a similar study by the City of Toronto in 2017 examined the provision of total parks and open space in city cores of 250,000 people. The results of this study are also included in *Figure 7*.

Of interest is the significant increase in the area of total parks and open space when the geographic size of city cores are expanded to include another 150,000 people. Analysis shows that almost every comparison city has large areas of park or open space just outside its most densely populated area. Examples include Central Park in New York, the ravine system in Toronto, Mont Royal in Montreal and Stanley Park in Vancouver.

Importantly, this suggests that in examining alternatives for increasing park and opens space for the VMC, adjacent areas are important to consider.



Total Parks & Open Space in City Cores and Cities

(Hectares per 1000 residents)

Notes:

- City cores comprise adjacent census areas with the greatest population density which total approximately 100,000 or 250,000, as indicated. The methodology for calculating park and open space lands differs in some respects for city cores of 100,000 versus those of 250,000, as a result of differing sources. See Appendix B for more details. The VMC is the area defined by the VMC Secondary Plan.
- Total parks and open space comprise 'active parkland' and 'open space lands' per the City of Vaughan definition, which includes parks, squares, and environmental open spaces.
- For the VMC, total parks and open space include parks and open space currently existing or proposed in publicly-available development proposals or planning documents.
- The VMC population is based on the projected resident population of 128,000 upon full build-out. Resident population for cities and city cores is based on 2016 census data.
- 1.86 ha/1000 is based on the 2018 ATMP, which **excludes** "open space" lands such as green space, woodlots, conservation lands and other lands outside of municipal control.

5.3 Park Provision - Urban Growth Centres

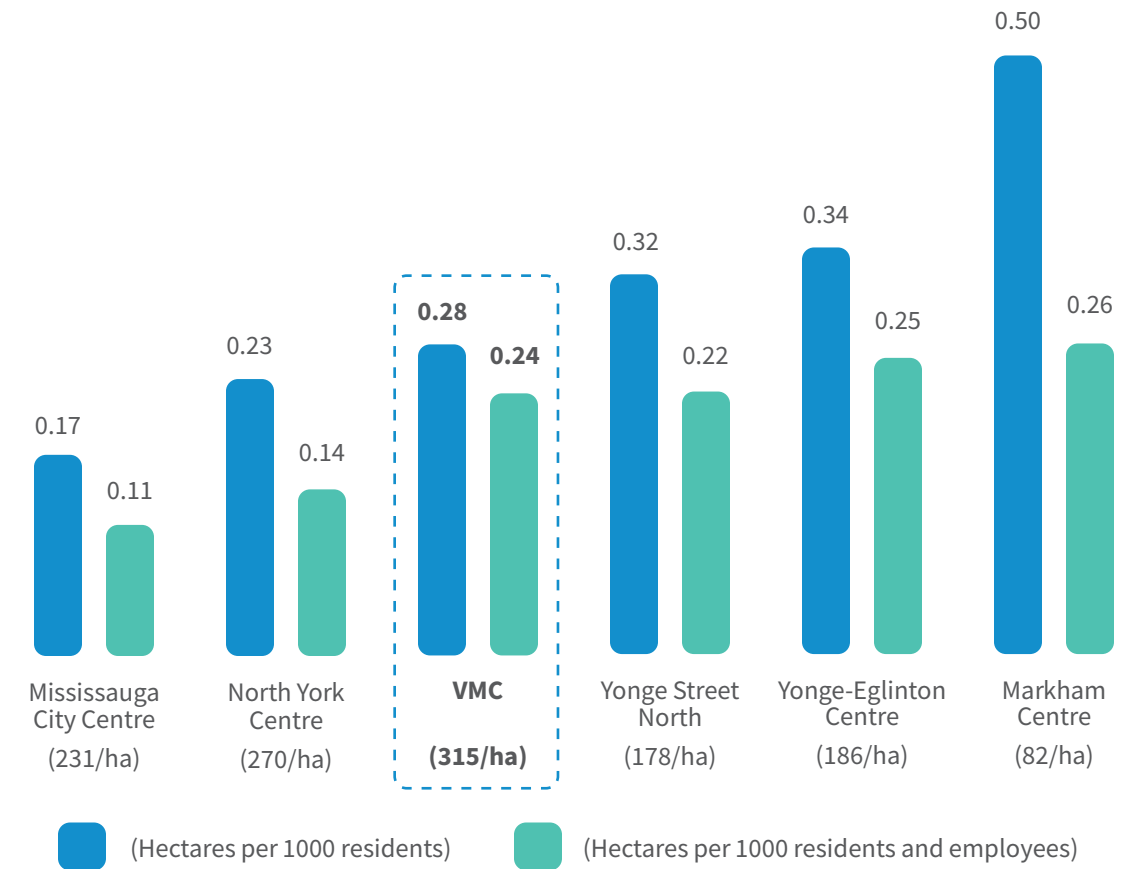
A second benchmarking study compared current park provision in the VMC to five other downtown areas within the Greater Toronto Area (GTA) that comprise or include areas identified as 'Urban Growth Centres' in provincial legislation aimed at encouraging strategic intensification. Some of these Urban Growth Centres are existing (North York Centre, Yonge Street North, Yonge-Eglinton Centre) and some, like the VMC, are emerging (Mississauga City Centre, Markham Centre).

For the purposes of this comparison, resident and employee populations were projected to 2031 or 2032, as those time-frames were most commonly used in planning documents related to the Urban Growth Centres.

As shown in *Figure 8*, current active parkland provision in the VMC is roughly the same as in the existing Urban Growth Centres of North York Centre, Yonge-Eglinton Centre and Yonge Street North. This is a concern, in that an emerging, planned VMC should aim to provide more active parkland than existing centres where the ability to add parks during intensification is constrained by existing development, and park provision is considered inadequate.

The VMC fares better with respect to parkland provision once Open Space is added to the total, as shown in *Figure 9* on the following page. The VMC's relatively large areas of planned environmental open space suggest it will provide more total parkland than the existing Urban Centres of North York Centre, Yonge-Eglinton Centre and Yonge Street North. While highly valuable as open space, environmental open space is not equivalent to active parkland in terms of its ability to be programmed or offer similar opportunities for active recreational facilities.

With respect to emerging Urban Growth Centres, it is important to note that the City of Mississauga is only beginning to plan parks in its downtown in response to development pressure. Planning documents published by that city indicate a target of over 0.50 hectares of parks and open space per 1000 residents. Markham Centre is also at an early stage in park planning, and the extensive Rouge River natural area surrounding the Rouge River within its boundary gives it a head start versus other Urban Growth Centres.



Active Parkland in GTA Urban Growth Centres (2031-2032)

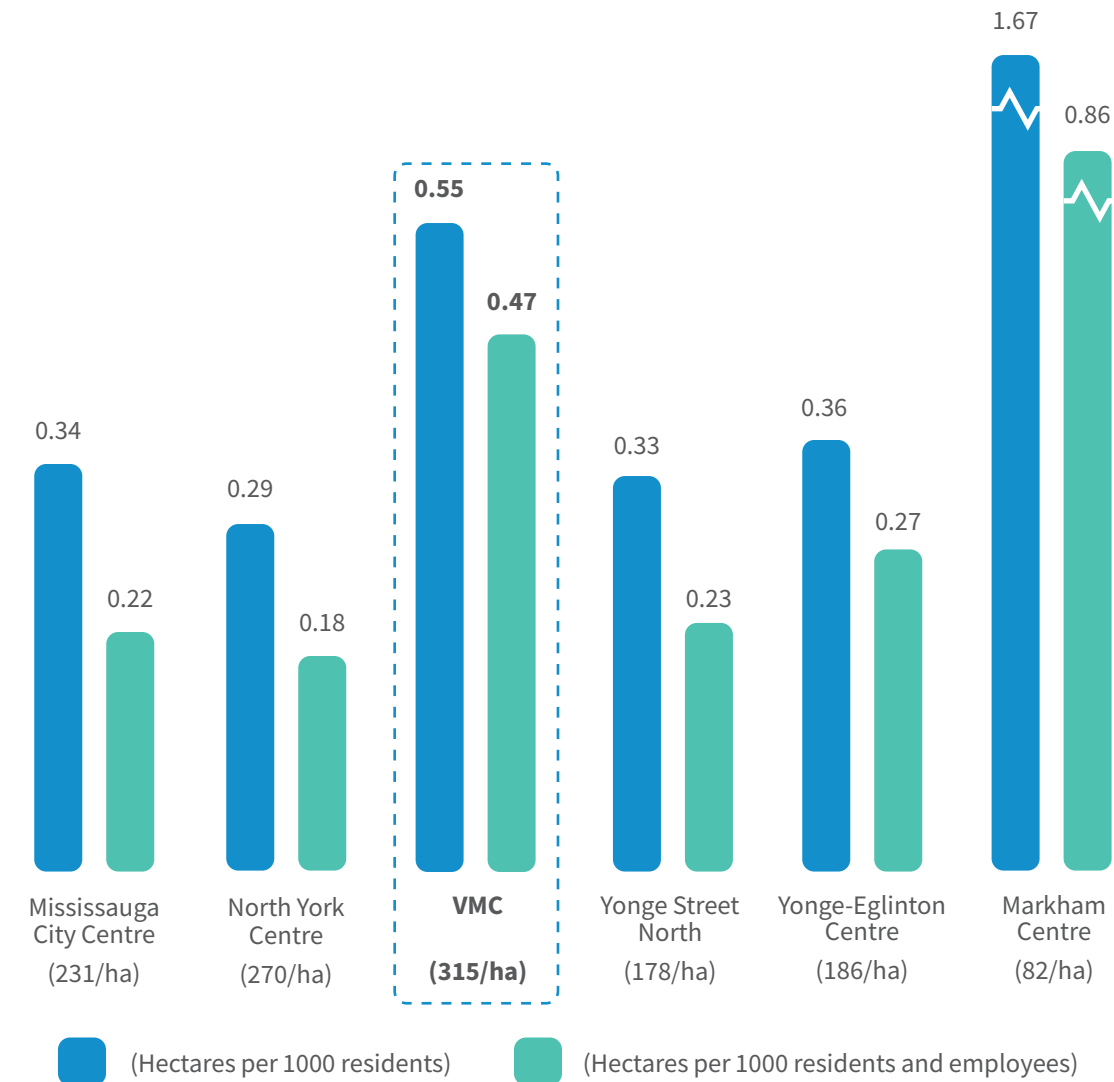
Notes:

1. Urban Growth Centres are the areas identified as such by the municipality within which they are located, typically as a secondary plan area. The VMC is the area defined by the VMC Secondary Plan.
2. 'Active parkland' is per the City of Vaughan definition, which includes parks and squares, but excludes other types of open space such as Environmental Open Space, natural heritage/core features and hazard lands.
3. For all Urban Growth Centres, including the VMC, active parkland includes parks currently existing or proposed in publicly-available development proposals or planning documents.
4. The VMC population is based on a projected resident population of 63,000 and employee population of 11,500 in 2031. For other Urban Growth Centres, resident and employee populations are based on projections to 2031 or 2032, as shown in municipal planning documents, where available, or to 2032 by applying the growth rate in the previous 10 years to the most recent population information. For more details, see Appendix C.
5. Figures below Urban Growth Centre names show population density (resident population per hectare) in 2031 or 2032. The VMC figure is based on a projected population of 63,000 in 2031.

5.4 Parkland Provision - Urban Growth Centres (cont'd)

It should also be noted that Urban Growth Centre benchmarking uses the VMC's projected 2031 population and includes all existing or planned parks and open space, regardless of whether it is expected to be in use by 2031. This approach is necessary to provide a meaningful comparison, since population growth and the schedule for planned parks in other Urban Growth Centres beyond 2031 is not known. However, the projected growth in the VMC beyond 2031 is high (reaching 128,000 residents), and the amount of active parkland and total parks and open space expected to be in use in 2031 is low (5.0 and 10.5 hectares, respectively). Unless additional parkland that is ready for use in the next ten years is provided, the VMC is likely to rank below all other comparison Urban Growth Centres beyond 2031.

The Urban Growth Centres included in this benchmarking study represent only a portion of 25 Urban Growth Centres planned across Ontario, all of which are looking to attract residents, employees and visitors. In this context, increasing park and open space provision, particularly active parkland, is important. It will provide the VMC with an advantage over existing centres in Toronto, and position the VMC to compete with other emerging downtowns.



Total Parks & Open Space in GTA Urban Growth Centres (2031-2032)

Notes:

6. Urban Growth Centres are the areas identified as such by the municipality within which they are located, typically as a secondary plan area. The VMC is the area defined by the VMC Secondary Plan.
7. Total parks and open space is comprised of 'active parkland' and 'open space lands' per the City of Vaughan definition, which together include parks, squares, and environmental open spaces that typically have facilities for passive recreation.
8. For all Urban Growth Centres, including the VMC, total parks and open space includes parks and open space currently existing or proposed in publicly-available development proposals or planning documents.
9. The VMC population is based on a projected resident population of 63,000 and employee population of 11,500 in 2031. For other Urban Growth Centres, resident and employee populations are based on projections to 2031 or 2032, as shown in municipal planning documents, where available, or to 2032 by applying the growth rate in the previous 10 years to the most recent population information. For more details, see Appendix C.
10. Figures below Urban Growth Centre names show population density (resident population per hectare) in 2031 or 2032. The VMC figure is based on a projected population of 63,000 in 2031.

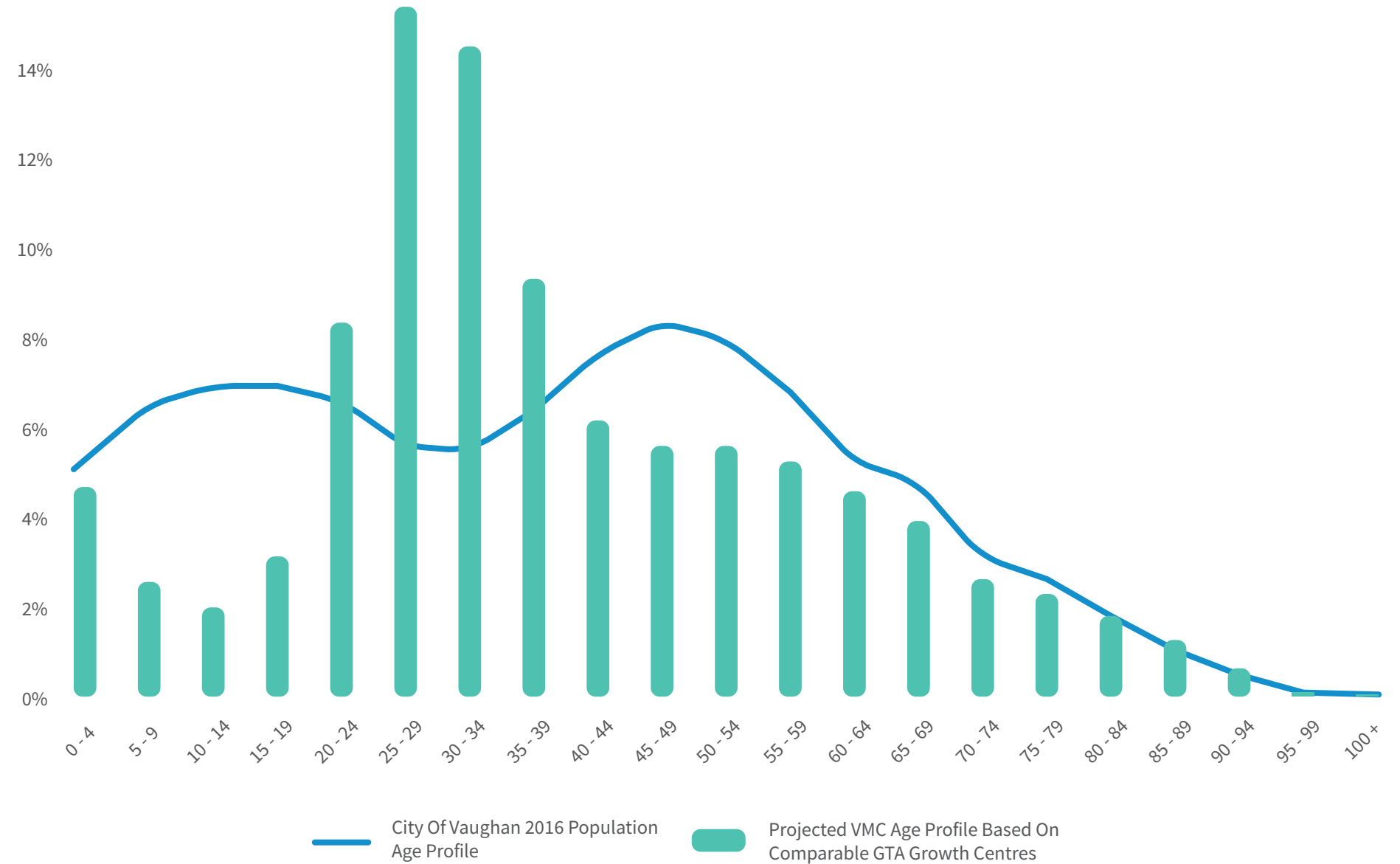
6.0 Facilities Provision

6.1 Demographics

Development trends in the VMC are typical for areas of high intensification - smaller housing units, most with one or two bedrooms, typically in large-scale residential buildings. This differs from other areas of Vaughan, where detached, single-family dwellings are common.

Differences in housing type create differences in demographics, which in turn affect recreational facility needs. In order to understand the demographics of the VMC, existing growth centres across the GTA were analyzed. The selected centres have experienced growth that is similar to that anticipated for the VMC: they have grown faster than the city-wide average in a short period of time (2011-2016) and over 80% of their dwelling units are in buildings over five storeys. Details are provided in Appendix E.

As shown in *Figure 10*, this study suggests key differences in the anticipated demographics of the VMC as compared to the City of Vaughan. There will be approximately one-half as many children and teens between 4 and 19 years of age. There will be many more young adults, especially in the 25-34 age range, and fewer middle-aged adults. While not shown in *Figure 10*, it was also observed that the selected growth areas have, on average, 7% more recent immigrants than the City of Vaughan.



Age Profile - Anticipated VMC vs. City of Vaughan

6.2 Outdoor Recreation Facility Requirements

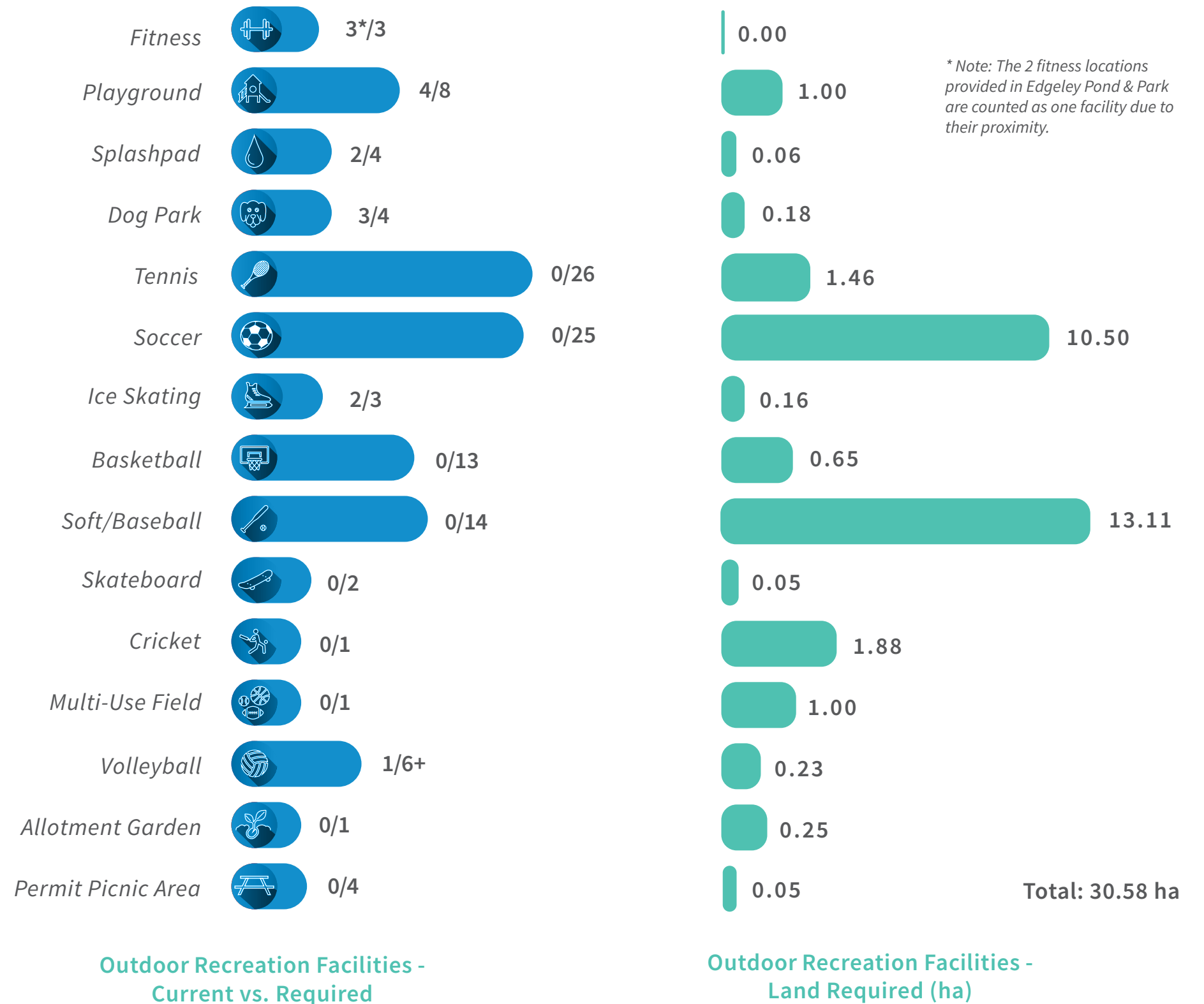
The City of Vaughan's Active Together Master Plan (ATMP) sets out provision rates for outdoor recreation facilities across Vaughan, including within the VMC. Written in 2018, it does not account for the rate and type of growth now projected for the VMC. In order to determine the facilities needed to meet the VMC's specific requirements, the following analysis was undertaken:

- Facility provision rates in the ATMP were applied to the projected population of 128,000 in the VMC at full build-out.
- These provision rates were then adjusted for the anticipated differences in the demographics of the VMC as compared to the rest of Vaughan, where possible using age-based rates or approaches set out in the ATMP.
- Particular attention was paid to facilities likely to be in demand given the lack of access to private outdoor space in the VMC.

Figure 11 shows the number and type of facilities proposed for the VMC, based on a full build-out population of 128,000, and assuming anticipated demographics and housing types. Details on the anticipated demographics can be found in Appendix E. These are divided into facilities included in parks designed to date and facilities that still require a site. Figure 12 estimates that 30.6 hectares of active parkland is required for outstanding facilities. As undesignated active parkland in the VMC totals only 5.4 hectares (excluding Public Squares), an additional 25.2 hectares of active parkland is required.

6.3 Facilities Requiring Special Consideration

Provision strategies applicable to playgrounds in the rest of Vaughan do not work well in the VMC. The ATMP states that the city-wide goal for playground provision noted is a playground within 500 metres of all residential areas. This has resulted in one playground for every 221 children aged 0-9 across Vaughan. In the VMC, the 500-metre rule would require only four playgrounds, or one for every 2,048 children. Providing one playground per 221 children is also problematic, as it would require 37 playgrounds in the VMC. Instead, a multi-faceted approach is suggested: eight public playgrounds are proposed, situated to meet the 500-metre rule. These playgrounds should be larger than the Vaughan average to accommodate more children. Private developers of large-scale residential buildings with family-sized units should also be required to include playground facilities, in POPS, if possible, or in private shared amenity space.



6.3 Facilities Requiring Special Consideration (cont'd)

Dogs are another critical consideration in planning parks and open spaces in the VMC. In the City of Toronto, the presence of dogs in dense urban areas is an acknowledged problem that is being addressed by better public dog facilities and asking developers to include dog facilities in large-scale residential projects. Four off-leash dog areas are proposed for the VMC, which is in line with provision levels in cities with the most dog facilities. These should be supplemented by private facilities.

Community allotment gardens are becoming more popular in dense, urban areas, where access to private gardens is limited. Benchmarking information is limited, but the City of Toronto experience suggests that one 10' x 20' (3 m x 6 m) garden allotment should be provided per 1,900 residents. Using the VMC's projected population, this suggests a minimum of 67 plots over 0.12 hectares. Allotment gardens can also be encouraged in private developments.

Soccer, softball/baseball and cricket fields, and to a lesser extent, tennis courts, are facilities that people will travel to use. While these facilities are numerous in parks within a convenient drive of the VMC, there are few that can be easily accessed by walking, cycling or taking transit (see "Parks & Open Space Inventory - Outside the VMC" below), and their frequent use by VMC residents may create capacity issues. Sports fields may be appropriate to locate immediately outside the VMC, provided they can be conveniently accessed by all forms of transportation.

Moving forward, it will be important for the City of Vaughan to actively monitor and project facility usage and needs as the population in the City of Vaughan and the Vaughan Metropolitan Centre grows and changes. Facilities in this master plan have been identified as desirable and needed based on the most recent demographics, population projections and best practices available. Facility selection has also been guided by the 2018 ATMP, which may not fully capture all current trends. One example, which the ATMP does note as an emerging sport of interest is pickleball. Emerging sports such as, but not limited to, pickleball, while not included in this master plan, should be studied further by the City of Vaughan for inclusion in future park plans and designs.



Figure 13 - Off-Leash Dog Area

7.0 VMC Parks & Open Space Inventory

An inventory was undertaken to assess the extent to which the current development of parks and open space in the VMC is meeting planning goals. This inventory included all public parks and open space identified in the VMC Secondary Plan and the SOS Plan: Urban Parks, Millway Promenade, Black Creek, Neighborhood Parks, Environmental Open Spaces, Public Squares and Mews. It also included private open spaces identified in the VMC Secondary Plan and the UDG: POPS and mid-block connections. See *Figure 15*.

Parks and open spaces that have been designed or built were assessed against the relevant criteria set out in the applicable planning documents. For parks and open spaces called for in the VMC Secondary Plan but not yet designed or built, factors that might impact their development in accordance with planning goals were noted. For examples of this inventory for individual parks, see Appendix A. Findings from this inventory are discussed below.



Figure 14 - Transit Square and Mobility Hub



- Environmental Open Space
- Black Creek Greenway
- Urban Parks
- Neighbourhood Parks
- Proposed Developments
- Public Squares
- Flex Streets
- Mews
- POPS
- Potential Storm Water Management Area

*The VMC Secondary Plan calls for active parkland of 0.8 hectares in each of these EOS, but this is not currently feasible given proposed stormwater management ponds. See "Environmental Open Space".

Parks

A-1	North Urban Park	3.5
A-2	South Urban Park	4.5
A-3	BCG Edgeley Pond and Park (East Parcel)	0.4
A-4	Edgeley Strata Park	0.4
A-5	Millway Avenue Linear Park South	0.5
A-6	Millway Promenade (Existing)	0.5
A-7	Millway Promenade (Planned)	0.9
A-8	Black Creek Greenway (South)	1.0
A-9	Northeast Neighbourhood Park	1.2
A-10	Southeast Neighbourhood Park	1.3
A-11	Southwest Neighbourhood Park	1.9
A-12	Northwest EOS Park	0.0*
A-13	Southwest EOS Park	0.0*

Public Squares

B-1	Millway & Interchange Public Square	0.2
B-2	Transit Square	0.3
B-3	Northwest Public Square	0.2
B-4	Doughton & Commerce Public Square	0.2
B-5	Black Creek Public Square	0.4
B-6	Highway 7 and Maplecrete Public Square	0.2

Environmental Open Spaces

C-1	Edgeley Pond & Park EOS	6.1
C-2	Northwest EOS	3.2
C-3	Southwest EOS	1.8
C-4	Southeast EOS	1.5
C-5	Black Creek EOS	3.8
C-6	EPP Plaza	0.1

POPS AND MEWS

D-1	Transit City POPS	0.6
D-2	Mobilio Community Space POPS	0.1
D-3	Mobilio Promenade	0.4
D-4	Festival POPS/MEWS	0.3
D-5	2901 Highway 7 POPS	0.2

250m 1:7500

Inventory of VMC Parks & Open Space

Figure 15 - Inventory of VMC Parks & Open Space

8.0 Urban Parks

The VMC Secondary Plan calls for two large east-west Urban Parks envisioned as “iconic civic gathering spaces for the VMC...[with] highly programed outdoor spaces that provide for year-round urban recreational activities...”. The SOS Plan provide detailed design guidelines intended to help realize this vision.

Designs for both Urban Parks identified in the VMC Secondary Plan have been proposed and are being reviewed through the City’s development approval process. As proposed, the Urban Parks generally respond well to the planning requirements. Further refinement of design and program may help to ensure an optimal mix of facilities, improve connection across the streets that bisect these parks, and integrate these parks into the low-impact stormwater system planned for the VMC.

Finding additional locations for active parkland within the VMC will be important in light of projected population growth. Any potential expansion to the Urban Parks beyond the original area contemplated in the VMC Secondary Plan should be encouraged.



Figure 16 - Concept Rendering, North Urban Park. Claude Cormier + Associés

9.0 Millway Avenue Promenade

The SOS Plan describes the Millway Avenue Promenade as a “pedestrian-first urban spine” which acts as the principal north-south connection from the Mobility Hub to the southern VMC. According to the SOS Plan, the success of the Millway Avenue Promenade depends upon “the quality and character of the built form edge”. Special paving, lighting and planting, integrated with the design of Millway Avenue, is recommended to create a distinctive public space. Year-round comfort and uses, as well as “shops, restaurants, cafes and cultural and social destinations” along its length, are identified as keys to activating the park. It is expected that future development directly west of the VMC Station will improve conditions along the western edge of the promenade.

The two northern blocks of Millway Avenue Promenade are built. The northernmost block, between Apple Mill Road and New Park Place, contains many of the programmatic and design elements called for in the SOS Plan, but its orientation, highlighted by the paving pattern, is east-west, rather than north-south. The adjacent block, between New Park Place and Highway 7, contains a beautiful new transit station, but the surrounding landscape includes none of the design features required to support the promenade concept.

The vision for Millway Avenue Promenade remains unrealized. To revitalize the concept, the remaining blocks south of Highway 7 will require focused design, active uses along the west edge, extension across the south Urban Park block and a strategy for more comfortable and accessible crossing of Highway 7 by pedestrians and cyclists.



Figure 17 - Millway Promenade at Transit Square



Figure 18 - Millway Promenade at VMC TTC Station

10.0 Neighbourhood Parks

Neighbourhood Parks are intended as the backbone of the park system across the City of Vaughan, including in the VMC. The VMC Secondary Plan and the SOS Plan envision these parks as providing a wide range of park functions, including a place for neighbours to gather, accessible play for children, lawns and areas for passive recreation, and shade trees and other plantings. These parks are also important spaces for locating active recreation facilities of all types, including sports courts and fields.

The VMC Secondary Plan calls for three Neighbourhood Parks, none of which is yet under development. The total area of all planned Neighborhood Park is 4.4 hectares, and the largest parcel undivided by streets or waterways is 1.2 hectares. Based on the projected VMC population, a total of 30.6 hectares of additional active parkland is required for recreational facilities. See “Facilities Provision”. These Neighborhood Parks will not be nearly adequate. The VMC will require more Neighborhood Parks, a larger District Park, or both.



Figure 19 - Solvallsparken, Sweden.

11.0 Public Squares

The VMC Secondary Plan calls for six Public Squares throughout the VMC. According to the SOS Plan, Public Squares are “social spaces for daily urban life, framed by the surrounding architecture, and may include either VMC-wide facilities or neighbourhood-scale facilities”.

Transit Square has been built as VMC-wide facility, and generally meets the planning requirements applicable to a Public Square. A portion of the current area of Transit Square is slated for future development, which would reduce its total area to 0.2 hectares. This would leave Transit Square at the low end of the City’s size standards for these spaces, although the design of the adjacent New Park Place as a Flex Street can temporarily increase its size for larger events.

Although technically not a Public Square, EPP Square, at the southwest corner of Jane Street and Highway 7 has been designed to function as a Public Square, and is additional to those proposed in the VMC Secondary Plan. EPP Square extends Edgeley Pond and Park and provides an effective transition from the park’s natural character to the more urban context of Jane Street and Highway 7.

Public Squares are characterized as ‘active parkland’ by the City of Vaughan, but they do not typically provide a full range of park uses and experiences. Moreover, some of the park uses that Public Squares provide can also be provided by POPS. For this reason, the VMC Secondary Plan describes Public Squares as “complementary” to, rather than substitutes for, traditional parks. Accordingly, any addition of active parkland in the VMC to meet shortfall discussed elsewhere in this Assessment Report ideally should take the form of traditional parkland, rather than Public Squares.



Figure 20 - Night View of Transit Square. Claude Cormier + Associés

12.0 Black Creek

Black Creek is characterized in the VMC Secondary Plan and the SOS Plan as a special landscape, combining a large environmental open space along the Black Creek with smaller portions of active parkland called the Black Creek Greenway. Together, these lands are intended to create an iconic green space for the VMC that connects people to Black Creek, offers a mix of experiences from urban to natural, and provides a variety of ecological functions, including stormwater management and flood control.

Most of the Black Creek green space planned for north of Highway 7 is now designed (*Figure 21*). Edgeley Pond and Park includes 6.1 hectares of environmental open space and a 0.4-hectare portion of the Black Creek Greenway called Strata Park. A public square adjacent to the southwest corner of Edgeley Pond and Park extends the public realm in a beneficial manner.

In the portion south of Highway 7, called the Black Creek Renewal Area, a realignment of Black Creek has been proposed to achieve effective flood control, an improved natural heritage system and an enhanced public realm, but detailed design has not been completed. The combined impact of the realignment of Black Creek and a proposed stormwater management pond has the potential to reduce and fragment both the active parkland (A-8 and A-10 in *Figure 22*) and environmental open space (C-4 and C-5 in *Figure 22*) as compared to the original plan in the VMC Secondary Plan, and ways to ameliorate this impact should be examined.



Figure 21 - Concept Plan - Edgeley Pond & Park

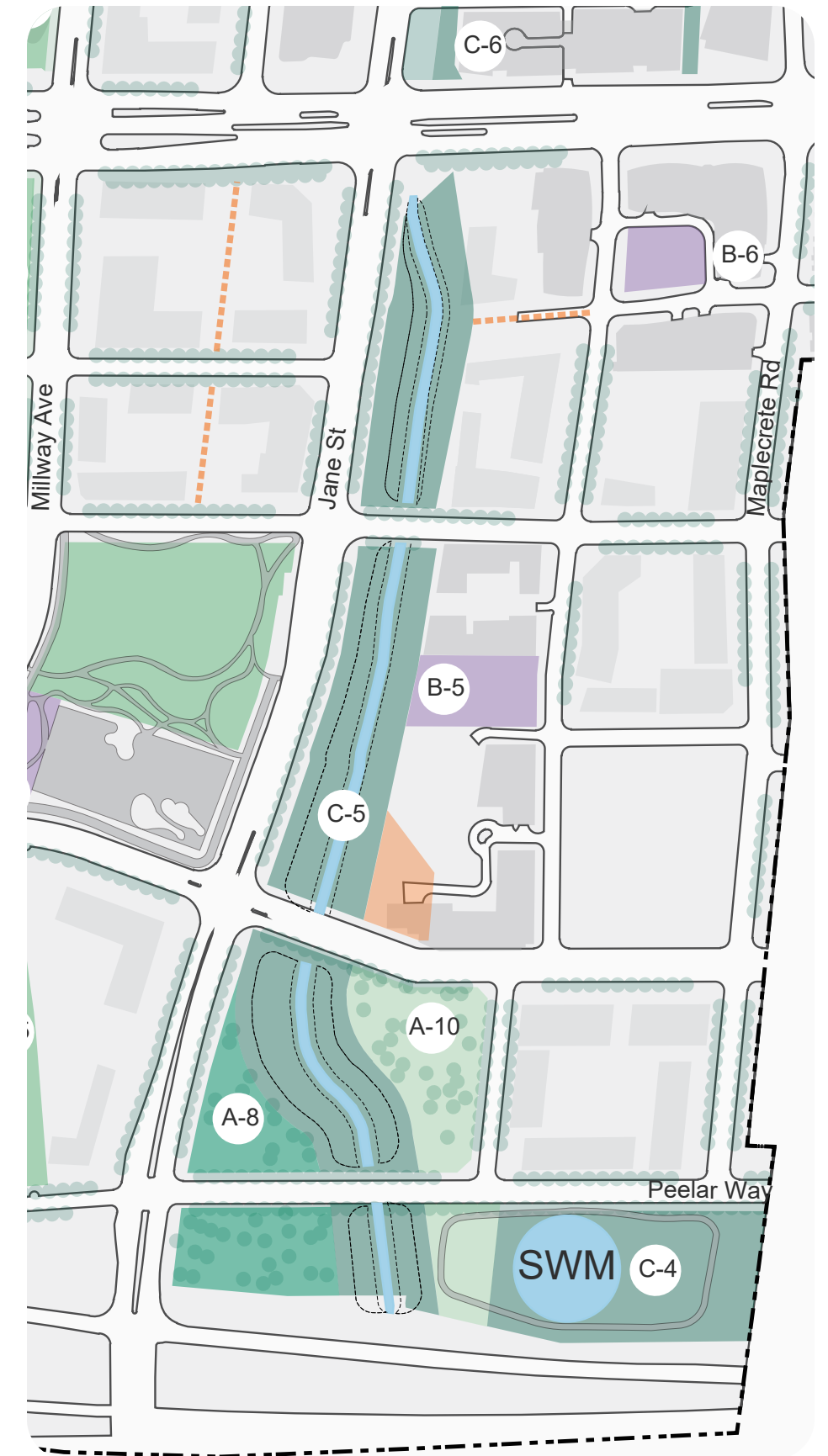


Figure 22 - Black Creek Renewal Area

13.0 Environmental Open Space

The primary role of Environmental Open Space (EOS) is to provide environmental benefits for the VMC, including supporting reforestation and other naturalization initiatives, buffering the VMC from adjacent highways, providing habitat for plants and animals, and protecting and managing water. If compatible with these functions, each EOS may also provide areas for passive recreation and connections within and beyond the VMC. The VMC Secondary Plan also proposes a minimum of 0.8 hectares of active parkland within each of the Northwest and Southwest EOS.

In the Northwest EOS, a stormwater management pond proposed by the VMC Municipal Servicing Master Plan (2012) would encompass most of its 3.2 hectares, making inclusion of active parkland difficult, particularly after tree planting and protection of the west tributary of Black Creek are considered. In addition, the noise, exhaust and visual impact of Highway 7 will have a significant effect on the quality of the Northwest EOS as a space for passive recreation. Absent significant changes to the design of the stormwater pond or a southward expansion of the Northwest EOS, this area may fulfill its environmental functions, but will not contribute significantly to the VMC public realm.

A stormwater management pond is also proposed that is larger than the 1.8 hectares designated as the Southwest EOS. However, public ownership of adjacent lands means that this EOS has the potential to expand to almost 9 hectares from Highway 7 to Jane Street. Planned reforestation of this area, together with the presence of the west tributary of Black Creek, may make siting active parkland within the Southwest EOS difficult, even if it expanded, but these features make the area a good location for trails.



Figure 23 - North West EOS



Figure 24 - South West EOS

14.0 POPS, Mews & Other Public Spaces

POPS are open spaces dedicated to public use but privately-owned and maintained. They often take the form of plazas and courtyards, but also include mid-block connections, which are pedestrian thoroughfares between buildings. According to the Urban Design Guidelines, “the vision for the VMC is to incorporate POPS that are accessible and feel accessible to the public, thereby reinforcing a stronger notion of a connected pedestrian network”.

Mews are small-scale, neighbourhood streets primarily for pedestrians but may also accommodate vehicles for servicing and access. Mews are tasked in the SOS Plan with creating “enhanced connectivity in the downtown, animated by active edges”. Flex Streets use paving and other design features to allow them to prioritize pedestrian use when required.

The POPS and Mews proposed to date respond well to many of the planning requirements and will form an important part of the VMC public realm. Many of these public spaces, however, have a courtyard orientation that supports their related residential development first and public amenity and connection second. Future POPS and Mews with an ‘outward’ focus, integrated as edges and on corners, should be encouraged. POPS should provide meaningful spaces and connections and should have a strong relationship with other public parkland spaces within the VMC.

New Park Place has been built as a Flex Street and works well to support Transit Square. A proposed Flex Street south of the Transit City POPS will also expand and enhance the public realm.



Figure 25 - Concept Rendering, Transit City POPS



Figure 26 - New Park Place Flex Street



Figure 27 - Concept Rendering, Festival Mews

15.0 Alternative Ownership Arrangements

15.1 Stratified Parks

Stratified parks are built on land owned in a vertically stratified manner, where the City owns a portion at grade and a lower portion is privately-owned in order to permit a parking garage or similar use. Stratified parks are less desirable than fully-owned parks for several reasons. Underground structures require air shafts and stairs that can impact the quality of the park space. Large trees are not suited to stratified parks. The redesign of stratified parks for changing needs may be affected by structures below. The waterproofing on underground structures requires replacement every 30-40 years, requiring stratified parks to be excavated.

15.2 Alternative Ownership & Partnership Arrangements

Alternative ownership arrangements of some parks in the VMC is being considered. Although parks on lands leased or managed by the City of Vaughan are included in the City's definition of 'active parkland', a lack of public ownership will almost always place limits on the ability of these parks to serve residents' needs over time. Alternative ownership of a park should therefore be permitted only where the City has complete and unfettered rights to determine how the park will be built, modified and maintained in perpetuity.

It is important to note that while POPS and Mews support and augment public parkland and open space networks, they are not a substitute for public parks. Alternative governance structures and opportunities will be further explored in the VMC PWMP report.



Figure 28 - Concept Rendering, Edgeley Strata Park



Figure 29 - Concept Rendering, Edgeley Pond and Park

16.0 Circulation in the VMC

The ability of people to walk and cycle conveniently, safely and accessibly throughout the entire VMC may be the single most important planning objective in fostering a livable, sustainable and coherent downtown. It informs almost every aspect of the policies outlined in the VMC Secondary Plan, and the related planning documents.

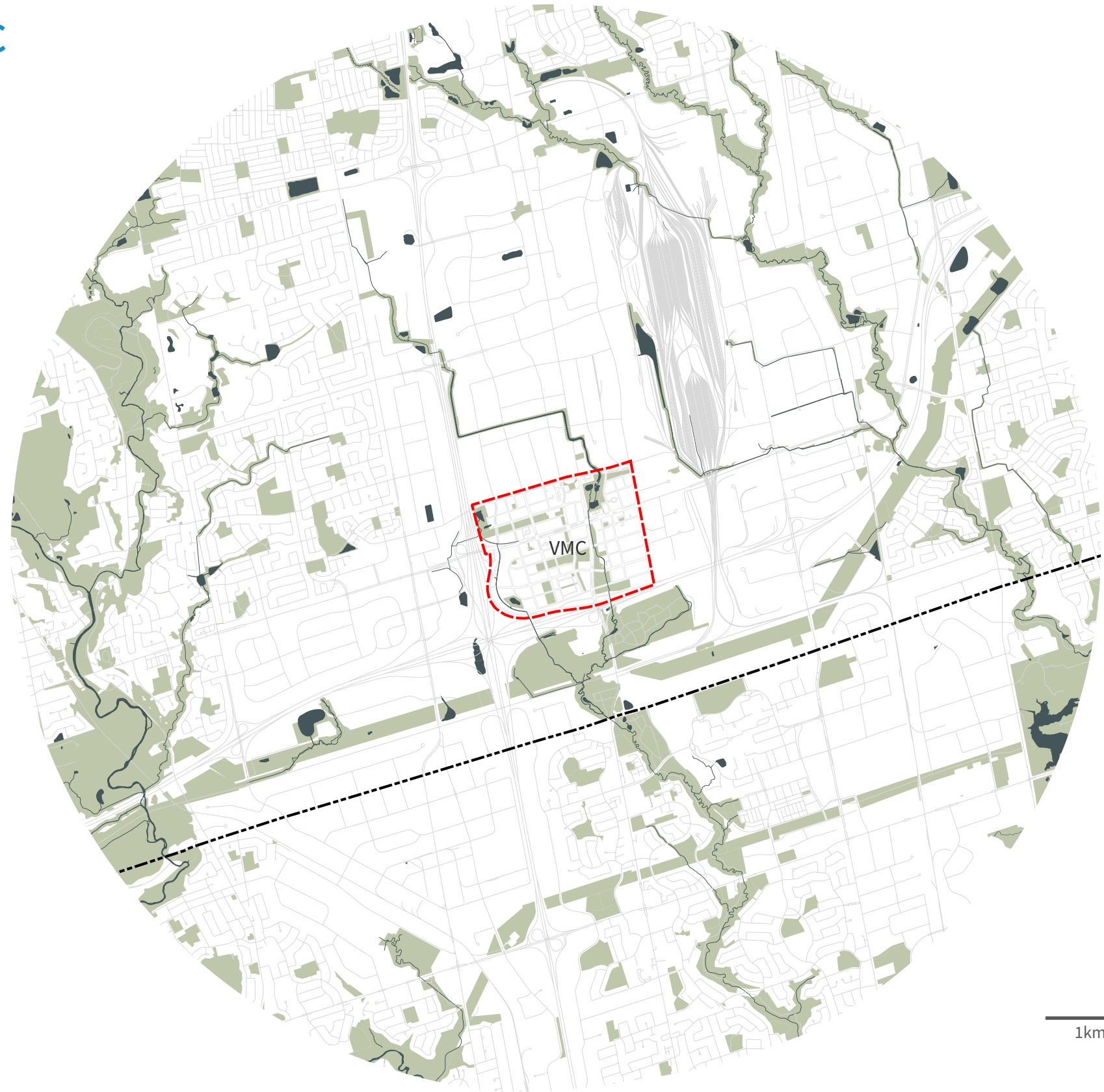
In this context, the current design and use of Highway 7 and Jane Street create a significant challenge to the vision of a connected VMC. Planned by-passes for truck and other through traffic may help address some of the conditions that discourage crossing by pedestrians and cyclists. However, even with reduced traffic, these roads are simply not designed to encourage crossing by foot or bicycle, especially by seniors, families or persons with disabilities.

There is a need to both identify ways to make crossing these streets easier and more accessible and to recognize that these streets may create four separate quadrants within the VMC in which adequate parks and open spaces must be provided.



17.0 Parks & Open Space Outside the VMC

An inventory was completed of all parks and open spaces within 5km of the VMC (Figure 31). This inventory included all parks, open spaces and natural heritage system lands which have the potential to support both active and passive recreation. The purpose of this inventory was to assess the potential of these parks and open spaces to supplement those in the VMC. Proximity by various modes of transportation, existing ownership, use and facilities, connection to other parks and open spaces, and potential for conversion or expansion for public use were all factors that were evaluated. For examples of this inventory as it was completed for individual parks and open spaces, see Appendix D. Findings from this inventory are discussed in the following sections.



18.0 North of Highway 407

North of Highway 407, almost all of the parks and open spaces located within 5km of the VMC are neighborhood or community parks with a typical mix of play and sports facilities aimed at occupants of single family dwellings (Figure 32). As the VMC is surrounded on four sides by a combination of highways, rail corridors and industrial lands, none of these parks are located within walking distance, and they do not contain facilities that VMC residents are likely to travel to use, except for youth or adult sports leagues.

There are three large green spaces devoted to ecology and passive recreation within a 15-minute drive or 30-minute cycle from the VMC: Kortright Centre for Conservation (Figure 33), Boyd Conservation Park, and the Bartley-Smith Greenway South (including Langstaff Eco-park, Keffer March and Marita Payne Park). Kortright and Boyd charge admission fees. While not a substitute for parks within the VMC, these green spaces provide VMC residents with viable options for longer outings devoted to passive recreation.



Figure 32 - Torii Park, City of Vaughan



Figure 33 - Kortright Centre for Conservation

19.0 South of Highway 407

19.1 Connected Greenways

As shown in *Figure 35*, the VMC is uniquely situated among three significant greenways that run along the Humber River, Black Creek and the West Don River. These greenways are linked by the hydro corridor running south of Highway 407, within which a future trail has been proposed to form part of the Vaughan Super Trail. If this trail system was combined with a safe and accessible connection across Highway 407 for pedestrians and cyclists, it would provide VMC residents with access to many kilometres of trails, parks and green spaces within both Vaughan and the City of Toronto.

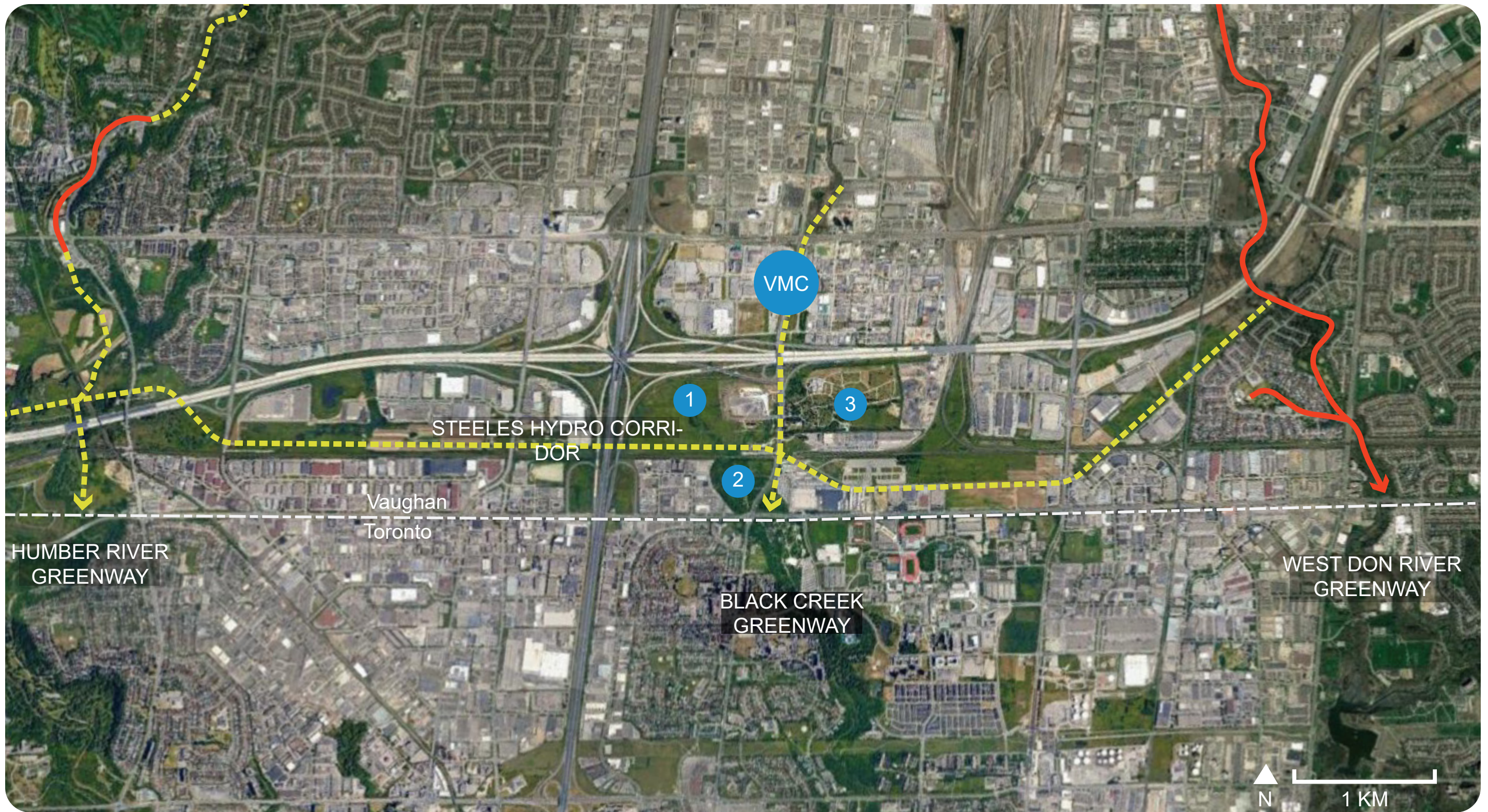
19.2 Sites for Active Parkland

The area south of Highway 407 also contains two large parcels of publicly-owned lands where active parkland could be located (*Figure 34*). The Province of Ontario owns a 40-hectare parcel west and south of Highway 407 Station. Currently there are plans for a potential future rapid transit facility on a portion of these lands. This area is large enough for a District Park under the City of Vaughan's park classification system. The Toronto and Region Conservation Authority owns a 12.8-hectare parcel that currently forms part of the open-air heritage museum, Black Creek Pioneer Village. This parcel is smaller and any park development would have to integrate designated heritage buildings and landscapes. [There are also private lands south of 407 that could be sites for active parkland.]

19.3 Beechwood Cemetery

A connection across Highway 407 would also provide access to Beechwood Cemetery, a public trust cemetery that could become a destination for walking and cycling, particularly with the additions of more mature trees (*Figure 34*).





- Existing Trail
- - - Proposed Trail
- 1 MTO Lands
- 2 Black Creek Pioneer Village North Lands
- 3 Beechwood Cemetery

Figure 35 - Connected Greenways

20.0 Tree Canopy in the VMC

20.1 Planning Goals

The VMC Secondary Plan states: “trees, and street trees in particular, are intended to be a distinguishing visual element in the VMC’s identity.” The VMC Streetscape and Open Space Plan (SOS Plan) sets an overall target for the VMC of 30% canopy coverage, based on mature trees, and outlines a number of recommendations to achieve this target: Urban Parks and Neighbourhood Parks are to have 30% canopy coverage and the plantable areas in Environmental Open Space should target 60%.

All streets are to have trees planted and spaced according to the guidelines identified in the SOS Plan. Additionally, according to the SOS Plan, certain streets are identified for special plantings:

- Double rows of trees along the edges and in medians on Highway 7 and Jane Street, on the north side of Portage Parkway, and on the east side of Creditstone Road.
- Raised, planted medians with trees in all Minor Arterial and Major Collector streets in the VMC.

According to the SOS Plan, “private developments are encouraged to incorporate tree canopy coverage as much as possible”.



Figure 36 - Street Trees on Apple Mill Road

20.2 Tree Canopy Map

An estimate of future tree canopy coverage was made based on existing, proposed and planned trees and mapped (Figure 37). In areas of new development, the map includes all new trees planted or proposed to be planted under development applications and associated park and open space designs. Where new development is not yet proposed, existing trees have been ignored, trees have been added to future streets and parks according to the targets and recommendations specified in the SOS Plan and, on private property, trees have been added at the average rate of canopy coverage in development applications submitted to date. Coverage was calculated based on an average size at maturity of 10 metres in diameter.

20.3 Tree Canopy Coverage

Figure 37 shows projected mature tree canopy coverage of 22.6%.

For designed parks coverage is as follows (SOS Plan target in brackets):

- North Urban Park: 37% (30%)
- South Urban Park: 29% (30%)
- Block 2 Linear Park: 34% (30%)
- Strata Park: 47% (30%)
- Edgeley Pond & Park: 32% (60%)

If canopy coverage for these parks were increased to the SOS Plan targets, the projected canopy coverage would increase to 23.4%.

New or expanded roads, including Highway 7, Apple Mill Road and Portage Parkway, are not being designed in accordance with all of the SOS Plan guidelines intended to maximize street trees. The absence or reduction of planted medians with trees is the most significant example.

The average rate of canopy coverage on private property based on development applications to date is 16.6%. If this rate were raised to 30% on private property not yet subject to development applications, the projected canopy coverage rate would increase to 25.9%.



Projected Tree Canopy

- Street Trees
- Park Trees
- Private Trees

22.6% Tree Canopy Coverage

21.0 Synthesis

21.1 VMC Growth

If development trends continue, the VMC could become one of the most densely populated urban areas in North America, with approximately 128,000 people residing in an area of just over two square kilometres. While growth of this magnitude creates a unique opportunity for a vibrant downtown, it requires new strategies to provide adequate parks, open spaces and trees.

21.2 Park and Open Space Provision

A total of 17.6 hectares of active parkland and 17.2 hectares of open space exist or are planned in the VMC. At the population projected for the VMC based on current development trends, this amount of parkland would place the VMC at or below levels in the most densely-populated areas of the largest North American cities, where the shortage of parks is an acknowledged problem. As other downtown areas in the GTA emerge, this amount of parkland may also place the VMC at a competitive disadvantage in attracting residents, employees and visitors.

Active parkland is the critical need for the VMC. Based on an anticipated population of 128,000 residents, active parkland will be provided at a rate of 0.14 hectares per 1000 residents at full build-out. This is in contrast to the 0.4-0.8 hectares per 1000 originally envisioned in the VMC Secondary Plan.

Additional active parkland is important to accommodate the increase in recreational facilities required by the VMC's rapid growth (see "Facilities Provision" below). A total of 35 hectares of additional active parkland would meet the minimum target of 0.4 hectares per 1000 residents in the VMC Secondary Plan, fully accommodate required facilities, and position the VMC as a leader in providing parkland to downtown residents in the GTA.

Of the 17.6 hectares of active parkland existing or currently proposed for the VMC, only 5.0 hectares is scheduled to be open by 2031. Based on a projected population of 63,000 by 2031, the amount of active parkland supplied will provide only 0.08 hectares of active parkland per 1000 residents. An additional 10.5 hectares of environmental open space is also scheduled for 2031, but the environmental functions of these lands will limit use. An additional 20 hectares of active parkland would be needed by 2031 in order to meet the minimum target of 0.4 hectares per 1000 residents originally set out in the VMC Secondary Plan and to fully accommodate required facilities. In order to increase parkland provision rates in the near term, temporary parkland could be considered if permanent options were not available before 2031.

21.3 Facilities Provision

Development trends in the VMC will have a fundamental impact on the outdoor recreational facilities that are needed by residents. High rates of growth require more facilities. The high proportion of smaller housing units will mean fewer families and more young adults. The lack of private outdoor space will require public spaces to support activities that take place in private backyards elsewhere in Vaughan. Based on these factors, a number and mix of facilities is proposed that is intended to serve the unique needs of the VMC's downtown population. Some of these facilities are included in parks designed to date. As remaining undesignated active parkland in the VMC totals only 5.4 hectares (excluding Public Squares), an additional 25.2 hectares of active parkland is required to site outstanding facilities.

21.4 Parks & Open Space in the VMC

Parks and open space existing or designed to date in the VMC are generally responding well to applicable planning requirements. There are some gaps or issues to proposed parks and open space that should be addressed to ensure that the planned vision for the VMC public realm is achieved:

- Millway Promenade requires renewed focus to realize the original concept.
- Proposed Neighbourhood Parks are inadequate to provide the amount and configuration of active parkland needed to support required recreational facilities.
- While Environmental Open Spaces are not suitable for active recreation, it is assumed that passive uses such as multi-use pathways, trails, and fitness stations can be accommodated.
- Future POPS should be located and designed to better form part of the urban fabric of the VMC.
- Stratified or private-ownership of parks may limit the City's ability to respond to the future park needs of VMC residents.
- Highway 7 and Jane Street together create a significant challenge to the vision of a connected VMC. There is a need to identify ways to make crossing these streets easier and to recognize that these streets may create quadrants in the VMC within which adequate parks and open spaces must be provided.

21.5 Parks & Open Space within 5km of the VMC

North of Highway 407, almost all of the parks and open spaces located within 5km of the VMC are neighborhood or community parks with a typical mix of play and sports facilities aimed at occupants of single family dwellings. None of these parks are immediately adjacent the VMC, and VMC residents are unlikely to travel to use them, except for youth or adult sports leagues.

There are three large green spaces devoted to ecology and passive recreation within a 15-minute drive or 30-minute cycle from the VMC: Kortright Centre for Conservation, Boyd Conservation Park, and the Bartley-Smith Greenway South. While not a substitute for active parkland, these green spaces will provide VMC residents with viable options for longer outings devoted to passive recreation.

The VMC is uniquely situated among three significant greenways that run along the Humber River, Black Creek and the West Don River. These greenways are linked by the hydro corridor running south of Highway 407, within which a future extension of the Vaughan Super Trail is proposed. If this trail system was combined with a safe and accessible connection across Highway 407 for pedestrians and cyclists, it would provide VMC residents with access to many kilometers of trails, parks and green spaces.

The area south of Highway 407 also contains two large parcels of publicly-owned lands where active parkland could be located. The Province of Ontario owns a 40-hectare parcel west and south of Highway 407 Station. This area is large enough for a Regional or District Park under the City of Vaughan's park classification system. The Toronto and Region Conservation Authority owns a 12.8-hectare parcel that currently forms part of the open-air heritage museum, Black Creek Pioneer Village. A park on this parcel would have to integrate designated heritage buildings.

21.6 Tree Canopy in the VMC

Projected mature tree canopy coverage in the VMC is 22.6%, based on development trends to date. Strategies to raise this to the planned 30% target include: ensuring parks and environmental open spaces meet planned tree canopy targets, designing roads and streetscapes in accordance with all recommendations in the SOS Plan, and requiring developers to provide more canopy trees on private property (where coverage rates in developments to date average 16.6%).

Appendices

Appendix A - Parks and Open Space Inventory Examples

During the development of the Assessment Report for the VMC PWMP, a detailed inventory of all existing and planned parks and open spaces was conducted. This inventory process involved conducting a thorough review of parks and open space plans as they exist in City of Vaughan Planning documents. This analysis was then compared and contrasted, where possible, with plans for these open spaces found in active development applications or in other related City documents. A sample of the results of this Parks and Open Space Inventory can be found on the following pages.

These detailed inventories were used to gain a thorough understanding of whether current parks and open space plans are on track to fulfill the goals and objectives set out in City plans and policies, including the VMC Secondary Plan. Based on the results of the inventories, gaps and opportunities were identified, which ultimately formed the foundation of the full VMC Parks and Wayfinding Master Plan.

A-3 EDGELEY POND & PARK



Key Map



Edgeley Pond and Park - VMC Kickoff Presentation

Typology Assessment	Percent by Area
Passive:	50%
Active:	10%
Civic:	5%
Ecological:	35%

Planning Assessment	Planned	Actual	Comment
Type:	Environmental Open Space/Black Creek Greenway (VMC Secondary Plan (VMC SP)); Black Creek (VMC Streetscape and Open Space Plan (VMC SOS Plan)).	Black Creek	The type of park proposed is consistent with that shown in the VMC SP and VMC SOS Plan.
Size:	5.9 hectares (VMC SP); 6.4 hectares (VMC SOS Plan). Note that this includes the Strata Park site.	7.7 hectares (Including Strata Park)	The size of the park exceeds that shown in plans for the area.
Location:	North East of Highway 7 and Jane Street	North East of Highway 7 and Jane Street	The location of this park is consistent with plans for the area.
Surface:	No target identified	Approx. 90% softscape; 10% hardscape	
Tree Cover:	60%	TBD	
Overall Uses:	Per the VMC Urban Design Guidelines (VMC UDG), Edgeley Pond will be the largest Open Space within the VMC and should host a series of walkways, trails and passive recreation areas. Per the VMC SOS Plan, the primary function of the space is for watershed and urban ecosystem health, SWM and flood control, reconnecting people with the creek, providing an urban amenity, enhancing biodiversity, improving microclimate and air quality, buffering traffic noise and providing a substantial tree canopy.	The current design of Edgeley Pond and Park shows large open spaces, storm water catchment areas, heavily planted spaces and a network of trails and bridges. On the south east and south west corners of the park are Strata Park (SE) and a more hardscaped, public square type space (SW). The park design appears to provide passive recreation opportunities, stormwater management and the naturalization of the Black Creek. Elements have been included to encourage active recreation as well.	The design of the park is consistent with the overall uses intended for the space.
Overall Design:	Per the VMC UDG, Edgeley pond and park should transition to adjacent developments by including a combination of recreational multipurpose trails and promenade walkways within tree allées and planting beds. Per SP, accommodate open space and recreation amenities that are compatible with protecting and enhancing natural heritage features.	The spaces within Edgeley Park that are adjacent to development sites have more formal spaces with walkways, trails and hardscaped areas. The design does not appear to include an allée of trees in these areas. The design of the space well balances the need to provide open space and passive recreation spaces with the need to enhance the natural heritage of Black Creek.	
Passive Park Facilities:	Per the VMC SP, trails should encircle ponds and there should be bridges, boardwalks and overlooks. Additionally, there should be open grassed areas for casual recreation and a pedestrian promenade (per VMC SOS Plan).	The design includes trails around ponds; bridges, boardwalks and overlooks; flexible open lawn spaces; and, an amphitheatre.	
Active Park Facilities:	Outdoor artificial rink or skating trail (per Active Together Master Plan (ATMP)); playgrounds (per VMC SP);	The design includes outdoor skating, splash pad and playground (at Strata Park); adult exercise equipment; community garden; pizza oven; and, BBQ Pits.	Most active facilities, including the skating trail, splash pad and playground are located in Strata Park, adjacent to Edgeley Pond and Park, but are considered part of Edgeley Pond and Park for this analysis.
Civic Facilities:	Public art; Pedestrian amenities and structures; Spaces for gathering;	The park includes "Urban nodes" (seating, gateway and gathering). It is unclear how art is integrated	
Ecological Features:	Per the VMC SP, the perimeter of ponds should be planted with native and flood-tolerant plants to stabilize banks; where possible, existing vegetation should be maintained; Water courses are to be maintained, daylighted and integrated into the park design. Per VMC SOS Plan, include native and adaptive plantings.	The design of Edgeley Pond and Park includes LID Stormwater features and preserved mature oak trees. Black Creek is fully daylighted throughout the park. The planting strategy at pond perimeters utilizes native, or TRCA acceptable exotic, plants with appropriate flood-tolerance based on zone allocation.	The design of the park appears to successfully support the naturalization and improved natural heritage role of Black Creek. The whole park appears to function as an ecological feature through its ability to manage storm water and enhance Black Creek.

A-4 STRATA PARK



Key Map

Typology Assessment	Percent by Area
Passive:	60%
Active:	20%
Civic:	20%
Ecological:	0%



Strata Park Rendered Plan, DTAH

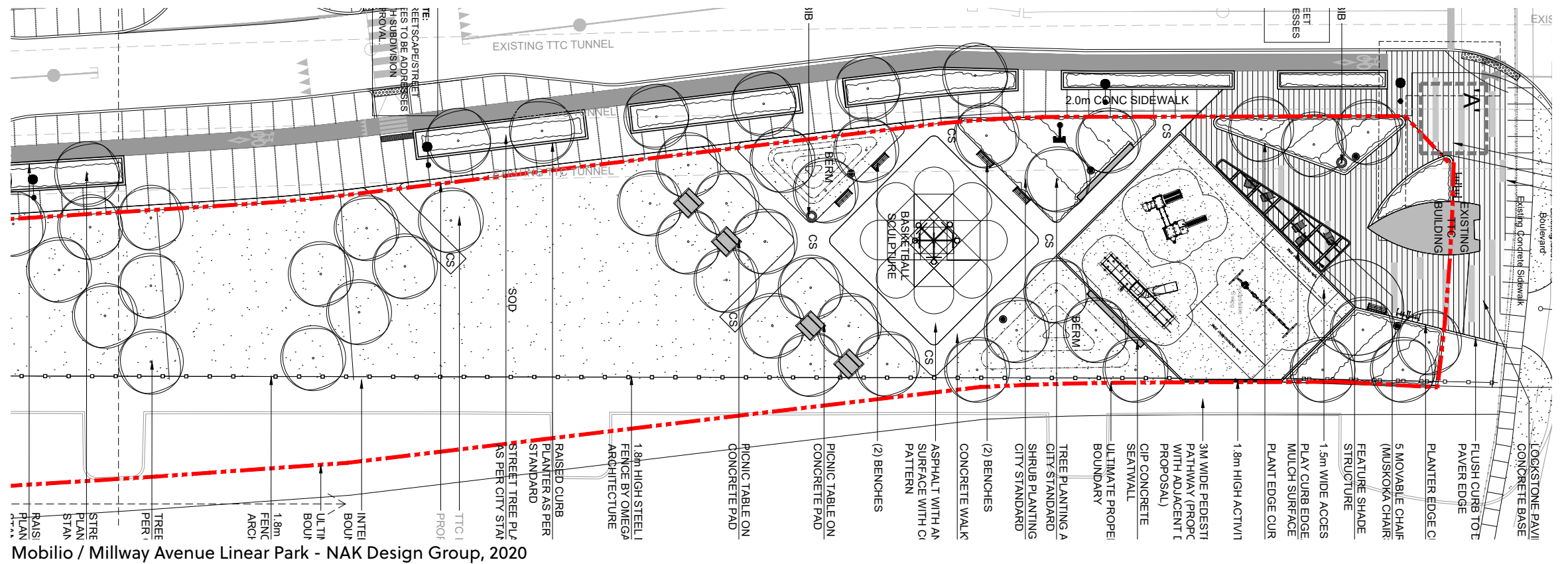
Planning Assessment	Planned	Actual	Comment
Type:	Environmental Open Space/Black Creek Greenway (VMC SP); Black Creek (VMC SOS Plan). Assessed as a POPS.	Strata Park.	While Strata Park is located adjacent to Edgeley Pond and Park, its use and design vary greatly from what would be included in Black Creek or Environmental Open Spaces.
Size:	1:1 - 1:2 proportion of length to width, with the longer side aligning with a public street.	Approximately 0.4 hectares. Proportion and street frontage component are met.	
Location:	Every block within the VMC may consider some form of POPS for residents and visitors; South-facing plazas are generally preferred, unless particular lot configurations prevent such orientation. Plazas should not be north-facing.	West of Maplecrete Road at the western extent of Barnes Road.	
Surface:	No requirement specified.	Approximately 40% softscape, 60% Hardscape/building.	
Tree Cover:	No requirement specified.	Approximately 20%.	With this being a strata park above slab, a limited amount of trees is appropriate.
Overall Uses:	Universally accessible and open to the public; provide a finer grain level of pedestrian connectivity within the open space framework.	The space is a strata park above parking garage. The primary use is as a community gathering and recreation space.	The design of Strata Park offers community facilities in the form of an outdoor skating trail, which was recommended for Edgeley Park in the ATMP.
Overall Design:	Designed to complement the public park system; framed by and relate to surrounding buildings; offer comfort and allow for flexible programming of the space; introduce landscape/planting; trees with sufficient soil volumes to enable large mature growth are strongly recommended.	The design of Strata Park is as a community oriented / civic gathering space with seasonal recreation (skating trail). The space offers a mix of hard and softscaped spaces and creates a transition between Edgeley Pond and Park and the adjacent developments, creating a gradient from natural to urban.	
Passive Park Facilities:	No requirement specified.	Gathering spaces (hardscape plaza and softscape).	
Active Park Facilities:	No requirement specified.	Skating trail, playground and splash pad.	
Civic Facilities:	Public seating; sufficient lighting; Opportunity for public art.	Community room / washrooms.	
Ecological Features:	No requirement specified.	There are no significant ecological features shown.	
Other Facilities/Features:	Large plazas may include fountains and water features.	Splash pad.	

A-5 BLOCK 2 LINEAR PARK



Key Map

Typology Assessment	Percent by Area
Passive:	85%
Active:	10%
Civic:	5%
Ecological:	0%



Mobilio / Millway Avenue Linear Park - NAK Design Group, 2020

Planning Assessment	Planned	Actual	Comment
Type:	Millway Avenue Linear Park (Per VMC SP); Undefined in the VMC SOS Plan. Assessed as a component of Millway Avenue Linear Park.	Neighbourhood Park	The park is a component of Millway Avenue Linear Park, which is an Urban Park, however, this portion of the park fills more of a neighbourhood park role.
Size:	0.45 Hectares (per VMC SP)	0.6 hectares (including phase 2)	The size of this park is larger than what is shown in the VMC SP.
Location:	South of Interchange Way, east of Millway Avenue	South of Interchange Way, east of Millway Avenue	The location of this park is consistent with that shown in plans for VMC.
Surface:	20% softscape/80% hardscape	Approx. 20% hardscape / 80% softscape	Softscape provision meets what is planned.
Tree Cover:	Min. 30%.	32%	
Overall Uses:	Central civic gathering space; a well-lit, 24/7 pedestrian-first "urban spine"	Passive soft and hardscape areas with small active facilities including a sports court; civic gathering spaces; playground.	Park design appears to serve a local need but also seems to act as a central civic space.
Overall Design:	Design elements should link and unify all 4 segments of the park; frame views and vistas;	It is unclear how this space relates to Millway Avenue north of Revel Park. The overall design is more in line with a neighbourhood park, however, it lacks a variety of active and passive facilities that would be needed to fully function as a neighbourhood park. Additional facilities could allow for more flexible recreation to take place.	
Passive Park Facilities:	A range of amenities for residents, workers and visitors; microclimatic designed spaces to address wind, sun and shade	Large lawn/sod space that could be used for larger community gatherings; picnic area with tables; flexible/movable seating.	
Active Park Facilities:	Park features and facilities, such as child play space; Could include commercial concessions (i.e. food kiosks/open air cafes) and modular kiosks;	The park design includes an accessible playground with basketball hoops, however, additional play space could potentially be located in the phase 2 area, for which there is currently no design.	The space could be designed to incorporate: tennis court, basketball / play court, primary skateboard park, and a dog park, all of which may be provided in Urban and Neighbourhood parks under the ATMP and which do not appear to be included presently.
Civic Facilities:	Provide the setting for civic events, public art and commercial activity; flexible space for cultural programming and large gatherings;	Large hardscaped areas and a diversity of seating options, allowing for gatherings and flexible use of the space.	This park may provide a good location for a sculpture park, which is recommended for inclusion within VMC.
Ecological Features:	No requirement specified.	The park does not appear to include any ecological features, however, there is a potential to use permeable paving and soil cells beneath trees.	
Other Facilities/Features:	Public art and temporary installations; Iconic tall vertical lighting elements	A large, central Basketball Sculpture is shown on plans; lighting is provided in a typical fashion without the use of iconic fixtures.	Unique, tall lighting should be considered as a way to terminate views looking south down Millway.

A-6 TRANSIT SQUARE



Key Map



Transit Square, Claude Cormier

Typology Assessment	Percent by Area
Passive:	10%
Active:	0%
Civic:	100%
Ecological:	0%

Planning Assessment	Planned	Actual	Comment
Type:	Public Square		
Size:	Public squares have a general requirement of being 0.2 to 1 hectares. The average width is to be no less than 45 metres when using a 1 to 1 ratio, and no less than 32 metres when using a 2 to 1 ratio.	Approximately 0.4 ha (a portion of the square is a potential development site - as such, the final size may be approx. 0.2ha). It is unclear where property lines fall on the site.	The planning assessment of Transit Square is based on the requirements of a Public Square.
Location:	West of Millway Avenue Promenade, between Apple Mill Road and New Park Place.	West of Millway Avenue Promenade, between Apple Mill Road and New Park Place.	
Surface:	Suitable for high-volume pedestrian use.	45% softscape, 55% hardscape	
Tree Cover:	No requirement specified.	Approx. 20%	
Overall Uses:	Public squares shall function as places for gathering, passive recreation and landscaping. Public squares are social spaces for daily urban life with VMC-wide or neighbourhood facilities. Transit square is to be a central destination in the Vaughan Metropolitan Centre.	Transit square is designed as an open, central destination between subway station and bus terminal, located at the terminus of Millway Avenue Promenade.	While the space succeeds in being flexible, there remains room to improve its usability and function. There remains an opportunity to better integrate an arts and cultural element, which would help to activate the space in off hours.
Overall Design:	Flexible spaces, raised intersections, special surface and/or curb treatments, accent lighting, street furnishings, public art, and weather protection; Animated by active commercial edges at grade; Strong interface with the adjacent public streets; Design for year-round use; High quality materials and special features; Develop Transit Square to be the premier urban setting for public celebration and interaction.	The overarching design of the space is as a flexible open space. There is a barrier free connection to New Park Place (rolled curb), seating and unique lighting. The space has the potential to be used in a number of flexible, passive and active (programmed / events) ways.	It is unclear how the space itself would support year round activities. The open nature of the space may allow for a winter installation, however, on its own, the space is exposed to the elements.
Passive Park Facilities:	Fountains / water features; Seating; Contemporary LED lighting; Public art installations; Gardens and contemporary planting;	Transit square includes open spaces, both paved and sodded, which offer a flexibility in uses. Some seating is provided, however, the majority of seating is in the Millway Avenue Promenade space.	
Active Park Facilities:	Outdoor game areas;	There are no active park facilities in the square, however, there is potential to host classes and other more active gatherings in the space.	
Civic Facilities:	Wi-Fi capabilities; Public art installations; Ensure that the design concept for Transit Square accommodates the delivery of arts and culture programs; develop a phased program for the animation of Transit Square; Conduct a feasibility study for a farmers, flower or Christmas market at Transit Square to provide year-round activations.	Transit Square fills the role of being a flexible civic gathering space that accommodates workers, residents and visitors. It is unclear whether this space contains Wi-Fi. Generally, the square itself functions as a civic facility due to its central location and ability to act as a gathering place.	The site has played host to a number of large gatherings and events in VMC, including Hometown Hockey celebrations and events. The delivery of arts and cultural events in the space should be increased over time as VMC grows.
Ecological Features:	No requirement specified.	None.	
Other Facilities/Features:	Potential commercial concessions (food kiosks/open air cafes) can be located in the square or in adjacent uses. 50% of a public squares edges shall front on to a mews of street.	The space can accommodate kiosks, stalls and market space on an interim and temporary basis. Over 50% of the space (including the adjacent Millway Avenue Promenade) fronts onto streets.	

A-7 Transit City POPS



Key Map



Transit City POPS, Claude Cormier

Typology Assessment	Percent by Area
Passive:	75%
Active:	0%
Civic:	15%
Ecological:	10%

Planning Assessment	Planned	Actual	Comment
Type:	POPS - Internalized Courtyards.	POPS - Internalized Courtyards.	
Size:	1:1 proportion of length to width; Large enough to provide flexible programming including tree planting and seating areas.	Central open space is 65mx65m, providing the desired 1:1 ratio. Including the corner access spaces, the POPS is 0.72 ha; the central POPS is 0.46 ha. The space is generously sized, which will allow for flexible uses and significant tree planting.	Given that this space has parking beneath it, it is not suitable for long term, mature tree growth.
Location:	Every block within the VMC may consider some form of POPS for residents and visitors; Internalized courtyards are located in the interior of a block, primarily surrounded by buildings, with limited direct street frontage.	This space is located east of Millway Avenue, south of Portage Way, in the centre of the development block. The space is primarily surrounded by buildings on three sides, with direct street frontage provided on the south side.	
Surface:	At least 50% of the area should be soft landscaping; service areas should be paved with pedestrian-oriented materials; asphalt should not be permitted.	The design of the space provides 55% softscape and 45% hardscape. There are no apparent service areas within the space; paving is shown as concrete, with no asphalt indicated on plan.	
Tree Cover:	Deciduous trees in proximity to seating areas should allow for sun in the winter and shade in the summer.	TBD	
Overall Uses:	Focused and flexible programs.	The design of this POPS is, overall, passive in nature. The open lawn allows for flexible uses and gatherings, while the entry plaza and entrance garden may offer more focused programs.	
Overall Design:	Courtyards should be regular in shape (i.e., rectangular, square, etc); small areas of the courtyard may take the form of niches adjacent to the main portion of space ; the layout of programs should take advantage of the shelter provided by the surrounding built form to locate patios, children's play areas, and communal gathering zones.	The space is open and connected to its surroundings, while at the same time sheltered and framed by buildings. A large central lawn area offers movable seating and is flexible in how it could be used. The space is regularly shaped, however, the internal design of walkways and spaces is unique and flowing, allowing distinct spaces and niches to be carved out.	
Passive Park Facilities:	No requirement specified.	The large central lawn and the entrance garden offer passive park uses, while the entry plaza indicates patio seating, possibly in support of adjacent retail / commercial spaces.	
Active Park Facilities:	Children's play areas.	There are no children's play areas present in the design.	While there is no designated play area, the central lawn offers ample room for play and recreation.
Civic Facilities:	Provide a variety of seating; patios; communal gathering zones.	A variety of seating is provided in the form of both benches, patio tables and movable seating. The Entry Plaza and Entrance Garden also have the potential to take on more of a civic role, becoming destinations in the neighbourhood.	
Ecological Features:	Ensure sufficient soil volumes for large trees to grow.	There are no apparent ecological features of the space, however, the trees are likely in soil cells.	
Other Facilities/Features:	Provide sufficient lighting to ensure a safe and welcoming environment; servicing should be screened with vegetation; Taller buildings should be located north of the courtyard to allow access to sunlight during most of the day.	The plan for the space indicated a number of lights, which will help to ensure the space is safe and welcoming. Buildings are generally separated from the space by planting beds, with pathways that link to entrances; the exception is retail spaces, which front onto plaza space.	

Appendix B - North American Park Provision Methodology

The following methodology outlines the process that was undertaken in order to gain an understanding of park provision levels across North America. This study was undertaken in order to create a benchmark for current parks and open space plans in the VMC. This study was instrumental in assessing the VMC's park provision levels and identifying gaps and opportunities in current plans.

B.1 Study Areas and Population

1) Since the VMC is projected to have a population of 127 000 people, the high-density cores of North American cities with a population of 100 000 people were used in a North American parkland provision analysis.

2) Total population data per census tract from the 2016 Canadian Census and the 2016 American Community Survey 5 Year Estimate 1 tables were imported into QGIS and linked with their respective census tracts represented by shapefiles using census tract codes. The census tract shapefiles were obtained from Statistics Canada and the US Census Bureau.

3) Population density was determined by running a calculation in QGIS.

4) The most densely populated census tract in the urban centre was selected and all surrounding census tracts within the highest population density category were selected to form a continuous area until the combined population reached a value closest to 100 000 people.

Sources: (Table data and shapefiles)

Toronto: statcan.gc.ca

Montreal: statcan.gc.ca

Vancouver: statcan.gc.ca

New York City: census.gov

Los Angeles: census.gov

Chicago: census.gov

Philadelphia: census.gov

B.2 Current Parkland

1) Parkland data for each study area was obtained using official city parkland shapefiles, which were clipped relative to the study area boundaries.

2) The park polygons in the shapefiles were sorted into two shapefiles (active parkland, and passive open space) to match the parkland categories analyzed in the VMC parkland provision study.

3) Cemeteries and schools were removed from the shapefiles as they are not being considered in the VMC study.

4) Orthophotos and maps of each study area were visually reviewed in QGIS to account for any additional parkland and open space parcels that were not included in the city shapefile. The additional areas were traced and added to the two shapefiles.

Sources:

Toronto: Open Data: City of Toronto, Parks shapefile (2018)

Montreal: Ville de Montréal: Portail données ouvertes, Espace vert shapefile (2020)

Vancouver: City of Vancouver Open Data Portal: Parks shapefile (2019)

New York City: NYC Open Data: Open Space (Parks) shapefile (2018)

Los Angeles: Los Angeles Open Data: Department of Recreation and Parks' GIS Map of Park Boundaries shapefile (2019)

Chicago: Chicago Data Portal: Parks - Chicago Park District Park Boundaries (current) shapefile (2019)

Philadelphia: Open Data Philly: PPR Properties shapefile (2020)

B.3 Parkland Provision

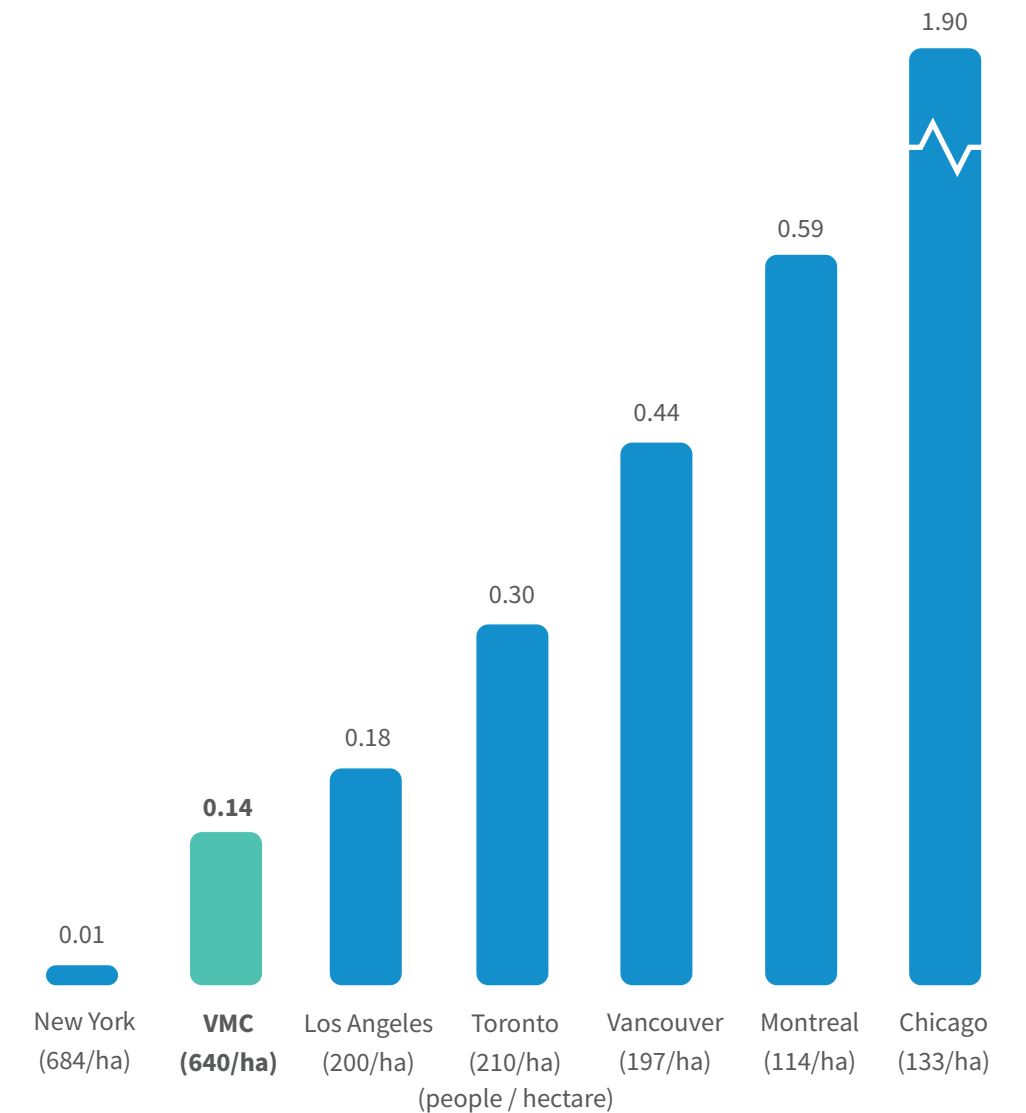
1) The total area of active parkland and passive open space in hectares was calculated in QGIS.

2) To obtain the parkland provision number, the total area of the parkland or open space in question was divided by 100 to obtain hectares of parkland per 1000 people in the 100 000-population urban core.

3) Even though each study area population varies slightly from 100 000 due to the aggregated census tract population, the parkland area is divided by a population of 100 000 in order to provide standardized numbers.

The 2016 American Community Survey (ACS) 5-Year estimate table was used since the latest American Census was conducted in 2010, and the ACS is used to estimate population for years between the decennial censuses. No such population estimate survey is conducted by Statistics Canada.

The adjacent figure and the figure on the next page show the provision of parkland (active and total) in representative cities in Canada and the United States.

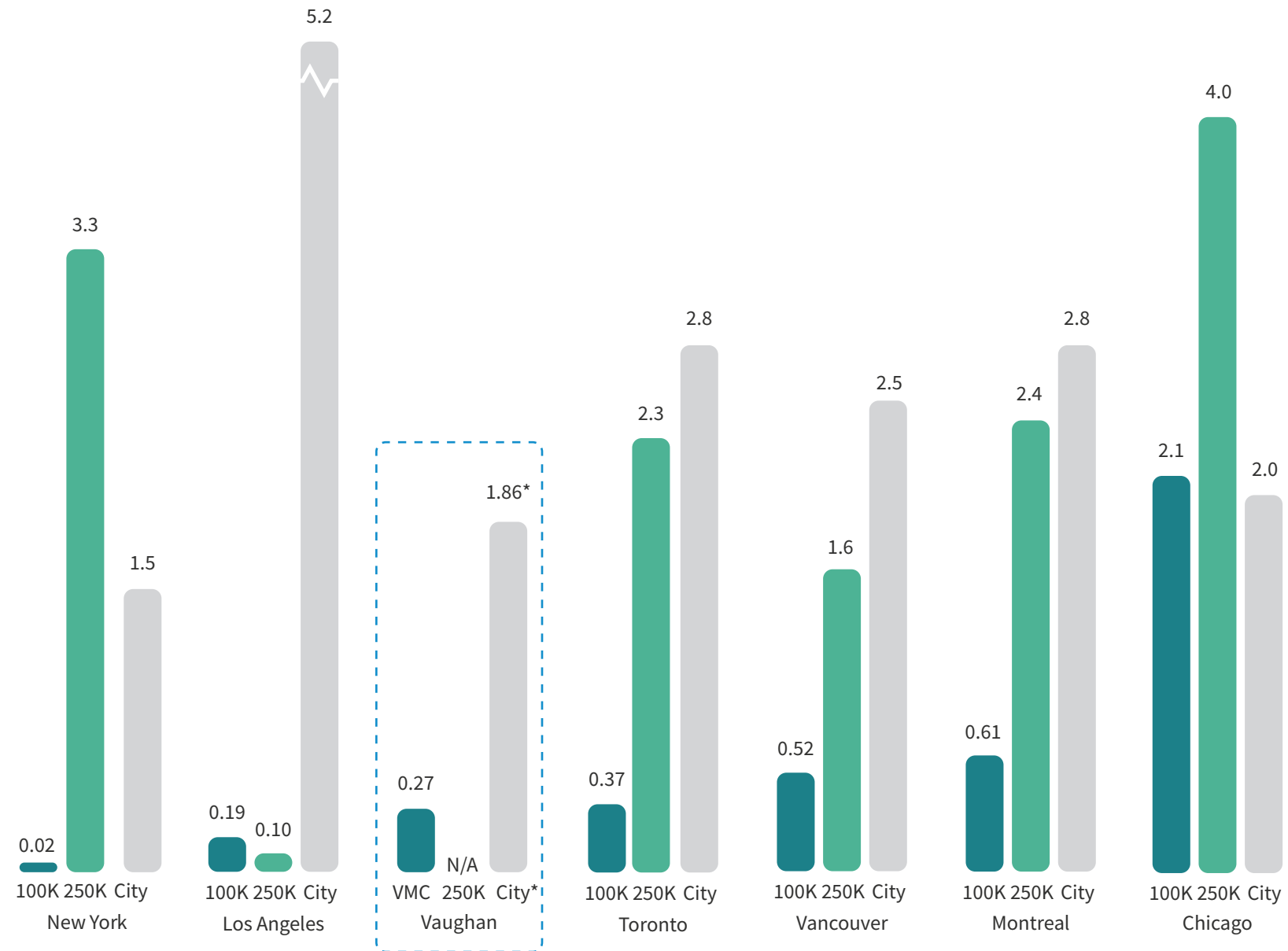
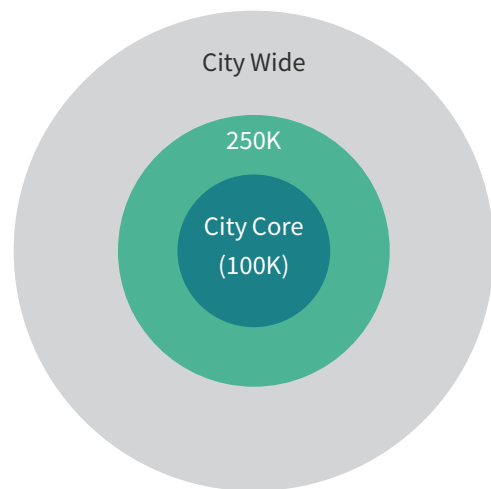


Active Parkland in City Cores

(Hectares per 1000 residents)

Notes:

1. City cores comprise adjacent census areas with the greatest population density which total approximately 100,000. The VMC is the area defined by the VMC Secondary Plan.
2. 'Active parkland' is per the City of Vaughan definition, which includes public parks and squares, but excludes other types of open space such as Environmental Open Space.
3. For the VMC, active parkland includes those parks currently existing or proposed in publicly-available development proposals or planning documents.
4. The VMC population is based on the projected resident population of 128,000 upon full build-out. Resident population for cities is based on 2016 census data.
5. Figures below city names show population density (resident population per hectare). The VMC figure is based on a projected population of 128,000 upon full build-out.



Total Parks & Open Space in City Cores and Cities

(Hectares per 1000 residents)

Notes:

1. City cores comprise adjacent census areas with the greatest population density which total approximately 100,000 or 250,000, as indicated. The methodology for calculating park and open space lands differs in some respects for city cores of 100,000 versus those of 250,000, as a result of differing sources. See Appendix B for more details. The VMC is the area defined by the VMC Secondary Plan.
2. Total parks and open space comprise 'active parkland' and 'open space lands' per the City of Vaughan definition, which includes parks, squares, and environmental open spaces.
3. For the VMC, total parks and open space include parks and open space currently existing or proposed in publicly-available development proposals or planning documents.
4. The VMC population is based on the projected resident population of 128,000 upon full build-out. Resident population for cities and city cores is based on 2016 census data.

* 1.86 ha/1000 is based on the 2018 ATMP, which **excludes** "open space" lands such as green space, woodlots, conservation lands and other lands outside of municipal control.

Appendix C - Greater Toronto Area Park Provision Methodology

The following methodology outlines the process that was undertaken in order to gain an understanding of park provision levels across the Greater Toronto Area. In contrast to the North American Park Provision study that was undertaken, this study provided a more local context for assessing the parks and open space provision and plans for the VMC. This study was instrumental in assessing the VMC's park provision levels and identifying gaps and opportunities in current plans.

C.1 Study Areas

1) The study areas were determined relative to official planning documents and studies, developed by the Cities of Vaughan, Toronto, Mississauga, and Markham.

Sources:

VMC: Vaughan Metropolitan Centre Secondary Plan (2019)

TO Core: TO Core Downtown Parks and Public Realm Plan (2018)

Midtown: Midtown in Focus (2018)

North York Centre: North York Centre Secondary Plan (2018)

Yonge Street North: Yonge Street North Planning Study (2013)

Mississauga: Planning Information Hub – Mississauga.ca

Markham: Markham Centre Website – Markham.ca

C.2 Current Population

1) The current population was determined using population counts from the 2016 Canadian Census. This is the latest census hence, population data could not be retrieved from more recent years and no yearly population estimates are developed by Statistics Canada, unlike the US Census Bureau.

2) The total population of each study area was determined by linking the 2016 census population table with a shapefile of census tracts in QGIS (obtained from Statistics Canada). The table was linked using census tract codes. The census tracts aligning with the study area were isolated, and the population total from each census tract was consolidated to get the population count.

Sources: (Table data and shapefiles)

Statistics Canada: statcan.gc.ca

C.3 2032 Population

1) The 2032 population estimates for Midtown Toronto, Yonge Street North, Mississauga Centre and Markham Centre were obtained from official planning documents and resources. For Yonge Street North the future population was determined by multiplying the number of proposed residential units by the average population of a household in a high-density development.

2) The 2032 population estimates for TO Core and North York Centre were calculated using the average population growth rate for each study area over the last 5 years. Growth rate information was retrieved from

the City of Toronto: How Does City Grow? Report (2019).

Sources:

VMC: Vaughan Metropolitan Centre Secondary Plan (2019)

TO Core: City of Toronto: How Does City Grow? (2019)

Midtown: Midtown in Focus (2018)

North York Centre: How Does City Grow? (2019)

Yonge Street North: Yonge Street North Planning Study Background Summary Report

Mississauga: Planning Information Hub – Mississauga.ca

Markham: Markham Centre Website – Markham.ca

C.4 Employment

1) The total number of individuals employed in businesses contained within the study area was determined using official planning documents and resources.

2) The 2016 Census was not used as it only provides data on the total number of people who reside in a census tract and are employed.

3) The 2016 Toronto Employment Survey was used to calculate employment numbers for TO Core, Midtown, North York Centre, and the Yonge North Area.

4) 2016 values were used so that they would correlate with the population totals obtained from the 2016 Canadian Census.

5) 2016 employment population numbers for Mississauga Centre and Markham Centre were not able to be obtained in time for this report to be published.

Sources:

VMC: Vaughan Metropolitan Centre Secondary Plan (2019)

TO Core: 2019 Toronto Employment Survey (2016)

Midtown: 2019 Toronto Employment Survey (2016)

North York Centre: Toronto Employment Survey (2016)

Yonge Street North: Toronto Employment Survey (2016)

Mississauga: Planning Information Hub – Mississauga.ca

Markham: Markham Centre Website – Markham.ca

C.5 Future Employment

1) 2032 employment population numbers for Midtown Toronto, Yonge Street North, Markham Centre, and Mississauga City Centre were obtained from

official planning documents and resources.

2) 2032 employment population numbers for TO Core and North York Centre were calculated using employment growth rate information retrieved from the City of Toronto: How Does City Grow? Report (2019).

3) For TO Core and North York Centre a linear population growth formula was applied to the employment numbers from 2016.

Sources:

VMC: Vaughan Metropolitan Centre Secondary Plan (2019)

TO Core: 2019 Toronto Employment Survey (2019)

Midtown: 2019 Toronto Employment Survey (2019)

North York Centre: Toronto Employment Survey (2019)

Yonge Street North: Yonge Street North Planning Study Background Summary Report

Mississauga: Planning Information Hub – Mississauga.ca

Markham: Markham Centre Website – Markham.ca

C.6 Current Parkland

1) Parkland data for each study area was obtained using official city parkland shapefiles, which were clipped relative to the study area.

2) The park polygons in the shapefiles were sorted into two shapefiles (active parkland, and passive open space) to match the parkland categories analyzed in the VMC parkland provision study.

3) Cemeteries and schools were removed from the shapefiles as they are not being considered in the VMC parkland provision study.

4) Orthophotos and maps of each study area were visually reviewed in QGIS to account for any additional parkland and open space parcels that were not included in the city shapefile. The additional areas were traced and added to the two shapefiles.

Sources:

TO Core: Open Data: City of Toronto, Parks shapefile (2018)

Midtown: Open Data: City of Toronto, Parks shapefile (2018)

North York Centre: Open Data: City of Toronto, Parks shapefile (2018)

Yonge Street North: Open Data: City of Toronto, Parks shapefile (2018)

Mississauga: Mississauga Open Data, City Parks shapefile (2020)

Markham: Open Data Markham, Parks shapefile (2018)

C.7 Future Parkland

1) Future parkland was determined by reviewing official planning documents and development applications.

2) For TO Core and North York Centre, the City of Toronto Development Applications website was used solely to determine future active and passive parkland area.

3) For Markham Centre, future active and passive parkland parcels are included in the official parkland shapefile and were recorded in QGIS. Additional parkland parcels were determined using an interactive map featured on the Markham Centre website.

4) For Mississauga Centre, future parkland data from the city was unable to be obtained.

TO Core: City of Toronto Development Projects Website

Midtown: Midtown in Focus (2018), City of Toronto Development Projects Website

North York Centre): City of Toronto Development Projects Website

Yonge Street North: Yonge Street North Planning Study Background Summary Report, Open Data: City of Toronto, Parks shapefile (2018)

Mississauga: Data unable to be obtained

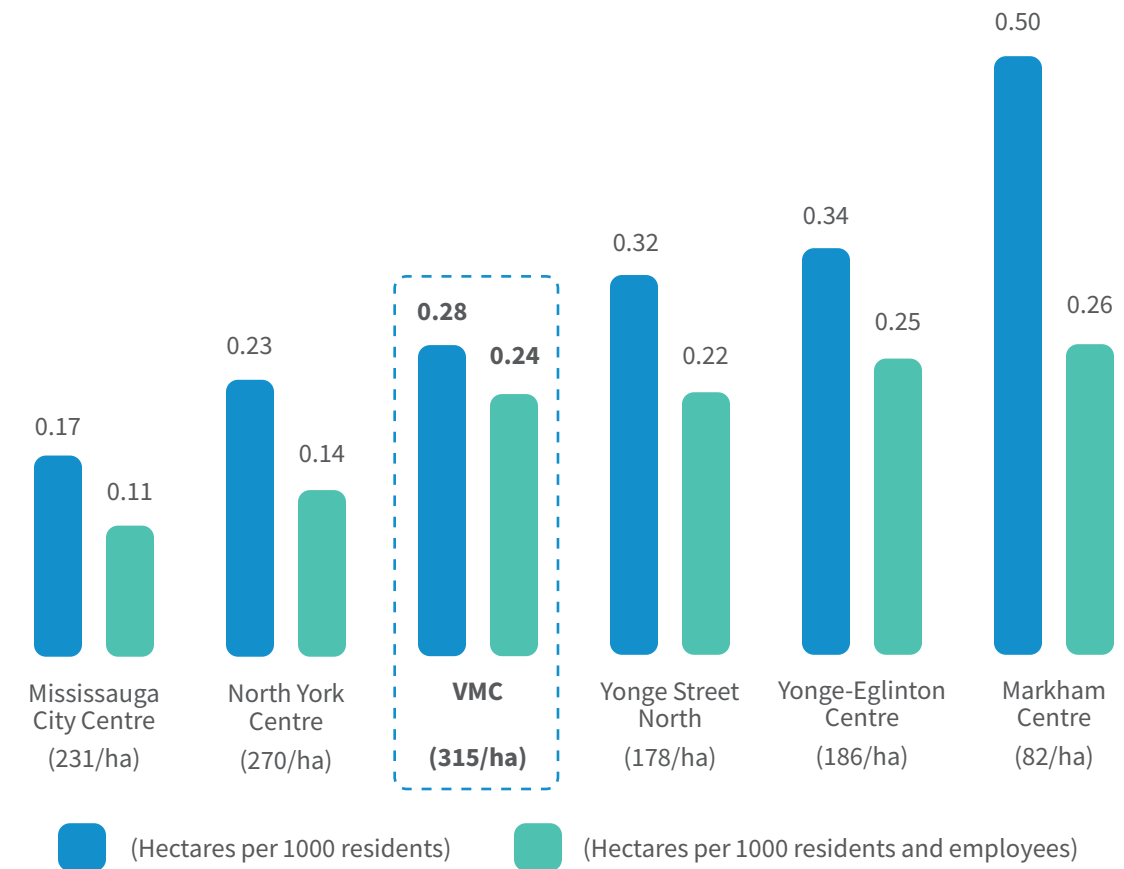
Markham: Open Data Markham, Parks shapefile (2018)

C.8 Parkland Provision

1) The total area of active parkland and passive open space in hectares was calculated in QGIS.

2) To obtain the parkland provision number, the total area of the parkland or open space in question was divided by the relevant population number divided by 1000, to obtain hectares of parkland per 1000 people.

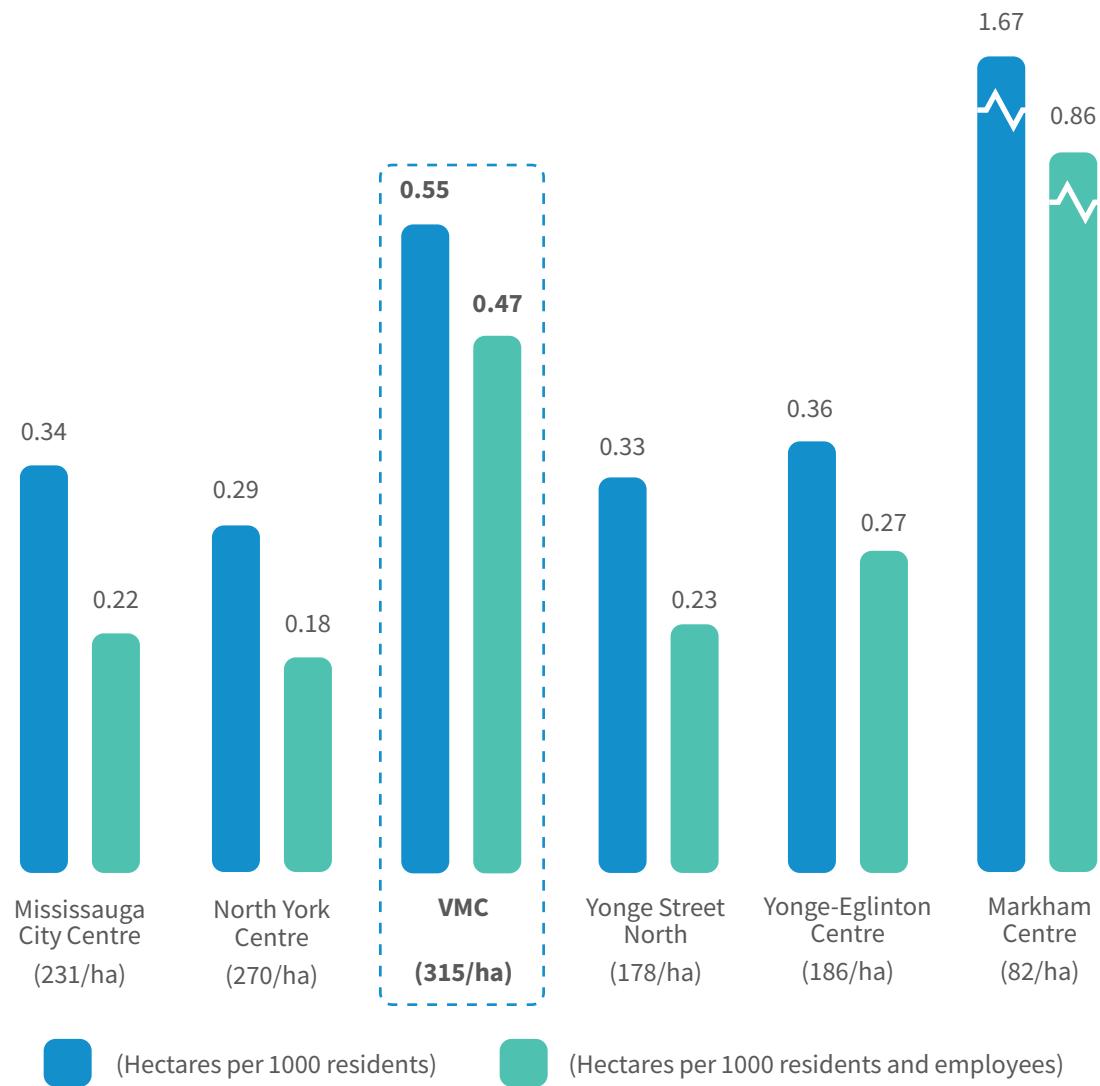
The figures on the right side and on the next page show the comparison of parkland provision (active and total) for urban growth centres in the GTA area.



Active Parkland in GTA Urban Growth Centres (2031-2032)

Notes:

1. Urban Growth Centres are the areas identified as such by the municipality within which they are located, typically as a secondary plan area. The VMC is the area defined by the VMC Secondary Plan.
2. 'Active parkland' is per the City of Vaughan definition, which includes parks and squares, but excludes other types of open space such as Environmental Open Space, natural heritage/core features and hazard lands.
3. For all Urban Growth Centres, including the VMC, active parkland includes parks currently existing or proposed in publicly-available development proposals or planning documents.
4. The VMC population is based on a projected resident population of 63,000 and employee population of 11,500 in 2031. For other Urban Growth Centres, resident and employee populations are based on projections to 2031 or 2032, as shown in municipal planning documents, where available, or to 2032 by applying the growth rate in the previous 10 years to the most recent population information. For more details, see Appendix C.
5. Figures below Urban Growth Centre names show population density (resident population per hectare) in 2031 or 2032. The VMC figure is based on a projected population of 63,000 in 2031.



Total Parks & Open Space in GTA Urban Growth Centres (2031-2032)

Notes:

1. Urban Growth Centres are the areas identified as such by the municipality within which they are located, typically as a secondary plan area. The VMC is the area defined by the VMC Secondary Plan.
2. Total parks and open space is comprised of 'active parkland' and 'open space lands' per the City of Vaughan definition, which together include parks, squares, and environmental open spaces that typically have facilities for passive recreation.
3. For all Urban Growth Centres, including the VMC, total parks and open space includes parks and open space currently existing or proposed in publicly-available development proposals or planning documents.
4. The VMC population is based on a projected resident population of 63,000 and employee population of 11,500 in 2031. For other Urban Growth Centres, resident and employee populations are based on projections to 2031 or 2032, as shown in municipal planning documents, where available, or to 2032 by applying the growth rate in the previous 10 years to the most recent population information. For more details, see Appendix C.
5. Figures below Urban Growth Centre names show population density (resident population per hectare) in 2031 or 2032. The VMC figure is based on a projected population of 63,000 in 2031.

Appendix D - Parks and Open Space Inventory Outside VMC Examples

In addition to undertaking a detailed inventory of planned and existing parks and open space within the VMC, lands outside of the VMC were also inventoried in order to gain an understanding of what facilities and amenities are provided in the areas around the VMC. The sites that were inventoried were selected based on their proximity and accessibility to the VMC. For this study, travel times based on various modes of transportation were assessed in order to gain an understanding of whether future and current residents of the VMC could access these parks and open spaces. The results of this inventory were used to further the gap analysis that was conducted in reviewing the parks and open space plans for the VMC. A sample of the results of this Parks and Open Space Inventory can be found on the following pages.

LANGSTAFF ECOPARK



Langstaff EcoPark Marshlands - Photo by Save the Concord West

Planning Assessment	Characteristics	Comment
Type:	Environmental Open Space	
Size:	45ha	
Location:	Between Langstaff Road and Highway 7, east of the CN tracks	
Distance to VMC:	4.5km	
Travel Times:	Walk: 51min Cycle: 17min Drive: 9min Transit: 14min	
Features:	Forms part of Bartley-Smith Greenway, a partially completed trail system through the centre of Vaughan from Teston Rd down to Steeles Ave. W.	
Passive Park Facilities:	Trail system; wetland lookouts	
Active Park Facilities:	None	
Civic Facilities:	None	
Ecological Features:	Stormwater complex, 10,000 planted trees; extensive naturalized areas	
Other Facilities/Features:	None	

Typology Assessment	Percent by Area	Comment
Passive:	10%	Trails
Active:	0%	
Civic:	0%	
Ecological:	90%	Principally an ecological area and stormwater management facility

KORTRIGHT CENTRE FOR CONSERVATION



Kortright Centre Marsh Boardwalk - Photo by Kortright Centre.

Planning Assessment	Characteristics	Comment
Type:	Environmental Open Space	
Size:	325ha	
Location:	Northwest of Pine Valley Drive and Major Mackenzie Drive West	
Distance to VMC:	9km	
Travel Times:	Walk: 2hr Cycle: 35min Drive: 16min Transit: 1hr	
Features:	Environmental education centre; operated by TRCA; entry fee	
Passive Park Facilities:	16km of trails; picnic areas; wetland boardwalks	
Active Park Facilities:	None	
Civic Facilities:	None	
Ecological Features:	Wetlands; forests; meadows	
Other Facilities/Features:	Interpretative centre; educational programs; Innovation Trail showcasing sustainable technologies	

Typology Assessment	Percent by Area	Comment
Passive:	20%	Trails
Active:	0%	
Civic:	0%	
Ecological:	80%	Principally an environmental education centre.

BOYD CONSERVATION PARK



Boyd Conservation Area - Photo by TRCA.

Planning Assessment	Characteristics	Comment
Type:	Environmental Open Space	
Size:	401ha	
Location:	Southwest of Pine Valley Drive and Major Mackenzie Drive West	
Distance to VMC:	7km	
Travel Times:	Walk: 1hr 30min Cycle: 28min Drive: 14min Transit: 40min	
Features:	Conservation area. Operated by TRCA. Entry fee.	
Passive Park Facilities:	Hiking trails; picnic areas.	
Active Park Facilities:	Running trails; playground.	
Civic Facilities:	Picnic grounds	
Ecological Features:	Meadows, forests, stream.	
Other Facilities/Features:	Interpretative centre. Educational programs. Innovation Trail showcasing sustainable technologies.	

Typology Assessment	Percent by Area	Comment
Passive:	30%	Trails and picnic areas
Active:	5%	Playground
Civic:	5%	Picnic areas for large groups
Ecological:	60%	Principally an environmental education centre.

BARTLEY-SMITH GREENWAY SOUTH



Bartley-Smith Greenway Trail - Photo by York Region Cycling Coalition

Planning Assessment	Characteristics	Comment
Type:	Trail System. See also: Langstaff EcoPark; Marita Payne Park	
Length:	11km	
Location:	Runs from Langstaff Road to the City of Toronto border at G. Ross Lord Park.	
Distance to VMC:	At closest point: 3.5km	
Travel Times:	Walk: 55min Cycle: 24min Drive: 10min Transit: 25min	
Features:	Partially completed trail system following the Don West River that will eventually include 15km of trails in Vaughan and connections to the City of Toronto trail system. Passes through Langstaff EcoPark, Keffer Marsh, Marita Payne Park and the West Don Valley Environmental Open Space.	
Passive Park Facilities:	Trail	
Active Park Facilities:	None	
Civic Facilities:	None	
Ecological Features:	Connects several environmental open spaces	

Typology Assessment	Percent by Area	Comment
Not applicable. Trail that links parks and open spaces.		

MARITA PAYNE PARK



Marita Payne Park Pond - Photo by Ieleung Yap

Planning Assessment	Characteristics	Comment
Type:	Community Park	
Size:	16ha	
Location:	West of Dufferin Street at Clark Avenue	
Distance to VMC:	6km	
Travel Times:	Walk: 1hr 10min Cycle: 17min Drive: 11min Transit: 30min	
Features:	Large community park connected to other open spaces by the Bartley-Smith Greenway South. Includes a duck pond.	
Passive Park Facilities:	Trail	
Active Park Facilities:	Lit Baseball (2); Basketball (Full); Lit Boccee; Inclusive playgrounds (2); Soccer.	
Civic Facilities:	None	
Ecological Features:	Pond; wooded areas; meadows	

Typology Assessment	Percent by Area	Comment
Passive:	25%	Trails and lawn areas
Active:	25%	Playground and sports facilities
Civic:	0%	
Ecological:	50%	Pond and wooded area

BLACK CREEK PIONEER VILLAGE NORTH SITE



Black Creek Pioneer Village North - Photo by TRCA

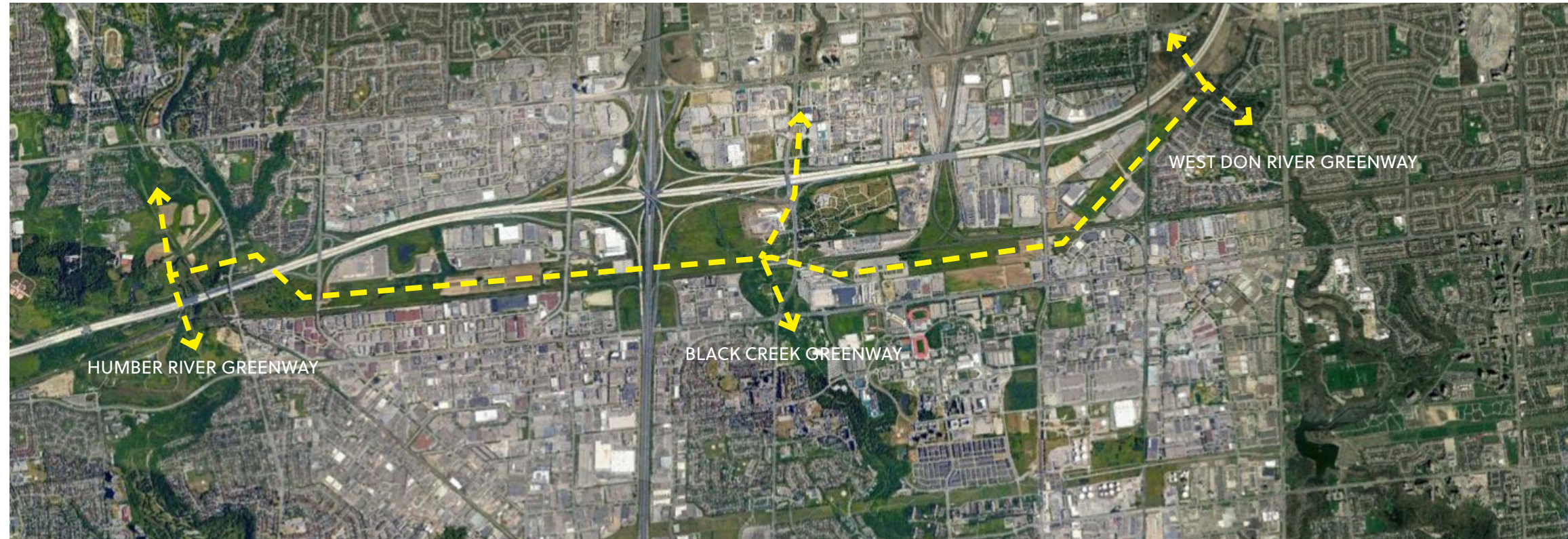


Black Creek Pioneer Village North Master Plan (2013)

Planning Assessment	Characteristics	Comment
Type:	Museum and Environmental Open Space	
Size:	16ha	
Location:	Northwest of Jane Street and Steeles Avenue West	
Distance to VMC:	3.5km	
Travel Times:	Walk: 40min Cycle: 9min Drive: 5min Transit: 17min	
Features:	North portion of open-air heritage museum. Does not form part of the main Black Creek Pioneer Village Campus. Former agricultural site with five designated heritage buildings, including barn of 'national significance'. Traversed by Black Creek. Subject of 2013 Master Plan that suggests regional attraction that celebrates the agricultural heritage of southern Ontario and functions as the 'countryside' to the main campus 'village'. Owned by TRCA.	
Passive Park Facilities:	None	
Active Park Facilities:	None	
Civic Facilities:	Designate heritage buildings	
Ecological Features:	Black Creek;SWM pond; Remnants of orchards and cultural landscapes, riparian woodlands, meadows, hedgerows and mixed woodlands. some mixed woodlands.	
Other Facilities/Features:	Connects to Steeles Hydro Corridor	

Typology Assessment	Percent by Area	Comment
Passive:	0%	
Active:	0%	
Civic:	25%	Heritage buildings and landscapes
Ecological:	75%	Creek, pond, meadows, woodlands

STEELES AVENUE HYDRO CORRIDOR



Steeles Avenue Hydro Corridor - Google Maps Image

Planning Assessment	Characteristics	Comment
Type:	Environmental Open Space	
Length/Area:	10.4km/213ha	
Location:	Portion of hydro corridor starting west of Islington Avenue and ending northwest of Glen Shields Avenue at Marita Payne Park	
Distance to VMC:	1.5km (at Highway 407 Subway Station)	
Travel Times:	Walk: 24min Cycle: 7min Drive: 4min Transit: 15min	Enter at Hwy 407 Subway Station
Features:	Portion of hydro corridor has potential as a trail route and environmental open space to connect the Humber River, Black Creek and Don River West greenways, similar to the existing 18.2km Finch Corridor Recreational Trail and Hidden Trail in the Finch Hydro Corridor to the south or the Meadoway trail and open space proposed for a 16km portion of a hydro corridor in Scarborough	
Passive Park Facilities:	None	
Active Park Facilities:	None	
Civic Facilities:	None	
Ecological Features:	Potential for large areas of meadow restoration	
Other Facilities/Features:	Connects to Steeles Hydro Corridor	

Typology Assessment	Percent by Area	Comment
Passive:	0%	No trail currently
Active:	0%	
Civic:	0%	
Ecological:	100%	Grassland and meadow

BEECHWOOD CEMETERY



Beechwood Cemetery - Photo by Mount Pleasant Group



Beechwood Cemetery - Google Maps Image

Planning Assessment	Characteristics	Comment
Type:	Cemetery	
Area:	42ha	
Location:	Southwest of Jane Street and the 407 Highway	
Distance to VMC:	1.4km	
Travel Times:	Walk: 20min Cycle: 7min Drive: 3min Transit: 10min	
Features:	Large cemetery with areas of mature trees. With additional tree planting, has potential to become destination for walking, running and cycling and an important part of the VMC public realm, just as other trust cemeteries run by The Mount Pleasant Group.	
Passive Park Facilities:	Roads for walking, running and cycling	
Active Park Facilities:	None	
Civic Facilities:	None	
Ecological Features:	Potential for many large-growing canopy trees	
Other Facilities/Features:	Connects to Steeles Hydro Corridor and Black Creek Pioneer Village North	

Typology Assessment	Percent by Area	Comment
Passive:	50%	Roads and paths
Active:	0%	
Civic:	0%	
Ecological:	50%	Canopy trees

Appendix E - Demographic Analysis Methodology & Calculations

With the majority of the lands within the VMC yet to be developed, it was not possible to conduct a detailed review of the demographics of the VMC. In order to facilitate an assessment of planned facilities, parks and open spaces, a projected demographic for the VMC had to be established.

Understanding the projected demographics of the VMC was critical for understanding not only how much park space would be required, but also which facility types will be needed and how many must be built.

The process for establishing a projected population and demographic make up for the VMC is described in detail on the following pages.

Step 1 – Demographic Analysis

1. VMC development trends and projections (provided by City of Vaughan) were analyzed

a. Key trends were identified, including projected unit mixes, proportion of units that will be in towers, and the rate of anticipated development (i.e. how long is the build out anticipated to take).

b. We found that:

i. For Bedroom Counts:

1. 0% of proposed / anticipated units will have No Bedrooms
2. 56% of proposed / anticipated units will be 1 Bedroom
3. 42% of proposed / anticipated units will be 2 Bedroom
4. 2% of proposed / anticipated units will be 3 Bedroom
5. 0% of proposed / anticipated units will be 4 or more Bedroom

ii. For change in population over a short period of time, population is expected to increase by nearly 100% compared to existing conditions.

iii. For type of buildings:

1.98% of new units will be in buildings over 5 storeys

c. To summarize – VMC is projected to be a fast growing, tower dominant, 1 & 2 Bedroom community

2. Google Earth satellite imagery was used to identify tower dominant neighbourhoods in relatively similar settings

a. Census information for the identified areas were obtained from Stats Canada for both 2011 and 2016

b. Census information was used to confirm that the selected neighbourhoods matched the profile of VMC (fast growing (2011-2016), 1 and 2 bedroom dominant and vast majority of units in buildings over 5 storeys.)

c. 8 locations that most closely aligned with VMC development trends were selected:

i. Highway 401 and Kennedy Road (North East Corner), Humber Bay Shores, City Place, Downtown Markham, Sheppard Ave E, between Leslie Street and Bayview Avenue and Highway 401, Kipling and Dundas (South West Corner), Yonge and Finch (Sough East Corner) and Yonge and Sheppard (North East Corner)

3. Population / Demographic information for each of the selected locations

was downloaded from Stats Canada and analyzed

a. Statistics analyzed included age, immigrant population, bedroom count per unit, and percent of dwellings in buildings over 5 storeys.

4. Population / Demographic information was also analyzed for the entire City of Toronto and City of Vaughan to set an average benchmark against which the growth areas could be contrasted

a. It was found that the selected growth areas had a distinct demographic when compared to the average demographics of both Toronto and Vaughan.

b. Some notable trends include:

i. Similar number of children aged 0-4 in growth centres when compared to city wide averages

ii. Significantly Less people aged 5-19 in growth centres when compared to city wide averages

iii. Similar number of adults aged 20-24 in growth centres when compared to city wide averages

iv. Significantly more people aged 25-39 in growth centres when compared to city wide averages

v. Less people aged 40-59 in growth centres when compared to city wide averages

vi. Similar but lower number of people aged 65+ in growth centres when compared to city wide averages

c. In summary, the growth centres are primarily home to young adults, many of which fall outside of the age range that is typical for most organized sports facilities (based on ATMP identified user groups and “youth” participants).

5. Age group demographic data for growth centres was averaged to identify a typical or anticipated population

a. A typical percentage for each age bracket was identified, which was then applied to the anticipated population that has been projected for VMC.

b. It is our hypothesis that this approach is flexible and can be applied to various population projections as long as the base trends remain the same (i.e. one and two bedroom, fast growing, tower dominant).

Step 2 – Facility Projections

1. The City of Vaughan’s Active Together Master Plan was reviewed to understand participation rates and ages for various sports and activities.

2. Where no participation rate was provided, facility provision per resident or per age bracket was used.

3. Facility provision rates were then applied against their relevant, anticipated age groups that were identified during the previous demographic analysis step.

4. The typical area for each facility type was multiplied by the total number of anticipated facilities in order to generate a park land requirement, dedicated entirely to facility provision.

Summary

The above process identified areas that are similar in nature to what VMC will become from a built form perspective.

These areas were found to have a consistent and, therefore, predictable demographic.

This typical demographic was applied to the VMC’s anticipated population.

Facility provision rates identified in the Active Together Master Plan were applied to the anticipated demographic makeup of VMC which resulted in an anticipated facility and park land requirement.

The adjacent table shows the population and residential unit characteristics that were pulled from 2016 Statistics Canada data. This information was used to identify potential trends and commonalities between areas of growth.

Population & Residential Dwelling Unit Characteristics in Observed Areas of Growth										
	City of Vaughan	Toronto CMA	HWY 401 & Kennedy (NE)	Humber Bay Shores	City Place	Downtown Markham	Sheppard - Bayview to Leslie (S)	Kipling & Dundas (SW)	Yonge and Finch (SE)	Yonge and Sheppard (NE)
2016 Population	306,233	5,928,040	3,987	11,390	11,658	6,141	9,133	6,045	11,479	7,035
Change in population 2011-2016	6.22%	6.18%	161.61%	117.53%	97.23%	77.90%	72.91%	43.11%	22.05%	12.09%
Immigrants	140,960	2,705,550	2,405	4,565	4,345	3,700	5,405	2,780	7,040	4,445
Non-Immigrants	159,300	3,020,405	1,250	6,360	6,010	1,965	2,680	2,830	3,065	1,710
Percentage Population Immigrants	46.03%	45.64%	60.32%	40.08%	37.27%	60.25%	59.18%	45.99%	61.33%	63.18%
Percent of Dwellings in Buildings over 5 Storeys	10.40%	29.35%	89.10%	99.14%	99.06%	79.70%	87.76%	94.25%	77.93%	98.36%
No Bedrooms	145	24,165	10	55	100	30	55	25	235	80
1 Bedroom	5,120	384,275	550	3,530	4,240	1,455	2,940	1,220	1,885	1,230
2 Bedroom	9,200	452,930	820	3,095	2,110	870	1,550	1,630	2,440	1,775
3 Bedroom	28,455	627,365	400	295	380	375	190	160	650	255
4 or More Bedroom	51,330	647,170	65	35	50	295	90	75	370	0
No Bedrooms (%)	0.15%	1.13%	0.51%	0.78%	1.45%	1.01%	1.14%	0.80%	3.96%	2.38%
1 Bedroom (%)	5.43%	17.99%	28.00%	50.32%	61.63%	48.83%	61.00%	38.98%	31.73%	36.61%
2 Bedroom (%)	9.76%	21.21%	41.75%	44.12%	30.67%	29.19%	32.16%	52.08%	41.07%	52.83%
3 Bedroom (%)	30.19%	29.37%	20.37%	4.21%	5.52%	12.58%	3.94%	5.11%	10.94%	7.59%
4 or More Bedroom (%)	54.46%	30.30%	3.31%	0.50%	0.73%	9.90%	1.87%	2.40%	6.23%	0.00%

The adjacent tables show the count and percentage of each age bracket that comprises the total population of the areas of growth that were studied. The percentage that each age bracket represents was used to establish a profile for a typical area of growth, which was then applied to the projected population of the VMC. The projected population of each age bracket was used in conjunction with the City of Vaughan's Active Together Master Plan to determine potential projected facility demand in the VMC.

Age Breakdown (Count)										
	City of Vaughan	Toronto CMA	HWY 401 & Kennedy (NE)	Humber Bay Shores	City Place	Downtown Markham	Sheppard - Bayview to Leslie (S)	Kipling & Dundas (SW)	Yonge and Finch (SE)	Yonge and Sheppard (NE)
0 to 19 years	78810	1352135	685	885	1050	895	1095	675	1455	1020
0 to 14 years	57525	985615	515	695	785	685	855	530	980	695
0 to 4 years	16265	310070	285	340	420	330	410	305	480	320
5 to 9 years	19965	338320	125	185	220	190	260	135	305	210
10 to 14 years	21300	337220	105	165	150	160	190	95	200	175
15 to 64 years	205235	4083850	3140	9085	10470	4620	7095	4660	8145	5300
15 to 19 years	21280	366525	170	195	260	215	235	140	470	315
20 to 24 years	20285	411945	355	650	1585	455	680	355	1105	590
25 to 29 years	17105	424345	555	1685	3370	890	1370	775	1305	835
30 to 34 years	16825	419845	575	1765	2350	760	1475	910	1255	825
35 to 39 years	19430	406175	375	1170	1090	500	985	650	885	580
40 to 44 years	23345	414490	220	795	565	330	655	455	655	450
45 to 49 years	25440	440145	250	700	395	340	500	375	580	470
50 to 54 years	24480	460465	245	770	335	370	445	350	655	475
55 to 59 years	20805	407175	200	740	300	415	395	355	620	410
60 to 64 years	16250	332740	195	620	210	340	360	300	620	345
65 years and over	43470	858580	340	1610	400	835	1180	855	2350	1035
65 to 69 years	14645	280910	145	545	160	290	310	255	620	290
70 to 74 years	9645	197490	65	430	105	185	205	160	465	225
75 to 79 years	8165	151925	65	285	65	145	185	160	420	215
80 to 84 years	5680	113220	35	185	50	100	220	125	375	150
85 years and over	5340	115030	25	170	25	115	265	165	465	155
85 to 89 years	3335	72340	15	125	20	60	150	85	285	110
90 to 94 years	1585	33400	5	40	5	40	95	55	145	40
95 to 99 years	375	8030	0	5	0	10	15	15	25	5
100 years and over	45	1270	0	0	0	5	0	5	10	0

Age Breakdown (Percentage)										
	City of Vaughan	Toronto CMA	HWY 401 & Kennedy (NE)	Humber Bay Shores	City Place	Downtown Markham	Sheppard - Bayview to Leslie (S)	Kipling & Dundas (SW)	Yonge and Finch (SE)	Yonge and Sheppard (NE)
0 to 19 years	25.74%	22.81%	17.18%	7.77%	9.01%	14.57%	11.99%	11.17%	12.68%	14.50%
0 to 14 years	18.78%	16.63%	12.92%	6.10%	6.73%	11.15%	9.36%	8.77%	8.54%	9.88%
0 to 4 years	5.31%	5.23%	7.15%	2.99%	3.60%	5.37%	4.49%	5.05%	4.18%	4.55%
5 to 9 years	6.52%	5.71%	3.14%	1.62%	1.89%	3.09%	2.85%	2.23%	2.66%	2.99%
10 to 14 years	6.96%	5.69%	2.63%	1.45%	1.29%	2.61%	2.08%	1.57%	1.74%	2.49%
15 to 64 years	67.02%	68.89%	78.76%	79.76%	89.81%	75.23%	77.69%	77.09%	70.96%	75.34%
15 to 19 years	6.95%	6.18%	4.26%	1.71%	2.23%	3.50%	2.57%	2.32%	4.09%	4.48%
20 to 24 years	6.62%	6.95%	8.90%	5.71%	13.60%	7.41%	7.45%	5.87%	9.63%	8.39%
25 to 29 years	5.59%	7.16%	13.92%	14.79%	28.91%	14.49%	15.00%	12.82%	11.37%	11.87%
30 to 34 years	5.49%	7.08%	14.42%	15.50%	20.16%	12.38%	16.15%	15.05%	10.93%	11.73%
35 to 39 years	6.34%	6.85%	9.41%	10.27%	9.35%	8.14%	10.79%	10.75%	7.71%	8.24%
40 to 44 years	7.62%	6.99%	5.52%	6.98%	4.85%	5.37%	7.17%	7.53%	5.71%	6.40%
45 to 49 years	8.31%	7.42%	6.27%	6.15%	3.39%	5.54%	5.47%	6.20%	5.05%	6.68%
50 to 54 years	7.99%	7.77%	6.14%	6.76%	2.87%	6.03%	4.87%	5.79%	5.71%	6.75%
55 to 59 years	6.79%	6.87%	5.02%	6.50%	2.57%	6.76%	4.32%	5.87%	5.40%	5.83%
60 to 64 years	5.31%	5.61%	4.89%	5.44%	1.80%	5.54%	3.94%	4.96%	5.40%	4.90%
65 years and over	14.20%	14.48%	8.53%	14.14%	3.43%	13.60%	12.92%	14.14%	20.47%	14.71%
65 to 69 years	4.78%	4.74%	3.64%	4.78%	1.37%	4.72%	3.39%	4.22%	5.40%	4.12%
70 to 74 years	3.15%	3.33%	1.63%	3.78%	0.90%	3.01%	2.24%	2.65%	4.05%	3.20%
75 to 79 years	2.67%	2.56%	1.63%	2.50%	0.56%	2.36%	2.03%	2.65%	3.66%	3.06%
80 to 84 years	1.85%	1.91%	0.88%	1.62%	0.43%	1.63%	2.41%	2.07%	3.27%	2.13%
85 years and over	1.74%	1.94%	0.63%	1.49%	0.21%	1.87%	2.90%	2.73%	4.05%	2.20%
85 to 89 years	1.09%	1.22%	0.38%	1.10%	0.17%	0.98%	1.64%	1.41%	2.48%	1.56%
90 to 94 years	0.52%	0.56%	0.13%	0.35%	0.04%	0.65%	1.04%	0.91%	1.26%	0.57%
95 to 99 years	0.12%	0.14%	0.00%	0.04%	0.00%	0.16%	0.16%	0.25%	0.22%	0.07%
100 years and over	0.01%	0.02%	0.00%	0.00%	0.00%	0.08%	0.00%	0.08%	0.09%	0.00%

The adjacent tables show the results of this study and establish a projected population and demographic for the VMC. The projected population of each age bracket was used in conjunction with the City of Vaughan's Active Together Master Plan to determine potential projected facility demand in the VMC.

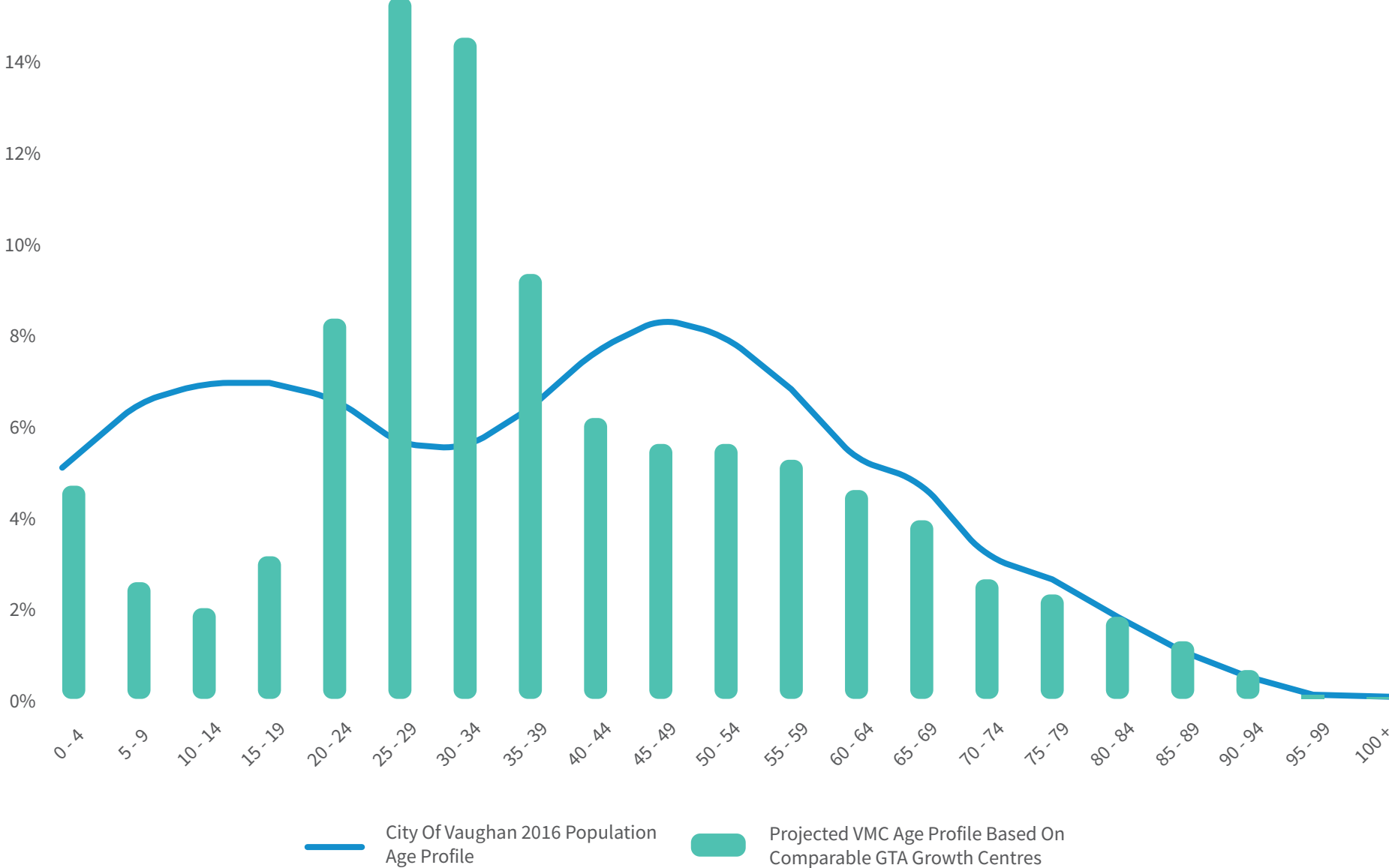
VMC Projected Population (Planned / As of Right)		Parkland Per 1000 Based on SP
Anticipated VMC Population 2031	25,000	0.80
Anticipated VMC Population (Full Build)	50,000	0.40
As of Right Population (Full Build)	72,000	0.28

VMC Projected Parkland (Actual / Observed Trend)		Parkland Per 1000 Based on SP
Anticipated VMC Population 2031	63,366	0.32
Anticipated VMC Population (Full Build)	127,627	0.16

VMC Planned Parkland (ha)		Parkland Per 1000 Based on Anticipated Full Build Population of 127,627
Secondary Plan Required Parkland	20	0.16
Currently Planned Parkland	17.6	0.14
Planned Under VMC PWMP (Original VMC Boundary)	22.01	0.17
Planned Under VMC PWMP (Original VMC Boundary + SP Expansion Areas)	34.79	0.27
Planned Under VMC PWMP (VMC + SP Expansion Areas + Beyond VMC)	73.54	0.58

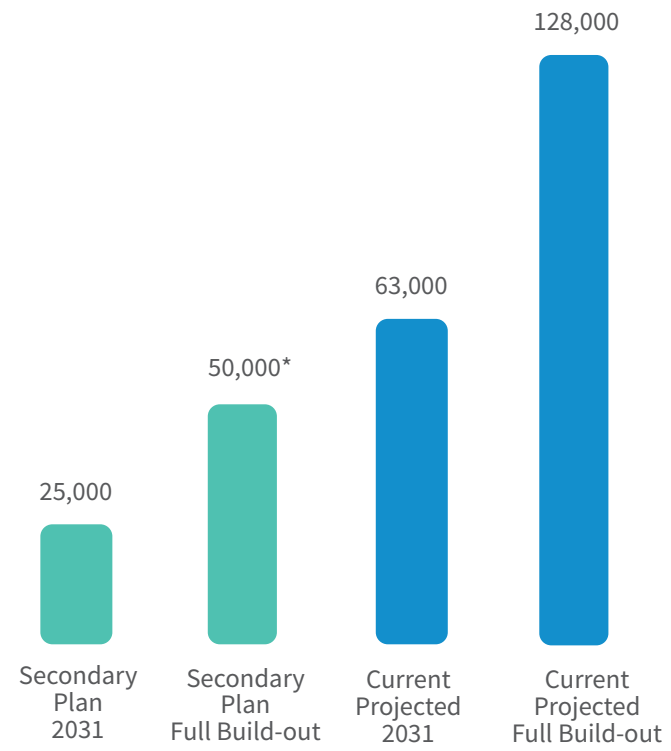
Analysis & Trends				
Average Age Distribution for Apartment Dominant Communities Growing Faster than City Wide Average	City of Vaughan Population By Age Group 2016	Difference Between Typical Growth Centre and City of Vaughan	Anticipated VMC Population By Age Group 2031	Anticipated VMC Population By Age Group (Full Build)
12.36%	25.74%	-13.38%	7,831	15,772
9.18%	18.78%	-9.60%	5,818	11,718
4.67%	5.31%	-0.64%	2,960	5,963
2.56%	6.52%	-3.96%	1,621	3,264
1.98%	6.96%	-4.97%	1,256	2,530
78.08%	67.02%	11.06%	49,475	99,649
3.15%	6.95%	-3.80%	1,994	4,015
8.37%	6.62%	1.74%	5,303	10,680
15.40%	5.59%	9.81%	9,756	19,650
14.54%	5.49%	9.05%	9,213	18,556
9.33%	6.34%	2.99%	5,914	11,911
6.19%	7.62%	-1.43%	3,922	7,900
5.59%	8.31%	-2.71%	3,545	7,140
5.62%	7.99%	-2.38%	3,558	7,167
5.28%	6.79%	-1.51%	3,348	6,744
4.61%	5.31%	-0.70%	2,921	5,884
12.74%	14.20%	-1.45%	8,074	16,263
3.96%	4.78%	-0.83%	2,507	5,050
2.68%	3.15%	-0.47%	1,700	3,423
2.30%	2.67%	-0.36%	1,460	2,942
1.80%	1.85%	-0.05%	1,143	2,303
2.01%	1.74%	0.27%	1,275	2,567
1.21%	1.09%	0.13%	770	1,550
0.62%	0.52%	0.10%	392	790
0.11%	0.12%	-0.01%	72	145
0.03%	0.01%	0.02%	20	40

The adjacent figure and figures on the next page show the age profile of VMC/ City of Vaughan, the population projection of VMC, as well as the population density of VMC compared to representative areas in City of Toronto and New York City.



Age Profile - Anticipated VMC vs. City of Vaughan

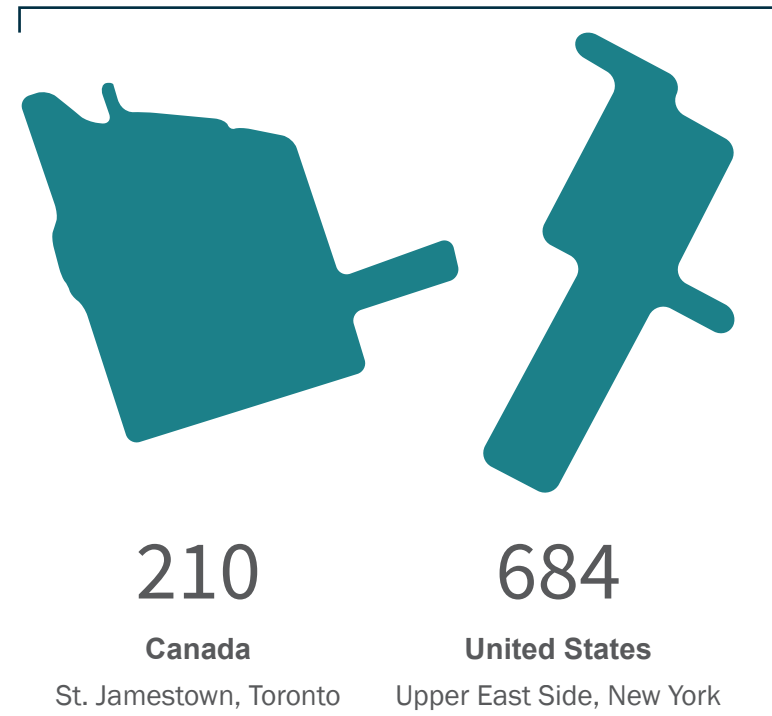
VMC Resident Population Projections



*Revised to 72,000 in 2017.

Urban Areas with Greatest Population Density

(Residents per hectare - not to scale)



Vaughan Metropolitan Centre



640

Canada
VMC, Vaughan

Appendix F - Facility Demand Analysis

The projected population of the VMC exceeds the original estimates that were established in the VMC Secondary Plan. While the projected population of the VMC has increased, planned parks and open space have not increased in response. In order to identify and quantify potential gaps in park provision, a more clear understanding of projected facility demand was required.

The following appendix describes the methods that were used to identify potential future facility demands within the VMC.

Step 1 – Demographic Analysis

1. In order to understand facility demand, the potential future demographics of the VMC were projected and analyzed using Statistics Canada data and active development application information provided by the City of Vaughan. The process for establishing the projected population of the VMC is outlined in Appendix E - Demographic Analysis Methodology & Calculations.
2. The demographic analysis resulted in an anticipated population for all age groups. This information was used to identify user group population sizes for various facilities. User groups were defined based on the descriptions and criteria outlined in the City of Vaughan's 2018 Active Together Master Plan.
3. Where the Active Together Master Plan did not provide sufficient detail on user group age ranges, groups were identified using best practices, knowledge and advice, in cooperation with City of Vaughan staff.

Step 2 – Facility Participation & Provision Rate Analysis

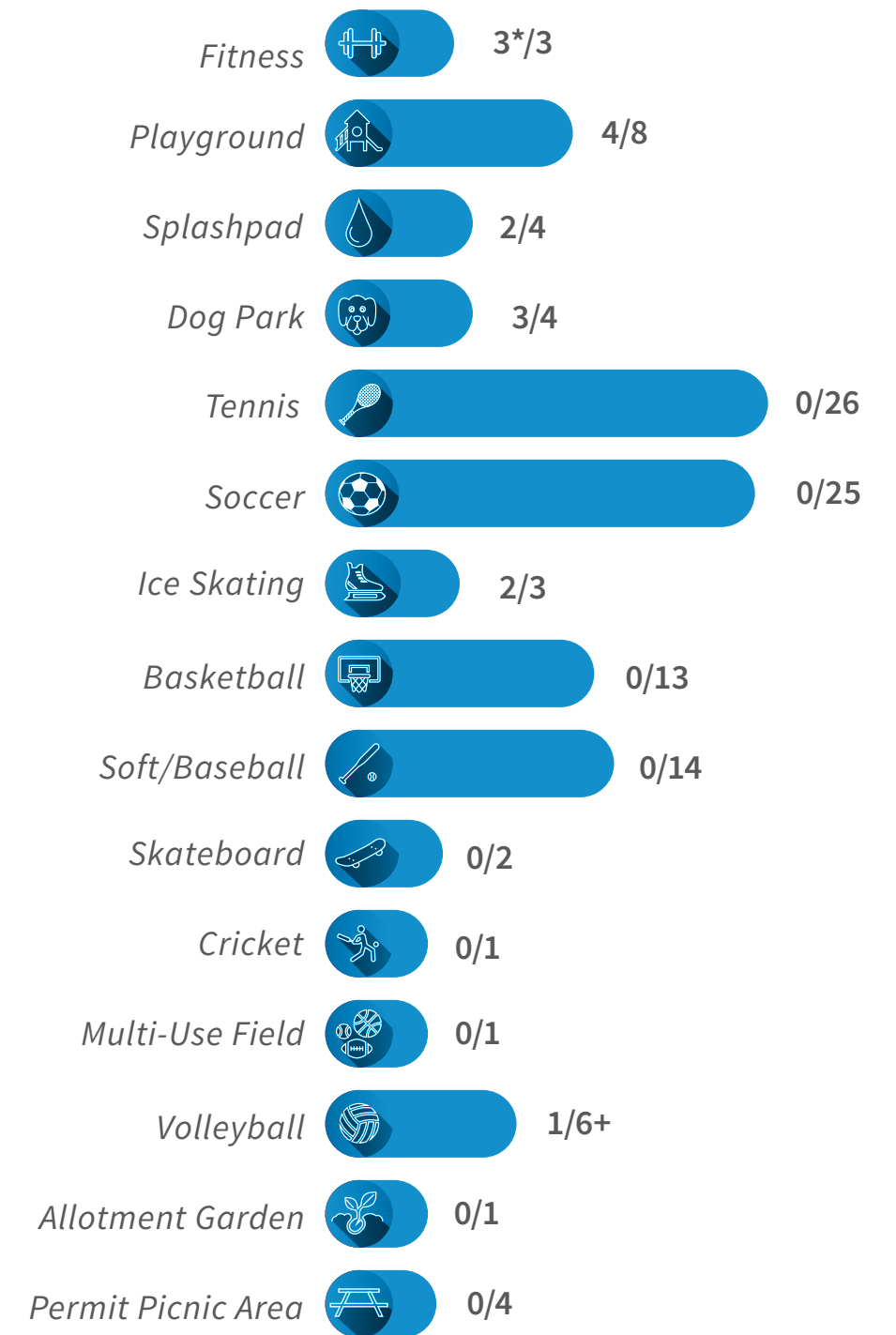
1. Facility provision rates were established in part through a review of current participation rates, as described in the 2018 ATMP. The participation rates in the 2018 ATMP were generated based on responses to an online survey, conducted by the City of Vaughan in 2017. Additionally, the City of Vaughan conducted Intercept Surveys for the ATMP, which asked respondents "what park amenity did you use the most?". These responses provided insight into facility preference and potential household participation rates.
2. In addition to participation rates and amenity use preferences identified through online and intercept surveys, facility provision rates were analyzed on a per-person basis. This was done by taking the total count of a specific facility, as identified in the 2018 ATMP, and dividing it by the, then current, 2031 City of Vaughan population projection of 424,500.
3. Per-person provision rates, on a city wide basis, provide valuable insight into potential facility use and demand, however, this method does not account for the fact that the VMC will represent a very different, more urban and more dense development typology than the City of Vaughan is traditionally made up of. In order to determine the anticipated facility demand of the future population of the VMC, provision rates and participation rates based on user group age brackets were analyzed. Where user groups were specifically identified in the ATMP, the associated provision rate was calculated and used as a more accurate means of determining required facility counts.

Step 3 – Determining the Anticipated Facility Requirements of the VMC

1. In order to determine and quantify the anticipated facility requirements of the projected future population of the VMC, the facility provision rates identified in Step 2, above, were applied to the projected demographics identified in Step 1.
2. For the majority of facility types, this process produced requirements that were in line with anticipated rates and best practices; however, for some facility types, this process resulted in provision rates that were not realistic or recommended for an urban environment.

One example of a facility type that produced unrealistic or unsupportable provision rates was playgrounds. When city-wide, per person provision rates were used, the VMC would be expected to require 42 playgrounds, which is far too high for such a dense, urban environment. When the ATMP recommended distribution of 1 playground within 500m of residents was used, this also produced unrealistic results indicating that the VMC would only require 4 playgrounds, which is far too low to suppose the anticipated population size. For these reasons, the number of playgrounds recommended for the VMC was determined by studying precedents, reviewing other dense urban environments, and using best practices.

The other facility type that could not be projected using existing ATMP provision rates is offleash dog parks. While the City of Vaughan has conducted significant research into the development and deployment of offleash dog parks, those studies remain more applicable to the suburban areas of the city than the urban environments that are expected at the VMC. Similar to the process for playgrounds, the number of offleash dog parks required in the VMC was projected using precedent studies, reviewing other dense urban environments, and using best practices.



Outdoor Recreation Facilities -
Current vs. Required

The chart shown below contains a sample of the worksheet that was developed and used to study and identify anticipated facility demand. The worksheet contains typical, common activities that are expected to be required, as well as facility counts, provision rates and participation rates identified in the City of Vaughan’s 2018 Active Together Master Plan.

The left side of the chart displays facility provision rates with anticipated facility demands in the VMC. On the right side of the chart, provision rates are broken down in a more granular way, with rates identified based on registered youth players, users, or distribution.

While the anticipated facility demand is largely the same between the two sides of the chart, based on two slightly different methods of calculating the demand, the more granular calculation on the right hand side is what was ultimately deemed to be a more accurate representation and thus is what was used in this Assessment Report. As described in the steps on the previous page, where provision rates or anticipated demand did not produce realistic or desirable results, anticipated demand was determined based on precedent studies, reviewing other dense urban environments, and using best practices.

Activity	ATMP Participation Rate (household)	2031 City of Vaughan Facility Count	ATMP Provision Rate (per person) Based on 2031 Planned Facilities and Population Projection of 424,500	ATMP Provision Rate (per person that is a member of a specific user group)	Projected Facility Demand of the VMC (Full Build Out) Based on Current ATMP Provision Rate	Projected Facility Demand of the VMC (2031) Based on Current ATMP Provision Rate	ATMP Recommended Provision Rate (per registered youth players, users or distribution)	Required Facilities Based on ATMP Provision Rate (2031)	Required Facilities Based on ATMP Provision Rate (Full Build Out)	Facilities shown in Current Park Designs in the VMC
Individual Fitness or Weight Training	40%	9	0.000021	NA	3	1	0.000021	1	3	3
Playgrounds	26%	164	NA	0.004525	42	21	<i>within 500m of</i>	4	4	4
Splash Pads (water play)	22%	32	0.000075	NA	10	5	0.000469263	2	4	2
Offleash Dog Area	NA	2	0.000005	NA	1	0	NA	2	4	3
Tennis	18%	150	0.000353	NA	45	22	0.0002	13	26	0
Outdoor Soccer	18%	158	0.000372	NA	48	24	0.0125	12	25	0
Outdoor Ice Skating	17%	10	0.000024	NA	3	1	0.000024	1	3	2
Outdoor Basketball	16%	86	0.000203	NA	26	13	0.002	6	13	0
Softball or Baseball	12%	91	0.000213	NA	27	14	0.025	7	14	0
Skateboarding	5%	12	0.000028	NA	4	2	0.000285714	1	2	0
Cricket	NA	3	0.000007	NA	1	0	0.000007	0	1	0
Beach Volleyball	NA	0	NA	NA	NA	NA	NA	6	NA	1
Multi-use Fields	NA	2	0.000005	NA	1	0	0.000005	0	1	0

**VMC
Parks &
Wayfinding
Master Plan**

Assessment
Report

