



# VAUGHAN HEALTHCARE CENTRE PRECINCT

## Existing Conditions Assessment

Vaughan, Ontario

Prepared for the **City of Vaughan, Mackenzie Health, York University & ventureLAB**

June 23, 2020



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June 23, 2020

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Dear Shirley:

**RE: Vaughan Healthcare Centre Precinct – Existing Conditions Assessment (Vaughan, Ontario)**

urbanMetrics inc. (“urbanMetrics”, “uMi”) in cooperation with our project partners for this assignment—LURA Consulting (“LURA”), Sajecki Planning (“Sajecki”) and StrategyCorp (“SC”)—is pleased to submit our preliminary assessment of the opportunities for economic development within the Vaughan Healthcare Centre Precinct (“VHCP”).

The primary purpose of this *Existing Conditions Assessment* has been to gain a better understanding as to the underlying locational considerations, as well as broader market, economic and policy trends that may ultimately influence the future build out and underlying development strategy for the VHCP lands. This reporting also provides a summary of our initial case study research, including an overview of current best practices with respect to the establishment of new hubs of economic activity with a particular focus on the intersection of the healthcare, education and innovation sectors.

We hope that the client group for this assignment—comprised of the City of Vaughan, Mackenzie Health, York University and ventureLAB—find this information helpful as we continue to explore the potential direction(s) for development at this exciting and strategic site.

Yours truly,

urbanMetrics

A handwritten signature in black ink, appearing to read "Chris White", is positioned below the UrbanMetrics logo.

Christopher White, PLE  
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# Preface

Due to the recent and ongoing conditions relating to COVID-19, it is difficult to accurately and/or reliably determine the ultimate impacts of the pandemic on potential future investment and economic development opportunities at the Vaughan Healthcare Centre Precinct (VHCP). While this is also true for broader economic conditions across the community of Vaughan and indeed throughout the Greater Toronto Area, Canada and beyond, we note that it will be of particular importance at this site given the central presence of a major healthcare institution in the Mackenzie Health Vaughan Hospital.

In reviewing this report, it is important to note that virtually all of the background and supporting research, as well as the resulting analyses, observations and evaluations had been developed in the months preceding the COVID-19 pandemic in Canada. As such, the information presented herein does not necessarily reflect the project consulting team's observations with respect to the potential "new normal" that may be established in the coming months/years, but rather reflects the latest available research on relevant historical patterns and best practices.

Moving forward, it will be important to take these new economic and societal conditions into consideration as part of subsequent and pending phases of the feasibility study process.



# 1.0 Introduction

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# 1.1 Background

## Context

Over the past decade, the City of Vaughan has experienced transformational growth and development, with the pending introduction of the new Mackenzie Vaughan Hospital representing a continuation of this trajectory.

There are numerous opportunities that come with the opening of the new Hospital, including increased investment potential through the extensive network of industry, government, not-for-profit and community partners to enhance the City's underlying community and economic development objectives within the VHCP.

In addition to these broader municipal strategic objectives and city-building efforts, the construction of the Hospital also represents a potentially transformative opportunity for Vaughan to establish a new cluster of innovation and employment. As the first major hospital to be constructed within the City of Vaughan, the facility will naturally attract a range of supporting medical facilities, services and offices. Based on previous research and work on similar projects in other jurisdictions undertaken by the project consulting team, the surrounding market area near major healthcare anchors typically contribute sufficient demand and market support to establish a local medical services cluster that primarily serves the needs of patients of the facility. Based on an initial review, Vaughan's Official Plan permissions already establish a policy framework that supports these types of local-serving commercial uses, in addition to more regionally significant employment clustering. However, attracting a broader and more regionally-significant cluster will undoubtedly prove to be a more challenging proposition, requiring the successful culmination of several influencing factors.

If successfully implemented, major medical clusters have the potential to act as powerful and stable activity anchors within a given community. Employment opportunities, ancillary research and innovation hubs, and academic partnerships all regularly converge in these types of environments to create mutually supportive nodes of business activity and basic community functions. The establishment of a major regional medical cluster would represent an important evolution in re-capturing a higher proportion of Vaughan's educated labour force in the fields of health care and professional, scientific and technical services, who currently do not have opportunities for employment directly within the municipality. In addition, Vaughan has the opportunity to become a regional magnet for skilled labour in the health care and professional, scientific and technical services fields, helping attract commuters in from other neighbouring jurisdictions.

## Partnership

In support of the advancement of ongoing planning efforts for the VHCP, a formal community-based collaborative Executive Partnership Steering Committee (“the Partnership”) has been established, comprised of the **City of Vaughan, Mackenzie Health, York University, and ventureLAB**.



Through this Partnership, a *Feasibility Study on the Economic Development Opportunities in the Vaughan Healthcare Centre Precinct* (“the Study”) has been commissioned to further explore options for the VHCP and to provide third-party expertise in a range of relevant sub-disciplines (e.g., land economics, land use planning, economic development, stakeholder engagement, implementation strategy, etc.). As outlined in more detail herein, this particular report represents the first of multiple phases of the broader Study process.

## 1.2 Purpose

To realize the successful implementation of the VHCP, it is imperative that the Partnership first achieve a reasonable understanding of the underlying market opportunity for—and feasibility of—developing a major new healthcare-focused employment cluster. It is also important to better understand the competitive landscape across the Greater Toronto Area (“GTA”) and beyond, as well as the potential policy levers that could be implemented to attract the specific types of businesses, researchers and institutions that are being targeted for operation in, or immediately adjacent to, the new hospital facility.

Developing a unique, cohesive value proposition that aligns with and supports the interests of the myriad of academic, research and business interests will be an important component of this study process. In order to differentiate the VHCP from other medical clusters around the region, it is also important to understand the unique partnerships, research and innovation opportunities and specific areas of specialization that could potentially form part of the unique value proposition offered at this particular node.

The purpose of the broader Feasibility Study on the Economic Development Opportunities in the Vaughan Healthcare Centre Precinct is therefore to examine the feasibility of developing a world-class, health innovation experience which may include new innovation space for ventureLAB; net new initiatives that connect start-ups and scale-up companies to multi-national enterprises; collaboration opportunities with Mackenzie Health and a new university health sciences development for York



University; and co-location opportunities for other healthcare partners to enhance the continuum of care for the betterment of local Vaughan residents' health.

This important Study will represent a catalyst for developing a new healthcare precinct that can serve as a successful example of complete community-building allowing residents, employees and other visitors alike to live, work and learn within the identified VHCP and surrounding areas.

## 1.3 Scope

The contents of this initial Existing Conditions report represent the culmination of a range of preliminary supporting research that form the first phase of the broader Study process above.

As presented in more detail herein, this *Existing Conditions* report includes a range of background research and analysis relating to:

- the locational **context of the subject lands** and its underlying competitiveness with other parts of the GTA and beyond;
- current **land use planning policy** considerations at various levels of government (municipal, regional, provincial);
- existing and potential future **employment/economic conditions**;
- existing and potential future **real estate market conditions**; as well as,
- insights from **best practices research and specific case studies** from other parts of Ontario, in addition to relevant international examples.

This background and supporting research are specifically targeted at meeting a number of the preliminary goals and objectives of the broader Study, as identified by the Partnership in the original terms of reference for this assignment. These selected goals include: providing a better understanding of contemporary approaches to healthcare innovation cluster and sector development; assessing the top-line strengths/weaknesses/opportunities/threats of Vaughan in developing this type of cluster; as well as articulating the specific differentiators or unique sales proposition(s) for future business development within the VHCP.

Based on the outcomes and key findings of the foregoing research program, subsequent phases of work for the Study are also to include the identification of specific land use concepts for the site, as well as further refinements informed by associated feasibility testing and return on investment analysis. Similarly, pending

phases of the proposed work program will include the development of more targeted strategic recommendations with respect to potential funding models and implementation strategies for the VHCP.

## 1.4 VHCP Lands

### Vaughan Healthcare Centre Precinct (VHCP)

It is important to note at the outset of this study that—for the purposes of this reporting—we have defined the VHCP or “the subject lands” as comprising the majority of the property extending between Major Mackenzie Drive to the south, Highway 400 to the west, Jane Street to the east, and the residential community of Teston to the north. This definition of the VHCP is also reflected in municipal policy, which delineates an equivalent geography as part of the corresponding secondary plan area identified by the City of Vaughan.

### Hospital & Non-Hospital Lands

As shown in the figure below, the broader VHCP includes both the hospital and nearby non-hospital lands. We understand that Blocks 2 and 3—as defined in more detail herein—are reserved for the core day-to-day functions of the Mackenzie Vaughan Hospital and other potential existing and future related healthcare-focused functions (including future expansions of the hospital). By comparison, the balance of the lands within the VHCP are more likely suited for supporting a range of other associated innovation, office, research and post-secondary type uses that could further advance the underlying vision for this precinct.

While it will undoubtedly be important to undertake a holistic and all-encompassing review of the entirety of these lands, the primary focus of this study will be on evaluating opportunities for development on the non-hospital lands identified here. This preliminary reporting—and all future deliverables associated with the broader study process—will seek to distinguish between these two types of property (i.e., hospital vs. non-hospital lands), where applicable. Additional collaboration with Mackenzie Health will also be required to gain a better understanding as to the specific use types that may be required on the hospital lands, so as to inform the subsequent opportunities available throughout the balance of the VHCP.

**Figure 1-1: Map of VHCP Lands**



SOURCE: urbanMetrics. The “Hospital Lands” shown here include the Mackenzie Vaughan Hospital, as well as other lands that could potentially support additional existing and potential future hospital-adjacent healthcare-related functions and/or expansion opportunities. “Non-Hospital Lands” include the balance of remaining lands located within the broader VHCP and represent the primary focus of this particular study.



## 2.0 Local Context

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## Key Findings

- The Vaughan Healthcare Centre Precinct is well located adjacent to a regional 400-series highway and a major arterial route. The site will also be served by a new bus terminal, which will further improve access to the site via public transit. The site is not currently supported by higher order, rapid public transportation.
- The surrounding context is generally defined by low density residential and commercial uses. Proximity to Canada's Wonderland immediately to the south presents unique challenges and opportunities with respect to traffic flow and future development patterns.
- There are several existing institutional facilities located in close proximity to the subject site, including Vaughan City Hall.
- Existing land use planning policies at the local (City of Vaughan), regional (York Region) and Provincial levels provide guidelines that establish the foundation upon which the ultimate vision for the VHCP can emerge. These policies appear to be largely consistent with the current and likely future vision for these lands.
- Vaughan's population has grown significantly since 2001, outpacing the rate of growth across the Toronto CMA and York Region. The population is generally younger, and benefits from higher household incomes than these broader geographies. The City does, however, appear to have an outflow of residents in the 20-39 age cohort; an important demographic representative of the young and educated workforce that could potentially be targeted by employers active in the VHCP.
- Vaughan has emerged as an important regional employment node, experiencing net positive commuter flows overall in recent years. Furthermore, the nature of the local labour force is changing in Vaughan as the City continues to see an increase of employment in knowledge-driven, service-based industries, while largely maintaining and slowly growing its traditional manufacturing and warehousing base.

## 2.1 Site Context

### Location

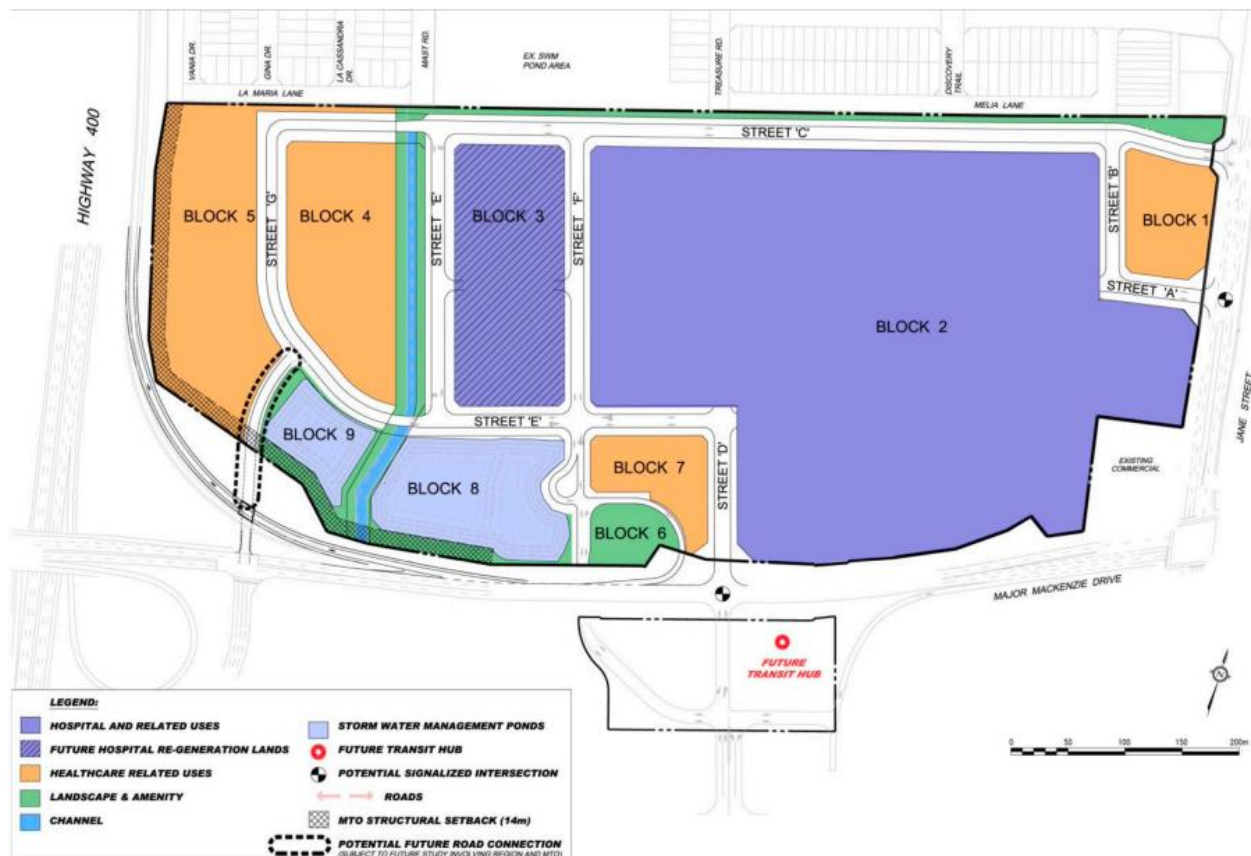
The Vaughan Healthcare Centre Precinct ("VHCP") is an 82-acre parcel of land bounded by Major Mackenzie Drive to the south, Highway 400 to the west, Jane Street to the east, and the residential community of Teston to the north. The site is located towards the northern end of the City of Vaughan, approximately 6.5 kilometres to the north of the emerging Vaughan Metropolitan Centre,



and TTC subway station access. The site is further located approximately 3.0 kilometres to the west of Vaughan's City Hall.

Prior to current development of the new hospital and the Vaughan Healthcare Centre Precinct Plan, the VHCP was a greenfield site, surrounded by a variety of low-intensity residential and commercial uses. The site is located towards the northern edge of Vaughan's built boundary, approximately 2.0 kilometres to the south of what is the current northern edge of developed areas within the community, at Teston Road. Figure 2-1: Healthcare Centre Precinct Land Use Plan Figure 2-1 below demonstrates the Land Use Plan for the VHCP.

**Figure 2-1: Healthcare Centre Precinct Land Use Plan**

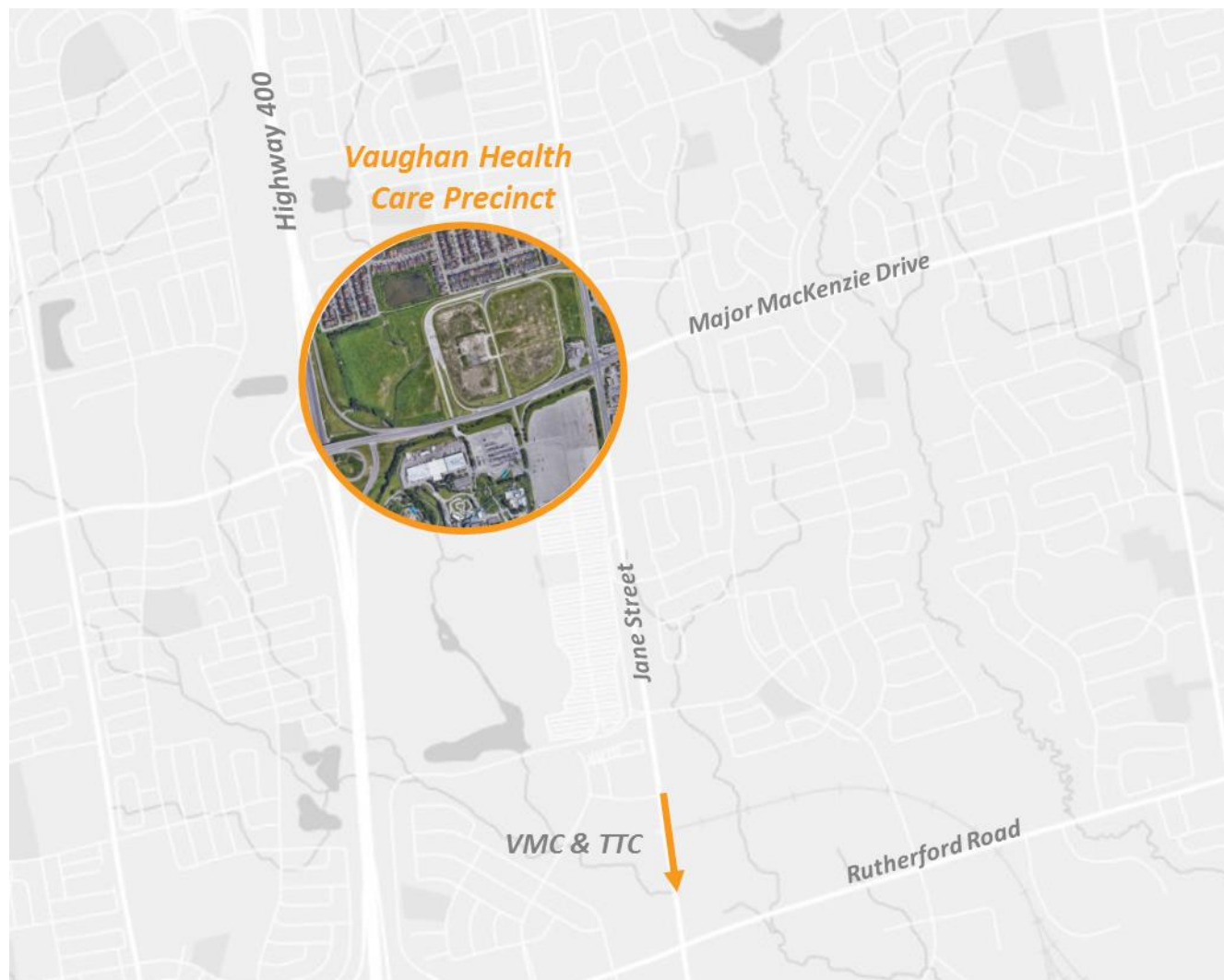


SOURCE: Vaughan Healthcare Centre Precinct Plan.

The VHCP is bounded by three major transportation corridors, serving residential and commercial traffic throughout Vaughan, York Region and the broader Greater Toronto Area. The site is located

immediately to the south of Teston, a low-density residential community. The site will not maintain roadway connections to the residential neighbourhoods to the north, however there will be pedestrian access.

**Figure 2-2: Site Location**



SOURCE: urbanMetrics inc.

## Surrounding Areas

The VHCP is surrounded by a collection of unique land uses. These uses serve a range of daily users, residents and visitors; all accessing the area from a variety of different modes of transportation.

The site is primarily surrounded by a traditional suburban context, which serves the needs of surrounding residents. However, the presence of Canada's Wonderland creates a broader regional significance and draw to the area, primarily on a seasonal basis. The legacy of Canada's Wonderland has further established a comfort and familiarity amongst local residents and business owners of the potential seasonal traffic impacts associated with the amusement park. As shown in Figure 2-3, the VHCP fronts along Major Mackenzie Drive, between Highway 400 and Jane Street.



- **To the south** of the site is Canada's Wonderland, a significant regional amusement park, which draws visitors from across the Greater Toronto Area, and Ontario. The amusement park draws over 3.5 million visitors per year. The vast majority of these visitors arrive during the park's summer season, running between May and October. The park's operations throughout the winter season are significantly decreased, resulting in a highly seasonal impact on demand patterns and the broader draw to the site. This creates a significant land area to the south of the site which is generally underutilized for a significant portion of the year.
- **Immediately to the east** of the site are two distinct commercial centres. On the north side of Major Mackenzie Drive is Mackenzie Square, a local-serving commercial plaza. The node is anchored by a Longo's Supermarket, and served by a range of other, primarily local serving uses that meet the day-to-day needs of residents in the immediate area, including Bulk Barn, Dollarama and Cobs Bakery. The southeast corner of Major Mackenzie Drive features another, similarly positioned plaza. This node is anchored by a Fortino's supermarket, and contains daily uses such as an LCBO, TD Bank and Shoppers Drug Mart.
- **To the west**, the site is divided from surrounding uses by the Highway 400 corridor. This limited access route is the primary corridor connecting Simcoe County and Muskoka Region to the Greater Toronto Area. Further west of the highway is a range of local and regional serving commercial uses, and low-density residential communities. However, the distance across the highway right-of-way, and poor pedestrian infrastructure presents a major barrier to pedestrians. Due to this distance, it is unlikely that the day-to-day retail/service function offered at these commercial facilities would be well utilized by users of the VHCP.



- **To the north** of the site is the residential community of Teston. This community is generally a low-density neighbourhood, primarily containing single and semi-detached residential properties.

**Figure 2-3: Surrounding Context**



SOURCE: urbanMetrics inc.

## Access

### *Current Transit Service*

The subject site is not currently served by rapid or higher-order transit. It is, however, served by multiple bus routes, which provide access to points along Jane Street and Major Mackenzie Drive.

Maple GO Station is located approximately 3 kilometres to the east of the Hospital Precinct. This GO station is located on the Barrie Line, and provides service directly between Union Station and Barrie. Several trains run in both directions on this line on a daily basis, ranging from 15-minute rush hour service, to occasional weekend service.

Additionally, there is a GO Bus Station located at the southeast corner of the Highway 400 and Major Mackenzie Drive interchange. This station is served by a single route which connects Yorkdale Mall to East Gwillimbury, with an additional stop in Newmarket. This route only runs from Mondays to Fridays, and offers service throughout the day typically with one bus running every hour or two.

### *Planned Transit Service*

York Region Transit has identified a future alignment for a BRT route, which would provide immediate access to the VHCP. The proposed route would run north-south along Jane Street, as well as east-west along Major Mackenzie Drive. This route would directly serve the hospital node and ultimately provide broader access to the Vaughan Metropolitan Centre to the south, and areas adjacent to the VMC subway stop. The addition of bus rapid transit would significantly enhance regional connectivity opportunities at the VHCP. However, this route is currently unfunded, and does not have an estimated completion date.

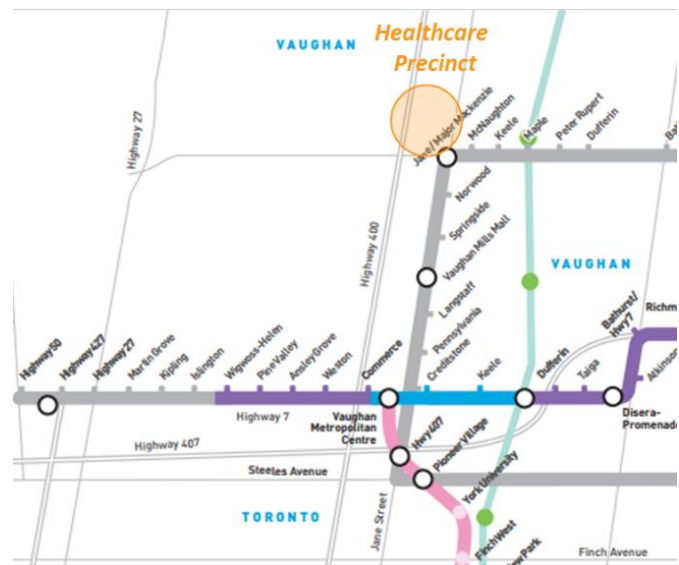
Furthermore, GO Transit is making significant investments to electrify the Barrie GO Line, which will provide 15-minute frequency, all-day service on the line. This initiative will result in increased service to Maple Station, which is located approximately 3 kilometres to the east of the VHCP.

**In addition to the identified BRT route above, it is important to note that the City of Vaughan and York Region Transit are actively advancing plans to develop a bus terminal, located on the south side of Major Mackenzie Drive.**

As shown in Figure 2-5, this terminal is planned to contain a total of 12 bus bays, which will act as a hub for bus routes, and will provide enhanced local and regional connections and transfer opportunities. Consistent with other bus terminals throughout the GTA and York Region, this site could potentially be served by a variety of transit operators, including YRT, GO, and TTC. Furthermore, the terminal will be directly connected to the VHCP via an elevator and pavilion building through a below-grade passageway.

This transit project will undoubtedly enhance accessibility to the VHCP for transit users. The investment will further serve to create a hub adjacent to the VHCP, not unlike existing and planned

**Figure 2-4: Current and Future Viva Routes**

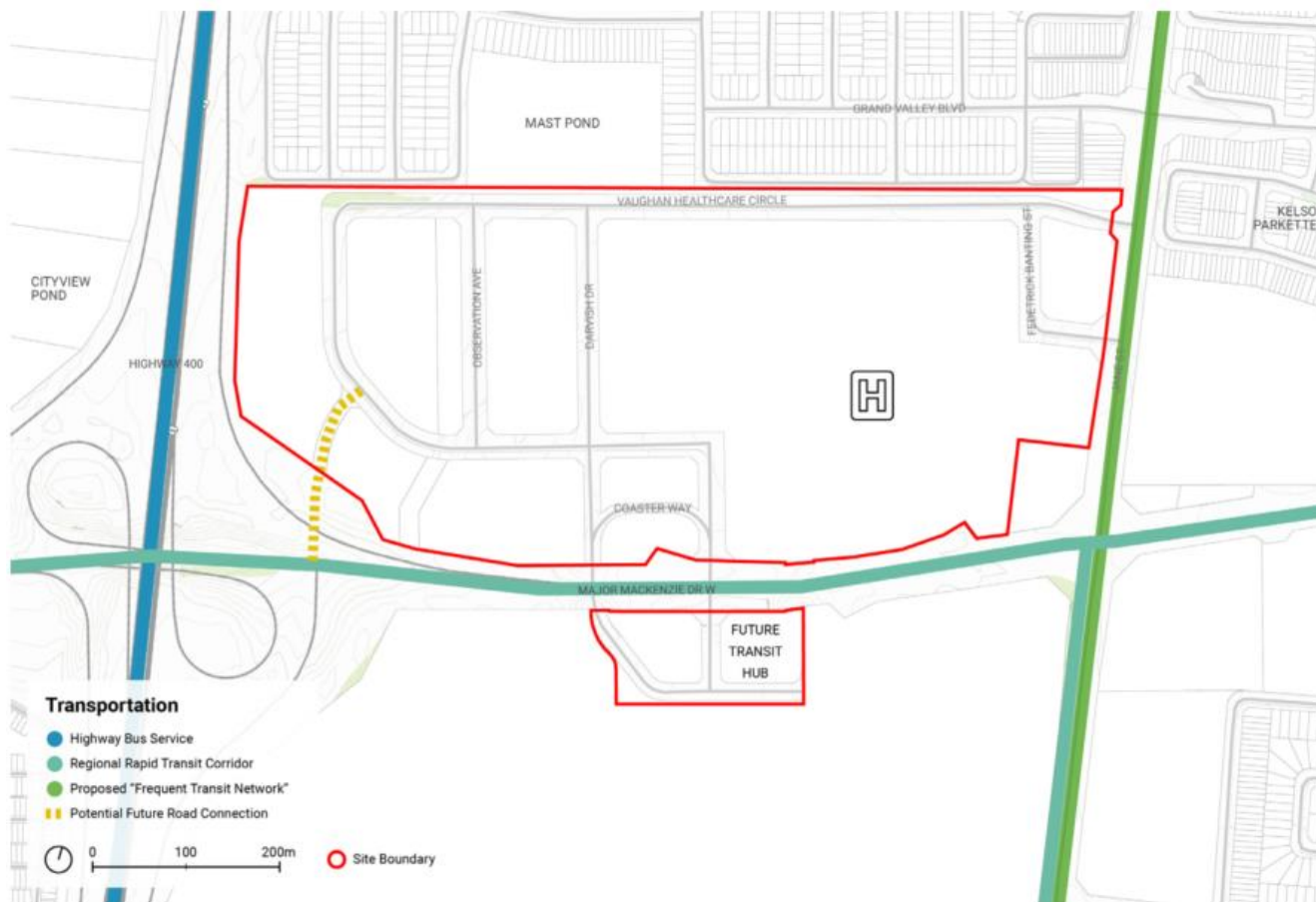


SOURCE: urbanMetrics inc., based on York Regional Transit.



terminals throughout York Region (e.g., at Markham-Stouffville Hospital, The Promenade, Vaughan Metropolitan Centre, etc.). It certainly will enhance the level of bus service that will ultimately be provided at the VHCP.

**Figure 2-5: Future Transit Hub Adjacent to VHCP**



SOURCE: Vaughan Healthcare Centre Precinct Plan, City of Vaughan Development Planning

While these improvements in transit infrastructure will undoubtedly benefit the site and significantly improve connectivity to/from the VHCP on a more local/regional scale, the proposed bus terminal is unlikely to—in and of itself—have an immediate influence on the broader development trajectory, national significance and/or overall nature of investment attracted to the VHCP; particularly relative to higher-order, rail-based development opportunities presented elsewhere in the Greater Toronto Area. Consistent with the development impacts of other comparable bus terminal stations throughout the GTA and indeed across North America, these investments will nonetheless represent important improvements to connectivity and passenger experience, which will enhance the ability of transit users to access this important node in the coming years.

### ***TTC Subway Extension***

In 2017, the TTC opened an extension of Line 1, which brought subway access to Vaughan Metropolitan Centre; a major influencer of future growth patterns and business development opportunities.

This marked the first direct TTC subway connection between Vaughan and Union Station, and a significant improvement in regional transit connectivity, through access to the broader TTC subway network and immediate connections to other transit service providers (e.g., GO Transit, etc.). As a result of this and other related planning efforts undertaken by municipal staff, the VMC has seen significant new residential and non-residential investment in recent years. Similarly, significant additional investment is planned/expected in the coming years as this area continues to mature and achieve full build-out.

The VHCP is located approximately 6.5 kilometres to the north of the current terminus of the VMC station. The travel time between the subway station and Healthcare Centre Precinct using various modes of transportation are as follows:

Mode	Approximate Travel Time	Travel Corridor
Automobile/Taxi/Carshare	10 minutes	Jane Street or Highway 400
Public Transportation	25 minutes + additional \$4.25	Route 20 via Jane Street
Cycling	25 minutes	Jane Street
Pedestrian	75 – 90 minutes	Jane Street

- **Automobile** – The precinct is accessible by automobile from the VMC by Jane Street, or via highway 400. Approximate travel time is 10 minutes.
- **Public Transportation** – York Region Transit’s route 20 runs directly along Jane Street. It connects the VMC to the Healthcare Centre Precinct, with a deviation off of Jane to serve Vaughan Mills. The estimated travel time with this route is 25 minutes, and costs an additional \$4.25 fare, beyond any TTC fares required.

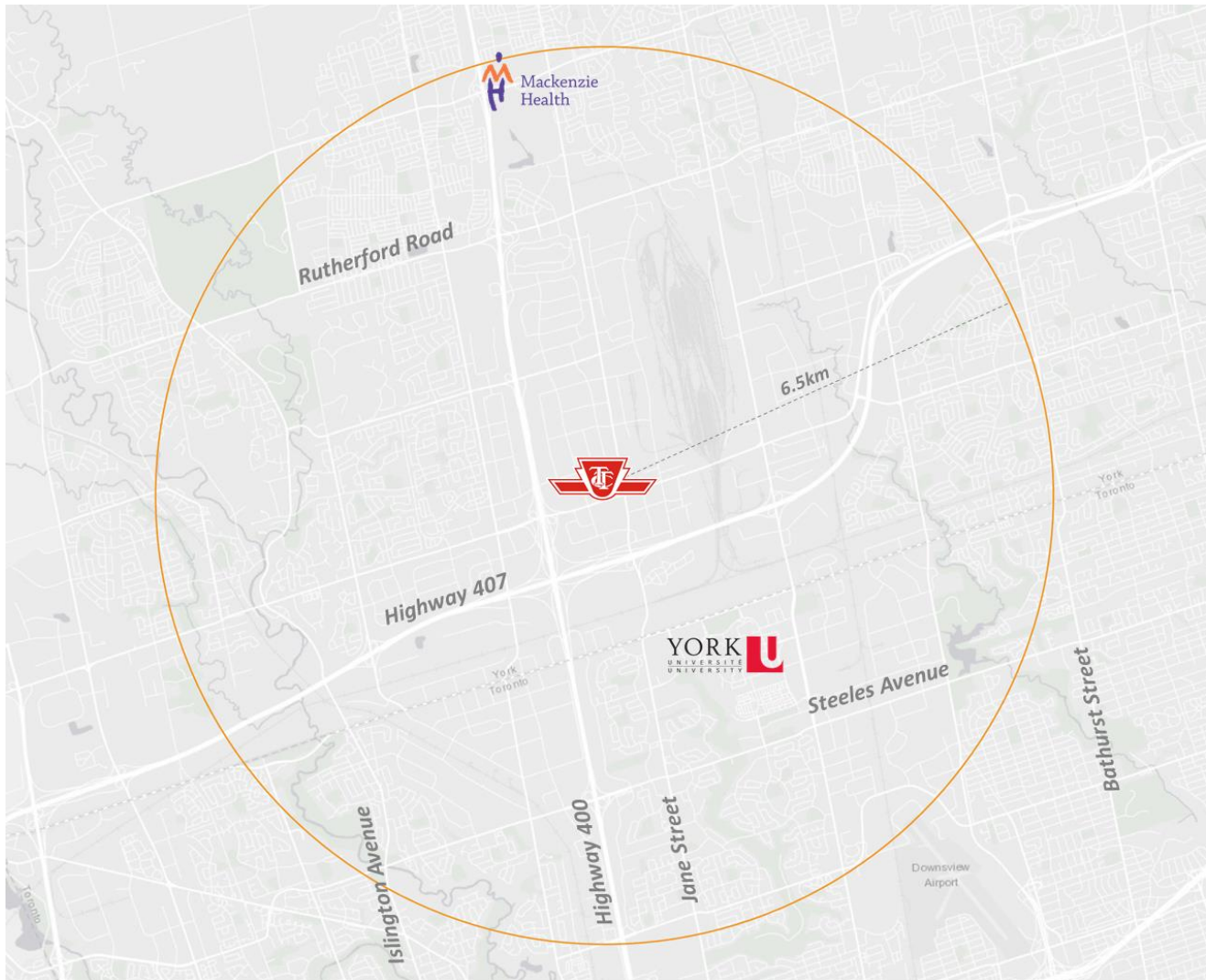
- **Cycling** – The Healthcare Centre Precinct can be directly reached via Jane Street. Approximate travel time is 25 minutes. However, it is important to note that there are no dedicated cycling facilities on Jane Street, and the current configuration of the corridor is generally hostile to cycling.
- **Pedestrian** – The walking distance between the VMC and Healthcare Centre Precinct is between 75 and 90 minutes. This distance falls well outside a reasonable walking threshold for daily travel.

As evidenced by the travel times above, the physical separation and distance relationship between the VHCP and the VMC subway are significant; particularly in the context of attempting to establish a more regionally significant node.

By comparison, contemporary planning practice typically suggests that transit-oriented development opportunities exist within some 500 to 800 metres of a subway station or other comparable “major transit” stations. Indeed, policy frameworks recently established by several municipalities across the Region have generally adhered to this threshold. That is, **in order to leverage or benefit from the geographic proximity to a higher-order transit station, the development area must be within this distance threshold** of approximately 800 metres.

Figure 2-6 below further illustrates the distance relationship of the VHCP to local higher order transit infrastructure, providing a visual reference for the 6.5-kilometre radius surrounding the VMC station. As shown, this geographic range is significant, extending into the municipal boundaries of Toronto and including the entirety of York University’s existing Keele campus. It is also nearly ten times beyond the typical area of influence noted above.

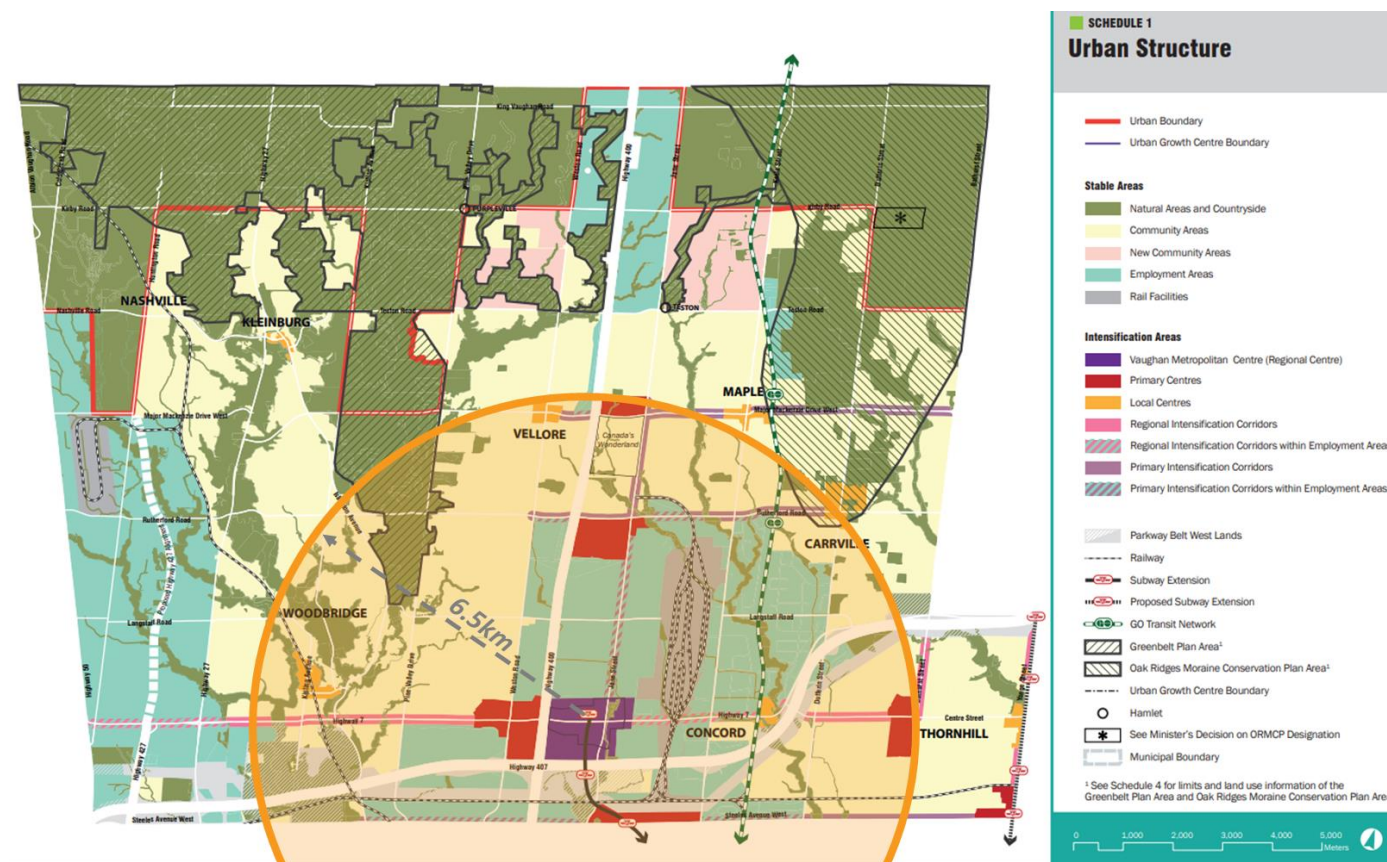


**Figure 2-6: 6.5 km Radius from Vaughan Metropolitan Centre Subway Station**

SOURCE: urbanMetrics inc.

Figure 2-7 below demonstrates this radius threshold within the broader urban structure outlined in Schedule 1 of Vaughan’s Official Plan. Within this threshold, the Official Plan identifies a total of four “Primary Centres”, including both the VHCP and the VMC. These centres are intended to be areas of intensification, which would accommodate mid and high-density residential and commercial growth.

Figure 2-7: Urban Structure within 6.5km Radius from VMC



SOURCE: urbanMetrics inc., based on Schedule 1 of the Vaughan Official Plan.

Therefore, it is the general view of the consulting team that—although the Line 1 extension into Vaughan has produced significant opportunities along the subway corridor itself and for the City of Vaughan more broadly—the value of the extension does not extend to, or directly influence the VHCP at this time and/or in the absence of significant additional investment in rail transit infrastructure. In particular, the distance from the VMC Station is unlikely to alter travel behaviour patterns, or be a contributing factor to the form and nature of development ultimately realized at the VHCP.

## Automobile

The site is served by Highway 400, which provides direct connections to Highway 401 and the City of Toronto to the south. To the north, Highway 400 serves the City of Barrie, and is a primary access point to Muskoka Region and Northern Ontario. The interchange of Highway 400 and Major Mackenzie Drive is travelled by over 130,000 vehicles on a daily basis, and is clearly a major transportation corridor through Vaughan and the broader region.

The Government of Ontario is currently constructing an extension to Highway 427. This highway runs to the west of the alignment of Highway 400, and the interchange with Major Mackenzie Drive is approximately 10 kilometres to the west of the VHCP. Although not directly serving the VHCP, the extension will improve automobile access to and from western portions of the Greater Toronto Area, particularly Mississauga and Pearson International Airport.

## Civic/Institutional Significance

In addition to the more market-driven uses contemplated above, urbanMetrics has considered the availability of adjacent civic and institutional uses in the surrounding area of the VHCP. These uses are important community amenities, serving surrounding employment and residential populations which could occupy space in the VHCP.

Consistent with previous master-planning exercises oriented around medical, educational and institutional anchors, it is important to differentiate between local and regional-serving uses. As a major regional hub, a hospital-anchored master planning area is a desirable destination to locate larger, regional serving uses that draw individuals from across Vaughan and York Region.

These uses will benefit from scale in transportation access, services and location. In addition to the core hospital functions at the VHCP, uses such as post-secondary institutions, large-scale recreation facilities or regional courts are all typically desirable at these types of regional anchors.

Alternatively, uses that serve a more localized market may not necessarily represent the maximum utility of the VHCP lands, but nonetheless can remain as eligible candidate uses. Generally speaking, uses such as public schools, local parks, neighbourhood community centres, and libraries are more appropriately provided at the neighbourhood level. This allows for these uses to more effectively contribute to the creation of complete, local communities and ensures that they serve an appropriate community size and scope given their usage levels.

Some of the existing institutional uses in the surrounding area include:

- **Vaughan Civic Centre Resource Library** is located approximately 2 kilometres to the east of the VHCP.
- Vaughan is not served by a Provincial court. There is a Small Claims Court located in Markham, as well as Richmond Hill. **The Ontario Court of Justice** provides two locations in Toronto approximately 10 kilometres to the south of the site, adjacent to the intersection of Finch Avenue and Highway 400, and on the campus of York University.

- Immediately to the east of the aforementioned library is **Vaughan City Hall**. In addition to providing a range of administrative and municipal services, the development contains a YMCA child care centre.
- To the northeast of the subject site is **Maple Library and Community Centre**. The community centre contains a range of facilities, including activity rooms, indoor arenas, fitness centre, indoor track, swimming pool and bowling alleys.
- The site is located approximately 8 kilometres from **Vaughan Metropolitan Centre**, Vaughan's emerging downtown core. The VMC further represents the northern terminus of the **TTC subway** network, providing a direct connection into Downtown Toronto.
- Lastly, the site is approximately 10 kilometres north of the Keele campus of **York University**. This is the main campus of York, supporting the majority of the over 50,000 students enrolled at the institution. This campus is also directly served by public transportation routes running along Jane Street, in addition to the recent Line 1 subway extension.

## 2.2 Land Use Planning Policy Context

Understanding the existing land use framework is important to identify provincial, regional and local direction and intention for the VHCP. The land use planning guidelines in place establish the foundation upon which the ultimate vision for the VHCP can emerge.

### Provincial

- The 2014 Provincial Policy Statement establishes overarching Provincial direction with regard to land use planning. The Statement identifies the VHCP as located within a Settlement Area. These areas are directed to efficiently use land, resources, infrastructure and public services, as well as support active and public transportation. Compact and focused employment areas are expected, both as a means to support climate adaptation and maximize transit usage.
- The 2019 Growth Plan for the Greater Golden Horseshoe provides policy direction, as well as population and employment forecasting for jurisdictions generally located within the Greater Toronto Area. The Growth Plan places emphasis on improving integration of land use planning and investment in public service facilities through the development of community hubs.
- The Growth Plan further promotes policies that feature a mix of land uses, and convenient access to public services. Furthermore, such public services are identified as benefitting from locating in concentrated service hubs.



## Regional

- York Region is currently undertaking a Municipal Comprehensive Review. This review will include an update to the York Region Official Plan, as well as population and employment forecasts and land budgets.
- The 2010 York Region Official Plan identifies the VHCP as an Urban Area, intended to accommodate a significant portion of planned growth within York Region.
- Human service facilities, such as those contemplated at the VHCP, should be located close to pedestrian, cycling and transit facilities. Lower tier municipalities are encouraged to attract new educational and skills training facilities.
- The VHCP is located at the junction of two major road corridors identified in the 2016 York Region Transportation Master Plan. These corridors are both planned to receive enhanced transit service by 2041, in the form of bus-rapid transit (BRT) service.

## Municipal

- The City of Vaughan's 2010 Official Plan identifies the VHCP as an Intensification Area. Collectively, these areas are mixed use in nature, and expended to accommodate 45% of Vaughan's intensification target.
- The VHCP is also identified as a Primary Centre. This designation supports a range of building heights and uses, including office, institutional and community facilities.
- The subject lands are also designated Major Institutional, which permits a range of building types and heights. In addition, public and private institutional buildings are permitted, as well as residential townhomes and stacked townhomes.
- The 2013 Vaughan Healthcare Centre Precinct Plan has established the foundation for the area's ultimate buildout and development. The Plan establishes nine distinct development blocks which support a range of hospital, healthcare and natural uses.

See **Appendix A** for complete Planning Context memo.

## 2.3 Community Profile

### Population

#### Current Population

Figure 2-8 provides a brief summary of population growth between 2001 and 2016 for selected geographies across Ontario. As shown, Vaughan has experienced rapid population growth over this period, adding some 124,000 net new residents since 2001. On a percentage basis, Vaughan is by far the fastest growing municipality of those surveyed, with overall growth during the period of 68.1%. This is significantly higher than the 52.3% experienced across the rapidly growing York Region, and 26.6% demonstrated across the entire Toronto CMA.

The figures below also show that growth in Vaughan has slowed significantly in the more recent 2011 – 2016 period, however, this rate of expansion still outpaces the average shown across Ontario and is on pace with population growth across the broader Toronto Region.

**Figure 2-8: Population Growth in Select Geographies (2001 – 2016)**

	2001	2006	2011	2016	Growth (2001-2016)
<b>Vaughan</b>	182,000 31.3%	239,000 20.5%	288,000 6.3%	306,000	124,000 68.1%
<b>York Region</b>	729,000 22.5%	893,000 15.7%	1,033,000 7.5%	1,110,000	381,000 52.3%
<b>Toronto CMA</b>	4,683,000 9.2%	5,113,000 9.2%	5,583,000 6.2%	5,928,000	1,245,000 26.6%
<b>Ontario</b>	11,410,000 6.6%	12,160,000 5.7%	12,852,000 4.6%	13,448,000	2,038,000 17.9%

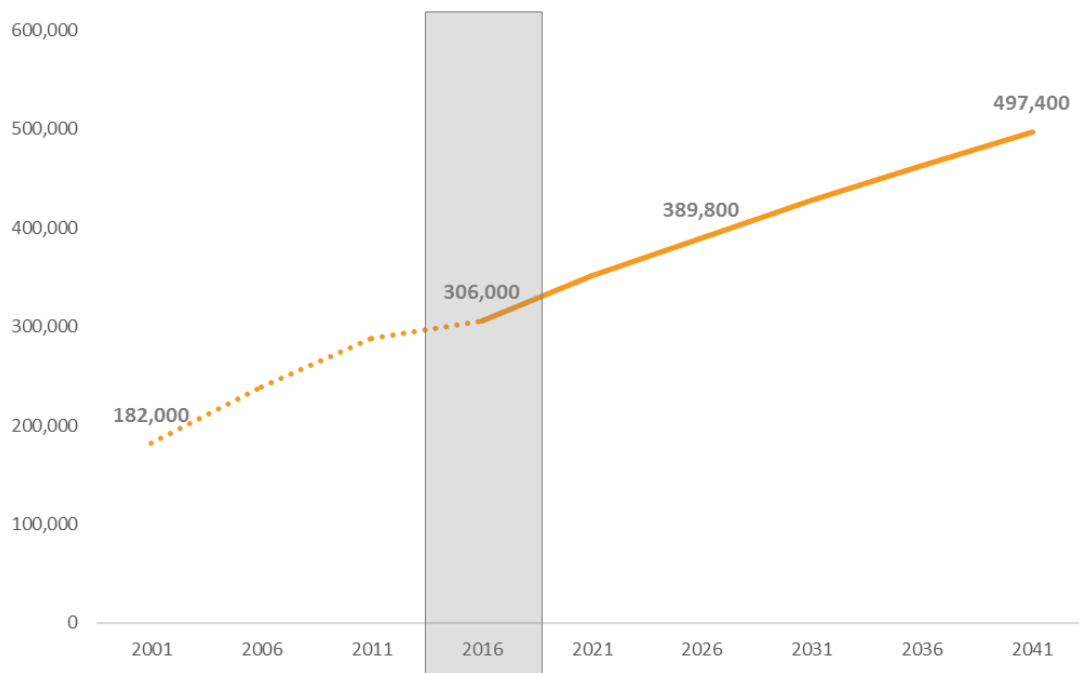
SOURCE: urbanMetrics inc., based on Census of Canada.

NOTE: Figures rounded to the nearest 1,000.

## Future Population

urbanMetrics has reviewed population forecasts for the City of Vaughan, based on the preferred scenario of the Growth Plan for the Greater Golden Horseshoe, endorsed by Vaughan’s Planning and Economic Development Department in November 2015. This scenario contemplates a future 2041 Vaughan population of 497,400. Achieving this target would represent an increase of some 62.5% over the 2016 reported census population shown in the previous section and a similar overall trajectory as experienced in the years leading up to the 2016 Census since 2001.

**Figure 2-9: Vaughan Current and Forecasted Population**



SOURCE: urbanMetrics inc. Forecasts based on preferred scenario of the Growth Plan for the Greater Golden Horseshoe. Figures up to and including 2016 based on available Statistics Canada Census data.

Similarly, the more regional growth context across all of York Region calls for a 2041 population of some 1.79 million (i.e., per the preferred growth scenario identified). This rate of increase of 61.2% is similar to that reported in the City of Vaughan.

The rapid rate of population growth is an important indicator of the need for the City of Vaughan to continue to pursue regional employment uses, develop strong local economic sectors, and provide a range of healthcare services to its citizens. The VHCP provides an opportunity for the municipality to make significant progress on each of these fronts.

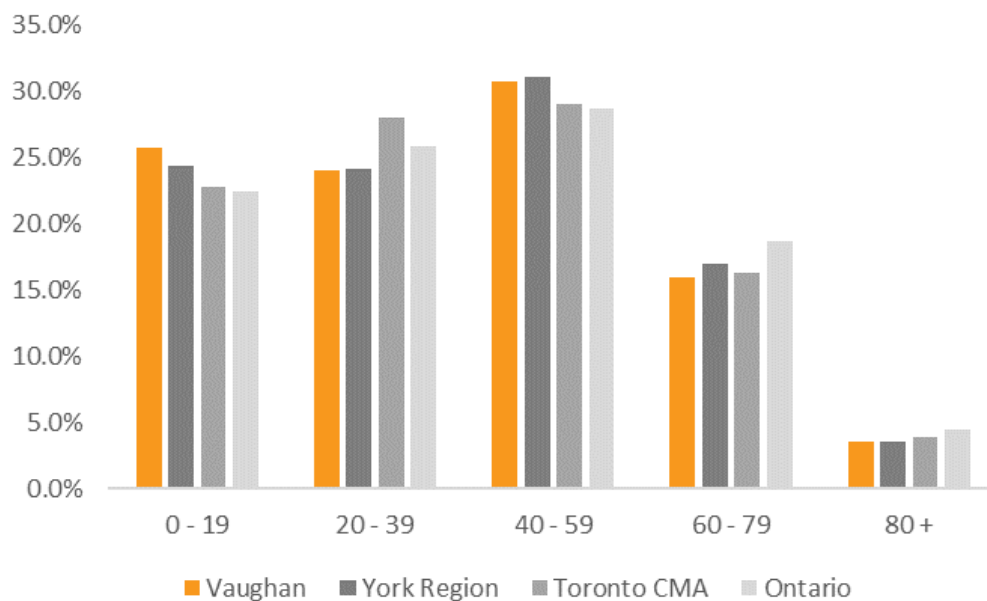
## Demographics

In addition to the population figures shown above, our team has collected and reported on a range of demographic, social and economic conditions in Vaughan. This exercise is intended to build a more nuanced understanding as to the composition of Vaughan’s residents and how it compares to surrounding municipalities. The purpose of this section is to identify potential trends, opportunities and differentiating factors that could further inform the feasibility of realizing the vision for a healthcare precinct surrounding the new Mackenzie Hospital.

### Age

Figure 2-10 demonstrates the age profile of Vaughan, compared to other relevant jurisdictions. As shown, Vaughan’s age profile is reasonably consistent with trends shown across the GTA and Province of Ontario. However, relative to Toronto, Vaughan has a notably higher proportion of individuals aged 0-19 as well as 40-59, and lower proportion of young adults between 20 – 39. A finding of this nature suggests that Vaughan is perceived as a family-friendly location to live. However, lower rates of individuals aged 20 – 39 suggests that there is an outflow of population in this age cohort. This could be attributed to a range of factors, including the lack of a post-secondary institution within Vaughan, current concentrations of employment opportunities in Downtown Toronto, and the relatively limited availability of market housing at the affordable end of the spectrum.

**Figure 2-10: Age Profile**



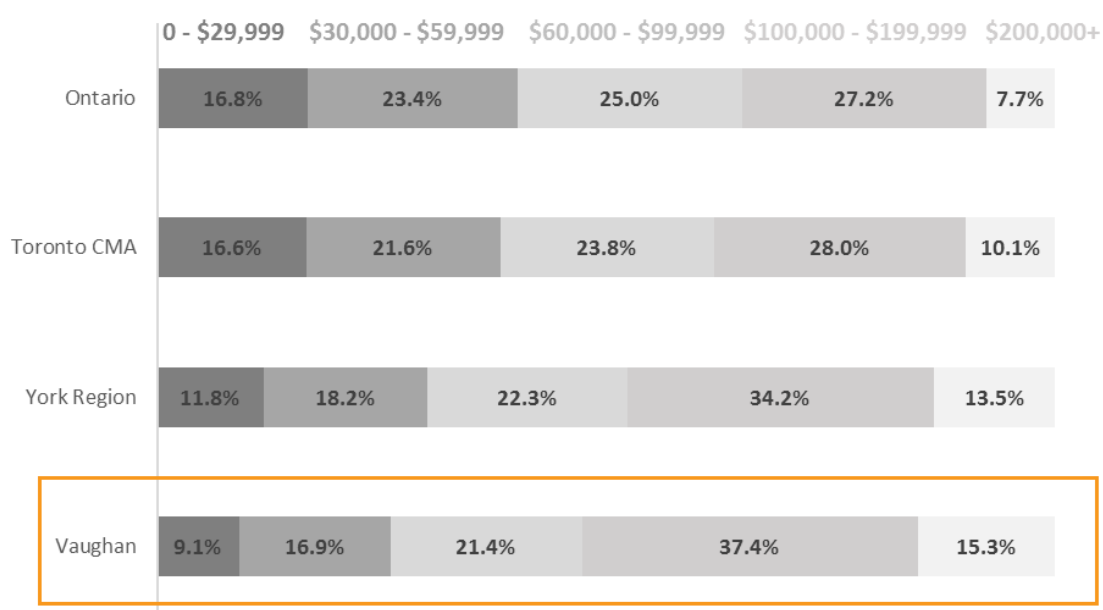
SOURCE: urbanMetrics inc., based on Census of Canada.



## Income

In Figure 2-11, we have considered the household income ranges for residents in Vaughan, York Region, the GTA and Ontario. These figures have been consolidated into pre-determined ranges to help demonstrate the relative incomes of each jurisdiction for comparison purposes. As shown, household incomes in Vaughan generally trend higher than the other geographies surveyed. With more than half (52.7%) of its households earning over \$100,000 per year, Vaughan is clearly a relatively high-income municipality.

**Figure 2-11: Household Income Profile**

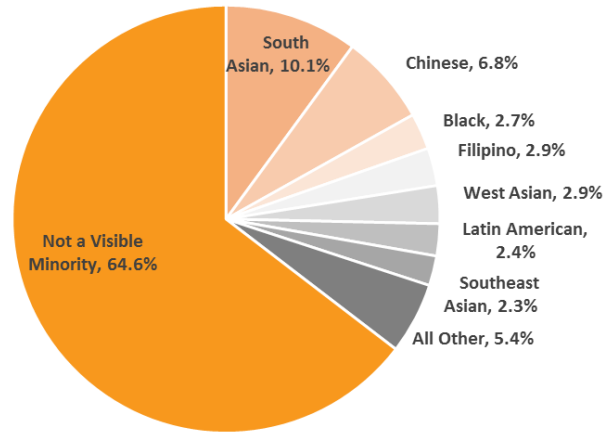


SOURCE: urbanMetrics inc., based on Census of Canada.

## Ethnicity & Immigration

Figure 2-12 shows the population in Vaughan by visible minority status. As shown, some 35.4% of Vaughan's population reported being a member of a visible minority group. The most common visible minorities in Vaughan were reported as members of the South Asian, and Chinese communities. Based on data from York Region and the Toronto CMA—which demonstrate visible minority populations of 49.2% and 51.4%, respectively—Vaughan is less diverse than the broader regional context of the GTA. However, Vaughan is still a very multicultural society, and requires dedicated services and support mechanisms to successfully support all of its citizens.

**Figure 2-12: Visible Minority Population in Vaughan, 2016**

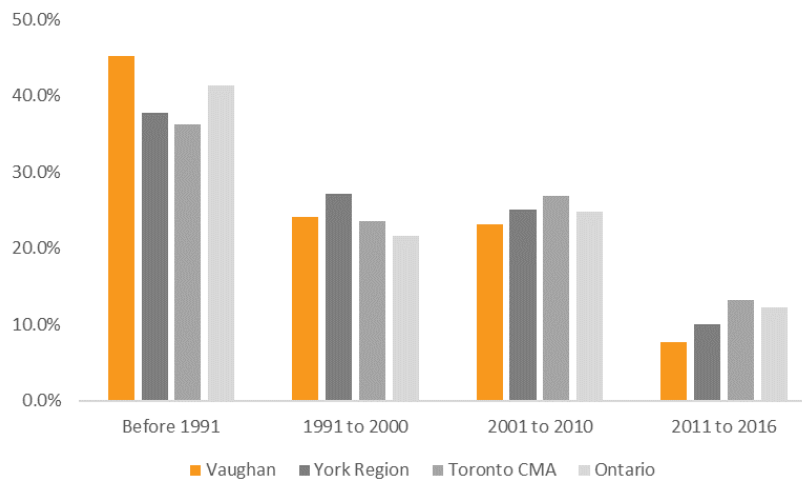


SOURCE: urbanMetrics inc., based on Census of Canada.

NOTE: “All Other” category includes other reported populations, including: Arab, Korean, Japanese, Visible Minority n.i.e., & multiple visible minorities. These groups each reported less than 2.0% of the total population.

Figure 2-13 demonstrates immigration patterns by time period. A total of 46.3% of Vaughan’s population identify as immigrants, which are captured in the table below. As shown, the highest period of migration to Vaughan occurred prior to 1991. This period saw Vaughan experience higher levels of immigration than that across the broader geographies surveyed. However, since 1991, Vaughan has generally welcomed a smaller proportion of its immigrant population, relative to York Region, the Toronto CMA, and Ontario.

**Figure 2-13: Immigration by Period**



SOURCE: urbanMetrics inc., based on Census of Canada.

Similarly, Figure 2-14 shows the highest reported ethnicities in Vaughan. As shown, over 30.0% of the population self identify as Italian; by far the dominant ethnicity reported. In addition, significant ethnic populations of Russians, Chinese, Canadian and East Indian populations were also reported in Vaughan.

**Figure 2-14: Five Highest-Reported Ethnicities in Vaughan**

Reported Ethnicity	Absolute Total	% of Population
Canadian	24,185	8.0%
Italian	94,725	31.1%
Russian	25,635	8.4%
East Indian	20,595	6.8%
Chinese	24,130	7.9%

SOURCE: urbanMetrics inc., based on Census of Canada.

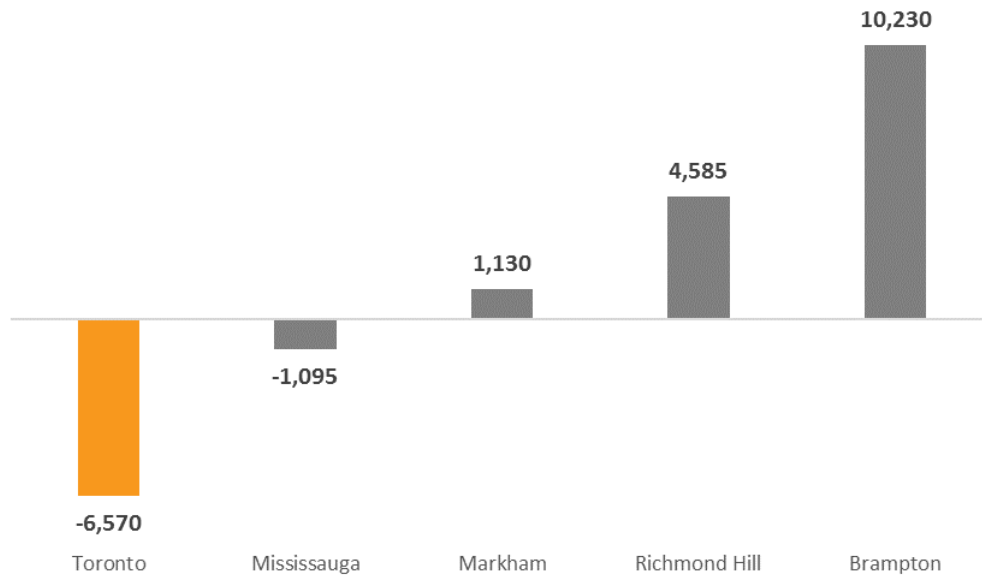
NOTE: Figures shown include only the five largest reported ethnicities in Vaughan, per the 2016 Census of Canada.

## Household Characteristics

### *Commuting Patterns*

Figure 2-15 shows the net inflow and outflow of residents for a number of selected major nearby GTA municipalities to demonstrate the current commuting patterns “to” and “from” Vaughan. As shown, Vaughan sees a net inflow of workers from every municipality except Toronto; establishing its important role within the broader context of the 905 Region outside of the City of Toronto. However, a significant portion of Vaughan residents—over 51,000—commute to Toronto on a daily basis (or a net outflow of some 6,600 residents).

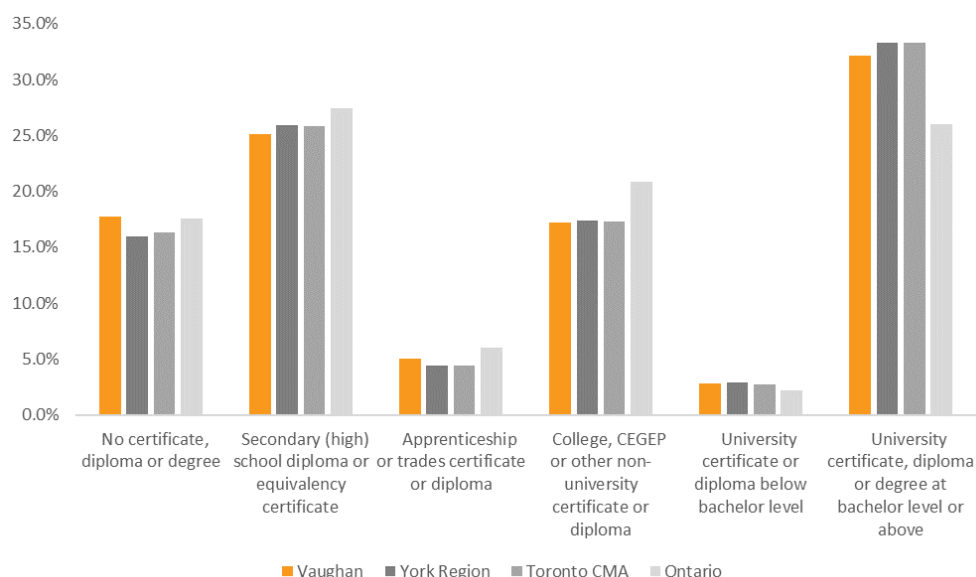
Overall, these finding suggests that, within the context of the broader Toronto CMA, Vaughan serves as a significant employment cluster with organizations that draw staff from across the Region. However, with a significant continued outflow of labour—primarily to the City of Toronto—there is a distinct opportunity to recapture employment by providing new and diversified opportunities within the City of Vaughan. The VHCP potentially provides one such opportunity to develop an industry-leading cluster that not only attracts local employment, but functions as a regional employment node.

**Figure 2-15: Net Commuting Flows between Vaughan and Select Municipalities (2016)**

SOURCE: urbanMetrics inc., based on Statistics Canada Data.

## Education

Figure 2-16 demonstrates the levels of educational attainment among Vaughan residents and across other select geographies. As shown, educational attainment in Vaughan is generally comparable to the levels demonstrated elsewhere in the GTA. Albeit marginally, Vaughan has a slightly higher proportion of residents with no high school certificate (17.7%), compared to the broader figure recorded across the Toronto CMA of 16.3%. Similarly, the 32.2% of Vaughan residents who have a university bachelor degree or higher is slightly below the Toronto CMA average of 33.3%. Nevertheless, Vaughan's educational attainment levels are well within regional ranges, and above provincial averages.

**Figure 2-16: Highest Educational Attainment**

SOURCE: urbanMetrics inc., based on Census of Canada.

Based on the Census data, we have further identified the fields in which Vaughan residents with post-secondary educations have studied, as shown in Figure 2-17. As indicated, one tenth (10.0%) of respondents reported training in “Health and related fields”. This figure is slightly lower than the 11.7% reported across Greater Toronto, and the 14.2% shown across Ontario.

**Figure 2-17: Residents with Post-Secondary by Field**

Residents with Post - Secondary	Vaughan	York Region	Toronto CMA	Ontario
Education	6.4%	5.7%	5.1%	5.8%
Visual and performing arts, and communications technologies	3.7%	3.9%	4.9%	4.0%
Humanities	5.7%	5.5%	6.8%	5.9%
Social and behavioural sciences and law	14.3%	13.0%	14.3%	13.3%
Business, management and public administration	24.3%	25.1%	24.2%	21.1%
Physical and life sciences and technologies	4.6%	4.9%	4.8%	4.2%
Mathematics, computer and information sciences	6.0%	6.9%	5.9%	4.8%
Architecture, engineering, and related technologies	20.0%	19.2%	17.1%	19.3%
Agriculture, natural resources and conservation	0.7%	1.1%	1.1%	1.8%
Health and related fields	10.0%	10.7%	11.7%	14.2%
Personal, protective and transportation services	4.3%	3.9%	4.0%	5.6%
Other	0.0%	0.0%	0.0%	0.0%

SOURCE: urbanMetrics inc., based on Census of Canada.

NOTE: Proportions shown are for respondents with post-secondary educations only. Those who reported no post-secondary education were not included in this analysis.

## 3.0 Economic Conditions

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## Key Findings

- Local employment in the *Health Care and Social Assistance; Professional, Scientific and Technical Services; and Educational Services* sectors comprise a relatively small component of the total employment base in Vaughan, at slightly over 13%.
- There is a distinct opportunity to recapture a significant portion of this type of employment that is currently flowing out of the community to other parts of the GTA, based on growth in equivalent sectors of the economy among local residents.
- As these professional service and knowledge-based components of the local economy continue to grow, it will be important to accommodate future employment at key nodes like the VMC and/or VHCP.
- By comparison to other neighbouring municipalities such as Markham, the City of Vaughan currently accounts for a somewhat smaller percentage or share of large enterprises (500+ employees), as well as smaller organizations (1-4 employees, potentially including fledgling businesses and start-ups).

## 3.1 Economic Structure

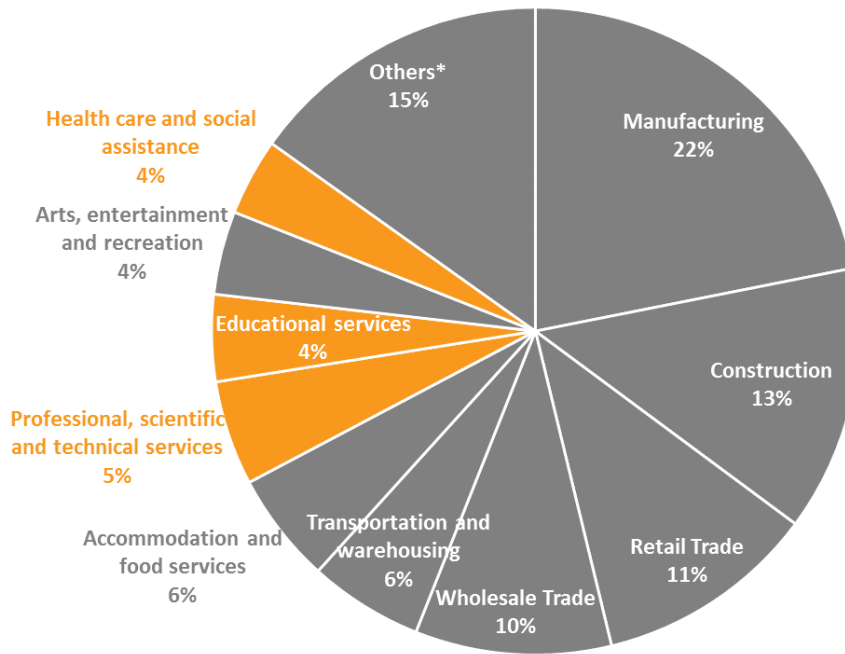
### Current Employment Composition

Figure 3-1 summarizes existing employment in Vaughan, based on defined NAICS category. As shown, over half of local employment activity is concentrated in only a few selected industry categories: *Manufacturing, Construction, Retail Trade, Wholesale Trade plus Transportation and Warehousing*.

The three NAICS categories which are most likely to be reflected in the Healthcare Precinct—*Professional, Scientific and Technical Services, Educational Services, and Health Care and Social Assistance*—together comprise a comparatively small component of the broader employment mix in Vaughan, representing a total of approximately 13% of all jobs in the City.

Notwithstanding the fact that these selected industry categories currently account for a relatively limited proportion of local employment, we do note that—per the findings outlined in the previous section—these particular industry sectors are simultaneously experiencing among the most significant rates of growth among local residents.

The development of a cohesive strategy and joint efforts by the anchor institutions that comprise the Partnership provide significant opportunity to recapture an increased proportion of employment in Professional/Scientific, Education and Health-related industry categories within Vaughan.

**Figure 3-1: 2018 Employment Composition in Vaughan, by NAICS Category**

SOURCE: urbanMetrics inc., based on Vaughan Employment Survey.

NOTE: The following categories have been consolidated into the "Others" sub-category: *Mining, Quarrying and Oil and Gas Extraction, Utilities, Information and Cultural Industries, Management of Companies and Enterprises, Finance and Insurance, Real Estate and Rental and Leasing, Administrative and Support, Waste Management and Remediation Services, Other Services, & Public Administration.*

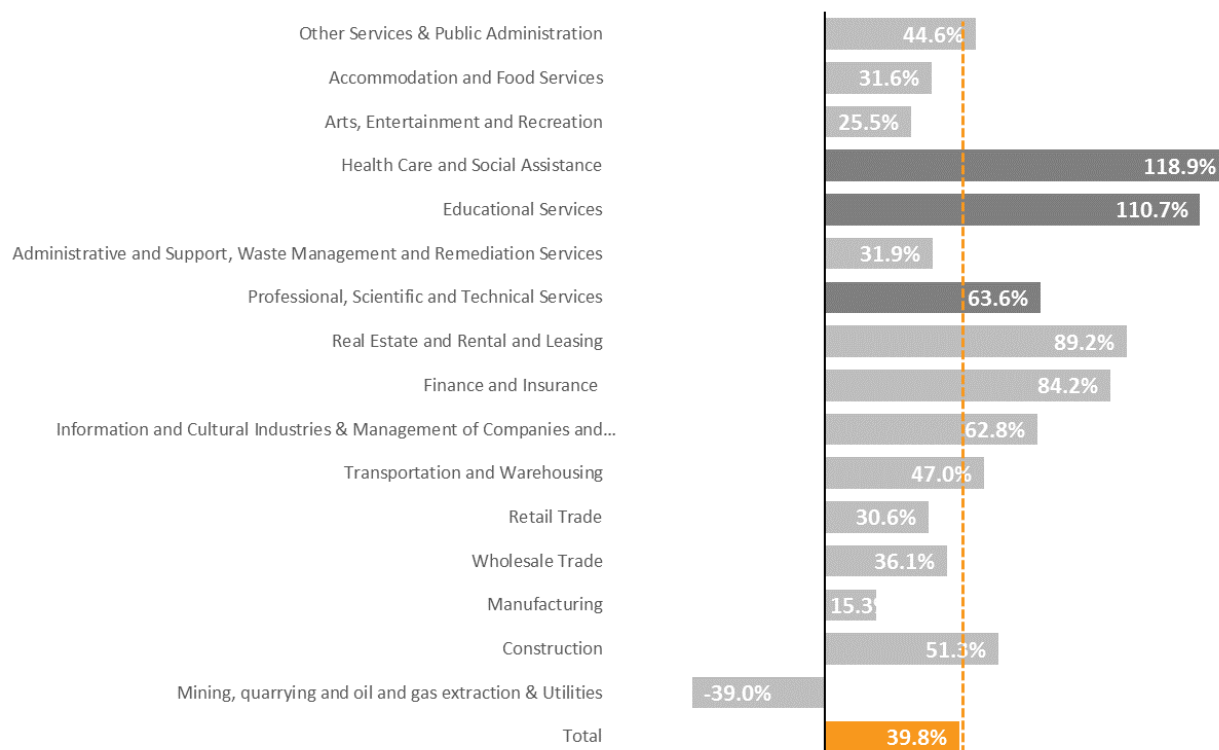
## Changes in Employment Composition

### *Employment Survey Data*

Figure 3-2 shows the change in employment totals by NAICS category for the period between 2009 – 2018. Overall, Vaughan's employment increased by 39.8% over the surveyed period, reaching a total employment estimate of some 222,150.

As shown, most industry categories experienced a net increase of employment over the period. It is worth noting however, that the three categories previously identified as most likely to play significant roles in the Healthcare Precinct experienced rates of growth that far outpaced the average. In particular, the *Health Care and Social Assistance* and *Educational Services* categories were the two fastest growing industry sectors in Vaughan over the period surveyed. Likewise, the *Professional, Scientific, and Technical Services* sector grew by 63.6% overall, significantly faster than the municipal rate.



**Figure 3-2: Percentage of Local Employment Change by NAICS Category, 2009-2018**

SOURCE: urbanMetrics inc., based on Vaughan Employment Survey.

NOTE: Certain NAICS categories have been consolidated due to relatively limited employment in Vaughan.

These findings indicate that Vaughan is rapidly evolving. It is clear that the municipality has historically served as a prominent location for warehousing, manufacturing and wholesale trade functions. To this day, these sectors continue to represent a majority of Vaughan's employment base, and remain healthy and growing sectors. However, employment growth over the past ten years has been disproportionately concentrated in knowledge intensive, professional service sectors.

As these professional service and knowledge-based sectors become increasingly significant underpinnings of Vaughan's economy, the creation of nodes and districts such as the Vaughan Metropolitan Centre and the VHCP become increasingly important to further facilitate this type of growth and economic expansion.

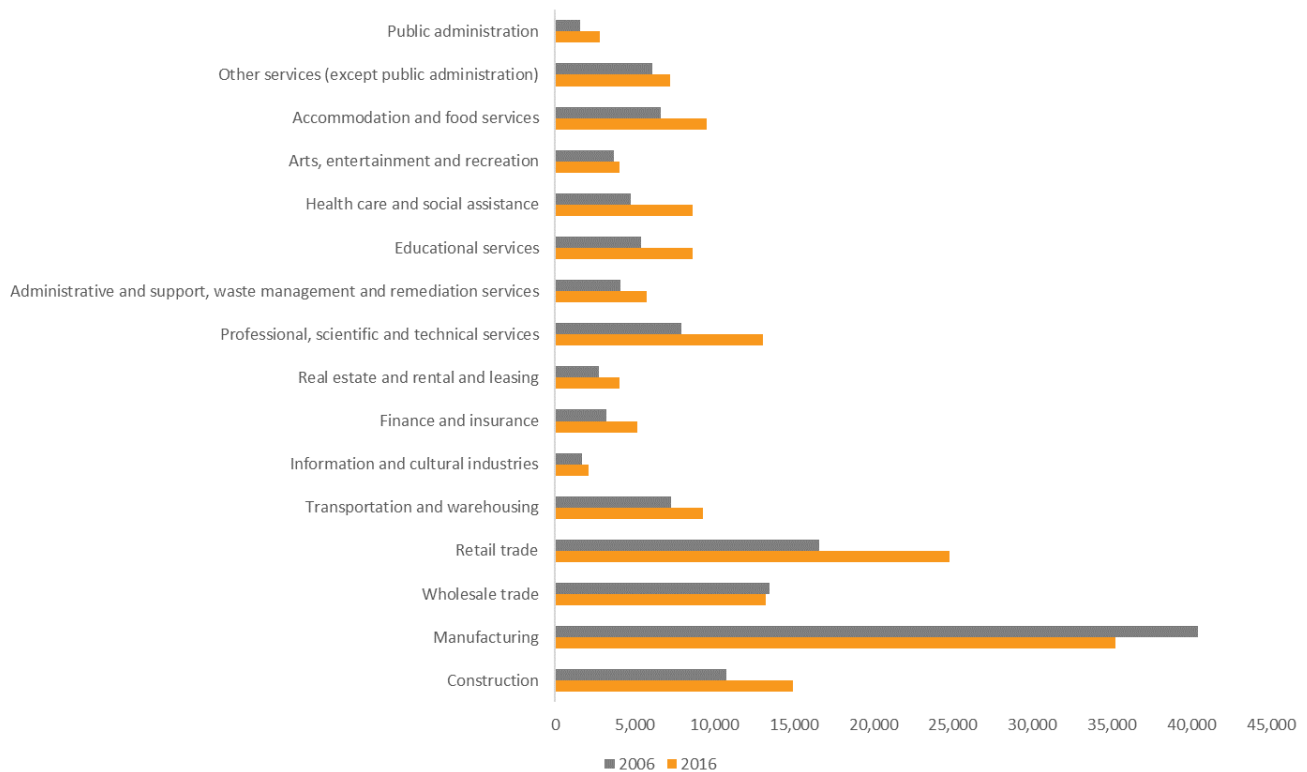
## Place of Work Data

Similar to the employment survey data above, Figure 3-3 demonstrates the absolute change in employment totals among City of Vaughan residents over the 2006 – 2016 period based on available “place of work” Census statistics. These data highlight a similar growth trend with Vaughan’s employment base growing from approximately 137,000 in 2006 to over 170,000 in 2016. This growth has occurred across a variety of sectors. In fact, only the *Manufacturing* and *Wholesale Trade* NAICS categories experienced declines, dropping some 12.9% and 1.6%, respectively. The following categories demonstrates growth in key employment sectors; particularly as they relate to future growth and opportunities for recapture/concentration at the VHCP:

- The **Health Care and Social Assistance** category grew 83.2% over the period, to a total of over 8,500 positions;
- **Educational Services** expanded by 60.2% to a total of almost 8,700 positions; and
- **Professional, Scientific and Technical Services** grew by approximately 64.1%, reaching a total of over 13,000 positions.

Continued growth in these key sectors will serve as an important indicator for the strength of the economy. Positive growth in the three categories identified suggests that Vaughan could be an increasingly attractive option for educated and skilled residents in research, education and healthcare-related positions. Attracting employment and firms active in these NAICS categories will be critical to ensure the ultimate success of the VHCP.

**Figure 3-3: Employment Change in Vaughan by NAICS, 2006 - 2016**



SOURCE: urbanMetrics inc.

NOTE: The following NAICS categories were excluded from the figure because they reported less than 1,000 total jobs: 1) Agriculture, forestry, fishing and hunting, 2) Mining, quarrying, and oil and gas extraction, 3) Utilities, and 4) Management of companies and enterprises.

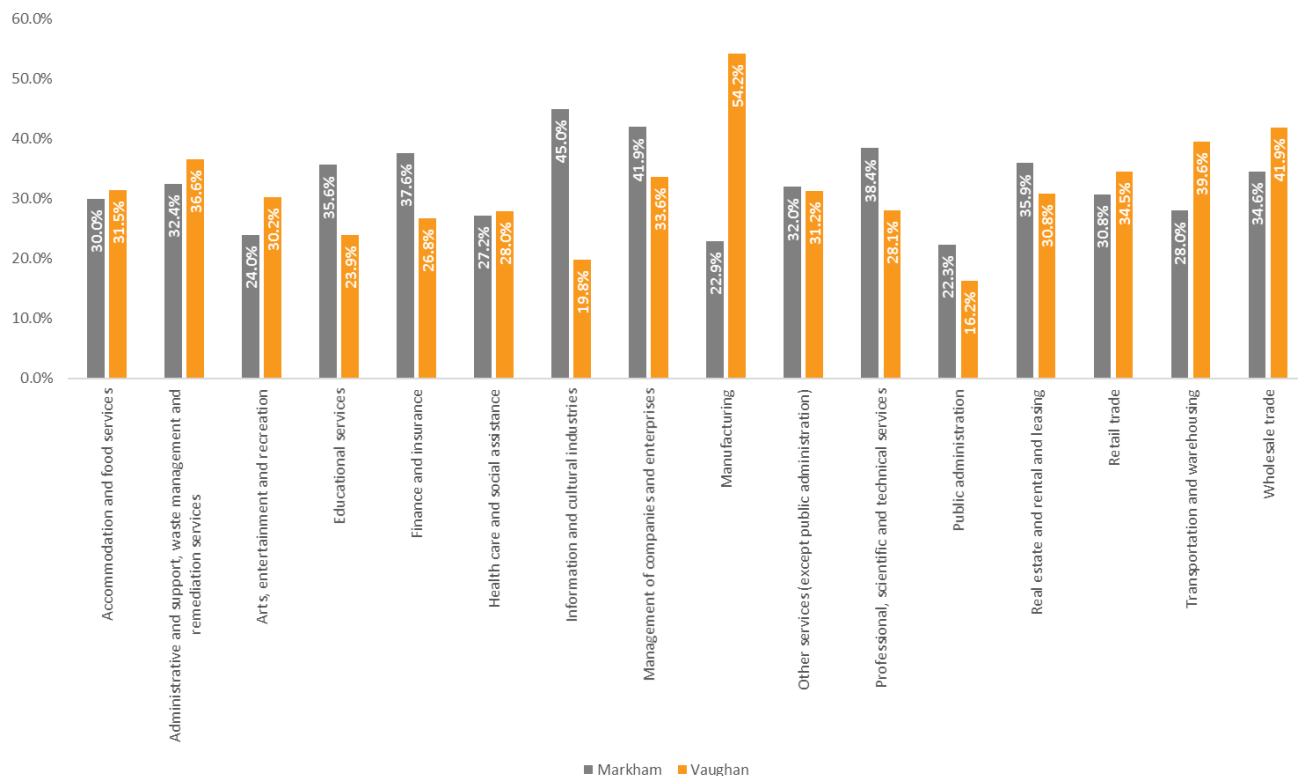
## Business Counts

Figure 3-4 shows the proportion of York Region businesses located in Vaughan and, for comparative purposes, corresponding data for the City of Markham, which is positioned as a notable information and technology-based employment centre.

In total, there are just over 12,000 reported businesses located in Vaughan, slightly higher than the 10,600 reported in Markham. As shown, there is significant variation in the nature of businesses located within each of these neighbouring municipalities. Generally, Vaughan has a higher proportion of businesses that could be broadly categorized as participating in the goods producing, storage and transportation sectors, whereas Markham has a greater concentration of businesses in sectors which are research and knowledge intensive. It is important to note that the figures below only reflect the total business counts, and are not necessarily indicative of the relative size or specific day-to-day

operations of each organization (e.g., total employment, total volume of output or contribution to the economy, etc.).

**Figure 3-4: Proportion of Businesses in York Region, Vaughan and Markham (2018)**



SOURCE: urbanMetrics inc., based on York Region Employment Survey.

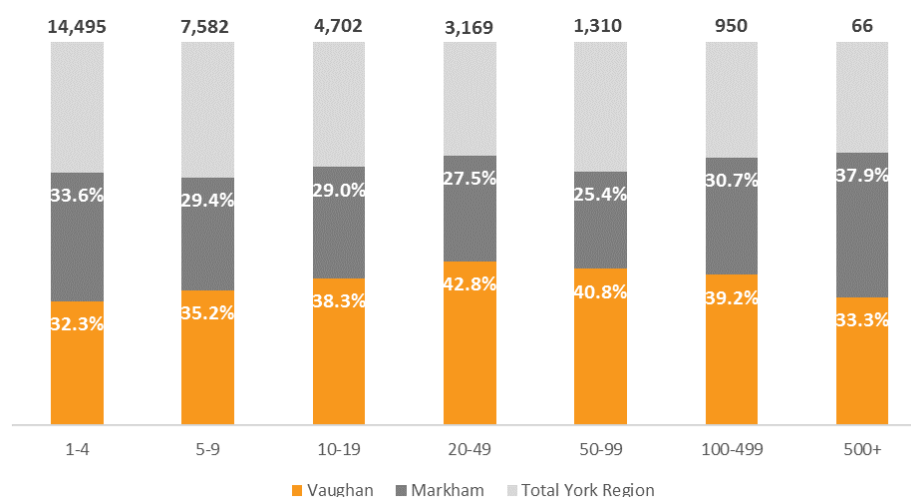
Figure 3-5 shows the proportion of businesses, by size of establishment, located within Vaughan, Markham and across York Region. In total, there were 32,274 total respondents to the survey. As shown, Vaughan supports a range of businesses of varying sizes. Compared to Markham, Vaughan generally has a higher proportion of businesses in the medium-size range (i.e. from 5 – 499 employees), whereas Markham has a distinctly more significant share of total business that are either quite small (1-4 employees) or much larger enterprises (500+ employees). This is typical of the information and technical services sectors that comprise a significant portion of the Markham economy.

Generally, these larger employers are corporate head offices, government agencies, or large manufacturing, or transportation facilities. In Vaughan, the primary large employers are manufacturing or transportation facilities, more likely to locate in an area due to local transportation features and amenities (i.e. proximity to major highways and markets). Based on the data shown

earlier in this report (Figure 3-2), these industries are growing at a slower rate than general employment in Vaughan. As such, they are unlikely to produce a meaningful amount of employment growth or future space needs in the future in Vaughan.

Alternatively, Markham has a greater concentration of professional and technical services companies (e.g., IBM, Huawei, Aviva, TD). These industries and sectors are experiencing rapid growth across York Region, and seek locations with proximity to an educated workforce, quality transportation access and clustering with other similarly-positioned firms. As Vaughan continues to evolve, and particularly develop employment nodes at the VMC and VHCP, it is likely that the City will present a more favorable opportunity for larger employers in these professional sectors to locate in the community.

**Figure 3-5: Business Counts, 2018**



SOURCE: urbanMetrics inc., based on York Region Employment Survey.

NOTE: 2,308 respondents did not provide business size ranges. These responses were excluded from the figures shown.

## 3.2 Economic Development Context

As further indication as to the current and potential future structure of the local Vaughan economy, we have also reviewed various municipal strategic documents and supporting employment-based research that has recently been prepared by—or directly on behalf of—the City/Region and their respective economic development departments. The results of this research have been summarized in more detail in the appendices that follow at the end of the body of this report, whereas the following provides a brief summary of the key takeaways and observations from this research. As shown, many of these findings validate the high-level industry and economic research outlined above

with respect to the key sectors that have been and/or will continue to be critical to the success of the immediate local Vaughan and more regional economy of York in coming years.

The economic development context offers an important understanding of the strategies, initiatives and policies being pursued to date. It is important to ensure that the underlying feasibility and vision presented for the VHCP aligns with and advances existing economic development goals being pursued by the City and Region.

As part of this exercise, urbanMetrics has reviewed several documents, prepared by either York Region, the City of Vaughan or third-party consultants engaged by the two municipal organizations. The following reports were reviewed:

- **Employment and Industry Report (York Region)**
- **Economic Development Action Plan: 2020-2023 (York Region)**
- **Economic Development Strategy (City of Vaughan, 2011)**
- **2019 to 2023 Strategic Plan (York Region)**
- **Economic Development and Employment Sector Study (City of Vaughan, 2019)**
- **Future Employment Trends Study (York Region, 2019)**

We have provided brief summaries of our review of each document in Appendix B. Included in each summary is a single “key finding”, which identifies our central takeaway of each document in relation to the VHCP.

See **Appendix B** for more detailed summary of selected municipal strategic documents.

## Key Takeaways

Our review of recent and active strategies related to the City of Vaughan and York Region contained several commonalities and similar messages. The findings of these documents are important in understanding the messaging, plans and investment decisions being made locally to support economic growth in Vaughan and across York Region.

From our review, it is clear that overall employment in Vaughan has continued to grow, and is anticipated to continue expanding, in line with broader regional trends. Vaughan’s employment base has traditionally been drawn from the manufacturing sector, which continues to play a significant role within the City. However, the **overwhelming majority of new job growth has occurred in knowledge-**



**based service industries**, including health care, education and white-collar service jobs. Moving forward, positions in these industries are anticipated to continue to drive growth in Vaughan.

Furthermore, Vaughan—and York Region more broadly—is home to a large population of well-educated, highly skilled labour. Traditionally, a significant portion of these individuals have travelled outside of Vaughan to access employment opportunities, many of which are located in Downtown Toronto. This trend has changed significantly over the past decade, as Vaughan’s employment composition evolves. Now, Vaughan is a net importer of employment, meaning more people come into Vaughan to work than travel to other municipalities. **Further investment and allocation of resources into establishing Vaughan as an attractive location for knowledge-driven positions will continue to play a role in facilitating this shift and recapturing local talent at jobs within Vaughan.**

As such, the documents that were reviewed emphasized the importance of drawing new businesses to Vaughan, in addition to promoting growth of existing enterprises. Within these documents, specific focus was placed on providing resources that support, grow, and maintain strong Vaughan-based entrepreneurs. Additionally, multiple strategic reports placed value on the importance of attracting foreign and international organizations to Vaughan, potentially leveraging local connections and the diverse communities that comprise Vaughan and the broader GTA. The VHCP has physical assets and an organizational structure that have the potential to make it a desirable location to both domestic and international businesses of varying sizes.

Promoting the VHCP to local organizations, as well as pursuing multinational organizations may be a significant opportunity to increase the profile of the VHCP.

Our review further suggested that there was wide recognition that knowledge-intensive organizations are actively seeking offices in areas which are dense, mixed-use and walkable nodes. Skilled workers expressed a clear preference to be in engaging urban environments, and a desire for those areas to be accessible by higher order public transit. As a result, employers competing for skilled labour are working to differentiate themselves by responding to this desire. Currently, Vaughan is working to create such an environment at the Vaughan Metropolitan Centre.

Although the VHCP will benefit from locational proximity to important assets (i.e. Mackenzie Hospital, potential post-secondary presence and innovation hub), **an active urban design and planning strategy would be an important initiative to create a desirable urban environment that complements the vision being advanced at the VHCP.**

The findings indicate that municipal, regional and third-party actors are generally aligned with the core economic direction that Vaughan is pursuing to grow as an employment hub for the 21<sup>st</sup> century.

It is important to reflect on how the Vaughan Healthcare Centre Precinct best fits into this overarching direction to *complement* the policy directions being pursued, as opposed to *detracting* from various local and regional plans.

## 4.0 Market Conditions

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## Key Findings

- The City of Vaughan is experiencing a significant amount of intensification pressures, as well as investment and focus on development of new office supplies in selected nodes.
- The emergence of the VMC has resulted in high-intensity development, and provided Vaughan with the opportunity to build a dense, mixed-use neighbourhood which may become attractive to educated, younger employees.
- The lands surrounding the VHCP are yet to experience significant intensification pressures, as demonstrated at the VMC.
- Although Vaughan is overwhelmingly composed of single-detached residential properties, recent trends have seen new construction of higher density apartments, which now out pace new construction of single-detached units. This suggests changing market preferences in Vaughan.
- Vacancy in Vaughan's office market has tightened in recent years, as supply has moderately increased, suggesting relatively strong and healthy demand. Notwithstanding the anticipated focus and continued expansion of the Downtown Toronto office market as the GTA's primary business centre, Vaughan is likely to continue to grow its office supply over the near future. The majority of this increased supply in Vaughan will be accommodated at the secondary employment node being developed at the Vaughan Metropolitan Centre.
- There are over 1,800 hotel rooms in Vaughan, with an additional 1,100 proposed, some of which are proposed in close proximity to the VHCP. Given supply/demand conditions, the subject site is unlikely to support the provision of a large hotel. Instead it is possible that the site could support a smaller hotel of some 50-75 rooms, if that type of use is ultimately contemplated at this location given priorities with other potential uses.

## 4.1 Development Trends

### Growth Context and Recent Evolution

The City of Vaughan is in the process of establishing a renewed identity, amidst significant overall growth, the creation of a new downtown employment centre and underlying changes to the composition of its employment base.

Traditionally, Vaughan has largely been viewed as a bedroom community to Toronto; a place where the majority of residents would commute to surrounding employment centres for work. Employment in Vaughan was historically been limited to predominantly local-serving sectors (e.g., primary education, retail trade, local health care, etc.) or goods-producing sectors (e.g., manufacturing), due to the CN Rail mainline, and proximity to major highway infrastructure.

In more recent years, changes in Vaughan have been aided by investments in new rapid transit infrastructure and the development of a business core, in addition to broader provincial policy changes and the maturation of the broader GTA into a true multi-nodal region. As a direct result of these changes, Vaughan has now become a net importer of employment, meaning the traditional outflow of workers to Toronto has reversed. Vaughan now sees more people come in to the City to work on a daily basis than leave. This recent employment growth and shift in commuting patterns in Vaughan has largely been driven by knowledge and office-based employment activities.

Furthermore, both the City of Vaughan and York Region have made significant advances towards developing an integrated rapid transit network. This network is important in providing inter-regional development opportunities, and enhancing direct and efficient connections between Vaughan and Downtown Toronto. As a result of this, and other investments, Vaughan has experienced increasing cross-commuting traffic and investment interest.

In kind, Vaughan has seen a different, more vertical form of development become more commonplace. Since 2015, the City has seen more apartment units built than single-detached homes, a trend that would have been inconceivable in previous years. The development of the Vaughan Metropolitan Centre has continued to drive demand for higher-density residential units, as well as office-based employment uses on the site. Development considered at Promenade Mall and other selected sites across the municipality demonstrate an obvious pattern starting to take root in Vaughan. Vaughan is **shifting towards a more balanced pattern of growth, involving an increase in intensification and infill development**, as well as more traditional forms of greenfield growth.

**The addition of both a hospital and major post-secondary presence would represent a significant milestone in Vaughan’s evolution.**

These anchoring institutions are critical city-building opportunities which form a central basis of many municipalities, including those throughout the GTA and beyond. They can play a central role in attracting students, patients, staff and investments from a regional, and even national level. For example, hospitals commonly attract adjacent doctor’s offices, laboratories, retirement residences and pharmacies, even at its most basic level of influence. Post-secondary institutions can similarly attract research institutes, housing development and supporting office and commercial uses. These anchoring uses draw regional visitation, influence transportation demand patterns, and change the overall profile of a community.

**The VHCP presents a unique opportunity for the City of Vaughan to build on its recent successes and transformation from a bedroom community into a full-service municipality.**

The approach proposed at the Precinct is a unique opportunity to develop a truly collaborative and innovative model in the Greater Toronto Area. The value proposition of this collaborative approach is

strong, and establishes an important groundwork to support successful outcomes and capitalize on ongoing development trends occurring in Vaughan.

## Active Development Applications

To further explore current development patterns across Vaughan, urbanMetrics has reviewed active development applications for lands located in immediate proximity to the VHCP, as well as the Vaughan Metropolitan Centre, as identified in the Vaughan Secondary Plan. The purpose of this review has been to gain an understanding of the development patterns occurring on lands surrounding each node. In particular it is important to understand how each of these two nodes has evolved based on current market conditions.

This research will provide some insight into how the potential implementation of the VHCP may alter, or disrupt these patterns. It will be important to continue to be mindful of the total opportunity for growth within Vaughan moving forward and the expected relationship between these two major employment nodes.

## VMC Development Activity

Figure 4-1 below shows the geographic extent of the Vaughan Metropolitan Centre, based on the 2017 Secondary Plan boundaries.

**Figure 4-1: VMC Study Area Boundary**



SOURCE: urbanMetrics inc.

Within this geography, various public and private stakeholders have made significant infrastructure investments, including the City of Vaughan, York Region, the TTC and York Regional Transit. These investments, and associated planning policy initiatives, have created conditions that are conducive to high density development. In particular, the secondary plan area has experienced significant residential activity. Applications for dense office space have also been advanced within the secondary plan area.

Based on our review, we have identified **nearly 12,400 residential units currently in various stages of the application process** within the identified boundary. The vast majority of these units are proposed within high-rise condominiums; however, supply of townhomes and mid-rise development is also proposed. If fully built as proposed, the planned residential supply could support a population of over 23,000<sup>1</sup>.

In addition to the significant residential supply identified, non-residential space is an essential component of building a true central core, and a complete community. Currently, **some 320,000 square feet of office space is proposed** in the Vaughan Metropolitan Centre. However, it is important to note that this space is associated with a single mixed-use development application. In addition to the office space proposed, a total of **some 175,000 square feet of retail/service commercial space has been proposed** in the VMC. It is likely that the majority of this space will be local-serving in nature, and is all proposed within the podiums of broader mixed-use towers. Lastly, 260 hotel rooms are proposed, at a single site. However, the **net new supply of hotel units would be 105 rooms**, as the proposal includes the demolition of an existing hotel on site.

### ***VHCP Development Activity***

In addition to the VMC, urbanMetrics has also considered the development activity occurring adjacent to and surrounding the identified Vaughan Healthcare Centre Precinct. For the purposes of this exercise, we have delineated a study area beyond the boundaries of the VHCP itself, in order to capture the nature of development occurring in the broader surrounding area in this part of Vaughan. The geography we have considered is defined by the following:

- **North** – Vaughan City Limits;
- **South** – Rutherford Road;
- **East** – Weston Road; and,
- **West** – Keele Street.

Based on our review, we have identified a total of almost **600 residential units proposed** within this geography. The majority of residential units proposed are ground related units, typically townhomes,

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<sup>1</sup> Based on an average person per unit (“PPU”) factor of 1.91, reported in the 2018 City of Vaughan Development Charges Background Study.



or semi-detached properties. In addition, we have identified some **25,000 square feet of commercial space proposed**. The overwhelming majority of that space is allocated to a single car dealership, with an additional application proposed a small amount of commercial space at the base of a residential development. **No office space is currently proposed** within the study area. Lastly, there are **two active hotel applications, totalling some 393 rooms**.

## Development Summary

Based on our review of development proposals within each of the above two nodes, it is clear that the **overwhelming focus of recent and ongoing activity continues to be residential product** in the Vaughan market. However, it is important to note that this residential supply has increasingly been proposed in denser formats. This finding suggests market demand and willingness to accommodate increasingly dense forms of growth, and a signal that the market is shifting away from traditional patterns of growth.

**In the office sector, it is clear that there is currently limited activity.** With a single application across both geographies surveyed, it appears as though there will be marginal new supply added to either node in the next few years.

Due to the underlying market reality of limited office development activity, it is imperative to ensure that investments made in attracting office-based uses at the VHCP do not detract from the planned function of the VMC as the primary employment centre of the community. Establishing an understanding of how the VMC and VHCP can function in a complementary manner is an important step in clarifying the future directions of each node.

Lastly, our review indicates that there are two hotel proposals located within the study area delineated. These hotels would result in an **increase in supply of almost 400 rooms** which would be located in proximity to the VHCP, while also serving the entire City of Vaughan.

## 4.2 Real Estate Market Trends

urbanMetrics has prepared a high-level review and profiling of various real estate asset classes within Vaughan. The purpose of this exercise has been to provide a baseline understanding of the broader market trends occurring across Vaughan, and to understand how these investment patterns may present opportunities or constraints for the ultimate development of the VHCP. While our detailed reporting is located in Appendix C, the following key findings are discussed herein:

- Recent residential development trends have demonstrated a notable shift from lower density forms of housing to high density apartment development in Vaughan. Although not necessarily accommodated directly on the VHCP, the node could anchor a broader, development corridor that accommodates increasingly concentrated residential uses. Furthermore, the intensification patterns noted suggest an evolving city that has the capacity to accommodate a more diverse range of residents.
- Vaughan's office market has benefitted from the creation of the Vaughan Metropolitan Centre, which has been a driver of increased demand in the market primarily as a function of its new transit connectivity and access provided by the extension of the Line 1 subway. It is anticipated that demand for new office development will continue to grow within the Vaughan market, concentrated at the VMC. However, it is also likely that at least a portion of this demand could be attracted, and directed to the VHCP and the unique employment cluster anticipated there.
- Demand for retail/commercial space in Vaughan has been strong, driven primarily by population growth. Given the nature of development anticipated at the VHCP, it could likely support a small collection of primarily convenience and/or service-based uses, consistent with those which would support other urban, employment focused nodes throughout the Greater Toronto Area (i.e., as a primarily place-making or amenity-driven inclusion rather than to meet broader demand requirements throughout the community).
- There are currently over 1,100 hotel rooms in various stages of development in Vaughan, including some in proximity to the VHCP. Although demand for hotel rooms is likely to grow as employment and population growth continues in the City, it is unlikely that the VHCP could support the provision of a large hotel on-site.

See **Appendix C** for detailed market profile and statistical overview of selected real estate asset classes.

## 5.0 Best Practices

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## Key Findings

- The planned, upfront collaboration of stakeholders—education, healthcare and innovation, supported by municipal government—is relatively unique in a Canadian context. There are models that have evolved to incorporate several of these stakeholders however the planned collaboration gives the VHCP a relative head start.
- A hierarchy of eligible or candidate uses should be established to determine their relative value in advancing the unique agenda at the VHCP vs. more traditional approaches to development of lands in the immediate vicinity of hospitals in Ontario.
- There are a range of case studies that can be drawn upon as best practices. These studies include different scales, drivers, degrees of partnership and investments. There is not a “one size fits all” approach or solution to most effectively deliver the underlying vision outlined for the VHCP. This case study review has highlighted a range of approaches and strategies which can be drawn upon to present a tailored approach for the VHCP, which reflects local economic conditions, public and private sector priorities, and the structure of the post-secondary and healthcare networks.
- Throughout the case study research, several common themes or trends served as important factors in ensuring the success of various medical-research nodes throughout the world:
  - **Active Proponent**
  - **Strong Institutional Collaboration**
  - **Government Involvement**
  - **Public-Private Engagement**
  - **Leveraging Location/Geographic Benefits**
- The VHCP already incorporates a number of the initiatives discussed, however, there are opportunities to further bolster some of the themes identified to advance more constructive outcomes.

## 5.1 Existing Patterns

The project consulting team has undertaken a range of research to better understand development patterns and trends related to hospitals and related healthcare anchors across Ontario. From this research, it is important to develop a baseline understanding and framework of development that would be likely to occur adjacent to a new hospital, as well as understand how that fits into local and regional economic development strategies, fostering start-up businesses, employment trends and land use policies.

This analysis is important to establish a *baseline* of the expected range of land use and development intensity likely to be accommodated at the VHCP, and how this might relate to more aspirational economic growth strategies and ambitions.

This work establishes a baseline from which potential deviations and policy interventions can be made to ensure that the VHCP is achieving the established vision and intention, while also preserving and avoiding any unintended interference with property use decisions on the hospital lands.

## Healthcare, Education & Innovation Relationship

The provision of quality and timely medical services and healthcare in Canada has always been a fundamental service at the core of the Canadian identity. The resiliency of the services offered in Canada are increasingly strained, as costs to provide services rise, and the largest portion of the Canadian population—baby boomers—enter the critical years in which they will rely increasingly on medical services as senior citizens. This, coupled with provincial efforts to slow healthcare spending, has placed growing attention on finding innovative solutions to improve service efficiencies and outcomes.<sup>2</sup>

Increasingly as baby boomers enter the latter parts of their lives and require additional medical services, the health system has been strained to keep up. Finding solutions that maintain and enhance service levels in a cost-effective manner have become critical goals for health networks across Canada. In this light, partnerships between health networks, academic institutions and private industry are seen as opportunities to leverage various backgrounds and expertise to generate positive outcomes for all stakeholders involved.

Traditionally in Canada, these relationships have involved two out of the three key stakeholder industries or areas of expertise contemplated under this particular assignment for the VHCP (i.e., Healthcare, Education and Innovation).

For example, Toronto's University Health Network has research arrangements with the University of Toronto. MARS was initially conceived of as an innovation centre supported by the University of Toronto. Southlake Medical Centre developed CreateIT now as an innovation centre.

These relationships have created medical innovations, educational advancements and commercialization opportunities. The partnerships are a proven model that can create tangible

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<sup>2</sup> Government of Canada. Unleashing Innovation: Excellent Healthcare for Canada. Report of the Advisory Panel on Healthcare Innovation, July 2015.

outcomes that improve patients lives, advance medical research, and creates and fosters new business opportunities.

The alignment of the interests of three partners in the VHCP are clear. All three stakeholders benefit from close collaboration, an understanding of each others' challenges and opportunities, and awareness of the latest trends in innovation and technology from the perspective of each stakeholder. Post secondary institutions benefit by providing students and researchers first-hand exposure to medical environments and the challenges requiring innovative solutions. Incubators gain access to the latest in academic discourse pertaining to health, technology and hospital innovation. Health networks benefit by having a direct audience which may advance or work in close collaboration on solutions to increase service delivery or efficiency of hospital operations.

## Ontario Hospital Context

Based on previous and ongoing research conducted by the project consulting team, an inventory of the general type and extent of uses that are typically accommodated on lands adjacent to hospital sites throughout Ontario has been developed. The results of this exercise identify the range of public and private sector users that generally seek to acquire space in close proximity to hospital sites, so as to achieve the desired co-location benefits. These uses represent an anticipated baseline level of development which—absent any additional intervention among the Partnership—is most commonly located in or adjacent to major hospital facilities. These, amongst other supporting uses, could be contemplated on the hospital lands within the VHCP.

**The ambitious vision outlined by the Partnership for the VHCP intends to attract a cluster of research and innovation-driven organizations, largely deviating from status quo, market-driven uses which would traditionally cluster around hospitals.**

Furthermore, recognizing the physical space limitations at the VHCP (i.e. finite amount of space available to more discretionary uses), it is important to reconsider the extent to which these more traditional, baseline uses should be accommodated on the subject site, as opposed to their ability to function on other lands surrounding the VHCP.

The underlying purpose of this section has been to provide an understanding of the nature of uses that typically seek space in proximity to major medical facilities. The specific uses identified herein are not necessarily intended to be deemed appropriate or inappropriate for locating at the VHCP specifically, as we recognize that a range of different use types could ultimately complement and advance the vision for the VHCP. This work is rather intended to provide an evaluative framework, which can further inform future phases of the analysis—as well as the Partnership—to make decisions that balance the broader ambitious and aspirational vision being pursued with more incremental opportunities or basic community needs.



Figure 5-1 below shows the results of our analysis, surveying a range of comparable facilities across Ontario. Furthermore, urbanMetrics has prepared an evaluation of the compatibility of each use with the overarching research-driven vision for the VHCP. This work demonstrates which uses would be likely to locate in proximity to Mackenzie Hospital, absent the intentional involvement and direction of the Partnership.

As shown, several uses are reasonably ubiquitous at major hospitals throughout Southern Ontario; and in many cases for good reason. These include pharmacies, family doctor offices, specialist doctor offices, and seniors' facilities. With respect to the innovation-centred vision being advanced by the steering committee, it is our understanding that these uses may not necessarily be the preferred uses for the non-hospital lands within the VHCP and in the context of the broader vision for the district, but they may nonetheless represent an important and essential element of any future build-out of the subject site (i.e., at least in part). In general, these types of uses can also provide an important source of revenue and stability for other forms of development, in addition to the obvious co-location benefits with the hospital. To the extent that this can be accomplished, lands within the VHCP site are anticipated to prioritize users which advance the medical-research innovation mandate for the precinct (i.e., primarily on non-hospital lands) while also accommodating a range of other more traditional uses, if and where appropriate.

Figure 5-1: Supporting Use Types Present Near Comparable Hospital Locations

	Humber River Hospital	Etobicoke General	Mississauga General	London Health Sciences	Southlake	Brampton Civic	Milton General	Totals
Family Doctor	✓	✓	✓	✓	✓	✓	✓	7/7
Specialist	✓	✓	✓	✓	✓	✗	✓	6/7
Research	✗	✗	✗	✓	✓	✗	✗	2/7
Seniors' Facilities	✓	✓	✓	✗	✓	✓	✓	6/7
Lab Testing	✓	✗	✓	✓	✓	✗	✓	5/7
Child Care	✓	✗	✗	✓	✗	✓	✓	4/7
Pharmacy	✓	✓	✓	✓	✓	✓	✓	7/7
Public Services	✓	✗	✓	✗	✓	✓	✓	5/7
Student Learning Placements	✓	✓	✓	✓	✓	✓	✓	7/7
Allocated Teaching Space	✗	✗	✓	✗	✗	✗	✗	1/7

SOURCE: urbanMetrics inc. Based on desktop review.

NOTE: Uses shown are illustrative in nature. This review was based on high-level research. More detailed, in-person confirmations may be required to confirm the findings presented.

Therefore, it is clear that the vision outlined for the VHCP represents a deviation from traditional status quo development patterns for lands in the vicinity of hospitals across Ontario. There are limited demonstrated examples of lands surrounding hospitals in Ontario that have accomplished the type of differentiation and fully integrated research approach being proposed at the VHCP.

It is likely that certain medical-oriented service uses will need to be accommodated within the VHCP, as fundamental baseline services essential to the operations of a hospital. These may include office spaces for family and specialist doctors and a pharmacy. Additional research would be required to better understand the allocation and availability of space that could locate on the hospital lands, versus that which may be expected to be accommodated external to the facility and/or throughout the balance of the VHCP (i.e., as part of subsequent phases of the Study).

Based on the uses contemplated above, we have considered the extent to which each use proposed would fulfill or advance the mandate contemplated for the VHCP. Due to the limited size of the subject site, and a desire to create a concentrated cluster of activities that reinforce and contribute to the underlying innovation sphere, it will be important to confirm these contributing uses.

The purpose of this exercise is not to identify uses for exclusion from the VHCP, rather to understand their relative value and contributions towards an innovation-based cluster as a potential decision-making framework, given the space limitations on the site. Additional consideration should also be given to the relative importance of including these types of baseline uses on hospital vs. non-hospital lands within the VHCP.

In developing a basic analytical framework, we have provided commentary for each use contemplated above according to two central questions:

- **To what extent does this use type facilitate global public healthcare innovation and the ambitious mandate articulated by the Partnership for the VHCP?**
- **To what extent is this use directly reliant on proximity to primary care facilities? Does it serve a specific role or function with respect to supporting the planning efforts for either (or both) of the hospital and non-hospital lands at the VHCP?**

The findings of this analysis can be utilized to identify which common uses should be the focus for the innovation agenda identified for the VHCP, which will likely be somewhat separate from parallel decisions being made by Mackenzie Health with respect to the hospital lands. In a situation with geographic space constraints and limitations, this analysis will provide a brief reference guide for uses that have different levels of value.

The purpose of this exercise has not been to explicitly identify uses for inclusion or exclusion within the VHCP. Each of the facilities and services identified herein can provide important functions and merit location either directly on the site or in the immediate vicinity for a variety of reasons, including: social value, convenience and economic opportunities. In an environment of constrained space, this exercise is ultimately intended to provide a baseline framework that can better inform the Partnership as to the specific merits of each use identified as it relates only to advancing the innovation mandate of the VHCP (i.e., one of several considerations that will need to be balanced to determine an appropriate use mix on-site as part of subsequent phases of this study process).

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### 1 – Family Doctor Offices

- Family doctor offices tend to cluster around hospitals for proximity to hospital privileges and other practitioners.
- Family practitioners in standalone offices are not viewed as a core need to advance the innovation focus of the VHCP, within the immediate geography. Family physicians could be accommodated in commercial areas immediately adjacent to the VHCP, with minimal impact on their operations.

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### 2 – Specialist Doctor Offices

- Specialist doctor offices tend to cluster adjacent to hospitals to provide offices necessary to conduct certain patient visitation functions which may not occur internal to a hospital.
- These practitioners may not necessarily be foundational to advance the direct mandate of the VHCP. However, they are essential secondary needs for supporting critical hospital functions.
- Opportunities for innovation and cross collaboration may be developed as a result of interactions with the hospital.

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### 3 – Research Space

- Medical focused research space clusters adjacent to hospitals to take advantage of proximity to machinery, expertise and other resources.
- Access to research and laboratory space is a fundamental element of the innovation mandate of the VHCP. Access to laboratory space could be a critical draw for innovation-based businesses or research labs.

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### 4 – Seniors Facilities

- Some senior's residence facilities seek space adjacent to hospitals to take advantage of proximity to hospital services for residents.
  - These facilities are not core elements to advancing the innovation-driven theme of the VHCP.
  - Seniors facilities are better accommodated in locations external to the VHCP.
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## 5 – Private Lab Testing

- These customer-facing facilities generally do not contribute directly to innovation, research and technology advancement at a local level.
- Typically, these organizations are reliant on proximity to a primary care facility to provide general diagnostic tests that support these facilities.

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## 6 – Child Care

- Primary child care facilities do not participate directly in advancing medical research and innovation. However, they can be an essential support service and significant draw for industries and staff at surrounding facilities.
- These uses can be easily accommodated outside of the VHCP, however, there may be utility in accommodating these uses onsite as a value add to employees in the node.

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## 7 – Pharmacy

- A counter-service pharmacy does not contribute to the innovation-research focus driven at the VHCP. However, it is a potential street-fronting retail space that could meet some day-to-day needs of surrounding users.
- Pharmacy uses can and are easily accommodated outside of the VHCP, and are generally ubiquitous in major and minor commercial nodes in urban areas.

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## 8 –Public Services

- Most public services will not directly contribute to the innovation mandate/direction of the VHCP. Public involvement or presence in certain respects could provide support for innovation-based businesses or initiatives.
- The majority of public services could be accommodated on lands outside of the VHCP.
- There may be additional reasons to accommodate non-innovation driven public services at the VHCP. These may include securing a guaranteed tenant presence, clustering of public services, or ensuring a baseline level of activity at the VHCP as the node evolves.

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## 9 –Student Learning Placements

- Student learning placements do not generally require significant space dedicated to their implementation.
  - These placement opportunities are directly compatible with the vision of the VHCP, increasing opportunities for education/healthcare collaboration and learning.
  - These uses require direct access to hospital facilities and generally cannot be accommodated outside the medical centre. Locating outside of the VHCP is likely to reduce the quality of education.
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### 10 –Allocated Teaching Space

- Dedicated teaching facilitates opportunities for direct collaboration.
  - Although possible, locating teaching space outside the VHCP would detrimentally impact the collaboration which could be achieved.
  - Locating teaching space on-site supports opportunities for access to specialized machinery, collaboration and integration which can facilitate innovation and investment.
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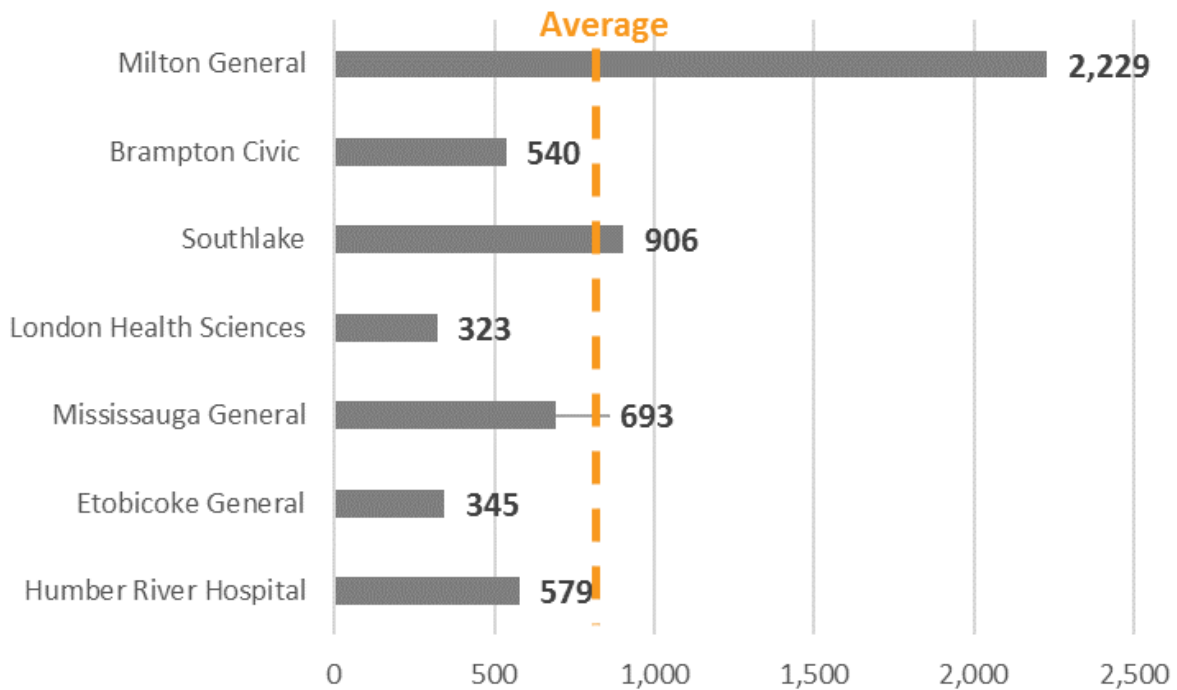
## Adjacent Office Space Development

Based on research conducted at hospital facilities across Southern Ontario, we have also developed an understanding of the anticipated amount of office space relative to the size of a given hospital facility. The size of each facility was measured based on bed count, which—in our view—provides a reasonable approximation of the number of staff, patient load and overall prominence of a hospital facility for the purposes of this high-level exercise. The purpose of this benchmarking has been to approximate the anticipated range of commercial office space that would likely locate at the VHCP, absent any coordinated development vision or prioritization of other uses competing for space. The likely composition of the space assigned within this model would be primarily local-serving medical office type commercial space, as well as some other local retail/service uses.

As shown below in Figure 5-2, with the exception of Milton General hospital, there is a reasonably consistent range of reported space per bed surrounding each hospital. The overall average has been calculated at some 800 square feet per bed. However, removing Milton Hospital as an outlier within the sample, the average drops to approximately 560 square feet per bed.



**Figure 5-2: Square Feet of Adjacent Office Space per Hospital Bed**



SOURCE: urbanMetrics inc., based on CoStar Realty Services. Total number of hospital beds obtained primarily from information produced by individual hospitals or health networks.

Based on this estimate range, as well as the reported 342 hospital beds being constructed at Vaughan Mackenzie Hospital, a total of **some 190,000 – 274,000 square feet of ancillary commercial office space could potentially be anticipated at the VHCP in a status quo development scenario**. As noted, this space assumption is based on a traditional, status quo approach to development. As such, tenants of this space would likely be hospital focused in nature (i.e. doctor offices, pharmacies, administrative), as opposed to the services anticipated under the Partnership’s vision (research and innovation, corporate offices, research labs).

Therefore, irrespective of the amount of space ultimately recommended as part of efforts to attract a broader healthcare innovation cluster at the VHCP, the lands surrounding the hospital are likely already capable of drawing some concentration of surrounding office users.

## 5.2 Innovation District Criteria

Innovation districts are increasingly of interest to global municipalities based on their demonstrated ability to facilitate the creation and commercialization of new ideas and modern economies. These districts grow local employment bases by leveraging the existing economic attributes of an area to create an environment that helps organizations attract and retain talent to develop new products and processes, generate new economic activity in previously underutilized areas, and create a wide range of opportunities for local residents.

Although the focus of the VHCP will undoubtedly be more multi-faceted than considering innovation in isolation, which will be directly supported by the activities of ventureLAB—in addition to the major institutional presences of Mackenzie Health and York University—it nonetheless remains at the core of future planning for the district. The following explores some of the overarching criteria for building successful innovation districts.

As a result of the research conducted by the project team, it is our view that the vision being advanced by the Partnership represents an unparalleled opportunity to advance a global public health cluster that garners the attention of organizations across Canada, and the world. The combination of a leading-edge partnership, blank slate development opportunity, and educated, growing workforce, creates an environment that has the potential to become the leading public health innovation cluster in Canada.

### Innovation Districts Defined

Innovation districts are a product of their surrounding environment and economies. The districts build upon and revalue the intrinsic qualities of a region or city, including: proximity, density, vibrancy, productivity, and authenticity. Typically, innovation districts are physically compact places that are anchored by a central organization such as a university, research institution, hospital, or major corporation with interest in research and development.

As noted by the Brookings Institution<sup>3</sup>, all successful innovation districts contain economic, physical, and networking assets.

- **Economic Assets:** Firms, institutions, and organizations that drive and cultivate the innovative environment. These include major anchors such as universities and major companies, as well as “cultivators” that support the growth of firms and ideas, including accelerators, incubators,

<sup>3</sup> Brookings Institution – *The Rise of Innovation Districts: A New Geography of Innovation in America* (May 2014).

co-working space. Food and beverage and other commercial amenities are also considered economic assets as they create jobs and provide local vibrancy.

- **Physical Assets:** Public and privately-owned spaces that are designed to stimulate new and higher levels of connectivity and collaboration between organizations. Examples of public realm physical assets include parks, plazas, sidewalks, and public Wi-Fi, while private realm physical assets including contemporary office space, labs, micro-housing, and entertainment facilities. Meaningful physical assets should tie the innovation district to the broader region with connecting elements including bike paths, public transportation, municipal servicing, and high-quality broadband.
- **Networking Assets:** Relationships between firms and institutions that fuel innovation and collaboration within industry clusters. Strong ties occur between firms that have higher levels of trust, share information, and help each other solve problems, acquire resources, and enter new markets. Weak ties between organizations that work within different industry clusters that have infrequent contact. Leveraging weak ties can provide access to new contacts and business leads outside of existing networks.

Additionally, Brookings Institution defined the three primary models for how innovation districts are developed: **Anchor Plus**, **Re-imagined Urban Areas**, and **Urbanized Science Park**. The Anchor Plus model is characterized by a redevelopment effort centering around a leading institution in a city, and the Re-imagined Urban Area includes the revitalization and transformation of underutilized real estate into a thriving innovation district.

The VHCP may exhibit elements of more than one of these general models; particularly given the obvious presence of the major healthcare and educational institution(s) that will undoubtedly serve as key anchors to a potential future innovation hub at this location. However, we also feel that the VHCP fits the profile of an Urbanized Science Park, which is primarily characterized by re-imagining suburban or exurban areas into compact and economically vibrant communities. In this case, traditionally isolated and sprawling areas are urbanized by increasing density and clustering the development of innovation space, as well as integrating new amenities such as retail and restaurant space. Similar to many other greenfield sites throughout the northern portion of the GTA and across York Region in particular, the VHCP presents a unique “blank slate” type opportunity to implement the latest technologies and best practices for the development of innovation hubs; particularly as evidenced by new technologies planned within the hospital itself.

## Implications for the Subject Site

Based on the key criteria and specific types of assets identified above, the following provides a high-level overview as to some of the key considerations for the VHCP with respect to its underlying strengths and weaknesses relative to other successful innovation districts. This applies both to the

current competitive landscape in terms of the many other existing or planned innovation hubs throughout Toronto and the GTA, as well as in regard to other major metropolitan markets competing for similar businesses and talent at a much broader macroeconomic scale.

For the purposes of this overview, we have generally rated the VHCP on each of the identified criteria using a simple three-category scale, as denoted below:



Satisfies criteria. Existing presence of asset.



Yet to be determined. Potentially requires additional planning and implementation, but distinct opportunity to achieve presence of asset.



Does not currently satisfy criteria (absence of asset). Potential to remedy with additional investment, planning and coordination.

## Economic Assets



### Anchor Institution

To succeed as an innovation district, it is critically important to secure an anchor institution. Institutions should have a regional drawing power and attract smaller firms to cluster in the surrounding area, and could include a multinational company or headquarters, research institute, and hospital, among others. In this case, the VHCP has the obvious benefit of the fixed presence of Mackenzie Health, plus the potential introduction of a York University presence on-site that would further bolster this anchoring effect. Furthermore, the presence of ventureLAB will provide critical support to start-up organizations and foster private sector activity to the VHCP. The type, scale, and level of involvement among these anchor institutions will set the tone for the rest of the VHCP.



### Partnership with Post-Secondary Institution

The VHCP should foster strong connections with local universities to support and lead research and development activities, as well as engage with the talent pipeline. In this case, efforts should be made to secure the interest and commitment of York University not only as an important member of the Partnership, but also in establishing an on-site presence.



### Amenities

Retail and service amenities will be representative of the type of anchor tenants that locate at the VHCP, including not only the major institutions of Mackenzie Health and York University, but also ventureLAB and their tenant base and/or other ancillary uses that could occupy space throughout the balance of the site. These will likely be local-serving only and more place-making type facilities, if anything.

## Physical Assets



### Vibrant Public Realm & Green Space ~

The subject site's position as a greenfield site presents a unique "blank slate" type opportunity to integrate green space, water features, and other outdoor gathering spaces into the precinct. Many innovation hubs in the GTA and other major urban centres are built in dense areas with limited space to accommodate outdoor recreation, however, significant outdoor spaces could offer the VHCP with a unique competitive advantage in terms of establishing a favourable physical environment in which employers and employees want to operate.



### Access & Connectivity ~

The site obviously benefits from its immediate access to the 400-series Highway system, arterial road networks, as well as planned new bus transit infrastructure with direct connections to the VHCP in the coming years. Despite the undeniable benefits of that this connectivity provides on a more local/regional scale, however, the VHCP may still face challenges in attracting employees, students, and business if it does not have more immediate connections to higher order public transportation options (e.g., regional/commuter rail, rapid transit/LRT, subway, etc.).

To overcome this attribute, additional investment in infrastructure may be required and/or the establishment of dedicated transportation services (e.g., shuttle buses solely connecting the VHCP to the VMC). Notwithstanding the primarily auto-oriented context of the site, the precinct should also seek to integrate pedestrian and cycling infrastructure, where reasonable.



### Modern Office & Research Space ~

Following the lead of the hospital itself which is expected to include a range of new top-of-class technologies and internal infrastructure, any other building or physical facilities introduced at the VHCP should include contemporary office spaces, co-working space, research & development facilities, laboratories, and/or event/meeting rooms.

## Networking Assets



### Targeted Industry Sectors ✓

With the central focus of the Mackenzie Health hospital, the VHCP has a pre-identified focus on various activities within the health and wellness-related industries. As many successful innovation districts include multiple target sectors, it will be important to further build upon this central theme and identity; particularly in the context of the additional value introduced through the more academic/education and innovation/technology focus provided by York University and ventureLAB, respectively.



### Community & Industry Events ~

Once critical mass has been established at the VHCP and it is seen as an important component of the broader economic structure of Vaughan and the GTA, building facilities could be used to hold events at the site for business and social networking, lectures, and training workshops. Subject to further exploration as part of future phases of the Study, this may also help the

overall success of the project from a financial feasibility perspective by offering additional sources of revenue (i.e., venue rentals and leasing).



#### Entrepreneur Programming ✓

Relying primarily on ventureLAB, the VHCP should emphasize the development of its proposed accelerator and incubator programs. By nurturing these types of smaller start-up and independent research-based activities, there is an opportunity to gain exposure to high quality talent, and venture capital funding. Based on our understanding of ventureLAB's existing operations, we trust that this type of presence will offer a range of entrepreneur-centric programming for early- and growth- stage start-ups (e.g., offer shared facilities and workspaces, technical training, mentorship, etc.).

## 5.3 Global Best Practices

### Process

To position the VHCP as a unique and valuable collision space for educators, healthcare practitioners and businesses, it is important to understand global best practices and the experiences of other jurisdictions throughout North America and beyond. These studies can provide context for the VHCP, and insight into the relative strengths and weaknesses of the concept as currently framed. It will also help the project team identify important “must-haves” that are essential to the broader success of the Precinct, in addition to identifying competitive opportunities and considerations which could be leveraged to better achieve the desired outcomes (“nice-to-haves”).

The case study research below is intended to supplement the work program conducted by the project team to better understand the range of development possibilities, funding opportunities, locational opportunities, and governing mechanisms that could be applied to the VHCP.

Based on a wide-ranging review of best practices, in addition to consultation with the project consulting team, as well as municipal staff, our team has identified several successful concepts and partnerships that provide important insights. These examples have been evaluated and understood based on their local context, plus relevant findings from each have been summarized accordingly.

It is important to note that—in some cases—there are fundamental differences in the implementation and execution of the innovation clusters examined. For example, the for-profit nature of many hospitals in the United States can result in different priorities and incentives. Alternatively, historic access to grant-based funding sources referenced as part of the case study research may no longer be offered in Canada, or in specific provinces or jurisdictions.



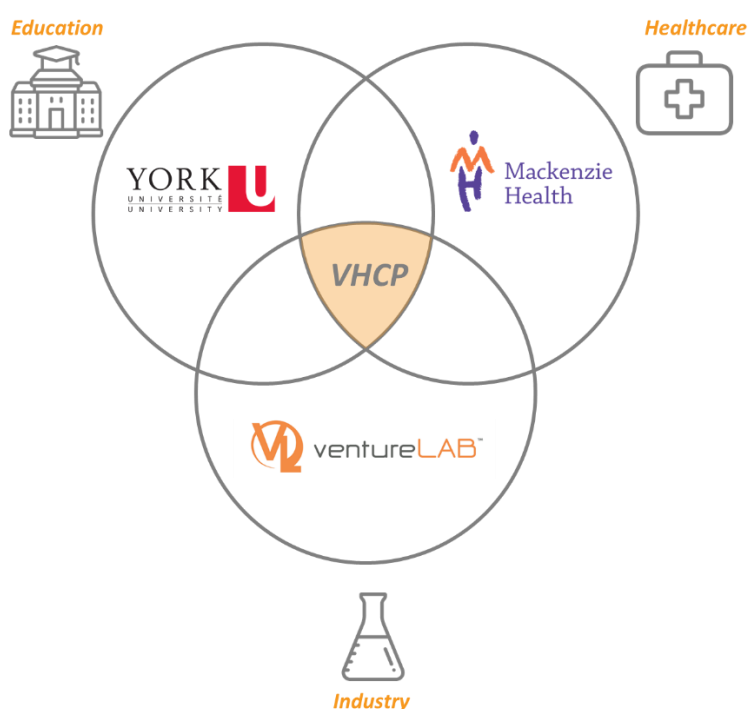
The following subsections present the key findings from our case study review. A summary sheet with specific details pertaining to each case study analyzed is located in Appendix D.

See **Appendix D** for details of individual case study research.

## Context

In approaching this case study exercise, the project team evaluated and reflected upon the inherent uniqueness of the multidisciplinary Partnership involved with the VHCP. As shown in Figure 5-3, the upfront integration of the key non-municipal stakeholders—Mackenzie Health, York University, and ventureLAB—is a defining element of the Precinct, as well as a key differentiating benefit.

**Figure 5-3: Vaughan Healthcare Centre Precinct Stakeholder Focus**



SOURCE: urbanMetrics inc.

As such, throughout our review of relevant best practices, it became apparent that the initial, upfront presence of three key institutional anchors is rare. In many cases, the concepts reviewed were advanced by a single proponent from one of the sectors identified, or involved a partnership between two different organizations. In other cases, at later stages of the project's development additional

corporate or institutional actors became involved. This is a unique, differentiating factor that could attract significant global investment and attention to the VHCP and position it to take on a national, and globally influential role in healthcare innovation and research.

**Therefore, it is important to underscore the unique nature of the partnership proposed and the rarity of the intersection of prominent healthcare, education and innovation-focused organizations.**

Furthermore, the VHCP is positioned as an important element of the broader GTA, a region widely regarded for world class medical services, post-secondary institutions and significant private sector health and technology businesses. Many of these entities are obviously clustered in other jurisdictions, including along the University Avenue corridor in Downtown Toronto. As such, natural synergistic opportunities may be created for organizations and institutions looking to expand or diversify their presence in the GTA. The partnership framework proposed at the VHCP could potentially offer a viable alternative to the innovation ecosystem currently in place along University Avenue.

## Identification of Cases

As previously emphasized, the VHCP involves the *upfront* collaboration of four primary stakeholders:

- **Education** – York University;
- **Innovation** – ventureLAB;
- **Healthcare** – Mackenzie Health; and
- **City-building** – City of Vaughan.

Based on our jurisdictional review, this fully integrated approach from the outset is unique; particularly in a Canadian context. There are several examples where various medical-related partnerships have been formed within Canada between some of these stakeholder types (i.e. Education and Innovation hubs, Education and Healthcare, etc.), and even expanding to incorporate broader perspectives. However, it appears as though the integrated and upfront approach being undertaken by the Partnership is unique.

It is also important to note that the City of Vaughan is a fundamental and critical partner in the VHCP process. For the purposes of the case study exercises, our analysis has generally focused on the relationship between the first three stakeholder types (i.e. education, innovation and healthcare). The review undertaken has suggested that these three stakeholders will be responsible for driving the innovation-mandate, and attracting and raising the profile of the VHCP to advance its core theme. Underscoring all of these focus areas, the City of Vaughan will continue to play a foundational role as

a partner in establishing the conditions necessary to create the environment in which this success will be driven from.

As part of the case study review conducted by the project team, we reviewed a range of reporting and documentation, engaged a variety of internal and external opinions, and examined previous work conducted by members of the project team. Our initial focus was on Canadian examples, as the general structure of the healthcare service network across Canada is relatively consistent, versus privatized models in the United States. However, we did expand our review to include some examples in the United States and Europe.

Based on our review and consideration of a “long-list” of candidate case studies, we identified the following models for more detailed analysis given their particular relevance to the VHCP:

- **Health and Technology District** – Surrey, British Columbia
- **W21C** – Calgary, Alberta
- **McMaster Innovation Park** – Hamilton, Ontario
- **Catalyst HTI** – Denver, Colorado
- **TMC Innovation Institute** – Houston, Texas
- **MATTER** – Chicago, Illinois
- **Uppsala BIO** – Uppsala, Sweden

## 5.4 Key Themes

Ultimately, the case study review and analysis yielded a number of notable themes. Several of the themes drawn from our work were found to be consistent across multiple examples reviewed (e.g., accessibility, partnerships, geography, etc.), whereas others were drawn from individual cases and deemed particularly relevant to informing the ultimate concept at the VHCP (e.g., integrated buildings, funding mechanisms, lead proponents, etc.).

Underscoring this work, the VHCP has a firm foundation upon which to build a successful healthcare-innovation node in Vaughan. Reflecting on the relationship and standing that the VHCP already has with respect to each theme presented will identify opportunities to build upon the established foundation to present an even more attractive opportunity moving forward.

It is important to note that the findings presented herein are not necessarily exhaustive, however provide a reasonable understanding of successful measures undertaken in other contexts, and some additional insight as to how these could be implemented at the VHCP.

In the following section, we have also provided a detailed description of each theme, selected findings from each case study, and discussion of the relevance of each principle to the VHCP.

## Active Proponent

One of the most important elements of advancing a global public health research/innovation cluster is the identification of a single, lead proponent to take responsibility for the project.

### Establishing a dedicated team or organization with the mandate to advance a development concept is fundamental in establishing and implementing a vision.

At its core, creating a multifaceted partnership of this nature requires the balancing of different perspectives, priorities and interests. Decisions around creating an identity, attracting anchor tenants, and drawing funding are more effectively met if they are advanced through a single coordinating organization.

Through our case study research, it has become clear that the majority of successful cases were driven by a single organization. Often, these were dedicated offices from a broader entity (i.e. hospital, university, innovation group), or, in some cases, new proponents championing a private business opportunity. These entities became important to pursue funding, attracting and supporting new tenants, and ensuring openness and collaboration amongst the various users on the site. They furthermore functioned as an efficient point of contact and decision-making entity which had the authority to act on behalf of the vision.

For the VHCP to be successful, it is important that its proponents identify and establish a governance structure responsible for the daily operations and planning of the evolving precinct. This mandate should reflect the collective interests of the founding organizations. Having this dedicated entity in place will be essential in creating a cohesive, public facing representation for the VHCP which can navigate complex conversations with government partners,

**The Health and Technology District,** located in Surrey, British Columbia, is an initiative set forward by a local developer with significant land holdings adjacent to the Surrey Memorial Hospital, and along a planned LRT route. The proponent is developing a medical and technology hub for the Fraser Valley. The proponent has developed relationships with the City of Surrey, the adjacent hospital, and start-up organizations occupying space in the development. The singular point of contact for advancing this project has resulted in relatively rapid results, as the vision was initiated only in 2012, and already contains over 350,000 square feet of completed space. Furthermore, the municipality has incorporated the vision into local planning policy, signalling support for the project.



prospective investors and business partners, and other third-party interests. The development of a dedicated structure tasked with advancing the VHCP concept could involve dedicated staff from each organization, or the establishment of an entirely new corporation with the mandate of advancing the outlined vision and responsibility to achieve certain benchmarks and targets.

## Strong Institutional Collaboration

In many cases, institutional collaboration has proven essential in establishing a critical mass of research and medical intensity to support auxiliary uses, including private sector involvement. In particular, this collaboration was important in contexts that were outside of well-established medical research clusters. In these contexts, the collaborative research environment created by the institutional partnerships was able to establish a critical mass that eventually drew regional, national and international attention. Such a long-term, “ground-up” strategy has proven effective to foster the conditions which have ultimately drawn in private sector innovation drivers.



The VHCP benefits from its location within the broader Greater Toronto Area. In the GTA in particular, the major cluster of innovation-based public health research is occurring along the University Avenue corridor. That is, within a regional lens, there is a vibrant and growing cluster of like-minded firms. However, the VHCP is not necessarily as well connected geographically to this existing research node. The planned establishment of the cluster is an important step in creating the conditions which are conducive to attracting private enterprises, start-ups, and researchers. However, it is important that the day-to-day operations of the VHCP, and in particular Mackenzie Hospital and York University demonstrate a clear commitment and active investment towards collaborative research and supporting innovation.

At the VHCP, it may be possible that major private sector research organizations would be interested in occupying space from the outset. However, in the absence of this upfront investment, as demonstrated in other examples, developing an understanding of the existing assets and strengths of an innovation cluster are important.

Relationships developed in **Uppsala** between post-secondary researchers and adjacent hospitals, as well as the physical construction of facilities was a key determinant in attracting major private sector research investment. In Sweden, the bulk of technology and medical-related research activity was clustered in Stockholm. By focusing on leveraging existing assets, (i.e. post-secondary and hospital collaboration), the regional profile of Uppsala was raised, to the extent that it became a consideration for private business. This relationship was certainly supported by direct, frequent rail access to central Stockholm and Arlanda International Airport.

Investing in and leveraging existing assets can be a key strategy towards increasing the profile of the node itself, which provides opportunities to attract new organizations, areas of expertise and investment.





## Government Involvement

The involvement of direct or indirect government support offers a sense of certainty and risk mitigation to prospective participants.

Government involvement reduces potential risk for private or institutional actors, and can send a signal of confidence to prospective participants in these innovation clusters. For example, government investment is often a necessary precondition for the involvement of other institutions (i.e. funds to support capital costs for a new hospital or education wing), the certainty can incent other organizations to participate. Additionally, ongoing government support—particularly upon initiation—can be important in providing financial security to ensure that a cluster can be developed until a time that the node is financially self-sustaining.

In several case studies reviewed, governments at various levels have functioned as important support drivers to advance or initiate the node. These key financial or non-financial commitments are, in many cases, imperative investments that are necessary preconditions to ensure that these collaborations can be initiated. In many situations, active and prolonged participation and support from government actors is necessary to allow for the maturation of partnerships and organizations until organic and self-sustaining partnerships can be developed.

Municipal involvement and support have taken on a variety of forms. It is important to note that it is the consulting team's view that the City of Vaughan has largely fulfilled a range of municipal initiatives in order to advance the VHCP concept. However, with such an ambitious plan that encompasses a broader, physical, master-planned geography, there may be additional financial and non-financial commitments required in order to realize the ultimate vision.

**MATTER** was initiated as a partnership by the City of Chicago, State of Illinois and an active community proponent. The purpose of the organization is to develop Chicago's medical-technology community by providing supports and resources to locally operated small businesses and start-ups. The non-profit was able to get off the ground due to initial government funding, and has now become a highly influential organization, supporting over 200 start-ups, generating over \$1 billion in funding, and attracting innovative partnerships with healthcare organizations like the American Medical Association. The support of government investment was essential to MATTER's development, which is now a central driver of innovation in the Chicago healthcare industry.

The continued involvement and support of the municipal government, and provincial activity at appropriate times can become an important model that is likely to ensure ongoing success.

## Public-Private Engagement

Notwithstanding rare examples, the development of significant research and innovation clusters necessitates significant engagement with the private sector.

Private sector involvement takes many forms, including development of start-up organizations, incubator services, or drawing larger multinational corporations. These organizations bring an entrepreneurial attitude and approach towards a research cluster, which differs from the perspectives typically associated with post-secondary and public research facilities. Furthermore, private organizations and start-up entities are frequently responsible for the majority of additional growth in such sectors, and subsequent demands for additional development, space, and needs once the cluster is established.

The case studies reviewed demonstrated a variety of ways of activating private sector involvement in the health nodes researched. In some cases, a private proponent—typically with municipal support—has advanced an innovation-driven concept intended to attract post-secondary and medical users. In other cases, public entities have aggressively pursued private sector involvement, securing anchor tenants or commitments prior to undertaking the development. Lastly, some organizations have maintained an internal focus on developing a critical mass of activity and profile amongst existing assets (namely post-secondary/medical centre collaboration) prior to more aggressively pursuing private partnerships.

The relationship between the VHCP and private market actors is not yet defined. To ensure successful participation of private sector actors, it will be important that the project team understand the range of strategies available. Given the existing partnership, there may be interest from private sector actors in establishing research and innovation centres in the area. However, it is important to understand that—based on case study research—this may not necessarily materialize at the outset.

**Catalyst HTI** was developed as a real estate development by a prominent Denver firm. The integrated innovation hub is located in a rapidly evolving area of central Denver, located close to an LRT station. The concept attracted anchor institutions including the University of Colorado’s Health Innovation Centre, as well as Kaiser Permanente, a major healthcare provider. Since, the 200,000 square foot facility has drawn the attention of several post-secondary and medical institutions and subsequent start-ups. The “bottom-up” design approach to attracting anchors who would actively support innovation and start-up culture has proven to be a successful model of public-private engagement.

Instead, demonstration of commitment to a collaborative, academic environment will be an important determinant for prospective start-ups and larger businesses.



Catalyst HTI (Denver, Colorado)  
SOURCE: AmericanInno

## Leveraging Locational/Geographic Benefits

The geographic location and accessibility of nodes has been demonstrated to be an important influence on growth patterns for growing research clusters. Recent employment trends have shown a clear shift in employment preference towards dense, mixed-use and walkable work environments that are accessible by public transit.

**In this regard, the benefits of transportation access and geography are not necessary preconditions for success, however they are often critical differentiating factors that can have a significant draw in a competitive environment.**

As an example, these characteristics have played a significant role in driving strong development growth in Downtown Toronto, or the newly emerging node at Vaughan Metropolitan Centre in recent years.



The case studies surveyed are generally located in established or emerging mixed-use clusters. In many instances, these emerging clusters are located outside or adjacent to central cores or traditional research nodes within their respective urban regions. This shift may occur for several reasons, including affordability, space requirements, or adjacency to key institutional anchors. Several are also located on major transit lines, still benefiting from direct access to dense, core employment centres.

These environments have—indirectly—been an attractive benefit to these nodes to facilitate growth and development beyond the institutional presence or resources initially located at each site. Although the presence of institutional partners, research expertise, and active advocates function as the primary draw for a significant proportion of private sector partners, the other geographic benefits discussed are important differentiating factors for select organizations or start-ups.

At the VHCP, it is likely that the merits of the public health/academic relationship will be the primary draw for private investment and growth. However, heightened competition for skilled employment has been an important consideration for many employers and prospective employees. In addition, rapidly rising rents and limited availability of space in Downtown Toronto has created significant operating constraints for many businesses.

**Creating an alternative node that is an attractive, accessible and interesting place to work could be an important factor for many organizations, particularly those with operations already in such environments.**

At scale, the VHCP could provide an alternative node for traditional clusters in the Toronto Region.



## 6.0 SWOT

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The project team has prepared a SWOT analysis which synthesizes the broad findings of our various background best practice and market/economic research work, as presented throughout this report and the attached appendices. The purpose of this SWOT analysis is to position the VHCP within a broader economic, social and organizational context. Moving forward, these directions can be used to guide decision making, inform capital investments, and establish organizational strategies for advancing the VHCP.

## Strengths

- **Upfront Collaboration** - The established and upfront collaboration of three key stakeholders (Mackenzie Health, York University, ventureLAB), with additional municipal support (City of Vaughan) puts the VHCP in a very advantageous position at the outset. There is clear value inherent in this pre-existing Partnership. In case studies reviewed, these relationships often develop, however it can take time/effort and certainly is not established at the outset in most cases. This time lag can have the impact of causing a delay in investment activity from the prospective private sector partners.
- **Population and Demographics** - Vaughan, and York Region's broader demographics will drive continued demand for innovative solutions to healthcare delivery, as well as a significant supply of a range of labour types to support the community.
- **Municipal Partnership** - The support of the City of Vaughan as a leader and partner in site preparation, planning, engagement, and policy implementation is imperative in creating certainty and conditions that will appropriately attract private sector investment.
- **Automobile Access** - The site is located in immediate proximity to Highway 400, which provides direct automobile access to sites across the region, as well as Toronto Pearson International Airport.
- **Local/Regional Transit Connectivity** – Based on planned investments in new bus rapid transit infrastructure—including the planned new bus terminal that will provide direct connections to the VHCP via an underground passageway below Major Mackenzie Drive—the subject site will benefit directly from its connectivity to/from elsewhere in the Vaughan community, as well as more broadly across York Region and the Northern GTA.
- **Development Readiness** - As an undeveloped, greenfield property, there are few development constraints at the VHCP. Furthermore, with the City of Vaughan as the primary landowner, the municipality effectively has the control to ensure that the outlined vision is pursued.

- **Alignment with Strategic Direction** - The mandate outlined for the VHCP aligns with broader strategic directions and initiatives identified for Vaughan and York Region, which emphasize drawing and attracting local skilled labour in order to grow the employment base in Vaughan.

## Weaknesses

- **Commercial Isolation** - The VHCP is not located adjacent to an existing commercial node, and does not necessarily benefit from proximity to surrounding commercial activity at present. Furthermore, proximity to Canada's Wonderland may result in significant seasonal congestion challenges without necessarily exhibiting any direct co-location benefits.
- **Higher Order Public Transit and Active Transportation Connectivity** – The VHCP is currently not well connected to regional, higher-order/rail based public transportation networks. In particular, notwithstanding the future connectivity offered by the proposed bus terminal to the immediate south of the site, there is not direct transit access to York University's primary campus, nor to the TTC subway network which provides enhanced access more broadly across the GTA. Research and regional development patterns have indicated that skilled employment generally prefers office locations along major nodes and corridors well-served by this type of higher-order public transportation infrastructure. If possible, a combination of both higher order rapid transit (e.g., subway/TTC) and regional transit infrastructure (e.g., commuter rail/GO Transit) would represent a major asset to help supplement the planned new bus service and hub to be located immediately adjacent to the VHCP. This terminal will represent a significant improvement in accessibility to the site, however is unlikely to have the level of travel or development pattern-altering impacts typically resulting from higher order transit options.
- **Decision-Making Paralysis** - The VHCP Partnership is generally aligned in the overarching vision for the lands. However, the broader working group and steering committees could be consolidated to streamline the decision-making process in a more direct and responsive manner.

## Opportunities

- **Unique Partnership** - The VHCP has the unique opportunity to advance a fully integrated healthcare, education and research/innovation cluster from the ground up, where each partner has equivalent influence and say in its evolution. This concept is unparalleled in Canada.



- **First to Market** - The Mackenzie Hospital is Vaughan’s first hospital, which will likely lead to some natural consolidation of expertise and interest in surrounding development. There is an opportunity to leverage this attention and activity to contribute to the general advancement of the VHCP node more generally.
- **Control of Land** - With ownership of land, as well as a defined collaboration, the Partnership effectively has control over the broader roll-out and implementation of the vision.
- **Differentiating Identity** - At the outset, the partnership has the ability to craft a unique identity for the VHCP that becomes its core differentiating value proposition and draws national and international investment.
- **Growth Mentality** – The City of Vaughan is rapidly growing and evolving, and has embraced this growth as an opportunity to increase the profile and employment in the City. Uniting behind this shared mentality and ambition will be important in establishing community consensus as development plans emerge.

## Threats

- **Cannibalizing Developing Nodes** - The Vaughan Metropolitan Centre has been widely recognized in planning policy, economic development reports, media and public understanding as Vaughan’s commercial heart. Moving forward, it is imperative to establish a clear understanding and distinction of the nature of uses and users anticipated to be accommodated at the VHCP versus the VMC. Clear differentiation between the nodes will allow for both to develop as complementary nodes, rather than in competition with one another for users.
- **Funding Certainty** – Securing both one-time capital and ongoing operational funding is a constant issue challenging public, institutional and non-profit organizations in realizing a vision or planning for long-term organizational continuity. The same challenges will undoubtedly be present at the VHCP. Identifying revenue generating opportunities and prioritizing investments that promote revenue-generation will be important, particularly in the earlier stages of development.
- **Allocation of Responsibility** – The overarching vision for the VHCP is clear, and will continue to be refined based on careful analysis. However, there is no singular entity dedicated to advancing the project, and being responsible for moving the project forward. As the VHCP moves from conceptual to tangible, it will be important to identify and allocate personnel and resources with an express mandate to oversee the management of the concept. This assignment would also mitigate the threat of “analysis paralysis”.

The insights derived and reported in this SWOT exercise will be important to inform broader insights into advancing a concept for a VHCP that is economically feasible and best contributes to a vibrant, growing innovation culture in Vaughan.

To this end, subsequent phases of our Study work program will explore specific land use concepts for the VHCP lands, as well as more detailed feasibility testing, return on investment analysis, and targeted recommendations with respect to implementation and the ultimate advancement of the underlying vision for this site. The existing conditions reporting established in this deliverable will serve as the necessary groundwork and baseline from which this subsequent analysis and recommendations will be developed.

## Appendix A Planning Context Memo

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# Vaughan Healthcare Centre Precinct

PLANNING CONTEXT MEMO | FEBRUARY 2020

**Sajecki**→  
**Planning**

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# INTRODUCTION

The City of Vaughan is exploring economic development opportunities on the developable lands surrounding the new Mackenzie Vaughan Hospital site. Market, site, and regulatory considerations will inform a Feasibility Study on the Economic Development Opportunities in the Vaughan Healthcare Precinct. This Study is expected to serve as a catalyst for developing a world-class health innovation Precinct that brings together employment, research and academia. The guiding vision for the Vaughan Healthcare Centre Precinct (VHCP) is to create a complete community that allows residents, employees, and visitors to live, work and innovation within the Precinct.

Phase One of the Study focuses on background research and analysis, including an exploration of the current planning context for the subject lands. This background research will provides a foundation grounded in policy to inform the planning justification in support of the proposed site plan. The Vaughan Healthcare Precinct Study commenced in November 2019 and is expected to be completed in Q4 of 2020.

This Planning Context Memo provides a summary of land use planning research and analyses completed in Phase One, including:

- 1.0 Study Objectives
- 2.0 Local Context
- 3.0 History
- 4.0 Policy Framework
- 5.0 Existing Conditions Diagrams
- 6.0 Next Steps



# 1.0

## STUDY OBJECTIVES

The Study will be guided by the principles identified by the City of Vaughan in the RFP's Terms of Reference, as follows:

- Considers health and well-being as the core functions of the Precinct;
- Leverages and advances the smart hospital technologies employed at Mackenzie Vaughan Hospital;
- Promotes a culture of innovation and entrepreneurship, attracting tenants, users, and partners from the full business lifecycle – from startup, to scale-up and mature establishments or industries;
- Create a blend of functions and industries that are complementary to the existing on-site hospital and adjacent neighbourhoods (including use, building typology, traffic demand, etc.);
- Leverages technology-led economic development opportunities that are emerging in the marketplace;
- Support and promote local and regional talent and workplace development; and
- Create realistic and achievable action plans taking into consideration budget, staffing and partnership constraints.

The Study will also follow the guiding principles outlined in the Vaughan Healthcare Centre Precinct Plan. These include:

- Development that exhibits **sustainability** best practices by creating a **healthy environment, vibrant communities**, and **economic vitality**;
- Land use and transition that caters to **transit** and is sensitive to surrounding uses;
- High quality **urban design** that creates a **distinctive sense of place**;
- Providing a **full range of mobility options** within the Precinct; and
- Efficient use of **municipal services** and **utilities**.

# 2.0

## LOCAL CONTEXT

The Vaughan Healthcare Centre Precinct (VHCP) is an 82-acre site located in Maple within the City of Vaughan. Its municipal address is 3200 Major Mackenzie Drive. The subject lands are bounded by Major Mackenzie Drive West to the south, Highway 400 to the west, an existing subdivision to the north, and Jane Street to the east (see Figure 1). The Study focuses on approximately 20 acres of land that are not reserved for hospital blocks and designated Natural Features.

The Study Area is highly accessible within the City of Vaughan. Specifically, the site has direct access from Highway 400 and is located on two arterial roads: Major Mackenzie Drive West and Jane Street. The Study Area is also well served by the existing and planned transit network: bus line 20 on Jane Street and bus line 004A on Major Mackenzie Drive. Furthermore, a York Region Transit bus terminal is being planned concurrently with the VHCP directly to the south, which will further strengthen the VHCP's transit accessibility.

Land uses surrounding the VHCP are varied. Canada's Wonderland located to the south serves as a major entertainment anchor within Vaughan. Commercial uses are located to the east on Jane Street, while low-density residential subdivisions are located to the north and northeast. The Vaughan Healthcare Centre Precinct Plan and Landscape Development Concept provide solutions for buffering noise and height implications between the Study Area and residential areas to the north.

In the broader context, the VHCP will transform currently underutilized lands into a vibrant healthcare cluster that serves the residents of Vaughan and its surrounding areas. This development represents a significant investment in the future of Vaughan's health, community and economy.



Figure 1: VHCP Context Map

# 3.0

## HISTORY

The City of Vaughan purchased the 82-acre parcel of land as its contribution to the establishment of a full-service hospital in 2009. The land was previously owned by Cedar Fair (Canada's Wonderland) and contains a network of service roads that provide access to the theme park.

In 2010, OPA 715 changed the planned intentions for the subject lands from the expansion of a major theme park to the development of an urban centre anchored by a new hospital and associated healthcare campus. It also called for a Hospital Precinct Plan to guide the development of the site.

In 2013, the Vaughan Healthcare Centre Precinct Plan was released. The Plan provides detailed policies related to land use, density, height and massing, street network and typology, sustainability, transportation, servicing, implementation, urban design guidelines and more.

In 2015, three additional reports provided additional details into the development and use of the subject lands with a focus on sustainable development and preserving Natural Features. The Landscape Development Concept guides the vision and implementation strategy for landscaping, while the Planting Maintenance Manual provides insight into the landscaping upkeep for the Precinct. The Streetscape Development Concept outlines the strategy and details as they relate to street types, levels of service and growing conditions for street trees and planters within the VHCP. Together, these three documents support the City of Vaughan's vision for a multi-modal, pedestrian-friendly and sustainable innovation hub.

In 2017, York Region began a "Schedule C" Environmental Assessment Study to review road improvements for Major Mackenzie Drive West. The final Environmental Assessment Study Report published in 2019 recommends two additional

lanes for vehicles, a multi-use pathway for pedestrians and cyclists on the south side of the road, a sidewalk that runs along the Study Area on the north side as well as a main entrance to the VHCP. Options for emergency vehicle access will be explored in future designs, and stream flow from road widening will not be directed into the VHCP's stormwater management ponds.

The Mackenzie Vaughan Hospital is planned to open in late 2020.

# 4.0

## POLICY FRAMEWORK



The following subsections provide a summary of the guiding policy documents at the provincial, regional and municipal level for the VHCP. Plans and recommendations resulting from this Study will be consistent with and conform to all relevant policy documents.

## 4.1 Provincial

### Provincial Policy Statement (2014)

- As per the PPS, the VHCP is located within a Settlement Area, which should “be the focus of growth and development, and their vitality and regeneration shall be promoted” (Section 1.1.3.1);
- Settlement areas should include densities and a mix of land uses that efficiently use land and resources, efficiently use infrastructure and public service facilities (includes health programs per Section 6.0 Definitions), support active transportation and be transit-supportive (Section 1.1.3.2);
- Long-term economic prosperity should be supported by promoting opportunities for economic development, optimizing the long-term availability and use of land and encouraging a sense of place (Section 1.7.1); and
- Planning authorities shall support climate change adaptation by promoting compact built forms and focusing major employment land uses on sites which are well served by transit (Section 1.8.1).

### Growth Plan for the Greater Golden Horseshoe (2019)

- Guiding principles for the Growth Plan include improving the integration of land use planning with the planning of and investment in public service facilities (includes health programs), including integrated service delivery through community hubs (Section 1.2.1);

- Directs growth to settlement areas with a delineated built boundary and in areas with existing or planned public service facilities (2.2.1);
- Growth Plan policies will result in complete communities that feature a diverse mix of land uses, including residential and employment uses, and convenient access to public service facilities (2.2.1(4)(a)). Policies also expand access to public service facilities located within community hubs (2.2.1(4)(d)); and
- Section 3.2.8 provides policies for public service facilities, including that they should be located within community hubs.

## 4.2 Regional

### York Region Official Plan (2010)

- As per the York Region Official Plan (Map 1), the VHCP is designated as an Urban Area, which will accommodate a significant portion of the planned growth within the Region (Section 5.0);
- To meet the needs of residents and workers, human service facilities (including hospitals) should be in proximity to pedestrian, cycling and transit systems (3.3.5), and lower-tier municipalities should attract new educational and skills training facilities (3.3.6);
- Municipalities should invest in infrastructure to support job creation (4.1.1), create vibrant and healthy communities that attract and retain youth, a highly skilled labour force and quality employers (4.1.3), and create a business friendly environment that includes a range of human service facilities and programs (4.1.5); and
- As per the York Official Plan (Map 11), Major Mackenzie Drive is a Regional Rapid Transit Corridor, and Jane

Street south of the subject site is a Regional Rapid Transit Corridor.

York Region is currently undertaking a Municipal Comprehensive Review (MCR) to review the Region’s population and employment forecasts, land budgets and Regional Official Plan policies.

**York Region Transportation Master Plan (2016)**

- As per York Region’s Transportation Master Plan (Map 16), the block along Major Mackenzie Drive within the Study Area is scheduled for road phasing between 2017 and 2021;
- The VHCP is located on two streets identified as part of the Viva Network Expansion Plan that will provide enhanced transit service and access by 2041;
- Jane Street between Highway 7 and Major Mackenzie Drive is part of the Viva Network Expansion Plan with curbside stations being constructed starting in 2018 (P. 145); and
- Major Mackenzie Drive is also part of the Expansion Plan, with curbside stations being constructed starting in 2018 to connect the Jane and Leslie Street rapid transit corridors (P. 145).

**4.3 Municipal**

**City of Vaughan Official Plan (2010)**

- The City of Vaughan Official Plan classifies the subject lands as an Intensification Area and a Primary Centre (Schedule 1) as well as part of the Urban Area (Schedule 1A). See *Figure 2*;
- Intensification areas consist of a hierarchy of mixed-use centres and corridors and are the primary locations to

accommodate 45% of the City’s intensification target (2.2.5);

- Primary centres will accommodate a wide range of uses and building heights to facilitate transitions to neighbouring areas (2.2.5). They shall be planned to include a mix of non-residential uses including “office, institutional, community facilities, and human services” (2.2.5.6). Specifically, the subject site will evolve as a health care campus with community facilities, residential and business uses (2.2.5.5);
- A portion of the subject site is identified as Core Features in Schedule 2. Development or site alteration is prohibited in Core Features areas, with the exception of projects that are deemed to be in the public interest (3.2.3.7);
- The subject lands are designated Major Institutional in Schedule 13. This designation applies to major health uses and requires a Secondary Plan to be completed prior to development or redevelopment (9.2.2.12). A range of building types are permitted in Major Institutional areas including low-rise, mid-rise and high-rise buildings, public and private institutional buildings, townhouses, and stacked townhouses (9.2.2.12(e));
- The VHCP is located on two major arterial roads for the York Region (Schedule 9, Policy 4.2.1.15); and
- Per Schedule 14-C, the VHCP is subject to Site Specific Plan 13.6. This Plan supports the development of a healthcare campus centre that consists of “a mixture of uses at higher densities in a compact, pedestrian friendly form” and is characterized by “a high quality of urban design” (13.6.1). All development is subject to Site Plan Control (13.6.11.1).

### Zoning By-law 1-88

- The subject lands were previously subject to a holding condition pending Site Development Application Approval;
- Holding conditions were removed for the majority of the subject lands through By-law amendment 031-2007, which zones Block 2 as HC (H) Healthcare Zone. The latter facilitated the development of the Mackenzie Vaughan Hospital. Blocks 1, 3, 4, 5, 6 and 7 have holding conditions in place; and
- A small section of the VHCP is zoned OS1 Open Space and is subject to Schedule E-1527. OS1 is defined as an Open Space Conservation Zone, forbidding any development other than conservation or flood control projects (7.2.1). This land can only be rezoned through approvals from the TRCA and City of Vaughan (7.2.2).

### Vaughan Healthcare Centre Precinct Plan

- The 2013 Vaughan Healthcare Centre Precinct Plan provides the foundation for the VHCP and sets a coordinated vision for the area's land use, built form, street network and public realm (among others);
- The Land Use and Road Network Plan divides the Precinct into nine (9) distinct blocks. Block 2 – representing a significant portion of the VHCP – is reserved for hospital and related uses. Block 6 is for landscaping and amenities, whereas Blocks 8 and 9 are for stormwater management ponds. Blocks 1, 4, 5, and 7 are reserved for healthcare related uses. See *Figure 3*;
- Healthcare related uses include long term care facilities, supportive community housing, medical malls, research, education and training facilities,

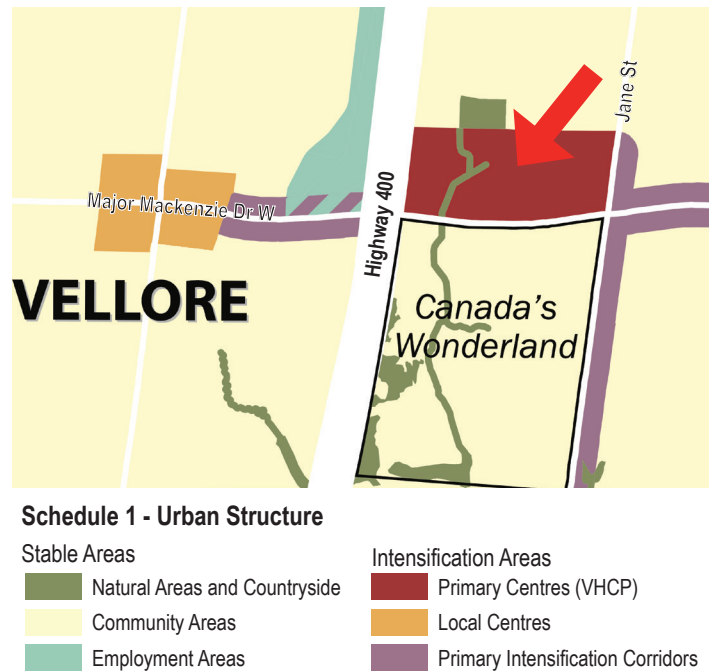


Figure 2: VHCP location, Schedule 1 - Urban Structure, City of Vaughan Official Plan

community health uses and medical office spaces. Located on the westerly portion of the VHCP, these lands are the most relevant for the purposes of this Study;

- The Plan supports a logical street network for vehicular traffic and pedestrians, compact built form, high-quality urban design, defined public realm, height transitions (tallest heights along Major Mackenzie Drive), community sustainability, and landscaping to accommodate stormwater management ponds and a drainage channel; and
- Section 4.3.1 provides direction for heights and massing within the VHCP. Low-rise buildings are defined as up to 5-storeys (20 metres), while mid-rise buildings are up to 12-storeys (48 metres), and up to 75 metres for high-rise buildings. The Plan recommends mid-rise built forms for the westerly portion of the Precinct, and high-rise built forms along Major Mackenzie Drive.

- The Streetscape Development Concept identifies street typologies within the Precinct and provides paving, furniture, tree, bike, waste and lighting options for each category. It also outlines detailed urban design plans for streets and entrances.

**Vaughan Healthcare Precinct Landscape Development Concept, Planting Maintenance Manual, and Streetscape Development Concept**

- The VHCP Landscape Development Concept, Planting Maintenance Manual, and Streetscape Development Concept contribute to the creation of a unique and sustainable public realm identity for the Precinct;
- The VHCP serves as a connection between the Oak Ridges Moraine and the Don River. The Landscape Development Concept identifies Conservation Areas within the VHCP to provide stormwater management, ecological restoration and public spaces;
- The Planting Maintenance Manual outlines a maintenance program for public realm features within the VHCP; and

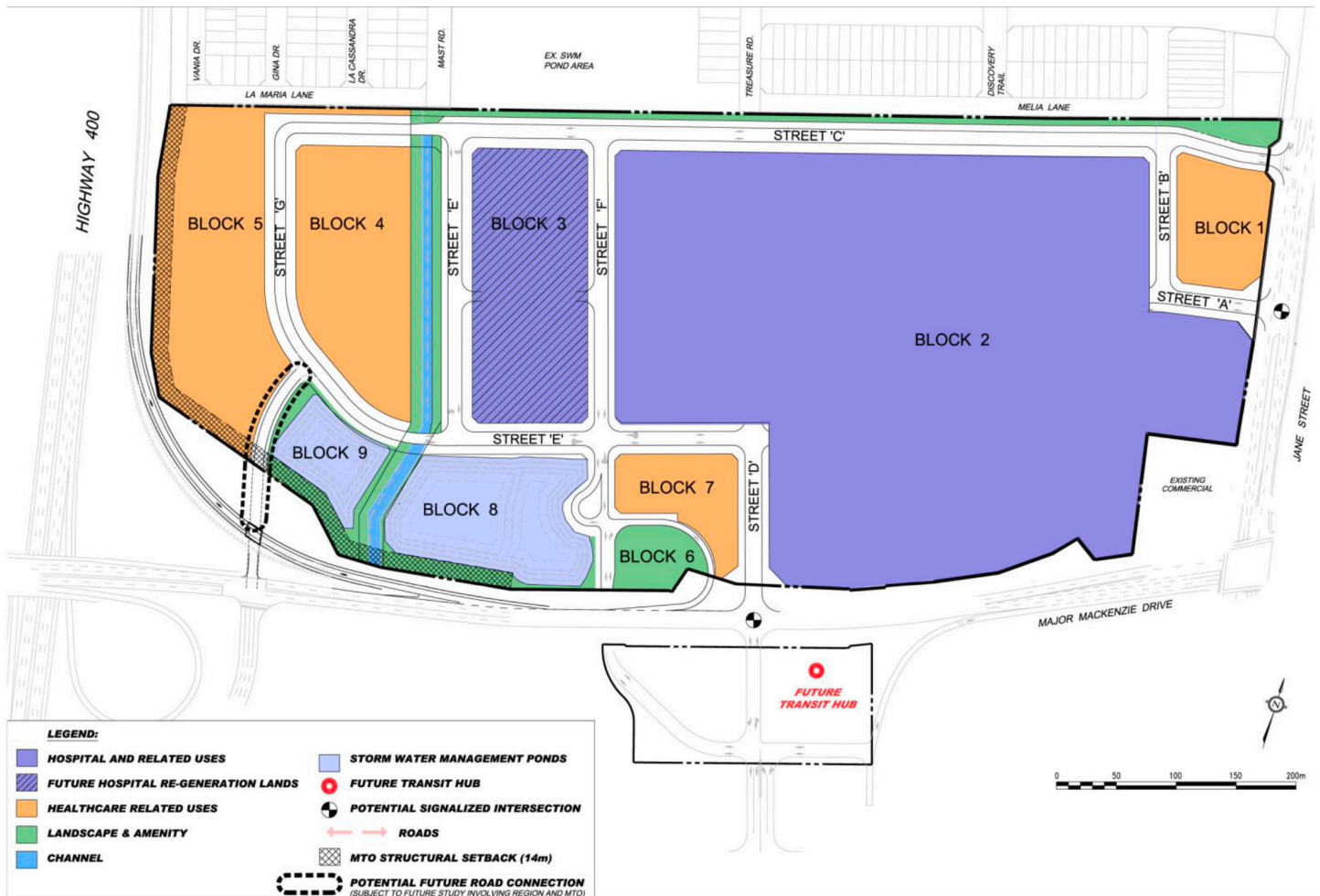


Figure 3: Land Use and Network Plan, Vaughan Healthcare Centre Precinct Plan

5.0

EXISTING CONDITIONS DIAGRAMS



The following subsections provide an overview of existing conditions within the Study Area, including land uses, zoning, parks, open spaces and natural heritage, in addition to transportation, active transportation and connectivity.

### 5.1 Official Plan Land Use Designations

Figure 4 identifies the land use designations for the VHCP, as outlined in Schedule 13 of the Official Plan. Key elements include:

- The majority of the Study Area is designated Major

Institutional;

- A section of the Study Area is designated Natural Areas; and
- The Study Area is bordered by low-rise residential areas to the north, mid-rise mixed uses to the east, and a theme park to the south.



Figure 4: Official Plan Land Use Designations Diagram

### 5.2 Zoning Classifications

Figure 5 identifies zoning for the VHCP, as outlined in Zoning By-law 1-88 and Amendment 031-2007.

meaning no buildings or structures are allowed other than for the purposes of conservation or flood control.

- The majority of the Study Area is zoned HC (Healthcare Zone). Blocks 1, 3, 4, 5, 6 and 7 have holding provisions in place;
- A portion of the Study Area is zoned OS1 (Open Space) and is subject to Schedule E-1527; and
- OS1 denote an Open Space Conservation Zone,



Figure 5: Zoning Classifications Diagram

### 5.3 Parks, Open Spaces and Natural Heritage

Figure 6 identifies parks, open spaces and natural heritage classifications as outlined in Schedule 2 and Schedule 13 of the City of Vaughan Official Plan. Key elements include:

- The Study Area contains Core Features that traverse across the site from north to south. This section of the VHCP is also zoned OS1;
- The VHCP Master Plan and Landscape Development Concept address Natural Heritage features with two stormwater management ponds in the south west

corner as well as a channel running through the site; and

- Stormwater ponds and streams are defining landscape features within the VHCP, functioning as both public spaces and strategic sustainable design.

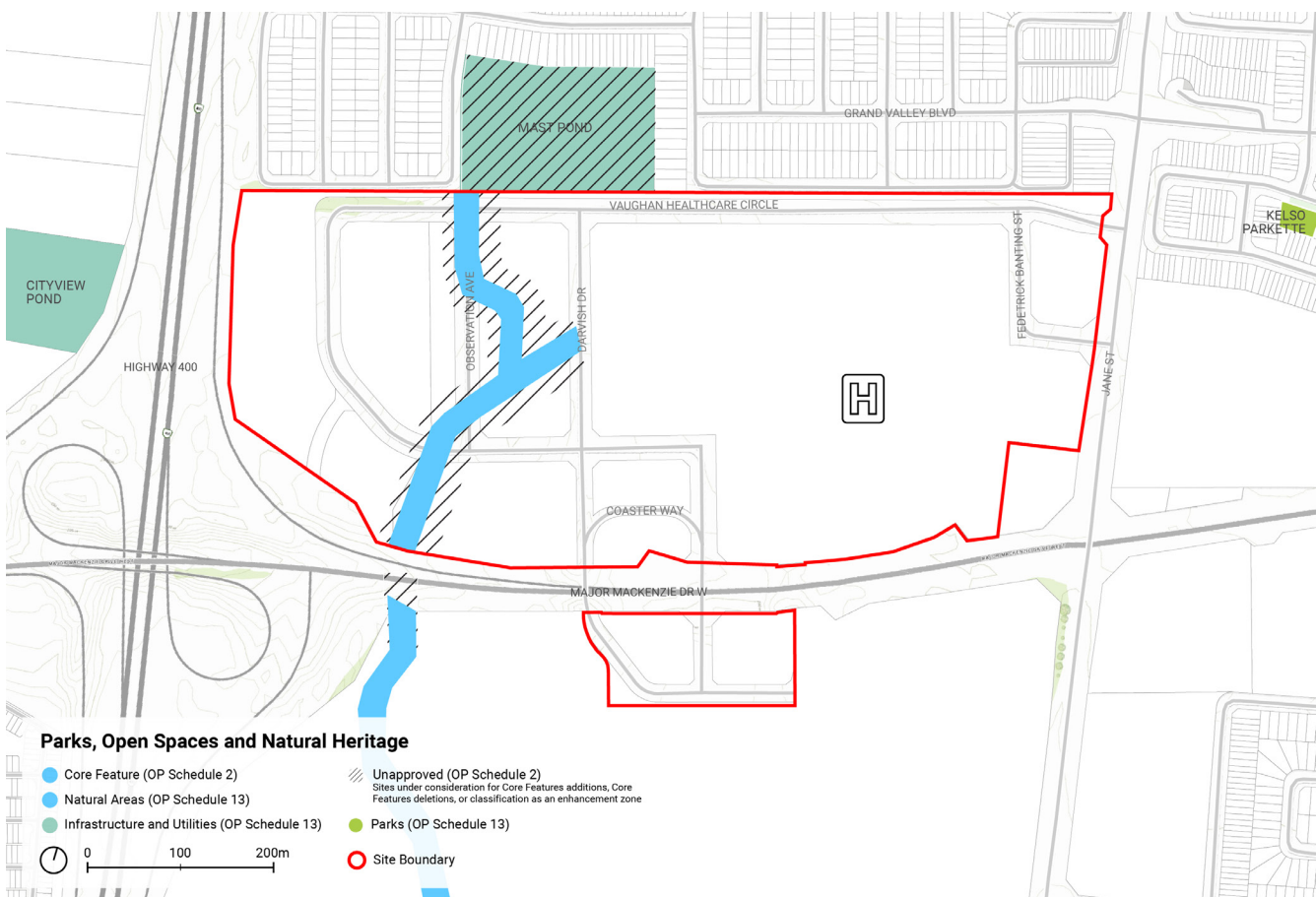


Figure 6: Parks, Open Spaces and Natural Heritage Diagram

## 5.4 Transportation, Active Transportation and Connectivity

*Figure 7* identifies the road and active transportation classifications as outlined in the City of Vaughan Official Plan and the York Region Transportation Master Plan.

### Transportation

- Major Mackenzie Road and Jane Street are both Major Arterial (Regional) roads;
- Major Mackenzie Road is identified as a Regional Rapid Transit Corridor in the City of Vaughan Official Plan;
- Access to public transportation will be enhanced in the future through:
  - York Region Transit bus terminal directly south of the site is being planned concurrently with the VHCP;
  - Major Mackenzie Road and Jane Street will have frequent transit service within 6 to 10 years (York Region Transportation Master Plan); and
  - As part of the 2041 Viva Network Expansion Plan in the York Region Transportation Master Plan, Major Mackenzie Road will accommodate rapid transit while Jane Street will accommodate frequent transit.
- The VHCP is located off Highway 400, providing visibility and direct access to a major traffic corridor.

### Active Transportation

- Major Mackenzie Drive will have separated cycling lanes within 10 years, and Jane Street will have

separated cycling lanes by 2041 (York Region Transportation Master Plan); and

- The VHCP will prioritize active transportation as part of its streetscape strategy.

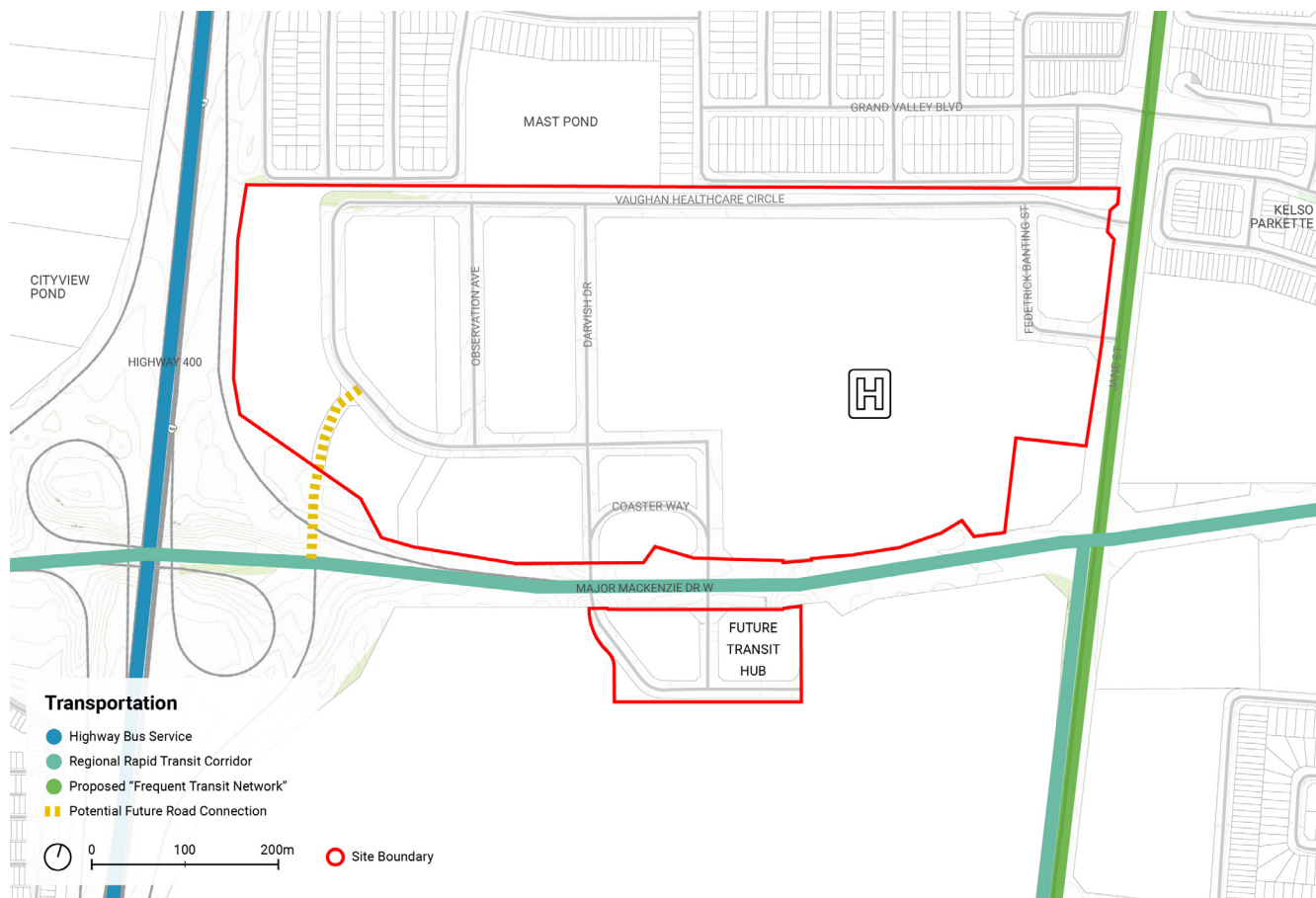


Figure 7: Transportation, Active Transportation and Connectivity Diagram

# 6.0

## NEXT STEPS



Informed by the background documents and key inputs included within this Planning Context Background Memo and in conjunction with additional background reporting and research (e.g. preliminary market demand report, best practices report, etc.), the final step in Phase 1 will be to develop the Existing Conditions and Opportunities Summary Report. The Report will include the following items, among others:

- High-level review of **change agents** that may influence the **future development and build-out** of the VHCP;
- Analysis of **economic development opportunities**;
- Identification of **barriers and/or challenges** that may impact Vaughan's ability to achieve the objectives for the VHCP; and
- Detailed **analysis of strengths, weaknesses, opportunities and threats**.

In Phase 2A, Sajecki Planning will develop two (2) preliminary concepts for further investigation and testing. A Planning Justification Report for the proposed plan(s) will also be prepared reflecting Official Plan, Secondary Plan and Zoning By-law policies as outlined in this Memo.

Throughout all Phases, Sajecki Planning will work with project team members to provide planning expertise, recommendations and input, as required.

## **Appendix B    Municipal Strategic Documents: Economic & Employment Research**

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## York Region Employment and Industry Report

**Key Takeaway** – Employment growth in York Region has been strong over the past ten years, including in the health care and social assistance, and professional, scientific and technical services sectors

The York Region Employment and Industry Report is an annual release, which updates the Region's overall employment standing. This provides benchmarking against previous year's performance, as well as cross-jurisdictional analysis for certain metrics.

The 2019 release demonstrates that York Region continues to add new employment positions, growing by 2.2% across 2019 to support over 650,000 jobs in total. The *professional, scientific and technical services* sector continues to be one of the largest areas of employment in York Region, in addition to positions in *health care and social services*. Within these sectors are potential employment positions that would be responsible for driving innovation and research at the VHCP; either as a function of net new growth to the Region or with respect to Vaughan potentially capturing a greater share of current employment and business activity in these sectors.

Moving forward, the report notes that business and job growth has been supported by recent and planned public transit investments, which have particularly strengthened the region's corridors and centres. Continued investment in transit, and other initiatives which strengthen corridors and centres will be important elements towards attracting business activity. The report also identifies a well educated and highly skilled workforce as important elements to supporting employment and business growth, however access to affordable housing is noted in particular as a key challenge.

## York Region Economic Development Action Plan: 2020-2023

**Key Takeaway:** The report identifies three key areas of focus over 2020-2023: (i) supporting existing local businesses, (ii) fostering innovation and start-up ideas, and (iii) attracting, retaining talent to York Region.

The York Region Economic Development Action Plan is a strategic document, which guides investments and resource allocations made by York Region with the purpose of promoting economic activity across the Region. It represents the priorities of the Region's members, advances on the plans of previous action plans and monitors progress.

The plan notes that York Region is home to one of the most educated populations in Canada, and the highest per capita concentration of employment in technology-based professions in Southern Ontario. The Region has a strong employment base which can be leveraged to continue to attract, retain and grow employment opportunities in the Region.

The Region's priorities in this action plan include three key areas, including enhancing support for existing local businesses, creating an environment conducive to innovation and start-up development, and attracting and retaining skilled employees to York Region. To do this, the Region is pursuing several investments and strategies in support. These included allocating resources to match talented employees to local businesses, and pursuing opportunities to attract post-secondary institutions to municipalities located within the Region.

Lastly, the Region is working with municipalities, and provincial and federal partners in efforts to attract foreign investment and businesses to York Region.

## Economic Development Strategy (City of Vaughan, 2011)

**Key Takeaway:** The report focuses efforts on attracting businesses and industries in economic sectors where there is convergence across different disciplines. One of the two key areas identified is *Innovative Research*, which involves skilled workers in both professional services and education sectors.

Vaughan's Economic Development Strategy was prepared in 2011, to guide development to 2021. The purpose of the document is to provide a blueprint for economic sustainability and support for Vaughan's longer-term economic health. As the horizon of this particular document approaches, it is important to understand the direction and groundwork that it has laid for policy direction over the preceding decade.

The report notes that historically Vaughan has benefitted from being an 'edge-city'—a major gateway connected by high quality transportation infrastructure to a broader urban area. This has drawn a range of logistics and warehousing-based companies to Vaughan. Vaughan has always had ambitions as a business incubator, an ideal place to start and grow a small business with strong support from the municipality.

In terms of attracting new investment and businesses, Vaughan has emphasized a focus on drawing new businesses in areas described as *Innovative Research Development and Design* and *Advanced Goods Production and Movement*. These areas are broadly understood to be fields of convergence, where multiple different, commercial activities occur. For example, attracting health innovation organizations may also leverage spin-off businesses in various global public health and technology fields. It is felt that this approach can reinforce the establishment of clusters and concentrations of employment within a geographic boundary.

## 2019 to 2023 York Region Strategic Plan

**Key Takeaway:** York Region’s Strategic Plan is aligned with the VHCP’s goals of establishing an innovation-driven industry cluster in a concentrated location.

The York Region Strategic Plan’s purpose is to create a common focus and set of priorities for the Region that aligns service delivery and resource allocation. The priorities identified contain specific goals, and measurable outcomes in order to monitor progress and ensure accountability. For this update, the priorities include: increasing economic prosperity, supporting community health, safety and well-being, building sustainable communities and protecting the environment, and delivering trusted and efficient services.

The development of the VHCP advances a range of these policy goals. Specifically, several of the outcomes pursued are economic-focused in nature, however the VHCP could also support direction pertaining to community health and sustainability, in particular. Specifically, the VHCP will play a significant role in establishing economic relationships between various stakeholders, and could be a factor in drawing new businesses to the area. Furthermore, the buildout of this node will further concentrate employment and commercial activity in nodes, contributing to the creation of complete and sustainable communities.

In order to further advance the Strategic Plan as it relates to the VHCP, continued investments should be made in improving transportation infrastructure in the surrounding area. Furthermore, investments in marketing, business consulting and relationship management could enhance the draw and attention given to the VHCP.

## Economic Development and Employment Sector Study (2019)

**Key Takeaway:** Vaughan is well-positioned to attract service-based employees and enterprises, primarily planned to be concentrated at the Vaughan Metropolitan Centre. Continued investment in creating walkable, mixed-use, engaging urban areas that are connected by higher-order transit will be a key determinant in what areas will develop as commercial nodes.

This study is intended to provide a contextual analysis of the market across the GTA, and Vaughan’s current positioning. It further provides a roadmap and strategic direction which could be undertaken to position Vaughan’s nodes and corridors as the most attractive sites for investment in the region. The study reports that Vaughan’s employment base is healthy, and that there is a well-educated, highly skilled and growing population in Vaughan. Currently, there is a significant outflow to employment opportunities outside of the municipality.

The report reinforces earlier findings, which indicate that recent (i.e. previous 10 years) demand for office space in the GTHA has increasingly been focused in Toronto, particularly downtown. Demand for suburban, standalone style office space traditionally found in Vaughan has declined, as employees are more actively identifying a preference for mixed-use environments that are transit accessible, walkable and close to other amenities. The report notes that there is still demand for these suburban-style office models for medium or larger organizations, or for multi-purpose facilities (i.e. those that can accommodate laboratories, research and development, and traditional office space in one building).

The study further identifies several strategic initiatives and recommendations for the city to provide a strong supportive environment for employment opportunities. These include promoting the development of collaborative spaces, smart city initiatives and working with the business community to ensure that local entrepreneurs have access to capital, incentives and infrastructure. An additional emphasis on attracting and growing international business connections in Vaughan and finding global trade opportunities for small and medium sized businesses.

Lastly, the report emphasizes investments to attract and support commercial and experiential development and the Vaughan Metropolitan Centre. Moving forward, it will be important to understand and clarify the relationship between the VMC and the VHCP, and ensure that adequate resources and attention are provided to the VHCP to ensure that it can successfully advance its' mandate.

## York Region Future Employment Trends Study (2019)

**Key Takeaway:** Knowledge-based service industries are expected to lead employment growth in York Region. These businesses are expected to follow broader trends and prefer to locate in amenity rich, dense and walkable urban environments.

In 2019, a third-party consulting firm was retained by York Region to analyze broader employment trends and their implications on regional development patterns. This exercise was intended to inform anticipated employment patterns across York Region which will serve as a strategic guide for regional decision makers.

The study found that York Region has evolved from a traditional manufacturing-dominated economy to one where technology and knowledge-related sectors are emerging as the primary growth drivers. Manufacturing continues to play a significant role in the Region, however the majority of new employment growth is occurring in knowledge-based services.

Over the short-term, the majority of demand, and office space for these uses is likely to be supplied in Downtown Toronto. However, the report notes that over the medium term, cost and low vacancy rates in the core are likely to result in some demand being drawn to areas outside of the city,

including to York Region. In particular, the report suggests that growth would likely be generated from technology related sectors, professional services, and population related activities.

The report also suggests that in order to attract these knowledge-based uses, areas must provide certain amenities and an attractive environment for employees. This includes providing nodes that are accessible by public transit and active forms of transit, walkable, urban environments, and proximity to interesting restaurants and cafes. Currently, the report notes several nodes in York Region that are viewed as opportunities to accommodate office development, including the Vaughan Metropolitan Centre, Markham Centre, and Langstaff. By making active investments at the VHCP, the partnership group can prepare the VHCP to accommodate longer-term demand growth that is anticipated in York Region.





## Appendix C Real Estate Market Research

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urbanMetrics has considered market trends and development patterns in Vaughan for various real estate asset classes. It is important to note that the purpose of this exercise does not necessarily suggest that these uses are being contemplated for the subject site. Rather, this work provides a broad understanding of how the nature of development and growth patterns in Vaughan are changing. This information establishes a baseline understanding of the relative vibrancy and health of Vaughan's economy, likely growth opportunities, and the general urban evolution the City is undergoing. Establishing this understanding is an important first step in creating reasonable expectations for private market activities which could be accommodated at the VHCP.

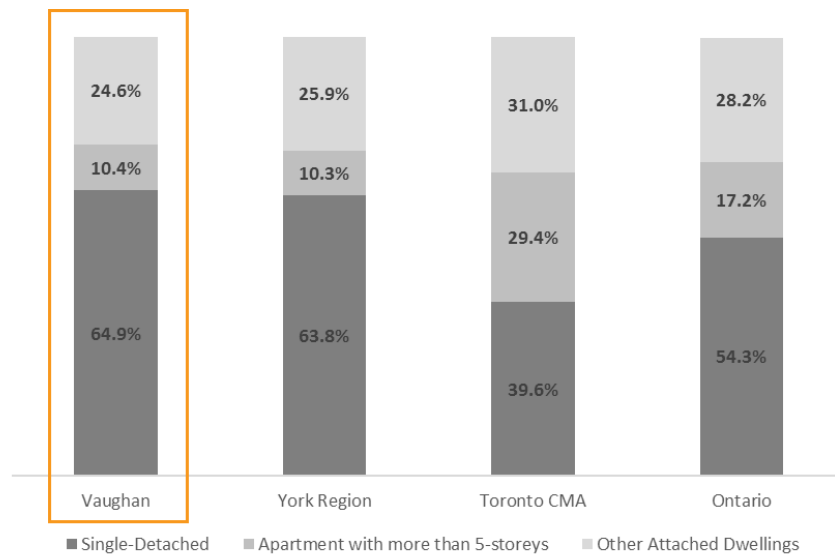
## Residential Market Profile

In addition to the demographic data collected in previous sections of this report, urbanMetrics has assessed the composition, type and tenure of the housing stock within Vaughan. These figures are intended to provide an understanding of the dominant residential built form in Vaughan, the nature of homeownership, as well as trends related to the provision of these housing forms in the City.

Figure C-1 shows dwelling unit types in Vaughan and other jurisdictions based on the 2016 Census. As shown, Vaughan and York Region more broadly contain a nearly identical breakdown of unit types. The vast majority in each case—almost 65%—are single-detached properties. This differs considerably from the broader allocation across the Toronto CMA, and seen across Ontario. The Toronto CMA shows some 39.6% of all dwellings are single-detached, whereas 29.4% are apartment buildings, and the remaining 31.0% are other attached dwellings (i.e. townhomes, semi-detached units, stacked apartments etc.).

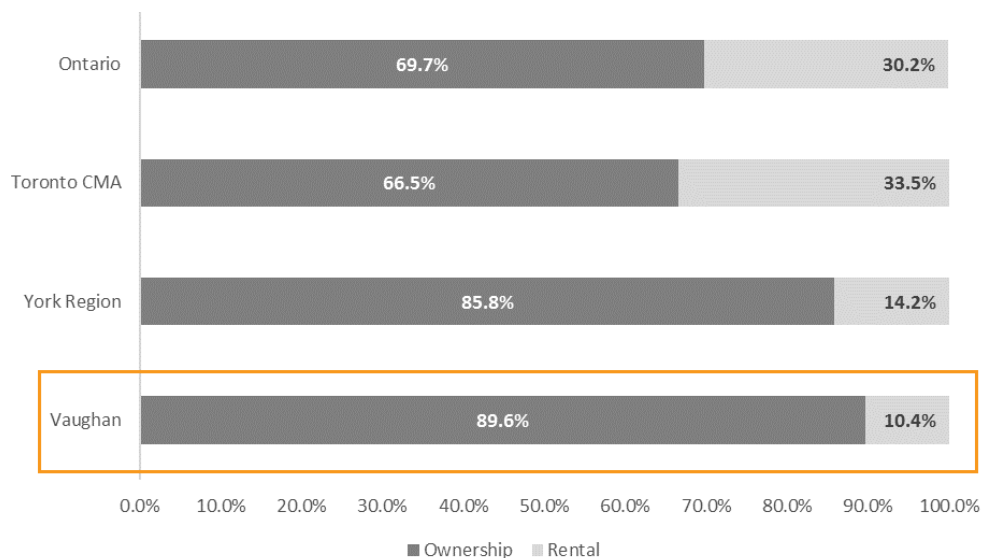
Clearly, Vaughan, and the broader York Region, are far more suburban in their built form and structure; generally lower density than the Toronto CMA. This housing composition may be attractive to certain segments of the population, however may create affordability, transportation and lifestyle challenges for others.

Figure C-1 shows the breakdown of residential units by dwelling type. Vaughan's development patterns are generally consistent with York Region more broadly. That is, Vaughan contains a significantly higher proportion of single-detached residential stock than the broader Toronto CMA, and Ontario more generally. There is significant opportunity to diversify the housing stock in Vaughan to support more concentrated development, and to provide a greater diversity of residential built form in a manner that could be more responsive to a range of housing need. This shift is largely under way, including at specific high-density nodes like the VMC.

**Figure C-1: Dwelling Unit Type**

SOURCE: urbanMetrics inc., based on Census of Canada.

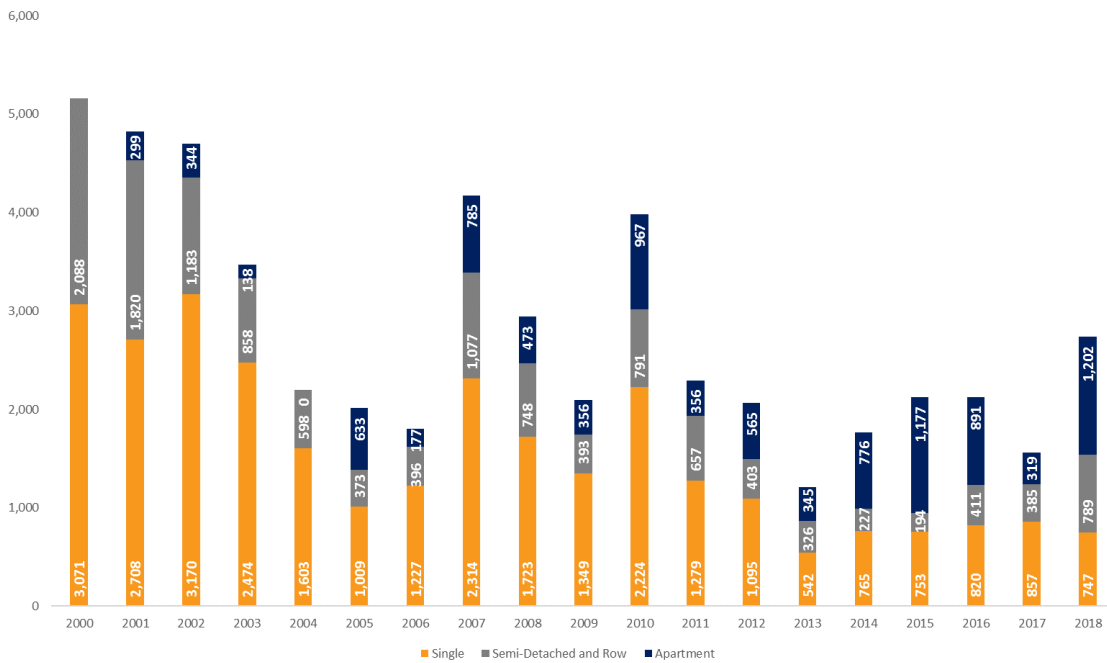
Figure C-2 further shows the breakdown of households by tenure (i.e. ownership vs. rental households). Based on the results shown, York Region, and Vaughan specifically, contain a disproportionately high number of homeowners when compared to the average shown across the Toronto CMA and Ontario more broadly.

**Figure C-2: Households by Tenure**

SOURCE: urbanMetrics inc., based on Census of Canada.

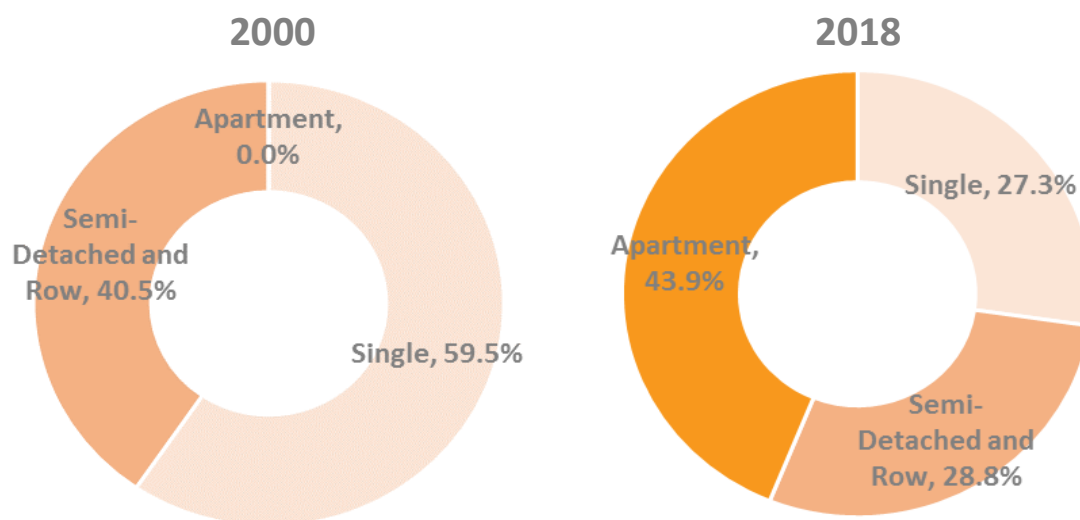
The composition and supply of residential product in Vaughan has changed significantly since 2000. Based on annual housing completion data for the Vaughan market, there has been a clear change in the delivery and scale of residential supply offered in the Vaughan market. As shown in Figure C-3, as of 2000, almost 60% of completed housing in Vaughan was single detached housing. Similarly, there were no apartment units completed in that year. Overall, in 2000, a total of 5,159 residential units were provided, the highest total of all years surveyed.

**Figure C-3: Housing Completions by Unit Type**



SOURCE: urbanMetrics inc., based on Canada Mortgage and Housing Corporation.

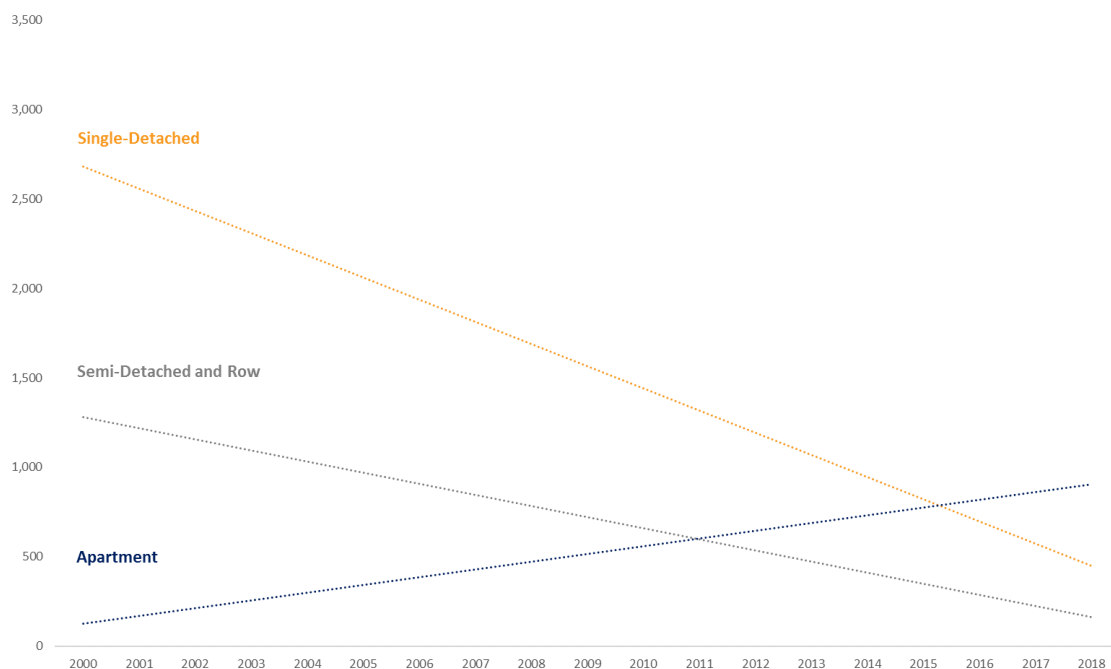
Figure C-4 further demonstrates the composition of residential units completed in 2000 and 2018. As shown, in 2000, some 59.5% of the 5,159 residential units completed were single-detached properties. There were no apartment units completed in Vaughan in 2000. Alternatively, in 2018, only 27.3% of units completed were single detached properties. The majority of units completed in 2018 were apartment units. This dramatic shift in units provided to the market represents a difference from the traditional growth patterns dictated in Vaughan. Furthermore, the consistent production and absorption of units other than single-detached properties suggests that there is a growing market acceptance of these housing forms in the Vaughan market.

**Figure C-4: Unit Completions by Year**

SOURCE: urbanMetrics inc., based on Canada Mortgage and Housing Corporation.

Figure C-5 below shows the linear trendlines of new completions for residential unit types provided in Vaughan. As shown, over the 2000 to 2018 period, there has been a steep and pronounced decline in the provision of single-detached housing. Similarly, the provision of semi-detached and row housing has also shown a less pronounced drop-off. Alternatively, new apartment units are growing in supply and the trendline indicates that they are becoming an increasingly prominent part of Vaughan's new housing mix.

This pronounced shift in housing completion data could be attributable to a variety of factors. Changes in municipal and provincial policy emphasizing intensification and high-density could have altered development conditions. Additionally, as Vaughan has emerged into a significant municipality within York Region and the Greater Toronto Area, it has evolved from a bedroom community servicing Toronto into a mature municipality that draws residents and employees for a range of reasons. As this evolution has occurred, housing needs could have evolved to reflect new demand patterns. Lastly, significant transit investments have been made in Vaughan, with bus-rapid transit, GO Transit and TTC service improving significantly over the past 20 years. These investments could have had subsequent impacts on housing demand patterns.

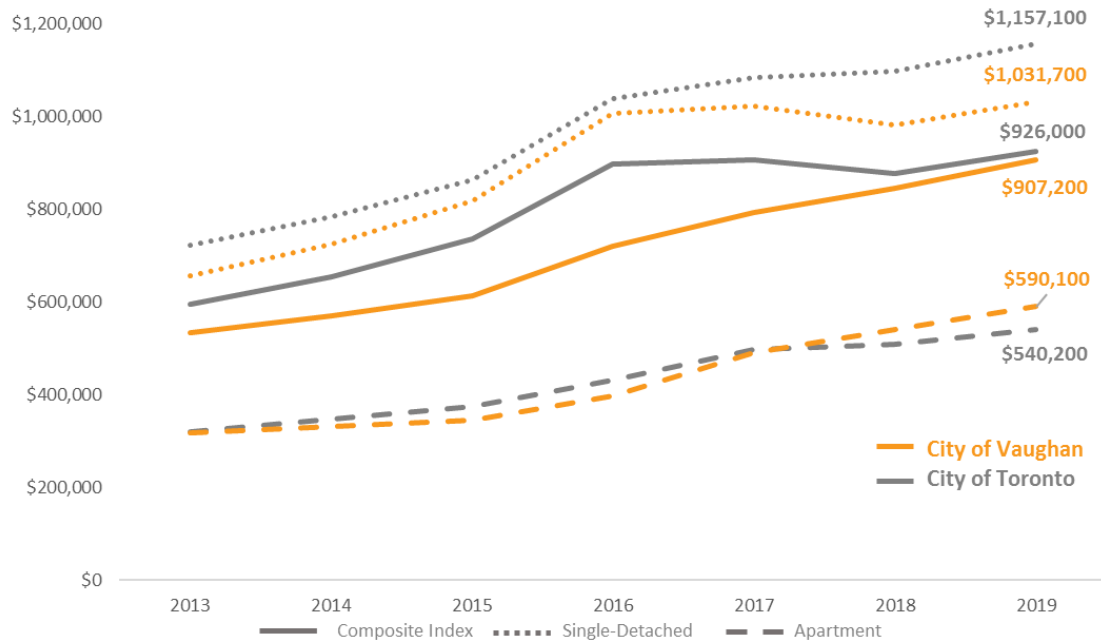
**Figure C-5: Housing Completions Trendlines**

SOURCE: urbanMetrics inc., based on Canada Mortgage and Housing Corporation.

## Ownership Sphere

Based on data collected from the Toronto Real Estate Board, the benchmark prices for various housing forms in Vaughan have been compared to the City of Toronto rates. As shown in Figure C-6, the broader rate of increase in residential property pricing is generally consistent with the growth profile across Toronto. The benchmark price for single detached homes in Vaughan in December of 2019 was slightly over \$1.0 million, trading marginally below the \$1.2 million level in the City of Toronto. Alternatively, the benchmark rate for apartment units in Vaughan is just over \$590,000, almost \$50,000 higher than the rate in Toronto.



**Figure C-6: Residential Property Prices by Asset Type**

SOURCE: urbanMetrics inc., based on Toronto Real Estate Board year over year statistics benchmark sales prices ending December.

Property prices in Vaughan have followed a similarly rapid growth profile to those found in the City of Toronto, and indeed across the broader Greater Toronto Area. Although in some property types Vaughan's pricing benchmark is slightly below the City of Toronto figure, the City of Vaughan still faces significant affordability challenges, as ownership opportunities are unlikely to be attainable by a significant portion of the population.

## Rental Sphere

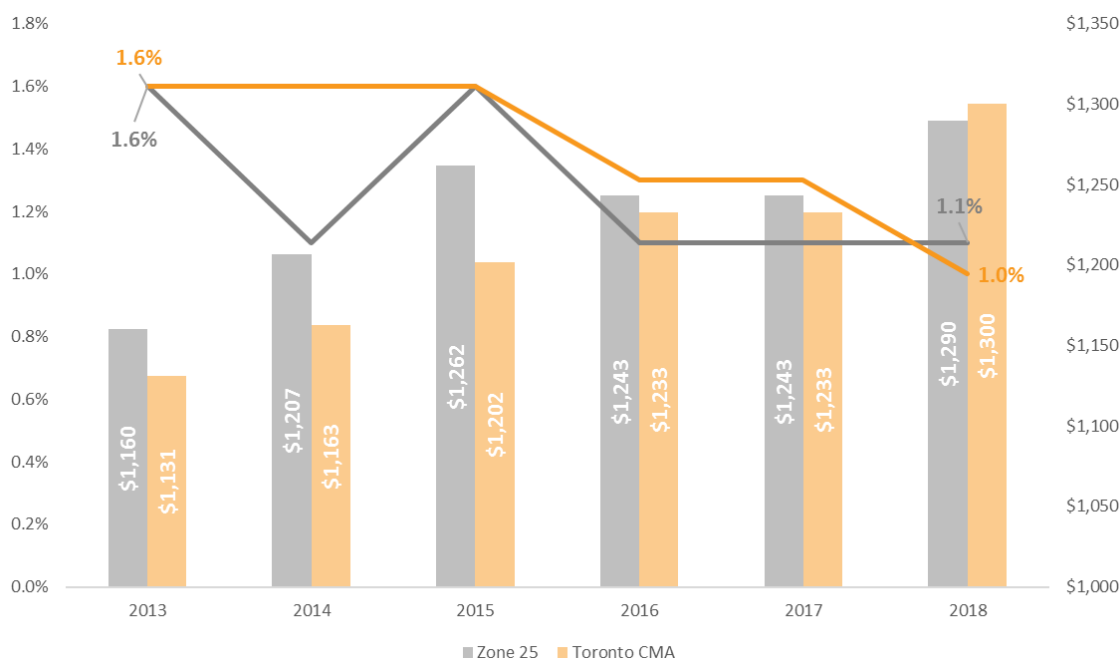
Based on CMHC data, we have considered the availability, supply and average rent of rental units within Vaughan and across the Toronto CMA. Due to data limitations, the geography considered is CMHC's defined 'Zone 25,' which includes Vaughan, Richmond Hill and King City. For the purposes of this analysis, it is our view that this broader geography provides a reasonable approximation of the market conditions within the City of Vaughan and particularly as it relates specifically to the VHCP, which is not necessarily expected to include a significant new supply of housing, if any.

As shown in Figure C-7, the average rental rate in the broader Zone 25 geography in 2018 is almost \$1,300. This figure includes the average across all rental units, including those currently occupied by tenants, and those being marketed to new tenants. As shown, rental rates are generally increasing

across the geography surveyed, and fall essentially in-line with broader averages demonstrated across the Toronto CMA.

Vacancy rates across both the Toronto CMA and Zone 25 are extremely tight, and continuing to decline. The reported 2018 vacancy rate in Zone 25 was some 1.0%, slightly below the 1.1% reported across the Toronto CMA. These market conditions suggest a clear supply-demand imbalance, and the need to increase the supply of rental housing stock to meet expanding demand.

**Figure C-7: Rental Universe Vacancy and Average Rental Rates**



SOURCE: urbanMetrics inc., based on CMHC Rental Market Reports from 2014-2018.

NOTE: Zone 25 includes the following municipalities: Vaughan, Richmond Hill and King City.

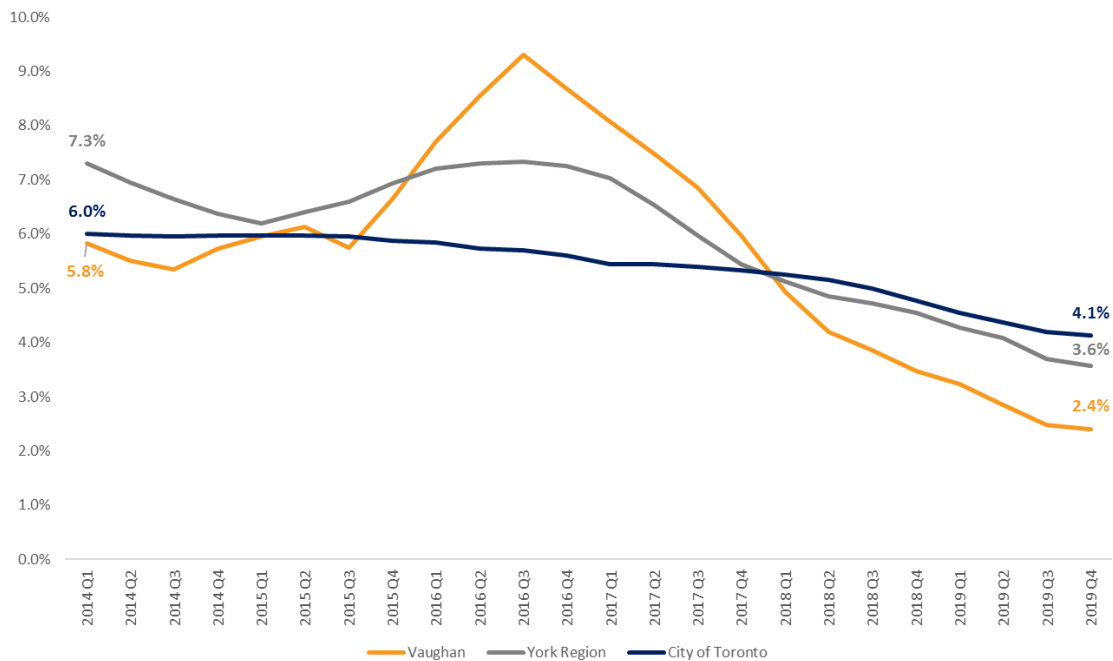
NOTE: Data reflects primary and secondary market data, which includes “rental units in privately-initiated apartment structures containing at least three rental units.” The secondary rental market includes “dwelling that were not originally purpose-built for the rental market, including rental condominiums.”

## Office Market Profile

Figure C-8 shows time series trends of vacancy rates across Vaughan, York Region and the City of Toronto for major office type commercial space. As shown, Vaughan’s office market vacancy rate is 2.4%, as of the fourth quarter of 2019. This is significantly lower than the 3.6% demonstrated across York Region, and 4.1% in the City of Toronto itself. Across all geographies surveyed, demand for office space is clearly outstripping supply, as a healthy and balanced office market typically has a vacancy

rate fluctuating between 5-7%, if not much more. At face value, these metrics generally suggest that there is sufficient demand to support the provision of additional supply of office space in the Vaughan market to correct the notably low vacancy rates.

**Figure C-8: Office Market Vacancy Rates by Geography**



SOURCE: urbanMetrics inc., based on CoStar Realty Services. Based on four-quarter rolling average.

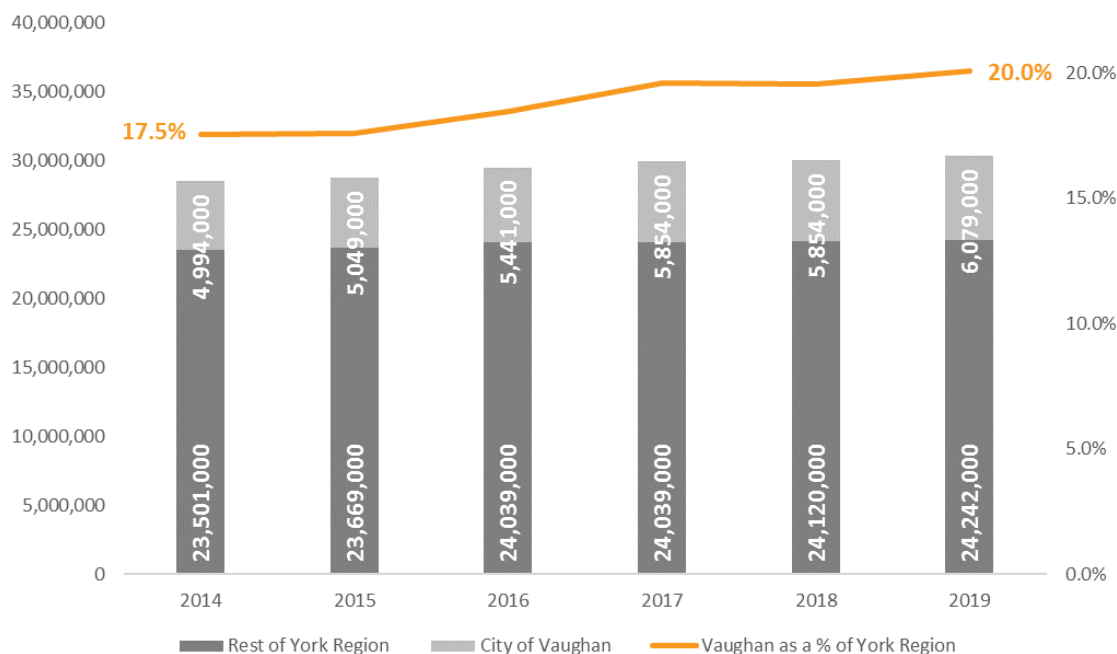
Figure C-9 shows the growth in supply in office space in the City of Vaughan, relative to York Region. As shown, the market has added almost 1.1 million square feet of office space since the beginning of 2014. For a market of Vaughan's size, the addition of over 20% of supply over the period—representing an average annual expansion of 3.6%—demonstrates a significant and consistent rate of growth.

As a point of comparison, the entirety of York Region, inclusive of Vaughan, has added some 1.8 million square feet over the same period, growing from 28.2 million square feet to just over 30.0 million. This represents an annual rate of expansion of just over 1.0%. Figure C-9 demonstrates the overall change in supply across York Region.

Perhaps even more importantly, the graphic below demonstrates that Vaughan is becoming responsible for an increasing share of the total office supply in York Region. In 2014, Vaughan accounted for some 17.5% of total supply, which rose to 20.0% by 2019. As Vaughan increasingly matures as a municipality, and as the Vaughan Metropolitan Centre continues to develop, it is likely

that the municipality will continue to account for an increasingly significant share of office development in York Region.

**Figure C-9: Vaughan Office Market Supply**



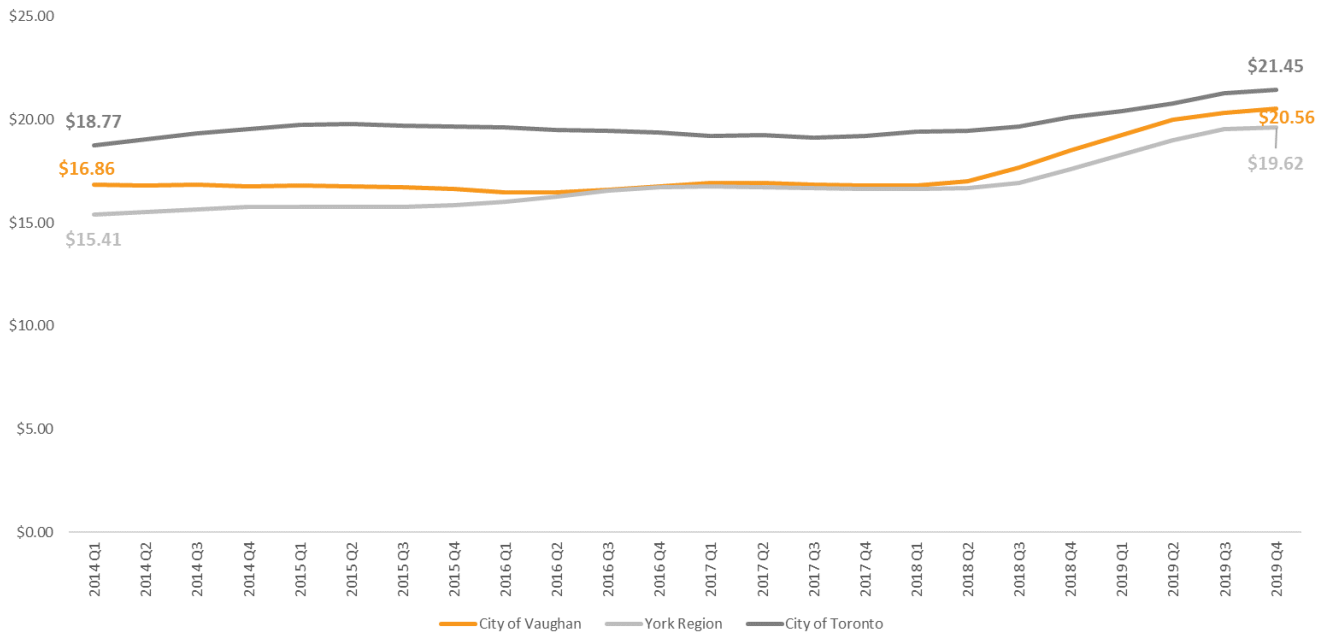
SOURCE: urbanMetrics inc., based on CoStar Realty Services. Figures rounded to the nearest 1,000.

NOTE: Figures based on fourth quarter data from each reported year.

Figure C-10 demonstrates the base rent achieved in each geography. Base rent is an important measure of the relative value and pricing of space in each geography, before taxes and additional fees are considered. As shown, in the fourth quarter of 2019, office property in Vaughan is achieving base rents of \$20.56 per square foot. This falls above the \$19.62 achieved across York Region, however falls below the \$21.45 posted for the City of Toronto. For comparison purposes, the base rents achieved in Toronto's Financial District for the same period was \$33.75 with individual "prime" office spaces commanding even higher rents than this stated blended average.

Since the beginning of 2014, rental rates in Vaughan have increased by 21.9%, a lower rate of increase than the 27.4% demonstrated across York Region. However rental growth experienced in these geographies was significantly higher than the 14.3% rate of increase shown throughout the City of Toronto, which generally serves as a more stable and established office market.

**Figure C-10: Direct Base Rent by Geography**



SOURCE: urbanMetrics inc., based on CoStar Realty Services. Based on four-quarter rolling average.

## Forecast Office Demand

Relying on a number of different statistical inputs, we have prepared long-range forecasts of potential major office employment and space growth across the Greater Toronto Area and Hamilton (“GTAH”) Region. This analysis considers average office employment densities for each of the GTA/H municipalities identified, as well as long-term employment growth forecasts for the GTA/H based on the latest “reference” growth scenario identified as input to the Ontario Growth Plan for the Greater Golden Horseshoe, as prepared by Hemson Consulting Limited (“Hemson”). Although it is our opinion that these forecasts are overly conservative and likely under-estimate the amount of population and employment growth that is likely to occur within some of the municipalities identified—namely the City of Toronto—the forecasts nonetheless provide a reasonable measure of the total employment growth that could occur across the entire Region by 2041.

Figure C-11 provides a detailed summary of the forecasts considered as part of this assessment, including the major office employment forecasts prepared by Hemson, as well as our application of average physical space requirements for office-based workers (i.e., space per worker factors).

**Figure C-11: Regional Office Employment Growth Forecast (2011 – 2041)**

AREA	VARIABLE	YEAR				PERIOD GROWTH	GROWTH RATE	SHARE OF GROWTH
		2011	2021	2031	2041			
Region of Durham	Office Employment	8,500	14,800	23,790	34,610	26,110	307.2%	6.4%
	Square Feet	1,700,000	2,960,000	4,758,000	6,922,000	5,222,000	307.2%	5.1%
	Square Feet per Employee	200	200	200	200	-	-	-
Region of York	Office Employment	79,470	115,870	142,340	174,810	95,340	120.0%	23.4%
	Square Feet	19,867,500	28,967,500	35,585,000	43,702,500	23,835,000	120.0%	23.3%
	Square Feet per Employee	250	250	250	250	-	-	-
City of Toronto	Office Employment	604,580	664,880	695,860	734,030	129,450	21.4%	31.8%
	Square Feet	126,961,800	139,624,800	146,130,600	154,146,300	27,184,500	21.4%	26.5%
	Square Feet per Employee	210	210	210	210	-	-	-
Region of Peel	Office Employment	109,650	145,470	169,740	199,500	89,850	81.9%	22.0%
	Square Feet	30,702,000	40,731,600	47,527,200	55,860,000	25,158,000	81.9%	24.6%
	Square Feet per Employee	280	280	280	280	-	-	-
Region of Halton	Office Employment	25,360	41,380	53,510	68,390	43,030	169.7%	10.6%
	Square Feet	7,608,000	12,414,000	16,053,000	20,517,000	12,909,000	169.7%	12.6%
	Square Feet per Employee	300	300	300	300	-	-	-
City of Hamilton	Office Employment	14,970	22,100	29,580	38,750	23,780	158.9%	5.8%
	Square Feet	5,089,800	7,514,000	10,057,200	13,175,000	8,085,200	158.9%	7.9%
	Square Feet per Employee	340	340	340	340	-	-	-
GTAH	Office Employment	842,530	1,004,500	1,114,820	1,250,090	407,560	48.4%	100.0%
	Square Feet	191,929,100	232,211,900	260,111,000	294,322,800	102,393,700	53.3%	100.0%
	Square Feet per Employee	228	231	233	235	-	-	-

SOURCE: urbanMetrics inc., based on the “reference” employment projections prepared by Hemson Consulting Limited as input to the Province of Ontario’s Growth Plan, as summarized in Hemson’s technical report addendum of June 2013.

Based on the forecasts provided above, we estimate that the GTAH Region will see its 2011 inventory of office space increase from 192 million square feet to approximately 294 million square feet by 2041. Based on a projected total increase of 407,560 new office jobs in the GTAH, this will drive **regional demand for an additional 102.4 million square feet of new major office space** over the next 30 years<sup>4</sup>.

Of this total, the Provincial forecasts allocate approximately 23.3% of the potential regional office space growth to York Region, of which a significant portion will be delivered within the City of Vaughan. However, given our extensive experience evaluating the market for office space in Downtown Toronto and across other parts of the GTA, we note that the majority of recent office space development activity continues to be primarily concentrated within the City of Toronto. Similarly, Hemson’s own more recent work as part of evaluating the potential future growth

<sup>4</sup> These projections assume that office employment densities will generally remain constant over the forecast period. Alternatively, if floor space-per-worker ratios were to continue to trend downwards—which is possible given recent office utilization patterns in the Canadian office market, and specifically within the GTAH—the total additional space required throughout the region by 2041 would be somewhat lower. Similarly, these forecasts are based exclusively on the Hemson projections, which we believe to present an overly conservative estimate of future growth in this area.

trajectory within Downtown Toronto contemplates a more concentrated and accelerated growth condition within this primary business centre of the GTA.

Of the remaining office space growth to be delivered outside of the City of Toronto, the majority of the new development is likely to be drawn to selected locations, including major transit/transportation hubs, along key 400-Highway corridors and other emerging “downtown” type areas (e.g., Vaughan Metropolitan Centre, Markham City Centre, etc.).

With respect to specific growth allocations in Vaughan, it is generally our view that that majority of office supply and demand attracted to the City will be primarily drawn to Vaughan Metropolitan Centre as the primary focal point for employment. Ongoing investments in creating a downtown, coupled with transit initiatives and streetscaping will continue to reinforce the VMC as the primary office node in Vaughan, one of the primary nodes across York Region.

There may be some ancillary opportunity to capture sector-specific or more differentiated office users in the broader VHCP, in addition to adjacent traditional health office type uses.

For example, adjacent offices for global public health I-research, medical-technology, medical-oriented education, and associated professional endeavours could be drawn to potential new office space within the VHCP. However, it is our view that larger, “major-office” type uses will first and foremost seek space in the primary office nodes throughout the Region, including Downtown Toronto and the Vaughan Metropolitan Centre.

It is also important that the City of Vaughan be cognizant of the potential to ‘cannibalize’ potential office growth which could locate at the VMC and instead chooses a site in the VHCP.

Although in our view it is reasonably unlikely that the two locational options would be viewed as interchangeable, there may be situations in which both locations represent viable options for prospective tenants. Therefore, it is important that the municipality have a strong understanding of the unique value proposition offered at each site, and the general direction, attraction and nature of uses that are planned to locate on both the VMC and VHCP lands.

## Retail/Service Commercial Market Profile

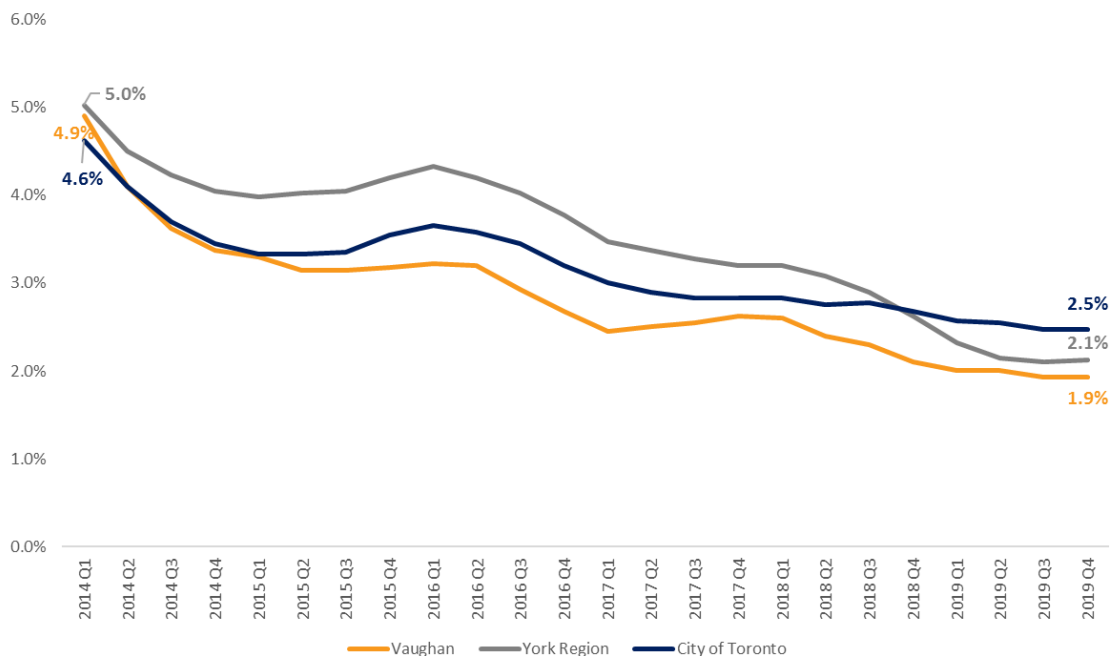
Figure C-12 shows the trend in vacancy rates for retail/service commercial space in Vaughan, York Region and across the City of Toronto. As shown, the prevailing trend across all geographies over the survey period has demonstrated a clear decline in available space for commercial uses. Vaughan in particular has shown tight demand, with a vacancy rate of only 1.9%. Comparatively, the City of



Toronto is experiencing a rate of 2.5%, and York Region a rate of 2.1%. Across the Greater Toronto Area, all metrics shown provide what is typically an indication that the current supply of retail/service commercial space is not meeting demand, as vacancy rates are extremely low.

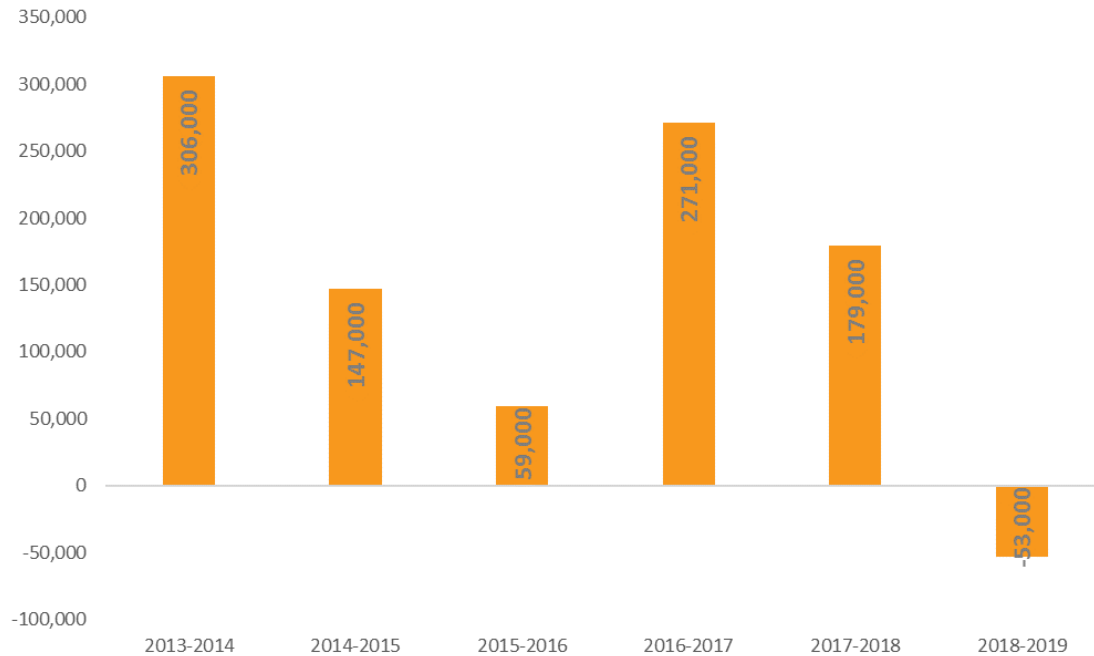
While this could largely be a function of significant growth in residential product outpacing that of retail/service commercial type spaces, it is also important to note that any future considerations for commercial expansion/contraction in Vaughan will be more a matter of quality than quantity (i.e., focusing more on the specific *type* of retail in terms of different store categories and delivery *format*, “right-sizing” of commercial spaces to individual community nodes, etc.). This is particularly true in light of the recent and ongoing evolution of the retail sector in response to high density, mixed use development, e-commerce, and countless other relevant industry trends.

**Figure C-12: Retail/Commercial Vacancy Rates**



SOURCE: urbanMetrics inc., based on CoStar Realty Services. Based on four-quarter rolling average.

Figure C-13 demonstrates the change in supply of retail/service commercial space within the City of Vaughan between 2013 and 2019. Over the surveyed time period, Vaughan has seen a net addition of slightly over 900,000 square feet of commercial space. On average this represents a growth of some 100,000 square feet annually. As of the fourth quarter of 2019, Vaughan has a total of some 17.1 million square feet of retail/service commercial space.

**Figure C-13: Retail/Service Commercial Space Growth in Vaughan**

SOURCE: urbanMetrics inc., based on CoStar Realty Services.  
 Figures rounded to the nearest 1,000.

In the context of the VHCP, we generally do not anticipate that there will be any significant or meaningful concentration of retail/service commercial space. Rather, this type of use will generally help to service the convenience needs of on-site employees within the VHCP and also serving more of a place-making or amenity-based function.

## Hotel/Accommodations Market Profile

In addition to the residential and non-residential uses evaluated previously, urbanMetrics has considered the existing supply and potential market opportunity to support additional hotel/accommodation uses in Vaughan and at the VHCP. The following analysis considers the existing supply, proposed hotel developments, and the ability of the population and tourism flows into Vaughan to support additional accommodation facilities.

### Current Supply and Market Performance

urbanMetrics has conducted a desktop review, as well as a review of exercises previously conducted on behalf of the City of Vaughan, of the existing supply of hotel facilities in the community. Based on

this work, there is a total of some 16 accommodation facilities in the Vaughan market, containing a total of an estimated 1,844 rooms. Figure C-14 demonstrates the geographic location of each facility within Vaughan, and in relation to the Hospital Precinct.

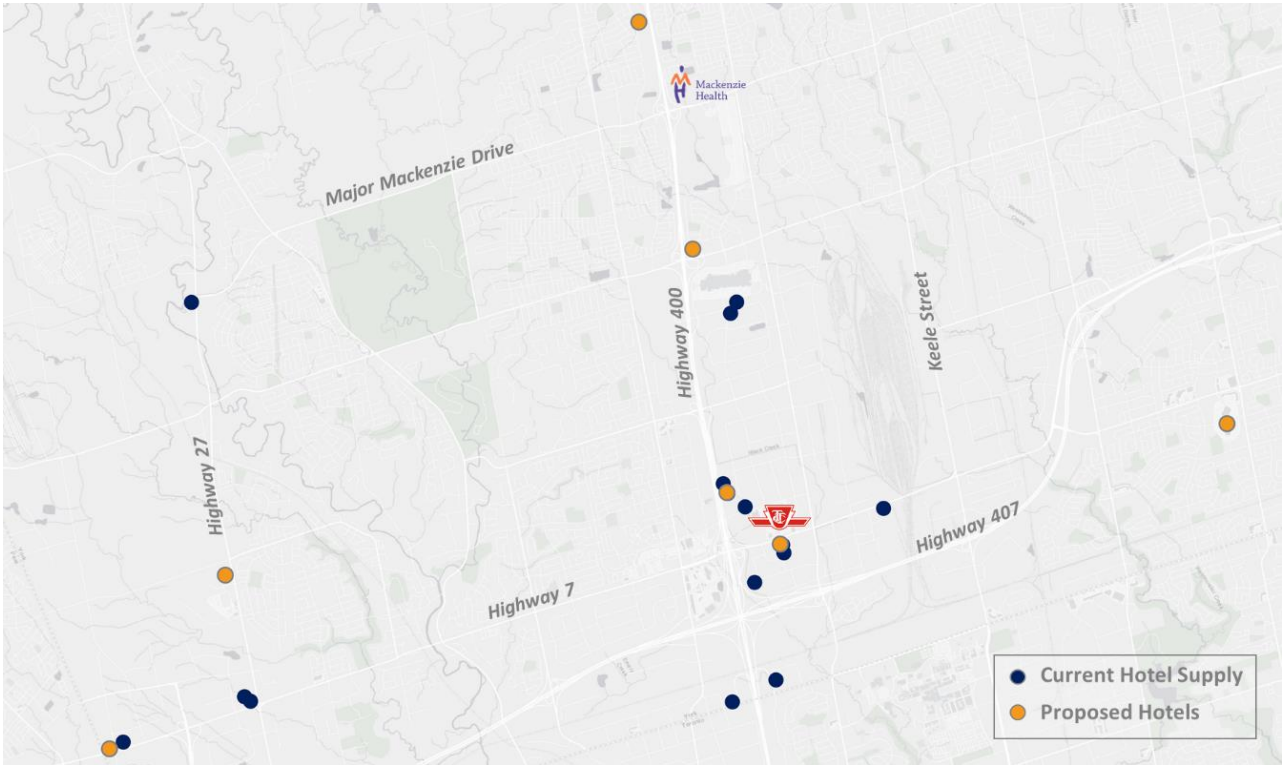
**Figure C-14: Accommodation Facilities in Vaughan**

Index	Name	Location	Room Count
1	Extended Stay Deluxe	3600 Steeles Avenue W	188
2	Super 8 Motel Vaughan	3400 Steeles Avenue W	85
3	Courtyard by Marriott Vaughan	150 Interchange Way	144
4	Hilton Garden Inn	3201 Highway 7	155
5	Residence Inn	11 Interchange Way	132
6	Holiday in Express SW	6100 Highway 7	125
7	Homewood Suites	618 Applewood Crescent	140
8	Novotel Vaughan Centre	200 Bass Pro Mills Drive	149
9	Springhill Suites Vaughan	612 Applewood Crescent	175
10	Aloft Vaughan Mills	151 Bass Pro Mills Drive	131
11	Element Southwest	6170 Highway 7	152
12	Monte Carlo Inn	705 Applewood Crescent	132
13	Kleinburg Inn	9770 York Regional Road 27	28
14	Vaughan Inn	6700 Highway 7	51
15	New Woodbine Motel	7242 Highway 27	20
16	Pinecrest Motel	2641 Highway 7 West	37

SOURCE: urbanMetrics inc., based on CBRE Tourism and Leisure, and a supplementary desktop review.

Figure C-15 below further demonstrates where the hotels referenced above are located in Vaughan, particularly as they relate to the VHCP. As shown, the majority of hotels are clustered at the southern edge of Vaughan's municipal boundary, along the Highway 7 corridor. Of note, a single hotel development is proposed at the northern edge of Vaughan's built boundary. This proposal, for a 190-unit Holiday Inn, could provide indirect support for any stays which may be generated by the uses proposed at the VHCP.

Figure C-15: Current and Proposed Hotels in Vaughan

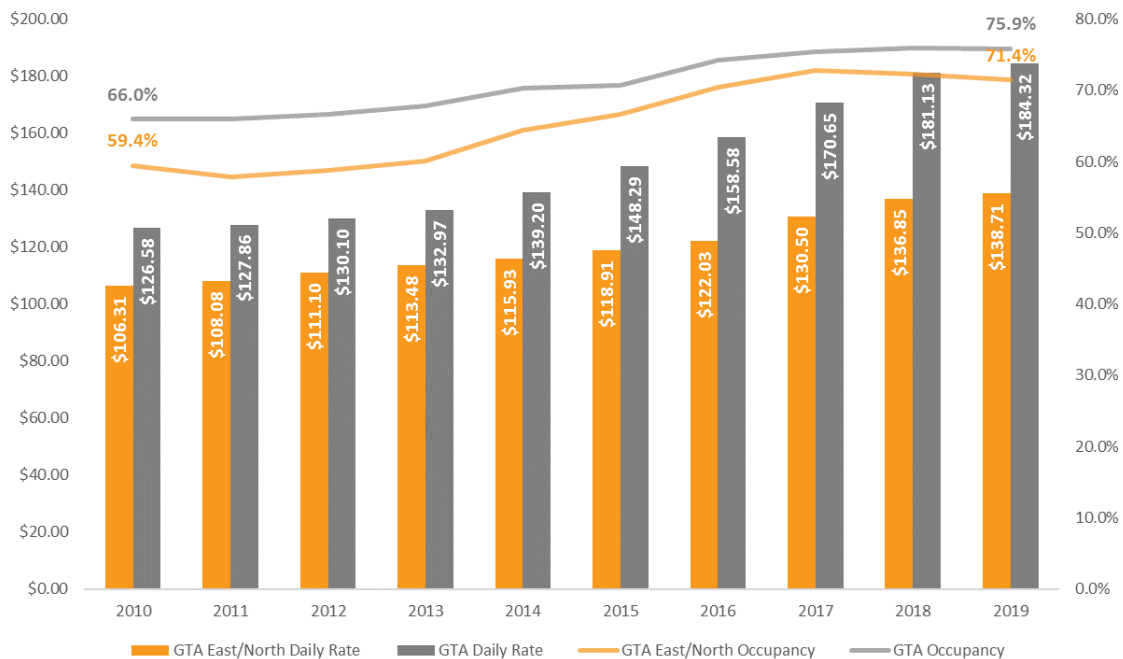


SOURCE: urbanMetrics inc.

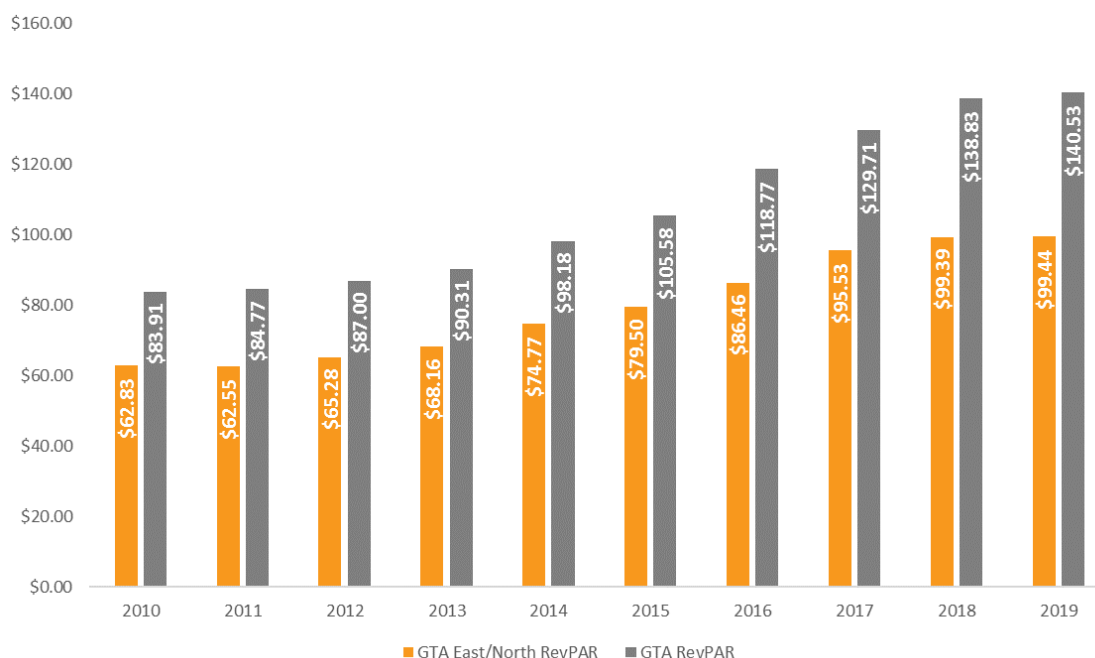
Figure C-16 demonstrates the prevailing average daily rates (“ADR”) and occupancy rates for hotels in the GTA North/East geography, as well as across the GTA. Similarly, Figure C-17 demonstrates the Revenue per Available Room (“RevPAR”) for hotels in the GTA East/North geography and across the entire Greater Toronto Area.

As shown, RevPAR across both geographies has increased significantly since 2010. However, the rate of increase in RevPAR in the GTA East/North geography significantly lags behind that of the broader Region. Between 2010 and 2019, RevPAR increased by 33.5% in the GTA East/North. Over the same period, the rate of increase found across the broader GTA was 41.3%. Therein, RevPAR is growing and, and—independent of regional context—is indicative of a healthy return and strong profit opportunity. However, relative to the broader region, RevPAR is increasing at a slower rate. This finding suggests that there may be either a relative oversupply of hotel rooms in the region, or shifting demand patterns.

**Figure C-16: Average Daily Rate and Occupancy Rates, GTA and GTA East/North**



SOURCE: urbanMetrics inc., based on Ontario Ministry of Heritage, Sport Tourism and Cultural Industries, via CBRE Hotels.

**Figure C-17: RevPAR, GTA East and GTA**

SOURCE: urbanMetrics inc., based on Ontario Ministry of Heritage, Sport Tourism and Cultural Industries, via CBRE Hotels.

## Forecast Hotel Demand

urbanMetrics has undertaken a preliminary demand analysis to understand the adequacy of the existing supply of hotel space in meeting the demands of both the residential population and employment base in Vaughan. It is important to note that although Vaughan is experiencing tourism visitation and attention, the majority of overnight stays are likely to remain concentrated in Downtown Toronto as the primary tourism destination in the GTA. As such, the focus of our analysis is on the demand for rooms emerging from employment related stays, as well as visiting friends and family derived from the location residential population.

Based on previous urbanMetrics work, we have developed benchmark hotel service levels for comparable GTA municipalities, which represent the derived demand from the employment and residential base. Our benchmarking suggests that an appropriate residential service level is 6.0 rooms per 1,000 residents, or for employment-related uses is 12.0 rooms for every 1,000 employees.

Vaughan is currently well served by existing hotel facilities, providing some 1,844 rooms which achieve a service level for residents and employees of 6.08 and 10.94 rooms, respectively. Relative to broader benchmarks, this suggests that supply/demand conditions in Vaughan is quite balanced, or at economic “equilibrium”.

Figure C-18: Hotel Supply Benchmarks

Area	Population	Population (000's)	Employment	Employment (000's)	Hotel Rooms	Rooms/1,000 Residents	Rooms/1,000 Employees
City of Vaughan <sup>1</sup>	306,000	306.00	170,000	170.00	1,860	6.08	10.94
2041 Vaughan Forecast <sup>2</sup>	497,000	497.00	322,000	322.00	1,860	3.74	5.78
GTA East/North	2,053,896	2,053.90	822,727	822.73	10,365	5.05	12.60
GTA West	1,875,109	1,875.11	1,053,591	1,053.59	8,605	4.59	8.17
GTA	6,785,000	6,785.00	3,483,000	3,483.00	44,845	6.61	12.88
Richmond Hill <sup>3</sup>	-	-	-	-	-	4.1	11.1
Mississauga	-	-	-	-	-	5.2	8.4

SOURCE: urbanMetrics inc.

1 Population obtained from 2016 Census of Canada. Employment obtained from 2016 Place of Work Data. Both figures rounded to the nearest 1,000.

2 Estimates based on York Region's 2041 Population and Employment Forecasts, prepared in 2014.

3 Based on previous work conducted by urbanMetrics.

In addition to the hotel supply considered previously, urbanMetrics has considered proposed and projected additional hotel space in the Vaughan market. Based on our high-level review, and information prepared by CBRE, there are **some 1,100 hotel rooms** currently proposed in the Vaughan market. The addition of this future supply is important to consider when evaluating any residual demand for hotel space which may be accommodated on the VHCP.

As shown in Figure C-19, the resulting analysis demonstrates residual demand of between **49-72 rooms**, based on anticipated 2041 population and employment estimates. Based on these metrics, as well as likely additional supply to be added between 2020 and 2041—which has not been publicly identified—it is unlikely that the subject site could support a large hotel presence.

Figure C-19: Residual Hotel Demand Analysis

	Full Build-Out	Less: Existing Supply	Less: Proposed Rooms	Net Change
<b>Total Rooms Required per Employee:</b>				
@ 12 Rooms per 1,000 Employees (Benchmark Rate)	3,009	1,860	1,100	49
<b>Total Rooms Required per Resident:</b>				
@ 6 Rooms per 1,000 Residents (Benchmark Rate)	3,032	1,860	1,100	72

SOURCE: urbanMetrics inc.



It is conceivable that over the next 20 years, market dynamics, demand patterns and forecasts ultimately change to the extent that additional hotel rooms are required to adequately serve the Vaughan market. Furthermore, due to the unique value proposition of the VHCP, there could be highly localized demand for accommodation stays within the precinct. These stays would be derived from visitors to the Hospital, and employment directly located on-site.

Overall, it is unlikely that this potential level of demand would be sufficient to support the creation of a large hotel (i.e. greater than 200 rooms) at the subject site. Instead, if there is sufficient demand, it could be met by surrounding hotels, or by the presence of a medium-sized hotel in the range of 75-125 rooms, subject to the built-out densities of the VHCP.

## Appendix D    Best Practices Research

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## Health and Technology District

### Location:

Surrey, British Columbia

### Date:

Initiated in 2012. First building completed in 2014.

### Background Info:

The Health and Technology District is led by Lark Group, a local developer with significant land holdings adjacent to the Surrey Memorial Hospital. The project is being built out over 8 phases, and is intended to function as a medical and technology hub in the Fraser Valley. To date, two projects have been completed, providing over 350,000 square feet of commercial space. The ultimate vision is to support over 1.5 million square feet of space, and over 15,000 jobs.

The project is supported by the City of Surrey's 2017 City Centre Plan, which identifies the lands as part of the Medical District. Future plans call for direct LRT connections, continued expansion of the Hospital, and investment in fiber optic networks.

### Partnerships:

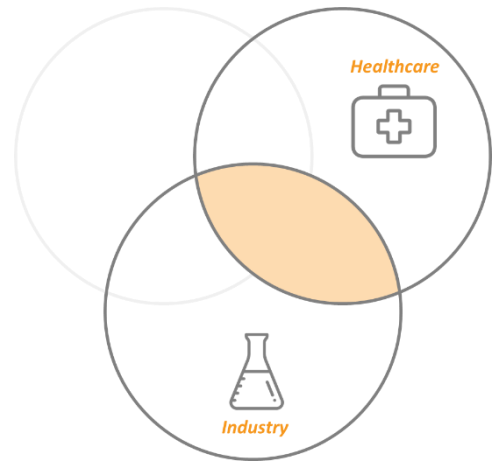
The project has been developed and largely initiated by Lark Group. Subsequent partnerships between the City of Surrey, Fraser Health and local start-ups have since developed.

### Implementation:

The project fits within the City of Surrey's broader development vision for the Medical District. It has been led by private interests, but has succeeded in attracting a significant concentration of medical and technology innovation-based businesses.

### Outcomes and Findings:

This innovation cluster has been largely driven by development interests. Benefitting from a growing technology economy in the Lower Mainland, and proximity to one of the largest hospitals in Canada has presented a desirable opportunity. However, stronger opportunities for collaboration and integration could have been incorporated into the project from the outset. Notably, the absence of a more active post-secondary presence has likely impacted the trajectory of the Health and Technology District. However, broadly speaking, the District appears to have been successful at attracting innovation-based tenants.



**Critical Success Factors:**

- Regional economic strength
- Strong proponent
- Proximity to an anchoring institution
- Municipal support

## W21C

### Location:

Calgary, AB

### Date:

Opened at Foothills Medical Centre in 2004, expanded to the University of Calgary in 2009.

### Background Info:

Originally conceived of by the University of Calgary in 2004, W21C was established to respond to the need for innovation in health care delivery and service. The facility was established at the Foothills Medical Centre, in collaboration with Alberta Health Services. The institute functions as a “living laboratory” where academic researchers can collaborate with medical practitioners to prototype hospital design and evaluate new technologies and innovations which improve service delivery.

### Partnerships:

Originally conceived of primarily as a collaboration between the University of Calgary and Foothills Medical Centre. The relationship was primarily between academic researchers at the University of Calgary, and practitioners and clinicians in Alberta Health Services. Over time, the relationship has evolved and now incorporates more access to industry partners, start-ups and collaborators.

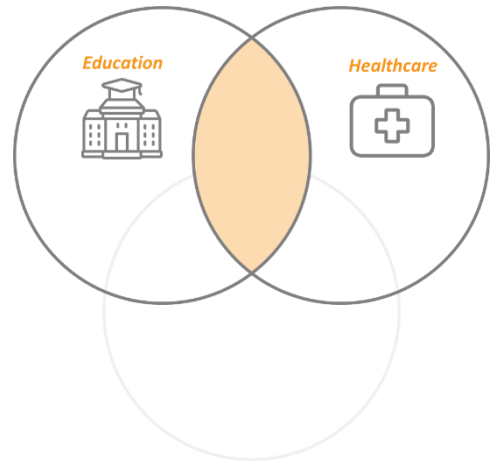
### Implementation:

The organization received initial seed funding through a \$3.6 million federal-provincial grant, as well as contributions from the University of Calgary, Alberta Health Services and other organizations. Ongoing support from these institutions continues to fund the day to day operations of W21C.

### Outcomes and Findings:

W21C has functioned as a successful partnership between the academic and medical fields. However, the focus of the partnership does not appear to have been on developing an innovation/start-up culture. The organization has been successful at advancing research and pioneering medical solutions within local medical facilities. Over time, it has additionally supported incubators and start-ups. However, the primary focus is the medical/education collaboration.

A primary role of W21C is providing access and support for grant writing, proposal design, ethics application and data collection sources. The organization now employs almost 40 people, and receives significant amounts of funding from government, academic grants and industry.



**Critical Success Factors:**

- Close institutional collaboration
- Strong and ongoing government support
- Dedicated and separate staffing entity
- Ability to liaise between public and private sector
- Location
- Access to expertise/medical research

## McMaster Innovation Park

### Location:

Hamilton, ON

### Date:

McMaster University announced initial plans in 2005. The first building was opened in 2009.

### Background Info:

Over 500,000 square feet of innovation space dedicated to laboratories and offices in three separate buildings, with a fourth currently under construction. In addition to supporting broad-based collaborative enterprises, start-ups and research, the hub specializes in supporting research in metals and metal fabrication, automobiles and human transportation, and cell therapies technology.

### Partnerships:

Direct partnerships between various start-ups, industry professionals, and researchers. Notable institutions and organizations involved include McMaster University, Mohawk College, the Fraunhofer Institute for Cell Therapy and Immunology, and CanmetMATERIALS.

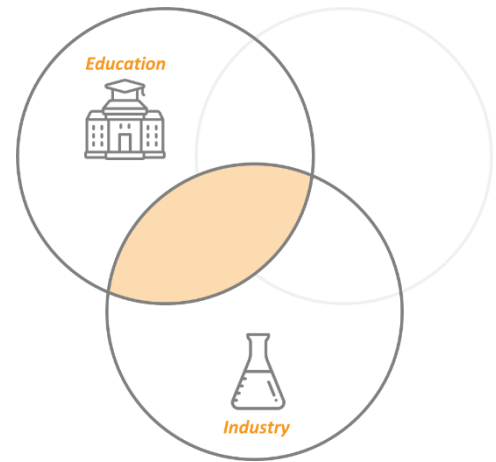
### Implementation:

MIP was enabled by McMaster's acquisition of the 37-acre site in 2015, and subsequent investments by the provincial and municipal governments of \$10 million and \$5 million, respectively. Subsequent government investments in various initiatives have facilitated growth at the centre, and attracted new businesses and opportunities.

The MIP has historically relied on funding and government support to expansionary opportunities. Recent initiatives may indicate that the MIP has achieved a scale sufficient to support and independently attract investment.

### Outcomes and Findings:

The site has benefitted significantly from an abundance of land and development flexibility. Wide-ranging partnerships facilitated by McMaster University have created a range of opportunities that can be accommodated on-site, creating a diverse research cluster. Initially this may have proven a barrier to building momentum or expertise in a particular field, however this was mitigated by consistent investments by governments and institutions.





MIP supports 80 businesses/members, and over 800 researchers and employees. The organization is pursuing a hotel on-site to support the robust business activity now occurring at the MIP.

**Critical Success Factors:**

- Government funding
- Active institutional presence
- Adjacency to major urban centre, post-secondary institution, or hospital
- Supply of underutilized land
- Active management structure
- Diversity of facilities provided



## Catalyst HTI

### Location:

Denver, CO

### Date:

Opened July 2018 in Denver's rapidly emerging River North District.

### Background Info:

Catalyst HTI was conceived as an integrated innovation hub that would provide a space for established healthcare organizations, health start-ups, post-secondary medical programs, and companies to locate. The users are accommodated in a 200,000 square foot mixed-use building, located adjacent to Downtown Denver, and approximately 650m from an LRT station.

Catalyst HTI is anchored by UCHealth's Innovation Centre and Kaiser Permanente, a post-secondary medical innovation program, and one of the largest healthcare providers in the United States. These anchors have established a strong collaborative base which has proven attractive at drawing start-up organizations. In this respect, the project is over 90% leased.

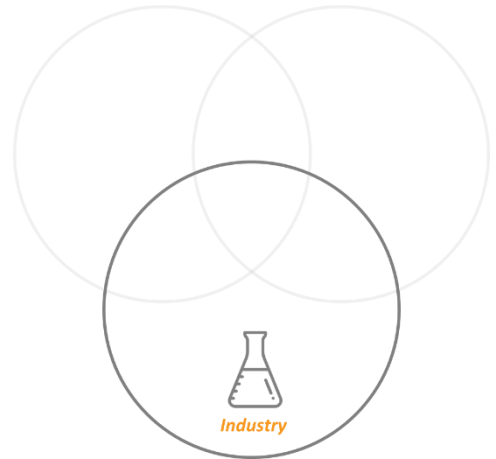
### Partnerships:

Catalyst HTI was planned and developed by a Koelbel & Company, a Colorado-based real estate developer, in partnership with local entrepreneurs. This privately-led project was developed with the intention of being an innovation-driven space and to attract medical start-ups and companies into a collaborative environment. It was not developed with an explicit anchoring partner at the outset. Rather, the growth of Denver's bio-medical technology industry, and strong industry connections attracted several key tenants.

Currently, Catalyst HTI is occupied by a range of post-secondary institutions, private health care providers, and start-ups. The environment is designed to be intentionally collaborative, and features meeting spaces, as well as a 200-seat conference space.

### Implementation:

Catalyst HTI was a vision that was planned and executed by a private proponent. As the concept drew attention from private sector participants, it began to attract attention from non-profits and post-secondary institutions.



### **Outcomes and Findings:**

A dedicated private proponent with a concept that is designed to facilitate start-up/innovation culture can be successful. This is in part reliant on the strength of the broader innovation ecosystem in a given market. Furthermore, this project benefitted from being in an up and coming neighbourhood in Denver that is seeing significant amounts of office market growth, and is in close proximity to transit infrastructure and Downtown Denver.

### **Critical Success Factors:**

- An active single point of contact for the project
- Strong and growing local innovation ecosystem
- Locational proximity
- Unique product offering



## TMC Innovation Institute

### Location:

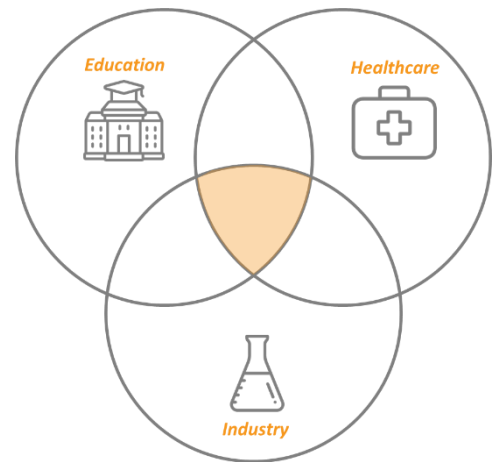
Houston, TX

### Date:

Launched in 2014.

### Background Info:

The Texas Medical Center is one of the largest medical research clusters in the world. The broader area includes several post-secondary institutions, including Rice University, as well as over twenty hospitals and eight specialty institutions. Employing over 100,000 people, the Center is a globally recognized cluster for patient care and research.



The TMC Innovation Institute was established as a means of consolidating a range of distinct organizations and activities occurring across the Texas Medical Center. The intention of the space is to continue TMC's status as an industry leading innovation cluster and a destination for small and large technologically focused medical institutions alike. The TMC Innovation Institute offers a range of services, including internships, innovation spaces, fellowships and specific research mandates.

### Partnerships:

The TMC innovation Institute maintains a plethora of partnerships with leading healthcare, academic institutions and corporations across the United States. The Innovation Institute benefits greatly from its location within the Texas Medical Center, and can leverage this geography to attract world class talent.

In addition to more traditional relationships, the Institute partners with other innovation-based organizations, including the AT&T Foundry for Connected Health, whose mandate is to develop solutions that bridge the gap between clinical and homecare settings. Additionally, partnerships with other institutions, including the Cancer Prevention & Research Institute of Texas and the Biomedical Advanced Research and Development Authority (BARDA) foster an innovation ecosystem that contributes to the Innovation Institute's position as one of the most influential healthcare innovation clusters in North America.

### Implementation:

The TMC Innovation Institute was launched in 2014, in an effort to consolidate and expand collaboration across the range of member institutions at the Texas Medical Center. Since its initial launch, TMC Innovation has created additional sub-organizations, which are more tailored to specific



areas of medical innovation, or specific fellowships. These include TMC Alpha, a program designed to facilitate interactions between TMC employees and potential investors to develop and commercialize a product, or TMC Biodesign, a one-year fellowship that brings together teams with diverse backgrounds to develop and bring breakthrough products to market.

### **Outcomes and Findings:**

The TMC Innovation Institute has successfully leveraged the expertise of the organizations located within the broader TMC to become an influential innovation cluster. The organization has benefitted greatly from geographic proximity to an unparalleled range of private organizations, research institutes, post-secondary institutions and hospitals.

The organization has benefitted from an independent operating structure, drawing staff members from across various medical groups located within the TMC. This structure has likely allowed for the creation of the various activity nodes, funding projects and initiatives being pioneered by the TMC Innovation Institute.

By creating distinct and dedicated centers, funding initiatives and fellowships, the institute has successfully attracted partners with diverse specializations in the healthcare innovation sphere. Furthermore, the ability to leverage and attract public sector partnerships from health departments and national research organizations has broadened the profile of the organization internationally.

### **Critical Success Factors:**

- Existing medical/research concentration
- Dedicated project staff drawn from various fields
- Scale
- Diversity of innovation-based initiatives



## MATTER

### Location:

Chicago, IL

### Date:

MATTER opened in February of 2015.

### Background Info:

MATTER was conceived and initiated by the City of Chicago, with funding from the State of Illinois. The purpose of the program is to provide resources to start-up organizations, and an environment where entrepreneurs can interact with industry leaders, academic and healthcare providers to collaborate on new technologies. The organization is a non-profit, and does not take an equity stake in its member organizations.

MATTER has worked with over 200 start-ups in health technology, who have collectively surpassed over \$1 billion in funding. The organization has recently announced an expansion to New York City, with one stated intention being to improve access for Midwest firms to the east coast market, and vice versa.

### Partnerships:

MATTER was established as an initiative between the City of Chicago, State of Illinois and community proponent. The organization does not necessarily have explicit partnerships with post-secondary institutions, companies, or healthcare providers. Rather, through ongoing courses, engagement opportunities and funding rounds, MATTER functions as a conduit that provides physical space to facilitate interactions between these groups. For example, MATTER has a partnership with the American Medical Association, which involves the creation of the *AMA Interaction Studio at MATTER* to open, with the intent of increasing interactions between physicians and entrepreneurs. The approach MATTER takes to these relationships is that Chicago is home to world-renowned organizations conducting ground-breaking work, but did not have a space or community to establish these relationships which may link important stakeholders together.

### Implementation:

MATTER was borne by public and private investment, totalling approximately \$8 million. The organization accepts new entrants on an application-basis, and screens prospective companies to evaluate the feasibility of the proposed concepts.

MATTER occupies space in Downtown Chicago, and is designed to model a free flowing 'hot-desk' environment. This facilitates interaction, opportunities for collaboration, and learning. The space is supported by a large theatre and gathering space to facilitate presentations.



MATTER supports its member organizations with a range of educational programmes, support services and exposure opportunities.

### **Outcomes and Findings:**

MATTER has proven remarkably successful at supporting and growing a vibrant culture of innovation in the biomedical field in Chicago. The organization has a waitlist of applicants looking for space, and has drawn a significant amount of investment dollars into companies that are part of MATTER's ecosystem. The organization has proven so successful, that it is expanding to New York to replicate the model there, and establish opportunities for Chicago and Midwest based organizations to gain exposure on the east coast.

### **Critical Success Factors:**

- Focus on private business
- Existing biomedical cluster in Chicago
- Accessible geographic location in Downtown Chicago
- Strong municipal and state funding support





## Uppsala BIO

### Location:

Uppsala, Sweden. Located approximately 70km north of Stockholm.

### Date:

Initiated in 2003.

### Background Info:

Uppsala BIO was founded with the mission to enhance the regional and national life science ecosystem in Sweden. The organization was initiated in response to a national programme providing funding for organizations fostering sustainable growth by promoting innovation and growth in specific fields, including the health sector. From the outset, the mandate and vision of the organization was to both represent Sweden on a national scale, and more locally to promote a biomedical innovation cluster within Uppsala.

Uppsala BIO is now a part of the non-profit foundation of STUNS – The Foundation for Collaboration between the Universities in Uppsala, Business and Society. This group maintains a focus on three key areas, life science, energy and innovation and business. Uppsala BIO represents the organization's efforts to advance life sciences innovation.

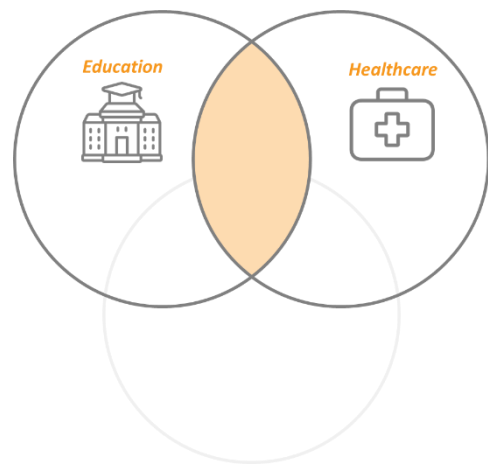
Uppsala is a municipality of over 150,000 people, well known as a centre for higher education. It is conveniently accessible from central Stockholm, via a direct, 40-minute train that runs on 10-minute intervals. Furthermore, Stockholm's International Airport is only 20-minutes away by train. Several of the largest employers in Uppsala County are biomedical or healthcare related businesses.

### Partnerships:

Uppsala BIO currently is comprised of over 50-member organization, in addition to active participation from local universities, the Uppsala University Hospital, and the municipal government. Initially, Uppsala BIO's focus was on building out partnerships and a reputation with local institutions. Since 2014, the organization has taken a more active role in supporting local companies in finding external partners for collaboration. Notwithstanding a variety of domestic start-up firms, the hub has active partnerships with internationally recognized brands, including General Electric, Johnson & Johnson, and Bayer.

### Implementation:

Uppsala BIO was established as a recognized opportunity to leverage existing stakeholders within Uppsala to diversify the local economy and develop commercial opportunities in sustainable fields. It



was initially funded through a nationally administered program, and began collaborating with other regional, national and local organizations. Particularly, the establishment of the Uppsala Innovation Centre established a physical presence for the organization, and a geographic location to develop innovation space. Close collaboration and notable results with local hospitals and universities at the outset contributed significantly to the recognition of the organization as a central component of economic development and innovation in Uppsala and Sweden.

### **Outcomes and Findings:**

Uppsala BIO has benefitted from broad support from key public stakeholders across Sweden, which has provided consistency and certainty in advancing the organization's mandate. Consistent funding, access to fellowships and grants, and the presence of municipal, regional and national officials on the organization's boards have further reinforced the relationship. The concept has successfully established and fostered a bio-medical cluster in Uppsala, with many of the largest employers being drawn from corporations in the bio-medical field.

Established expertise at local post-secondary institutions, as well as the establishment of a dedicated innovation business park have been essential in creating an environment conducive to innovation.

Uppsala BIO has likely benefitted from Uppsala's location within Sweden, and excellent transportation connections. Although the municipality is over 70km from Stockholm, it benefits from excellent and affordable rapid transit connections to central Stockholm and Stockholm airport. As such, any real or perceived geographic barriers are removed.

### **Critical Success Factors:**

- Higher-level government funding
- Clearly defined mandate
- Strong local institutions
- Excellent transportation connections

