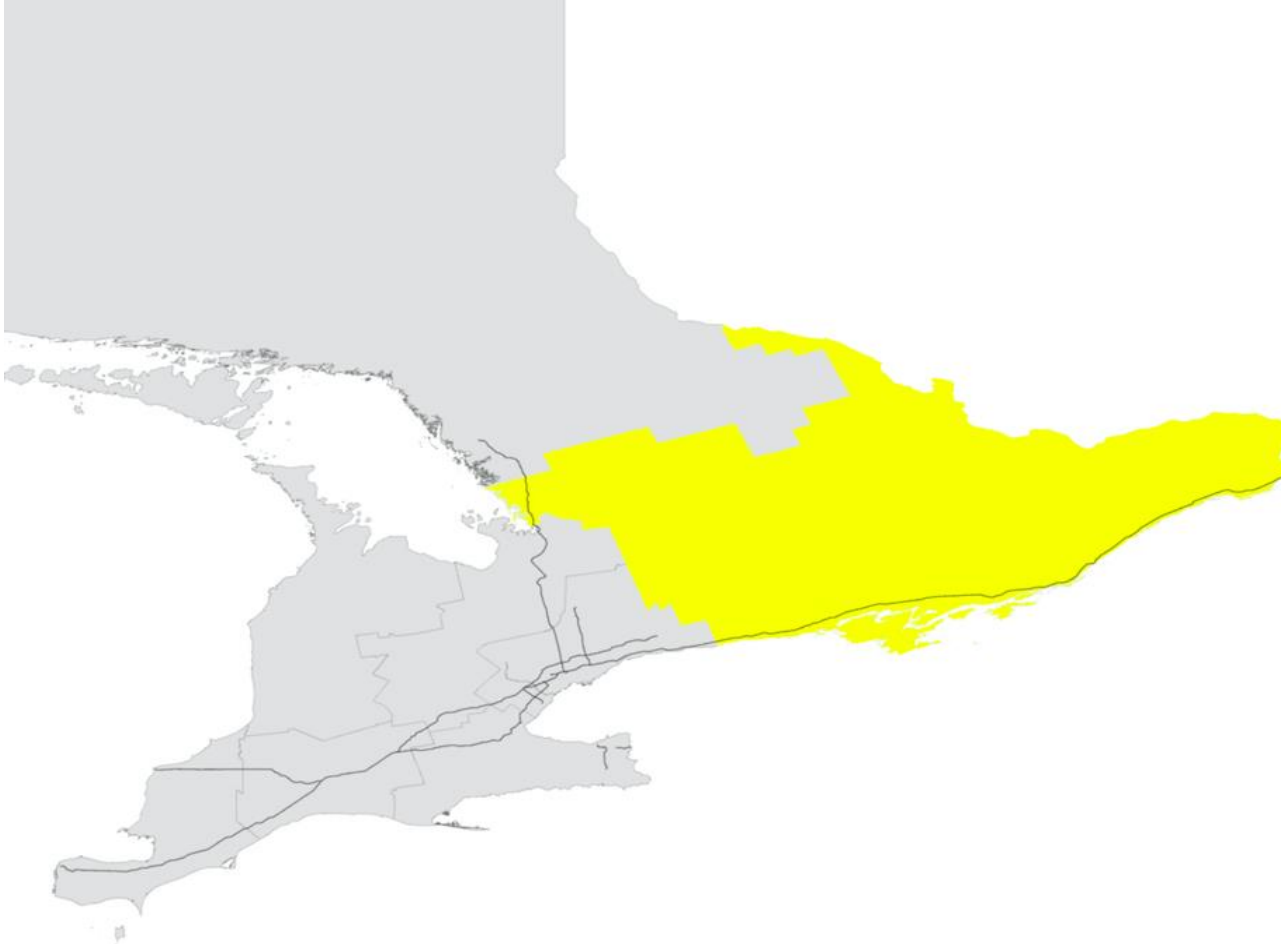

REGIONAL AUTOMOTIVE MANUFACTURING PROFILE

Eastern Ontario

May 2019

CSTEC CANADIAN SKILLS TRAINING &
EMPLOYMENT COALITION





Executive Summary

The Eastern Ontario region is comprised of the Economics Regions (ERs) of Ottawa, Kingston-Pembroke, and Muskoka-Kawarthas. The region's GDP was an estimated \$109 billion in 2018, 7% of which was generated by the manufacturing sector. Manufacturing is also a major employer in the region, accounting for 5.5% of the total labour force, including 0.4% from automotive manufacturing. The region has a positive economic outlook, with annual GDP growth of at least 2.0% projected through 2029. However, the region's manufacturing sector is expected to see its GDP growth slow in the coming years.

The Eastern Ontario region's population was an estimated 2.2 million in 2018. Moderate population growth is expected in the region through 2030. Population growth will likely be driven primarily by migration into the region as a declining birth rate means little natural population change. The region is expected to see an aging trend in its population, with the share of the population aged 65 years and over projected to increase from 19% in 2016 to 25% by 2030. The region is also expected to see its unemployment fall from 7.2% in 2016 to 5.9% by 2020 before stabilizing over the coming decade.

The Eastern Ontario region's automotive industry employed an estimated 4,000 workers across 19 businesses in 2018, based on findings from industry contacts, company websites, industry literature and other sources of publicly available data. Employment in the past five years is estimated to have ranged from a low of 3,800 in 2013 to a peak of 4,300 in 2017. The region is home to a total of 18 parts

suppliers employing nearly 3,600 workers and a OEM supplier employing nearly 400 workers. The region's largest automotive manufacturing employers include Magna International, Ventra Plastics, and Cpk Interiors (FCA).

Project Background

The automotive industry is critically important to Canada's economic well-being. Despite a declining trend over the past decade, Canada still produced over 2 million vehicles in 2018. Furthermore, vehicle assembly plants have the capacity to build over 2.3 million vehicles annually. The industry directly accounted for over 8% of Canada's manufacturing GDP and 17% of Ontario's manufacturing GDP in 2017. The industry also contributes to Canada's economy through expenditures on capital, which totaled \$1.7 billion as of 2017, and research & development, where businesses spent an additional \$265 million in 2018. However, expenditure levels in both cases have dropped off since the early to mid-2000s. Finally, Canada's automotive industry is deeply tied to the global market through foreign trade. The majority of vehicles produced in Canada are exported, mostly to the United States. The U.S. is also the top export destination for automotive parts and components manufactured domestically. Canada also imports vehicles and parts, mainly from the U.S. and Mexico but also from Japan, Germany, Korea and China. Although Canada has historically maintained a trade surplus in vehicles despite a trade deficit in parts it faced a deficit in both sectors in 2018, leading to a total automotive trade deficit of \$24.6 billion.

The automotive industry is one of the key drivers of innovation in the advanced manufacturing sector and it increasingly drives innovation across a wide range of industries. In addition to developing new manufacturing technologies and production systems that will increase productivity and competitiveness, the industry is developing innovative solutions to challenges in vehicle connectivity and advanced driver assistance systems and is breaking new ground in vehicle light-weighting and alternative propulsion to reduce GHG emissions. A recent automotive advisory report outlined how the industry can achieve its future goals. It identified talent and skills development as key to industry's success going forward and recommended a detailed analysis of the industry's workforce¹. Similarly, the Canadian Automotive Partnership Council (CAPC) encouraged industry to work with government and its agencies to invest in both current and future workforces in its most recent "Call for Action" report².

Since talent and skills will be a driving force in enabling this innovation and facilitating the industry's future prosperity, it is important to undertake a comprehensive analysis of the workforce required to design and build the new technology intensive vehicles, parts, and systems of today and tomorrow. Accordingly, the Canadian Skills Training and Employment Coalition (CSTEC) and the Automotive Policy Research Centre (APRC) are undertaking a comprehensive labour market analysis of the automotive industry and its supply chain. The project is funded by the Government of Canada's Sectoral Initiatives Program (SIP) and will be completed over a three-year period.

Using the North American Industry Classification System (NAICS), automotive manufacturing is traditionally defined as being comprised of two main sectors: motor vehicle assembly (NAICS 3361), which includes chassis manufacturing, and motor vehicle parts manufacturing (NAICS 3363). Together, these sectors directly employed approximately 125,000 Canadians as of 2016. However, this definition

¹ Tanguay, "Drive to Win"

² Canadian Automotive Partnership Council (CAPC), "A Call for Action: II

of the industry understates the workforce because it excludes establishments that have been misclassified by Statistics Canada as belonging to a non-automotive NAICS code. Misclassification occurs because many of these establishments dedicate only a portion of their output to automotive-related activities and are not always present within the automotive supply chain³. A 2017 report by the APRC profiling the automotive manufacturing industry in Canada identified over 200 automotive parts manufacturing establishments that were assigned a NAICS industry code other than 3361 or 3363⁴. The APRC's estimates of automotive manufacturing employment, which supplemented Statistics Canada data with establishment-level estimates for businesses that have been misclassified, placed the industry's workforce at over 140,000 people as of 2016.

Rather than limiting automotive manufacturing to Statistics Canada's two main automotive manufacturing NAICS codes, this project will instead broaden the definition of the industry to include producers in the supply chain that have been classified in non-automotive industries. This broader definition of automotive manufacturing will include establishments in the following categories:

1. **OEM Vehicle Assembly** – Car and light-duty truck assembly plants owned by Original Equipment Manufacturers (OEMs) including Ford, Fiat Chrysler Automobiles (FCA), Toyota, Honda and General Motors.
2. **OEM Parts Suppliers** - Motor vehicle parts and components manufacturing plants owned by OEMs. These include facilities that produce internal combustion engines, transmissions, cast wheels and other structural metal components, and plastic or composite interior or exterior trim and mouldings.
3. **Primary Independent Parts Suppliers** – Establishments whose primary purpose is to supply parts and components or provide value-added services (e.g. sub-assembly, sequencing) to the supply chain of OEMs.
4. **Diversified Independent Parts Suppliers** – Establishments that supply OEMs or primary parts suppliers but who also supply a number of other industries.
5. **Automotive Tooling and Automation** – Establishments that provide machine tools, dies, moulds and/or automation equipment (e.g. welding cells, presses, complete assembly lines) to OEMs and parts suppliers.
6. **Bus and Heavy Truck** – Establishments that manufacture buses, medium-duty trucks and/or heavy-duty trucks, or whose primary purpose is to supply parts and components to bus and heavy truck manufacturers.
7. **Automotive Technology** – Establishments that build or develop automotive technologies, including those that are included in the vehicle (e.g. embedded software), in the production process (e.g. systems that monitor the assembly line) and/or in infrastructure (e.g. electric vehicle charging stations).
8. **Raw Materials** – Establishments that are primarily engaged in the production and processing of raw materials (e.g. steel, rubber, glass) used in automotive manufacturing.

It should be noted that while some establishments could be included within more than one of these categories, they are ultimately assigned to only one. Their assignment is based on the research and expertise of the project team.

³ Sweeney & Mordue, "The Restructuring of Canada's Automotive Industry, 2005-2014"

⁴ Sweeney, "A Profile of the Automotive Manufacturing Industry in Canada, 2012-2016"

Moving beyond the traditional definition of the automotive manufacturing industry requires a database of establishment-level data for producers that are involved in the automotive supply chain. Industry contacts, company websites, industry literature and other sources of publicly available data will be used to identify establishments not classified in the two main automotive manufacturing NAICS codes and collect key information about them, namely employment estimates. Establishments that should be included as automotive manufacturers may instead be associated with a wide range of non-automotive NAICS codes, including but not limited to:

- Plastic product manufacturing (NAICS 3261)
- Glass and glass product manufacturing (NAICS 3272)
- Architectural and structural metals manufacturing (NAICS 3323)
- Computer systems design and related services (NAICS 5415)
- Software publishers (NAICS 5112)
- Navigational, measuring, medical and control instruments manufacturing (NAICS 3345)
- Foundries (NAICS 3315)
- Rubber product manufacturing (NAICS 3262)
- Alumina and aluminum production and processing (NAICS 3313)
- Forging and stamping (NAICS 3321)
- Steel product manufacturing from purchased steel (NAICS 3312)
- Machine shops; turned products; and screw, nut, and bolt manufacturing (NAICS 3327)
- Coating, engraving, heat treating, and allied activities (NAICS 3328)
- Basic chemical manufacturing (NAICS 3251)
- Printing and related support activities (NAICS 3231)
- Aerospace product and parts manufacturing (NAICS 3364)
- Warehousing and storage (NAICS 4931)
- Electrical equipment manufacturing (NAICS 3353)
- Computer and peripheral equipment manufacturing (NAICS 3341)
- Architectural, engineering and related services (NAICS 5413)

These industries are part of a preliminary list of 40 non-automotive NAICS codes that include establishments with ties to the automotive supply chain. Together these additional industries represented a workforce of over 1.3 million people as of 2016. Other key components of the industry include companies working on alternative propulsion, new drivetrain technologies, energy storage and other advanced or future-focused technologies.

One of the central challenges of this project will be to understand the links between companies in these industries and those included in the primary automotive NAICS codes. A two-pronged approach will be used to ensure the broader definition of the sector closely reflects the true profile of the Canadian automotive industry. The establishment-level database will identify individual producers that are involved in the automotive supply chain. Additionally, Statistics Canada's input-output tables, which track inter-industry transactions, will be used to better understand the contributions to employment and output that establishments from non-automotive NAICS codes make to the automotive industry.

Introduction

The Eastern Ontario region is an aggregate region comprised of three Economic Regions (ERs) as defined by Statistics Canada: Ottawa, Kingston-Pembroke, and Muskoka-Kawarthas ERs. The Ottawa ER is the larger of the three regions and includes the cities of Ottawa and Cornwall. The Kingston-Pembroke ER includes the cities of Kingston and Limerick. Taken together they are home to approximately 16.4% of Ontario's population and cover a land area of nearly 51,000 square kilometres. The region includes Highways 401, 416, and 417, and major trade routes between Canada and the United States.

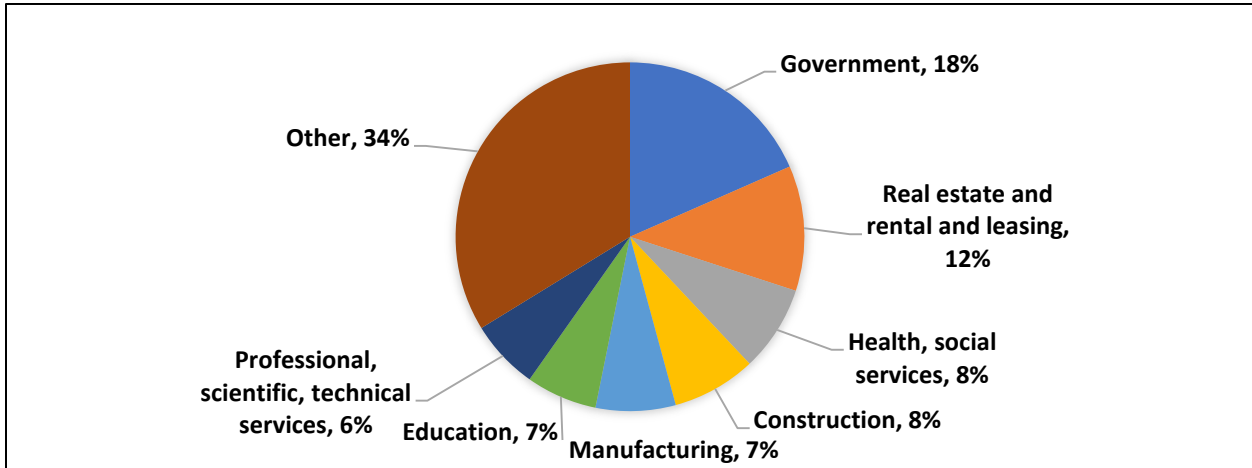
This regional profile includes three main sections. First, a discussion of the regional economy, including outlooks for GDP. Next, a section outlining trends in the region's population, demographic characteristics and overall workforce. Finally, an overview of the region's automotive manufacturing industry, including key employers and occupations.

All regional data presented in this profile are aggregates (or weighted averages where appropriate) of ER & CD level data for Eastern Ontario. Except where noted, data on the automotive manufacturing industry refers to Statistics Canada's two main industry codes for motor vehicle assembly (NAICS 3361) and parts manufacturing (NAICS 3363).

Regional Economy

The Eastern Ontario region's GDP totaled an estimated \$109 billion dollars in 2018. Government was the largest single contributor to the region's GDP accounting for nearly one-fifth (18%) or approximately \$20 billion. The next largest sector, real estate and rental and leasing, accounted for 10% of the regional economy. Manufacturing accounted for 7.4%, or \$8 billion, of the region's GDP.

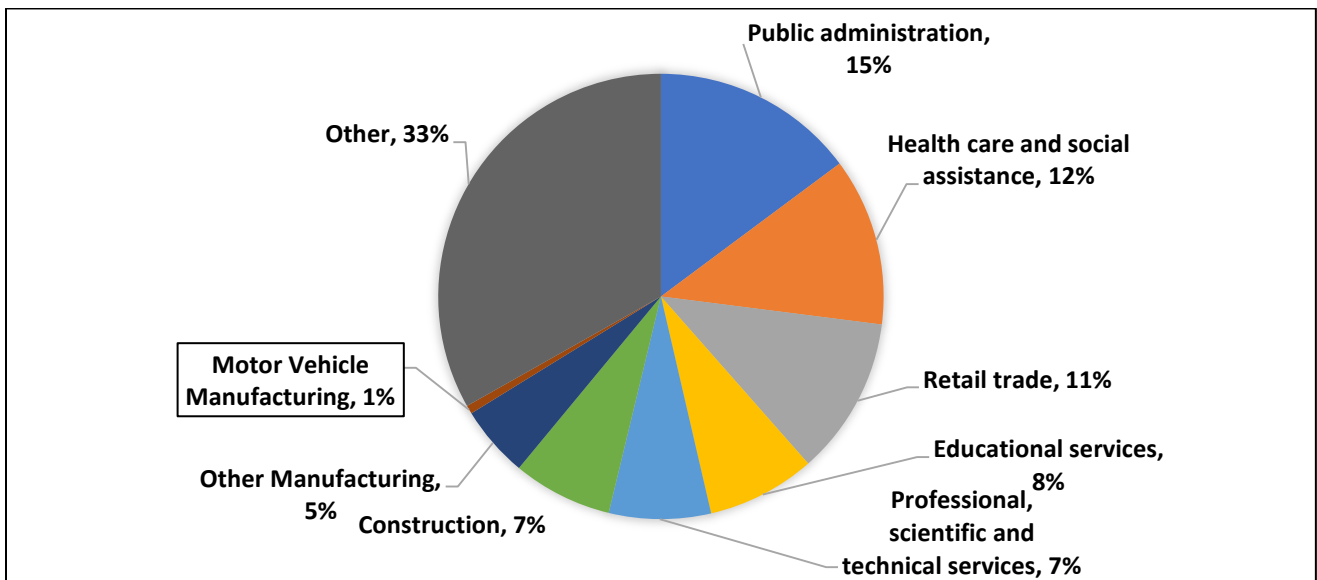
Regional GDP Shares by Sector, 2018



Source: Canadian Skills Training & Employment Coalition, Metro Economics

The region’s largest sectors by workforce size include public administration (15% of total regional labour force), health care and social assistance (12%) and retail trade (11%). While these leading industries are present in all three ERs, there are noticeable differences in the distribution of their workforces. The Muskoka-Kawarthas ER workforce is heavily concentrated in sectors such as construction and educational services, which account for 11% and 6% of the region’s labour force respectively. Conversely, the workforces in the Ottawa and Kingston-Pembroke ERs are built on public administration, which accounts for 18% and 12% respectively.

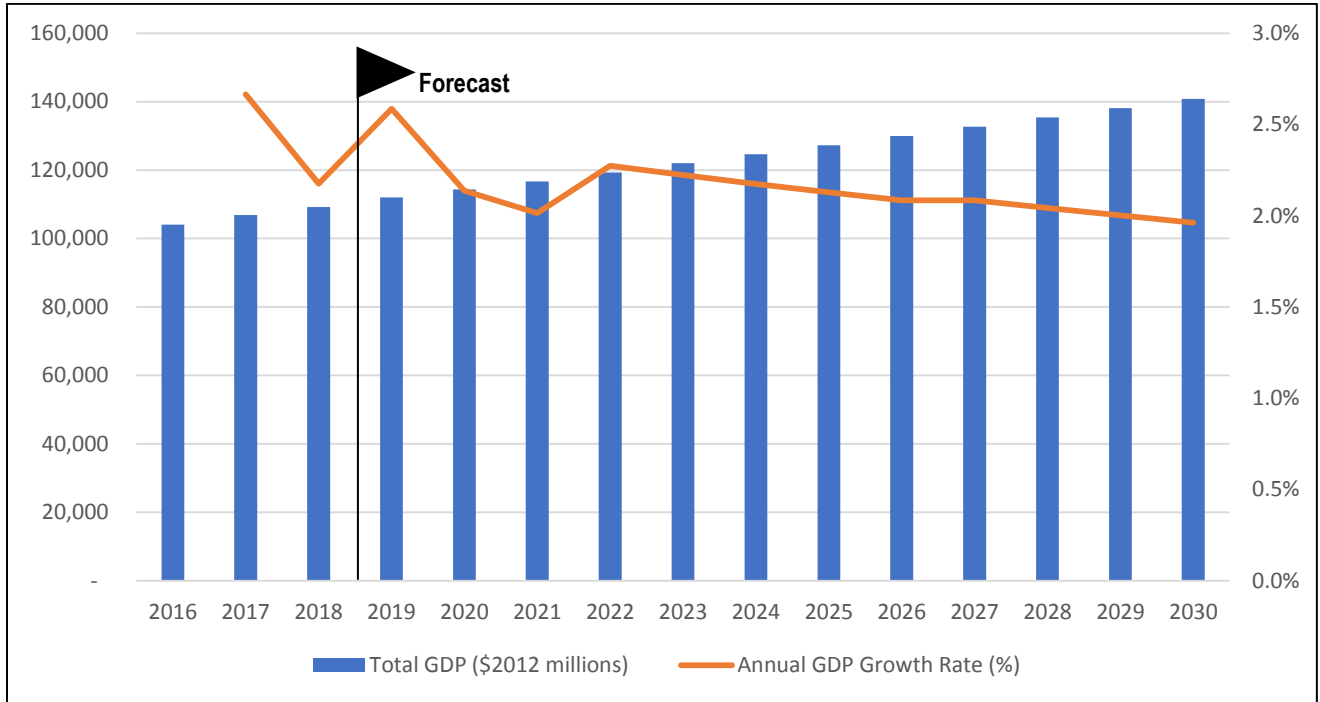
Regional Labour Force Shares by Sector, 2016



Source: Canadian Skills Training & Employment Coalition, Statistics Canada

The region’s economic outlook is expected to be positive over the coming decade. Regional GDP is expected to grow 2.6% in 2019 and 2.1% in 2020, surpassing \$114 billion. Furthermore, annual GDP growth of at least 2.1% is projected for every year from 2019 to 2029, surpassing \$138 billion, with 2.0% growth projected in 2030.

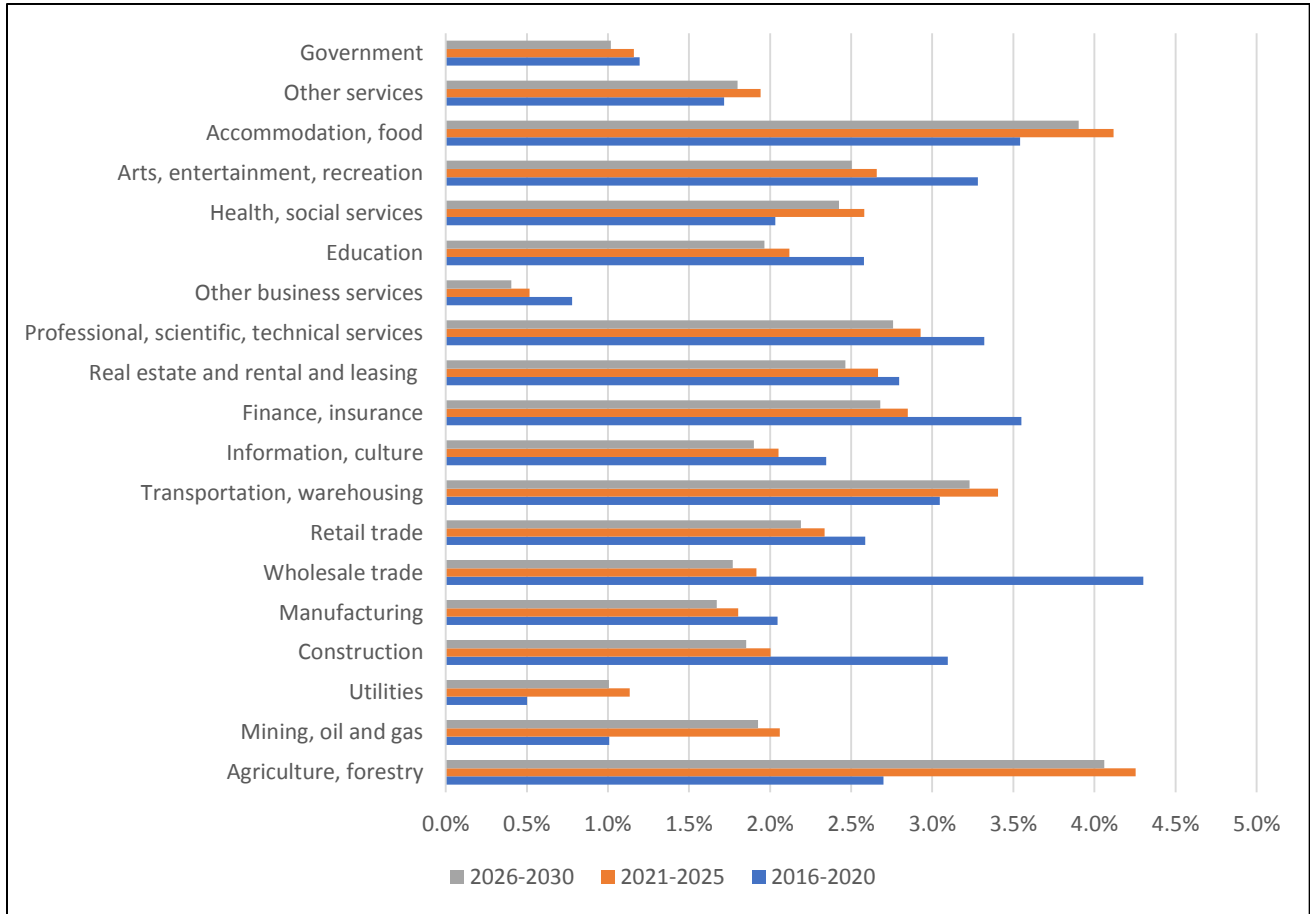
Total Regional GDP Outlook, 2016-2030



Source: Canadian Skills Training & Employment Coalition, Metro Economics

While the region’s overall GDP growth outlook is healthy, projections by sector vary significantly. In the near term, industries such as wholesale trade (4.3%), finance and insurance (3.5%), and accommodation and food services (3.3%) have experienced strong GDP growth and will continue to do so through 2020. Accommodation and food services (3.5%) is expected to experience the strongest growth between 2021 and 2025, while utilities (1.1%) and government services (1.2%) are expected to see little growth during the same period. Both agriculture (4.1%) and accommodation and food services (3.9%) are projected to continue their strong growth over the 2026 to 2030 period. The manufacturing sector, which includes automotive manufacturing, is expected to see its GDP growth slow in the coming years. While the sector’s GDP is expected to be 2.0% larger in 2020 than 2016, growth is projected to fall to 1.8% for the 2021-2025 period and 1.7% for the 2026-2030 period.

Annual Average Regional GDP Growth by Sector, 2016-2030



Source: Canadian Skills Training & Employment Coalition, Metro Economics

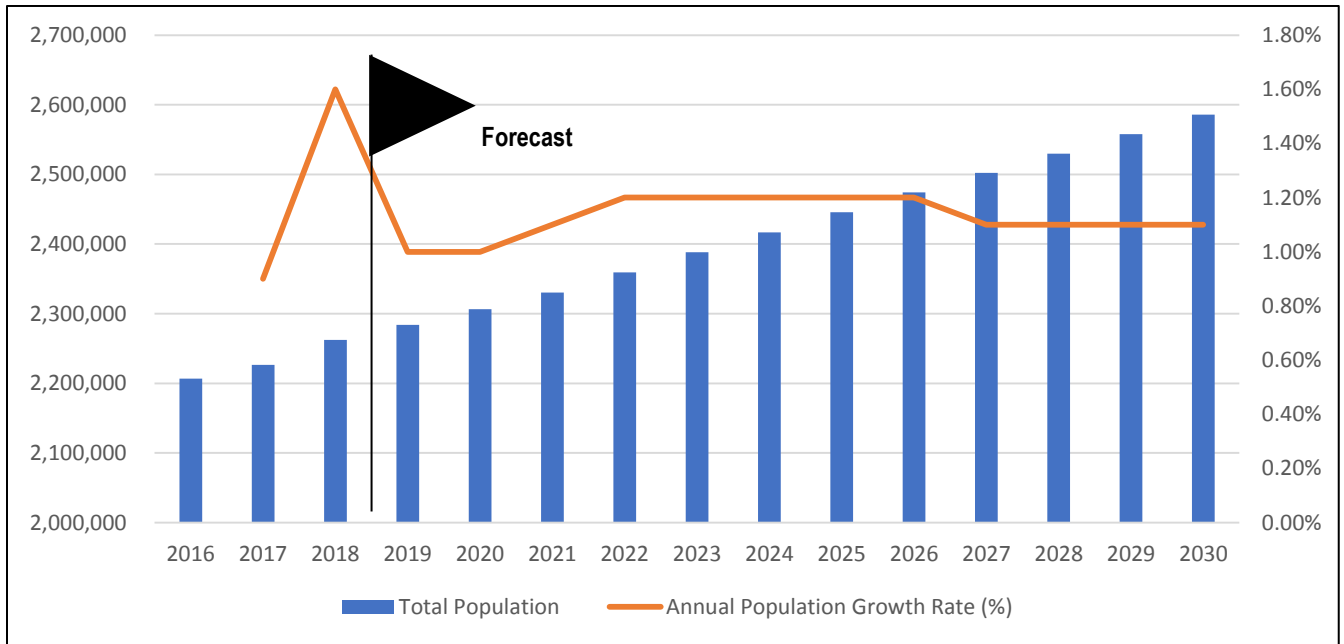
Regional Labour Considerations

Population, Age Distribution and Regional Diversity

The Eastern Ontario region is one of the most populous regions in Ontario, with approximately 16.4% of the total provincial population residing in the region. The principal population centre of the region is the Ottawa ER, which includes the city of Ottawa and the Census Divisions (CD) of Leeds and Grenville. The region also includes the Kingston-Pembroke ER, which covers the city of Kingston.

The region’s population was estimated at just over 2.1 million people in 2016, approximately 61% of whom reside in the Ottawa ER. Looking ahead, the region’s population is expected to reach 2.3 million people by 2020. The population is then expected to grow by 5.0% between 2021 and 2025 to 2.4 million. Population growth is expected to remain at 5% over the latter half of the next decade, reaching 2.5 million by 2030.

Total Regional Population Outlook, 2016-2030

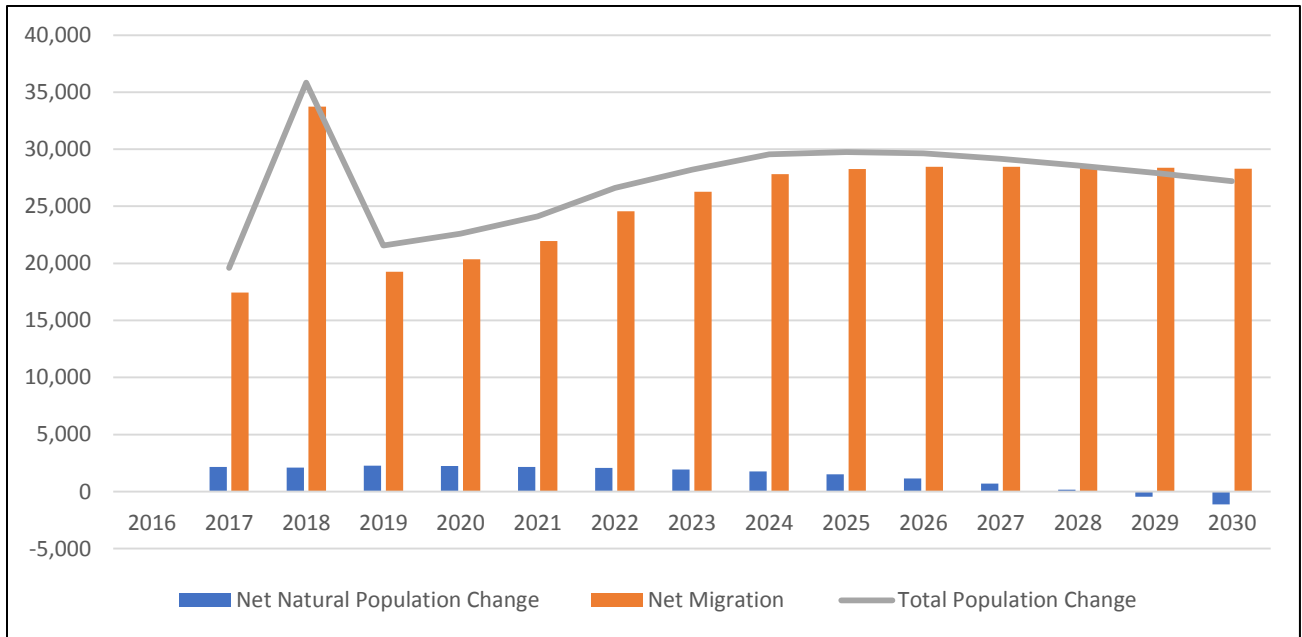


Source: Canadian Skills Training & Employment Coalition, Metro Economics

Changes in total population occur through net natural population change (i.e. the difference between the number of births and deaths in a region) and net migration (i.e. the difference between the number of people moving in and out of a region). Categorizing a region’s total population change based on these components can be useful in identifying whether its future population growth will be driven by natural means or through drawing people in from outside the region.

In the case of the Eastern Ontario region, population change is predominantly a result of net migration, which was responsible for nearly 94% of the region’s population growth in 2018. This share is expected to increase over the next decade as natural population change shrinks. The annual growth rate in the number of births in the region is projected to decline as births are expected to outnumber deaths by 2030 resulting in a negative natural population change. In contrast, net migration is expected to increase annually over the next several years. Overall, the region is expected to add an average of nearly 27,000 people to its population annually through 2030.

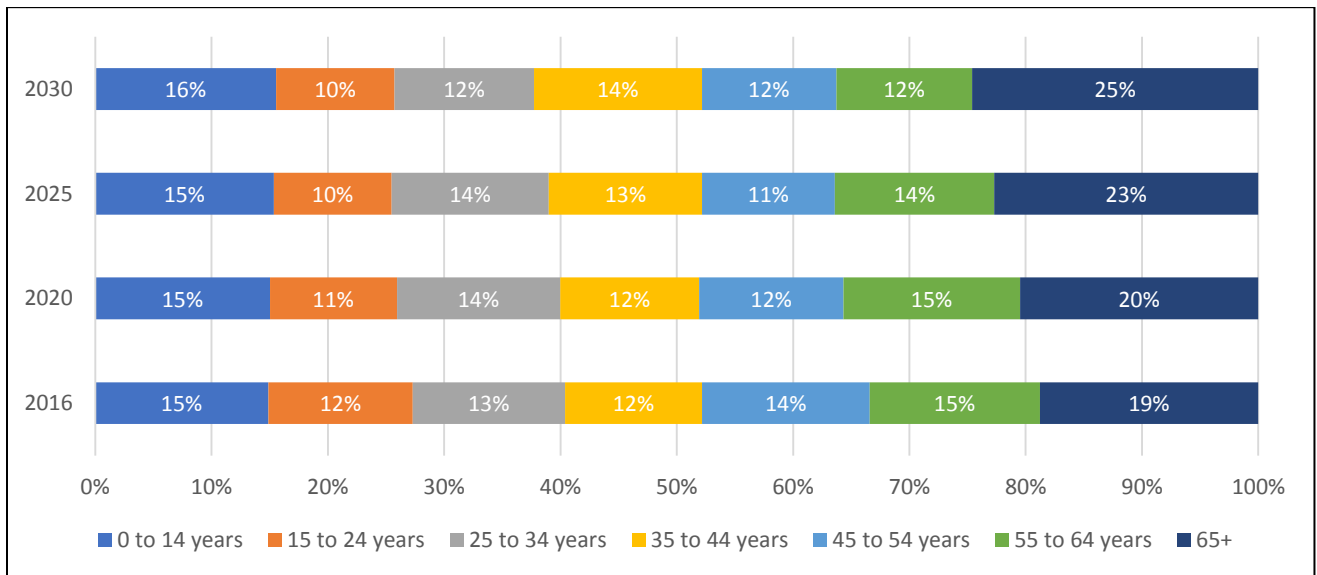
Total Regional Population Change Outlook, 2016-2030



Source: Canadian Skills Training & Employment Coalition, Metro Economics

The Eastern Ontario region’s age distribution is also expected to shift in the coming years. In 2018, an estimated 19% of the region’s population were 65 years of age or older, and that proportion is expected to rise to 25% by 2030. The region will also see concurrent declines in the population shares of the 45-54 and 55-64 age cohorts as part of the aging trend. Among younger age cohorts, the population share of the 15-24 age cohort is projected to fall from 12% to 10% during the period. This is notable as this cohort is traditionally the largest source of new entrants to the labour force.

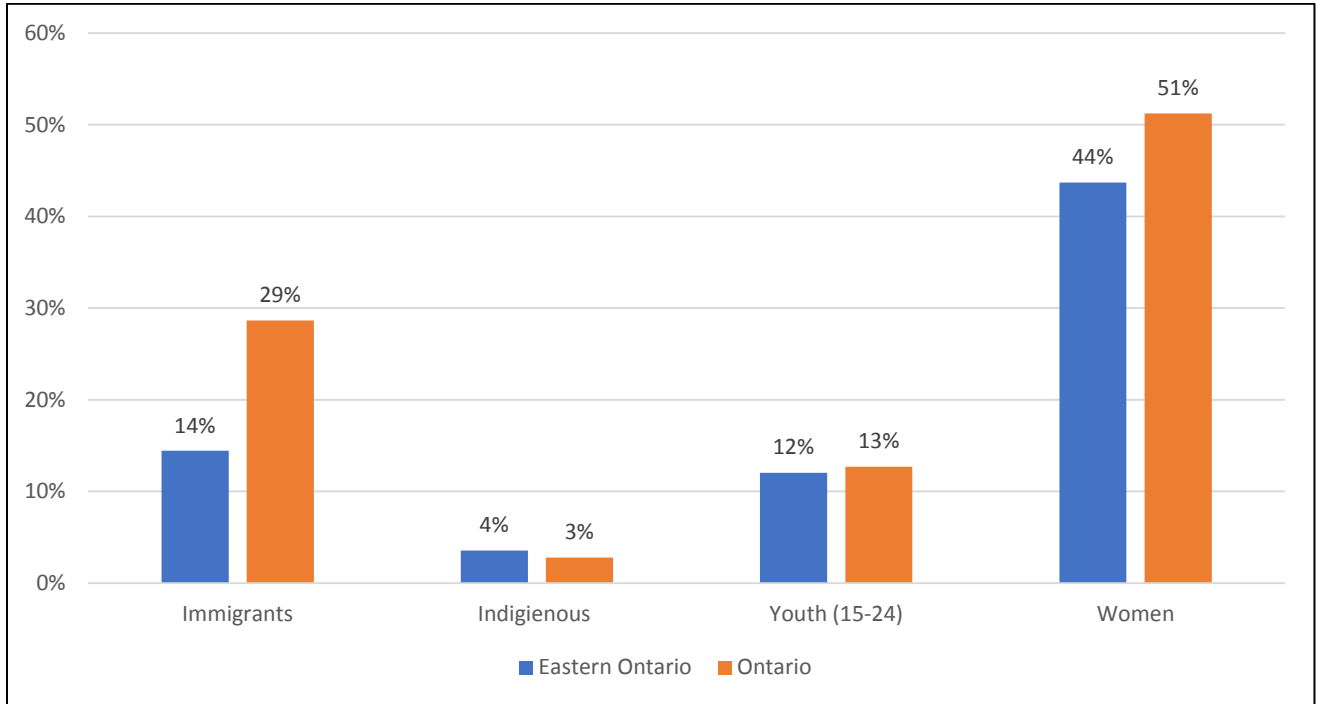
Regional Population Outlook by Age Distribution, 2016-2030



Source: Canadian Skills Training & Employment Coalition, Metro Economics

Some portions of society are likely underrepresented in the automotive manufacturing workforce. Examining their population shares in the region’s total population can illustrate the magnitude of the untapped potential for the industry. Some shares of these groups in the Eastern Ontario region’s population are generally on par with those of Ontario as a whole, while others diverge from the Ontario average. The region had similar shares of Indigenous peoples and youth as the provincial population as of 2016. Notable exceptions are in the share of the population who are immigrants, which was 15% less than the provincial average, and women with 7% less than the provincial average.

Regional and Provincial Population Diversity, 2016



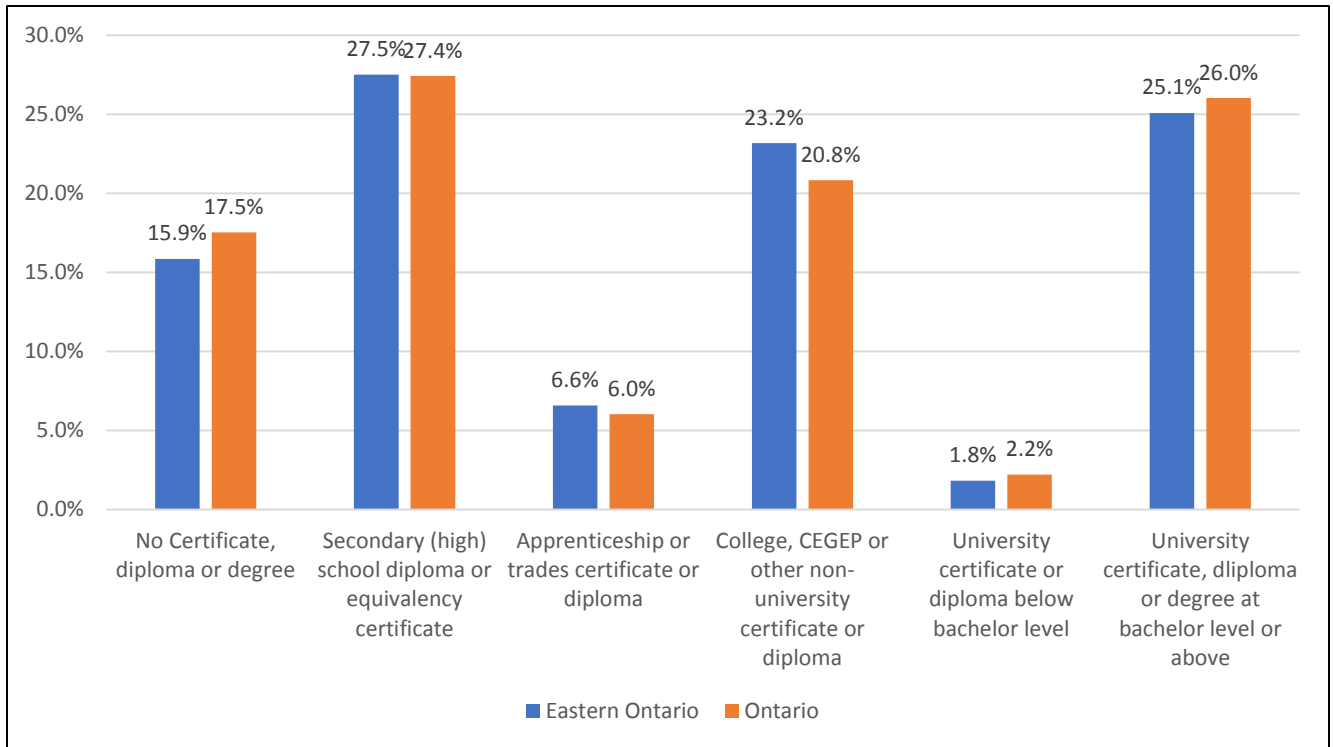
Source: Canadian Skills Training & Employment Coalition, Statistics Canada

Educational Attainment

Educational attainment among the population aged 15 years and over provides important insights into workforce qualifications and potential labour supply for the automotive industry. Comparing regional educational attainment rates to provincial averages can help identify what skills the region needs to cultivate internally or attract externally.

Under half (43.4%) of people in the Eastern Ontario region had either a high school diploma or no certificate, diploma or degree of any kind as of 2016. The share of the same group was 45% for Ontario as a whole. The region also had a slightly higher share of people with college degrees (23.2%) than the provincial average (20.8%). Moreover, 18% the Eastern Ontario region had similar shares of people with university degrees (25.1%) compared to the provincial average (26%).

Regional and Provincial Educational Attainment, 2016

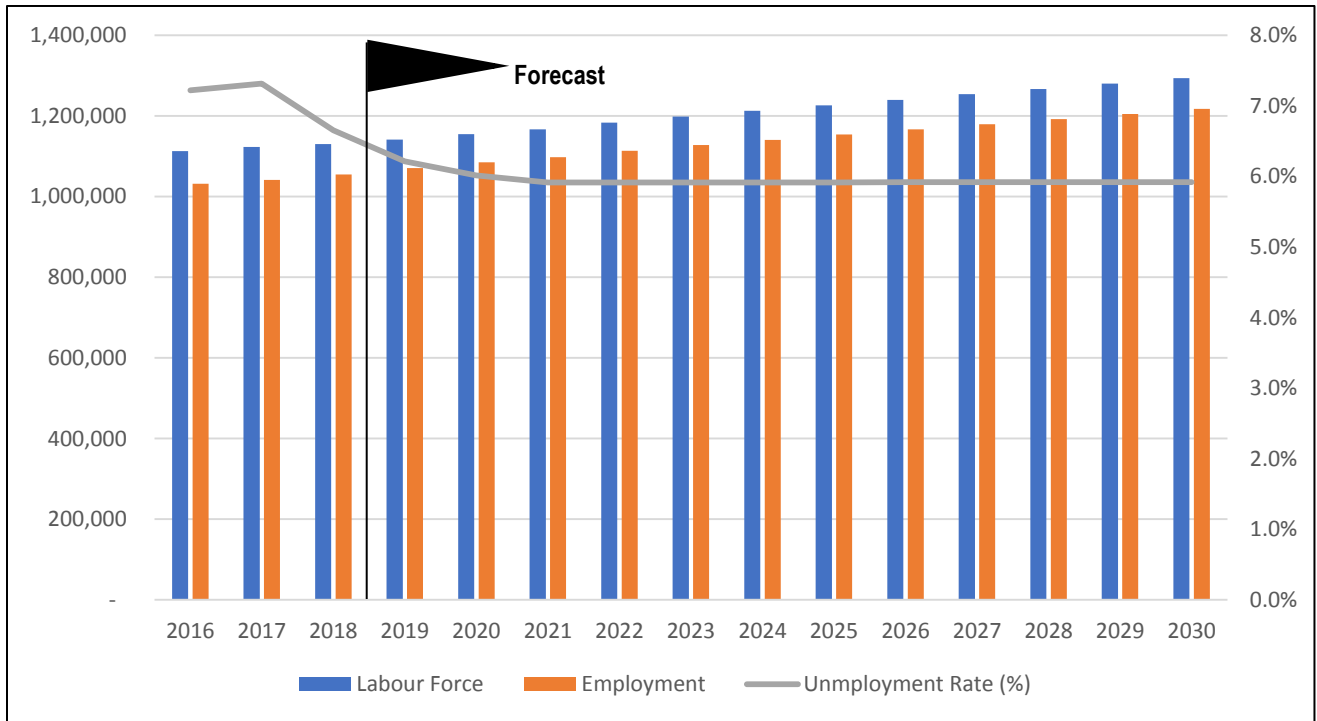


Source: Canadian Skills Training & Employment Coalition, Statistics Canada

Labour Market Activity

Total employment in the Eastern Ontario region was an estimated 1 million in 2018, while the region’s labour force, including both the employed and those who are unemployed and actively seeking work, totaled 1.1 million. The unemployment rate, or the proportion of unemployed persons in the labour force, was 6.7% in 2018. This was a sharp decline from both 2016 and 2017, when the unemployment rate was 7.2% and 7.3% respectively. The region’s unemployment rate is projected to continue this trend going forward, falling to 6.0% by 2020 before stabilizing to 5.9% over the coming decade.

Total Regional Employment Outlook, 2016-2030



Source: Canadian Skills Training & Employment Coalition, Metro Economics

Regional Automotive Manufacturing Analysis

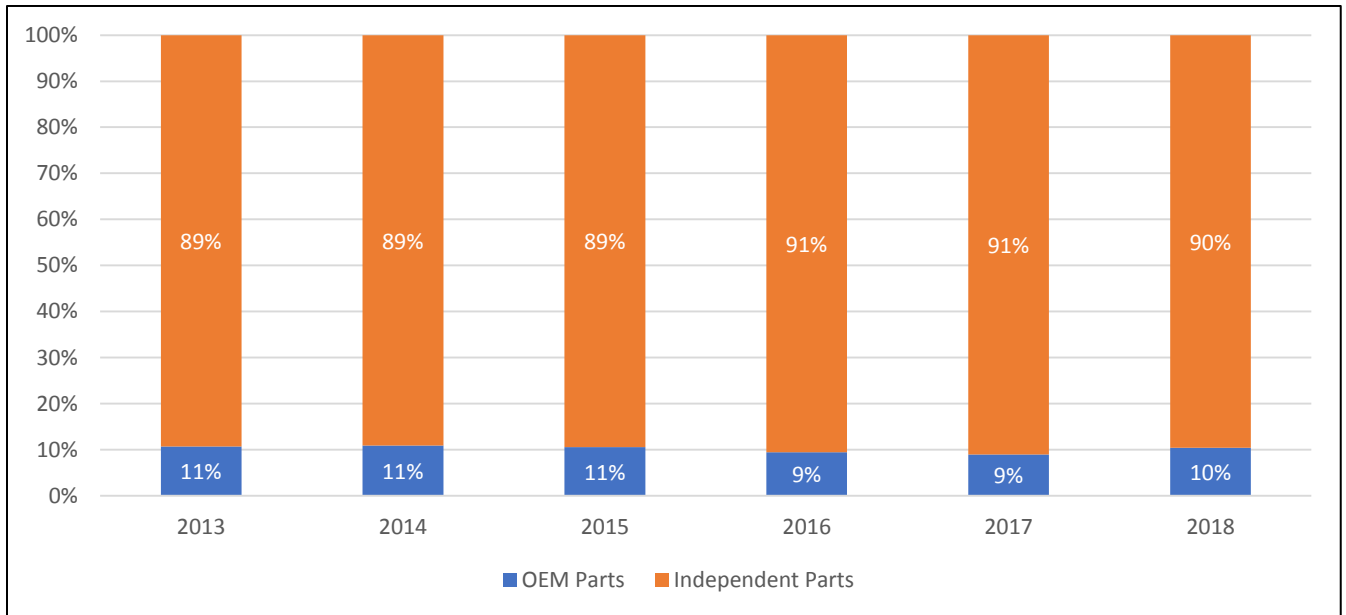
Profile of Automotive Manufacturing Employment

Total automotive manufacturing employment in the region, including Original Equipment Manufacturer (OEM) plants and parts suppliers, was an estimated 4,000 workers across 19 establishments in 2018, based on findings from industry contacts, company websites, industry literature and other sources of publicly available data. Employment in the five years prior is estimated to have ranged from a low of 3,800 in 2013 and 2014 to a peak of 4,300 in 2016. In comparison, data from Statistics Canada’s 2016 Census reports the region’s automotive manufacturing employment as totaling 3,400 workers.

The Eastern Ontario region is home to CpK Interior Products, which is owned by and supplies to FCA assembly plants across Ontario. Employment in this plant has remained stable since 2013, having reached a high of 426 in 2014.

There are an estimated 18 parts suppliers in the region. Parts suppliers are located in the Kingston-Pembroke and Muskoka-Kawarthas ERs and employed approximately 3,600 employees in 2018.

Regional Automotive Manufacturing Employment by Activity, 2013-2018



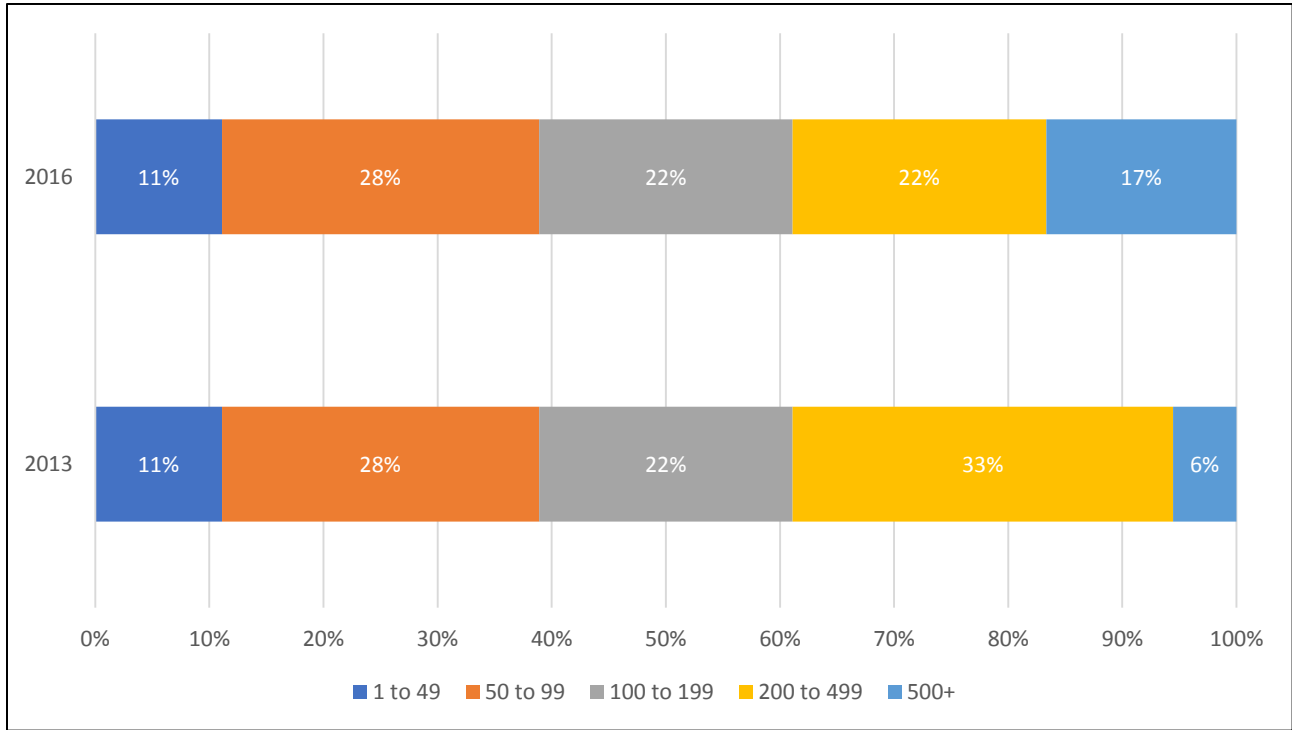
Source: Canadian Skills Training & Employment Coalition, Automotive Policy Research Centre

Profile of Automotive Manufacturing Employers

Statistics Canada’s business counts data provides insights into the mix of business types present in the Eastern Ontario region’s automotive manufacturing industry. A comparison of data from 2013 and 2016 reveals relative stability in the business types present in the Eastern Ontario region.

In the Eastern Ontario region, the percentage of employers with 1 to 49 employees has remained level at 11%. The region also saw the share of medium-sized automotive manufacturing establishments with 50 to 99 and 100 to 199 employees remain level at 28% and 22% respectively. That said, the region did experience a drastic decline of medium business types with 200 to 499 employees, declining by 11% between 2013 – 2016. The largest gains during the period were seen among large automotive manufacturing establishments (i.e. 500+ employees) from 6% in 2013 to 17% in 2016.

Regional Automotive Manufacturing Establishments by Employment Size, 2013-2016



Source: Canadian Skills Training & Employment Coalition, Statistics Canada

The largest automotive manufacturing employers in the Eastern Ontario region include Magna International, Ventra Plastics, and CpK Interiors, who have a combined five plants in the region. Taken together, the region’s top employers employed 3,300 people in 2018, based on findings from industry contacts, company websites, industry literature and other sources of publicly available data.

Largest Regional Automotive Manufacturing Employers, 2018

Employer	Plants	Employees
Magna International	4	1,380
Ventra Plastics	1	567
CpK Interiors (FCA)	1	422
Hanon Systems	1	363
QNX Blackberry	1	300
Ford (Connected Vehicle R&D)	1	295

Source: Canadian Skills Training & Employment Coalition, Automotive Policy Research Centre

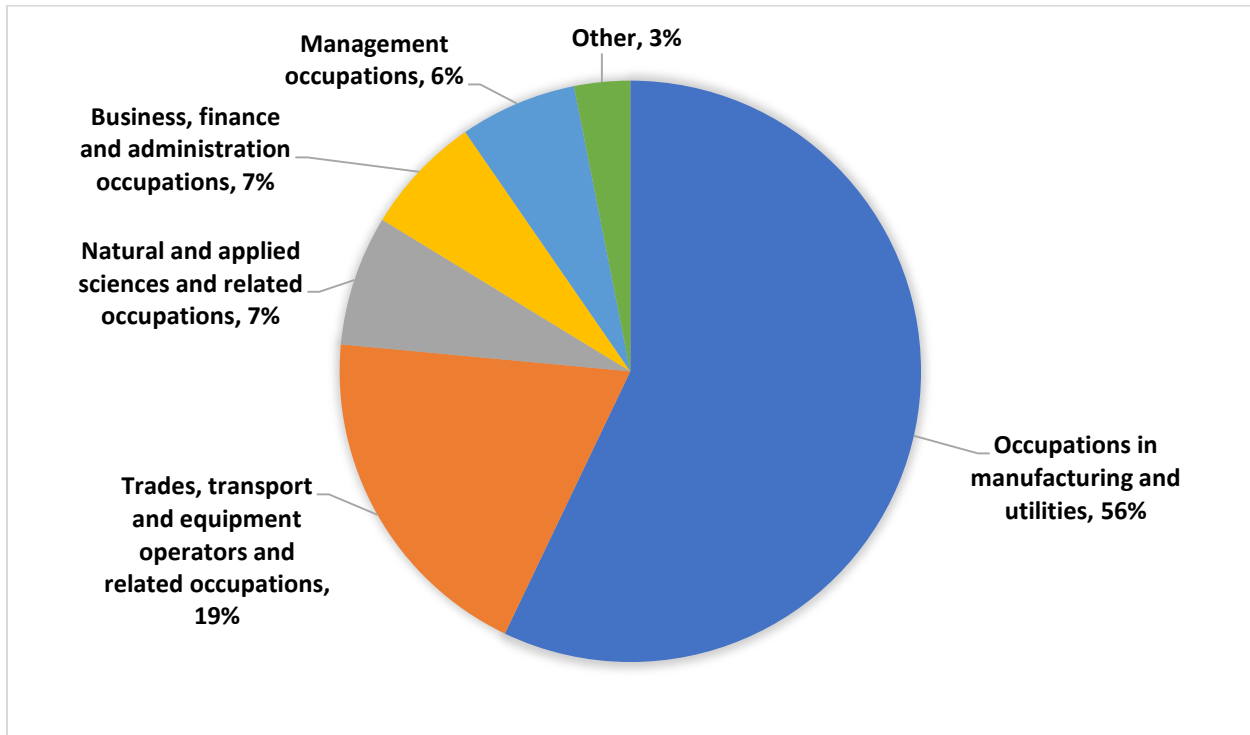
Automotive Manufacturing Labour Market

Workers in the Eastern Ontario region’s automotive manufacturing industry can be classified by job family, which indicates the broad area of work in which they are employed. Employees in each of these occupational groups play distinct roles in contributing to the industry’s success.

Unsurprisingly, manufacturing and utilities occupations account for over half (56%) of the region’s automotive manufacturing labour force. A further 19% is accounted for by trades, transport and

equipment operators. The remaining workers are split between business, finance and administration occupations (7%); natural and applied sciences occupations (7%); and all other occupation types (3%).

Regional Automotive Manufacturing Workforce by Job Family, 2016



Source: Canadian Skills Training & Employment Coalition, Statistics Canada

A more granular analysis of the region’s automotive manufacturing workforce shows that nearly half (42.3%) of the industry’s labour force are classified by Statistics Canada as motor vehicle assemblers, inspectors and testers (NOC 9522). This occupational code covers a range of activities including⁵:

- connecting cables, tubes and wires to complete assemblies and installations;
- positioning and installing parts, subassemblies and accessories such as engines, transmissions, door panels or instrument panels;
- driving and testing motor vehicles on roll testing devices to ensure proper functioning;
- and fitting and adjusting parts such as doors, hoods and trunk lids

Other key occupations in the region’s automotive manufacturing workforce include motor vehicle material handlers (NOC 7452), motor vehicle supervisors (NOC 9221), manufacturing managers (NOC 0911), and other labourers (NOC 9619). The following table lists the occupations that account for at least 1.0% of the region’s automotive manufacturing labour force:

⁵ <http://noc.esdc.gc.ca/English/NOC/QuickSearch.aspx?ver=&val65=9522>

Key Regional Automotive Manufacturing Occupations and Trades, 2016

Occupation	Automotive Manufacturing Labour Force	Share of Automotive Manufacturing Labour Force
Motor vehicle assemblers, inspectors and testers (NOC 9522)	1450	42.3%
Material handlers (7452)	185	5.4%
Supervisors, motor vehicle assembling (9221)	120	3.5%
Manufacturing managers (0911)	110	3.2%
Other labourers in processing, manufacturing, and utilities (9619)	110	3.2%
Construction millwrights and industrial mechanics (7311)	100	2.9%
Automotive service technicians, truck and bus mechanics and mechanical repairers (7321)	100	2.9%
Welders and related machine operators (7237)	65	1.9%
Industrial electricians (7242)	50	1.5%
Metalworking and forging machine operators (9416)	45	1.3%
Mechanical engineers (2132)	40	1.2%
Industrial painters, coaters, and metal finishing process operators (9536)	35	1.0%
Tool and die makers (7232)	30	0.9%
Shippers and receivers (1521)	30	0.9%
Industrial and manufacturing engineers (2141)	25	0.7%
Mechanical assemblers and inspectors (9526)	10	0.3%

Source: Canadian Skills Training & Employment Coalition, Statistics Canada

This list of key occupations and trades reflects the region's automotive manufacturing workforce as reported by traditional industry codes (NAICS 3361 and 3363). Under a broader definition of the automotive manufacturing industry, this list would likely be revised to include occupations and trades that are prevalent in other manufacturing, technology and materials industries.

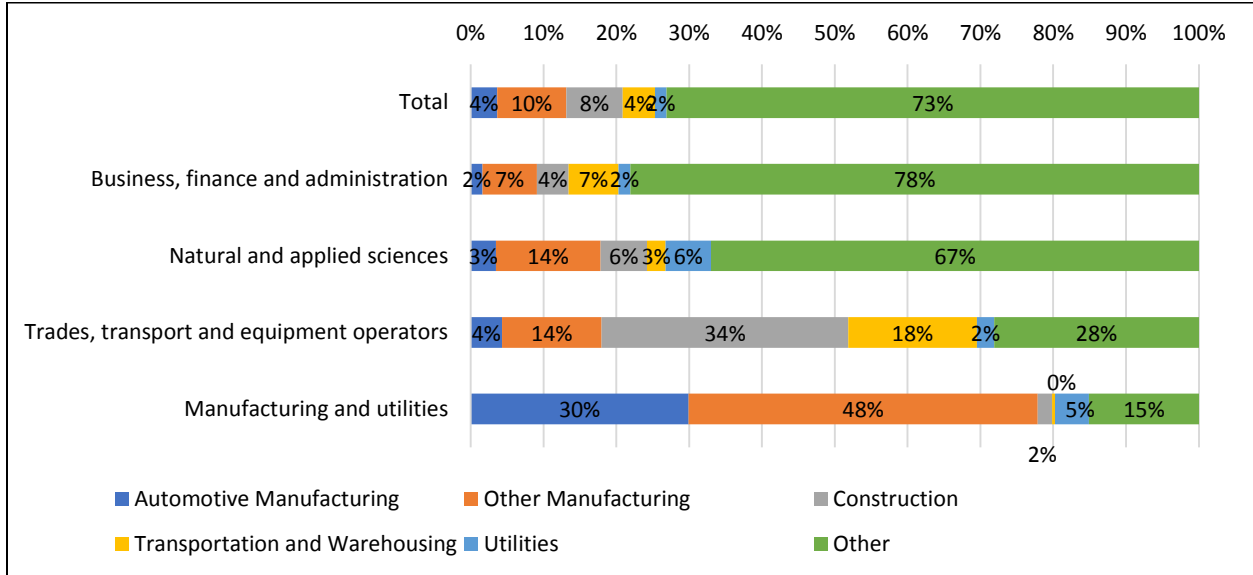
Competition from Other Industries

While the automotive manufacturing industry remains a premier employer, competing employment demands from other industries are worth analyzing for their potential impact on hiring decisions for key trades and occupations.

Overall, automotive manufacturing accounted for 4% of the Eastern Ontario region's total workforce in 2016. Among manufacturing and utilities occupations, however, the industry accounted for 30% of the

workforce. The primary competition for these occupations comes from other manufacturing employers (48%). Greater regional competition exists within other job families. For example, the construction industry accounted for 34% of region’s workforce employed in trades, transport and equipment operator positions. Regional growth in this industry could impact the availability of workers in this job family for automotive manufacturing employers.

Regional Workforce Distribution by Job Family and Sector, 2016



Source: Canadian Skills Training & Employment Coalition, Statistics Canada

Automotive Manufacturing Demographics

- section will be completed following receipt of Stats Can data order