



City of Vaughan
Economic Development Data Report
January 2023



Table of Contents

Executive Summary	5
Overview of Macro-Economic Trends	12
Economic and Community Profile	24
Quantifying Vaughan's Knowledge Economy	40
Target Sectors and SWOT Analysis	51
Vaughan FDI Opportunities	74
PESTLE Assessment	78
Conclusion	86
Appendices	88

Figure 1 – Real GDP by Expenditure, Ontario Percentage Change, 2020-2022 Q1	13
Figure 2 – Employment and Unemployment Rate, Ontario, November 2019-August 2022	14
Figure 3 – Employment Change by Industry, Ontario, Feb 2020 – August 2022	15
Figure 4 – GTHA Jobs by Industry, 2022 to 2028	16
Figure 5 – Job Growth, Upper-Tier Municipalities, 2016-2028.....	17
Figure 6 – Industrial-based Job Growth, Upper and Single-Tier Municipalities, 2016-2025	17
Figure 7 – Office-based Job Growth, Upper and Single-Tier Municipalities, 2016-2025.....	18
Figure 8 – York Region Industry Clusters, December 2021.....	19
Figure 9 – Total Real Gross Domestic Product (GDP) – City of Vaughan (2010-2026).....	20
Figure 10 – GDP by Industry Sector, Vaughan, 2010-2026.....	20
Figure 11 - FDI investments by sectors into the GTHA (January 2016 – January 2022)	21
Figure 12 - FDI investments by source country into the GTHA (January 2016 – November 2022)	22
Figure 13 - FDI investments by source country into York Region (January 2016 – November 2022)	22
Figure 14 - FDI investments by destination city into York Region (January 2016 – January 2022)	23
Figure 15 – Population Change, 2011-2021.....	24
Figure 16 – Population Growth Rate, 2016-2021	25
Figure 17 – Population Share by Age Group, 2022	25
Figure 18 – Dwelling Type, 2021.....	26
Figure 19 – Historical Median Price (\$) for Absorbed Homeowner and Condominium Units, City of Vaughan, 2016-2021.....	26
Figure 20 – Historical Starts by Dwelling Type, City of Vaughan	27
Figure 21 – Vaughan Historical Starts (All Types of Dwelling) as a Percentage of the GTHA, 2001-2021	27
Figure 22 – Comparison of Purpose-built Rental Supply in Vaughan, Richmond Hill, and Markham	28
Figure 23 – Median Total Income of Households, 2015-2020.....	29
Figure 24 – Share of Households by Income Group, 2021	30
Figure 25 – Educational Attainment of the Population 15 Years of Age and Over, 2021.....	30
Figure 26 – Major Field of Study, Population 15 Years and Over, 2021	31
Figure 27 – Labour Force Status, 2021	31
Figure 28 – Labour Force by Industry Sector (2-Digit NAICS), 2021	32
Figure 29 – Employment, City of Vaughan, 2010-2026	33
Figure 30 – Industrial-based & Office-based Job Growth, Vaughan, 2016-2025.....	34
Figure 31 – Employment by Industry Sector, City of Vaughan, 2022-2028	34
Figure 32 – Employment Growth Rate, 2022-2028	35
Figure 33 – Employment by Occupational Category (1-Digit NOC), 2022	35
Figure 34 – Total Businesses, 2018-2022.....	36
Figure 35 – Business by Industry (2-Digit NAICS) by Size, June 2022	37
Figure 36 – Share of Knowledge Occupations, Comparable Communities and the GTHA vs. Vaughan, 2021	41
Figure 37 – Share of High-Technology Occupations, Comparable Communities, and the GTHA vs. Vaughan, 2021.....	42
Figure 38 – Share of Population (+15 years) by post-secondary certificate, diploma, or degree, Comparable Communities, and the GTHA vs. Vaughan, 2021	42
Figure 39 – Distribution of Post-Secondary Degrees by Field of Study (+15 years), Comparable Communities, and the GTHA vs. Vaughan, 2021	43
Figure 40 – Talent Index Score, Comparable Communities, and the GTHA vs. Vaughan, 2021	44
Figure 41 – Share of the population by visible minority groups, Comparable Communities, and the GTHA vs. Vaughan, 2021	45
Figure 42 – Share of the immigrant population by status, Comparable Communities, and the GTHA vs. Vaughan, 2021.....	45
Figure 43 – Share of the female labour force, Comparable Communities, and the GTHA vs. Vaughan, 2021.....	46

Figure 44 – Share of non-official languages spoken most often at home for the total population, Comparable Communities, and the GTHA vs. Vaughan, 202146

Figure 45 – Tolerance Index Score, Comparable Communities, and the GTHA vs. Vaughan, 202147

Figure 46 – STEM firms (with employees) Share, Comparable Communities, and the GTHA vs. Vaughan, 202148

Figure 47 – STEM firms (with employees) LQ, Comparable Communities, and the GTHA vs. Vaughan 202148

Figure 48 – Technology Index Score, Comparable Communities, and the GTHA vs. Vaughan, 202149

Figure 49 – Creativity Index Score, Comparable Communities, and the GTHA vs. Vaughan, 202150

Figure 50 – Vaughan Employment Growth Sectors, Carvalho Classification, 2016-2022.....52

Figure 51 – Vaughan Industry Clusters, December 202053

Figure 52 – Exports, Industry (2-NAICS), 2019.....54

Figure 53 – Determining Vaughan target sectors55

Figure 54 – Vaughan’s Sectors of Focus56

Figure 60 – PSTS Business Counts & LQ, Vaughan, June 2022.....11

Figure 61 – PSTS Business Counts (6-digit NAICS), Vaughan, June 202211

Figure 62 – Vaughan PSTS Jobs, 2016 to 202812

Figure 63 – Vaughan PSTS Jobs Growth, 2022 to 202813

Figure 64 – Top Occupations Employed by PSTS Industries, Vaughan, 2022 to 2028.....13

Figure 65 – Top 10 Industry purchases - Industry Supply Chain (4-Digit NAICS), PSTS, Vaughan, 2020...14

Figure 66 – ICT Business Counts & LQ, Vaughan, June 202214

Figure 67 – ICT Business Counts (6-digit NAICS), Vaughan, June 2022.....15

Figure 68 – Vaughan ICT Jobs, 2016 to 202815

Figure 69 – Vaughan ICT Jobs Growth, 2022 to 202816

Figure 70 – Top Occupations Employed by ICT Industries, Vaughan, 2022 to 202817

Figure 71 – Top 10 Industry purchases - Industry Supply Chain (4-Digit NAICS), ICT, Vaughan, 202018

Figure 72 – Manufacturing Business Counts & LQ, Vaughan, June 202218

Figure 73 – Manufacturing Business Counts (3-digit NAICS), Vaughan, June 202219

Figure 74 – Vaughan Manufacturing Jobs, 2016 to 202819

Figure 75 – Vaughan Manufacturing Jobs Growth, 2022 to 202820

Figure 76 – Top Occupations Employed by Manufacturing Industries, Vaughan, 2022 to 2028.....21

Figure 77 – Top 10 Industry purchases - Industry Supply Chain (3-Digit NAICS), Manufacturing, Vaughan, 2019.....21

Figure 78 – Transportation and Logistics Business Counts & LQ, Vaughan, June 202222

Figure 79 – Transportation and Logistics Business Counts (3-digit NAICS), Vaughan, June 202222

Figure 80 – Vaughan Transportation and Logistics Jobs, 2016 to 2028.....23

Figure 81 – Vaughan Transportation and Logistics Jobs Growth, 2022 to 202823

Figure 82 – Top Occupations Employed by Transportation and Logistics Industries, Vaughan, 2022 to 202824

Figure 83 – Top 10 Industry purchases - Industry Supply Chain (4-Digit NAICS), Transportation and Logistics, Vaughan, 201924

Figure 84 – Finance and Insurance Business Counts & LQ, Vaughan, June 202225

Figure 85 – Finance and Insurance Business Counts (4-digit NAICS), Vaughan, June 2022.....25

Figure 86 – Vaughan Finance and Insurance Jobs, 2016 to 202826

Figure 87 – Vaughan Finance and Insurance Jobs Growth, 2022 to 202826

Figure 88 – Top Occupations Employed by Finance and Insurance Industries, Vaughan, 2022 to 2028 .27

Figure 89 – Top 10 Industry purchases - Industry Supply Chain (4-Digit NAICS), Finance and Insurance, Vaughan, 2019.....27

Figure 90 – Tourism Business Counts & LQ, Vaughan, June 202228

Figure 91 – Tourism Business Counts (6-digit NAICS), Vaughan, June 2022.....28

Figure 92 – Vaughan Tourism Jobs, 2016 to 202829

Figure 93 – Vaughan Tourism Jobs Growth, 2022 to 202830

Figure 94 – Top Occupations Employed by Tourism Industries, Vaughan, 2022 to 202831

Figure 95 – Top 10 Industry purchases - Industry Supply Chain (4-Digit NAICS), Tourism, Vaughan, 202031

Figure 96 – Creative Industries Business Counts & LQ, Vaughan, June 202232

Figure 97 – Creative Industries Business Counts (3-digit NAICS), Vaughan, June 202232

Figure 98 – Vaughan Creative Industry Jobs, 2016 to 202834

Figure 99 – Vaughan Creative Industries Jobs Growth, 2022 to 2028.....34

Figure 100 – Top Occupations Employed by Creative Industries, Vaughan, 2022 to 202836

Figure 101 – Top 10 Industry purchases - Industry Supply Chain (3-Digit NAICS), Creative Industries, Vaughan, 2020.....36

Figure 102 – Life Science Business Counts & LQ, Vaughan, June 202237

Figure 103 – Life Science Business Counts (3-digit NAICS), Vaughan, June 202237

Figure 104 – Vaughan Life Science Jobs, 2016 to 202838

Figure 105 – Vaughan Life Science Jobs Growth, 2022 to 202839

Figure 106 – Top Occupations Employed by Life Science Industries, Vaughan, 2022 to 2028.....40

Figure 107 – Top 10 Industry purchases - Industry Supply Chain (3-Digit NAICS), Life Science, Vaughan, 2020.....40

Executive Summary

The City of Vaughan is preparing this Economic Development Data Report to inform the aspirations of the forthcoming 2023-2027 Economic Development Action Plan.

The objectives this 2022 Economic Development Data Report are to:



Assess current and future micro- and macro-economic trends of relevance to Vaughan



Provide insight into occupation, industry, and business trends



Identify opportunities for cluster growth and investment targets for Vaughan based on its local economic profile



Articulate Vaughan's Strengths, Opportunities, Weaknesses, Threats



Contextualize Vaughan's current state through a Political, Economic, Social, Technological, and Environmental (PESTLE) lens

This report has been organized into the following sections:

- ❖ **Overview of Macro-Economic Trends** is an understanding of the provincial and regional economy. Outcomes include existing and emerging employment clusters in the Greater Toronto and Hamilton Area (GTHA) and York Region that may influence economic activity within Vaughan.
- ❖ **Economic and Community Profile** presents an overview of Vaughan's demographic, labour force, and industry composition relative to York Region and GTHA, along with population and growth projections.
- ❖ **Quantifying Vaughan's Knowledge-Economy** focuses on creative index evaluation using three levels of measurement, namely, Talent, Tolerance, and Technology. These '3T's are part of an economic development theory that places importance on attracting and retaining creative capital.
- ❖ **Target Sectors and SWOT Analysis** articulates Vaughan's target sector Strengths, Weaknesses, Opportunities, and Threats.
- ❖ **Vaughan FDI Opportunities** highlights the FDI sectors and projects.
- ❖ **PESTLE Assessment** contextualizes Vaughan's current state through a Political, Economic, Social, Technological, and Environmental (PESTLE) lens.

A summary of key findings follows.

Impact of Ongoing Macro-economic Trends on Vaughan's Economy

- ❖ The Canadian economy is expected to go through a mild and short-lived recession, due to ongoing high interest rates and inflation. Businesses looking to invest will face higher borrowing costs, making gains more modest (as businesses take a more cautious approach to investing).
- ❖ The provincial economic base, as measured by GDP, continues to shift from goods-producing sectors (i.e., manufacturing, and primary resources) to services-producing sectors.
 - Growth is being led by the knowledge-based and creative sectors, including finance and insurance, professional, scientific, and technical services, and educational services.
 - Similar trends have been observed within the GTHA context.
- ❖ This shift in the economy is reflected in the top sectors for FDI attraction for the province, which includes ICT and electronics, professional services, creative industries, and financial services, among others.
- ❖ Ontario ranked third for FDI into North America by capital investment and fourth for FDI into North America by project numbers.
- ❖ With a robust economy and diverse mix of export-based employment sectors, the GTHA continues to be highly attractive on an international and national level to new businesses and investors.
- ❖ York Region has also experienced strong population and employment growth. Employment growth is seen both in industrial and office-based employment.

Vaughan is a Significant Economic Contributor to the GTHA and York Region

- ❖ Vaughan generated \$27 billion to Canada's gross domestic product (GDP) in 2022. This is approximately 40% of York Region's total GDP. GDP contributions are further projected to grow by \$3.7 billion over the next 3 years.
 - The service-producing industries account for a significant share of Vaughan's GDP contributions (over 65%). This trend is projected to continue, with sector contributions increasing by \$2.67 billion over the next 3 years.
 - GDP contributions in the goods-producing sector are also projected to grow by \$1.03 billion over the same time.
- ❖ Between 2016 and 2022, there were 29 FDI investments into York Region with Markham the biggest recipient (13), followed by Vaughan (11), and Newmarket (2). FDI investment into Vaughan includes projects in communications, food and beverages, medical devices, building materials, and the automotive sector.
- ❖ As of 2019, Vaughan industries exported \$38.8 billion in goods and services. This represents 47% of all York Region's exports (\$83.2B).
- ❖ Vaughan accounts for 37% of York Region's employment base and is a thriving economy driven by manufacturing, construction, retail trade, and professional service firms.

Vaughan is Witnessing Continued Population Growth

- ❖ Vaughan is home to approximately 323,103 residents and is strongly positioned as a growth community with a highly diverse, prosperous, and educated resident population.
 - Continued growth is projected for the city. Vaughan's population is expected to grow by approximately 230,000 people by 2051. This represents an average annual growth rate of 1.7%, or approximately 7,700 people per year.
 - Vaughan will need to accommodate a minimum of 47,435 new residential units in its built-up area between 2021 to 2051, or approximately 1,580 new units per year, to meet intensification targets.¹
- ❖ Median household income in Vaughan was estimated at \$124,000 in 2020. This suggests that the city's residents have significant purchasing power and ability to invest in the community.

¹ Policy Directions Report, Draft, April 2022, in alignment with York Region's Draft Official Plan (November 2021)

Vaughan Should Focus Opportunities to be a Draw for Talent

- ❖ Vaughan has benefited from a high influx of newcomers. Vaughan’s population is diverse; as of 2021, 46% of the city’s population were immigrants, and 41% were visible minorities.
- ❖ Vaughan is also an attractive community for young families as it is well connected to the broader Toronto Region by an extensive transit system than includes a subway station and the GO Transit System.
- ❖ 2016 commuting patterns show that Vaughan is a net importer of employees in sectors including manufacturing, construction, trades, transportation, and warehousing.² However, the city exports employees in finance and insurance, educational services, health care and social assistance, and professional, scientific, and technical services.
 - Most commuters travel to Toronto, given the city’s demand for workers in financial services and technology-related jobs (also known as knowledge-economy workers).
- ❖ Vaughan ranks lower than comparator communities when measuring its Creative Index.³ Communities with a high creativity index score are well-positioned to attract and retain creative workers and businesses within their jurisdictions.
- ❖ Vaughan could position itself to attract knowledge economy workers who are engaged in research and development, processes, computer applications, and quality management-related operations.
- ❖ Vaughan can focus targeted efforts to address labour force concerns and explore innovative ways of attracting, retaining, and training employees.
 - A sector-specific workforce approach would address the talent needs of employers and the competitiveness of target industries.
 - The City could leverage partnerships with education institutions and key industries and capitalize on the trend towards remote working.
 - High housing costs may be a deterrent for young professionals and families looking at suburban communities.
 - Vaughan can capitalize on the tourism and arts and cultural industries to support the value proposition and promote the city as a community of choice.

Vaughan is Home to Diverse Industry Clusters

- ❖ Vaughan has a diverse employment base, driven by manufacturing, construction, retail trade, and professional service firms.
- ❖ Manufacturing is the top exporter for the community, representing 56% of all \$21.6 billion in exports. Construction, wholesale trade and transportation, and warehousing are other top exporters for the city.
- ❖ Sectors accounting for most of the job growth include transportation and warehousing, manufacturing, health care and social assistance, professional, scientific, and technical services, and construction.
 - Like trends in the GTHA and York Region, job growth includes those in the “knowledge-based and creative-class economy” sectors.
- ❖ As per the June 2022 Canadian Business Counts data, Vaughan had a total of 66,559 business establishments, of which 71% (47,169 businesses) were self-employed establishments, and the remaining were businesses with employees.
 - The industries with the highest number of establishments employing people were professional, scientific, and technical services, construction, and retail trade.

² Information for the 2021 Commuting Patterns by Industry Sector is not currently available. Information should be updated with the latest Census data once it’s released.

³ The Creative Index measures a community’s levels of Talent, Tolerance, and Technology and compares it to counterparts.

Vaughan's Opportunity Sectors and SWOT Analysis Insights⁴

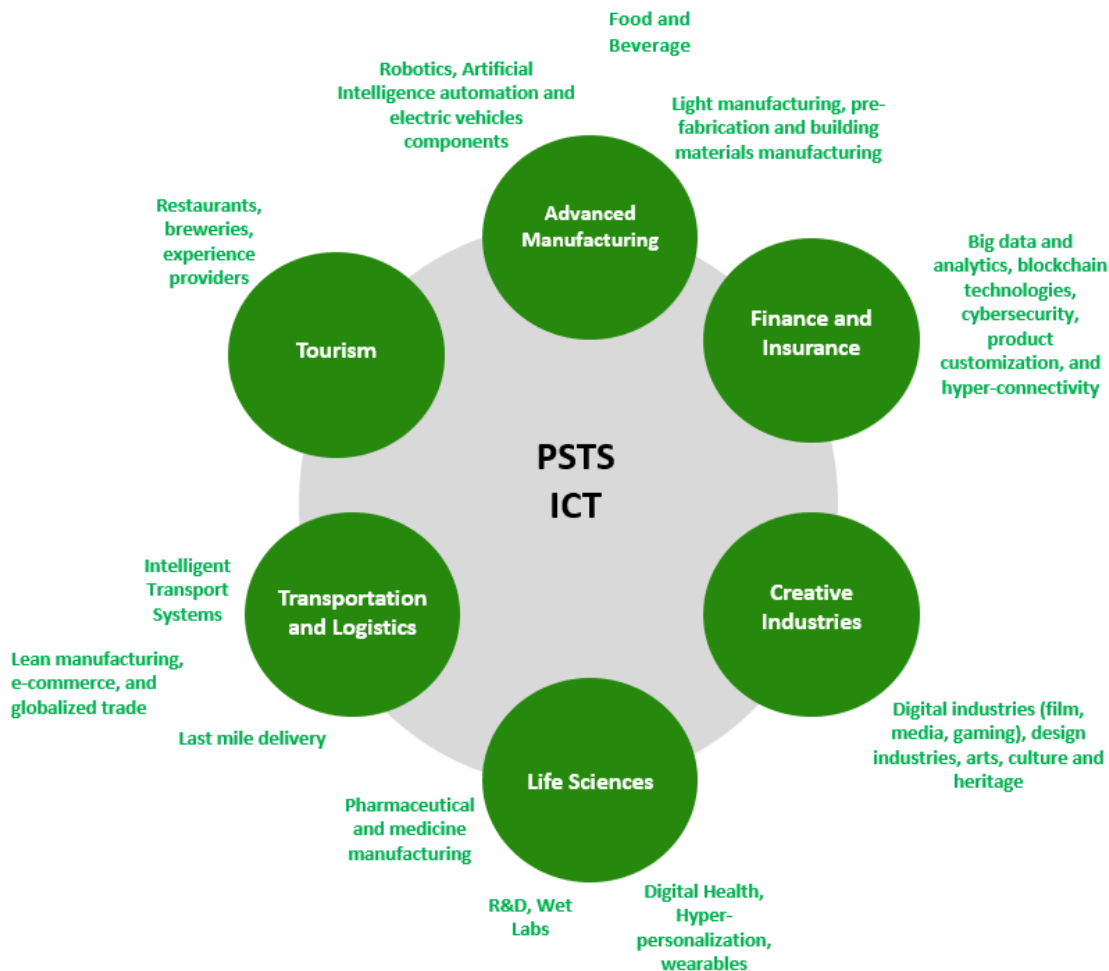
Vaughan's sectors of focus can be categorized as established, growing, and emerging industries. The sectors were selected by analysis of the city's historic economic trends, employment analysis, and local business strengths.

Sectors are described below:

- ❖ **Advanced Manufacturing** is an **established** sector for the city and is a major growth area based on export capabilities (focused on high-value components and consumer products, including food) and Ontario's continued competitiveness in the automotive space. There are emerging opportunities in the space of light industrial manufacturing. Building on global trends (electrification in the automotive industry), Vaughan has the potential to attract general automation and manufacturing of electric vehicle components.
- ❖ **Transportation and Logistics** is an **established** sector for the city and builds on the strengths of the goods movement sector, which is highly concentrated in Peel, York, and Halton. The evolution of the sector in recent years has opened new opportunities for supporting services for lean manufacturing, e-commerce, and globalized trade. This suggests that transportation and logistics remain a key sector for Vaughan.
- ❖ **Finance and Insurance** is a **growing** sector for the city and forms a key part of the knowledge-based and creative-class economy. The sector is a dominant industry cluster in York Region and shows a high concentration of employees in the Vaughan Metropolitan Centre (VMC), forming a core of the office-based employment for the city.
- ❖ **Tourism and Creative Industries** are **emerging** focus sectors for the city and build on *the Strategic Initiative of the City of Vaughan Economic Development and Employment Sectors Study*.
- ❖ **Life Sciences** is an **emerging** sector for the city, building on the strengths of the Vaughan Healthcare Centre Precinct (VHCP) and positioning for research, education and training facilities within pharmaceutical and medicine manufacturing, medical equipment and supplies manufacturing, and scientific research and development services.
- ❖ **Professional, Scientific, and Technical Services (PSTS) and Information and Communication Technologies (ICT)** are positioned as **enablers** for the city. These sectors support growth in finance and insurance and information and cultural industries and are central to integrating digital transformation and technology adoption in traditional sectors, including manufacturing and wholesale trade, transportation, and warehousing.

⁴ It should be noted that the state of the sector and sector SWOT should be tested and confirmed through broader conversations with business and sector-specific conversations to clarify directions and investment opportunities for the city.

The Figure below represents Vaughan’s sectors of focus and their convergence with emerging and opportunity sectors.



Sector Trends Continue to Drive Demand for Employment Lands

- ❖ The structural changes of the GTHA’s economy are altering the nature of economic activities on employment lands and impacting the built form and character of these lands.
 - Recent market demand on employment lands has been increasingly driven by growth in the knowledge-based or creative class economies.
- ❖ Vaughan is part of Canada’s largest technology corridor and office agglomeration in the GTA. The city makes up a large area of the Tor-York West (TYW) mega-zone⁵; one of three regionally, provincially, and nationally significant employment zones. Sector strengths of the megazone include manufacturing, construction, and wholesale trade and transportation, due to the presence of a CN multimodal facility. Other major archetypes include finance and business services.
- ❖ The Vaughan Metropolitan Centre (VMC) is the City of Vaughan’s new downtown. There is clear intent on the part of all levels of government to create a high-density mixed-use, transit-

⁵ The Neptis Foundation. 2017. The Tor-York West Megazone: A Profile

supportive city centre that is vibrant, attractive, and amenity-rich that will attract residents, business, and visitors.

- ❖ Employment lands are an integral part of Vaughan’s economic development potential, and they accommodate a broad range of sectors including manufacturing, construction, wholesale trade, professional, scientific, and technical services, and transportation and warehousing. The four main Employment Areas in the City of Vaughan are:
 - Concord/CN Railway Lands
 - Highway 400
 - Highway 407
 - Highway 427
- ❖ As of 2017, 38% of Vaughan’s employment base on employment lands is located within the Concord/CN Railway Lands District, while the Highway 400 Industrial District accommodates 27%. Highway 407 and Highway 427 Industrial Districts account for 25% and 10% of the employment base, respectively.
- ❖ As per the Policy Directions Report, Draft, April 2022, there are seven Major Transit Station Areas (MTSAs) located within Vaughan’s Employment Districts.
 - The Employment Areas and MTSAs offer an important avenue for the City to increase the competitiveness of its economic base. These lands not only accommodate a significant share of the city’s business and employment, but they are also a critical aspect of Vaughan’s economic competitiveness relative to the surrounding market area.
- ❖ As the demand for knowledge-based sectors increases, major office, flex office, and multi-purpose facilities are becoming an increasingly dominant built form within employment areas.
- ❖ When considering employment land policies, Vaughan should ensure OP (Official Plan) policies are aligned with market demand, modern and flexible zoning are in place, protection of employment uses, and opportunities to accommodate a higher density of development within certain locations.

PESTLE Assessment

The PESTLE assessment contextualizes Vaughan’s current state through a Political, Economic, Social, Technological, and Environmental (PESTLE) lens.⁶ Several factors impact Vaughan’s economic development agenda, including:

- ❖ International political uncertainty with China, including the impact on Taiwan, the Russian invasion of Ukraine, the ongoing crisis in the Middle East and North Korea’s stance all add risk to global economic growth. This is pushing the economy towards trade disruptions, declining consumer sentiment, near-term market volatility, and recession.
- ❖ The Canadian economy is expected to go through a mild and short-lived recession due to ongoing high interest rates and inflation. The Canadian outlook has been hit harder than expected given trade dependence with the United States.
- ❖ The Ontario government is projecting a \$12.9 billion deficit in 2022–23. This is \$7 billion lower than the outlook published in the 2022 Budget. This impacts business growth and investment, talent attraction and retention, support for the workforce, and help for low-and-medium income households.
- ❖ National trade policies, socio-economic conditions, changing business models, disruptive technologies and continued evolution of the economy need to be monitored for their ability to impact the market. These factors are discussed in the macro-trends and considered alongside the current recession, the impact of the pandemic, and labour force challenges.
- ❖ Vaughan should continue to track federal investment and support for automotive and advanced manufacturing processes. As labour becomes increasingly tight, businesses will continue to invest

⁶ It is expected that the PESTLE assessment will be tested and confirmed through consultation for its applicability and relevance to Vaughan.

in productivity-enhancing measures, particularly through machinery and equipment-related investments. Investments will, however, be cautious, as businesses looking to invest face higher borrowing costs, making gains more modest.

- ❖ Many social and environmental factors impact community growth and sustainability. Broader technology trends, research and innovation, intellectual property regulation, and technology incentives are of relevance to Vaughan as it focusses on sector growth and continued investment.

Overview of Macro-Economic Trends

The following provides an overview of recent macro-economic trends that may influence economic activity within the City of Vaughan and the broader regional market over the coming decades.

National and Provincial Outlook – Overview

As per Deloitte's January 2023 Economic Outlook,⁷ the Canadian economy is expected to go through a mild and short-lived recession (defined as two back-to-back quarters of economic decline), due to ongoing high interest rates and inflation. Significant takeaways include:

- ❖ Mortgage rates will remain high until the end of 2023 due to higher interest rates from the Bank of Canada
- ❖ Residential investment is expected to drop another 7.9% this year after falling by 10.6% last year
- ❖ The effects of the housing market downturn will be felt more in Ontario and British Columbia, as they have the most expensive housing markets and highest debt burdens
- ❖ Businesses looking to invest will face higher borrowing costs, making gains more modest (as businesses take a more cautious approach to investing)
- ❖ The ongoing labour force shortage will continue to impact economic competitiveness and business growth
- ❖ As labour becomes increasingly tight, businesses will continue to invest in productivity-enhancing measures, particularly through machinery and equipment-related investments
- ❖ Employee retention is a focus for employers with the expectation that it might be difficult to fill vacant positions once the economy begins to recover through 2024
- ❖ As both the European Central Bank and the United States Federal Reserve continue to tighten, the Canadian outlook has been hit harder than expected given trade dependence with the United States, which will impact Canada's economy through a 1.79% decrease in exports
- ❖ All Canadian provinces will be subjected to the same downturn in domestic demand due to the higher interest rate payments and impacts of a U.S. recession
- ❖ Manitoba and Saskatchewan will witness growth, due to the rebounding agriculture sector
- ❖ Provinces on the east coast will feel the impact of the decreasing demand from Europe, more than others, due to higher trade exposure to the European market

⁷ Deloitte. January 2023. Economic Outlook: Interest rate increases bite, leading to deeper recession

Ontario’s Real GDP Points to Economic Recovery

Despite projected economic stagnation, Ontario, York Region, and Vaughan show signs of economic recovery after the pandemic (in both GDP and employment). This growth will be slow because of the recession.

As per Ontario Economic Accounts, Ontario’s real gross domestic product (GDP) in the third quarter of 2022 was 4% above the pre-pandemic level in Q4 2019. This growth was driven by higher exports and an accumulation of inventories.⁸

As tabulated in the figure below, exports increased by 0.8% in the third quarter, while imports rose 0.2%. Businesses accumulated \$22.4 billion worth of inventories in the third quarter, after an accumulation of \$14.8 billion in the previous quarter. Household consumption and total business investment spending both declined. As per current forecasts, this trend is expected to continue into 2023.⁹

Figure 1 – Real GDP by Expenditure, Ontario Percentage Change, 2020-2022 Q1

Component	Q1 2022	Q2 2022	Q3 2022
Real GDP	1.0	0.9	0.4
Household consumption	1.1	3.3	-0.9
Business investment	1.5	-4.3	-3.2
Government	0.4	-0.4	1.0
Exports	0.1	4.5	0.8
Imports	-0.9	5.4	0.2
Investment in inventories (\$ billions)	10.2	14.8	22.4

Source: Statistics Canada and Ontario Ministry of Finance

GDP Output Increase in Both the Goods and Services Sectors

Ontario real GDP, measured as value-added by industry, shows that output in both the goods-producing (+0.7%) and service (+0.3%) industries advanced in the third quarter of 2022. Detailed examination by industries provides the following insights:

- ❖ Manufacturing output increased 0.2% in the quarter, led by primary and fabricated metal and machinery manufacturing
- ❖ Transportation equipment output declined 1.2%, following three consecutive quarterly increases
- ❖ Construction output decreased 1.1% in the quarter due to a decline in residential construction (-3.7%). Non-residential structures and engineering construction advanced in the quarter
- ❖ Increases seen in educational services (+2.9%), health care and social services (+1.4%), and professional and administrative services (+0.8%)
- ❖ Declines in retail (-3.1%) and finance and insurance (-0.9%) output partially offset service industry gains

⁸ Ontario Economic Accounts. Source: <https://www.ontario.ca/page/ontario-economic-accounts>

⁹ Deloitte. January 2023. Economic Outlook: Interest rate increases bite, leading to deeper recession

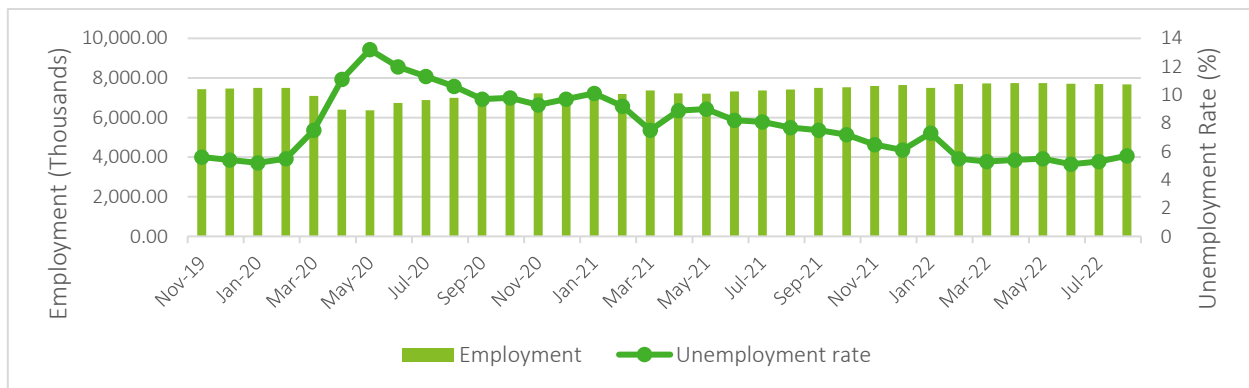
Provincial Employment Significantly Higher than Pre-pandemic Levels

Following job declines in April and May, provincial employment began recovering in June 2021. As of August 2022, the province recorded 7,667,800 jobs. This is significantly higher than employment recorded pre-pandemic. The unemployment rate was 5.7%, down from a 13.2% high in May 2020.

When considering industry sectors, both goods-producing and service industries saw employment gains.

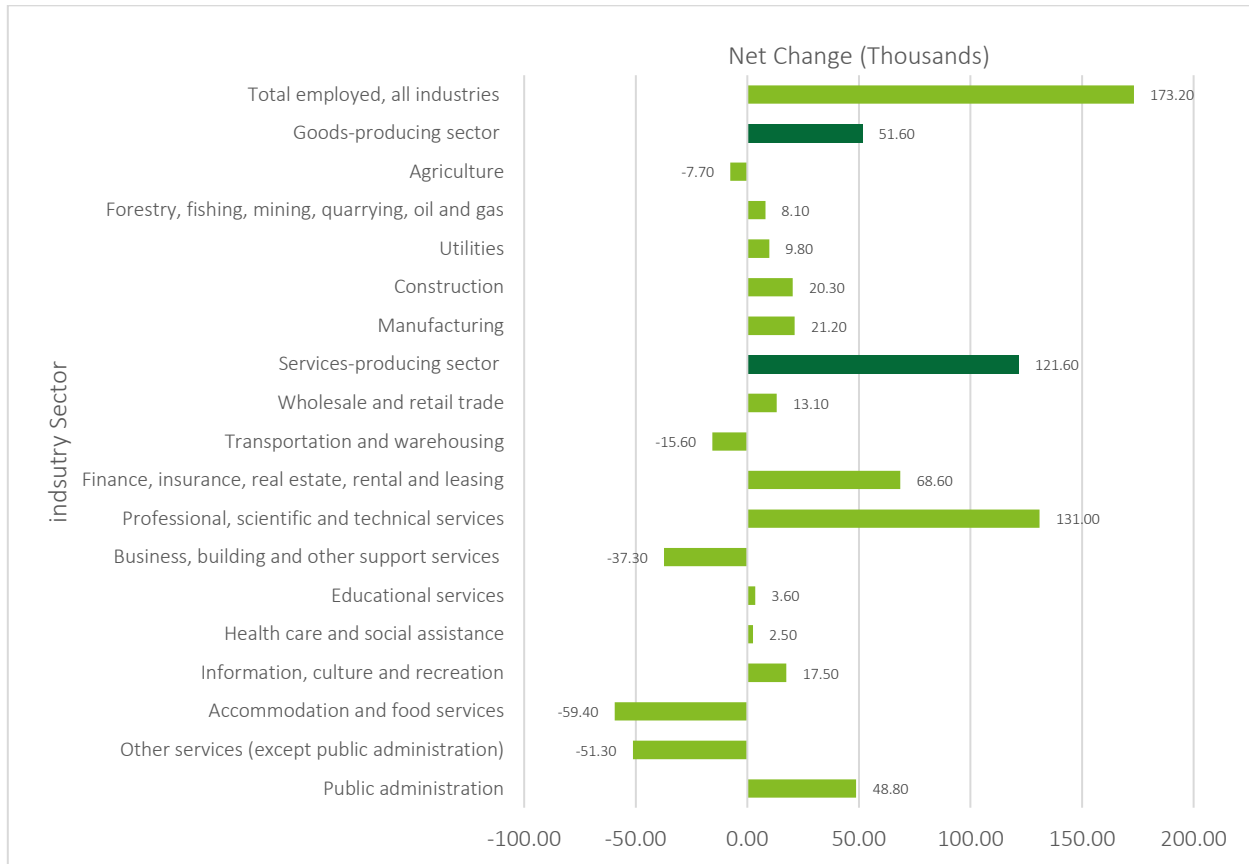
- ❖ Employment in goods-producing industries was led by manufacturing and construction
- ❖ Service sector employment was led by professional, scientific, technical services and finance, insurance, real estate, rental, and leasing
- ❖ When considering trends since the pandemic, employment was furthest above pre-COVID February 2020 levels in professional, scientific, and technical services, manufacturing, health care and social assistance and finance, insurance, real estate, rental, and leasing. Similarly, employment in accommodation and food services was furthest below its pre-COVID February 2020 level (- 59,400)

Figure 2 – Employment and Unemployment Rate, Ontario, November 2019-August 2022



Source: Statistics Canada. Table 14-10-0287-01

Figure 3 – Employment Change by Industry, Ontario, Feb 2020 – August 2022



Source: Statistics Canada. Table 14-10-0355-02

Vaughan and York Region’s Growth Tied to the GTHA’s Success

The GTHA represents the economic powerhouse of Ontario and the centre of a substantial portion of economic activity in Canada. With a robust economy and diverse mix of export-based employment sectors, the GTHA is highly attractive on an international and national level to new businesses and investors. The area also has a strong appeal given its proximity to regional infrastructure, skilled labour, and post-secondary institutions. These attributes have produced a highly competitive market and enabled all upper-tier/single-tier municipalities across the GTHA to attract a broad range of industry sectors (with varying levels of success), in both goods-producing and service sectors.

Employment growth is seen in both goods-producing and service sectors, with a gradual shift from a goods-producing economy to a services-producing economy, over the past decade. As tabulated in the figure below, service industries accounted for 84% of total GTHA employment, while the goods-producing sectors accounted for the remaining 16%.¹⁰

¹⁰ Note that the data does not include the unclassified jobs.

Figure 4 – GTHA Jobs by Industry, 2022 to 2028

NAICS	Description	2022 Jobs	2028 Jobs	Change 2022-2028	% Change 2022-2028
Goods-Producing Sectors		626,316	639,319	13,003	2%
11	Agriculture, forestry, fishing, and hunting	8,889	8,517	(372)	-4%
21	Mining, quarrying, and oil and gas extraction	4,218	4,587	369	9%
22	Utilities	24,750	25,489	739	3%
23	Construction	252,922	260,207	7,285	3%
31-33	Manufacturing	335,537	340,519	4,982	1%
Service-Producing Sectors		3,257,483	3,384,506	127,023	4%
41	Wholesale trade	232,846	237,607	4,761	2%
44-45	Retail trade	376,229	376,855	626	0%
48-49	Transportation and warehousing	230,215	240,165	9,950	4%
51	Information and cultural industries	110,402	113,317	2,915	3%
52	Finance and insurance	289,016	309,049	20,033	7%
53	Real estate and rental and leasing	111,526	113,804	2,278	2%
54	Professional, scientific, and technical services	418,081	440,271	22,190	5%
55	Management of companies and enterprises	40,276	46,427	6,151	15%
56	Admin and support, waste mgmt. & remediation	245,575	256,421	10,846	4%
61	Educational services	266,875	275,372	8,497	3%
62	Health care and social assistance	377,529	413,357	35,828	9%
71	Arts, entertainment, and recreation	64,367	64,692	325	1%
72	Accommodation and food services	191,639	194,421	2,782	1%
81	Other services (except public administration)	148,532	150,130	1,598	1%
91	Public administration	154,375	152,618	(1,757)	-1%
Total Jobs		3,883,799	4,023,825	140,026	4%

Source: Lightcast, 2022

Service-related jobs were led by professional, scientific, and technical services, health care and social assistance, retail trade and finance, and insurance. These sectors represent the 'knowledge-based' and 'creative-class economy.' They are described as advanced economies exhibiting greater dependence on knowledge, information, and high-tech jobs and skill levels.

The GTHA has also experienced significant employment growth in the goods-producing sectors, comprised of manufacturing and construction. The sector has been supported by growth in goods movement (transportation/warehousing and wholesale trade). Regional infrastructure attributes, including access to 400-series highways, planned intermodal facilities, and proximity to the Toronto Pearson International Airport will continue to play a significant role in driving demand within these sectors. Auto manufacturing is an opportunity sector for Ontario. The province is positioning itself as a leader in electric vehicle manufacturing.¹¹ An important consideration for the GTHA communities would be to plan for and support this demand. This includes providing for new consolidated and increasingly larger, more land-extensive facilities for manufacturing, warehousing, and distribution—in proximity to both the airport and intermodal facilities.

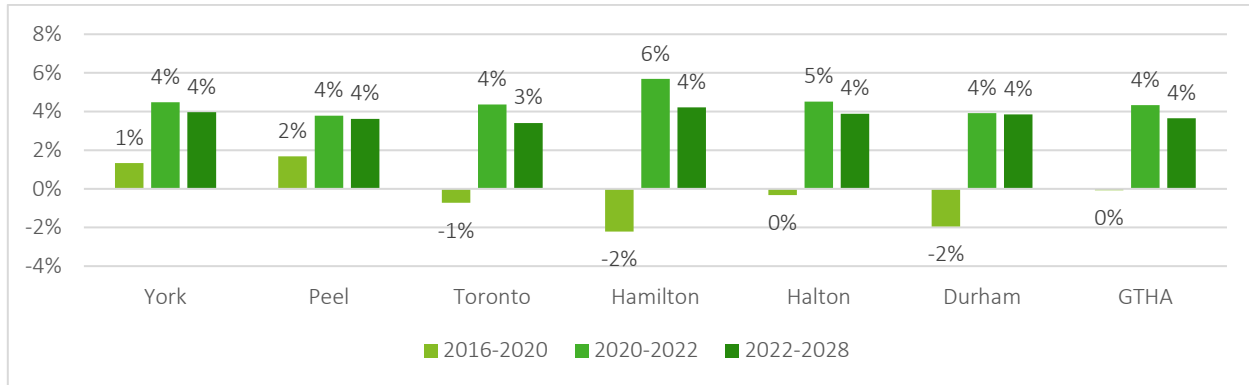
¹¹ Conference Board of Canada. December 2022. Turbulence Ahead. Provincial Three-Year Outlook.

York Region’s Growth is Above the GTHA’s Average

York Region experienced the second strongest employment growth rates behind Peel Region, and above the GTHA’s average.

As of 2022, York Region accounted for 659,354 jobs, representing approximately 16% of all GTHA jobs. The region is projected to grow 4% to 685,478 jobs by 2028.

Figure 5 – Job Growth, Upper-Tier Municipalities, 2016-2028

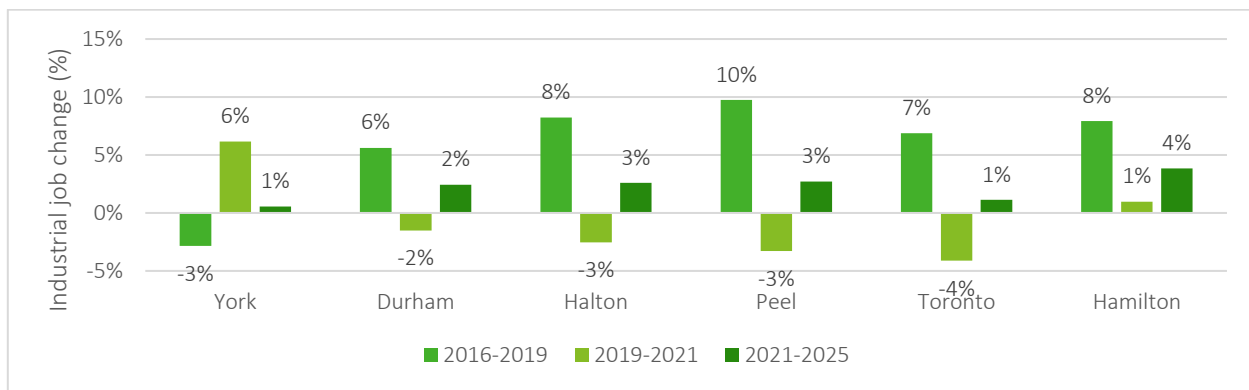


Source: Lightcast, 2022

Growth Projected in Both Office and Industrial-based Employment

As illustrated in the figure below, all GTHA communities are projected for growth in industrial-based employment, led by Hamilton at 4%. York is projected for 1% industrial employment growth. Historically, Peel Region experienced the most growth at 10% between 2016 and 2019.

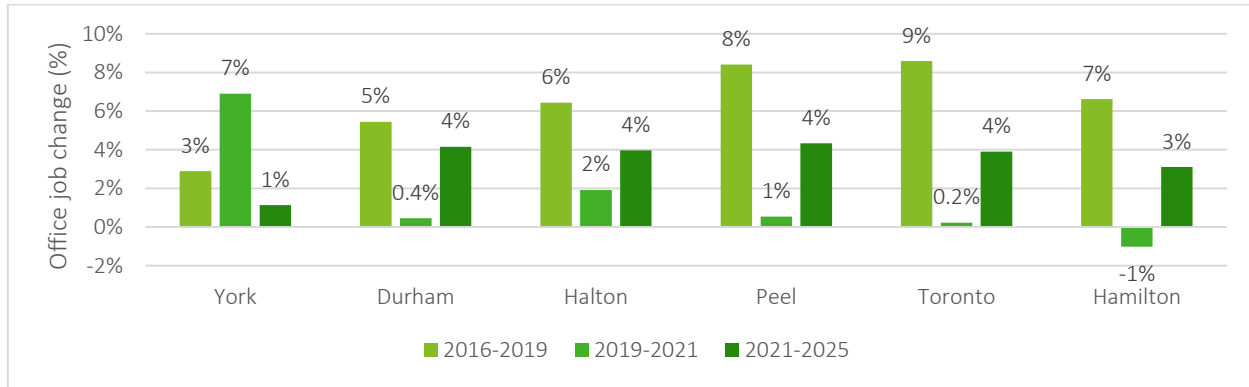
Figure 6 – Industrial-based Job Growth, Upper and Single-Tier Municipalities, 2016-2025



Source: Lightcast, 2022

The City of Toronto and Peel Region experienced the highest historical office-based employment growth at 9% and 8%, respectively. York Region posted 7% office-based growth between 2019 to 2021.

Figure 7 – Office-based Job Growth, Upper and Single-Tier Municipalities, 2016-2025



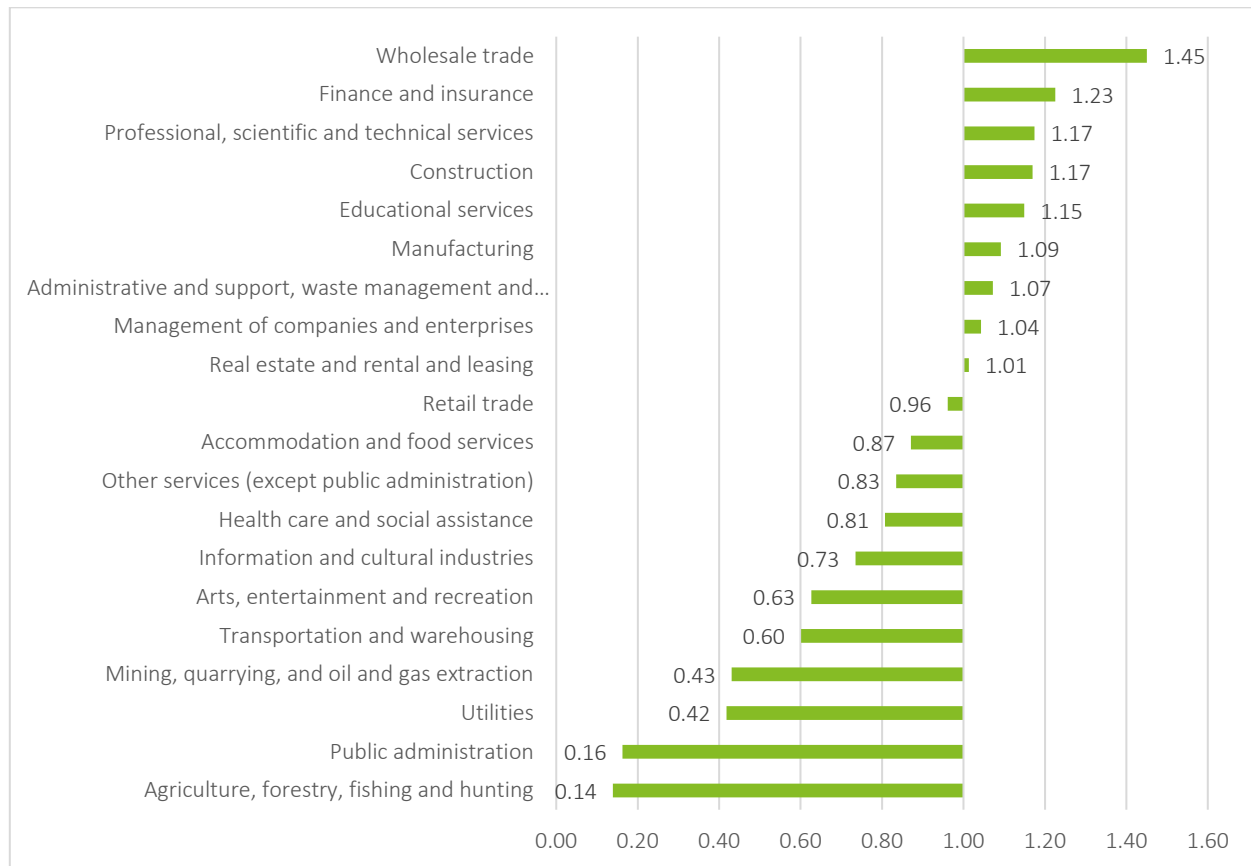
Source: Lightcast, 2022

York Region’s Industry Diversity is a Strength

When considering York Region’s economic performance, the economy is driven by a highly diverse mix of industry clusters related to manufacturing, technology, and services. This diversity is a key strength of the economy, with most of the top-traded industry clusters throughout North America having a strong presence in this region.

The Figure below (Figure 8), highlights the concentration of businesses in Vaughan as a factor of York Region. The analysis shows that as of December 2021 (Canadian Business Counts), wholesale trade, finance, and insurance, and PSTS were the dominant industry clusters in relation to the rest of the York Region. Construction, education, and manufacturing remain opportunity sectors.

Figure 8 – York Region Industry Clusters, December 2021



Source: Lightcast, 2022

Vaughan’s Economic Outlook is Promising

Following a contraction of 4.9% (about \$1.19 billion less than in 2019) at the peak of the pandemic, Vaughan’s real GDP is projected for growth.

A constant and steady increase ranging between 3.1% to 6.4% annually (annual average growth of 3.9%) is projected through to 2026. This rate is a slightly lower than that achieved over the 2010 to 2019 period.

Figure 9 – Total Real Gross Domestic Product (GDP) – City of Vaughan (2010-2026)

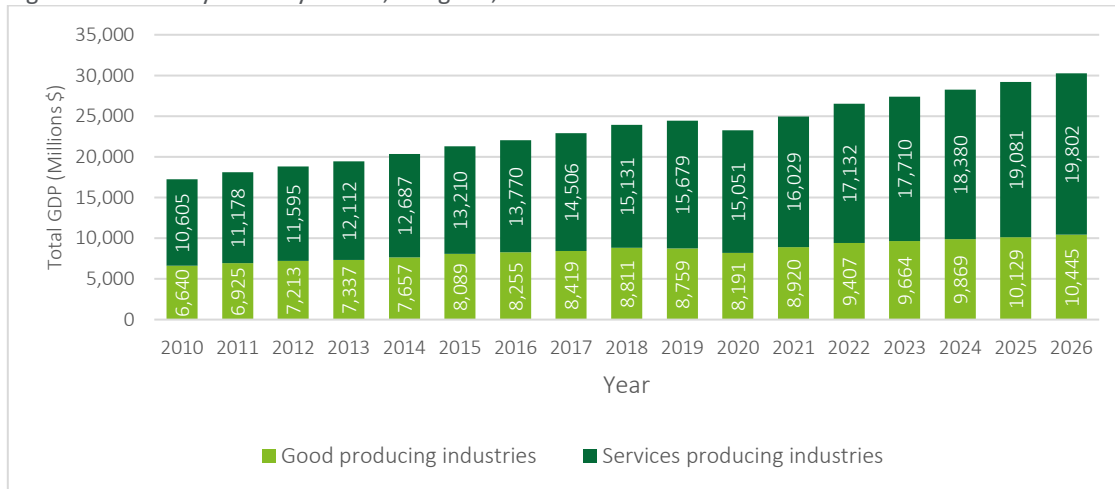


Source: Conference Board of Canada – Provided by the City of Vaughan, 2022

A substantial share of Vaughan’s GDP (65%) comes from the service-producing industries. Since 2010, the service-producing industries’ GDP has also grown at a higher rate (51%) than the goods-producing industries (34%).

Projections show that this trend is expected to continue, with the service-producing sector projected to increase by \$2.67 billion (a 16% growth), and the good-producing sector projected to grow by \$1.03 billion (an 11% growth).

Figure 10 – GDP by Industry Sector, Vaughan, 2010-2026



Source: Conference Board of Canada – Provided by the City of Vaughan, 2022

FDI Investments – Provincial and Regional Outlook

Analyzing FDI investments by sector in Ontario from January 2016 to January 2022 shows a total of 872 projects into Ontario. In terms of project type, most investments into Ontario were new (673 projects in the last few years), while 199 account for expansion projects.

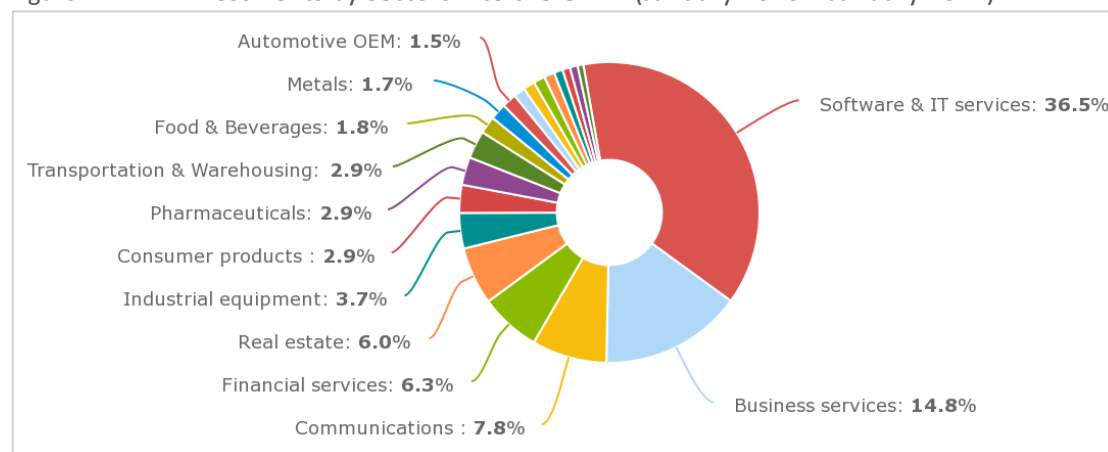
The key determinants that companies rank for their investments in Ontario are:

- ❖ skilled workforce availability (40%)
- ❖ proximity to markets or consumers (39%)
- ❖ domestic market growth (24%)

Software and IT Services Lead Investments into Ontario and the GTHA

Of the 872 projects into Ontario, 655 projects were into the GTHA. Software and IT services, and their corresponding sub-sectors (software publishers, custom computer programming, internet publishing and data processing) account for most projects. Business services, communications, real estate, and financial services also stand out.

Figure 11 - FDI investments by sectors into the GTHA (January 2016 – January 2022)



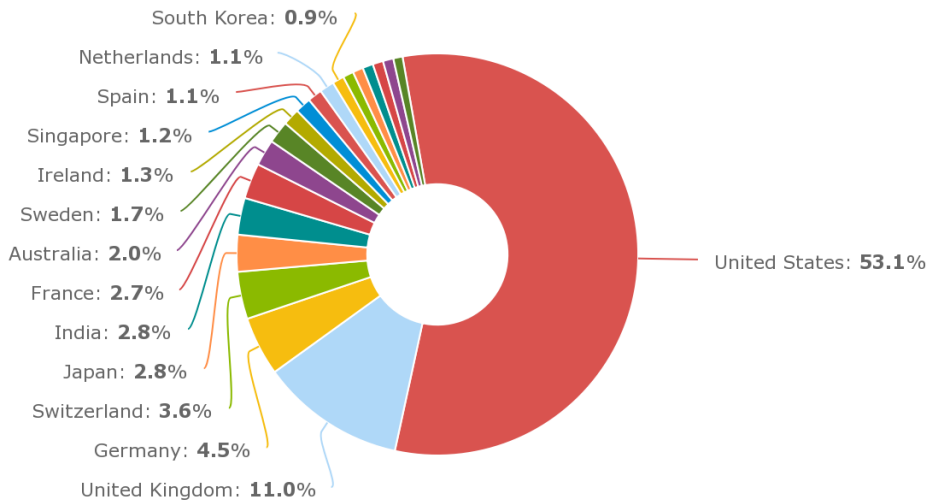
Source: fDimarkets

The United States is the Lead Investor into the GTHA and York Region

As illustrated in the figure below, the United States is the biggest investor into the GTHA. The top U.S. states from which investment is made into the GTHA include California, New York, Illinois, and Texas. Other important investor regions include the U.K., Switzerland, and Ile-de-France (France).

When considering FDI investments by destination city into the GTHA, Toronto is the biggest recipient of FDI investment accounting for 510 projects, followed by Mississauga (62) and Hamilton (16).

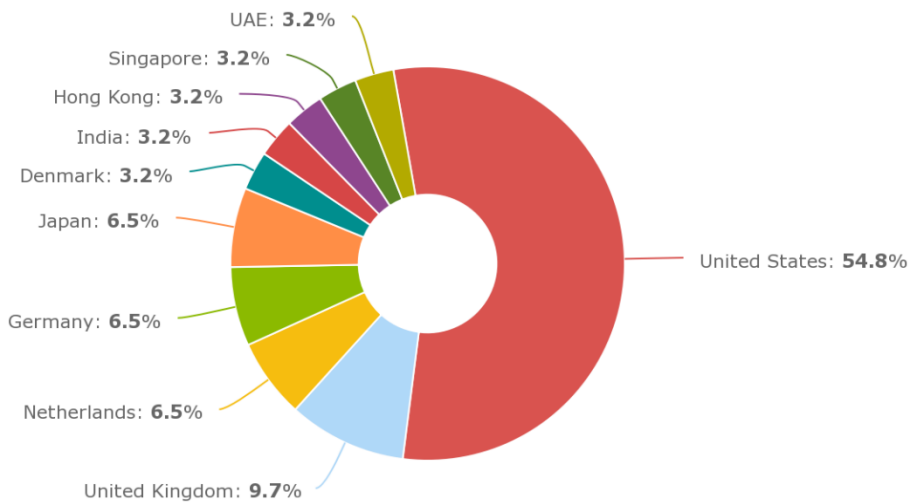
Figure 12 - FDI investments by source country into the GTHA (January 2016 – November 2022)



Source: fDimarkets

Like the GTHA, the United States is the biggest investor into York Region and key investor states include California, Michigan, and Arkansas. Other key investor regions include Kanto (Japan) and Baden Wurttemberg (Germany). York Region accounted for 29 of the 655 projects into the GTHA.

Figure 13 - FDI investments by source country into York Region (January 2016 – November 2022)

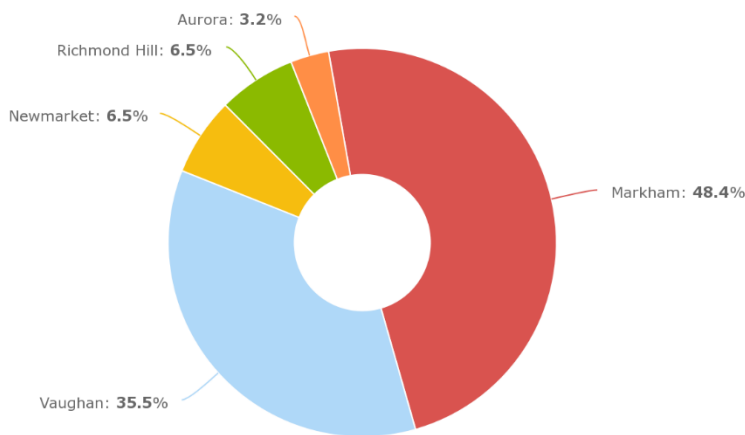


Source: fDimarkets

Vaughan Accounts for 11 FDI Investments into York Region

Within York Region, Markham is the biggest recipient of FDI investment, accounting for 15 projects, followed by Vaughan (11) and Newmarket (2). Like broader regional trends, Software and IT services, and their corresponding sub-sectors (software publishers, custom computer programming, internet publishing and data processing) account for most projects. Communications, food and beverage, and business machines and electronic components also stand out.

Figure 14 - FDI investments by destination city into York Region (January 2016 – January 2022)



Source: fDimarkets

The makeup of Vaughan FDI investments is further explored in Section V – Vaughan FDI Opportunities.

Economic and Community Profile

This section of the report provides an assessment of the local demographic and economic indicators, including population growth, labour force, and business trends.

The Economic and Community Profile indicators were studied in comparison to York Region, GTHA, and Ontario. The following data sources were used in developing this baseline analysis for Vaughan.

- ❖ Statistics Canada, Canadian Business Counts, June 2022
- ❖ *metroeconomics*
- ❖ Statistics Canada, Census Profile, 2021, 2016 and NHS 2011
- ❖ Lightcast (formerly EMSI Economic Modeling), 2022

Demographic Characteristics

Population

As per the 2021 Census, Vaughan was home to 323,103 residents, representing 28% of York Region's population and 4% of the GTHA's population. Since 2011, Vaughan has experienced steady population growth, increasing 12% between 2011 and 2021, and 6% between 2016 and 2021.

Based on work undertaken by York Region through the Municipal Comprehensive Review (MCR), Vaughan's population is expected to grow by approximately 230,000 people by 2051. This represents an average annual growth rate of 1.7%, or approximately 7,700 people per year.

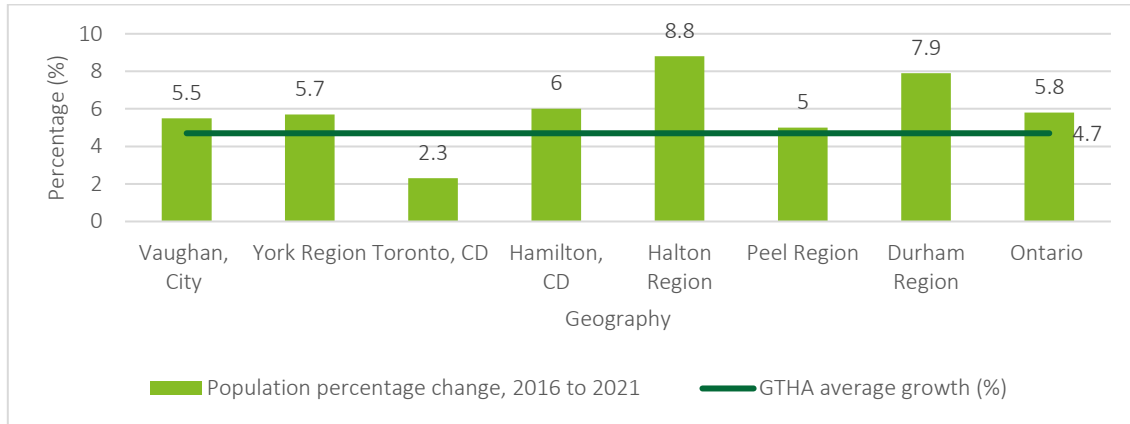
Figure 15 – Population Change, 2011-2021

Census Period	Vaughan, City	York Region	GTHA	Ontario
Population, 2021	323,103	1,173,334	7,281,694	14,223,942
Population, 2016	306,233	1,109,909	6,954,433	13,448,494
Population, 2011	288,301	1,032,515	6,574,160	12,851,821
Net Change, 2016 to 2021	16,870	63,425	327,261	775,448
Percentage change, 2016 to 2021	5.5	5.7	4.7	5.8

Source: Statistics Canada, 2021 Census | 2016 Census

Vaughan’s population growth between 2016 to 2021 exceeded the broader GTHA growth rate yet is lower than that in York Region and the province.

Figure 16 – Population Growth Rate, 2016-2021



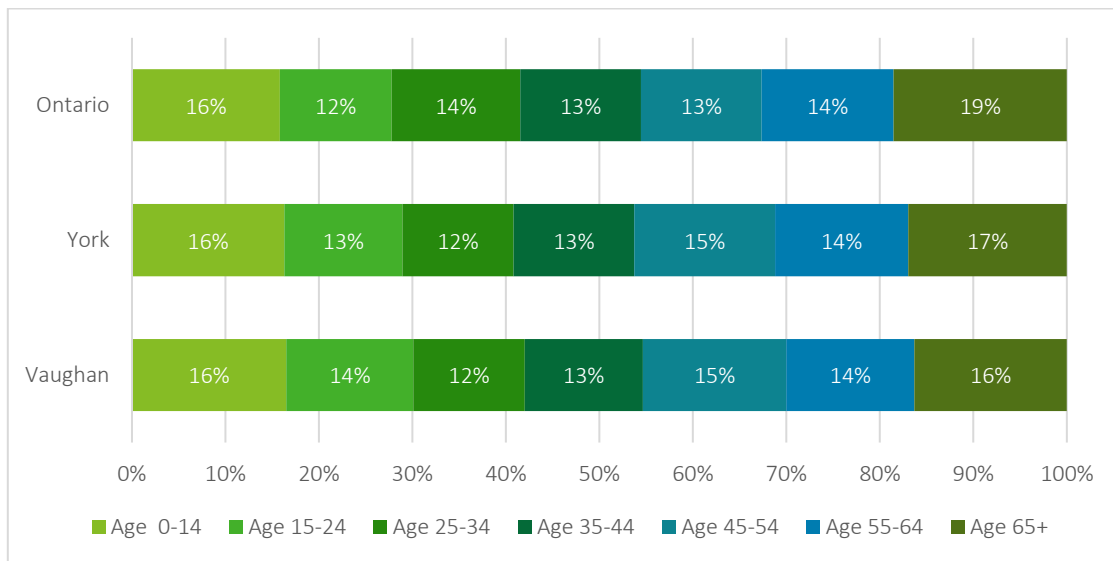
Source: Statistics Canada, 2021 Census | 2016 Census

Age of Population

In addition to analyzing the growth rate of the population, it is important to examine the population by broad age groups. This will provide insights into current and future talent needs, housing needs, and support programming.

As per the 2021 census, the median age of Vaughan’s population was 41.6 years compared to 42 years in York Region. The city’s population is evenly divided across the different age groups. 16% of Vaughan residents were above the age of 65, and 14% were between 55 to 64. 42% of Vaughan’s population is under the age of 35. Vaughan’s age group distribution is like that of other cities.

Figure 17 – Population Share by Age Group, 2022



Source: Statistics Canada, 2021 Census

Dwelling and Affordability

As per the 2021 Census, Vaughan has approximately 103,915 occupied private dwellings. As shown in the figure below **Error! Reference source not found.**, Vaughan’s existing housing stock is comprised of single-detached dwellings (i.e., low-density units) at 63%. The city has a lower share of high-rise buildings (greater than 5 storeys) compared to the GTHA, and the province. A wide variety of housing types is needed to support a younger cohort, newcomers, single households, and seniors. This will, in turn, attract and encourage residents to live and work in the city.

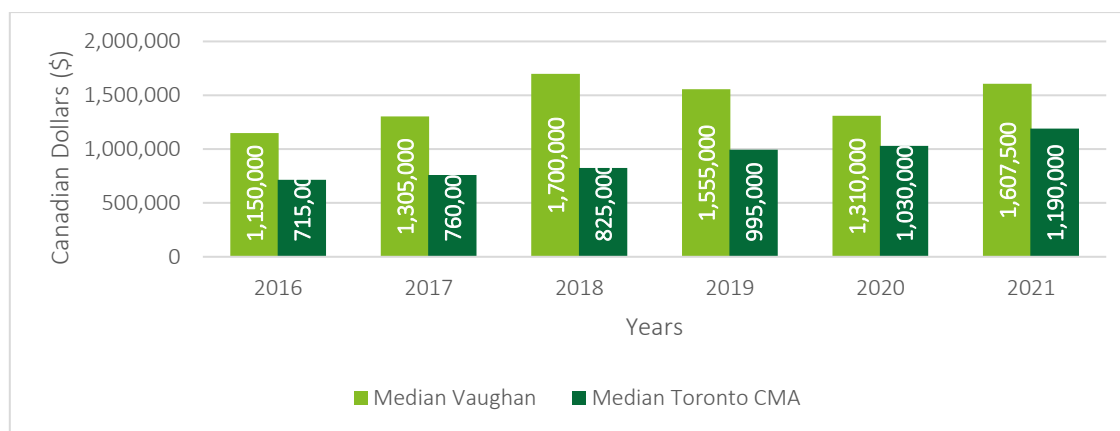
Figure 18 – Dwelling Type, 2021

Dwelling Type	Vaughan, City	York Region	GTHA	Ontario
Single-detached house	63%	62%	42%	54%
Semi-detached house	8%	6%	7%	6%
Row house	11%	13%	10%	9%
Apartment or flat in a duplex	3%	4%	4%	3%
Apartment in a building that has fewer than five storeys	2%	3%	9%	10%
Apartment in a building that has five or more storeys	13%	12%	28%	18%
Other single-attached house	0.03%	0.1%	0.2%	0.2%
Movable dwelling	0.01%	0.04%	0.03%	0.3%

Source: Statistics Canada, 2021 Census

Vaughan is less affordable than the Toronto CMA (Census Metropolitan Area) in terms of dwelling values. By 2021, the median value of absorbed dwellings in the city reached \$1,607,500, compared to \$1,190,000 in the Toronto CMA. Despite being higher, the median value of dwellings in Vaughan has grown slower than the CMA, experiencing a 40% increase compared to 2016 (the Toronto CMA median price for absorbed dwellings increased by 66%).

Figure 19 – Historical Median Price (\$) for Absorbed Homeowner and Condominium Units, City of Vaughan, 2016-2021



Source: Canada Mortgage and Housing Corporation, Housing Market Information Portal, 2022

According to the Canadian Mortgage and Housing Corporation, in 2021, a total of 5,564 dwelling starts were recorded in Vaughan. Most of these new starts were apartment units (86%). Apartment units account for the largest number of dwelling starts in recent years (67% of all dwelling starts since 2017); this trend shows a movement towards residential intensification.¹²

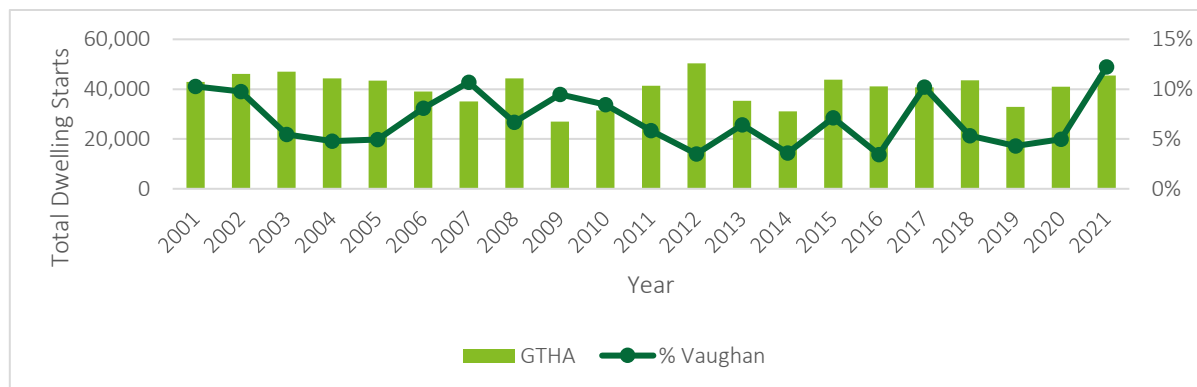
As of 2021, Vaughan represented 12% of the GTHA’s total dwelling starts. In the last two decades, the city has represented on average 7% of all new start activities in the area.

Figure 20 – Historical Starts by Dwelling Type, City of Vaughan

Year	Single	Semi-detached	Row	Apartment	All	% Change (from previous year)
2017	736	20	1,169	2,227	4,152	193%
2018	504	6	192	1,615	2,317	-44%
2019	230	10	597	577	1,414	-39%
2020	578	4	223	1,227	2,032	44%
2021	540	6	257	4,761	5,564	174%

Source: Canada Mortgage and Housing Corporation, Housing Market Information Portal, 2022

Figure 21 – Vaughan Historical Starts (All Types of Dwelling) as a Percentage of the GTHA, 2001-2021



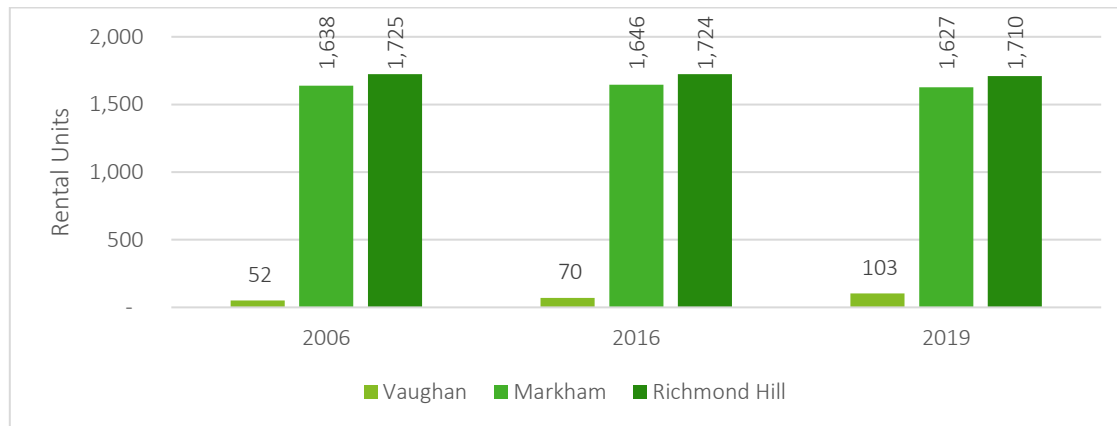
Source: Canada Mortgage and Housing Corporation, Housing Market Information, 2022

¹² Intensification occurs when an existing building, site or area within the existing urban area is developed or redeveloped at a density higher than what currently exists.

Purpose-built Rental

Vaughan lags other municipalities in York Region in terms of the availability of rental units. Most tenants in Vaughan rent on the secondary market, which is precarious and less affordable than purpose-built rentals. As home ownership becomes out of reach for many people in Vaughan, an adequate rental housing supply is necessary to attract and retain skilled workers, young families, and people looking to downsize, among others.

Figure 22 – Comparison of Purpose-built Rental Supply in Vaughan, Richmond Hill, and Markham



Source: The Policy Directions Report, Draft, April 2022

Intensification Targets

As per the Policy Directions Report, Draft, April 2022, in alignment with the Draft York Region OP, released by the Region in November 2021, Vaughan will plan for a minimum intensification target of 50% to 55%. From 2021 to 2041, 50% of residential development will occur within the built-up area (BUA), and that target will increase to 55% from 2041 to 2051. To meet this target, Vaughan will accommodate a minimum of 47,435 new residential units in the BUA between 2021 to 2051, or approximately 1,580 new units per year.

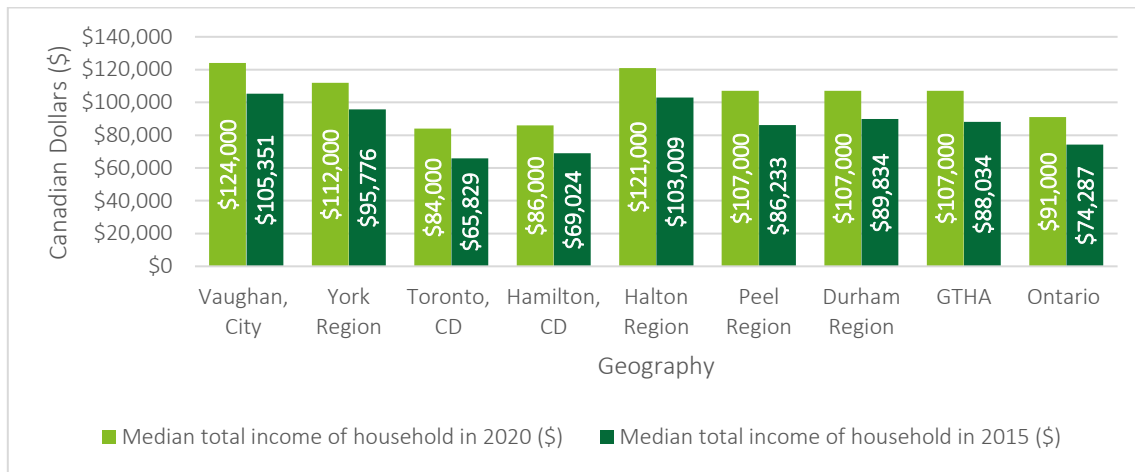
These targets are minimums, and do not prevent the city from achieving higher levels of intensification, should the demand exist.

Household Income

Vaughan recorded a median household income¹³ of \$124,000 in 2020, 11% higher than the median household income in York Region. Vaughan’s median household incomes are 16% higher than the GTHA’s and 36% higher than household incomes in Ontario.

Compared to 2015, median household income grew by 18% in the city. This growth rate increase is comparable to the Region and 4% lower than the GTHA.

Figure 23 – Median Total Income of Households, 2015-2020

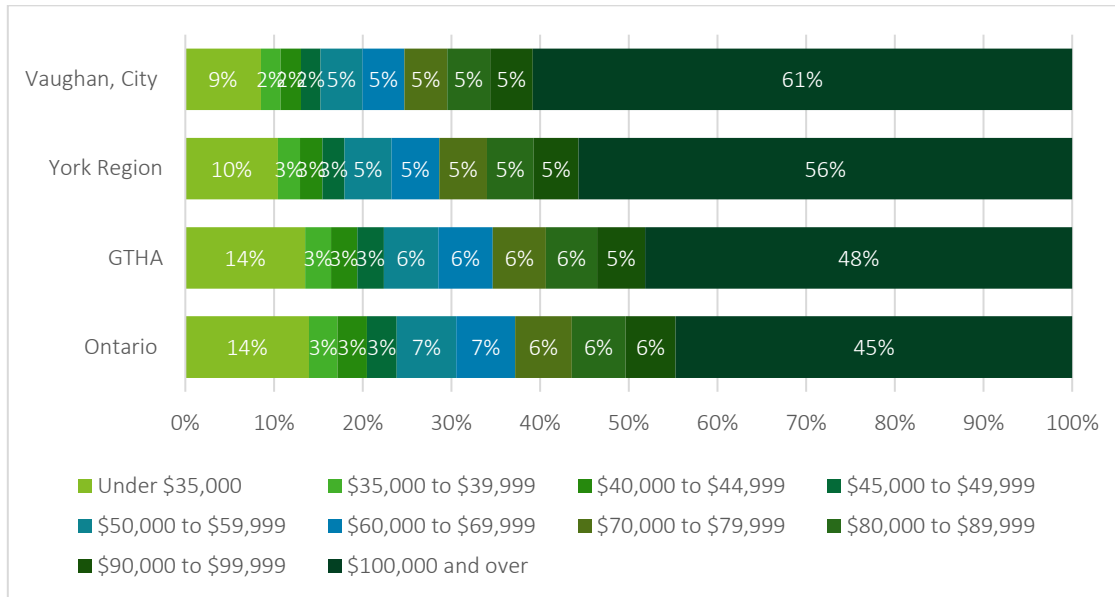


Source: Statistics Canada, 2021 Census

Approximately 61% of Vaughan’s households have an income of \$100,000+, higher than York Region at 56%, the GTHA at 48%, and the province of Ontario at 45%. Traditionally, higher levels of income translate into more disposable income. When people and households have more money to save or spend, this can increase local goods and services consumption and boost consumer buying power.

¹³ Household income is generally defined as the total gross income before taxes, received within a 12-month period by all household members above a specified age (Statistics Canada specifies age 15 and older)

Figure 24 – Share of Households by Income Group, 2021



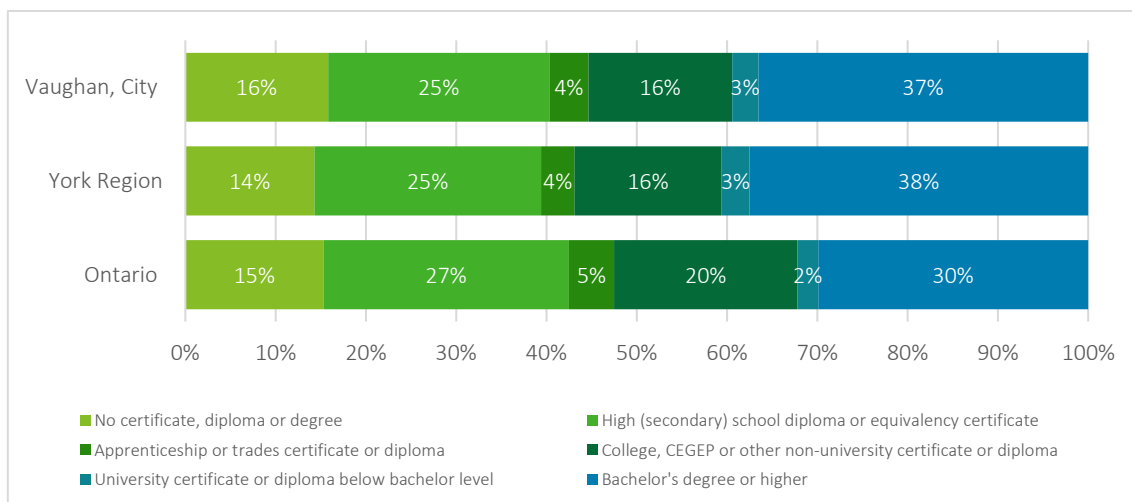
Source: Statistics Canada, 2021 Census

Education

Educational attainment can be looked at as an important descriptor of labour force capacity. The figure below summarizes skilled labour proportions for comparators, composed of those who have completed an apprenticeship, trade certificate, college or university degree, diploma, or certificate.

According to Statistics Canada, close to 60% of Vaughan’s labour force has a post-secondary certificate, diploma, or degree. 25% of Vaughan’s labour force has a secondary (high) school diploma or equivalency certificate while 16% has college or non-university diplomas. 37% of Vaughan’s labour force has a university certificate, diploma, or degree at a bachelor’s level or above, compared to 38% in York Region and 30% at the provincial level.

Figure 25 – Educational Attainment of the Population 15 Years of Age and Over, 2021



Source: Statistics Canada, 2021 Census

The figure below shows the major fields of study for Vaughan’s population aged 15 years and older with a postsecondary certificate, diploma, or degree. Like regional and provincial trends, most of the city’s population have an education related to business, management, and public administration (15%), followed by architecture, engineering, and related technologies (11%).

Figure 26 – Major Field of Study, Population 15 Years and Over, 2021

Major field of study	Vaughan	York Region	Ontario
No postsecondary certificate, diploma, or degree	40%	39%	42%
Education	3%	3%	3%
Visual and performing arts, and communications technologies	2%	2%	2%
Humanities	3%	3%	3%
Social and behavioural sciences and law	9%	8%	8%
Business, management, and public administration	15%	16%	12%
Physical and life sciences and technologies	3%	3%	3%
Mathematics, computer, and information sciences	4%	5%	3%
Architecture, engineering, and related trades	11%	11%	11%
Agriculture, natural resources, and conservation	1%	1%	1%
Health and related fields	6%	6%	8%
Personal, protective, and transportation services	2%	2%	3%
Other	0%	0%	0%

Source: Statistics Canada, 2021 Census

Labour Force Status

As per the 2021 Census, Vaughan’s labour force¹⁴ accounted for approximately 176,625 people. The figure below shows that during the time the Census data was captured, Vaughan had a high unemployment rate of 13%. The most recent data collected for the Toronto CMA (excluding Oshawa) show the CMA recorded a 6.1% unemployment rate.¹⁵ During 2021, Vaughan recorded a comparatively higher participation rate compared to both the region and the province.

Figure 27 – Labour Force Status, 2021

Labour Force Status	Vaughan	York Region	Ontario
Total	268,050	974,535	11,782,820
In the labour force	176,625	622,430	7,399,200
Participation rate	66%	64%	63%
Employment rate	58%	56%	55%
Unemployment rate*	13%	13%	12%

Source: Statistics Canada, 2021 Census

*This unemployment rate was calculated in the middle of the COVID-19 pandemic and does not correspond to current unemployment rates in Vaughan.

¹⁴ According to the standard definition used by Statistics Canada, the employed are persons having a job or business, whereas the unemployed are without work, are available for work, and are actively seeking work. The unemployed and the employed constitute the labour force

¹⁵ Statistics Canada. Table 14-10-0354-01 Regional unemployment rates used by the Employment Insurance program, three-month moving average, seasonally adjusted

The data presented below is labour force by industry, meaning that it is the place of residence. The analysis for Vaughan shows that the labour force is centred in the following industry sectors:

- Professional, scientific, and technical services – 20,500 people (12% of the total labour force)
- Retail trade – 19,180 people (11% of the total labour force)
- Construction – 16,740 people (9% of the total labour force)

Professional, scientific, technical services, and retail trade are among the largest industry sector by labour force employed in all three geographies.

Figure 28 – Labour Force by Industry Sector (2-Digit NAICS), 2021

Industry	Vaughan	York Region	Ontario
54 Professional, scientific, and technical services	12%	12%	9%
44-45 Retail trade	11%	11%	11%
23 Construction	9%	8%	7%
62 Health care and social assistance	9%	9%	12%
31-33 Manufacturing	9%	8%	9%
61 Educational services	8%	7%	7%
52 Finance and insurance	8%	8%	5%
41 Wholesale trade	4%	4%	3%
48-49 Transportation and warehousing	4%	4%	5%
81 Other services (except public administration)	4%	4%	4%
72 Accommodation and food services	4%	5%	5%
91 Public administration	4%	4%	6%
56 Administrative and support, waste management, and remediation services	3%	4%	4%
53 Real estate and rental and leasing	3%	3%	2%
Industry – not applicable	3%	3%	3%
51 Information and cultural industries	2%	2%	2%
71 Arts, entertainment, and recreation	1%	2%	2%
55 Management of companies and enterprises	1%	1%	0%
22 Utilities	0%	1%	1%
11 Agriculture, forestry, fishing and hunting	0%	0%	1%
21 Mining, quarrying, and oil and gas extraction	0%	0%	0%

Source: Statistics Canada, 2021 Census

Employment and Occupation Trends

This section provides an assessment of local workforce trends by employment (place of work)¹⁶ and occupational categories.

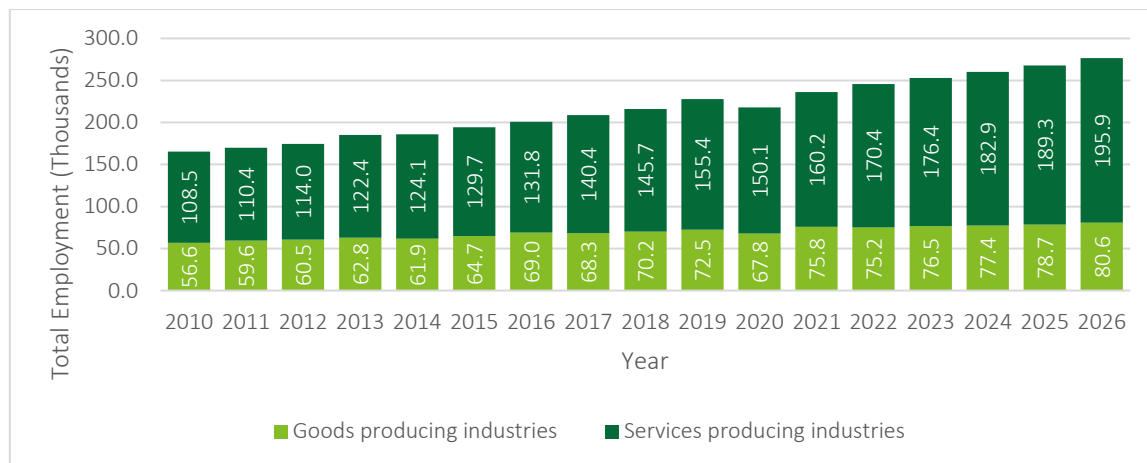
Current and Forecast Employment

Following job decline because of the pandemic, Vaughan’s employment is recovering. As of 2020, Vaughan accounted for 245,580 jobs.

Between 2022 and 2026, employment is projected to grow at an annual rate of 3% to 276,483 jobs in 2026. This translates to an additional 30,902 jobs from 2022 to 2026.

The projections show that employment in Vaughan is driven by the service-producing industries. Currently, these sectors represent close to 69% of the city’s employment and will reach 71% of the total jobs by 2026.

Figure 29 – Employment, City of Vaughan, 2010-2026

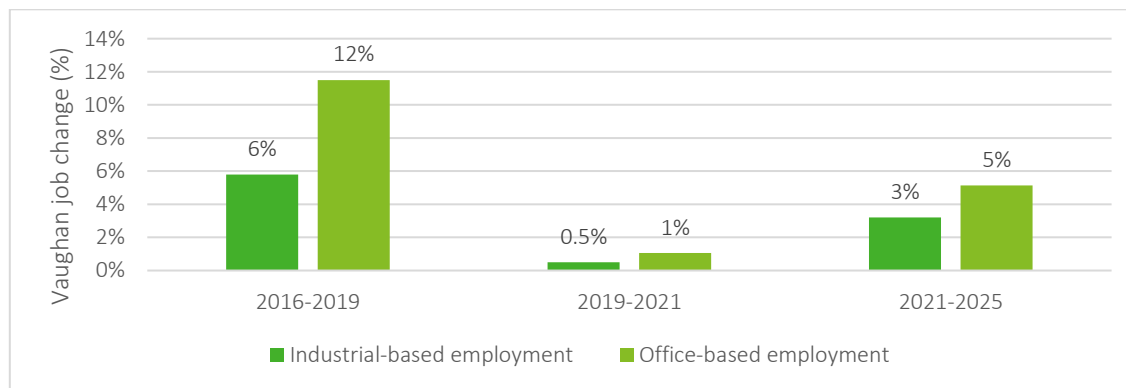


Source: Conference Board of Canada – Provided by the City of Vaughan

Like the trends in York Region, Vaughan showed high office-based job growth from 2016 to 2019. Job growth is projected over the 2021 to 2025 period at 5% for both industrial and office-based employment.

¹⁶ Overall number of jobs in the community, irrespective of where the employee resides.

Figure 30 – Industrial-based & Office-based Job Growth, Vaughan, 2016-2025



Source: Lightcast, 2022.

Vaughan has a diverse employment base, as illustrated in the figure below. The largest sector by employment in the city is manufacturing, accounting for 18% of the total employment base. Other key sectors include construction (15% of total employment) and retail trade (12% of total employment).

Jobs in Vaughan are projected to grow by 9,498 from 2022 to 2028. Sectors accounting for most of the job growth include transportation and warehousing, manufacturing, health care and social assistance, professional, scientific, and technical services, and construction. Like the GTHA and York region trends, job growth includes those in the “knowledge-based and creative-class economy” sectors. Employment growth within Vaughan will be driven by demand from a broad range of export-based and knowledge-based employment sectors. The city is expected to be particularly attractive in the long term to knowledge-intensive and creative forms of economic activity and goods-movement-related sectors.

Figure 31 – Employment by Industry Sector, City of Vaughan, 2022-2028

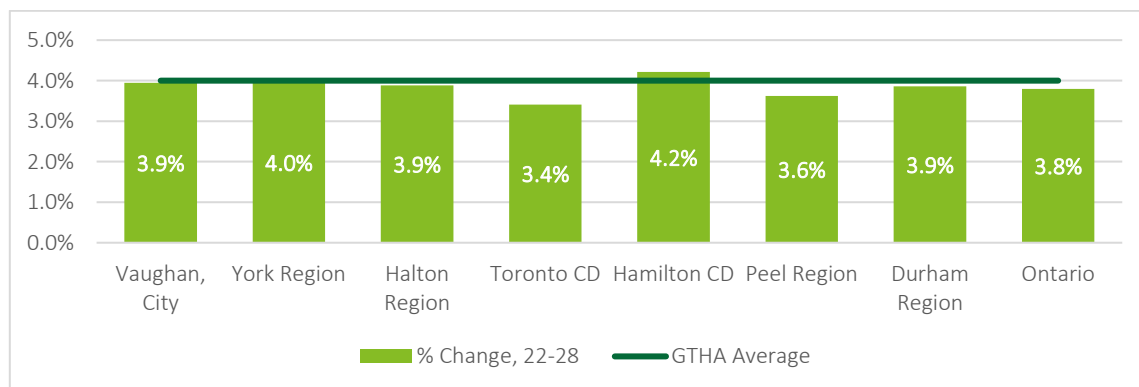
NAICS	Description	2022	2028	Change 2022-2028	% Change 2022-2028
Goods-Producing Sectors		79,345	81,836	2,491	3%
11	Agriculture, forestry, fishing, and hunting	383	413	30	8%
21	Mining, quarrying, and oil and gas extraction	331	382	51	15%
22	Utilities	809	853	44	5%
23	Construction	35,442	36,570	1,128	3%
31-33	Manufacturing	42,380	43,618	1,238	3%
Service-Producing Sectors		162,053	169,060	7,007	4%
41	Wholesale trade	22,509	23,214	705	3%
44-45	Retail trade	28,075	28,119	44	0%
48-49	Transportation and warehousing	17,301	18,629	1,328	8%
51	Information and cultural industries	2,529	2,584	55	2%
52	Finance and insurance	6,274	6,829	555	9%
53	Real estate and rental and leasing	5,708	5,820	112	2%
54	Professional, scientific, and technical services	17,742	18,902	1,160	7%
55	Management of companies and enterprises	1,730	1,997	267	15%
56	Admin and support, waste mgmt. & remediation	12,240	13,088	848	7%
61	Educational services	10,272	10,893	621	6%
62	Health care and social assistance	11,512	12,677	1,165	10%

NAICS	Description	2022	2028	Change 2022-2028	% Change 2022-2028
71	Arts, entertainment, and recreation	4,406	4,260	(146)	-3%
72	Accommodation and food services	9,682	9,883	201	2%
81	Other services (except public administration)	8,502	8,740	238	3%
91	Public administration	3,571	3,425	(146)	-4%
Total Jobs		241,398	250,896	9,498	4%

Source: Lightcast, 2022. Note that the data trends presented through Lightcast are like the Conference Board of Canada data provided by the City of Vaughan, 2022. Lightcast data is used here to ensure uniformity

To compare the employment growth in Vaughan with the rest of the region, Lightcast employment projections were considered.¹⁷ Between 2022 to 2028, Vaughan’s employment will grow at a similar rate to York Region and the broader GTHA (approximately 4%). Employment in Vaughan will grow at a higher pace than in Toronto and the province.

Figure 32 – Employment Growth Rate, 2022-2028



Source: Lightcast, 2022

Current and Forecast Occupations

In terms of occupational categories, most of the employment in Vaughan was in occupations such as sales and service (23% of all employment), followed by trades, transport, and equipment operators (19% of all employment). Compared to York Region, GTHA, and Ontario, the city of Vaughan had a larger share of occupational employment related to trades, transport and equipment operation, and occupations in manufacturing.

Figure 33 – Employment by Occupational Category (1-Digit NOC), 2022

NOC	Description	Vaughan	York Region	GTHA	Ontario
1	Business, finance, and administration occupations	16%	17%	19%	17%
2	Natural and applied sciences and related occupations	9%	11%	10%	9%
3	Health occupations	3%	5%	6%	7%
4	Occupations in education, law and social, community and government services	7%	9%	10%	11%

¹⁷ Lightcast (formerly EMSI Analyst), uses a different methodology than the Conference Board of Canada; estimates are used to contrast employment growth with different regions.

NOC	Description	Vaughan	York Region	GTHA	Ontario
5	Occupations in art, culture, recreation and sport	2%	3%	3%	3%
6	Sales and service occupations	23%	23%	23%	23%
7	Trades, transport and equipment operators and related occupations	19%	14%	12%	13%
8	Natural resources, agriculture and related production occupations	1%	1%	1%	1%
9	Occupations in manufacturing and utilities	9%	6%	5%	5%
X	Unclassified	1%	1%	1%	1%
0	Management occupations	10%	10%	10%	9%

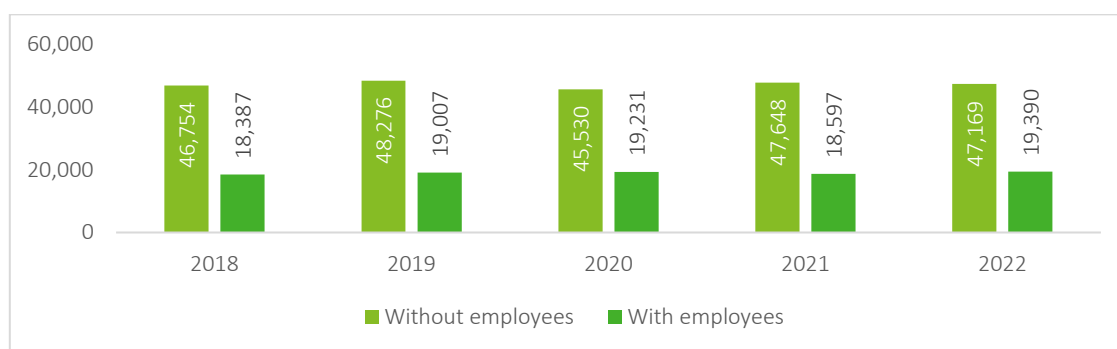
Source: Lightcast, 2022

Business Environment and Structure

The review of the business structure in Vaughan between June 2018 and June 2022 provides an understanding of the growth or decline of businesses over the five-year period and the key characteristics that define Vaughan’s business community. When combined with the broader industry analysis, the business patterns information will assist in understanding the key industry opportunities for Vaughan. As per the June 2022 Canadian Business Counts data, Vaughan had a total of 66,559 business establishments, of which 71% (47,169 businesses) were self-employed establishments, and the remaining were businesses with employees. Business establishments in Vaughan with employees are characterized by small companies and enterprises that employ less than 10 people. By June 2022, 11,702 businesses, or 18% of the total businesses, employed 1-4 people. An additional 3,204 businesses, or 5% of the subtotal, employed 5-9 people.

The size of the business is of significance because the small, medium, and large firms are believed to provide different economic functions within an economic region. Small firms are seen as the major source of new products and ideas, while large firms typically develop as products become more homogenous and firms begin to exploit economies of scale.

Figure 34 – Total Businesses, 2018-2022



Source: Lightcast, 2022 | Canadian Business Counts, June 2022

Studying the business sectors by industry, the following sectors exhibit the highest proportion of business establishments in Vaughan as of June 2022:

- ❖ Real estate and rental and leasing – 12,568 businesses (19% of total)
- ❖ Professional, scientific, and technical services – 8,517 businesses (13% of total)
- ❖ Construction – 8,374 businesses (13% of total)

The self-employed sectors with the highest business establishment proportions were:

- ❖ Real estate and rental and leasing – 11,525 businesses (24% of total businesses without employees)
- ❖ Construction – 5,623 businesses (12% of total businesses without employees)
- ❖ Professional, scientific, and technical services – 5,471 businesses (12% of total businesses without employees)

The industries with the highest number of establishments employing people were:

- ❖ Professional, scientific, and technical services – 3,046 businesses (16% of total businesses with employees)
- ❖ Construction – 2,751 businesses (14% of total businesses with employees)
- ❖ Retail trade – 1,624 businesses (8% of total businesses with employees)

Figure 35 – Business by Industry (2-Digit NAICS) by Size, June 2022

NAICS	1-4	5-9	10-19	20-49	50-99	100-199	200-499	500+	With Employees	W/O Employees	Total
11	12	5	3	2	2	0	0	0	24	83	107
21	3	6	2	0	0	1	0	1	13	16	29
22	5	0	0	0	0	0	1	0	6	31	37
23	1,503	502	362	226	100	41	11	6	2,751	5,623	8,374
31-33	413	230	202	203	90	74	33	6	1,251	785	2,036
41	582	297	223	186	59	12	16	0	1,375	1,077	2,452
44-45	735	395	247	135	62	33	16	1	1,624	1,792	3,416
48-49	661	77	75	51	14	7	9	4	898	1,828	2,726
51	120	45	20	7	6	1	1	0	200	329	529
52	419	89	61	60	13	3	1	0	646	4,114	4,760
53	817	128	46	41	10	0	1	0	1,043	11,525	12,568
54	2,449	286	169	101	26	8	4	3	3,046	5,471	8,517
55	39	16	11	16	8	7	4	2	103	640	743
56	431	194	95	83	31	20	7	3	864	1,561	2,425
61	83	42	34	37	10	5	0	1	212	368	580
62	870	305	191	81	18	7	4	2	1,478	1,564	3,042
71	74	24	16	21	7	6	2	1	151	355	506
72	250	225	179	165	33	19	2	0	873	454	1,327
81	886	218	99	49	7	5	0	0	1,264	1,734	2,998
91	1	0	0	0	0	0	0	2	3	1	4
X0	1,349	120	66	20	9	1	0	0	1,565	7,818	9,383
Total	11,702	3,204	2,101	1,484	505	250	112	32	19,390	47,169	66,559

Source: Lightcast, 2022 | Canadian Business Counts, June 2022

11 - Agriculture, Forestry, Fishing and Hunting | 21 - Mining and Oil and Gas Extraction | 22 – Utilities | 23 – Construction | 31-33 – Manufacturing | 41 - Wholesale Trade | 44-45 - Retail Trade | 48-49 - Transportation and Warehousing | 51 - Information and Cultural Industries | 52 - Finance and Insurance | 53 - Real Estate and Rental and Leasing | 54 - Professional, Scientific and Technical Services | 55 - Management of Companies and Enterprises | 56 - Administrative and Support, Waste Management and Remediation Services | 61 - Educational Services | 62 - Health Care and Social Assistance | 71 - Arts, Entertainment and Recreation | 72 - Accommodation and Food Services | 81 - Other Services (except Public Administration) | 91 - Public Administration

Vaughan's Employment Areas and Growth Trends

The Economic Development and Employment Sectors Study identifies that Employment lands are an integral part of Vaughan's economic development potential, and they accommodate a broad range of sectors including manufacturing, construction, wholesale trade, professional, scientific, and technical services, and transportation and warehousing. There are four key Employment Areas in the City of Vaughan:

- ❖ Concord/CN Railway Lands
- ❖ Highway 400
- ❖ Highway 407
- ❖ Highway 427

These four areas accommodate approximately two-thirds of the City's total employment and a wide range of uses, the largest sector being manufacturing. As of 2017, 38% of Vaughan's employment base on employment lands is located within the Concord/CN Railway Lands district, while the Highway 400 Industrial District accommodates 27%. Highway 407 and Highway 427 Industrial Districts account for 25% and 10% of the employment base, respectively.

As per the Policy Directions Report, Draft, April 2022, there are seven Major Transit Station Areas (MTSAs) located within Vaughan's Employment Areas.

MTSAs are areas within 800m of a major transit station (subway, bus, or light rail rapid transit, or GO transit) and intended to accommodate the highest level of intensification and mixing of uses, supported by an integrated transportation network including transit and active transportation. The Employment Areas and MTSAs offer an important avenue for the city to increase the competitiveness of its economic base. These lands not only accommodate a significant share of the city's business and employment, but they are also a critical aspect of Vaughan's economic competitiveness relative to the surrounding market area.

Key insights of the Policy Directions Report, Draft, April 2022, of relevance to this study include:

- ❖ Given evolving trends in the GGH (Greater Golden Horseshoe) economy towards knowledge-based sectors, Vaughan will need to encourage and accommodate a wide range of business service and office uses, as well as employment-supportive uses in Employment Areas, where appropriate.
- ❖ Intensification offers the potential to accommodate future employment growth and achieve improved land utilization resulting in higher employment density on developed employment lands. The Employment Background paper identified that approximately 505 ha (1,248 acres) of developed employment lands were underutilized. It is expected that these lands can accommodate a share of Vaughan's employment growth over the next 30 years.
- ❖ MTSAs offer a range of market opportunities to accommodate knowledge-based sectors and office-based development and can contribute to the growth of complete communities while facilitating the development of employment lands that offer the potential for non-industrial employment uses to help achieve these planning objectives.
- ❖ Vaughan's Employment Areas need to provide a wider range of amenities and employment-supportive uses that complement knowledge-based and traditional industrial sectors.
- ❖ Where large properties are available, Employment Areas can accommodate multi-use facilities that downtown areas cannot, adopting a campus-style setting, which requires surface parking and future expansion potential.
- ❖ Employment Area policies should support smaller-scale office opportunities and larger integrated industrial and office development. The Employment Background paper suggests that office development, including major offices, should also be permitted within Employment Areas where

this type of development cannot be easily accommodated within MTSAs and other SGAs (Strategic Growth Areas) due to parcel size constraints or challenges related to site configuration.

- ❖ MTSAs represent a significant opportunity to accommodate future employment growth in a more diversified capacity. Where new policies for MTSAs are established for Vaughan, policies will promote employment growth and mixed-use development in MTSAs. Policy should encourage a place-based approach to allow for flexible planning frameworks within MTSAs.
- ❖ Maintain Vaughan's Community Improvement Plans (CIPs) for the VMC and other SGAs, including MTSAs. The CIP is a valuable tool under the Planning Act available to advance goals of enhanced economic vitality and key planning objectives for commercial properties.
- ❖ As retail commercial development evolves from auto-centric, single-use plazas to more intensive mixed-use facilities, consumer demand is likely to be more easily served by existing retail plazas. One challenge for the city will be managing and accepting consumer preference for older format retail commercial centres served by surface parking lots.
- ❖ Flexibility is required. E-commerce is rapidly shifting to the retail market. As such, a new retail paradigm is needed that requires flexibility in an uncertain and constantly evolving retail environment, and the retail function should be retained.

Quantifying Vaughan's Knowledge Economy

This section of the report focuses on creative index evaluation using three levels of measurement, namely, Talent, Tolerance, and Technology. These '3Ts' are part of an economic development theory that places importance on attracting and retaining creative capital.

Creative capital differs from the mass production of goods and services (human capital) and focuses on the capacity to generate innovative ideas, concepts, products, and processes that lead to unique characteristics and evolving technologies.

In examining these 3Ts, a community can measure the extent to which it has developed the conditions that could foster a creative economy. The 3Ts are measured through data types that depict the workforce's occupational structure and characterize a community's level of creative assets. As a final measure, the 3Ts combine to score the overall creativity of a community. The measure is known as the 'creativity index.' Communities with a high creativity index score are well-positioned to attract and retain creative workers and businesses within their jurisdictions.

Peer regions and comparable cities were selected to examine Vaughan's creativity index and overall performance to provide a benchmark that Vaughan can track and evaluate over time. The index is designed to allow for any community to be added to the analysis as required. For the current analysis, the peer communities include Richmond Hill, Hamilton, Oakville, Mississauga, Markham, Kitchener-Waterloo, Brampton, Toronto, and the GTHA.

Talent Index

A community's Talent is the size and capacity of its knowledge occupations and its related educational attainment. The following parameters were used to calculate the Talent Index:

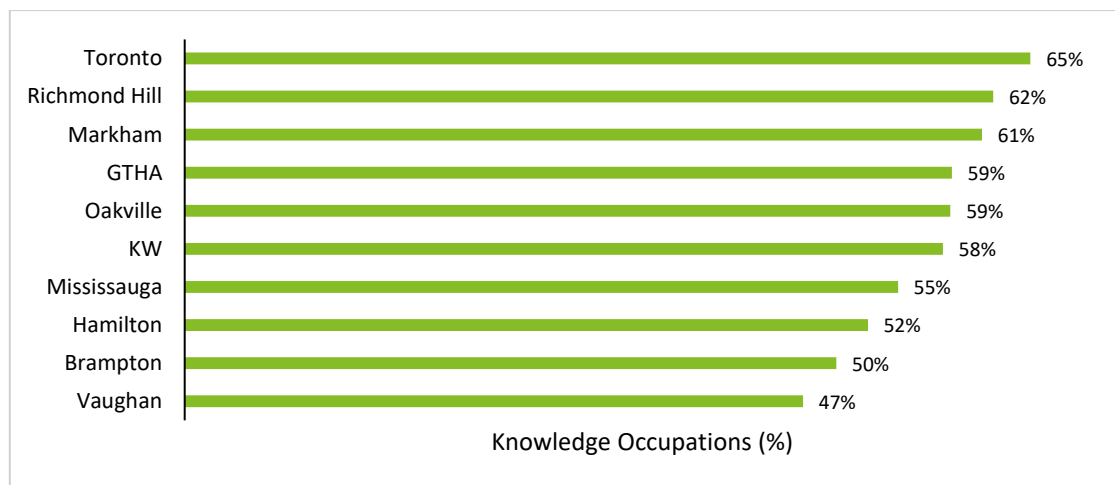
- ❖ Share of knowledge occupations. Knowledge occupations consist of people who are paid to think. These include management, business, finance, and administration occupations, natural and applied sciences and related occupations, health occupations, occupations in education, law and social, community and government services, and occupations in art, culture, recreation, and sport
- ❖ Share of high-tech occupations. High-technology occupations are scientific, engineering, and technician occupations, the same occupations used to define high-tech industries. Individuals employed in these occupations are collectively referred to as technology-oriented workers. Some technology-oriented workers are engaged in research and development, increasing scientific knowledge, and using it to develop products and production processes; others apply technology in other activities, including the design of equipment, processes, and structures, computer

applications, sales, purchasing, and marketing, quality management, and the management of these activities.

- ❖ Educational attainment including:
 - the proportion of the labour force with a post-secondary certificate, diploma, or degree
 - the proportion of the labour force with a field of study in arts, business, science & engineering, and health

The figure below shows the share of knowledge occupations in Vaughan, comparable communities, and the GTHA in 2022. The share of knowledge occupations was assessed at NOC 1-digit and include NOC 0 to NOC 5. All communities show a high percentage of knowledge workers due to data being analyzed at the NOC 1-digit. Knowledge workers make up 47% of Vaughan's total workforce. Toronto leads knowledge occupations at 65%, followed by Richmond Hill.

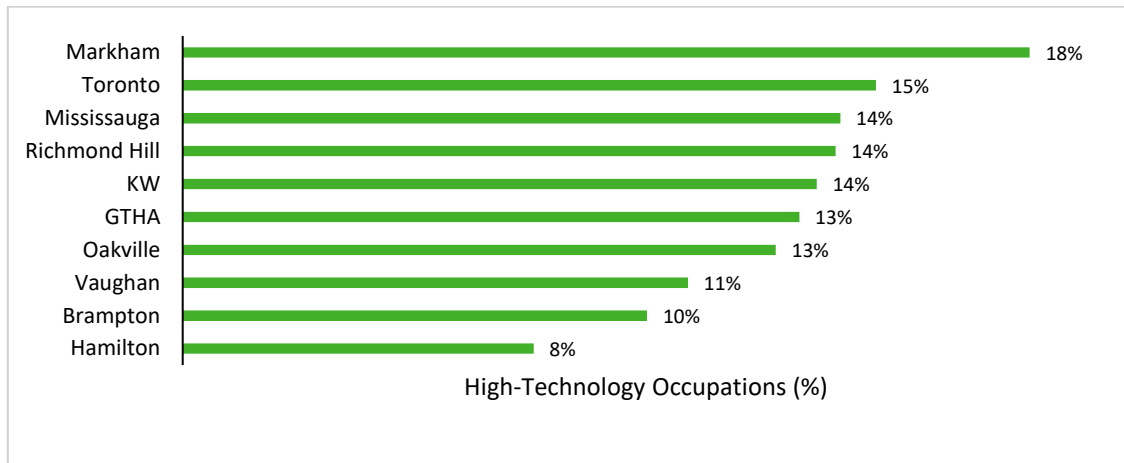
Figure 36 – Share of Knowledge Occupations, Comparable Communities and the GTHA vs. Vaughan, 2021



Source: Lightcast, 2022

The figure below shows the share of high-technology occupations in Vaughan, comparable communities, and the GTHA in 2022. Technology-oriented workers make up 11% of Vaughan's total workforce. Markham leads technology occupations at 18%, followed by Toronto at 15%.

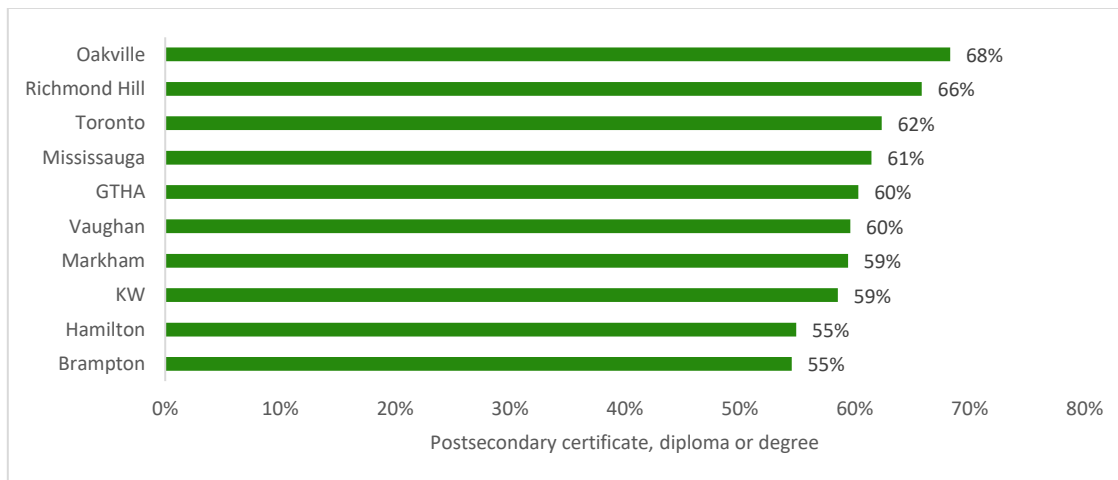
Figure 37 – Share of High-Technology Occupations, Comparable Communities, and the GTHA vs. Vaughan, 2021



Source: Lightcast, 2022

Talent is often associated with the level of education achieved. While objectively, it may preclude individuals who would be considered talented (ex., an artist who may not have a high school degree), measuring the share of the population with a post-secondary degree is often correlated with the overall health and prosperity of a community. The figure below shows the share of the population (+15 years) by post-secondary certificate, diploma, or degree in Vaughan, comparable communities, and the GTHA in 2022. 60% of Vaughan's population that is 15 years or older have a post-secondary degree. Among its comparable cities, Vaughan has ranked ahead of Markham, KW, Hamilton, and Brampton.

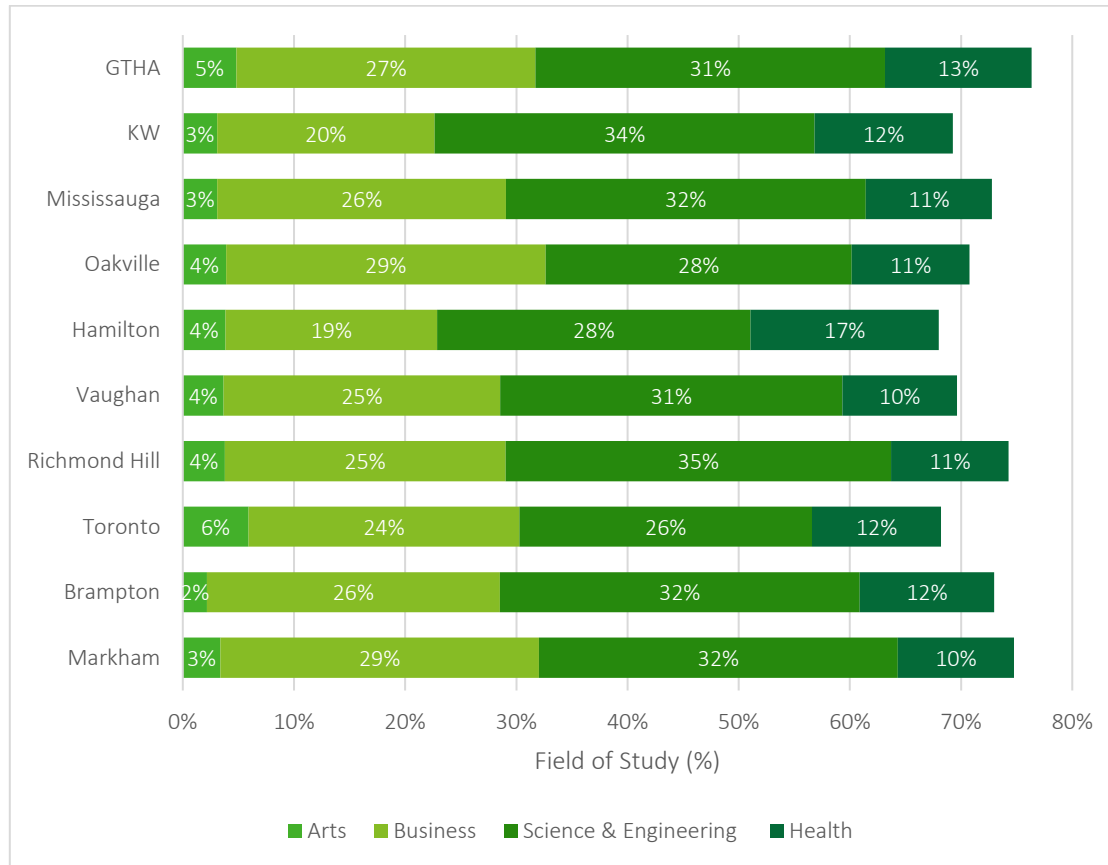
Figure 38 – Share of Population (+15 years) by post-secondary certificate, diploma, or degree, Comparable Communities, and the GTHA vs. Vaughan, 2021



Source: Lightcast, 2022

The figure below presents a further examination of the share of the population with a post-secondary degree. Creatives are often individuals with degrees in science and engineering fields, arts, or business. Education related to health care is also included given the innovations and creative activities in health care. The field of study breakdown illustrates that 69% of Vaughan's post-secondary, degree-holding population is focused on science and engineering fields, health, art and humanities, or business.

Figure 39 – Distribution of Post-Secondary Degrees by Field of Study (+15 years), Comparable Communities, and the GTHA vs. Vaughan, 2021



Source: Lightcast, 2022

Talent Index Score

The Talent Index is an overall ranking of the selected comparable communities and peer regions based on how well they score on each indicator. For the Talent Index, four indicator scores are calculated: the share of knowledge workers, the share of high-tech occupations, the share of the population with a post-secondary degree, and the share of the population with a post-secondary degree in science, arts, or business. Each indicator uses the following formula to calculate a score:

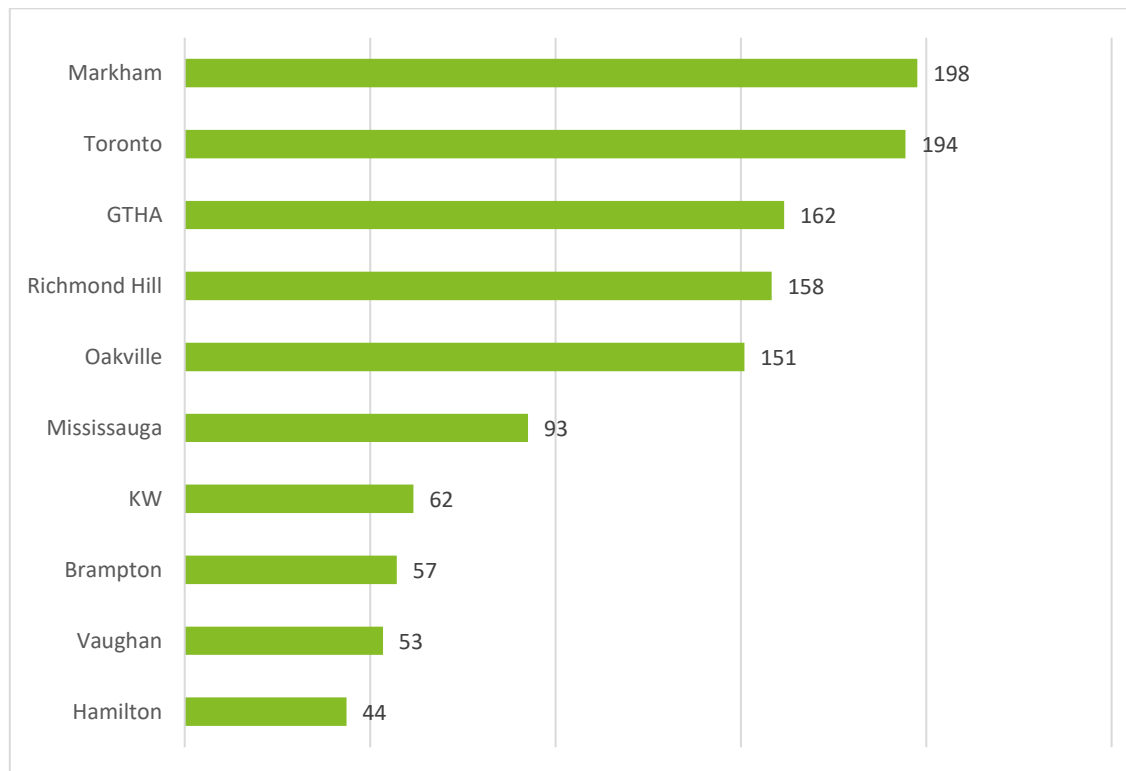
$$\text{Indicator Score} = \text{Total Number of Communities} / \text{Rank of Community} \times 10$$

The Index Score is calculated by adding each indicator score for an overall tally.

$$\text{Index Score} = \text{Combined Indicator Scores}$$

The Talent Index is illustrated in the figure below. Out of the ten comparable communities, Vaughan ranked 9th on the Talent Index Score. Vaughan ranked ahead of Hamilton on the Talent Index.

Figure 40 – Talent Index Score, Comparable Communities, and the GTHA vs. Vaughan, 2021

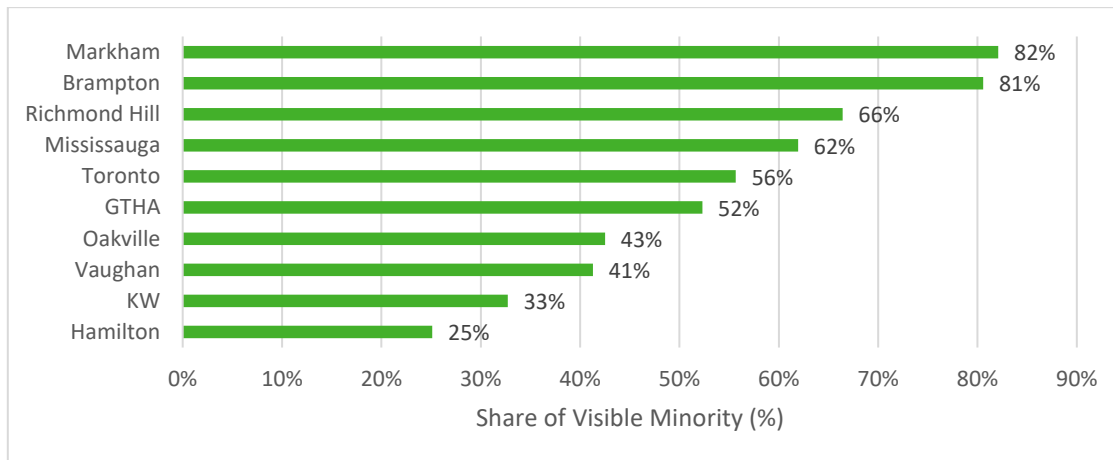


Source: Lightcast, 2022

Tolerance Index

Tolerance is a measure of a community's diversity and openness to innovative ideas and concepts. Diverse communities are shown to be more open and accepting of different people and thoughts. This openness, in turn, allows more creative ideas to emerge and flow through the economy. The higher the Tolerance a community has, the more supportive it is in driving and creating a Creative Economy. The figure below highlights the share of visible minorities in each population. Visible minorities include individuals who are Black, Asian, and Latin American. 41% of Vaughan's population is considered a visible minority. Among its peer cities, Vaughan ranks above Kitchener-Waterloo and Hamilton.

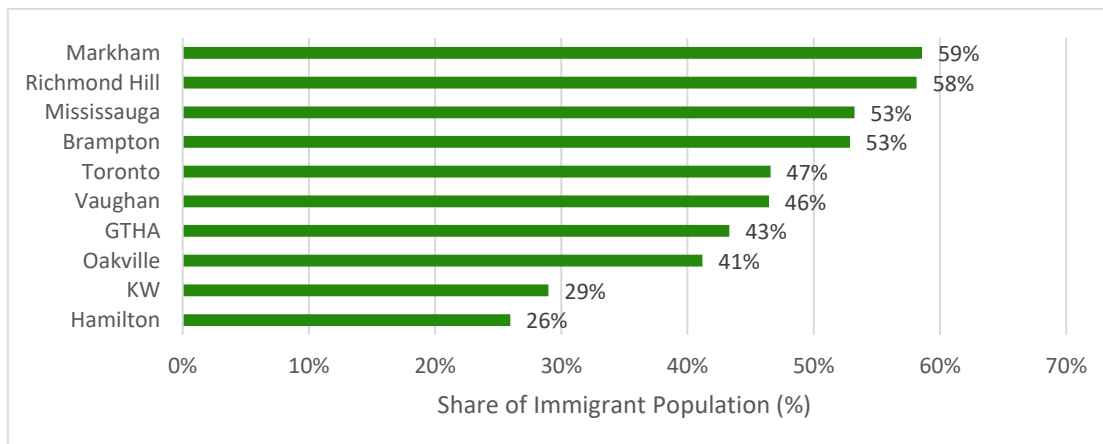
Figure 41 – Share of the population by visible minority groups, Comparable Communities, and the GTHA vs. Vaughan, 2021



Source: Lightcast, 2022

The figure below highlights the share of the population by immigrant status, which is given to individuals who live in Canada but were born elsewhere. Many immigrants reflect a community's openness to diverse cultures. 46% of Vaughan's population were immigrants and this percentage is above the GTHA average.

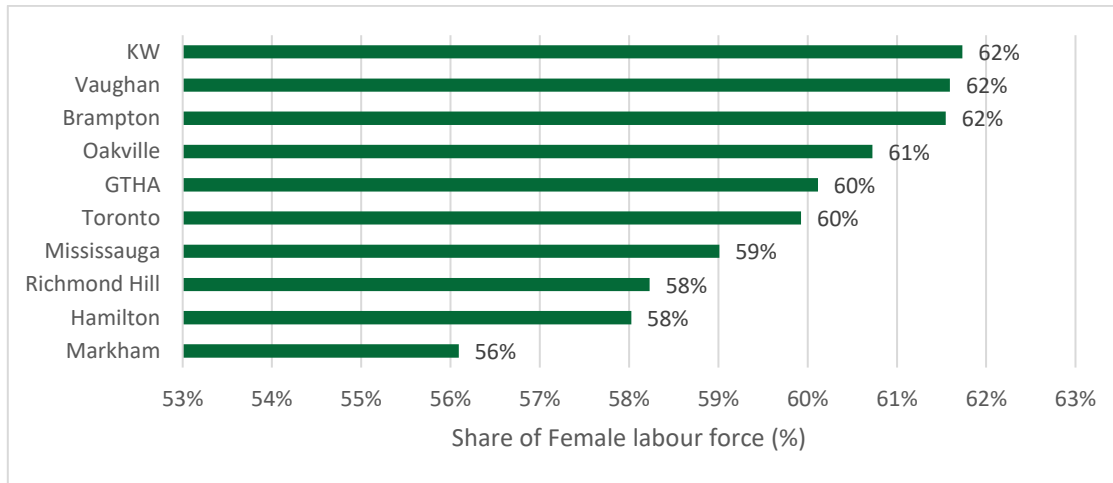
Figure 42 – Share of the immigrant population by status, Comparable Communities, and the GTHA vs. Vaughan, 2021



Source: EMSI Analyst, 2021

The figure below shows the share of the female labour force in Vaughan and comparable communities. Vaughan ranks second, only behind Kitchener-Waterloo, with 62% of the female labour force.

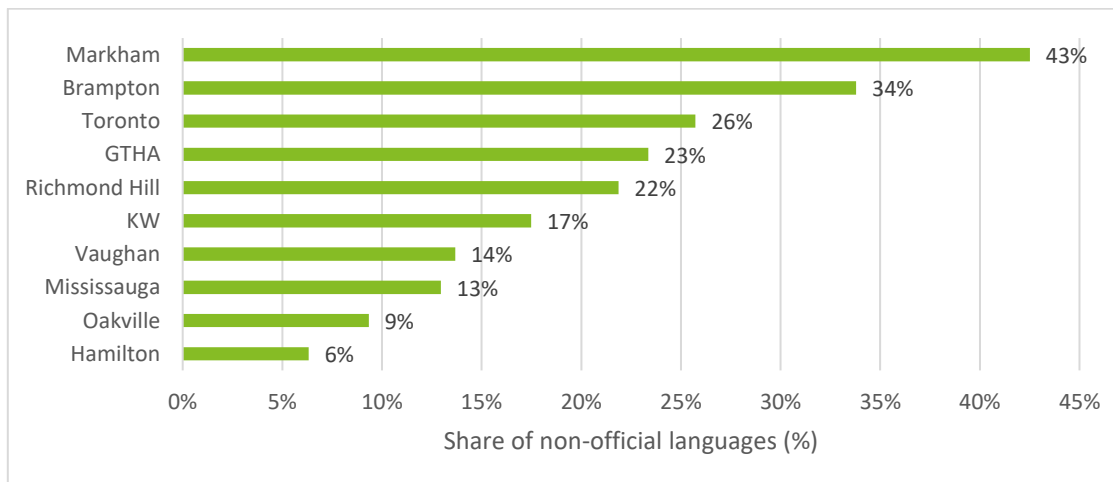
Figure 43 – Share of the female labour force, Comparable Communities, and the GTHA vs. Vaughan, 2021



Source: EMSI Analyst, 2021

The figure below shows the share of the unofficial languages spoken most often at home for the total population. 14% of Vaughan's population spoke unofficial languages at home and this percentage is higher than Mississauga, Oakville, and Hamilton.

Figure 44 – Share of non-official languages spoken most often at home for the total population, Comparable Communities, and the GTHA vs. Vaughan, 2021



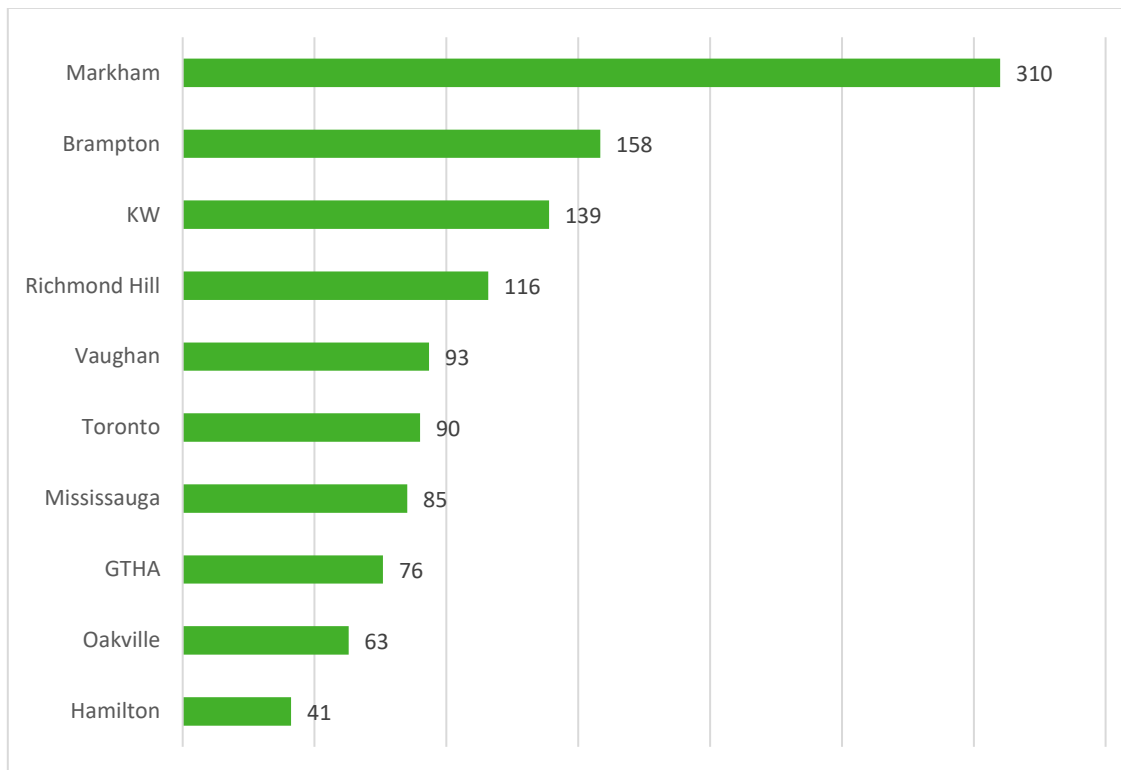
Source: EMSI Analyst, 2021

Tolerance Index Score

The Tolerance Index is an overall ranking of the selected comparable communities and peer regions based on how well they score on each indicator. For the Tolerance Index, four indicator scores are calculated: the share of the population by visible minority, the share of the population by immigrant status, the share of the female labour force, and the share of the population speaking unofficial languages at home. The score is calculated using the same formula that was used to calculate the Talent Index.

The Tolerance Index is illustrated in the figure below. Out of the 10 comparable communities, Vaughan ranked 5th.

Figure 45 – Tolerance Index Score, Comparable Communities, and the GTHA vs. Vaughan, 2021



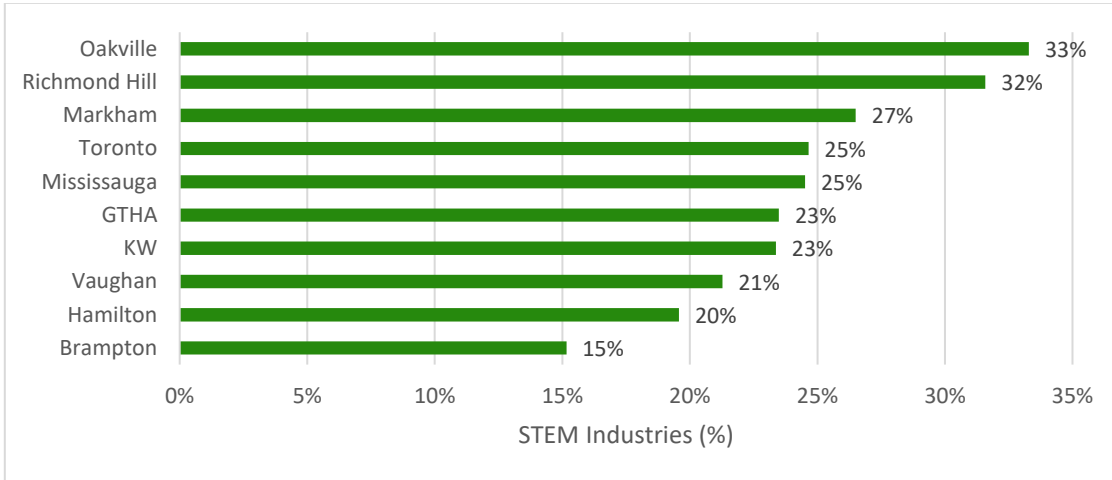
Source: EMSI Analyst, 2021

Technology Index

Technology is critical to developing and growing any economy, including creative economies. Without the necessary technology allowing information sharing and high-speed communication, communities cannot compete with or even gain access to the global economy. Communities with large, well-developed, and sustainable tech sectors and cultural industries can maintain high economic growth into the future.

The figure illustrates the percentage share of STEM firms (with employees) located in the community. 21% of all of Vaughan's businesses with employees are STEM-based firms. In this regard, Vaughan ranks higher than Hamilton and Brampton.

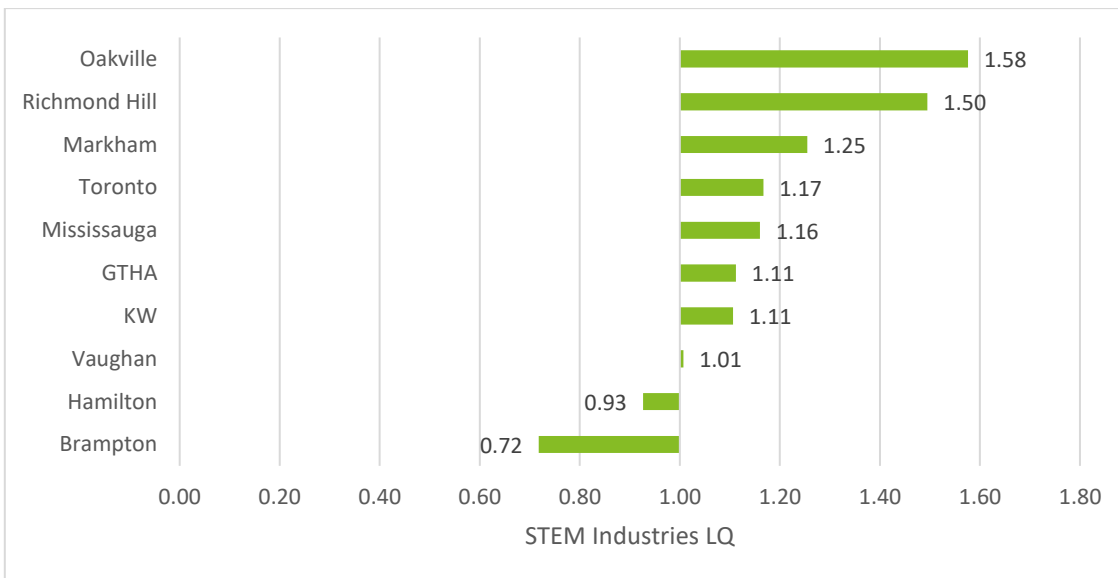
Figure 46 – STEM firms (with employees) Share, Comparable Communities, and the GTHA vs. Vaughan, 2021



Source: EMSI Analyst, 2021

The figure below shows the Location Quotient of Vaughan and comparable communities as a factor of Ontario for STEM firms (with employees). Oakville, Richmond Hill, Milton, and Markham show high LQ's (above 1.25), indicating a high concentration of STEM industries in these communities. Vaughan shows STEM industry concentration on par with the province.

Figure 47 – STEM firms (with employees) LQ, Comparable Communities, and the GTHA vs. Vaughan 2021

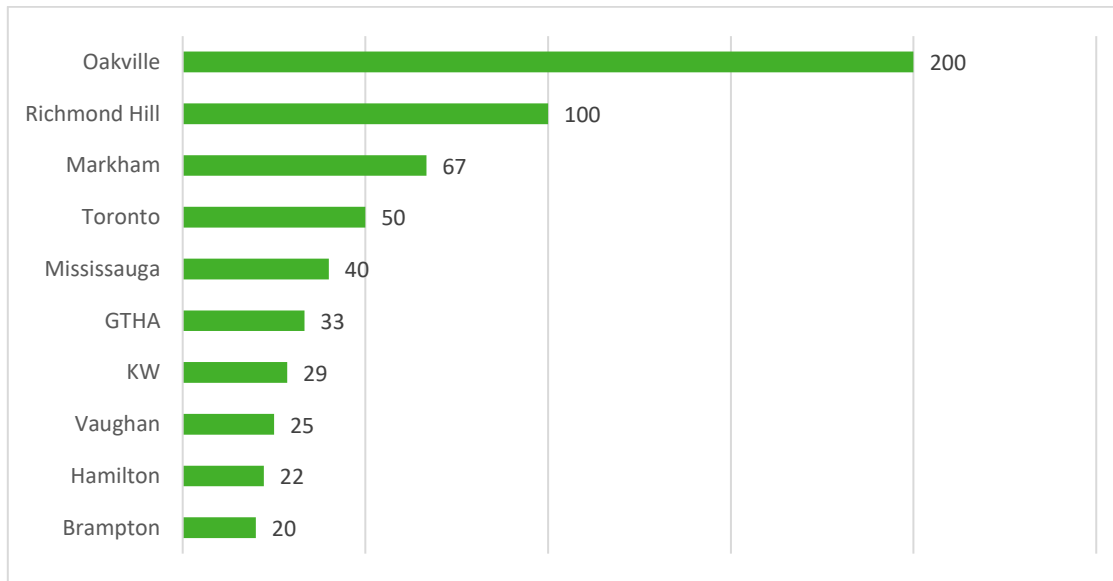


Source: EMSI Analyst, 2021

Technology Index Score

The Technology Index is an overall ranking of the selected comparable communities based on how well they score on each indicator. For the technology index, two indicator scores are calculated: the share of STEM establishments with employees and the ranking associated with the STEM Location Quotients. The score is calculated using the same formula that was used to calculate the Talent Index. Vaughan ranked above Hamilton and Brampton on the Technology Index and is lower than the GTHA average ranking.

Figure 48 – Technology Index Score, Comparable Communities, and the GTHA vs. Vaughan, 2021



Source: EMSI Analyst, 2021

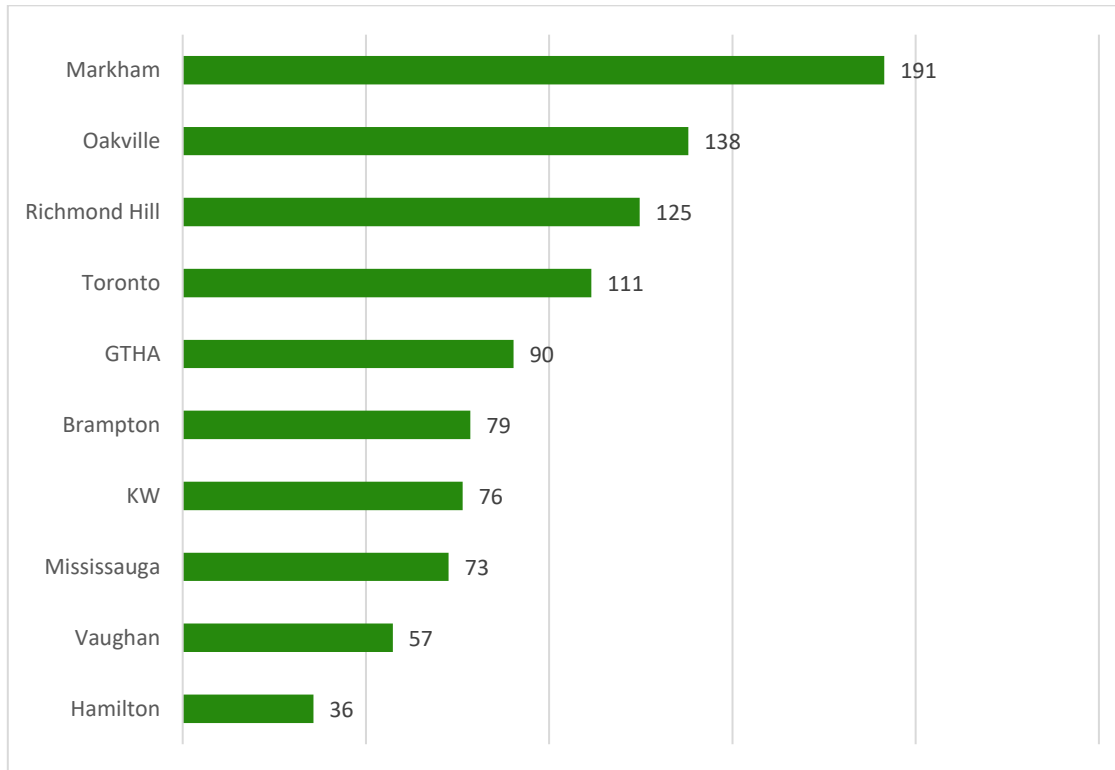
Creativity Index Score

The Creative Index measures a given community's creative economy by analyzing the amount and capability of its creative assets. Recognizing and quantifying a region's Creative Assets is often done by analyzing the three "Ts" of economic development: Tolerance, Talent, and Technology. These categories place the greatest value on the attraction and retention of creative capital. Creative capital differs from human capital in that its value lies not in the capability to produce but in creating and developing ideas. The three "Ts" are co-dependent; all three are necessary to promote creative growth, and no single one carries more importance or weight than the others. The Creativity Index is an overall ranking of the selected comparable communities and peer regions based on how well they score on each indicator. For the Creativity Index, all index scores are calculated. The creativity score is calculated as follows:

$$\text{Creativity Index Score} = \text{Index Score} + \text{Index Score} + \text{Index Score} / 3$$

Of the comparable communities, Vaughan ranked 9th on the Creativity Index. Vaughan's Creativity Index is higher than that of Hamilton and slightly lower than that of Mississauga and Kitchener-Waterloo.

Figure 49 – Creativity Index Score, Comparable Communities, and the GTHA vs. Vaughan, 2021



Source: EMSI Analyst, 2021

Target Sectors and SWOT Analysis

Building on the macro-economic trends and Vaughan's community and economic profile, a central outcome of this data analysis is to clarify Vaughan's industry sector performance and position target sectors for the community.

Target sectors for a community are best positioned when it considers the following factors:

- ❖ Alignment with provincial and regional markets
- ❖ Potential and types of sectors to be attracted to the broader region
- ❖ Existing economic drivers, top employers, and core businesses
- ❖ Current and future growth potential of sector and sub-sectors
- ❖ Differentiators including sector expertise, specialization, and new products/approaches

This targeted approach provides an understanding of where Vaughan is positioned relative to its surrounding markets and what may differentiate Vaughan from competitors. Once the target sectors are determined, the city can more effectively position itself for investment attraction.

Vaughan target sectors are identified using four measures:

- ❖ Employment growth sectors identified through the Carvalho classification system
- ❖ Anticipated job changes by industry sector from 2022 to 2028
- ❖ Industry clusters based on Provincial LQ's
- ❖ Export-based industries

These measures and insights are further described below.

Employment Growth Sectors

An evaluation of the employment growth potential for each of Vaughan’s economic sectors was determined using the Carvalho classification system.¹⁸ Key insights include:

- ❖ Transportation and warehousing are a driving sector for Vaughan, meaning that the community is highly specialized in this sector, that it is growing provincially, and growing at an even higher rate locally
- ❖ Professional, scientific, and technical services is an accelerating sector. Vaughan is neither highly specialized nor under-specialized in this sector. The sector is growing provincially and growing at an even higher rate locally
- ❖ Educational services, finance and insurance, and health care and social assistance are rising sectors for the city, meaning that the sector has a low proportion of local employment but will increase due to growth in this sector, which is increasing provincially and growing at an even higher rate locally
- ❖ Manufacturing is an evolving sector indicating high local sector specialization, which grew provincially at a slower rate than overall growth; local growth exceeded provincial growth in this sector

Figure 50 – Vaughan Employment Growth Sectors, Carvalho Classification, 2016-2022

NAICS	Description	2022 Location Quotient	Ind. Mix Effect	Competitive Effect	Category
48-49	Transportation and warehousing	1.43	1558	1959	Driving
54	Professional, scientific, and technical services	0.85	1939	489	Accelerating
61	Educational services	0.59	333	579	Rising
22	Utilities	0.50	26	76	Rising
52	Finance and insurance	0.49	362	473	Rising
62	Health care and social assistance	0.40	872	162	Rising
21	Mining, quarrying, and oil and gas extraction	0.36	18	0	Rising
31-33	Manufacturing	1.91	-1293	1377	Evolving
41	Wholesale trade	1.87	-815	296	Evolving
44-45	Retail trade	1.13	-1120	671	Transitional
53	Real estate and rental and leasing	1.02	-413	308	Transitional
81	Other services (except public administration)	0.89	-664	851	Transitional
72	Accommodation and food services	0.74	-2650	420	Moderate
51	Information and cultural industries	0.47	-106	212	Moderate
11	Agriculture, forestry, fishing, and hunting	0.15	-62	4	Moderate
23	Construction	2.10	1706	-151	Promising
55	Management of companies and enterprises	1.13	395	-87	Yielding
56	Administrative and support, waste management, and remediation services	0.86	110	-128	Yielding
91	Public administration	0.24	170	-163	Modest
71	Arts, entertainment, and recreation	1.16	-1475	-26	Vulnerable

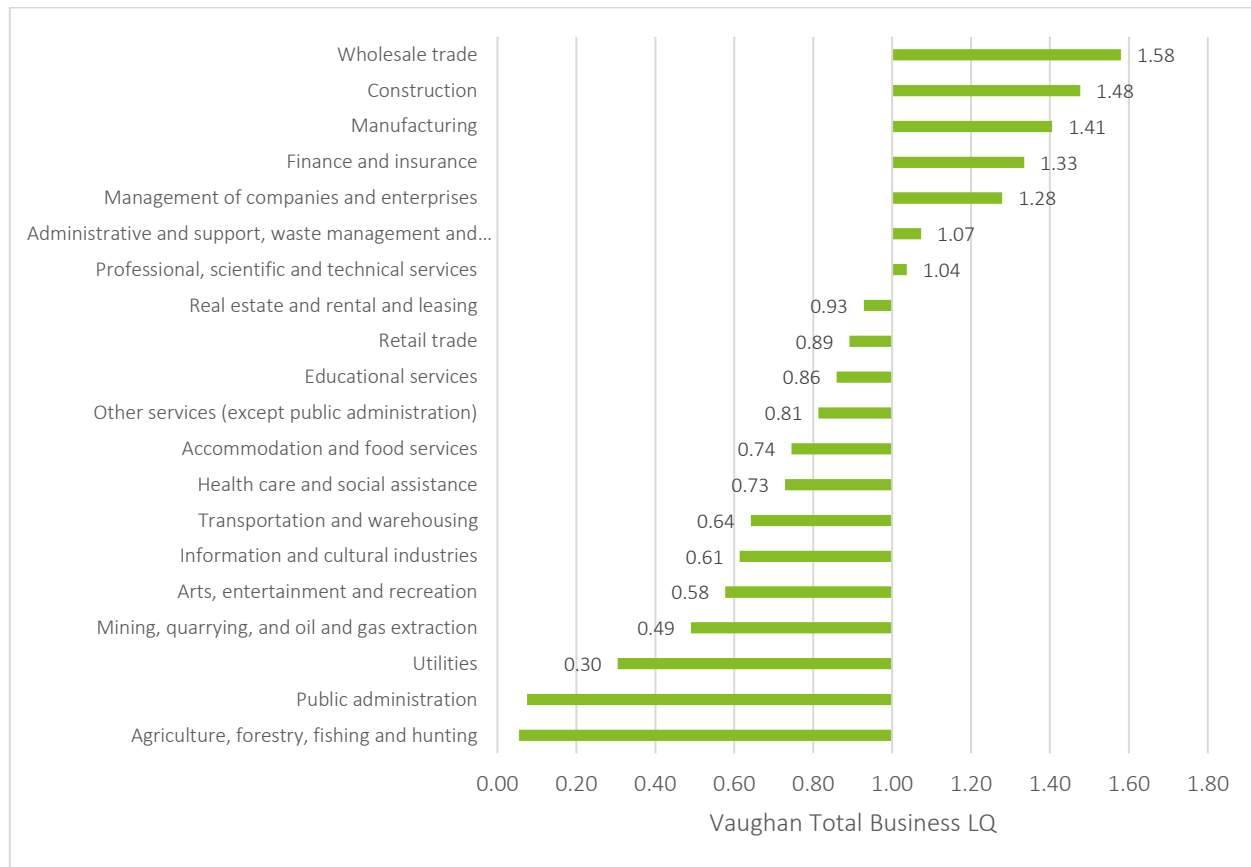
Source: Lightcast, 2022

¹⁸ The Carvalho classification system was used to identify the growth potential for each economic sector. Within the system, there are 12 descriptive categories, ranging from the greatest potential—driving—to the least potential—marginal. The calculation is based on a combination of the Location Quotient and the calculations of the shift-share analysis.

Industry Clusters

Location Quotients (LQ's) were used to identify and assess the relative strength of industry sectors in Vaughan as compared to the province of Ontario. As illustrated in the figure below, Vaughan's economy comprises a diverse mix of concentrated clusters, including wholesale trade, construction, manufacturing, finance, and insurance. Administrative and support, waste management and remediation services, and professional, scientific, and technical services are on par with the province.

Figure 51 – Vaughan Industry Clusters, December 2020



Source: Lightcast, 2022

Export Industries

A further consideration in assessing Vaughan's target sectors is the role and impact of its export-based industries. Vaughan industries exported \$38.8 billion in goods and services while spending \$34.4 billion on importing goods and services¹⁹. While this makes Vaughan a net exporter, the difference in net exports and imports is only \$4.3 billion, suggesting opportunities to build out local and regional supply chains. Manufacturing is the top exporter for the community, representing 56% of all exports at \$21.6 billion. Construction, wholesale trade, and transportation and warehousing are other top exporters for the city.

Considering Vaughan's import/export capabilities, all major sectors show that imports exceed exports, indicating gaps in current supply chain capabilities, whether local or regional. This is evident in finance and insurance, health care and social assistance, educational services, information and cultural industries, and professional, scientific, and technical services. Wholesale trade, construction, and manufacturing sectors show that exports exceed imports. Vaughan's manufacturing sector imports 39% of goods and services at \$13.8 billion, suggesting opportunities to grow the local/regional supply chains and reduce dependency on imported products and services for the sector. When considering exports by sub-sectors, motor vehicle parts manufacturing is the largest exporter, with an estimated total export of \$6.3 billion, which represents 16% of all exports in Vaughan, and which is higher than the exports for the remaining top five sectors combined.

Figure 52 – Exports, Industry (2-NAICS), 2019

NAICS	Industry	Exports	% of total Exports
31-33	Manufacturing	\$21,644,064,850	56%
23	Construction	\$4,340,227,881	11%
41	Wholesale trade	\$2,965,498,393	8%
48-49	Transportation and warehousing	\$1,778,668,150	5%
44-45	Retail trade	\$1,109,041,151	3%
54	Professional, scientific, and technical services	\$1,051,269,758	3%
53	Real estate and rental and leasing	\$970,323,397	3%
61	Educational services	\$795,713,169	2%
56	Administrative and support, waste management and remediation services	\$756,225,059	2%
91	Public administration	\$704,433,733	2%
62	Health care and social assistance	\$659,246,807	2%
52	Finance and insurance	\$421,509,494	1%
71	Arts, entertainment, and recreation	\$323,420,871	0.8%
51	Information and cultural industries	\$321,973,928	0.8%
72	Accommodation and food services	\$321,416,320	0.8%
81	Other services (except public administration)	\$281,038,564	0.7%
22	Utilities	\$148,349,801	0.4%
11	Agriculture, forestry, fishing, and hunting	\$76,438,448	0.2%
55	Management of companies and enterprises	\$53,203,630	0.1%
21	Mining, quarrying, and oil and gas extraction	\$50,410,042	0.1%
	Total Exports	\$38,772,473,445	100%

Source: Lightcast, 2022

¹⁹ As of 2019

Vaughan’s Sectors of Focus

Based on the four measures, Vaughan is well positioned to focus efforts on sectors including manufacturing, construction, wholesale trade, transportation, and warehousing.

Figure 53 – Determining Vaughan target sectors

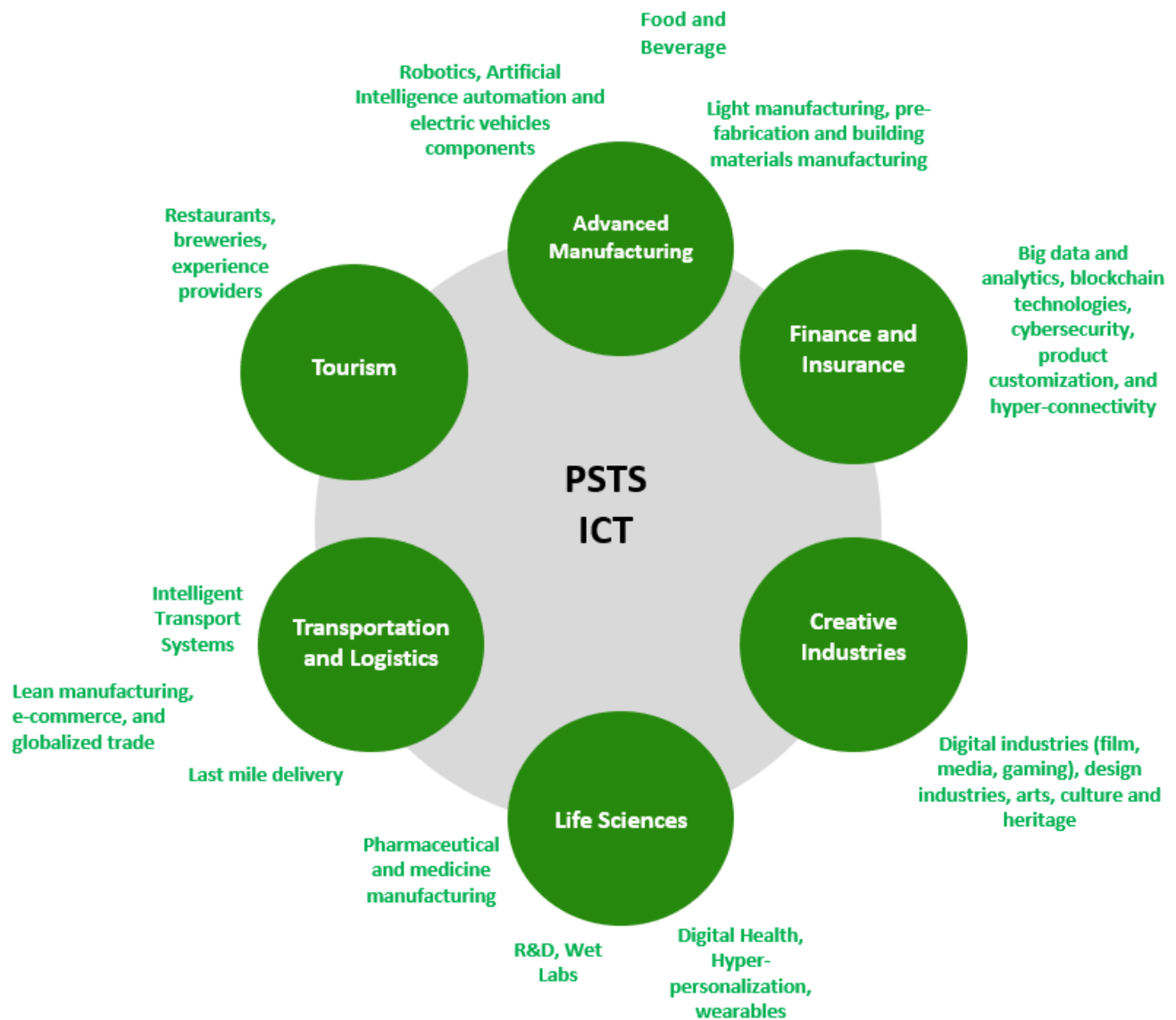
Employment Growth Sectors	Job Change by Industry Sector	Industry Clusters	Export opportunities
Transportation and warehousing	Transportation and warehousing	Construction	
Professional, scientific, and technical services	Manufacturing	Wholesale trade	Manufacturing
Educational services	Health care and social assistance	Manufacturing	Construction
Finance and insurance	Professional, scientific, and technical services	Finance and insurance	Wholesale trade
Health care and social assistance	Construction	Administrative and support, waste management and remediation services	Transportation and warehousing
	Administrative and support, waste management and remediation services	Professional, scientific, and technical services	

Vaughan’s sectors of focus can be categorized as established, growing, and emerging industries. They are described below:

- ❖ **Advanced Manufacturing** is an **established** sector for the city and is a major growth area based on export capabilities (focused on high-value components and consumer products, including food) and Ontario’s continued competitiveness in the automotive space. Light Industrial refers to any manufacturing and construction production that can be fulfilled in smaller facilities/factories and used for assembly, disassembly, fabricating, finishing, manufacturing, packaging, and repairing of several types of materials.
- ❖ **Transportation and Logistics** is an **established** sector for the city and builds on the strengths of the Goods Movement sector, which is highly concentrated within the Regions of Peel, York, and Halton, which are close to the Toronto Pearson International Airport
- ❖ **Finance and Insurance** is a **growing** sector for the city and form a key part of the knowledge-based and creative-class economy. Finance and insurance are a dominant industry cluster in York Region and show a concentration of employees in the VMC, forming a core of the office-based employment for the city
- ❖ The **Tourism** and the **Creative Industries** are **emerging** focus sectors for the city, building on *the Strategic Initiative of the City of Vaughan Economic Development and Employment Sectors Study*. Sub-sectors of the creative, tourism, and cultural industries include digital industries (ex. film, media, gaming), tourism industries (ex. restaurants, breweries, experience providers), design industries (ex. graphics, fashion, interior, architecture), heritage-focused industries (ex. museums, galleries), arts-based industries (ex. visual arts, performing arts) and music industries (ex. sound production, broadcasting).

- ❖ **Life Sciences** is an **emerging** sector for the city, building on the strengths of the Vaughan Healthcare Centre Precinct (VHCP) and positioning for research, education, and training facilities within pharmaceutical and medicine manufacturing, medical equipment and supplies manufacturing, and scientific research and development services.
- ❖ **Professional, Scientific, and Technical Services (PSTS)**, and **Information and Communication Technologies (ICT)** are positioned as **enablers** for the city. These sectors support growth in finance and insurance and information and cultural industries and are central to integrating digital transformation and technology adoption in traditional sectors, including manufacturing and wholesale trade, transportation, and warehousing. Positioning these sectors as enablers allows the city to leverage industry strengths and crossover opportunities in advanced manufacturing, creative industries, life sciences, and the FIRE (Finance, Insurance and Real Estate) economy.

Figure 54 – Vaughan’s Sectors of Focus



Enabler – Professional, Scientific, and Technical Services (PSTS)

Overview

This sector consists of establishments primarily engaged in activities where human capital and technical knowledge are the major input. PSTS are enabling technologies for traditional sectors including manufacturing, real estate, and construction, and growth in the sector is tied to infrastructure and business investment, energy development and information, & communications technology (ICT) industries.

<p><i>Key sub-sectors (By NAICS)</i></p>	<ul style="list-style-type: none"> ❖ Computer systems design and related services ❖ Administrative management and general management consulting services ❖ Other management consulting services
<p><i>Recruitment zones</i></p>	<ul style="list-style-type: none"> ❖ NYC, U.S. ❖ Los Angeles, U.S. ❖ London, U.K.
<p><i>Market trends and considerations for Vaughan</i></p>	<p>The sector is concentrated in the Toronto economic region, due to many financial services institutions being headquartered in Toronto and technology companies in Ontario.²⁰ Vaughan can leverage its location, commuting proximity, and position as part of the GTHA and growth in office and commercial sectors for continued sector growth.</p> <p>The knowledge economy is a critical draw for the sector and Vaughan should focus workforce development efforts on attracting and retaining a highly skilled resident workforce performing knowledge-based and high-technology occupations. These include architects, engineering, and computer system programmers. The development of the Vaughan Metropolitan Centre (VMC) as well as major transit investments including the extension of the subway line to Vaughan and the addition of bus rapid transit is addressing the current high level of auto dependence in the area and is critical in this regard.</p>
<p><i>Optimal location</i></p>	<p>When considering locational requirements, PSTS firms prefer prestige-setting employment lands. Prestige Employment is often located along major transportation corridors and places greater emphasis on design features, including building design and landscaping. Shared access and parking, access to on-site amenities and proximity to off-site services are requirements. They include flexible leasing structures, multi-tenant, Class A Office Space, and multi-tenant industrial condominiums. The VMC, as a hub for innovation and creativity, is well-positioned to support professional scientific and technical services, information and communications technologies, creative industries, life sciences and health care technologies.</p>

²⁰ Job Bank. Professional, Scientific and Technical Services: Ontario 2016-2018.

Professional, Scientific, and Technical Services (PSTS) Sector SWOT	
Strengths	Weaknesses
<ul style="list-style-type: none"> • Vaughan’s position as part of the Toronto-Waterloo corridor and as part of the Tor-York West megazone (TYW), which is a significant employment zone • Strategic location in the GTHA, proximity to downtown Toronto, strong local and regional transportation infrastructure, and proximity to universities and colleges • Access to new graduates and locally trained and international talent pool • Professional services are the second largest industry cluster in Ontario for FDI investments • Vaughan is home to 30% of all PSTS businesses in York Region • Computer system design services, and architectural, engineering, & design services are leading sub-sectors • Computer systems design and related services account for 29% of all Vaughan’s PSTS businesses. This sector is expected to continue high levels of production and stable employment growth • Established and growing sector. Firms are maturing with well-defined products and services, customers, and profit margins • The local sector also has access to regional knowledge-intensive activities and unicorn firms specializing in software & services, Fintech, Cybersecurity, and Artificial intelligence 	<ul style="list-style-type: none"> • Despite having many businesses, the concentration of businesses in the Vaughan PSTS sector is low compared to the rest of York Region (0.88) • Vaughan has many indeterminate, micro, and small and medium enterprises in the sector and often has difficulty engaging with the sector • Targeted steps needed to strengthen the start-up and innovation ecosystem. This would include more public and private funded investments and targeted industry and education partnerships • Engaging with and providing support for early-stage tech start-ups in the city • Gaps in transportation infrastructure, labour outflow to Toronto, access to amenities, and quality of life may affect sector growth
Opportunities	Threats
<ul style="list-style-type: none"> • There are opportunities to increase the in-region purchases of established sectors such as computer systems design, architectural, engineering, and related services and other PSTS • Building on local and regional firm-based strengths, local businesses can scale up their business base and provide services to larger technology-based companies • They can also explore outsourcing IT work to companies specializing in computer design services to reduce costs and gain efficiencies • Strong local sector growth will result in local job creation for specialized occupations such as information systems analysts and consultants, database analysts, software engineers and 	<ul style="list-style-type: none"> • Significant competition with neighbouring communities trying to attract similar industry sectors • After witnessing sustained growth during the initial months of the pandemic, the provincial PSTS sector has recovered at a slower pace than the services-producing sector as a whole • Firms in the sector have reduced revenues because of the pandemic, affecting wages and benefits for staff • The depreciation of the Canadian dollar might temper offshoring and boost demand for domestic services • Government spending constraints at the provincial and municipal levels may partially offset demand

<p>designers, computer programmers and interactive media Web designers and developers</p> <ul style="list-style-type: none">• Based on ongoing regional trends, growth opportunities exist in professional services related to advanced manufacturing, financial services and real estate, Education technology (Edtech) scientific research, clean technology, and digital transformation (AI, blockchain, enterprise platforms, data analytics)• Potential FDI investment opportunities in software, IT, and business services in key recruitment zones including NYC, U.S., Los Angeles, U.S., and London, U.K.	
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Enabler – Information and Communications Technology (ICT)

Overview

The ICT sector is an important enabler industry, with industries involved in software and computer services, ICT manufacturing, ICT wholesaling, and communications services. There are over 45,000 companies in the Canadian ICT sector, with the majority being within the software and computer services industries.²¹

<p><i>Key sub-sectors (By NAICS)</i></p>	<ul style="list-style-type: none"> ❖ Computer systems design and related services ❖ Computer and communications equipment and supplies merchant wholesalers ❖ Software publishers ❖ Other telecommunications
<p><i>Recruitment zones²²</i></p>	<ul style="list-style-type: none"> ❖ California, U.S. ❖ Michigan, U.S. ❖ Arkansas, U.S. ❖ Kanto (Japan) ❖ Baden Wurttemberg (Germany)
<p><i>Market trends and considerations for Vaughan</i></p>	<p>Industries primarily engaged in producing goods or services or supplying technologies used to process, transmit, and display data or information. These industries use creativity, talent, and digital skills to serve and create applications for vertical markets such as healthcare, education, finance, defence, and the creative industries.</p> <p>As per the 2021 Canadian ICT Sector Profile, each direct job in the ICT sector supports an additional 1.3 jobs within the Canadian economy and each \$1 million of direct GDP generated within the ICT sector leads to an additional \$862,000 in GDP generated for Canada. Within ICT, software and computer services generate the highest impact multiplier in terms of GDP and are led by computer systems design and related services, which is a major PSTS sub-sector.</p> <p>As per the 2021 Canadian ICT Sector Profile, the sector’s progress will be impacted by factors including the global semiconductor shortage, the increased dependence on remote working, a tight labour market, and the implementation of “buy local” policies in major export markets. Economic recovery reflects positively on the sector, as technology adoption accelerates, and digital infrastructure investments increase.²³</p>
<p><i>Optimal location</i></p>	<p>General locational requirements of the ICT sector include prestige setting with access and proximity to on-site and off-site amenities. This could include, but would not be limited to, fitness centres, parks, retail, and service uses. ICT firms prefer access to a diverse and skilled talent pool, modes of public transportation (airports, railroads, roads, etc.) and quality and reliability of modes of transportation. The ICT businesses and workforce prefer mixed-use environments with live/work opportunities and quality of life amenities. Built forms are high-design quality and accommodate multiple storeys with flexible space design. They are small to large multi-tenant, incubator facilities, accelerator centres, business centres, and free-standing major office buildings (20,000 sq. ft.+).²⁴</p>

²¹ Canadian ICT Sector Profile 2021.

²² Investments into York Region

²³ Ibid.

²⁴ City of Vaughan. 2019. Economic Development and Employment Sectors Study: Phase I Report

Information and Communications Technology (ICT) Sector SWOT	
Strengths	Weaknesses
<ul style="list-style-type: none"> • Vaughan’s position as part of the Toronto-Waterloo corridor and as part of the Tor-York West megazone (TYW), which is a significant employment zone • Strategic location in the GTHA, proximity to downtown Toronto, strong local and regional transportation infrastructure, and proximity to universities and colleges • Access to new graduates and locally trained and international talent pool • IT and electronics are the first largest industry cluster in Ontario for FDI investments • Vaughan’s ICT sector has seen strong employment growth, and is projected to add 501 jobs from 2022 to 2028 • Software and computer services, which include software publishers, computer systems design, and data processing, are a major growth driver for the city 	<ul style="list-style-type: none"> • Vaughan has a low concentration of businesses in the ICT sector compared to York Region (LQ 0.81), and a concentration of ICT businesses on par with the province (LQ 1.12) • ICT businesses only represented 4% of businesses in Vaughan (June 2022) • Over half of the industries sub-sector within ICT in Vaughan will perceive some employment decline in the upcoming years • Gaps in transportation infrastructure, labour outflow to Toronto, access to amenities, and quality of life may affect sector growth
Opportunities	Threats
<ul style="list-style-type: none"> • There are opportunities to increase in-region purchases of established sectors such as computer systems design, and semiconductor and other electronic component manufacturing • Well-positioned to benefit from the economy-wide recovery as demand is expected to reflect accelerating adoption of many technology solutions and private and public investments in digital infrastructure • Hospital Precinct cluster opportunities allows for focus on IT integration, innovation, and commercialization in the health care sector 	<ul style="list-style-type: none"> • Canadian technology-based entrepreneurs often start-up with a ‘build to flip’ mindset and opt to exit via acquisition. Thus, a high proportion of start-ups never reach large-scale commercialization in Canada • Businesses, particularly in digital technologies are unable to bridge financing and struggle to stay afloat • Intellectual property threats are prevalent in the sector • Like PSTS, private and public funding gaps are a deterrent to growth • Business models are regularly evolving, and regulatory processes are often slow and unable to change to suit changing conditions

Established Sector – Advanced Manufacturing

Overview Advanced manufacturing will continue to be a sector focus for Ontario, with industrial processes becoming more capital/technology-intensive and automated. The highly competitive nature of the manufacturing sector will require production to be increasingly cost-effective and value-added. Advanced manufacturing is a growing sector and encompasses a wide range of sub-sectors.

<p><i>Key sub-sectors (By NAICS)</i></p>	<ul style="list-style-type: none"> ❖ Fabricated metal product manufacturing ❖ Furniture and related product manufacturing ❖ Miscellaneous manufacturing ❖ Food manufacturing
<p><i>Recruitment zones</i></p>	<ul style="list-style-type: none"> ❖ Los Angeles, U.S. ❖ New York, U.S. ❖ Boston, U.S. ❖ Detroit, U.S. ❖ Toyota, Japan ❖ Paris, France
<p><i>Market trends and considerations for Vaughan</i></p>	<p>For Vaughan, manufacturing is a significant export sector and will continue to be a top employer in the transportation equipment manufacturing and food manufacturing sectors. The city needs to consider ongoing trends in this sector, including navigating economic disruptions like COVID-19, investing in digital technologies, increasing supply network visibility, and greater workforce agility.</p> <p>As part of the Tor-York West megazone (TYW) and given the presence of a CN multimodal facility, the city is well-positioned to continue to grow and attract manufacturing and other goods-producing archetypes. Given Vaughan’s strengths in ICT, transportation, and warehousing and examining global trends, opportunity sectors include industry 4.0 electronics. These include tracking and monitoring devices with applications to the smart factory and agriculture segments. Devices can range from industrial sensors, machine monitoring, and supply chain and shipment monitoring. Building on regional trends (electrification in the automotive industry), Vaughan has the potential to attract general automation and electric vehicle components. Vaughan’s assets in the software and computer systems designs industry could be leveraged to absorb Tier 2 suppliers in automation or IoT in the manufacturing sector.</p>
<p><i>Optimal location</i></p>	<p>Lean manufacturing will continue to impact the nature and built form of employment lands, requiring integrated operations and on-site manufacturing on larger sites, often in a “campus-style” setting. Manufacturing businesses require either general industrial and/or prestige settings with access to training and education facilities and a skilled labour force. Advanced manufacturing operations usually require between 10,000 to 250,000 sq. ft. Plots between 1 to 4 ha with expansion potential. Built forms come in a range of sizes (small to large single-tenant buildings and multi-tenant buildings), include loading/unloading areas, and emphasize integrated operations (logistics and office), landscaping, and enclosed storage.²⁵</p>

²⁵ Ibid.

Advanced Manufacturing Sector SWOT	
Strengths	Weaknesses
<ul style="list-style-type: none"> • Vaughan’s location, proximity to markets and distribution networks, presence of York University, and the concentration of tech, engineering, manufacturing, and construction companies are assets or advantages that allow Vaughan to grow/attract STEM-related activities and industry • Manufacturing is the top exporter for the community, representing 56% of all exports at \$21.6 billion • Motor vehicle parts manufacturing is the largest exporter, with an estimated total export of \$6.3 billion, which represents 16% of all exports in Vaughan, and is higher than the exports for the rest of the top five sectors combined • Vaughan has a high concentration of advanced manufacturing businesses compared to both York Region (LQ 1.27), and Ontario (LQ 1.41) • The sector employs approximately 42,864 people in Vaughan; this represents 17% of the city’s jobs • Advanced manufacturing is projected to add an additional 1,070 jobs by 2028 • Sectors such as transportation equipment manufacturing, and food manufacturing will add the largest number of jobs in the coming years • Vaughan’s location provides final products produced in the city with access to national and international markets through an extensive highway system, two airports, railways, and the Great Lakes ports • Regional institutions have various centres focused on applied research and training in the sector 	<ul style="list-style-type: none"> • Advanced manufacturing is a major target sector for competitor communities • Lean manufacturing will continue to impact the nature and built form of employment lands, requiring integrated operations and on-site manufacturing on larger sites in a “campus-style” setting • Gaps in PSTS and technology base and related sectors and occupations will affect sector development • Trades are an important part of the sector, and any shortage of local general labour and skilled trades workers will affect sector growth • Any supplier gaps or weakness in relationships can result in disruptions • Any gaps in cyber-attack prevention strategies/software can affect business readiness
Opportunities	Threats
<ul style="list-style-type: none"> • There are opportunities to increase in-region purchases of sectors such as fabricated metal product manufacturing, food manufacturing, and computer and electronic product manufacturing • Focus on the integration of tech into existing manufacturing processes • Continued focus on export capabilities (high-value components and consumer products, including food) • Leverage Ontario’s continued competitiveness in the automotive space • The 2021 York Region’s Building Supply Chain Resilience Report identifies that Vaughan is 	<ul style="list-style-type: none"> • Any gaps in broadband telecommunications infrastructure, utilities, transit etc. will affect sector growth • Government spending constraints at the provincial and municipal levels may partially offset demand • Businesses not investing in new infrastructure and/or expansion projects • Lack of start-ups and venture successes could affect momentum in the sector • Uncertainty in trade agreements and distribution operations • Changing business models may make routine jobs in the sector redundant. However, technological changes will ensure increased productivity, which

<p>particularly strong in building materials manufacturing.</p> <ul style="list-style-type: none">• Explore opportunities for light Industrial and “campus-style” setting operations to act as alternates for land constraints• An automotive/electrification strategy could be explored to understand the opportunities in the sector for Vaughan• The following recruitment zones are opportunities for Vaughan based on investments into Ontario in the sub-sectors of advanced manufacturing over the last 10 years. Cities include Los Angeles, U.S., New York, U.S., Boston, U.S., Detroit, U.S., Toyota, Japan and Paris, France	<p>could lead to new types of occupations in the sector</p>
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Established Sector – Transportation and Logistics

Overview

Demand in the goods movement sector is anticipated to continue across the GTHA, particularly in locations where available employment lands have strong connectivity to regional transportation infrastructure (i.e., regional trade hubs, intermodal facilities, and 400 series highway access). Within the TYW, more than 20,000 jobs are in wholesale trade and transportation, given the presence of a CN multimodal facility.

Key sub-sectors (By NAICS)

- ❖ Truck transportation
- ❖ Transit and ground passenger transportation
- ❖ Personal and household goods merchant wholesalers
- ❖ Machinery, equipment and supplies merchant wholesalers

Market trends and considerations for Vaughan

Vaughan’s goods movement sector includes a range and scale of operations. Established goods movement consists of wholesale distribution centres, freight/trucking terminals, multi-tenant distribution centres, and transportation direct laydown yards. These uses are land extensive and require access or proximity to a 400-series highway and the CN intermodal facility. Emerging goods movement uses in Vaughan are anticipated to include warehousing facilities requiring specialized functions that focus on serving the expanding urban population within the local and surrounding area. Key requirements include improvements to accessibility to the labour force (public transportation) and buildings with a range of design options.

Over the last two years, logistics and supply chain technology have experienced an increase in investment appetite due to the increased demands driven by the COVID-19 pandemic. The growth drivers of supply chain technology are the increased need for transparency and efficiency in the logistics market. As demand for products increases, the need for technologies that enable more profitable practices are coming to the fore. SMEs (Small or Medium-sized Enterprises) that offer cloud-based solutions to supply chain inefficiencies have a competitive advantage as they can serve a variety of industries and provide specialized solutions. In terms of solution type, the transportation management system type is expected to see the highest growth due to the integration of blockchain technology.

In addition, the evolution of the sector in recent years, with a focus on supporting lean manufacturing, e-commerce, and globalized trade, suggests that transportation and logistics remain a key sector for Vaughan. Lean manufacturing emphasizes more frequent and smaller deliveries by truck transport. Distribution centres are becoming more automated, allowing for vertical storage. E-commerce sales are also anticipated to significantly impact the logistics sector's employment growth and land demand. Fulfilment centres will also continue to be in demand, particularly as customers increasingly seek faster delivery times. There is also continued demand for loading bays and dedicated return centres (which supports the growth of reverse logistics).

Optimal location

Transportation and Logistics require prestige and general industrial and direct access to major road and highway and other major transportation infrastructure, including rail. Built-form characteristics include low-to-moderate design quality, low-to-high building coverage, and low on-site employment density. Goods movement operations require spaces ranging between 10,000 to 1,000,000 sq. ft., and ceiling heights of 30+ ft., large tracts with flat topography between 4 to 20 ha with expansion potential, loading/unloading areas, and outdoor or enclosed vertical storage.

Transportation and Logistics Sector SWOT	
Strengths	Weaknesses
<ul style="list-style-type: none"> • Vaughan has access to Canada’s largest population cluster (Windsor-Québec City Corridor) of over 18 million people • Access to a wide network of highways (400 series) connecting to major Canadian markets and the U.S. • Access to two airports, rail, and the Great Lakes ports. • The sector represented 16% of all jobs in Vaughan. Employment in the sector is also projected to add 2,074 jobs by 2028 • Of Vaughan’s 2017 employment base on employment lands, 38% is located within the Concord/CN Railway Lands district • Complementary manufacturing and wholesale trade sector concentrations 	<ul style="list-style-type: none"> • The concentration of transportation and warehousing businesses is on par with the region, but it has a lower concentration of businesses relative to Ontario • This sector’s uses are land extensive and require transportation access and are important considerations when planning for development • Competing communities in the region • Gaps in the workforce, including truck drivers and trades people, can affect sector growth • Any supplier gaps or weakness in relationships can result in disruptions • Any gaps in cyber-attack prevention strategies/software can affect business readiness
Opportunities	Threats
<ul style="list-style-type: none"> • Accelerated by the pandemic, growth in online retail will drive T&L globally • The growth of the local T&L market because of reshoring supply chains brought on by pandemic-influenced challenges, particularly involving essential goods • Partnerships with key industry and regional educational partners to focus on leading trends in end-to-end distributor of technology products, services, and solutions, artificial intelligence (AI), cyber security, and the Internet of Things (IoT) • Substantial number of trucking transportation businesses in the city (1,479 businesses) • Focus on the ‘final mile’ part of the supply chain sector • Synergies with the construction sector exist as merchant wholesales of building material and supplies are the largest sub-sector by employment • Leverage firms that specialize in distributing industrial goods and equipment to support the manufacturing and assembly expertise • There are opportunities to increase in-region purchases of sectors such as general freight trucking (\$63.6 million of imported purchases), and specialized freight trucking (\$88.7 million) 	<ul style="list-style-type: none"> • Being able to leverage technology to support ongoing changes in other sectors. For example, distribution channels are lacking to support the automotive sector • Uncertainty in trade agreements and distribution operations

Growing Sector – Finance and Insurance

Overview

Finance and insurance are among Vaughan's strongest target sectors, with a significant concentration of workforce and business on par with provincial trends. The concentration of finance and insurance sector businesses is on par with provincial businesses. The largest sub-sectors are miscellaneous intermediation and insurance agencies, and brokerages. Sub-sectors projected for most job growth by 2025 include depository credit intermediation and agencies, brokerages, other insurance-related activities, and activities related to credit intermediation.

<p><i>Key sub-sectors (By NAICS)</i></p>	<ul style="list-style-type: none"> ❖ Other financial investment activities ❖ Agencies, brokerages, and other insurance-related activities ❖ Activities related to credit intermediation
<p><i>Recruitment zones</i></p>	<ul style="list-style-type: none"> ❖ NYC, U.S. ❖ Los Angeles, U.S. ❖ Chicago, U.S. ❖ London, U.K. ❖ Shibuya-ku, Japan
<p><i>Market trends and considerations for Vaughan</i></p>	<p>Hyper-personalization for finance, insurance, and credit intermediation is gaining traction as innovations in AI have enabled software that can provide personalized financial solutions including investment, trading, and insurance plans. AI applications in these sub-sectors that are predicted to experience growth are automated investment software that allows users to trade and make intelligent investment decisions through robot-advisers.</p> <p>A major trend that we are also seeing is big data applications for consumer analytics for insurance companies. In conjunction with big data analytics, which allows for quantities of data to be leveraged to identify everything from personalized insurance plans to target markets for products. As finance and insurance become more digitally complex, information and network security become an important part of the industry. With the rise of big data and the Internet of Things, both in the consumer and business world, services focused on cybersecurity, information assurance, data processing, and quality control have been on the rise.</p>
<p><i>Optimal location</i></p>	<p>Like the PSTS sector, finance and insurance firms require prestige-setting employment lands. There is also a need for back-office support and affordable Class A office buildings</p>

Finance and Insurance Sector SWOT	
Strengths	Weaknesses
<ul style="list-style-type: none"> • Vaughan has a high concentration of finance and insurance businesses relative to Ontario, and on par to the region • Vaughan is in the second-largest financial centre in North America (the Greater Toronto Area) • Access to a large skilled labour pool, enhanced by the access to transportation through the TTC and GO Network • Vaughan has a particularly high number of businesses in other financial investment activities, which include portfolio management, investment advice, and all other financial investment activities (69% of all businesses in the sector in Vaughan) • Employment in the sector has grown steadily since 2016, with little to no impact from the COVID-19 pandemic 	<ul style="list-style-type: none"> • High competition for businesses in the sector among other GTA communities • Any gaps in efforts that focus on re-urbanization, integrating proactive planning and placemaking, and improving access by transit, walking, and cycling, will impact on sector growth • Any perceptions of the city that may affect the pro-business or tech environment could affect internal and external investment • Partnerships with industry and education are central to sector growth • Any gaps in cyber-attack prevention strategies/software can affect business readiness
Opportunities	Threats
<ul style="list-style-type: none"> • Financial technology is a growth aspect of this industry • Integrate digital transformation and position for growth in big data and analytics, blockchain technologies, cybersecurity, product customization, and hyper-connectivity • Build on the mature, growing PSTS cluster, to facilitate or support financial intermediation, insurance, and investment activities • Start-ups, creative tech companies and Fintech industries (e.g., cryptocurrency and blockchain) can grow in the city, through a focus on research and innovation required for emerging technologies • As part of the TYW, growth opportunities exist in finance and business services, enabled by access to North America's second-largest financial services hub (Toronto) and world-class institutions, providing for collaborative opportunities with academia on commercialization • There are opportunities to increase in-region purchases of sectors such as other financial investment activities (\$20.5 million), and securities and commodity contracts intermediation and brokerage (\$7.1 million) • Potential FDI investment opportunities in software, IT, and business services in key recruitment zones including NYC, U.S., Los Angeles, U.S., Chicago, U.S., London, U.K., and Shibuya-ku, Japan 	<ul style="list-style-type: none"> • Current inflationary trends affecting lending • Central Bank increasing interest rate, making it more costly to lend money (Central Bank has raised policy rate seven times in 2022 to mitigate against inflationary trends). • Fluctuation of digital financial assets impacting investors • A 2017 report on the competitive advantage of Canada's financial services sector determined that Canada's regulatory environments lacks a clear and unified policy • The regulatory framework can be seen as restrictive, particularly in the fintech, blockchain, and cybersecurity industries • A 'build to flip' mindset among tech and finance-based entrepreneurs and start-ups • Gaps in finding businesses looking to scale-up or expand • Changing business models may make routine jobs in the sector redundant. However, technological changes will ensure increased productivity, which could lead to new types of occupations in the sector

Emerging Sector – Tourism and Creative Industries

Overview

The Tourism and Creative Industries are emerging focus sectors for the city, building on the Strategic Initiative of the City of Vaughan Economic Development and Employment Sectors Study. Vaughan is well-positioned to capitalize and build on the digital media and creative industries by leveraging strengths in manufacturing, ICT, and PSTS, which form key inputs to the sector.

Key sub-sectors (By NAICS)

- ❖ Full-service restaurants and limited service eating places
- ❖ Other amusement and recreation industries
- ❖ Independent artists, writers, and performers
- ❖ Motion picture and video industries
- ❖ Computer systems design and related services
- ❖ Other professional, scientific, and technical services
- ❖ Architectural, engineering, and related services
- ❖ Specialized design services

Market trends and considerations for Vaughan

Growing the tourism and creative economy in Vaughan focuses on increasing the local economic development services in the arts, culture, tourism, and creative economy industries. This includes nurturing and attracting creative, tourism, and cultural industries and building creative capacity and capability through platforms and initiatives (festivals, events, public art, placemaking initiatives). Creative, tourism, and cultural industries as defined in the *Creative Together: Vaughan Cultural Plan* refers to industries that have a generative process of self-expression or collective thinking, which involves the generation and incubation of ideas and the illumination, confirmation, and production of something new. Sub-sectors of the creative, tourism, and cultural industries include digital industries (ex. film, media, gaming), tourism industries (ex. restaurants, breweries, experience providers), design industries (ex. graphics, fashion, interior, architecture), heritage-focused industries (ex. museums, galleries), arts-based industries (ex. visual arts, performing arts) and music industries (ex. sound production, broadcasting).

Globally, there is a growing trend towards the emergence of the creative industries, focusing on digital technologies as the next big contributor to economic growth and wealth in a community. Recent research indicates that creative industries (digital technologies) are steadily becoming a key asset for economic developers trying to pitch their communities. Digital media promotes the mutual combination of communications, broadcasting and computer information systems, digital interactive media consolidation, and industry convergence. The digital economy is accelerating and driven by five technologies, Virtual and Augmented Reality, Artificial Intelligence, 5G mobile, 3D printing and Blockchain. As identified in the 2021 ICTC Outlook, Virtual and Augmented Reality will be one of the five key technologies driving innovation in Canada. Moreover, as per the Measuring Success report, Ontario's Interactive Digital Media (IDM) companies are expected to see substantial growth over the coming years due to the advancements in businesses in this space. In 2017, the sector generated \$1.66 billion in revenue, with an implied profit margin of 31%.

Optimal location

Locational requirements are wide-ranging for the sector, depending on the type and nature of the business. Most information and cultural industries require office development with flexible leasing options. Accommodations, retail, and supportive uses require general and/or prestige employment, corridor, and mixed-use spaces.

Tourism and Creative Industries Sector SWOT	
Strengths	Weaknesses
<ul style="list-style-type: none"> • Canada's Wonderland, the McMichael Canadian Art Collection, LEGOLAND® Discovery Centre Toronto, Kortright Centre, and Vaughan Mills are key assets • Recent initiatives including the public art piece in the VMC and the City's corporate art collection • The city recognizes and promotes tourism and arts as an important contributor to quality of life and economic growth • Vaughan's Municipal Accommodation Tax (MAT) used to market the Vaughan tourism experience and brand • Approximately 12% of Vaughan businesses are creative industries (31% of all creative industries in York Region). • Vaughan has many businesses in computer system design and related services (this sector is also part of the PSTS and ICT sectors). • This sector accounted for 17% of all Vaughan jobs in 2022. • Creative industries in Vaughan are projected to add 1,016 jobs by 2028 	<ul style="list-style-type: none"> • Vaughan has a lower concentration of tourism businesses compared to both York Region and Ontario • Vaughan has a lower concentration of creative industries relative to York Region (LQ 0.92), and it is on par with the province (LQ 1.00) • Most GTHA communities focus on creative industries, including Toronto, Hamilton, Markham, Oakville, and Richmond Hill • There may be a perceived lack of awareness of the sector and strengths in the community • Gaps in supports for community cultural organizations are often seen as affecting sector growth • Municipal resources, capacity, and funding are central to sustained growth • The City of Vaughan Economic Development and Employment Sectors Study identifies the lack of coordination between cultural and tourism assets and the business community
Opportunities	Threats
<ul style="list-style-type: none"> • Introduce a creative brand that illustrates the impact of the city's creative industries to attract new creative, tourism, and cultural industries to Vaughan • Nurture cultural and tourism assets to build creative capacity and capability in the city • Vaughan as an art and culture hub, citing initiatives such as an incubator for artists and provision of studios and creative residences to support the development of young creatives and to attract related industries and institutions • Capitalize on several niche sectors, including IDM (gaming, eLearning, Virtual and Augmented Reality, and associated developers, publishers, and advertising firms) • Film and video production could be a strong opportunity sector for the city • There are opportunities to expand the supply chain in this sector and retain some of the money leaving the region (imported purchases for this sector reached \$39 million. Sector to expand includes computer systems design and related services (\$39 million in imported purchases) 	<ul style="list-style-type: none"> • Employment in this sector significantly declined between 2019 to 2020 due to the COVID-19 pandemic. Unlike other industry sectors, employment recovery in the tourism sector has not been significant • Employment projections show that by 2028, employment in the tourism sector in Vaughan will reach 17,232 jobs, lower than the 2019 job projections of 22,040 jobs

Emerging Sector – Life Sciences

Overview

The Life Sciences sector is significantly different from the other target sectors due to its essential nature and Ontario's role as the public health care provider. The sector provides an essential service to Vaughan's residents and workforce. Vaughan is home to a cluster of businesses and a workforce concentration that is on par with the province. Most of the workforce is employed in hospitals and the offices of physicians and health practitioners related to health care providers.

<p><i>Key sub-sectors (By NAICS)</i></p>	<ul style="list-style-type: none"> ❖ Offices of other health practitioners ❖ Offices of physicians ❖ Architectural, engineering, and related services ❖ Health and personal care stores
<p><i>Recruitment zones</i></p>	<ul style="list-style-type: none"> ❖ New York, U.S. ❖ Los Angeles, U.S. ❖ Atlanta, U.S. ❖ Basel, Switzerland ❖ Paris, France
<p><i>Market trends and considerations for Vaughan</i></p>	<p>The sector's growth opportunities include pharmaceutical and medicine manufacturing, medical equipment and supplies manufacturing, and scientific research and development services. These areas have larger private investment potential and significant opportunities to access provincial and federal support.</p> <p>Artificial Intelligence applications for the pharmaceutical and drug discovery sector are a growing trend. Application potential is wide and includes drug discovery, where large amounts of data can be analyzed to identify pharmaceutical opportunities. AI can also be applied to optimizing manufacturing processes through sensors and in conjunction with IoT technology. Finally, applications with patient identification, where patient data can be more efficiently sorted for clinical trials. The digitization of health care has resulted in the proliferation of telemedicine platforms. Investments are seen in telemedicine platforms, virtual care technologies, and existing care facilities. COVID-19 has had a positive impact on this segment as demand for digital health care rises as social distancing measures persist. In terms of pharmaceutical and medical device trends, over the last two years, there has been incentivized innovation for unmet and rare illnesses that affect vulnerable populations. Research and Development in specialty drugs and devices is therefore expected to continue growing as innovations in technology allow for more efficient identification of health solutions.</p> <p>Vaughan has opportunities to build on ongoing investments and focus on niche health-based technologies and commercialization in specific sub-sectors, including pharmaceuticals, medical equipment, and supplies manufacturing.</p>
<p><i>Optimal location</i></p>	<p>The city is already home to knowledge-based activities in key sectors, including PSTS. There are opportunities to set up Prestige's "campus-like" setting to attract life science-based firms and research facilities. These are usually standalone buildings or facility spaces within the multi-tenant incubator and or accelerator-type building. They have flexible leasing options, strong regional transit access and infrastructure, and offer access to on-site amenities and proximity to off-site services.</p>

Life Sciences Sector SWOT	
Strengths	Weaknesses
<ul style="list-style-type: none"> • Cortellucci Vaughan Hospital, the first smart hospital in Canada, features fully integrated smart technology systems and medical devices that can speak directly to one another to maximize information exchange and enable improved patient care • Life sciences accounted for 19,940 jobs in Vaughan (8% of all jobs in Vaughan) • The sector is projected to add 1,355 new jobs by 2028, exceeding pre-pandemic levels 	<ul style="list-style-type: none"> • Vaughan has a lower concentration of creative industries relative to York Region (LQ 0.89), and the province (LQ 0.85) • Close to half of businesses in Vaughan are industries funded by public dollars (office of doctors/physicians) and other health practitioners • Sector promotion and efforts that focus on initiatives are underway • Gaps in C-Suite talent and attracting and retaining senior level executives is a challenge for the sector • Growth in some industry sub-sectors within life science (physicians, other health care practitioners) is driven by population growth, with little space from local government to intervene • Lack of collaboration among research and development institutions, companies, and organizations, due to the nature of the sector • Appropriate zoning for research and development facilities and start-ups looking for laboratory space. Often, research and development firms and start-ups in this sector witness major losses as they are unable to find appropriate space for their operations • Access to scale-up capital is a barrier to start-up sector growth • Competition from other communities in the GTHA focusing on the sector
Opportunities	Threats
<ul style="list-style-type: none"> • Cluster development opportunities between companies, academia, and applied researchers • Focus a long-term local and regional vision for the sector to support the ecosystem from the start-up to the scale-up companies • Opportunities to work with commercial real estate investors and developers to convert office, industrial, and even retail spaces for the life-sciences industry • Vaughan Healthcare Centre Precinct (VHCP) transforming the corner of Major Mackenzie Dr. and Hwy 400 into a world-class health and health care innovation hub • York U's proposal to establish a new health research, innovation, and teaching facility in Vaughan 	<ul style="list-style-type: none"> • Life sciences workforce shortages are a factor across Canada and competition for these workers is strong • Gaps in regulatory support and clarity in processes, approvals, and licensing etc. affects the sector • As per the Toronto Global report, wet lab space is a critical missing piece in the GTA life sciences ecosystem and will need to increase if the full potential of public and private investments in the sector is to be realized

<ul style="list-style-type: none">• Relocation of the ventureLAB MedTech Hardware Catalyst Initiative to support the next generation of health care delivery• There are opportunities to expand the supply chain in this sector and retain some of the money leaving the region. By doing this, Vaughan can also increase the local participation of other life science businesses such as pharmaceutical and medicine manufacturing (\$14 million in imported purchases), medical equipment and supplies manufacturing (\$4 million in imported purchases), and medical and control instruments manufacturing (99% of purchases made in-region, opportunities to grow this established sector).• The following recruitment zones are opportunities for Vaughan based on investments into Ontario in the sub-sectors of finance and insurance over the last 10 years. Cities include New York, U.S., Los Angeles, U.S., Atlanta, U.S., Basel, Switzerland and Paris, France	
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Vaughan FDI Opportunities

This section of the report highlights the FDI sectors and projects of importance to Vaughan’s economy.

Vaughan ranks 5th in Ontario for FDI investments accounting for 11 projects as tracked by fDimarkets. 4 projects are in communications. These include:

- November 2021 - Likewise, a mobile distributor and services provider, and a subsidiary of Japan-based Softbank, opened a new fulfilment centre in Vaughan, Canada. The facility serves the domestic market and is set to create 60 jobs.
- August 2020 – U.S.-based data centre operator Digital Realty Trust expanded its data centre in Vaughan, Canada. The firm added 555 sq. m. and 1,500 kilowatts of capacity to its TOR1 facility.
- March 2018 – U.S.-based data centre operator Digital Realty Trust opened a new wholesale data centre in Vaughan, Canada. The TOR1 facility covers 66,055 sq. m. and consists of 23 computer rooms ranging from 800 to 1,200 sq. m.
- August 2017 – U.S.-based DuPont Fabros Technology, a data centre operator, expanded its data centre in Vaughan, Canada. The 21,015 sq. m. facility operates as TOR1 and includes 23 computer rooms with a critical data power capacity of up to 46MW.

Sector/Projects	Description
<i>Medical device projects</i>	January 2019 - Japan-based Terumo, a life sciences company, opened a new facility in Vaughan, Ontario, Canada. The 5,390 sq. m. facility houses an office, along with a distribution and warehouse centre.
<i>Food and beverage projects</i>	July 2020 - Wal-Mart Canada, a retailer, and a subsidiary of U.S.-based Wal-Mart, announced plans to open a new distribution centre in Vaughan, Canada. It is part of Walmart Canada's plans to spend \$3.5B by 2025 to accelerate its domestic growth.
<i>Consumer products projects</i>	April 2020 – U.K.-based online grocery retailer Ocado launched its first North American customer fulfilment centre in Vaughan, Ontario.
<i>Rubber projects</i>	September 2019 - Swedish-based furniture and homeware giant IKEA opened a distribution centre in the Kleinberg area of Vaughan, Canada. The 51,095 sq. m. facility has created 120 jobs. It serves customers in the Greater Toronto Area.
<i>Automotive projects</i>	January 2019 - Dutch-based tire manufacturer Magna Tyres opened a new office in Vaughan, Canada. It allows the firm to better serve its U.S. and Canadian clients.
<i>Automotive projects</i>	April 2018 – U.S.-based Dayco, an engine products and drive systems supplier for the automotive, industrial, and aftermarket industries, announced the relocation of its Canadian aftermarket

Building materials

headquarters in Vaughan, Ontario, as part of the company's ongoing development strategy. The company is expanding to a new location due to the growth of its aftermarket operations.

September 2016 – U.S.-based M S International, which distributes natural stone products, opened a new distribution centre in Vaughan, Canada. It contains a 2,135 sq. m. slab selection showroom and serves customers in the Greater Toronto Area.

Source: ROI

Outreach Tactics

Overall, given that COVID-19 has had an impact on the flow of FDI, it is important to consider how this may affect the execution of outreach. A multi-pronged approach is essential to cover all bases and ensure the maximum output for outreach campaigns. Practically speaking, this means enhancing the potential for connections through multi-touch campaigns to maximize effectiveness and highlighting Vaughan's specific value proposition through benchmarking data with competitor regions. Calling potential leads remains the best way to identify if a company is expanding and is recommended as the key to direct outreach. While virtual meetings are more the norm due to the impacts of the pandemic, tradeshows continue to be the primary means of connecting with potential targets. Considering the recommended priorities, outreach tactics may require contextualization within sectoral trends to capitalize on these techniques. First, taking transportation and warehousing, which has been a booming sector during the COVID-19 pandemic. In terms of attraction efforts, regions attracting investments in this sector have had proximity to their customer base as well as highway, airport, and port access. A steady workforce supply is also critical in this sector because, while big players may be seen as an asset to a region, it may be difficult to supply labour to new players. Second, advanced manufacturing has seen more traction over the last year. Professional services, although a growing industry, is pivoting towards a remote model. Over time, this means that flexible office space/shared space at a central location will be a key facet in attracting investments in this sector.

The following section summarizes best practice approaches and highlights some key recommendations for achievable action steps that can help propel Vaughan forward onto the global stage. These practices can be adopted in whole or in part, depending upon resource availability and the extent to which Vaughan wishes to undertake a comprehensive FDI attraction program. Enhancing investment readiness needs to be both a proactive and reactive approach to investment attraction and will support other attraction efforts, such as talent attraction and tourism attraction.

Multi-touch Campaigns

Multi-touch campaigns with a consistent message in a variety of formats through different mediums have been crucial to FDI investment attraction efforts. These include:

- Websites that highlight unique sector-based selling points, calls to action, and benchmark data
- Webinars that address leads and drive traffic to an economic development website
- Telephone campaigns for promotion and outreach
- Email campaigns that drive traffic to the website
- Social media and content marketing that utilizes automated emails, banners, search engine marketing, Pay-per-click, and re-targeting

Effective Engagement

Effective engagement requires customizing an outreach approach for each company. It is vital that a one-size-fits-all approach is avoided to ensure interest from the outset. Examples of effective customization include:

- Contacting relevant leads with a compelling and targeted pitch
- Using multiple outreach avenues, i.e., phone, email, and LinkedIn
- Following up on outreach

Lead Nurturing

Lead nurturing is the building and maintaining of effective and strategic relationships with individuals who are not currently ready to expand or could present as ideal prospects in the future. To ensure future sales, a few nurturing tactics become apparent:

- Gathering information about the prospect and educating the prospect about Vaughan
- Gaining an intrinsic understanding of the prospect's needs and objectives, which helps Vaughan to deliver a more effective service and make more valued recommendations
- Positioning Vaughan as a trusted advisor to prospects and a reliable source of support and information
- Building awareness and promoting Vaughan's unique offerings

Data Gaps

Going forward, Vaughan's local data collection and data tracking ought to focus on a couple of key areas including:

Competitive Analysis and Benchmarking

A tool that is recommended is comparative analysis with competitor regions that suggests unique value propositions. The success of benchmarking is characterized by the continuing measurements of performance against others and improvement of practices and processes. With these insights, marketing messages that help to create a specific story can be put together. Such an analysis requires four main components:

- Determine the factors and industry to be compared that most relate to the story you wish to tell
- Determine competing locations to be benchmarked, and collect the data
- Compare your location to those of your competitors
- Determine your location's unique selling proposition with quantitative insights that are measurable and traceable.

Other Data Gaps of Note Include:

FDI Projects

- Number of new foreign investments, number of jobs created, and (where possible) the value of these investments
- Number of new investments announced in the previous quarter and previous 12 months
- Number of jobs created, and (where possible) the value of these investments
- Number of re-investments and disinvestments announced in the previous quarter and previous 12 months, number of new (or lost) jobs, and (where possible) the value of these re-investments and disinvestments
- New projects being tracked

- Projects that are, for practical purposes, frozen (i.e., no decision is expected for at least two years) or dead (i.e., the investor has decided not to invest)

Ecosystem Inventory

- Number of foreign-owned companies via sector
- Number of Canadian companies via sector
- Success stories of anchor companies
- List of business support services, labs, and incubators

Cost and Infrastructure

- Cost of office space, energy, and transport
- Identifying and listing infrastructural assets, including transportation, power supply, and internet speed

PESTLE Assessment

The PESTLE assessment contextualizes Vaughan's current state through a Political, Economic, Social, Technological, and Environmental (PESTLE) lens. The elements of the PESTLE assessment are described below.

Political

Political or politically motivated factors that could impact the community. Examples include government policy, foreign trade policy, trade restrictions, labour protection laws, funding grants & initiatives, etc.

Geopolitical Flux and Trade Restrictions

- ❖ International political uncertainty with China, including the impact on Taiwan, the Russian invasion of Ukraine, the ongoing crisis in the Middle East and North Korea's stance, all add risk to global economic growth. This is pushing the economy into trade disruptions, declining consumer sentiment, near-term market volatility, and recession
- ❖ Global trade is diminishing due to these events. Canada has already placed sanctions on Russia (this had minimal impact on the Canadian economy as Canada does not trade heavily with Russia). However, any Canadian trade sanctions on China will impact on the economy as China is Canada's second-biggest trading partner
- ❖ Consumer optimism is declining due to the geopolitical events, including the threat/possibility of a war
- ❖ These geopolitical developments will result in displaced public spending, as more tax dollars are spent on defense²⁶
- ❖ Canada has strong connections to both the British and U.S. economies, which need to be fostered

Canada's State of Trade 2022²⁷

- ❖ Canada's free trade agreements (FTAs) are integral to solid business recovery. FTAs support economic growth, open doors internationally, and facilitate the development of diversified and resilient supply chains.
- ❖ Canada is the only G7 economy with comprehensive free trade access to the entire G7 and European Union. Canada's 15 FTAs cover 61% of the world's GDP and open markets to 1.5 billion consumers worldwide.
- ❖ The merits of free trade include innovation, economies of scale, market competition, and increased access to products.

²⁶ <https://www.theglobeandmail.com/business/commentary/article-in-2023-geopolitics-will-push-the-world-economy-closer-to-recession/>

²⁷ <https://www.international.gc.ca/transparency-transparence/state-trade-commerce-international/2022.aspx?lang=eng#summary>

Foreign Trade Policies

- ❖ Free trade agreements allow Canada to diversify market opportunities and give Canadian businesses access to 1.5 billion customers and create more jobs for Canadians.
- ❖ The Canada USA Mexico Agreement (CUSMA) replaced the North American Free Trade Agreement (NAFTA) to re-balance trade and increase industrial activity within North America.
 - The new agreement provides benefits for the Canadian market, including tariff-free market access for exports, continued investments in the automotive and steel and aluminum sectors, and new market access opportunities for the agricultural sector.
 - While these are positive outcomes, stringent rules of origin requirements suggest declining motor vehicle exports to the United States
- ❖ The Trans-Pacific Partnership Agreement between 12 Pacific Rim economies: Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, Vietnam, and the United States.
 - It addresses areas included in most modern free trade agreements including trade in goods, investment, and government procurement)
 - Provides disciplines to new areas such as anti-corruption, electronic commerce, and cybersecurity.
- ❖ The Canada-European Union Comprehensive Economic and Trade Agreement (CETA) is a free trade agreement between Canada and the European Union (EU), covering all sectors and aspects of Canada-EU trade.
- ❖ Canada's approach to strengthening trade relationships includes discussions with Mercosur, the Pacific Alliance, and potentially, the Association of Southeast Asian Nations.

Workers' Rights and Labour Protection Laws

- ❖ Ensuring worker rights enables a solid foundation for economic growth and sustainability. The International Labour Organization (ILO) provides the basic labour standards for labour markets. Other major labour protection laws include:
 - Part III of the Canada Labour Code sets out the employment conditions for hours of work, payment of wages, leaves, vacation, holidays, and more. These standards apply to employees working in federally regulated businesses.
 - Bill 88: Working for Workers Act, 2022, which includes amendments to the Employment Standards Act, 2000 (ESA).
 - Occupational Health and Safety Act, to promote the prevention of workplace injuries and occupational diseases.
 - Digital Platform Workers' Rights Act, 2022, is a proposed legislation that, if passed, provides certain rights and protections for digital platform workers who provide ride-share, delivery, or courier services for payment and are offered work assignments by an operator using digital platforms.²⁸

Federal Investments in Automotive and Electric Vehicle Manufacturing

- ❖ Federal agenda in place to increase support and investment in electric vehicles in Canada
- ❖ Stringent environmental policies and government regulations to control climate change are driving growth in favour of electric battery and propulsion technologies as opposed to traditional engine manufacturing
 - In March of 2022, Stellantis and LG Energy solutions entered a joint venture agreement worth over \$5 billion to create the first large-scale electric-vehicle (EV) battery manufacturing facility in Ontario and Canada.
 - This investment is the first into electric vehicle battery manufacturing in Canada and signals a willingness by foreign businesses to invest in Canada in this space

²⁸ <https://www.ontariocanada.com/registry/view.do?postingId=41092>

- ❖ **Driving Prosperity: The Future of Ontario's Automotive Sector** positions Ontario as a North American leader in developing and building the car of the future through emerging technologies and advanced manufacturing processes

Economic

Overall economic forces that could impact the economic growth of a community. Examples include economic trends, industry growth, income, unemployment rates, taxation, inflation, monetary policies, etc.

Macro-economic Trends

- ❖ By October 2022, inflation in Canada reached 6.9% (monthly accumulated inflation), the twelve largest among the advanced G20 economies.²⁹
- ❖ With the current inflation rates, the IMF's World Economic Outlook recently downgraded its growth outlook for all the G20 nations, except for China.
- ❖ As per Deloitte's January 2023 Economic Outlook,³⁰ the Canadian economy is expected to go through a mild and short-lived recession due to ongoing high interest rates and inflation.
 - The Canadian outlook has been hit harder than expected given trade dependence with the United States
- ❖ According to the Bank of Canada's Monetary Policy Report, GDP growth is projected to slow to approximately 0.5% through the end of 2022 and the first half of 2023.³¹
- ❖ The Ontario government is now projecting a \$12.9 billion deficit in 2022–23, \$7 billion lower than the outlook published in the 2022 Budget.
- ❖ The cost of living is one of the key factors affecting people across Canada. The COVID-19 pandemic and subsequent market and supply chain disruptions have aggravated the situation across the county.

Ontario and Vaughan Labour Market Trends

- ❖ As of December 2022, there were 12.6 million people in Ontario aged 15 years or older. 8.2 million (64.9%) were in the labour force. The labour force increased by 21,700 (0.3%) in December compared to November.
- ❖ Ontario's unemployment rate decreased to 5.3% in December from 5.5% in November and 431,800 people were unemployed, down 20,300 (-4.5%) from November.
- ❖ Like provincial rates, the labour force shortage will continue to be a major challenge for Vaughan's economy and many industries. The labour market is expected to be tight over the next three years, with unemployment at 5% to 6%.
- ❖ Due to its location in Canada's largest metropolitan area (Toronto CMA), Vaughan has benefitted from a high influx of newcomers. Vaughan's population is diverse; as of 2021, 46% of the city's population were immigrants; and 41% were visible minorities.
- ❖ Vaughan is also an attractive community for young families as it is well connected to the broader Toronto Region by an extensive transit system than includes a subway station and the GO Transit system.

Industry Growth and Business Investment

- ❖ Vaughan has a diverse employment base, driven by manufacturing, construction, retail trade, and professional services firms.

²⁹ OECD (2022), IMF (2022)

³⁰ Deloitte. January 2023. Economic Outlook: Interest rate increases bite, leading to deeper recession

³¹ Ibid.

- Manufacturing is the top exporter for the community, representing 56% of all exports at \$21.6 billion. Construction, wholesale trade and transportation, and warehousing are the other top exporters for the city.
- Sectors accounting for most of the job growth include transportation and warehousing, manufacturing, health care and social assistance, professional, scientific, and technical services, and construction.
- ❖ As labour becomes increasingly tight, businesses will continue to invest in productivity enhancing measures, particularly through machinery and equipment-related investments
 - Investments will, however, be cautious, as businesses looking to invest face higher borrowing costs, making gains more modest
 - This is of relevance to the automotive and semiconductor industries as the sectors are witnessing a higher cost of capital, inventory drawdowns from customers and the supply chain, and a decline in earnings. In response, automotive and chip companies are cutting costs, laying off employees, and pushing out capital expenditures.

Economic Recovery

- ❖ On a provincial scale, the *Ontario Economic Outlook, and Fiscal Review – Ontario’s Plan to Build: A Progress Update* includes targeted measures that advance its plan to build the economy, address the labour shortage, and help families and businesses keep costs down.
- ❖ *Grow Ontario Stronger: A Framework for the Ontario Government’s Post-Pandemic Recovery Plan* positions governments as economic stewards and reviews core business services, such as exploring local government interest in broadband connectivity, as a government-owned/operated utility function
- ❖ Ministry of Economic Development, Job Creation and Trade supports a strong, innovative economy that can provide jobs, opportunities, and prosperity for all Ontarians
- ❖ Small Business Enterprise Centres (SBECS) across Ontario offer entrepreneurs all the tools they need to start and grow their businesses

Municipal Governance and Vaughan Economic Development Department

- ❖ The City of Vaughan operates within a two-tier municipal structure.
 - Continued collaboration and alignment of services are needed to take advantage of shared resources where possible and access funding programs from upper levels of government.
 - Vaughan’s economic development success depends on both the buy-in and support of all partners (Council, staff, internal departments, workforce, industry, community, and education).
- ❖ The City of Vaughan’s Economic Development department offers support for local businesses and entrepreneurs at all stages. The Department is organized into three business Units:
 - Economic Development: Conducts Business Retention, Expansion, and Attraction activities to Develop and Support Vaughan’s Established, Growing, and Emerging Clusters
 - Economic Services: Operates Tourism Vaughan and the Vaughan Business and Entrepreneurship Centre to Deliver Externally Funded Support Services and Programs to Key Economic Segments
 - Strategic Economic Initiatives: Establishes Economic Assets through creative placemaking in the City of Vaughan by advancing Smart City, Public Art, Revenue Generation, and Strategic Projects

Social

Social attitudes, behaviours, and trends that impact the community. Examples include population growth, age of the population, economic status, social /ethnic customs, immigration/emigration, family size/structure, lifestyle trends, etc.

Ontario and Vaughan Population Growth

- ❖ As of 2021, Ontario had the highest population in all of Canada — approximately 14.8M.
 - Ontario also had the highest growth projections of all Canadian provinces.
 - In a high-growth scenario, Ontario's population could climb as high as 21.1M by 2043. At a minimum, the low-growth scenario sees the population nearing 17M.
- ❖ Vaughan is home to approximately 323,103 residents and is strongly positioned as a growth community with a highly diverse, prosperous, and educated resident population.
 - Continued growth is projected for the city. Vaughan's population is expected to grow by approximately 230,000 people by 2051. This represents an average annual growth rate of 1.7%, or approximately 7,700 people per year.
 - Approximately 42% of Vaughan's population is under the age of 35. The age distribution for Vaughan's population is like York Region and the province.

Ontario and Vaughan Immigration Trends

- ❖ The Canadian Federal Government has a new plan to accept 465,000 new immigrants in 2023, with that number to rise to 500,000 in 2025. This new influx of immigrants will help to alleviate some of the labour market shortages.
- ❖ A significant percentage of new immigrants initially arrive in main urban centres (Toronto, Montreal, and Vancouver), making access to housing and affordability even more precarious.
 - According to the 2021 Census, 46.4% of Vaughan's population were immigrants. This share is like the broader Toronto CMA
 - Most of the immigrants arrived in Vaughan before 1980. In contrast, the Toronto CMA region has seen its largest immigration wave between 2011 to 2021.

Household Income

- ❖ The median household income in Vaughan was \$124,000 in 2020.
 - Vaughan's median household income was 11% higher than York Region, 16% higher than the GTHA, and 36% higher than Ontario.
 - Compared to 2015, median household income grew by 18% in the city.

Dwelling Values and Affordability

- ❖ Vaughan is less affordable than the Toronto CMA in terms of dwelling values.
 - By 2021, median dwelling prices in Vaughan reached \$1.6 million in 2021, compared to \$1.19 million in the Toronto CMA.
 - The increased cost of living is pushing the workforce in traditionally low-wage jobs out of the community. High housing costs may be a deterrent for young professionals and families looking at suburban communities
- ❖ The provincial government is undertaking measures to alleviate housing concerns. This includes Bill 23, the More Homes Built Faster Act, 2022. The Act proposes sweeping changes to the land use approvals system in the province, with the goal of facilitating the construction of 1.5 million new homes by 2031

Vaughan Quality-of-life Assets

- ❖ Vaughan's residents have access to a significant number of amenities.
 - These include several businesses in different sectors that directly impact the well-being and life quality of residents.
 - Among these businesses, Vaughan has 2,585 tourism businesses, 506 businesses in arts, entertainment, and recreation, more than 200 city parks in the five city communities, and 12 nature walks and trails.
- ❖ Significant assets include Canada's Wonderland, Culture Days, and the McMichael Canadian Art Collection
- ❖ Kortright Centre for Conservation, the SLATE art exhibitions, LEGOLAND® Discovery Centre Toronto, Vaughan Mills, heritage month celebrations, cultural events, and public art installations.

Technology

Technology can affect the way you make, distribute, and market products and services. Examples include information and communications technology, legislation around technology, consumer access to technology, competitor technology and development, emerging technologies, automation, research and innovation, intellectual property regulation, technology incentives, etc.

Information and Communications Technology (ICT)

- ❖ Canada's ICT sector posted robust growth in 2021 despite the impacts of the pandemic and outperformed the overall Canadian economy in terms of output, employment, and innovation growth.
 - As per the 2021 Canadian ICT Sector Profile, each direct job in the ICT sector supports an additional 1.3 jobs within the Canadian economy and each \$1 million of direct GDP generated within the ICT sector leads to an additional \$862,000 in GDP generated for Canada.
 - Within ICT, software and computer services generate the highest impact multiplier in terms of GDP and are led by computer systems design and related services, which is a major sub-sector of PSTS.

Professional Services and Emerging Technologies

- ❖ The Canadian professional, scientific, and technical services (PSTS) sector is concentrated in Ontario, which accounted for almost half of the nation's employment within the sector.
 - Out of the approximately 579,6001 people in the province employed in the sector, about 62% are in the Toronto economic region.
 - This is due to Toronto being home to the headquarters for many companies that use this sector's services, particularly financial services institutions, and the various technology companies located in Ontario.
- ❖ Ontario is a global leader in the fintech sector.
 - The Greater Toronto Area is the second largest financial hub in North America, just behind New York City.
 - Vaughan's access to this financial ecosystem facilitates innovation and allows businesses in the area to have access to a global finance hotspot. This includes the Toronto-Kitchener-Waterloo Corridor, one of the largest start-up ecosystems in the world.

Industry 4.0

- ❖ Industry 4.0 is seen as the next wave of technological innovation industry whereby production, supply chains, and work itself are intelligent processes where automation, wireless, and internet-connected machines are constantly in communication and sharing data.

- ❖ Technological development enhances labour productivity. It has led to the creation of new jobs in industries requiring skills related to modern technologies. Automation and robotization is replacing low-skilled and routine jobs. The jobs of the future require both technological savvy and human skills.³²

Technology Legislation and Funding

- ❖ The Digital Charter Implementation Act, 2022, will significantly strengthen Canada's private sector privacy law. The Act creates new rules for the responsible development and use of artificial intelligence (AI) and advancing the implementation of Canada's Digital Charter.
- ❖ Ontario's Digital and Data Directive ensures the delivery of high-quality digital services and access to public government data unless it is exempt for legal, privacy, security, confidentiality, or commercially sensitive reasons.
- ❖ Intellectual Property Ontario is a new agency that provides intellectual property support and services to help businesses and researchers innovate and grow.
- ❖ Funding programs include the Scientific Research and Experimental Development Program (SR&ED), Industrial Research Assistance Program (IRAP), Ontario Interactive Digital Media Tax Credit (OIDMTC), Strategic Innovation Fund (SIF), Next Generation Manufacturing (NGen) and MaRS Investment Accelerator Fund (IAF), among others.

Legal

Legal factors that impact an organization include governing acts, employment laws, environmental safety, and organizational risks.

- ❖ The Municipal Act is a consolidated statute governing the extent of powers and duties, internal organization, and structure of municipalities in Ontario.
- ❖ Ensure a strong understanding of regulations that impact on the department including Contract Management procedures and applicable antitrust/pricing regulations
- ❖ The Vaughan Economic Development department needs to ensure due diligence on prospective contracting parties/business partners. Implement anti-fraud controls, regulatory awareness, independent internal investigations, and coordination between legal and other appropriate departments.
- ❖ Incorporate employment laws into human resources policies and ensure Environmental, Health and Safety (EH&S) standards and procedures to comply with goals.
- ❖ Vaughan Economic Development department needs to ensure contingencies are in place to recognize bankruptcy and identify duties at each level of governance.
- ❖ Work with appropriate legal advisors and departments to assess regulatory and compliance risks and legal requirements when undertaking new projects or engaging in land development activities.

Environmental

Environmental factors that impact the community.

- ❖ On a global scale, climate change may influence the insurance market due to the unpredictability of weather and natural disasters

³² Z. Grodek-Szostak, L. O. Saguenay, A. Szelag-Sikora and G. Marzano, "The Impact of Industry 4.0 on the Labor Market," 2020

^{61st} International Scientific Conference on Information Technology and Management Science of Riga Technical University (ITMS), Riga, Latvia, 2020, pp. 1-5, doi: 10.1109/ITMS51158.2020.9259295.

- ❖ Acknowledging the global climate emergency, the City of Vaughan declared a climate emergency in June 2019. Since the climate emergency declaration, the City of Vaughan has moved forward towards climate action through the following initiatives:
 - Green Directions Vaughan 2019. Goals in place to reduce greenhouse gas emissions, as well as enhance stormwater management, water conservation, and waste reduction
 - The City Council approved the Local Improvement Charges (LIC) Feasibility Study, as an initiative demonstrating progress on climate change.
 - A Review of the Sustainability Performance Metrics in collaboration with the City of Markham, City of Richmond Hill, and City of Brampton has been completed
 - The City is working with the ClimateWise Business Network to engage the owners of commercial floor space in Vaughan to improve compliance with the Energy and Water Reporting of Buildings (EWRB) regulation.
 - The Vaughan Official Plan Review will include a Climate Adaptation and Resilience Framework as a supporting study.

Conclusion

As interest rates continue to increase, inflation slows, and the Canadian economy enters a recession, the economic outlook remains uncertain. In addition, broader political, economic, technological, and environmental trends may impact the City's economic development efforts (international conflicts disrupting some supply chains, trade conflicts with large manufacturers in places like China, population ageing trends and labour force shortages, among others). Despite these trends, Vaughan's projected economic and population growth will enable the community to direct talent attraction and retention efforts and boost investment in key sectors. With a robust economy and a diverse mix of export-based employment sectors, the GTHA and Vaughan will continue to be attractive on an international and national level to new businesses and investors.

Vaughan's contributing factors for growth include:

- ❖ Vaughan is a significant economic contributor to the GTHA and York Region. The city represented approximately 40% of the York Region's total GDP (approx. \$27 billion). Most of this amount comes from the service-producing industries (over 65%). The city's GDP contributions are further projected to grow by \$3.7 billion over the next three years. In addition, Vaughan accounts for 37% of York Region's employment base and is a thriving economy driven by manufacturing, construction, retail trade, and professional service firms.
- ❖ Vaughan is home to approximately 323,103 residents and is strongly positioned as a growth community with a highly diverse, prosperous, and educated resident population.
- ❖ Vaughan has benefited from a high influx of newcomers. Vaughan's population is diverse; as of 2021, 46% of the city's population were immigrants, and 41% were visible minorities. The city is well connected to the broader Toronto Region by an extensive transit system that includes a subway station and the GO Transit System.
- ❖ Vaughan is well-positioned to focus targeted efforts that address labour force concerns and explore innovative ways of attracting, retaining, and training employees including sector-specific workforce approaches, leveraging partnerships with education institutions and key industries, and investing in affordable housing.
- ❖ Advanced manufacturing and transportation and logistics are established sectors for the community and offer opportunities to build on Ontario's continued competitiveness in the automation and manufacturing of electric vehicle components; emerging trends in light industrial manufacturing and supporting services for lean manufacturing, e-commerce, and globalized trade.
- ❖ Finance and insurance, tourism, creative industries, and life sciences are emerging and growing sector for the community enabled by strengths in professional, scientific, and technical services (PSTS) and information and communication technologies.
- ❖ Finance and insurance are a dominant industry cluster in York Region and shows a high concentration of employees in the Vaughan Metropolitan Centre (VMC), forming a core of the office-based employment for the city. Building on the strengths of the Vaughan Healthcare Centre Precinct (VHCP), Vaughan has opportunities to position for research, education and training facilities within pharmaceutical and medicine manufacturing, medical equipment and supplies manufacturing, and scientific research and development services.
- ❖ Employment lands are an integral part of Vaughan's economic development potential, and accommodate a broad range of sectors including manufacturing, construction, wholesale trade, professional, scientific, and technical services, and transportation and warehousing. As the demand for knowledge-based sectors increases, Vaughan should ensure OP (Official Plan) policies are aligned with market demand and that modern and flexible zoning are in place, employment

lands and uses are protected, and opportunities to accommodate a higher density of development are pursued.

- ❖ Vaughan should continue to track federal investment and support for automotive and advanced manufacturing processes. As labour becomes increasingly tight, businesses will continue to invest in productivity-enhancing measures, particularly through machinery and equipment-related investments. Investments will, however, be cautious, as businesses looking to invest face higher borrowing costs, making gains more modest.
- ❖ Many social and environmental factors impact community growth and sustainability. Broader technology trends, research and innovation, intellectual property regulation, and technology incentives are of relevance to Vaughan as it focusses on sector growth and continued investment.



Appendices

Appendix I – NAICS Definitions

PSTS

This sector comprises establishments primarily engaged in activities in which human capital is the major input. These establishments make available the knowledge and skills of their employees, often on an assignment basis. The individual industries of this sector are defined by the expertise and training of the service provider.

The main components of this sector are legal services; accounting, tax preparation, bookkeeping and payroll services; architectural, engineering, and related services; specialized design services; computer systems design and related services; management, scientific and technical consulting services; scientific research and development services; and advertising, public relations, and related services.

- Computer systems design and related services (except video game design and development
- Administrative management and general management consulting services
- Other management consulting services
- Offices of accountants
- Offices of lawyers
- All other professional, scientific, and technical services
- Engineering services
- Bookkeeping, payroll, and related services
- Other scientific and technical consulting services
- Other legal services
- Interior design services
- Advertising agencies
- Graphic design services
- Photographic services
- Human resources consulting services
- Tax preparation services
- Architectural services
- All other services related to advertising
- Marketing research and public opinion polling
- Veterinary services
- Research and development in the physical, engineering and life sciences
- Other specialized design services
- Environmental consulting services
- Display advertising
- Landscape architectural services
- Specialty advertising distributors
- Translation and interpretation services
- Media representatives
- Drafting services
- Building inspection services
- Video game design and development services
- Public relations services
- Testing laboratories
- Industrial design services
- Surveying and mapping (except geophysical) services
- Advertising material distribution services
- Media buying agencies
- Research and development in the social sciences and humanities
- Geophysical surveying and mapping services
- Offices of notaries
- Direct mail advertising

Information and Communication Technology (ICT)

The ICT sector comprises industries primarily engaged in producing goods or services, or supplying technologies, used to process, transmit and display data or information. These industries use creativity, talent, and digital skills to serve and create applications for vertical markets such as healthcare,

education, finance, defense, and the creative industries³³. Industry subsectors (4-digit NAICS) in this industry include:

- Computer and peripheral equipment manufacturing
- Communications equipment manufacturing
- Audio and video equipment manufacturing
- Semiconductor and other electronic component manufacturing
- Manufacturing and reproducing magnetic and optical media
- Computer and communications equipment and supplies merchant wholesalers
- Software publishers
- Wired and wireless telecommunications carriers (except satellite)
- Satellite telecommunications
- Other telecommunications
- Data processing, hosting, and related services
- Computer systems design and related services
- Electronic and precision equipment repair and maintenance

Advanced Manufacturing

Advanced manufacturing is a subset of the overall manufacturing sector. However, there is no clear or standardized definition to describe what it includes. Advanced manufacturing relates to establishments that use advanced processes in the production of goods as well as establishments that produce complex goods, such as electronics and vehicles. The NAICS defined as the advanced manufacturing subset in this report is thus related to both advanced processes and advanced goods as they relate to Vaughan.

- Fabricated metal product manufacturing
- Furniture and related product manufacturing
- Miscellaneous manufacturing
- Food manufacturing
- Printing and related support activities
- Machinery manufacturing
- Plastics and rubber products manufacturing
- Non-metallic mineral product manufacturing
- Wood product manufacturing
- Transportation equipment manufacturing
- Computer and electronic product manufacturing
- Chemical manufacturing
- Electrical equipment, appliance, and component manufacturing
- Clothing manufacturing
- Beverage and tobacco product manufacturing
- Paper manufacturing
- Primary metal manufacturing
- Textile product mills
- Petroleum and coal product manufacturing
- Leather and allied product manufacturing
- Textile mills

³³ <https://ised-isde.canada.ca/site/digital-technologies-ict/en>

Transportation and Logistics (Wholesale Trade, Transportation and Warehousing)

This sector includes businesses within the wholesale trade, transportation, and warehousing. The wholesale trade comprises establishments primarily engaged in wholesaling merchandise, without transformation, and rendering services incidental to the sale of merchandise. Meanwhile, the transportation and warehousing comprise establishments primarily engaged in transporting passengers and goods, warehousing and storing goods, and providing services to these establishments. The modes of transportation are road (trucking, transit, and ground passenger), rail, water, air, and pipeline. These are further subdivided according to how businesses in each mode organize their establishments. National post office and courier establishments, which also transport goods, are included in this sector. Warehousing and storage establishments are subdivided according to the type of service and facility operated.

- Truck transportation
- Transit and ground passenger transportation
- Personal and household goods merchant wholesalers
- Machinery, equipment, and supplies merchant wholesalers
- Building material and supplies merchant wholesalers
- Miscellaneous merchant wholesalers
- Food, beverage, and tobacco merchant wholesalers
- Support activities for transportation
- Couriers and messengers
- Business-to-business electronic markets, and agents and brokers
- Motor vehicle and motor vehicle parts and accessories merchant wholesalers
- Warehousing and storage
- Air transportation
- Farm product merchant wholesalers
- Postal service
- Petroleum and petroleum products merchant wholesalers
- Water transportation
- Rail transportation
- Pipeline transportation
- Scenic and sightseeing transportation

Finance and Insurance

This sector comprises establishments primarily engaged in financial transactions (that is, transactions involving the creation, liquidation, or change in ownership of financial assets) or in facilitating financial transactions. Included are a) establishments that are primarily engaged in financial intermediation. They raise funds by taking deposits and/or issuing securities, and, in the process, incur liabilities, which they use to acquire financial assets by making loans and/or purchasing securities. Putting themselves at risk, they channel funds from lenders to borrowers and transform or repackage the funds with respect to maturity, scale, and risk; and b) establishments that are primarily engaged in the pooling of risk by underwriting annuities and insurance. They collect fees (insurance premiums or annuity considerations), build up reserves, invest those reserves and make contractual payments. Fees are based on the expected incidence of the insured risk and the expected return on investment. Industry subsectors (4-digit NAICS) in this industry include:

- Monetary authorities - central bank
- Depository credit intermediation
- Non-depository credit intermediation
- Activities related to credit intermediation
- Securities and commodity contracts intermediation and brokerage

- Securities and commodity exchanges
- Other financial investment activities
- Insurance carriers
- Agencies, brokerages, and other insurance related activities
- Pension funds
- Other funds and financial vehicles

Tourism

The tourism sector includes industries from different sector including transportation, support services, arts, entertainment and recreation and accommodation and food services. The following industry subsectors (4-digit NAICS) are considered the core businesses in tourism, this is the definition use by Tourism HR Canada.

- Scheduled air transportation
- Non-scheduled air transportation
- Rail transportation
- Deep sea, coastal and Great Lakes water transportation
- Inland water transportation
- Urban transit systems
- Interurban and rural bus transportation
- Taxi and limousine service
- School and employee bus transportation
- Charter bus industry
- Other transit and ground passenger transportation
- Scenic and sightseeing transportation, land
- Scenic and sightseeing transportation, water
- Motion picture and video industries
- Automotive equipment rental and leasing
- Travel arrangement and reservation services
- Performing arts companies
- Spectator sports
- Promoters (presenters) of performing arts, sports, and similar events
- Agents and managers for artists, athletes, entertainers, and other public figures
- Independent artists, writers, and performers
- Heritage institutions
- Amusement parks and arcades
- Gambling industries
- Other amusement and recreation industries
- Traveller accommodation
- Recreational vehicle (RV) parks and recreational camps
- Drinking places (alcoholic beverages)
- Full-service restaurants and limited service eating places

Creative Industries

Creative industries comprise several sectors connected to the generation and exploitation of knowledge and information. The following industry sector have been identified as part of Vaughan’s creative industries:

- Computer systems design and related services
- Other professional, scientific, and technical services
- Architectural, engineering and related services
- Specialized design services
- Advertising, public relations, and related services
- Clothing stores
- Other miscellaneous store retailers
- Lumber, millwork, hardware and other building supplies merchant wholesalers
- Other personal services
- Other miscellaneous manufacturing
- Household and institutional furniture and kitchen cabinet manufacturing
- Printing and related support activities
- Textile, clothing and footwear merchant wholesalers
- Home furnishings merchant wholesalers
- Independent artists, writers and performers
- Home furnishings stores
- Motion picture and video industries
- Architectural and structural metals manufacturing
- Jewellery, luggage and leather goods stores
- Sporting goods, hobby and musical instrument stores
- Furniture stores
- Other information services
- Personal goods merchant wholesalers
- Other wood product manufacturing
- Software publishers
- Office furniture (including fixtures) manufacturing
- Newspaper, periodical, book and directory publishers
- Performing arts companies
- Office supplies, stationery and gift stores
- Shoe stores
- Data processing, hosting, and related services
- Glass and glass product manufacturing
- Consumer goods rental
- Cut and sew clothing manufacturing
- Sound recording industries
- Other furniture-related product manufacturing
- Promoters (presenters) of performing arts, sports and similar events
- Agents and managers for artists, athletes, entertainers and other public figures
- Used merchandise stores
- General rental centres
- Book stores and news dealers
- Clothing accessories and other clothing manufacturing
- Radio and television broadcasting
- Textile furnishings mills
- Other textile product mills
- Other leather and allied product manufacturing
- Textile and fabric finishing and fabric coating
- Footwear manufacturing
- Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing
- Fabric mills
- Leather and hide tanning and finishing
- Clay product and refractory manufacturing

Appendix II – Sector Profiles

Enabler – Professional, Scientific and Technical Services (PSTS)

As per the June 2022 CBC, Vaughan was home to 8,517 PSTS businesses, accounting for 13% of all businesses. Of the 8,517 PSTS businesses, 64% were businesses without employees, while 36% had employees. Vaughan accounts for 30% of all York region and 4% of Ontario's PSTS businesses. Vaughan's PSTS industry concentration is on par with the province with an LQ of 1.04.

Figure 55 – PSTS Business Counts & LQ, Vaughan, June 2022

	Employees	Indeterminate	Total
PSTS	3,046	5,471	8,517
Total	19,390	47,169	66,559
% of total	16%	12%	13%
LQ (York)	0.88	0.88	0.88
LQ (ON)	1.14	0.99	1.04

Source: Lightcast, 2022

Based on the North American Industrial Classification System (NAICS), the professional scientific and technical services (PSTS) sector in Vaughan is comprised of:

- Computer systems design and related services (except video game design and development) – 2,478 businesses (29% of total)
- Administrative management and general management consulting services – 972 businesses (11% of total)
- Other management consulting services – 588 businesses (7% of total)
- Offices of accountants – 254 businesses (7% of total)
- Offices of lawyers – 246 businesses (7% of total)

Figure 56 – PSTS Business Counts (6-digit NAICS), Vaughan, June 2022

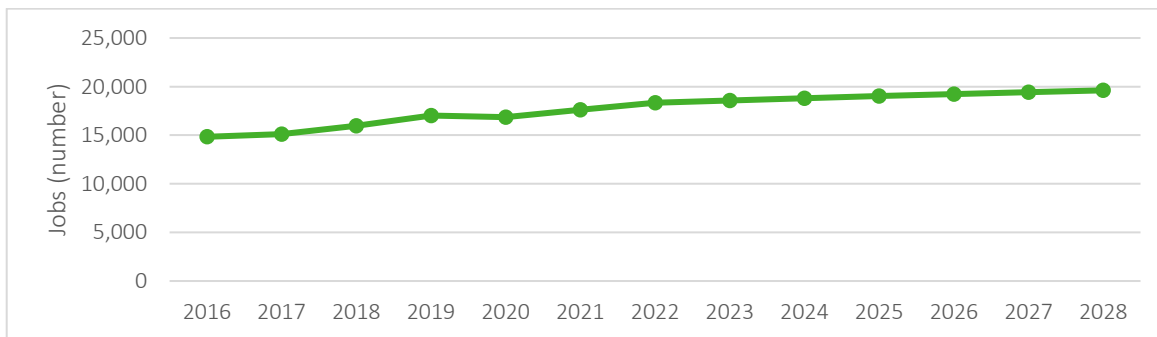
NAICS	Description	Employees	Indeterminate	Total Counts	% of total
541514	Computer systems design and related services (except video game design and development)	1,115	1,363	2,478	29%
541611	Administrative management and general management consulting services	225	747	972	11%
541619	Other management consulting services	146	442	588	7%
541212	Offices of accountants	254	329	583	7%
541110	Offices of lawyers	246	310	556	7%
541990	All other professional, scientific, and technical services	114	379	493	6%
541330	Engineering services	180	273	453	5%
541215	Bookkeeping, payroll, and related services	113	309	422	5%
541690	Other scientific and technical consulting services	105	219	324	4%
541190	Other legal services	68	149	217	3%
541410	Interior design services	43	136	179	2%
541810	Advertising agencies	52	77	129	2%
541430	Graphic design services	36	79	115	1%
541920	Photographic services	19	72	91	1%
541612	Human resources consulting services	26	61	87	1%
541213	Tax preparation services	31	50	81	1%
541310	Architectural services	38	37	75	1%

NAICS	Description	Employees	Indeterminate	Total Counts	% of total
541899	All other services related to advertising	11	62	73	1%
541910	Marketing research and public opinion polling	13	60	73	1%
541940	Veterinary services	44	15	59	1%
541710	Research and development in the physical, engineering and life sciences	25	27	52	1%
541490	Other specialized design services	5	32	37	0.4%
541620	Environmental consulting services	11	22	33	0.4%
541850	Display advertising	13	19	32	0.4%
541320	Landscape architectural services	13	18	31	0.4%
541891	Specialty advertising distributors	17	12	29	0.3%
541930	Translation and interpretation services	5	22	27	0.3%
541840	Media representatives	7	19	26	0.3%
541340	Drafting services	10	15	25	0.3%
541350	Building inspection services	5	20	25	0.3%
541515	Video game design and development services	4	21	25	0.3%
541820	Public relations services	5	19	24	0.3%
541380	Testing laboratories	13	10	23	0.3%
541420	Industrial design services	6	16	22	0.3%
541370	Surveying and mapping (except geophysical) services	15	3	18	0.2%
541870	Advertising material distribution services	2	13	15	0.2%
541830	Media buying agencies	3	7	10	0.1%
541720	Research and development in the social sciences and humanities	5	3	8	0.1%
541360	Geophysical surveying and mapping services	2	1	3	0.0%
541120	Offices of notaries	-	2	2	0.0%
541860	Direct mail advertising	1	1	2	0.0%
54	Total PSTS	3,046	5,471	8,517	100%

Source: Lightcast, 2022

In 2022, Vaughan accounted for 18,349 jobs (place of work) in the PSTS sector. The PSTS sector accounted for 7% of all Vaughan jobs (253,575) in 2022. Jobs in the sector are projected to grow by 1,262 from 2022 to 2028.

Figure 57 – Vaughan PSTS Jobs, 2016 to 2028



Source: Lightcast, 2022

As illustrated in the figure below, computer systems design and related services accounted for most jobs within PSTS in 2022; 5,689 jobs (31% of total), followed by architectural, engineering, and related services and accounting, tax preparation, bookkeeping and payroll services. Sub-sectors projected for the most job growth in 2028 include computer systems design and related services (+721 jobs) followed by architectural, engineering, and related services (+161 jobs).

Figure 58 – Vaughan PSTS Jobs Growth, 2022 to 2028

NAICS	Description	2022 Jobs	% of Jobs	2028 Jobs	2022 - 2028 Change	2022 - 2028 % Change
5415	Computer systems design and related services	5,689	31%	6,410	721	13%
5413	Architectural, engineering, and related services	3,101	17%	3,262	161	5%
5412	Accounting, tax preparation, bookkeeping and payroll services	2,660	14%	2,805	145	5%
5416	Management, scientific and technical consulting services	2,151	12%	2,112	-39	-2%
5411	Legal services	1,550	8%	1,635	85	5%
5418	Advertising, public relations, and related services	991	5%	953	-38	-4%
5419	Other professional, scientific, and technical services	901	5%	1,033	132	15%
5414	Specialized design services	741	4%	739	-2	0%
5417	Scientific research and development services	564	3%	662	98	17%
54	Total PSTS	18,349	100%	19,611	1,262	7%

Source: Lightcast, 2022

Considering PSTS staffing patterns, the top occupations within this sector include information systems analysts and consultants, financial auditors and accountants and computer programmers, and interactive media developers. From 2022 to 2028, information systems analysts and consultants, computer programmers and interactive media developers and software engineers and designers, are PSTS-related occupations most projected to grow.

Figure 59 – Top Occupations Employed by PSTS Industries, Vaughan, 2022 to 2028

NOC	Description	2022 Jobs	% of Jobs	2028 Jobs	2022 - 2028 Change	2022 - 2028 % Change
2171	Information systems analysts and consultants	2,147	12%	2,477	330	15%
1111	Financial auditors and accountants	1,454	8%	1,528	74	5%
2174	Computer programmers and interactive media developers	1,256	7%	1,399	143	11%
1122	Professional occupations in business management consulting	845	5%	845	0	0%
4112	Lawyers and Quebec notaries	800	4%	825	25	3%
2173	Software engineers and designers	644	4%	784	140	22%
1311	Accounting technicians and bookkeepers	600	3%	608	8	1%
1123	Professional occupations in advertising, marketing and public relations	532	3%	546	14	3%
213	Computer and information systems managers	411	2%	494	83	20%
5241	Graphic designers and illustrators	394	2%	398	4	1%

Source: Lightcast, 2022

A supply chain analysis for Vaughan's PSTS sector shows that most of the sector purchases come from industries such as computer systems design and related services (\$107,562,440) and lessors of real estate (\$43,883,993). Computer systems design and related services account for 14% of total industry purchases (\$751 million). While 77% of all industry purchases from computer systems design and related services are done within the region, 23% of purchases are made outside the region, indicating there are opportunities to grow this sector in the region.

Figure 60 – Top 10 Industry purchases - Industry Supply Chain (4-Digit NAICS), PSTS, Vaughan, 2020

NAICS	Purchases	In-region Purchases	% In-region Purchases	Imported Purchases	% Imported Purchases	Total Purchases
5415	Computer systems design and related services	\$82,583,217	77%	\$24,979,223	23%	\$107,562,440
5311	Lessors of real estate	\$34,845,616	79%	\$9,038,377	21%	\$43,883,993
5413	Architectural, engineering, and related services	\$26,474,500	88%	\$3,704,711	12%	\$30,179,211
5416	Management, scientific and technical consulting services	\$22,404,959	84%	\$4,297,889	16%	\$26,702,847
5419	Other professional, scientific, and technical services	\$14,643,645	58%	\$10,426,994	42%	\$25,070,639
5611	Office administrative services	\$24,081,064	100%	\$0	0%	\$24,081,064
5112	Software publishers	\$21,789,206	99%	\$127,401	1%	\$21,916,607
5613	Employment services	\$17,857,835	94%	\$1,160,824	6%	\$19,018,660
5173	Wired and wireless telecommunications carriers (except satellite)	\$4,953,845	26%	\$13,931,206	74%	\$18,885,051
5619	Other support services	\$16,074,360	100%	\$26,650	0%	\$16,101,010

Source: Lightcast, 2022

Enabler – Information and Communications Technology (ICT)

As per the June 2022 CBC, Vaughan was home to 2,934 ICT businesses, accounting for 4% of all businesses. Of the 2,934 ICT businesses, 54% were businesses without employees, while 46% had employees. Vaughan accounts for 27% of all York region and 4% of Ontario's ICT businesses. Vaughan's ICT industry concentration is lower compared to York Region, and on par with the province with an LQ of 1.12.

Figure 61 – ICT Business Counts & LQ, Vaughan, June 2022

	Employees	Indeterminate	Total
ICT	1359	1,575	2,934
Total	19390	47,169	66,559
% of total	7%	3%	4%
LQ (York)	0.80	0.81	0.81
LQ (ON)	1.24	1.04	1.12

Source: Lightcast, 2022

Based on NAICS, the ICT sector in Vaughan is comprised of:

- Computer systems design and related services – 2,503 businesses (75% of total)
- Computer and communications equipment and supplies merchant wholesalers – 101 businesses (3% of total)
- Software publishers – 80 businesses (3% of total)
- Other telecommunications – 63 businesses (2% of total)
- Electronic and precision equipment repair and maintenance – 63 businesses (2% of total)

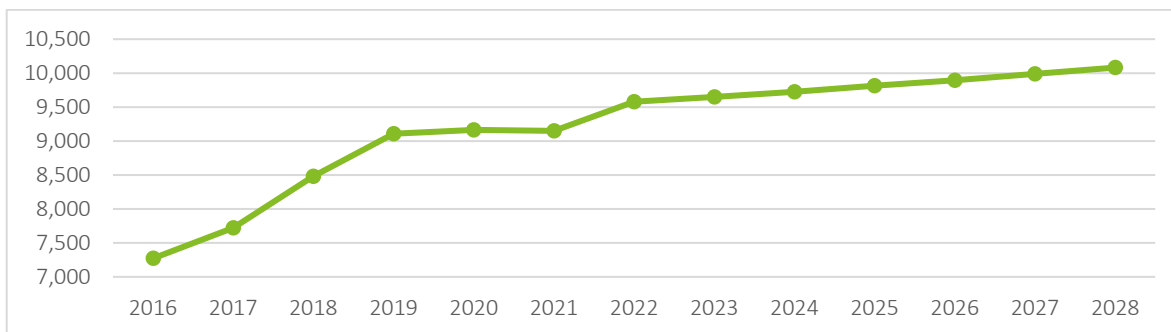
Figure 62 – ICT Business Counts (6-digit NAICS), Vaughan, June 2022

NAICS Code	Description	With Employees	Intermediate	Total	% of Total
N/A	ICT Total	1,359	1,575	2,934	100%
5415	Computer systems design and related services	1,119	1,384	2,503	85%
4173	Computer and communications equipment and supplies merchant wholesalers	55	46	101	3%
5112	Software publishers	45	35	80	3%
5179	Other telecommunications	45	18	63	2%
8112	Electronic and precision equipment repair and maintenance	34	29	63	2%
5182	Data processing, hosting, and related services	21	30	51	2%
5173	Wired and wireless telecommunications carriers (except satellite)	15	11	26	1%
3342	Communications equipment manufacturing	10	7	17	1%
3341	Computer and peripheral equipment manufacturing	6	9	15	1%
3344	Semiconductor and other electronic component manufacturing	7	5	12	0%
5174	Satellite telecommunications	2	1	3	0%
3343	Audio and video equipment manufacturing	0	0	0	0%
3346	Manufacturing and reproducing magnetic and optical media	0	0	0	0%

Source: Lightcast, 2022

In 2022, Vaughan accounted for 9,580 jobs (place of work) in the ICT sector. The ICT sector accounted for 4% of all Vaughan jobs in 2022. Jobs in the sector are projected to grow by 501 from 2022 to 2028.

Figure 63 – Vaughan ICT Jobs, 2016 to 2028



Source: Lightcast, 2022

As illustrated in the figure below, computer systems design and related services accounted for most jobs within PSTS in 2022; 5,689 jobs (59% of all ICT jobs), followed by computer and communications equipment and supplies merchant wholesalers; and software publishers. The industry sub-sector projected for the most job growth in 2028 is computer systems design and related services (+721 jobs).

Figure 64 – Vaughan ICT Jobs Growth, 2022 to 2028

NAICS	Description	2022 Jobs	% of 2022	2028 Jobs	2022 - 2028 Change	2022 - 2028 % Change
N/A	ICT Total	9,580	100%	10,081	501	5%
5415	Computer systems design and related services	5,689	59%	6,410	721	13%
4173	Computer and communications equipment and supplies merchant wholesalers	942	10%	869	-73	-8%
5112	Software publishers	697	7%	745	48	7%
3342	Communications equipment manufacturing	513	5%	429	-84	-16%
5173	Wired and wireless telecommunications carriers (except satellite)	363	4%	329	-34	-9%
8112	Electronic and precision equipment repair and maintenance	329	3%	285	-44	-13%
3344	Semiconductor and other electronic component manufacturing	265	3%	280	15	6%
5182	Data processing, hosting, and related services	258	3%	269	11	4%
5179	Other telecommunications	234	2%	194	-40	-17%
3346	Manufacturing and reproducing magnetic and optical media	142	1%	150	8	6%
3341	Computer and peripheral equipment manufacturing	101	1%	78	-23	-23%
3343	Audio and video equipment manufacturing	33	0%	32	-1	-3%
5174	Satellite telecommunications	13	0%	<10	Insf. Data	Insf. Data

Source: Lightcast, 2022

Considering ICT staffing patterns, the top occupations within this sector include information systems analysts and consultants; computer programmers and interactive media developers; and software engineers and designers. From 2022 to 2028, these occupational categories will also experience the largest growth in jobs.

Figure 65 – Top Occupations Employed by ICT Industries, Vaughan, 2022 to 2028

NOC	Description	2022 Jobs	% of Total 2022	2028 Jobs	Change (2022 - 2028)	% Change (2022 - 2028)
2171	Information systems analysts and consultants	2,149	22%	2,439	290	13%
2174	Computer programmers and interactive media developers	1,437	15%	1,560	123	9%
2173	Software engineers and designers	795	8%	923	128	16%
213	Computer and information systems managers	488	5%	558	70	14%
2282	User support technicians	423	4%	450	27	6%
6221	Technical sales specialists - wholesale trade	369	4%	364	-5	-1%
2242	Electronic service technicians (household and business equipment)	241	3%	207	-34	-14%
2172	Database analysts and data administrators	224	2%	250	26	12%
9523	Electronics assemblers, fabricators, inspectors and testers	217	2%	206	-11	-5%
2175	Web designers and developers	163	2%	151	-12	-7%
2147	Computer engineers (except software engineers and designers)	159	2%	158	-1	-1%
1122	Professional occupations in business management consulting	152	2%	160	8	5%
2281	Computer network technicians	146	2%	142	-4	-3%
2133	Electrical and electronics engineers	123	1%	128	5	4%

Source: Lightcast, 2022

A supply chain analysis for Vaughan's ICT sector shows that most of the sector purchases come from industries such as computer systems design and related services (\$93.1 million) and semiconductor and other electronic components (\$56.2 million). There are opportunities to retain dollars from imported purchases made in sectors such as semiconductor and other electronic component manufacturing (\$30.4 million in imported purchases).

Figure 66 – Top 10 Industry purchases - Industry Supply Chain (4-Digit NAICS), ICT, Vaughan, 2020

NAICS	Purchases from	In-region Purchases	% In-region	Imported Purchases	% Imported	Total Purchases
5415	Computer systems design and related services	\$69,822,349	75%	\$23,283,750	25%	\$93,106,099
3344	Semiconductor and other electronic component manufacturing	\$25,833,298	46%	\$30,404,316	54%	\$56,237,615
3342	Communications equipment manufacturing	\$42,576,601	99%	\$520,785	1%	\$43,097,386
5112	Software publishers	\$32,356,010	98%	\$542,586	2%	\$32,898,596
5173	Wired and wireless telecommunications carriers (except satellite)	\$7,215,664	22%	\$25,652,809	78%	\$32,868,472
5311	Lessors of real estate	\$17,451,737	68%	\$8,125,862	32%	\$25,577,598
5331	Lessors of non-financial intangible assets (except copyrighted works)	\$21,041,774	95%	\$1,213,128	6%	\$22,254,902
5611	Office administrative services	\$20,040,010	96%	\$870,404	4%	\$20,910,414
5152	Pay and specialty television	\$3,336,623	22%	\$11,929,535	78%	\$15,266,158
5413	Architectural, engineering and related services	\$3,366,167	23%	\$11,353,489	77%	\$14,719,656

Source: Lightcast, 2022

Established Sector – Advanced Manufacturing

As per the June 2022 CBC, Vaughan was home to 2,036 manufacturing businesses, accounting for 3% of all businesses. Of the 2,036 businesses, 39% were businesses without employees, while 61% had employees. Vaughan accounts for 43% of all York region and 6% of Ontario's manufacturing businesses. Vaughan's manufacturing industry is a highly concentrated sector with an LQ of 1.27 as a factor of York and 1.41 LQ as a factor of the province.

Figure 67 – Manufacturing Business Counts & LQ, Vaughan, June 2022

	Employees	Indeterminate	Total
Manufacturing	1,251	785	2,036
Total	19,390	47,169	66,559
% of total	6%	2%	3%
LQ (York)	1.41	1.08	1.27
LQ (ON)	1.59	1.20	1.41

Source: Lightcast, 2022

Based on the North American Industrial Classification System (NAICS), the manufacturing sector in Vaughan is comprised of:

- Fabricated metal product manufacturing – 327 businesses (16% of total)
- Furniture and related product manufacturing – 274 businesses (13% of total)
- Miscellaneous manufacturing – 255 businesses (13% of total)
- Food manufacturing – 192 businesses (9% of total)

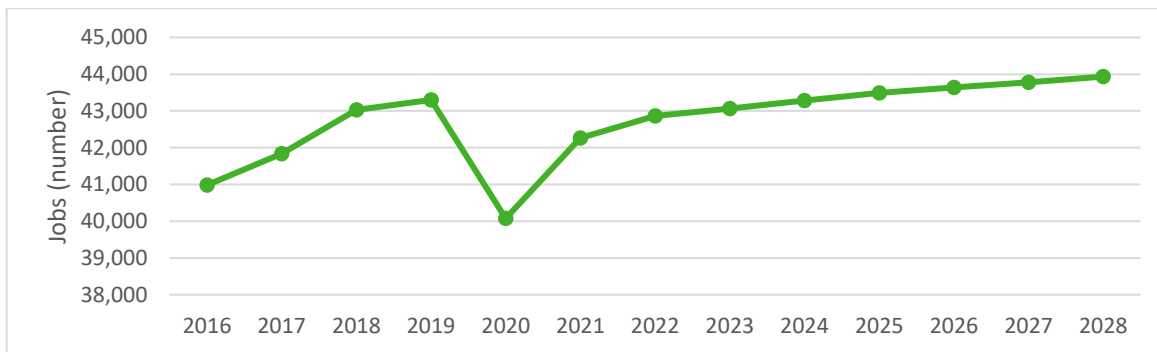
Figure 68 – Manufacturing Business Counts (3-digit NAICS), Vaughan, June 2022

NAICS	Description	Employees	Indeterminate	Total Counts	% of Total
332	Fabricated metal product manufacturing	229	98	327	16%
337	Furniture and related product manufacturing	168	106	274	13%
339	Miscellaneous manufacturing	106	149	255	13%
311	Food manufacturing	128	64	192	9%
323	Printing and related support activities	82	70	152	7%
333	Machinery manufacturing	96	48	144	7%
326	Plastics and rubber products manufacturing	96	26	122	6%
327	Non-metallic mineral product manufacturing	73	22	95	5%
321	Wood product manufacturing	54	34	88	4%
336	Transportation equipment manufacturing	45	21	66	3%
334	Computer and electronic product manufacturing	36	24	60	3%
325	Chemical manufacturing	39	14	53	3%
335	Electrical equipment, appliance, and component manufacturing	24	26	50	2%
315	Clothing manufacturing	13	29	42	2%
312	Beverage and tobacco product manufacturing	10	19	29	1%
322	Paper manufacturing	19	6	25	1%
331	Primary metal manufacturing	12	6	18	1%
314	Textile product mills	9	6	15	1%
324	Petroleum and coal product manufacturing	8	5	13	1%
316	Leather and allied product manufacturing	3	7	10	0.5%
313	Textile mills	1	5	6	0.3%
31-33	Total Manufacturing	1,251	785	2,036	100%

Source: Lightcast, 2022

In 2022, Vaughan accounted for 42,864 jobs (place of work) in the manufacturing sector. The manufacturing sector accounted for 17% of all Vaughan jobs (253,575) in 2022. Jobs in the sector are projected to grow by 1,070 from 2022 to 2028.

Figure 69 – Vaughan Manufacturing Jobs, 2016 to 2028



Source: Lightcast, 2022

As illustrated in the figure below, transportation equipment manufacturing accounted for the most jobs within the manufacturing sector in 2022; 6,819 jobs (16% of all sector jobs), followed by plastics and rubber products manufacturing and fabricated metal product manufacturing. Sub-sectors projected for the most job growth in 2028 include transportation equipment manufacturing (+351 jobs) and food manufacturing (+347 jobs).

Figure 70 – Vaughan Manufacturing Jobs Growth, 2022 to 2028

NAICS	Description	2022 Jobs	% of Jobs	2028 Jobs	2022 - 2028 Change	2022 - 2028 % Change
336	Transportation equipment manufacturing	6,819	16%	7,170	351	5%
326	Plastics and rubber products manufacturing	5,034	12%	5,134	100	2%
332	Fabricated metal product manufacturing	4,802	11%	4,933	131	3%
311	Food manufacturing	4,613	11%	4,960	347	8%
337	Furniture and related product manufacturing	4,450	10%	4,636	186	4%
333	Machinery manufacturing	3,097	7%	3,070	-27	-1%
327	Non-metallic mineral product manufacturing	2,329	5%	2,393	64	3%
334	Computer and electronic product manufacturing	1,800	4%	1,722	-78	-4%
321	Wood product manufacturing	1,680	4%	1,693	13	1%
331	Primary metal manufacturing	1,559	4%	1,682	123	8%
339	Miscellaneous manufacturing	1,523	4%	1,585	62	4%
323	Printing and related support activities	1,464	3%	1,390	-74	-5%
325	Chemical manufacturing	1,057	2%	1,078	21	2%
322	Paper manufacturing	907	2%	829	-78	-9%
335	Electrical equipment, appliance, and component manufacturing	757	2%	747	-10	-1%
312	Beverage and tobacco product manufacturing	434	1%	451	17	4%
315	Clothing manufacturing	151	0.4%	154	3	2%
324	Petroleum and coal product manufacturing	126	0.3%	133	7	6%
314	Textile product mills	119	0.3%	35	-84	-71%
313	Textile mills	76	0.2%	86	10	13%
316	Leather and allied product manufacturing	67	0.2%	52	-15	-22%
31-33	Total Manufacturing	42,864	100%	43,934	1,070	2%

Source: Lightcast, 2022

Considering manufacturing staffing patterns, the top occupations within this sector include manufacturing managers, material handlers and metalworking and forging machine operators. From 2022 to 2028, manufacturing managers, material handlers and supervisors, other mechanical and metal products manufacturing, are manufacturing-related occupations most projected to grow.

Figure 71 – Top Occupations Employed by Manufacturing Industries, Vaughan, 2022 to 2028

NOC	Description	2022 Jobs	% of Jobs	2028 Jobs	2022 - 2028 Change	2022 - 2028 % Change
911	Manufacturing managers	2,671	6%	2,842	171	6%
7452	Material handlers	1,466	3%	1,610	144	10%
9416	Metalworking and forging machine operators	1,322	3%	1,404	82	6%
9532	Furniture and fixture assemblers and inspectors	1,283	3%	1,327	44	3%
9537	Other products assemblers, finishers, and inspectors	1,166	3%	1,195	29	2%
9418	Other metal products machine operators	1,073	3%	991	-82	-8%
9422	Plastics processing machine operators	1,015	2%	1,006	-9	-1%
7311	Construction millwrights and industrial mechanics	896	2%	912	16	2%
9522	Motor vehicle assemblers, inspectors, and testers	862	2%	858	-4	0%
1521	Shippers and receivers	848	2%	883	35	4%

Source: Lightcast, 2022

A supply chain analysis for Vaughan's manufacturing sector shows that most of the sector purchases come from industries such as primary metal manufacturing (\$1,290,806,594) and transportation equipment manufacturing (\$1,053,710,485). Primary metal manufacturing accounts for 14% of total manufacturing purchases (\$9 billion). 96% of all transportation equipment manufacturing are in-region, indicating that a strong supply chain for the sector in the region. There are also opportunities to grow complementary supply chain businesses for primary metal manufacturing, as this is one of the top industry purchases for the region.

Figure 72 – Top 10 Industry purchases - Industry Supply Chain (3-Digit NAICS), Manufacturing, Vaughan, 2019

NAICS	Purchases	In-region Purchases	% In-region Purchases	Imported Purchases	% Imported Purchases	Total Purchases
331	Primary metal manufacturing	\$505,760,251	39%	\$785,046,343	61%	\$1,290,806,594
336	Transportation equipment manufacturing	\$1,013,687,541	96%	\$40,022,944	4%	\$1,053,710,485
325	Chemical manufacturing	\$120,468,758	17%	\$602,149,234	83%	\$722,617,992
326	Plastics and rubber products manufacturing	\$378,122,702	77%	\$113,758,020	23%	\$491,880,722
332	Fabricated metal product manufacturing	\$229,205,372	50%	\$228,718,114	50%	\$457,923,486
311	Food manufacturing	\$148,201,044	49%	\$155,450,640	51%	\$303,651,684
111-112	Farms	\$63,137,763	22%	\$225,633,984	78%	\$288,771,747
322	Paper manufacturing	\$105,778,959	38%	\$172,864,864	62%	\$278,643,823
333	Machinery manufacturing	\$168,255,392	65%	\$91,981,041	35%	\$260,236,433
334	Computer and electronic product manufacturing	\$131,233,813	55%	\$106,218,520	45%	\$237,452,333

Source: Lightcast, 2022

Established Sector – Transportation and Logistics (Wholesale Trade, Transportation and Warehousing)

As per the June 2022 CBC, Vaughan was home to 5,178 transportation and logistics businesses, accounting for 8% of all businesses. Of the 5,178 businesses, 56% were businesses without employees, while 44% had employees. Vaughan accounts for 37% of all York region and 4% of Ontario's transportation and logistics businesses. Vaughan's transportation and logistics industry shows a lower concentration than the provincial average with an LQ of 0.89.

Figure 73 – Transportation and Logistics Business Counts & LQ, Vaughan, June 2022

	Employees	Indeterminate	Total
Transportation and Logistics	2,273	2,905	5,178
Total	19,390	47,169	66,559
% of total	12%	6%	8%
LQ (York)	1.19	1.01	1.09
LQ (ON)	1.08	0.79	0.89

Based on the North American Industrial Classification System (NAICS), the transportation and logistics sector in Vaughan is comprised of:

- Truck transportation – 1,479 businesses (29% of total)
- Transit and ground passenger transportation – 552 businesses (11% of total)
- Personal and household goods merchant wholesalers – 483 businesses (9% of total)
- Machinery, equipment and supplies merchant wholesalers – 481 businesses (9% of total)

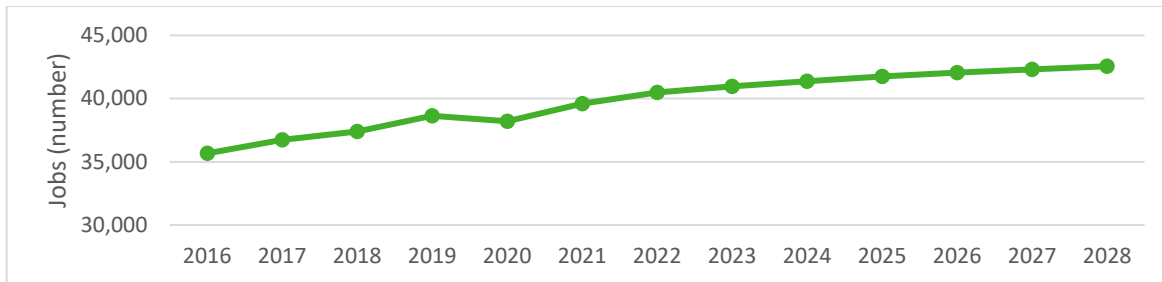
Figure 74 – Transportation and Logistics Business Counts (3-digit NAICS), Vaughan, June 2022

NAICS	Description	Employees	Indeterminate	Total	% of total
484	Truck transportation	608	871	1,479	29%
485	Transit and ground passenger transportation	35	517	552	11%
414	Personal and household goods merchant wholesalers	250	233	483	9%
417	Machinery, equipment and supplies merchant wholesalers	321	160	481	9%
416	Building material and supplies merchant wholesalers	305	143	448	9%
418	Miscellaneous merchant wholesalers	167	156	323	6%
413	Food, beverage, and tobacco merchant wholesalers	158	159	317	6%
488	Support activities for transportation	130	176	306	6%
492	Couriers and messengers	57	204	261	5%
419	Business-to-business electronic markets, and agents and brokers	94	148	242	5%
415	Motor vehicle and motor vehicle parts and accessories merchant wholesalers	71	65	136	3%
493	Warehousing and storage	52	27	79	2%
481	Air transportation	6	23	29	1%
411	Farm product merchant wholesalers	6	11	17	0.3%
491	Postal service	6	4	10	0.2%
412	Petroleum and petroleum products merchant wholesalers	3	2	5	0.1%
483	Water transportation	1	3	4	0.1%
482	Rail transportation	1	1	2	0.04%
486	Pipeline transportation	1	1	2	0.04%
487	Scenic and sightseeing transportation	1	1	2	0.04%
Total Transportation and Logistics		2,273	2,905	5,178	100%

Source: Lightcast, 2022

In 2022, Vaughan accounted for 40,482 jobs (place of work) in the transportation and logistics sector. The sector accounted for 16% of all Vaughan jobs in 2022. Jobs in the sector are projected to grow by 2,074 from 2022 to 2028.

Figure 75 – Vaughan Transportation and Logistics Jobs, 2016 to 2028



Source: Lightcast, 2022

As illustrated in the figure below, building material and supplies merchant wholesalers accounted for the most jobs within the transportation and logistics sector in 2022; 6,459 jobs (16% of all sector jobs), followed by truck transportation and machinery, equipment and supplies merchant wholesalers. Sub-sectors projected for the most job growth in 2028 include building material and supplies merchant wholesalers (+625 jobs), truck transportation (+555 jobs) and couriers and messengers (+281 jobs).

Figure 76 – Vaughan Transportation and Logistics Jobs Growth, 2022 to 2028

NAICS	Description	2022 Jobs	% of Jobs	2028 Jobs	2022 - 2028 Change	2022 - 2028 % Change
416	Building material and supplies merchant wholesalers	6,459	16%	7,084	625	10%
484	Truck transportation	5,655	14%	6,210	555	10%
417	Machinery, equipment and supplies merchant wholesalers	4,885	12%	5,067	182	4%
492	Couriers and messengers	3,899	10%	4,180	281	7%
414	Personal and household goods merchant wholesalers	3,772	9%	3,755	-17	0%
413	Food, beverage, and tobacco merchant wholesalers	3,078	8%	3,035	-43	-1%
418	Miscellaneous merchant wholesalers	2,864	7%	2,861	-3	0%
493	Warehousing and storage	2,440	6%	2,515	75	3%
488	Support activities for transportation	2,230	6%	2,314	84	4%
485	Transit and ground passenger transportation	1,549	4%	1,530	-19	-1%
482	Rail transportation	1,154	3%	1,371	217	19%
419	Business-to-business electronic markets, agents, and brokers	1,137	3%	1,284	147	13%
415	Motor vehicle and parts and accessories merchant wholesalers	866	2%	872	6	1%
491	Postal service	398	1.0%	383	-15	-4%
412	Petroleum and petroleum products merchant wholesalers	25	0.1%	21	-4	-16%
487	Scenic and sightseeing transportation	25	0.1%	34	9	36%
411	Farm product merchant wholesalers	23	0.1%	25	2	9%
481	Air transportation	21	0.1%	13	-8	-38%
486	Pipeline transportation	0	0.0%	0	0	0%
483	Water transportation	<10	-	<10	-	-
Total Transportation and Logistics		40,482	100.0%	42,556	2,074	5%

Source: Lightcast, 2022

Considering transportation and logistics sector staffing patterns, the top occupations within this sector include transport truck drivers, sales, and account representatives - wholesale trade (non-technical) and material handlers. From 2022 to 2028, transport truck drivers, material handlers and technical sales specialists - wholesale trade are transportation and logistics-related occupations most projected to grow.

Figure 77 – Top Occupations Employed by Transportation and Logistics Industries, Vaughan, 2022 to 2028

NOC	Description	2022	% of Jobs	2028	2022 - 2028 Change	2022 - 2028 % Change
7511	Transport truck drivers	3,994	9.9%	4,301	307	8%
6411	Sales and account representatives - wholesale trade (non-technical)	3,834	9.5%	3,908	74	2%
7452	Material handlers	3,238	8.0%	3,510	272	8%
621	Retail and wholesale trade managers	1,687	4.2%	1,738	51	3%
1521	Shippers and receivers	1,509	3.7%	1,543	34	2%
6221	Technical sales specialists - wholesale trade	1,480	3.7%	1,616	136	9%
7514	Delivery and courier service drivers	1,185	2.9%	1,305	120	10%
1215	Supervisors, supply chain, tracking and scheduling co-ordination occupations	919	2.3%	959	40	4%
6552	Other customer and information services representatives	909	2.2%	972	63	7%
6421	Retail salespersons	842	2.1%	938	96	11%

Source: Lightcast, 2022

A supply chain analysis for Vaughan’s transportation and logistics sector shows that most of the sector purchases come from industries such as general freight trucking (\$187,600,486) and petroleum and coal product manufacturing (\$139,548,030). Primary metal manufacturing accounts for 6% of total manufacturing purchases (\$3 billion). 66% of all general freight trucking are in-region, indicating that there are opportunities to grow complementary supply chain businesses.

Figure 78 – Top 10 Industry purchases - Industry Supply Chain (4-Digit NAICS), Transportation and Logistics, Vaughan, 2019

NAICS	Purchases	In-region Purchases	% In-region Purchases	Imported Purchases	% Imported Purchases	Total Purchases
4841	General freight trucking	\$123,932,626	66.10%	\$63,667,860	33.90%	\$187,600,486
3241	Petroleum and coal product manufacturing	\$35,703,420	25.60%	\$103,844,610	74.40%	\$139,548,030
4842	Specialized freight trucking	\$41,151,595	31.70%	\$88,749,777	68.30%	\$129,901,372
5311	Lessors of real estate	\$32,042,105	28.30%	\$80,994,914	71.70%	\$113,037,019
5241	Insurance carriers	\$10,079,622	9.40%	\$97,390,619	90.60%	\$107,470,242
5221	Depository credit intermediation	\$12,392,426	12.80%	\$84,378,092	87.20%	\$96,770,518
5611	Office administrative services	\$50,391,311	62.60%	\$30,073,959	37.40%	\$80,465,270
3363	Motor vehicle parts manufacturing	\$78,951,867	100.00%	\$0	0.00%	\$78,951,867
5613	Employment services	\$27,215,387	42.30%	\$37,136,140	57.70%	\$64,351,527
4921	Couriers	\$58,862,743	92.90%	\$4,515,288	7.10%	\$63,378,030

Source: Lightcast, 2022

Growing Sector – Finance and Insurance

As per the June 2022 CBC, Vaughan was home to 4,760 finance and insurance businesses, accounting for 7% of all businesses. Of the 4,670 businesses, 86% were businesses without employees, while 14% had employees. Vaughan accounts for 37% of all York region and 5% of Ontario's finance and insurance businesses. Vaughan's finance and insurance industry shows a high concentration with an LQ of 1.33 and is a highly concentrated cluster.

Figure 79 – Finance and Insurance Business Counts & LQ, Vaughan, June 2022

	Employees	Indeterminate	Total
Finance and insurance	646	4,114	4,760
Total	19,390	47,169	66,559
% of total	3%	9%	7%
LQ (York)	0.89	1.14	1.09
LQ (ON)	0.95	1.42	1.33

Based on the North American Industrial Classification System (NAICS), the manufacturing sector in Vaughan is comprised of:

- Other financial investment activities – 3,278 businesses (69% of total)
- Agencies, brokerages, and other insurance related activities – 680 businesses (14% of total)
- Activities related to credit intermediation – 315 businesses (7% of total)

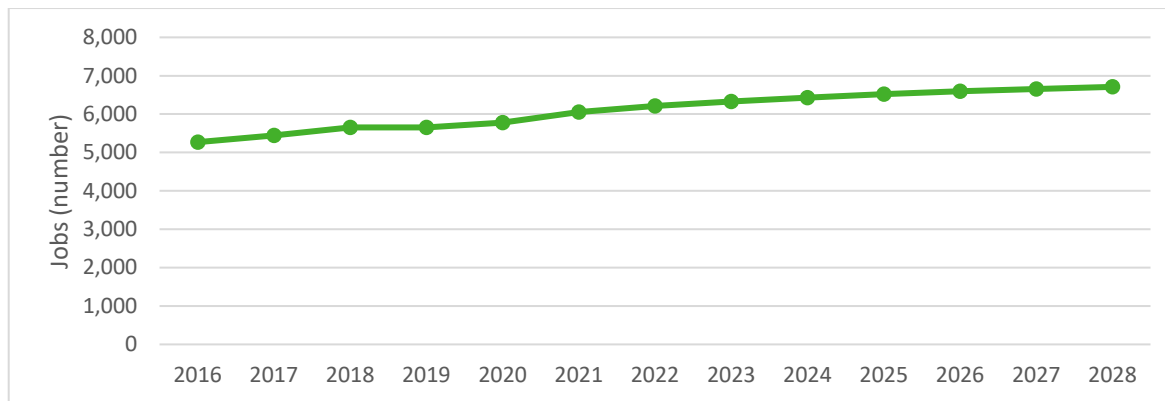
Figure 80 – Finance and Insurance Business Counts (4-digit NAICS), Vaughan, June 2022

NAICS	Description	Employees	Indeterminate	Total Counts	% of total
5239	Other financial investment activities	229	3,049	3,278	69%
5242	Agencies, brokerages, and other insurance related activities	179	501	680	14%
5223	Activities related to credit intermediation	70	245	315	7%
5222	Non-depository credit intermediation	35	145	180	4%
5269	Other funds and financial vehicles	23	93	116	2%
5231	Securities and commodity contracts intermediation & brokerage	29	56	85	2%
5221	Depository credit intermediation	63	1	64	1%
5241	Insurance carriers	18	15	33	1%
5232	Securities and commodity exchanges	-	8	8	0%
5261	Pension funds	-	1	1	0%
5211	Monetary authorities - central bank	-	-	-	0%
52	Total Finance and Insurance	646	4,114	4,760	100%

Source: Lightcast, 2022

In 2022, Vaughan accounted for 6,213 jobs (place of work) in the finance and insurance sector. The sector accounted for 2% of all Vaughan jobs in 2022. Jobs in the sector are projected to grow by 497 from 2022 to 2028.

Figure 81 – Vaughan Finance and Insurance Jobs, 2016 to 2028



Source: Lightcast, 2022

As illustrated in the figure below, depository credit intermediation accounted for most jobs within the finance and insurance sector in 2022; 1,844 jobs (30% of all sector jobs), followed by agencies, brokerages, and other insurance related activities and other financial investment activities. Sub-sectors projected for the most job growth in 2028 include depository credit intermediation (+205 jobs) and agencies, brokerages, and other insurance related activities (+89 jobs).

Figure 82 – Vaughan Finance and Insurance Jobs Growth, 2022 to 2028

NAICS	Description	2022 Jobs	% of Jobs	2028 Jobs	2022 - 2028 Change	2022 - 2028 % Change
5221	Depository credit intermediation	1,844	30%	2,049	205	11%
5242	Agencies, brokerages, and other insurance related activities	1,674	27%	1,763	89	5%
5239	Other financial investment activities	871	14%	885	14	2%
5223	Activities related to credit intermediation	683	11%	748	65	10%
5241	Insurance carriers	516	8%	598	82	16%
5231	Securities and commodity contracts intermediation and brokerage	293	5%	294	1	0%
5222	Non-depository credit intermediation	278	4%	313	35	13%
5269	Other funds and financial vehicles	45	1%	48	3	7%
5211	Monetary authorities - central bank	0	0%	0	0	0%
5232	Securities and commodity exchanges	0	0%	0	0	0%
5261	Pension funds	<10	-	11	-	-
52	Total Finance and Insurance	6,213	100%	6,710	497	8%

Source: Lightcast, 2022

Considering finance and insurance staffing patterns, the top occupations within this sector include other financial officers and insurance agents and brokers. From 2022 to 2028, these occupations are most projected to grow.

Figure 83 – Top Occupations Employed by Finance and Insurance Industries, Vaughan, 2022 to 2028

NOC	Description	2022	% of Jobs	2028	2022 - 2028 Change	2022 - 2028 % Change
1114	Other financial officers	1,191	19%	1,293	102	9%
6231	Insurance agents and brokers	994	16%	1,099	105	11%
6235	Financial sales representatives	423	7%	495	72	17%
6551	Customer services representatives - financial institutions	336	5%	362	26	8%
122	Banking, credit, and other investment managers	330	5%	355	25	8%
1112	Financial and investment analysts	283	5%	309	26	9%
1312	Insurance adjusters and claims examiners	225	4%	234	9	4%
2171	Information systems analysts and consultants	222	4%	262	40	18%
1113	Securities agents, investment dealers and brokers	167	3%	164	-3	-2%
1434	Banking, insurance, and other financial clerks	163	3%	166	3	2%

Source: Lightcast, 2022

A supply chain analysis for Vaughan's finance and insurance sector shows that most of the sector purchases come from industries such as depository credit intermediation (\$54,535,537) and agencies, brokerages, and other insurance related activities (\$43,141,287). 76% of all depository credit intermediation purchases are in-region, indicating that a strong supply chain for the sector in the region.

Figure 84 – Top 10 Industry purchases - Industry Supply Chain (4-Digit NAICS), Finance and Insurance, Vaughan, 2019

NAICS	Purchases	In-region Purchases	% In-region	Imported Purchases	% Imported	Total Purchases
5221	Depository credit intermediation	\$41,192,942	76%	\$13,342,594	25%	\$54,535,537
5242	Agencies, brokerages, and other insurance related activities	\$43,140,953	100%	\$334	0%	\$43,141,287
5239	Other financial investment activities	\$12,633,533	38.10%	\$20,565,847	62%	\$33,199,379
5415	Computer systems design and related services	\$29,674,151	100%	\$105,424	0%	\$29,779,575
5231	Securities and commodity contracts intermediation and brokerage	\$12,154,885	63%	\$7,149,068	37%	\$19,303,953
5223	Activities related to credit intermediation	\$14,004,143	100%	\$419	0%	\$14,004,561
5173	Wired and wireless telecommunications carriers (except satellite)	\$6,349,908	54%	\$5,484,462	46%	\$11,834,370
5241	Insurance carriers	\$7,134,766	64%	\$4,057,646	36%	\$11,192,412
5411	Legal services	\$8,367,354	76%	\$2,588,793	24%	\$10,956,147
5412	Accounting, tax preparation, bookkeeping and payroll services	\$10,474,758	100%	\$0	0%	\$10,474,758

Source: Lightcast, 2022

Emerging Sector – Tourism

As per the June 2022 CBC, Vaughan was home to 2,585 tourism businesses, accounting for 4% of all businesses. Of the 2,585 tourism businesses, 57% were businesses without employees, while 43% had employees. Vaughan accounts for 29% of all York region and 3% of Ontario's tourism businesses. The overall Vaughan's tourism industry concentration is lower than the province with an LQ of 0.67.

Figure 85 – Tourism Business Counts & LQ, Vaughan, June 2022

	Employees	Indeterminate	Total
Tourism	1,103	1,482	2,585
Total	19,390	47,169	66,559
% of total	6%	3%	4%
LQ (York)	0.83	0.86	0.85
LQ (ON)	0.71	0.65	0.67

Source: Canadian Business Counts, June 2022

Based on the North American Industrial Classification System (NAICS), the tourism sector in Vaughan is mostly comprised of the following subsectors:

- Full-service restaurants and limited-service eating places – 1,050 businesses (41% of total)
- Taxi and limousine service – 457 businesses (18% of total)
- Other amusement and recreation industries – 217 businesses (8% of total)
- Independent artists, writers, and performers – 125 businesses (5% of total)
- Motion picture and video industries – 121 businesses (5% of total)

Figure 86 – Tourism Business Counts (6-digit NAICS), Vaughan, June 2022

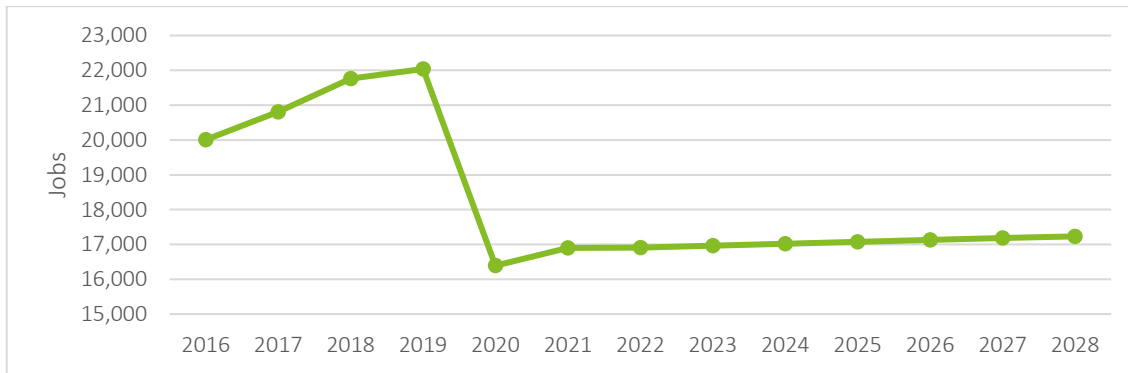
NAICS	Description	With Employees	Indeterminate	Total	% of Total
N/A	Total Tourism	1,103	1,482	2,585	100%
7225	Full-service restaurants and limited service eating places	750	300	1,050	41%
4853	Taxi and limousine service	19	438	457	18%
7139	Other amusement and recreation industries	93	124	217	8%
7115	Independent artists, writers and performers	22	103	125	5%
5121	Motion picture and video industries	30	91	121	5%
5615	Travel arrangement and reservation services	32	80	112	4%
5321	Automotive equipment rental and leasing	40	49	89	3%
7211	Traveller accommodation	40	49	89	3%
4859	Other transit and ground passenger transportation	4	72	76	3%
7111	Performing arts companies	5	52	57	2%
7112	Spectator sports	6	21	27	1%
7113	Promoters (presenters) of performing arts, sports and similar events	5	19	24	1%
4812	Non-scheduled air transportation	5	18	23	1%
7114	Agents and managers for artists, athletes, entertainers and other public figures	2	21	23	1%
7131	Amusement parks and arcades	14	8	22	1%

NAICS	Description	With Employees	Indeterminate	Total	% of Total
7224	Drinking places (alcoholic beverages)	11	7	18	1%
7212	Recreational vehicle (RV) parks and recreational camps	5	6	11	0.4%
4855	Charter bus industry	5	2	7	0.3%
7132	Gambling industries	2	5	7	0.3%
4811	Scheduled air transportation	1	5	6	0.2%
4854	School and employee bus transportation	3	3	6	0.2%
4851	Urban transit systems	3	1	4	0.2%
7121	Heritage institutions	2	2	4	0.2%
4821	Rail transportation	1	1	2	0.1%
4831	Deep sea, coastal and Great Lakes water transportation	1	1	2	0.1%
4832	Inland water transportation	0	2	2	0.1%
4852	Interurban and rural bus transportation	1	1	2	0.1%
4872	Scenic and sightseeing transportation, water	1	1	2	0.1%
4871	Scenic and sightseeing transportation, land	0	0	0	0%

Source: Canadian Business Counts, June 2022

In 2022, Vaughan accounted for 16,913 jobs (place of work) in the tourism sector. The tourism sector accounted for 7% of all Vaughan jobs in 2022. Jobs in the sector are projected to grow by 319 jobs from 2022 to 2028.

Figure 87 – Vaughan Tourism Jobs, 2016 to 2028



Source: Lightcast, 2022

As illustrated in the figure below, full-service restaurants and limited service eating places accounted for most of the jobs in the tourism sector in 2022; 8,394 jobs (50% of all sector jobs), followed by other amusement and recreation industries and amusement parts and arcades. The first two sub-sectors are also projected for the most job growth in 2028; restaurants will add 497 jobs, and other amusement and recreation industries will add 179 jobs.

Figure 88 – Vaughan Tourism Jobs Growth, 2022 to 2028

NAICS	Description	2022 Jobs	2022%	2028 Jobs	2022 - 2028 Change	2022 - 2028 % Change
N/A	Total Tourism	16,913	100%	17,232	319	2%
7225	Full-service restaurants and limited service eating places	8,394	50%	8,891	497	6%
7139	Other amusement and recreation industries	1,836	11%	2,015	179	10%
7131	Amusement parks and arcades	1,712	10%	1,355	-357	-21%
4821	Rail transportation	1,114	7%	1,264	150	13%
4853	Taxi and limousine service	599	4%	505	-94	-16%
7115	Independent artists, writers, and performers	462	3%	490	28	6%
5121	Motion picture and video industries	459	3%	510	51	11%
5615	Travel arrangement and reservation services	458	3%	390	-68	-15%
4851	Urban transit systems	453	3%	522	69	15%
7211	Traveller accommodation	413	2%	344	-69	-17%
5321	Automotive equipment rental and leasing	215	1%	184	-31	-14%
4854	School and employee bus transportation	140	1%	154	14	10%
7111	Performing arts companies	128	1%	123	-5	-4%
7113	Promoters (presenters) of performing arts, sports and similar events	98	1%	104	6	6%
7112	Spectator sports	73	0.4%	75	2	3%
7121	Heritage institutions	71	0.4%	87	16	23%
4859	Other transit and ground passenger transportation	65	0.4%	59	-6	-9%
4855	Charter bus industry	58	0.3%	30	-28	-48%
4852	Interurban and rural bus transportation	54	0.3%	46	-8	-15%
7212	Recreational vehicle (RV) parks and recreational camps	28	0.2%	33	5	18%
4811	Scheduled air transportation	22	0.1%	19	-3	-14%
7132	Gambling industries	19	0.1%	<10	Insf. Data	Insf. Data
7224	Drinking places (alcoholic beverages)	17	0.1%	0	-17	-100%
4872	Scenic and sightseeing transportation, water	16	0.1%	19	3	19%
4832	Inland water transportation	0	0.0%	0	0	0%
4871	Scenic and sightseeing transportation, land	0	0.0%	0	0	0%
4812	Non-scheduled air transportation	<10	Insf. Data	0	Insf. Data	Insf. Data
4831	Deep sea, coastal and Great Lakes water transportation	<10	Insf. Data	<10	Insf. Data	Insf. Data
7114	Agents and managers for artists, athletes, entertainers and other public figures	<10	Insf. Data	<10	Insf. Data	Insf. Data

Source: Lightcast, 2022

Considering tourism staffing patterns, the top occupations within this sector include food counter attendants, kitchen helpers and related support, followed by food and beverage service managers. From 2022 to 2028, food counter attendants, kitchen helpers and related support, and chefs will experience the largest projected to grow.

Figure 89 – Top Occupations Employed by Tourism Industries, Vaughan, 2022 to 2028

NOC	Description	2022 Jobs	% 2022	2028 Jobs	Change (2022 - 2028)	% Change (2022 - 2028)
6711	Food counter attendants, kitchen helpers and related support occupations	2,627	16%	2,876	249	9%
6513	Food and beverage servers	1,444	9%	1,472	28	2%
0631	Restaurant and food service managers	1,118	7%	1,118	0	0%
6322	Cooks	890	5%	882	-8	-1%
6722	Operators and attendants in amusement, recreation and sport	839	5%	725	-114	-14%
5254	Program leaders and instructors in recreation, sport and fitness	802	5%	857	55	7%
6611	Cashiers	701	4%	691	-10	-1%
7513	Taxi and limousine drivers and chauffeurs	668	4%	594	-74	-11%
6321	Chefs	554	3%	641	87	16%
6511	Maitres d'hôtel and hosts/hostesses	537	3%	570	33	6%

Source: Lightcast, 2022

A supply chain analysis for Vaughan's tourism sector shows that most of the sector purchases come from industries such as meat product manufacturing (\$43,4 million), and lessor of real estate (\$23.3 million). On average, 41% of the purchases made by the tourism sector are imported, and 59% are in-region purchases.

Figure 90 – Top 10 Industry purchases - Industry Supply Chain (4-Digit NAICS), Tourism, Vaughan, 2020

NAICS	Purchases from	In-region Purchases	% In-region	Imported Purchases	% Imported	Total Purchases
3116	Meat product manufacturing	\$22,599,235	52%	\$20,889,117	48%	\$43,488,352
5311	Lessors of real estate	\$20,309,820	69%	\$9,047,603	31%	\$29,357,423
3241	Petroleum and coal product manufacturing	\$7,273,904	27%	\$20,019,261	73%	\$27,293,165
3115	Dairy product manufacturing	\$20,539,021	100%	\$19,721	0%	\$20,558,742
3121	Beverage manufacturing	\$12,214,929	71%	\$5,013,694	29%	\$17,228,623
3119	Other food manufacturing	\$14,418,072	100%	\$23,836	0%	\$14,441,908
5221	Depository credit intermediation	\$4,167,668	30%	\$9,627,855	70%	\$13,795,522
5241	Insurance carriers	\$2,501,652	18%	\$11,280,928	82%	\$13,782,579
1110	Farms	\$2,736,875	20%	\$11,030,977	80%	\$13,767,851
5331	Lessors of non-financial intangible assets (except copyrighted works)	\$12,618,938	99%	\$172,349	1%	\$12,791,286

Source: Lightcast, 2022

Emerging Sector – Creative Industries

As per the June 2022 CBC, Vaughan was home to 8,240 creative industry businesses, accounting for 12% of all businesses. Of these businesses, 57% were businesses without employees, while 43% had employees. Vaughan accounts for 31% of all York region and 4% of Ontario's creative industries businesses. Vaughan's creative industry has a close concentration of businesses in this area compared to both York Region and Ontario.

Figure 91 – Creative Industries Business Counts & LQ, Vaughan, June 2022

	Employees	Indeterminate	Total
Creative Industries	3,506	4,734	8,240
Total	19,390	47,169	66,559
% of total	18%	10%	12%
LQ (York)	0.96	0.88	0.92
LQ (ON)	1.15	0.92	1.00

Source: Canadian Business Counts, June 2022

Based on the North American Industrial Classification System (NAICS), the creative industries sector in Vaughan is comprised of:

- Computer systems design and related services – 2,503 businesses (30% of total)
- Other professional, scientific, and technical services – 743 businesses (9% of total)
- Architectural, engineering, and related services – 653 businesses (8% of total)
- Specialized design services – 353 (4% of total)

Figure 92 – Creative Industries Business Counts (3-digit NAICS), Vaughan, June 2022

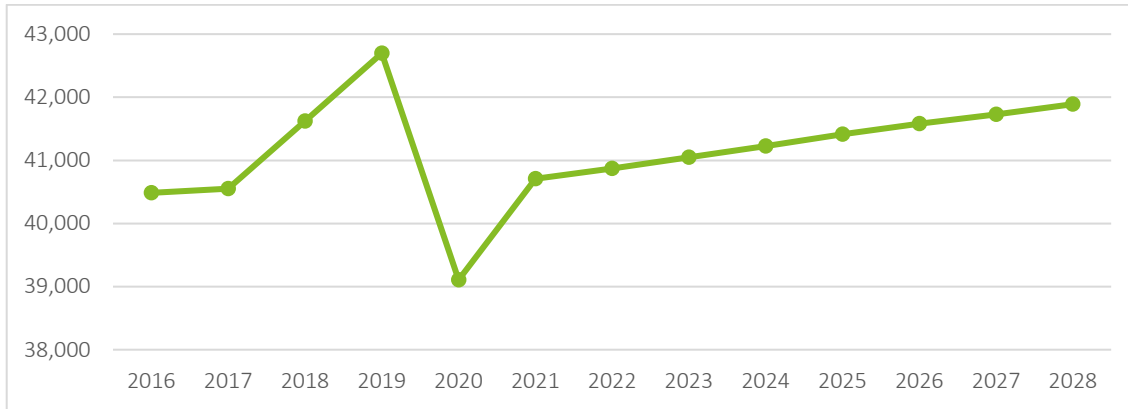
NAICS	Description	With Employees	Indeterminate	Total	% Total
N/A	Total Creative Industries	3,506	4,734	8,240	100%
5415	Computer systems design and related services	1,119	1,384	2,503	30%
5419	Other professional, scientific and technical services	195	548	743	9%
5413	Architectural, engineering and related services	276	377	653	8%
5414	Specialized design services	90	263	353	4%
5418	Advertising, public relations, and related services	111	229	340	4%
4481	Clothing stores	202	128	330	4%
4539	Other miscellaneous store retailers	99	168	267	3%
4163	Lumber, millwork, hardware and other building supplies merchant wholesalers	185	73	258	3%
8129	Other personal services	46	200	246	3%
3399	Other miscellaneous manufacturing	73	109	182	2%
3371	Household and institutional furniture and kitchen cabinet manufacturing	102	75	177	2%
3231	Printing and related support activities	82	70	152	2%
4141	Textile, clothing and footwear merchant wholesalers	65	76	141	2%
4143	Home furnishings merchant wholesalers	81	55	136	2%
7115	Independent artists, writers and performers	22	103	125	2%
4422	Home furnishings stores	60	63	123	1%

NAICS	Description	With Employees	Indeterminate	Total	% Total
5121	Motion picture and video industries	30	91	121	1%
3323	Architectural and structural metals manufacturing	91	22	113	1%
4483	Jewellery, luggage and leather goods stores	45	55	100	1%
4511	Sporting goods, hobby and musical instrument stores	50	46	96	1%
4421	Furniture stores	50	41	91	1%
5191	Other information services	15	68	83	1%
4144	Personal goods merchant wholesalers	39	43	82	1%
3219	Other wood product manufacturing	51	31	82	1%
5112	Software publishers	45	35	80	1%
3372	Office furniture (including fixtures) manufacturing	50	22	72	1%
5111	Newspaper, periodical, book and directory publishers	21	44	65	1%
7111	Performing arts companies	5	52	57	1%
4532	Office supplies, stationery and gift stores	22	34	56	1%
4482	Shoe stores	45	10	55	1%
5182	Data processing, hosting, and related services	21	30	51	1%
3272	Glass and glass product manufacturing	31	12	43	1%
5322	Consumer goods rental	15	17	32	0%
3152	Cut and sew clothing manufacturing	9	22	31	0%
5122	Sound recording industries	4	23	27	0%
3379	Other furniture-related product manufacturing	16	9	25	0%
7113	Promoters (presenters) of performing arts, sports and similar events	5	19	24	0%
7114	Agents and managers for artists, athletes, entertainers and other public figures	2	21	23	0%
4533	Used merchandise stores	9	10	19	0%
5323	General rental centres	3	12	15	0%
4513	Book stores and news dealers	3	9	12	0%
3159	Clothing accessories and other clothing manufacturing	4	7	11	0%
5151	Radio and television broadcasting	2	8	10	0%
3141	Textile furnishings mills	3	5	8	0%
3149	Other textile product mills	6	1	7	0%
3169	Other leather and allied product manufacturing	2	3	5	0%
3133	Textile and fabric finishing and fabric coating	0	4	4	0%
3162	Footwear manufacturing	1	3	4	0%
3252	Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	1	2	3	0%
3132	Fabric mills	1	1	2	0%
3161	Leather and hide tanning and finishing	0	1	1	0%
3271	Clay product and refractory manufacturing	1	0	1	0%

Source: Canadian Business Counts, June 2022

In 2022, Vaughan accounted for 40,872 jobs (place of work) in the creative industries. The sector accounted for 17% of all Vaughan jobs in 2022. Jobs in the sector are projected to grow by 1,016 jobs from 2022 to 2028.

Figure 93 – Vaughan Creative Industry Jobs, 2016 to 2028



Source: Source: Lightcast, 2022

As illustrated in the figure below, computer systems design and related services accounted for most jobs within the creative industries in 2022; 5,349 jobs (13% of all sector jobs), followed by lumber, millwork, hardware and other building supplies merchant wholesalers, and clothing stores. Sub-sectors projected for the most job growth in 2028 include computer systems design and related services (+658 jobs) and lumber, millwork, hardware, and other building supplies merchant wholesalers (+412 jobs).

Figure 94 – Vaughan Creative Industries Jobs Growth, 2022 to 2028

NAICS	Description	2022 Jobs	2022%	2028 Jobs	2022 - 2028 Change	2022 - 2028 % Change
N/A	Total Creative Industries	40,872	100%	41,888	1,016	2%
5415	Computer systems design and related services	5,349	13%	6,007	658	12%
4163	Lumber, millwork, hardware and other building supplies merchant wholesalers	3,657	9%	4,069	412	11%
4481	Clothing stores	3,243	8%	2,843	-400	-12%
5413	Architectural, engineering and related services	2,934	7%	3,090	156	5%
3323	Architectural and structural metals manufacturing	2,930	7%	3,035	105	4%
3371	Household and institutional furniture and kitchen cabinet manufacturing	2,184	5%	2,369	185	8%
3372	Office furniture (including fixtures) manufacturing	1,528	4%	1,389	-139	-9%
3231	Printing and related support activities	1,446	4%	1,432	-14	-1%
3219	Other wood product manufacturing	1,411	3%	1,463	52	4%
3399	Other miscellaneous manufacturing	1,305	3%	1,391	86	7%
4511	Sporting goods, hobby and musical instrument stores	1,134	3%	1,109	-25	-2%

NAICS	Description	2022 Jobs	2022%	2028 Jobs	2022 - 2028 Change	2022 - 2028 % Change
4539	Other miscellaneous store retailers	1,132	3%	1,192	60	5%
5418	Advertising, public relations, and related services	1,021	2%	988	-33	-3%
5419	Other professional, scientific and technical services	964	2%	1,120	156	16%
3272	Glass and glass product manufacturing	897	2%	949	52	6%
4422	Home furnishings stores	843	2%	867	24	3%
4421	Furniture stores	832	2%	834	2	0%
5414	Specialized design services	711	2%	684	-27	-4%
5112	Software publishers	692	2%	784	92	13%
4143	Home furnishings merchant wholesalers	673	2%	683	10	1%
4141	Textile, clothing and footwear merchant wholesalers	646	2%	568	-78	-12%
4482	Shoe stores	605	1%	508	-97	-16%
3379	Other furniture-related product manufacturing	549	1%	618	69	13%
4532	Office supplies, stationery and gift stores	465	1%	409	-56	-12%
7115	Independent artists, writers and performers	462	1%	490	28	6%
5121	Motion picture and video industries	459	1%	510	51	11%
4144	Personal goods merchant wholesalers	387	1%	302	-85	-22%
4483	Jewellery, luggage and leather goods stores	311	1%	268	-43	-14%
8129	Other personal services	290	1%	267	-23	-8%
5111	Newspaper, periodical, book and directory publishers	278	1%	247	-31	-11%
5191	Other information services	257	1%	260	3	1%
5182	Data processing, hosting, and related services	185	0%	187	2	1%
4533	Used merchandise stores	156	0%	158	2	1%
3346	Manufacturing and reproducing magnetic and optical media	142	0%	132	-10	-7%
7111	Performing arts companies	128	0%	123	-5	-4%
3152	Cut and sew clothing manufacturing	127	0%	125	-2	-2%
3141	Textile furnishings mills	99	0%	40	-59	-60%
7113	Promoters (presenters) of performing arts, sports and similar events	98	0%	104	6	6%
5323	General rental centres	73	0%	80	7	10%
3161	Leather and hide tanning and finishing	43	0%	15	-28	-65%
3159	Clothing accessories and other clothing manufacturing	32	0%	33	1	3%
5151	Radio and television broadcasting	29	0%	24	-5	-17%
3149	Other textile product mills	27	0%	18	-9	-33%
3133	Textile and fabric finishing and fabric coating	26	0%	27	1	4%
3132	Fabric mills	24	0%	25	1	4%
5122	Sound recording industries	22	0%	15	-7	-32%
3169	Other leather and allied product manufacturing	15	0%	14	-1	-7%
5152	Pay and specialty television	11	0%	12	1	9%

Source: Lightcast, 2022

Considering creative industries staffing patterns, the top occupations within this sector include retail salespersons, information systems analysts and consultants, and retail and wholesale trade managers. From 2022 to 2028, information systems analysts and consultants and computer programmers and interactive media developers will experience the largest employment growth.

Figure 95 – Top Occupations Employed by Creative Industries, Vaughan, 2022 to 2028

NOC	Description	2022 Jobs	2022 %	2028 Jobs	Change (2022 - 2028)	% Change (2022 - 2028)
6421	Retail salespersons	4,393	11%	4,256	-137	-3%
2171	Information systems analysts and consultants	2,062	5%	2,366	304	15%
621	Retail and wholesale trade managers	1,882	5%	1,888	6	0%
6411	Sales and account representatives - wholesale trade (non-technical)	1,639	4%	1,673	34	2%
2174	Computer programmers and interactive media developers	1,468	4%	1,622	154	10%
9532	Furniture and fixture assemblers and inspectors	1,236	3%	1,259	23	2%
7452	Material handlers	921	2%	993	72	8%
911	Manufacturing managers	822	2%	848	26	3%
6211	Retail sales supervisors	759	2%	731	-28	-4%
5241	Graphic designers and illustrators	701	2%	724	23	3%

Source: Lightcast, 2022

A supply chain analysis for Vaughan's creative sector shows that most of the sector purchases come from industries such as lessors of real estate (\$152 million) and iron and steel mills and ferro-alloy manufacturing (\$135 million). For sectors such as computer system design and related services which in-region purchases show a strong 70% of purchases made local, there are opportunities to expand supply chain in this area and retain some of the dollar leaving the region (imported purchases for this sector reached \$39 million).

Figure 96 – Top 10 Industry purchases - Industry Supply Chain (3-Digit NAICS), Creative Industries, Vaughan, 2020

NAICS	Purchases from	In-region Purchases	% In- region	Imported Purchases	% Imported	Total Purchases
5311	Lessors of real estate	\$66,164,654	43%	\$86,505,213	57%	\$152,669,867
3311	Iron and steel mills and ferro-alloy manufacturing	\$31,679,474	23%	\$103,496,537	77%	\$135,176,011
5415	Computer systems design and related services	\$89,976,765	70%	\$39,059,070	30%	\$129,035,834
2122	Metal ore mining	\$242,267	0.2%	\$103,696,637	100%	\$103,938,904
3261	Plastic product manufacturing	\$67,836,251	78%	\$18,752,041	22%	\$86,588,292
5221	Depository credit intermediation	\$10,410,970	15%	\$61,227,926	86%	\$71,638,896
3211	Sawmills and wood preservation	\$1,637,731	2%	\$68,422,666	98%	\$70,060,397
3323	Architectural and structural metals manufacturing	\$65,206,046	97%	\$1,959,944	3%	\$67,165,991
3212	Veneer, plywood and engineered wood product manufacturing	\$9,990,681	16%	\$54,323,942	85%	\$64,314,623
5241	Insurance carriers	\$5,938,523	9%	\$58,160,742	91%	\$64,099,265

Source: Lightcast, 2022

Emerging Sector – Life Sciences

As per the June 2022 CBC, Vaughan was home to 4,404 life science businesses, accounting for 7% of all businesses. Of the 4,404 businesses, 52% were businesses without employees, while 48% had employees. Vaughan accounts for 30% of all York region and 3% of Ontario's life science businesses. Vaughan's life science industry has a lower concentration of businesses than both York Region and Ontario.

Figure 97 – Life Science Business Counts & LQ, Vaughan, June 2022

	Employees	Indeterminate	Total
Life Sciences	2,122	2,282	4,404
Total	19,390	47,169	66,559
% of total	11%	5%	7%
LQ (York)	0.88	0.89	0.89
LQ (ON)	0.87	0.83	0.85

Source: Canadian Business Counts, June 2022

Based on the North American Industrial Classification System (NAICS), the life science sector in Vaughan is comprised of:

- Offices of other health practitioners – 945 businesses (21% of total)
- Offices of physicians – 861 businesses (20% of total)
- Architectural, engineering, and related services – 653 businesses (15% of total)
- Health and personal care stores – 576 businesses (13% of total)

Figure 98 – Life Science Business Counts (3-digit NAICS), Vaughan, June 2022

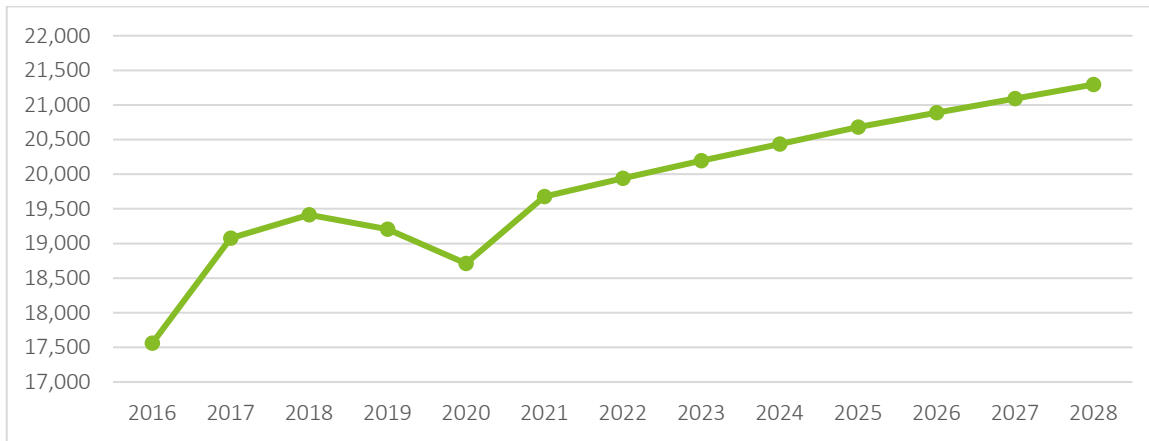
NAICS	Description	With Employees	Indeterminate	Total	% Total
N/A	Total Life Science	2,122	2,282	4,404	100%
6213	Offices of other health practitioners	295	650	945	21%
6211	Offices of physicians	534	327	861	20%
5413	Architectural, engineering and related services	276	377	653	15%
4461	Health and personal care stores	290	286	576	13%
6212	Offices of dentists	284	235	519	12%
4179	Other machinery, equipment and supplies merchant wholesalers	141	84	225	5%
6215	Medical and diagnostic laboratories	57	40	97	2%
4145	Pharmaceuticals, toiletries, cosmetics and sundries merchant wholesalers	48	43	91	2%
6214	Out-patient care centres	33	43	76	2%
3391	Medical equipment and supplies manufacturing	33	40	73	2%
6216	Home health care services	21	40	61	1%
5417	Scientific research and development services	30	30	60	1%
6231	Nursing care facilities	13	20	33	1%
6219	Other ambulatory health care services	8	23	31	1%
6239	Other residential care facilities	5	15	20	0%
6232	Residential developmental handicap, mental health and substance abuse facilities	14	5	19	0%
3345	Navigational, measuring, medical and control instruments manufacturing	13	3	16	0%
6233	Community care facilities for the elderly	10	6	16	0%

NAICS	Description	With Employees	Indeterminate	Total	% Total
3254	Pharmaceutical and medicine manufacturing	9	5	14	0%
3344	Semiconductor and other electronic component manufacturing	7	5	12	0%
6223	Specialty (except psychiatric and substance abuse) hospitals	1	2	3	0%
6221	General medical and surgical hospitals	0	2	2	0%
6222	Psychiatric and substance abuse hospitals	0	1	1	0%

Source: Canadian Business Counts, June 2022

In 2022, Vaughan accounted for 19,940 jobs (place of work) in the life science sector. The life science sector accounted for 8% of all Vaughan jobs in 2022. Jobs in the sector are projected to grow by 1,355 jobs from 2022 to 2028.

Figure 99 – Vaughan Life Science Jobs, 2016 to 2028



Source: Lightcast, 2022

As illustrated in the figure below, architectural, engineering, and related services accounted for most jobs within the life science sector in 2022; 2,934 jobs (15% of all sector jobs), followed by other machinery, equipment and supplies merchant wholesalers and health and personal care stores. Sub-sectors projected for the most job growth in 2028 include offices of other health practitioners (+214 jobs) and offices of dentists (+188 jobs).

Figure 100 – Vaughan Life Science Jobs Growth, 2022 to 2028

NAICS	Description	2022 Jobs	2022%	2028 Jobs	2022 - 2028 Change	2022 - 2028 % Change
N/A	Total Life Science	19,940	100%	21,295	1355	7%
5413	Architectural, engineering and related services	2,934	15%	3,090	156	5%
4179	Other machinery, equipment and supplies merchant wholesalers	2,344	12%	2,435	91	4%
4461	Health and personal care stores	2,098	11%	2,113	15	1%
6213	Offices of other health practitioners	2,011	10%	2,225	214	11%
6211	Offices of physicians	1,878	9%	2,010	132	7%
6212	Offices of dentists	1,833	9%	2,021	188	10%
4145	Pharmaceuticals, toiletries, cosmetics and sundries merchant wholesalers	1,557	8%	1,607	50	3%
6231	Nursing care facilities	722	4%	902	180	25%
3345	Navigational, measuring, medical and control instruments manufacturing	698	4%	687	-11	-2%
6214	Out-patient care centres	637	3%	724	87	14%
5417	Scientific research and development services	584	3%	665	81	14%
6233	Community care facilities for the elderly	504	3%	486	-18	-4%
6221	General medical and surgical hospitals	400	2%	457	57	14%
6215	Medical and diagnostic laboratories	340	2%	366	26	8%
3391	Medical equipment and supplies manufacturing	322	2%	323	1	0%
6216	Home health care services	257	1%	314	57	22%
6232	Residential developmental handicap, mental health and substance abuse facilities	254	1%	281	27	11%
3344	Semiconductor and other electronic component manufacturing	217	1%	204	-13	-6%
3254	Pharmaceutical and medicine manufacturing	171	1%	176	5	3%
6239	Other residential care facilities	124	1%	145	21	17%
6219	Other ambulatory health care services	49	0%	57	8	16%
6223	Specialty (except psychiatric and substance abuse) hospitals	<10	Insf. Data	<10	Insf. Data	Insf. Data
6222	Psychiatric and substance abuse hospitals	0	0%	0	0	0%

Source: Lightcast, 2022

Considering life science staffing patterns, the top occupations within this sector include nurse aides, orderlies, and patient service associates; registered nurses and registered psychiatric nurses; and receptionists. From 2022 to 2028, nurse aides, orderlies and patient service associates, and registered nurses and registered psychiatric nurses will experience the largest growth, adding 158 jobs and 149 jobs, respectively.

Figure 101 – Top Occupations Employed by Life Science Industries, Vaughan, 2022 to 2028

NOC	Description	2022 Jobs	% 2022	2028 Jobs	Change (2022 - 2028)	% Change (2022 - 2028)
3413	Nurse aides, orderlies and patient service associates	805	4%	963	158	20%
3012	Registered nurses and registered psychiatric nurses	684	3%	833	149	22%
1414	Receptionists	608	3%	617	9	1%
1243	Medical administrative assistants	564	3%	633	69	12%
3131	Pharmacists	506	3%	520	14	3%
3112	General practitioners and family physicians	499	3%	541	42	8%
6411	Sales and account representatives - wholesale trade (non-technical)	486	2%	489	3	1%
3113	Dentists	485	2%	527	42	9%
6221	Technical sales specialists - wholesale trade	466	2%	491	25	5%
0621	Retail and wholesale trade managers	405	2%	395	-10	-2%

Source: Lightcast, 2022

A supply chain analysis for Vaughan's life science sector shows that most of the sector purchases come from industries such as semiconductor and other electronic component manufacturing (\$42 million) and lessors of real estate (\$37 million). Primary metal manufacturing accounts for 14% of total manufacturing purchases (\$9 billion). There are opportunities to grow complementary supply chain businesses for semiconductor and other electronic component manufacturing, as this is one of the top industry purchases for the region and only 57% of purchased locally (\$18 million can be retained in Vaughan by increasing businesses in this sector).

Figure 102 – Top 10 Industry purchases - Industry Supply Chain (3-Digit NAICS), Life Science, Vaughan, 2020

NAICS	Purchases from	In-region Purchases	% In- region	Imported Purchases	% Imported	Total Purchases
3344	Semiconductor and other electronic component manufacturing	\$24,175,487	57%	\$18,211,436	43%	\$42,386,923
5311	Lessors of real estate	\$26,972,775	72%	\$10,327,958	28%	\$37,300,734
5415	Computer systems design and related services	\$20,573,382	74%	\$7,334,639	26%	\$27,908,020
3345	Navigational, measuring, medical and control instruments manufacturing	\$24,809,520	99.9%	\$14,328	0.1%	\$24,823,848
3254	Pharmaceutical and medicine manufacturing	\$9,359,957	39%	\$14,566,847	61%	\$23,926,804
3391	Medical equipment and supplies manufacturing	\$19,392,920	83%	\$4,114,882	18%	\$23,507,802
5413	Architectural, engineering and related services	\$16,283,735	74%	\$5,737,977	26%	\$22,021,711
5241	Insurance carriers	\$3,269,824	17%	\$16,222,917	83%	\$19,492,741
5221	Depository credit intermediation	\$4,681,120	29%	\$11,439,042	71%	\$16,120,163
5416	Management, scientific and technical consulting services	\$11,032,367	70%	\$4,717,589	30%	\$15,749,956

Source: Lightcast, 2022



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