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Provincial AUTOMOTIVE MANUFACTURING PROFILE:
Quebec

The project is a collaboration of the Canadian Skills Training and Employment Coalition, Prism Economics and Analysis, and the Automotive Policy Research Centre.

October 2019

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This report was prepared for the Auto Labour Market Information (LMI) Project.

The goal of the Auto LMI project is to help stakeholders better understand the automotive labour market. The Project will create industry-validated, regional, occupational supply and demand analyses and forecasts and skill profiles for skilled trades and other key skilled occupations in the broader automotive sector including vehicle assemblers, parts manufacturers and technology companies that supply the industry. The project will also examine various labour market trends in the sector and facilitate discussions among stakeholders about how to address any forecasted skills shortages and other labour market challenges. The planned outcome of the project is enhanced regional LMI that will support colleges, employers, policy makers and other stakeholders in taking practical steps to address skills shortages and other labour market challenges in the automotive sector.

This project is funded by the Government of Canada's Sectoral Initiatives Program. The opinions and interpretations in this publication are those of the author(s) and do not necessarily reflect those of the Government of Canada.

Canadian Skills Training and Employment Coalition, cstec.ca

Prism Economics and Analysis, prismeconomics.com

Automotive Policy Research Centre, automotivepolicy.ca

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Table of Contents

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Executive Summary

Quebec plays a critical role in Canada's economy, accounting for nearly 20% of total national GDP each year between 1997 and 2017. The province's GDP was an estimated $331 billion in 2018, 14% of which was generated by the manufacturing sector. Manufacturing is also a major employer in the province, accounting for 12% of the total labour force. Quebec has a positive economic outlook, with annual GDP growth of at least 1.9% projected through 2029. However, the province's manufacturing sector is expected to see its GDP growth slow in the coming years.

Quebec was also home to over 8.6 million people as of 2018, accounting for approximately 22% of Canada's total population. Quebec's population is expected to surpass 8.7 million by 2020 and total nearly 10.0 million people by 2030. Population growth in Quebec has largely been driven by migration over the past two decades. Net migration accounted for over 75% of the total change in the province's population in 2018. Population growth will likely continue to be driven primarily by migration, as a declining birth rate means little natural population change. The proportion of the total provincial population change accounted for by net migration is expected to surpass 95% by 2030 based on current trends. The province 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 18% in 2016 to 23% by 2030. The provincial unemployment rate, or the proportion of unemployed person in the labour force, was relatively low at 5.5% in 2018, just below the national average of 5.8%.

New motor vehicle sales in Quebec have risen slowly since 2010, increasing from under 420,000 in that year to 460,000 in 2018. However, the province's share of all Canadian vehicle sales has fallen from 26% to 23% over the same period. Additionally, Quebec had a trade deficit of $543 million in automotive products in 2018 due to a growing trade deficit in motor vehicle parts.

Quebec's automotive manufacturing industry employed an estimated 10,719 workers across 68 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 has remained relatively stable with its height in 2018. The province is home to bus assembly plants that employed an estimated 2,900 workers in 2018. Independent parts suppliers in Quebec employ nearly 8,000 workers. The largest automotive manufacturing-related employers in the province include New Flyer, Paccar, and Prevost.

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, South 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 sub-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 spurs 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 greenhouse gas (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 workforce[1]. 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" report[2].

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.

Under the North American Industry Classification System (NAICS) automotive manufacturing is traditionally defined as being comprised of two main sub-sectors: motor vehicle assembly (NAICS 3361), which includes chassis manufacturing, and motor vehicle parts manufacturing (NAICS 3363). These sub-sectors directly employ a combined 125,000 Canadians, based on data collected through the 2016 Census. However, this definition 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

[1] Tanguay, "Drive to Win"
[2] Canadian Automotive Partnership Council (CAPC), "A Call for Action: II

their output to automotive-related activities and are not always present within the automotive supply chain[3]. 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 3363[4]. 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 sector 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 busy 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. Establishments are classified 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"

The following industries will be included as part of the broader definition of the sector, in addition to the two main automotive manufacturing NAICS codes:

- Paint, coating and adhesive manufacturing (NAICS 3255)
- Plastic product manufacturing (NAICS 3261)
- Rubber product manufacturing (NAICS 3262)
- Glass and glass product manufacturing (NAICS 3272)
- Iron and steel mills and ferro-alloy manufacturing (NAICS 3311)
- Steel product manufacturing from purchased steel (NAICS 3312)
- Foundries (NAICS 3315)
- Forging and stamping (NAICS 3321)
- Cutlery and hand tool manufacturing (NAICS 3322)
- Architectural and structural metals manufacturing (NAICS 3323)
- Hardware manufacturing (NAICS 3325)
- Machine shops, turned product, and screw, nut and bolt manufacturing (NAICS 3327)
- Coating, engraving, cold and heat treating and allied activities (NAICS 3328)
- Computer and peripheral equipment manufacturing (NAICS 3341)
- Communications equipment manufacturing (NAICS 3342)
- Semiconductor and other electronic component manufacturing (NAICS 3344)
- Navigational, measuring, medical and control instruments manufacturing (NAICS 3345)
- Electric lighting equipment manufacturing (NAICS 3351)
- Electrical equipment manufacturing (NAICS 3353)
- Other electrical equipment and component manufacturing (NAICS 3359)
- Architectural, engineering and related services (NAICS 5413)
- Computer systems design and related services (NAICS 5415)
- Management, scientific and technical consulting services (NAICS 5416)
- Motor vehicle and motor vehicle parts and accessories merchant wholesalers (NAICS 415)

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:

1. A bottom up approach will use an establishment-level database to identify individual producers that are involved in the automotive supply chain.
2. A top down approach will use Statistics Canada's input-output tables, which track inter-industry transactions, to better understand the contributions to employment and output that establishments from non-automotive NAICS codes make to the sector.

Preliminary estimates based on this approach indicate the broader automotive manufacturing sector employed roughly 177,000 workers in Canada as of 2015.

Introduction

Quebec is the second largest province in terms of population, as it is home to 23% of Canada's population and covers a land area of 1.3 million square kilometers.

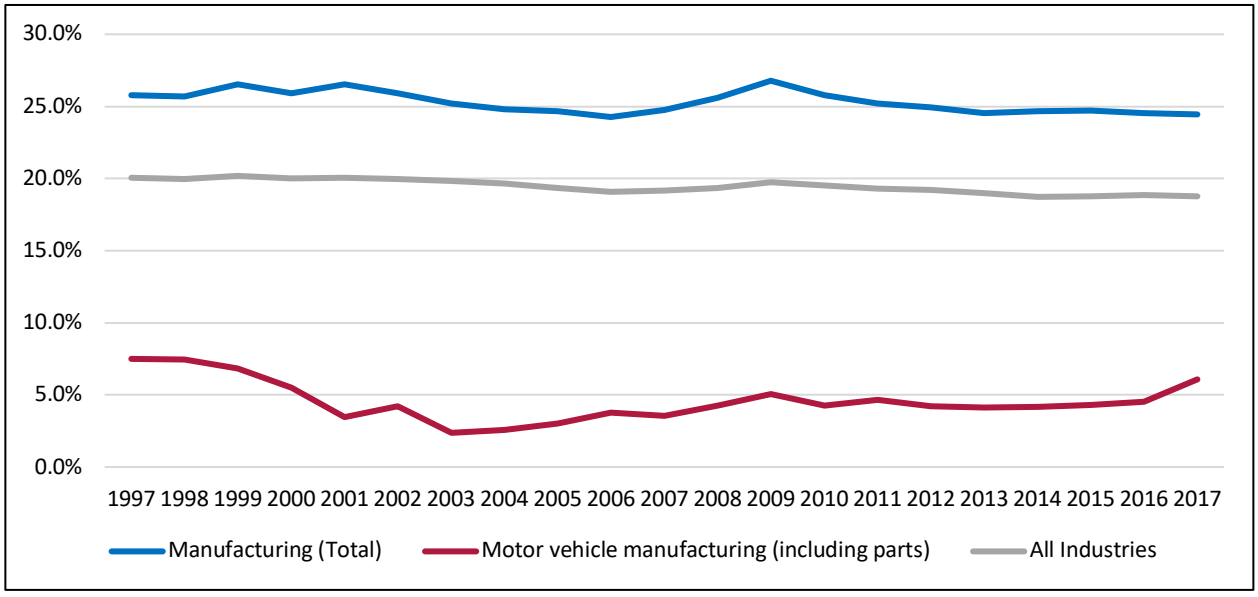
This provincial profile includes three main sections. First, a discussion of the provincial economy, including outlooks for GDP. Next, a section outlining labour considerations with respect to the province's population, demographic characteristics and overall workforce. Finally, an overview of the province's automotive manufacturing industry, including recent trends, key employers and occupations. A separate profile has also been prepared for the Montreal region.

All data presented in this profile are provincial averages. 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).

Provincial Economy

Quebec is Canada's second largest provincial economy and from 1997 to 2017 it has supplied roughly 25% of national manufacturing GDP. Furthermore, its automotive manufacturing industry accounted for between 2% and 8% of national automotive manufacturing GDP.

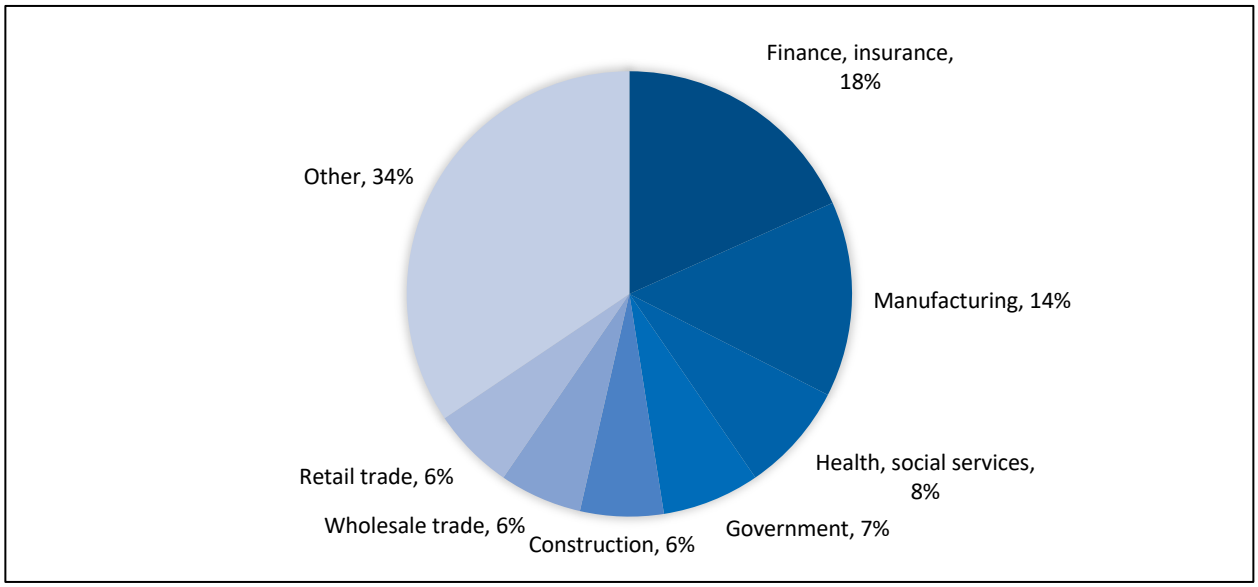
Provincial Shares of National GDP, 1997-2018



Source: Canadian Skills Training & Employment Coalition, Statistics Canada

Quebec's GDP totaled an estimated $331 billion dollars in 2017. Finance and insurance was the largest single contributor to the province's GDP of any sector, accounting for nearly one-fifth (18%) or approximately $191 billion. The next largest sector, real estate and rental and leasing, accounted for 11% of the provincial economy. Other major sectors in the province include construction (8% of GDP), finance and insurance (8%), and wholesale trade (7%).

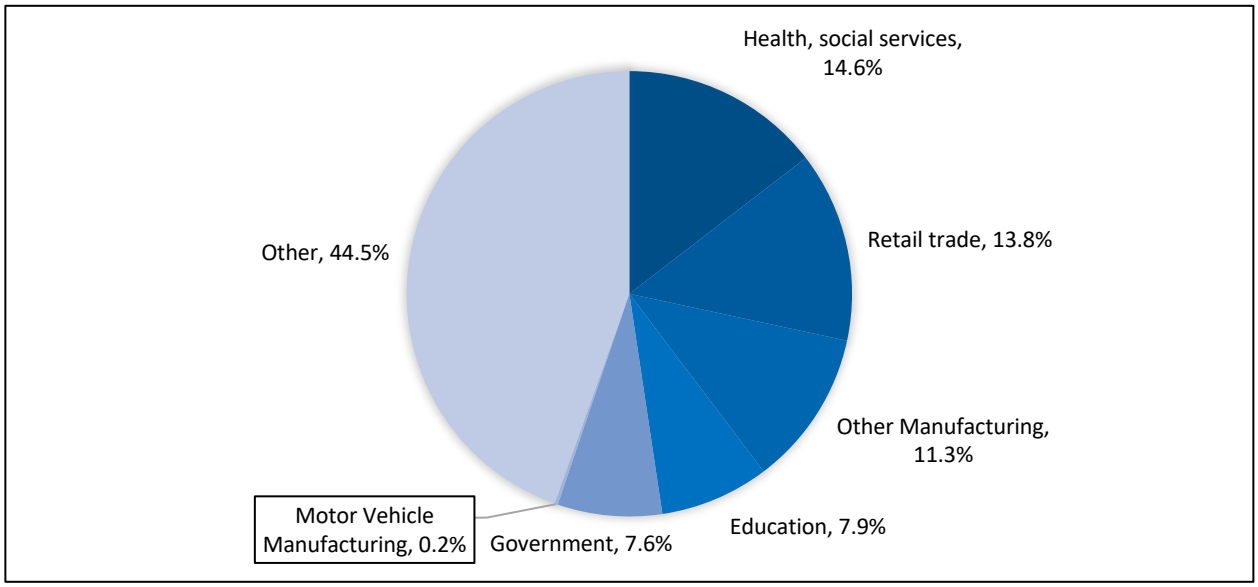
Provincial GDP Shares by Sector, 2017



Source: Canadian Skills Training & Employment Coalition, Statistics Canada

The province's largest sectors by workforce size include health and social services (14.% of the total provincial workforce), retail trade (13.8%), and other manufacturing (11.3%), while motor vehicle manufacturing makes up 0.2%.

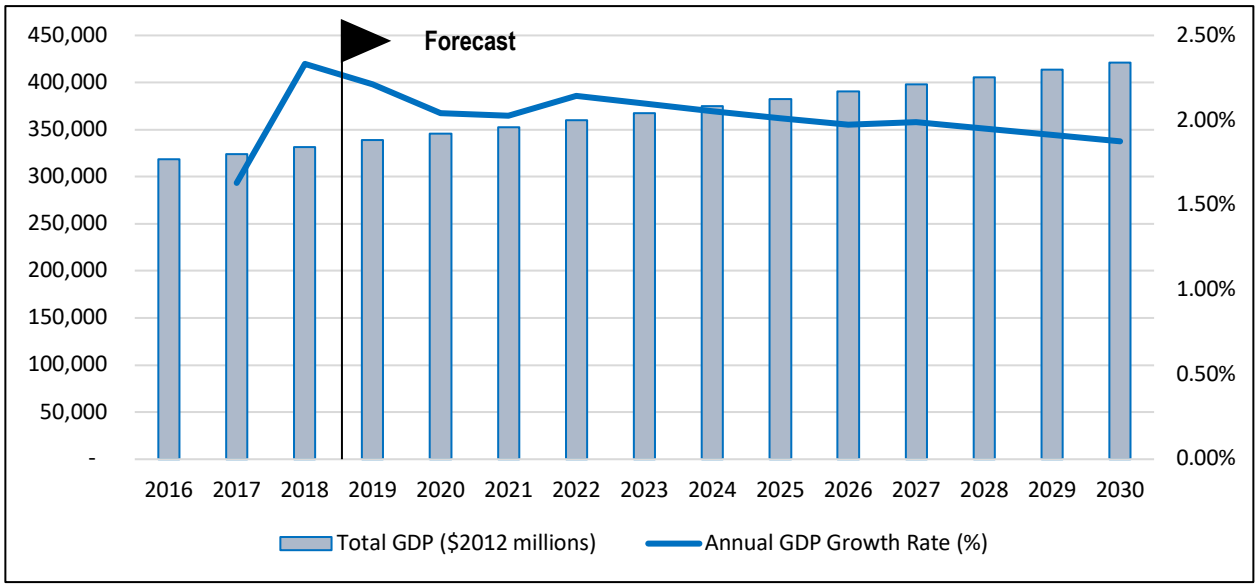
Provincial Labour Force Shares by Sector, 2016



Source: Canadian Skills Training & Employment Coalition, Statistics Canada

The province's economic outlook is expected to be positive over the coming decade. Provincial GDP is expected to grow 2.21% in 2019 and 2.03% in 2021, surpassing $552 billion. Furthermore, annual GDP growth of at least 1.9% is projected for every year from 2019 to 2029, surpassing $89 billion, with 1.8% growth projected in 2030.

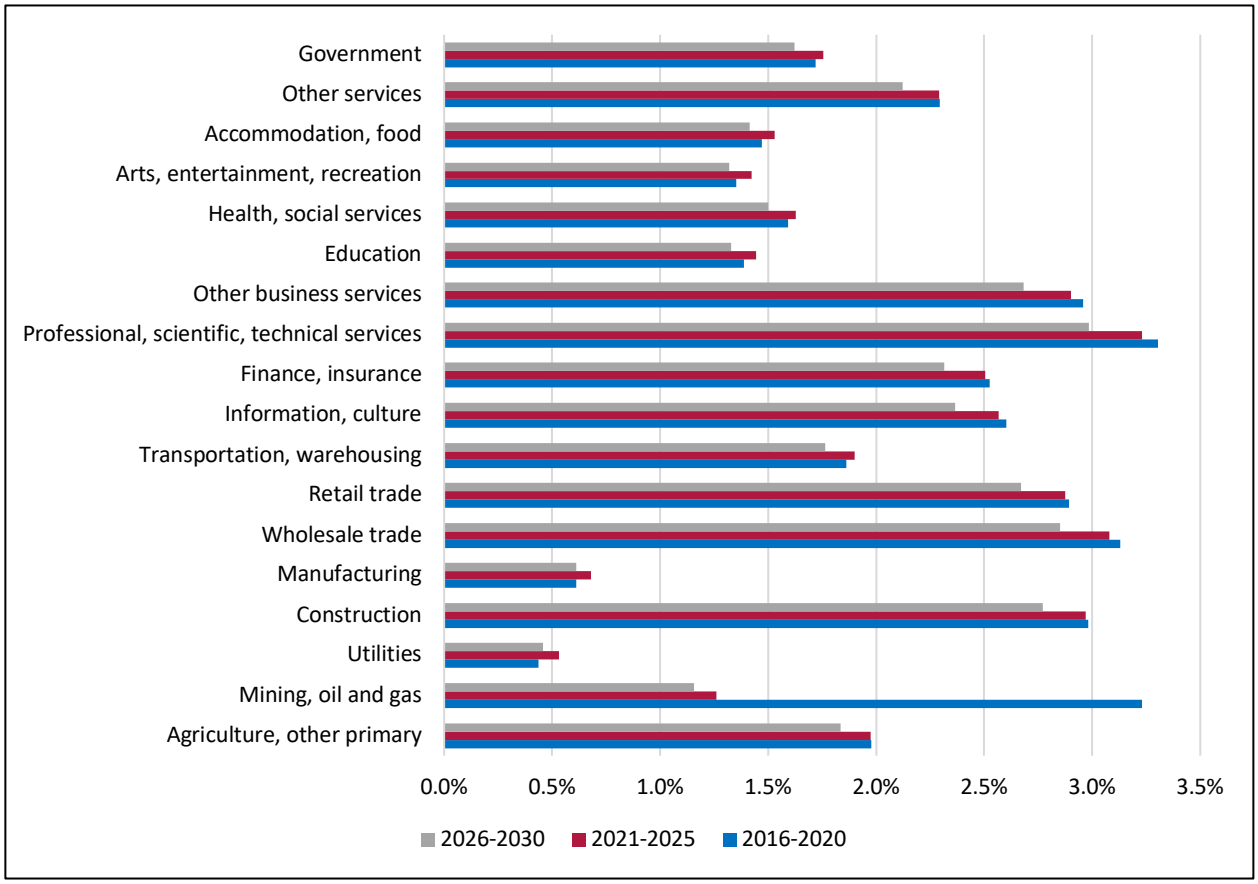
Provincial GDP Outlook, 2016-2030



Source: Canadian Skills Training & Employment Coalition, Metro Economics

While the province's overall GDP growth outlook is healthy, projections by sector vary significantly. In the near term, industries such as mining and oil (3.2%), construction (3.0%), and retail trade (2.9%) have experienced strong GDP growth and will continue to do so through 2020. Wholesale trade (3.1%) is expected to experience the strongest growth between 2021 and 2025, while manufacturing (0.7%) and utilities (0.5%) are expected to see little growth during the same period. Both professional and scientific services (3.0%) and wholesale trade (2.9%) 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. Growth is projected to fall to 0.6% for the 2026-2030 period.

Annual Average Provincial GDP Growth by Sector, 2016-2030



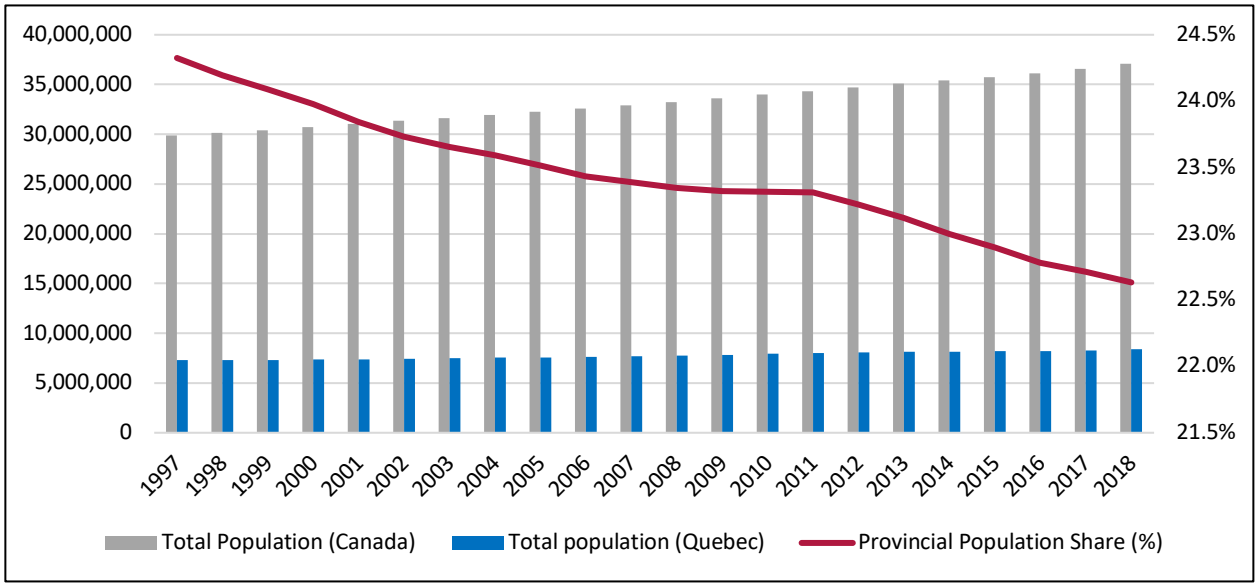
Source: Canadian Skills Training & Employment Coalition, Metro Economics

Provincial Labour Considerations

Population, Age Distribution and Provincial Diversity

Quebec was home to over 8.6 million people as of 2018, second only to Ontario among Canada's provinces. The provincial population share has declined slightly over the past two decades, falling from 24.2% of Canada's total population in 1997 to 22.6% in 2018. Quebec's largest population centre is the Montreal Census Metropolitan Area (CMA) which is home to nearly 50% of the provincial population.

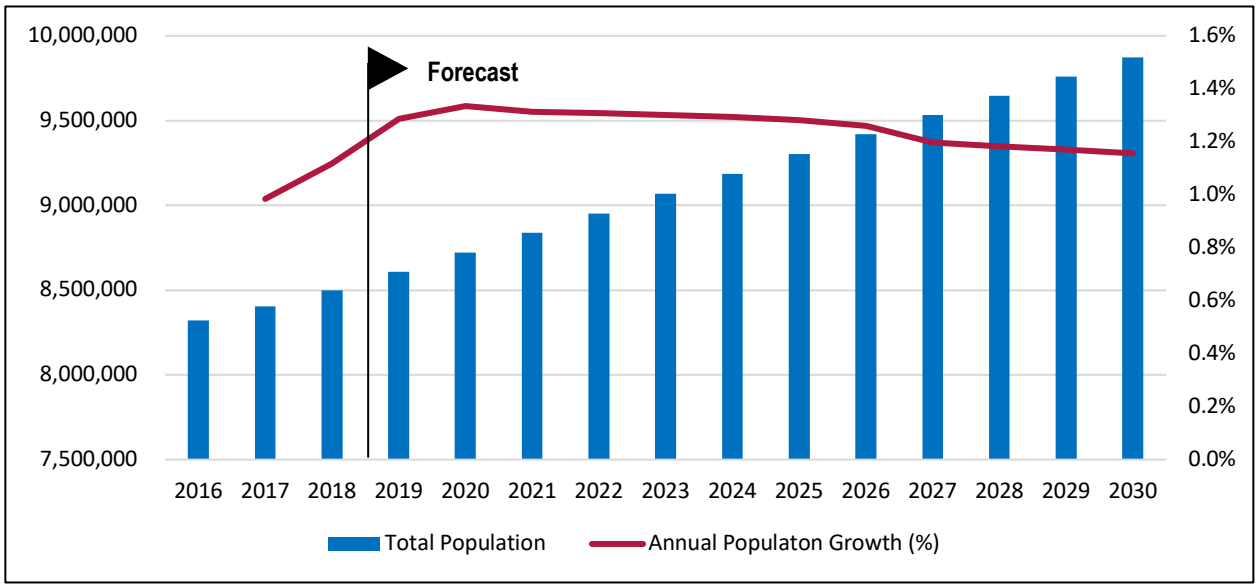
Total Provincial Population Trend, 1997-2018



Source: Canadian Skills Training & Employment Coalition, Statistics Canada

Looking ahead, the province's population is expected to reach 8.7 million people by 2020. The population is then expected to grow by 5.3% between 2021 and 2025 to 9.3 million. However, population growth is expected to slow to 4.8% over the latter half of the next decade, reaching 9.8 million by 2030.

Total Provincial Population Outlook, 2016-2030

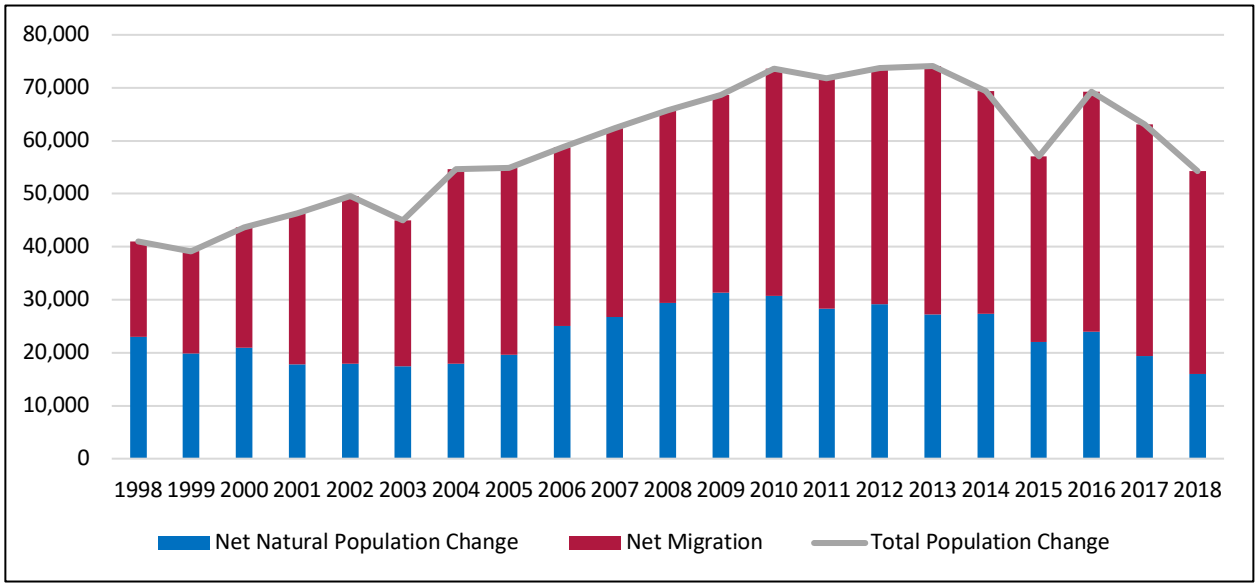


Source: Canadian Skills Training & Employment Coalition, Metro Economics

Changes in total population occur through net natural population change (i.e. the difference between the number of births and deaths in a province) and net migration (i.e. the difference between the number of people moving in and out of a province). Categorizing a province'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 province.

Population growth in Quebec has largely been driven by migration over the past two decades. Net migration accounted for over 75% of the total change in the province's population in 2018. Moreover, total provincial population change fell noticeably in years where net migration declined, as in 2003 and 2015.

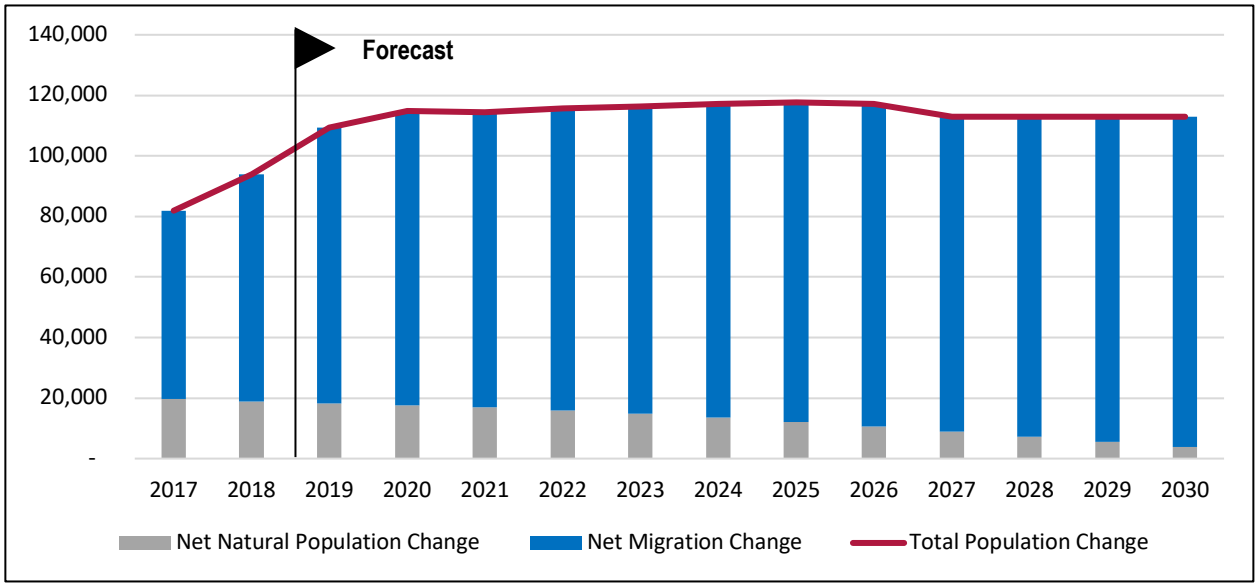
Total Provincial Population Change Trend, 1998-2016



Source: Canadian Skills Training & Employment Coalition, Statistics Canada

Quebec's reliance on migration to drive population growth is expected to increase over the coming decade. The proportion of the total provincial population change accounted for by net migration is expected to surpass 95% by 2030 based on current trends. Natural population change is expected to see its contribution to population growth diminish due to projected declines in the number of births and increasing deaths as a result of an aging population, particularly over the latter half of the next decade. Overall, Quebec is expected to add an average of nearly 110,000 people to its population annually through 2030.

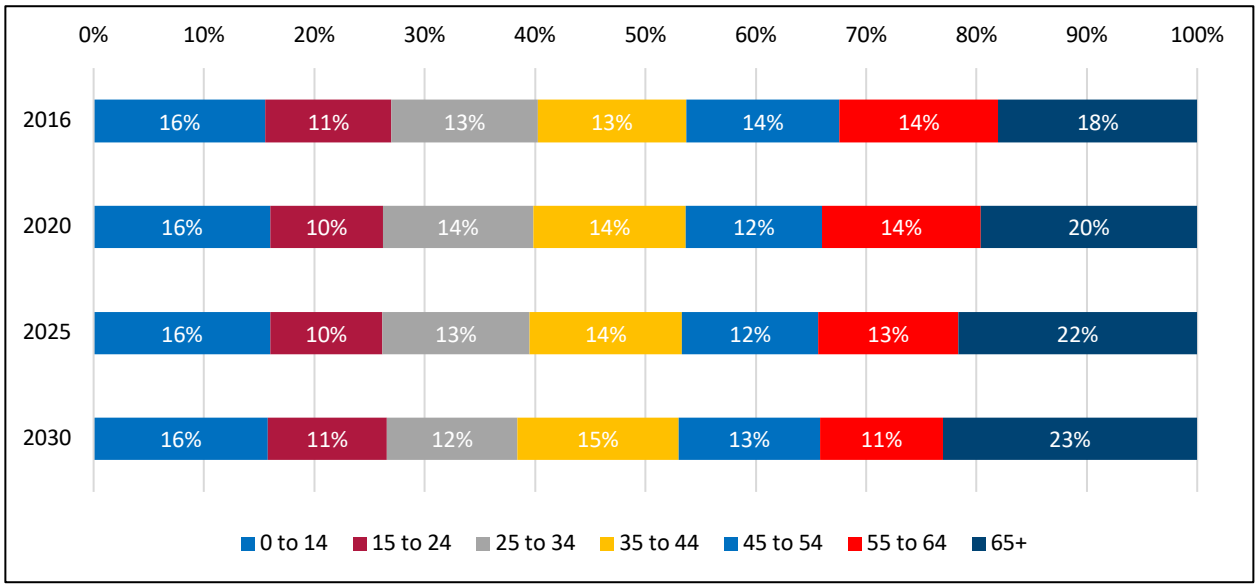
Total Provincial Population Change Outlook, 2016-2030



Source: Canadian Skills Training & Employment Coalition, Statistics Canada

The province's age distribution is also expected to shift in the coming years. In 2018, an estimated 18% of the province's population were 65 years of age or older; that proportion is expected to rise to 23% by 2030. The province will 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 remain between 10% and 11% during the period. This is notable as this cohort is traditionally the largest source of new entrants to the labour force.

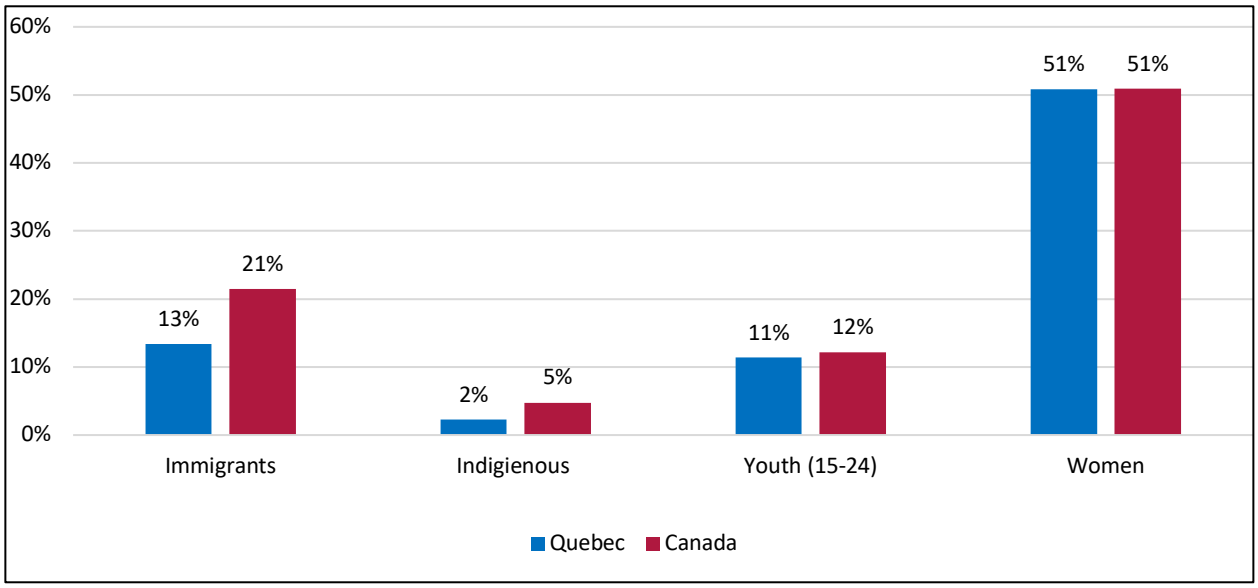
Provincial Population Outlook by Age Distribution, 2016-2030



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 province's total population can illustrate the magnitude of the untapped potential for the industry. The shares of these groups in the province's population are generally on par with national averages. The province had similar shares of immigrants, Indigenous peoples, youth and women as the national population as of 2016. However, immigrants represent just 13% of Quebec's population, compared to 21% for Canada as a whole.

Provincial and National Population Diversity, 2016



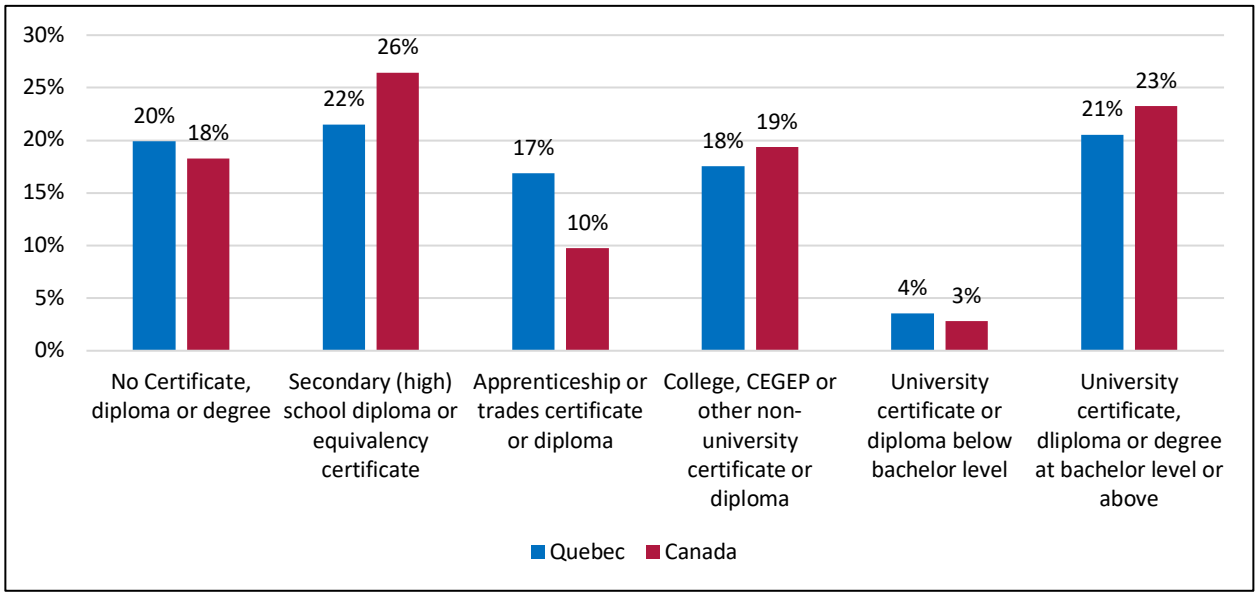
Source: Canadian Skills Training & Employment Coalition, Statistics Canada

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 provincial educational attainment rates to national averages can help identify what skills the province needs to cultivate internally or attract externally.

Under half (44%) of people in the Quebec province 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 44% for Canada as a whole. The province also had a slightly higher share of people with apprenticeship or trades certificate (17%) than the national average (10%). Conversely, 21% of the province had a university degree at bachelor level or above, compared to 23% for Canada.

Provincial and National Educational Attainment, 2016

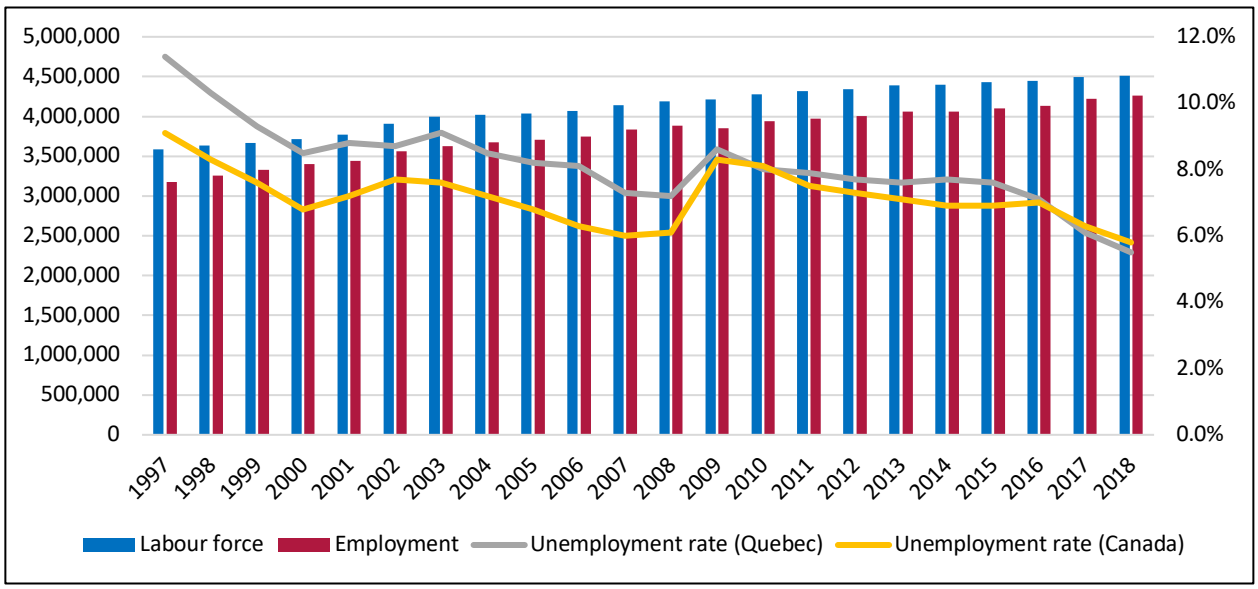


Source: Canadian Skills Training & Employment Coalition, Statistics Canada

Labour Market Activity

Total employment in Quebec was an estimated 4.3 million in 2018, while the province's labour force, including both the employed and those who are unemployed and actively seeking work, totaled 4.5 million. The unemployment rate, or the proportion of unemployed persons in the labour force, was 5.5%. This was a decline from both 2016 and 2017, when the unemployment rate was 7.1% and 6.1% respectively.

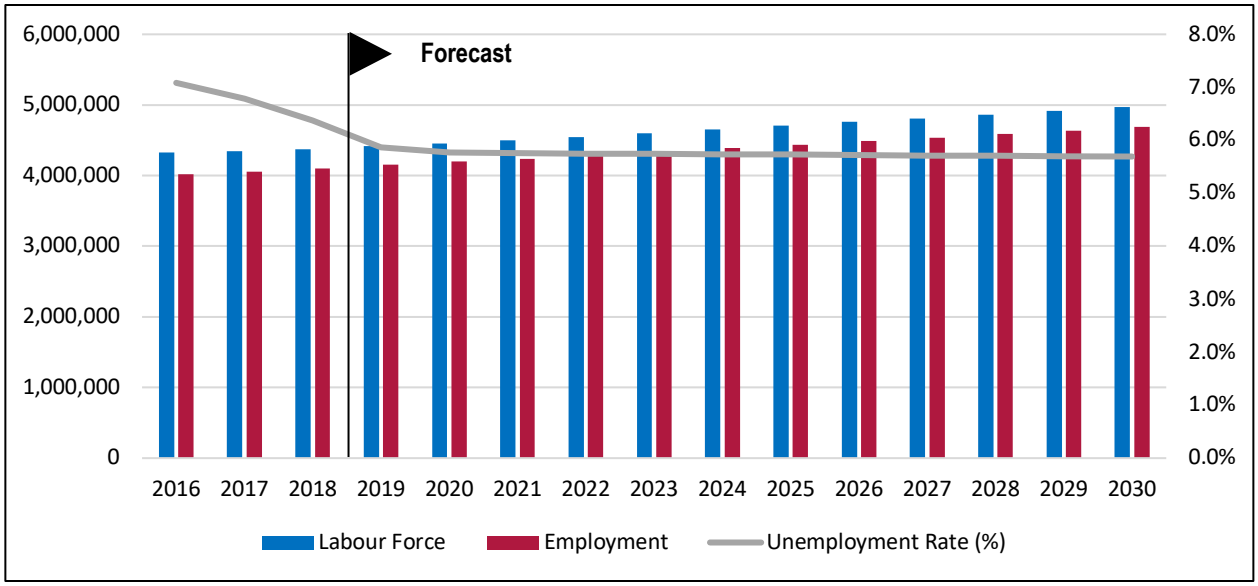
Total Provincial Employment Trend, 1997-2018



Source: Canadian Skills Training & Employment Coalition, Statistics Canada

Looking ahead, Quebec is projected to have a labour force of 5 million workers and employment of over 4.5 million by 2030. Provincial employment is expected to grow by 5.5% between 2021 and 2025 and 4.8% between 2026 and 2030. Finally, the province's unemployment rate is projected to fall to 5.8% by 2020 before stabilizing over the coming decade.

Total Provincial Employment Outlook, 2016-2030



Source: Canadian Skills Training & Employment Coalition, Metro Economics

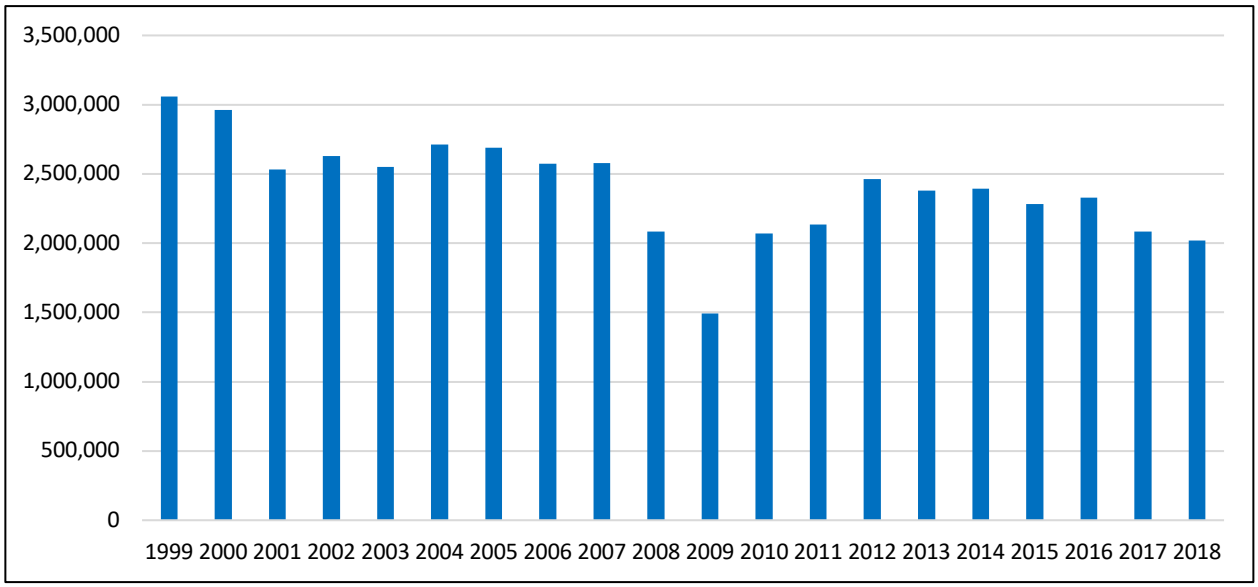
Provincial Automotive Manufacturing Analysis

The following sections use data based on a broader definition of the automotive manufacturing industry where applicable, including the traditional industry codes (NAICS 3361 and 3363) as well as an additional set of industries. Please refer to the Project Background section of this report for more details.

Recent Automotive Manufacturing Trends

Canadian vehicle assembly plants built just over 2 million vehicles in 2018. The number of vehicles manufactured annually in Canada decreased over the past decade as a result of production curtailments at a small number of assembly plants. However, most Canadian assembly plants are currently operating at between 80% and 100% capacity, and several companies recently made significant investments that ensure the long-term viability of their Canadian assembly plants.

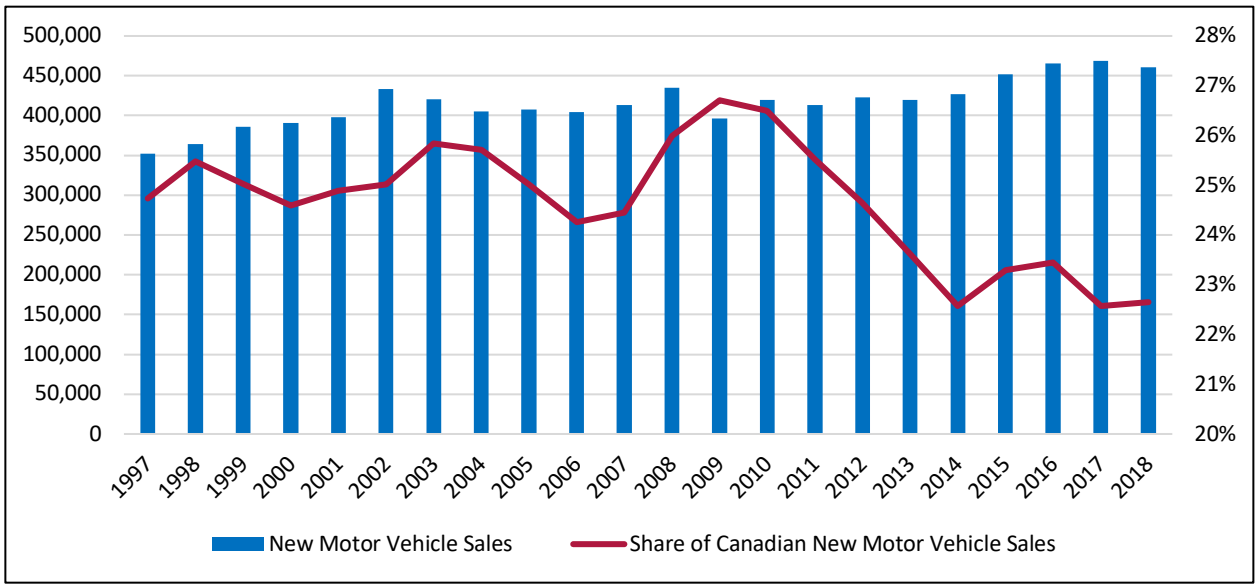
National Motor Vehicle Production (Units), 1999-2018



Source: Canadian Skills Training & Employment Coalition, Automotive News Canada, International Organization of Motor Vehicle Manufacturers

New motor vehicle sales in Quebec reached their highest levels in the past decade in 2017, with over 468,810 units sold. Sales in Quebec accounted for 23% of Canada's total new motor vehicle sales in 2018, a slight decline from 26% in 2010. Consumer demand has fully recovered from a swoon during the recession, when sales fell below 400,000 units. While sales were high in 2017, they dipped slightly in 2018, indicating that the cycle of rapid increases seen in the post-recession period may be coming to an end.

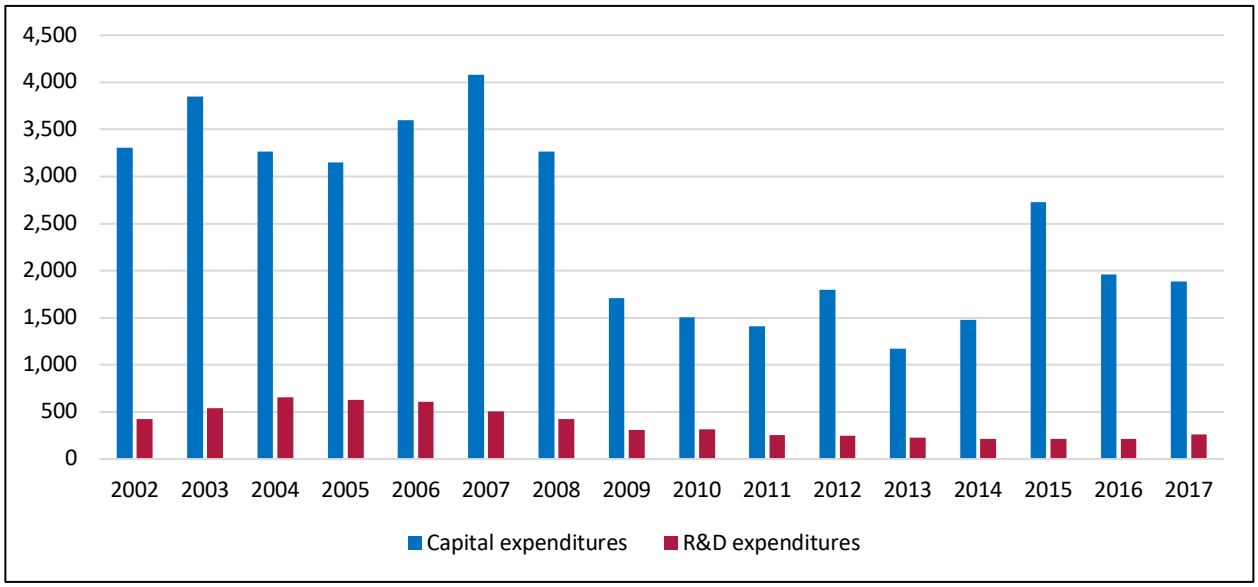
Provincial New Motor Vehicle Sales (Units), 1997-2018



Source: Canadian Skills Training & Employment Coalition, Statistics Canada

Canadian automotive manufacturing capital expenditures were just under $1.9 billion in 2017. Annual capital expenditures averaged just over $1.7 billion between 2009 and 2017. Most capital expenditures went towards upgrading existing facilities. Canadian automotive OEMs and parts manufacturers spent an additional $261 million on business enterprise R&D in 2017. R&D spending increased by nearly $50 million from 2016 as industry stakeholders and policymakers emphasized Canada's role in the development of software and other new vehicle technologies. However, both capital and R&D expenditures remain far below their levels from the early and mid-2000s.

National Capital and R&D Expenditures ($ millions), 2002-2017

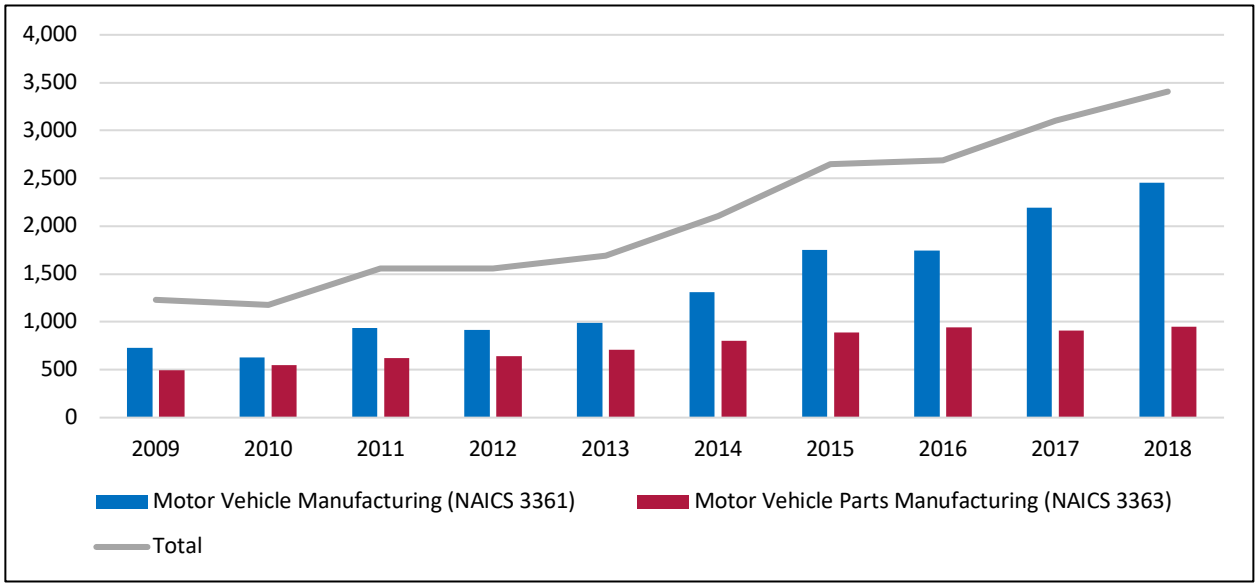


Source: Canadian Skills Training & Employment Coalition, Statistics Canada

Canada's automotive manufacturing industry is heavily dependent on foreign trade. The vast majority (as high as 85%) of vehicles built in Canada are exported. Nearly all of these vehicles are destined for the United States. While a large proportion of Canadian automotive parts production is destined for vehicle assembly and parts manufacturing facilities in Canada, the bulk of automotive parts exports are also destined for the United States. The United States is also the largest source of Canadian vehicle and parts imports, followed by Mexico. Japan, Germany and South Korea are important sources of vehicle imports, while China and Japan supply parts imports. Overall, Canada had a deficit in the trade of both vehicles and automotive parts in 2018, leading to a record $24.6 billion deficit in the trade of automotive products. Both the renegotiated trade deal with the United States and Mexico, known as CUSMA, and new trade deals such as CETA and the CPTPP are expected to impact Canada's trade of automotive products.

Trends in Quebec' automotive manufacturing trade closely mirror those seen nationally. Total automotive exports in 2018 were 3.4 billion, nearly three-quarters of which were accounted for by assembled vehicles. Export value has increased consecutively since 2010, reaching a high in 2018.

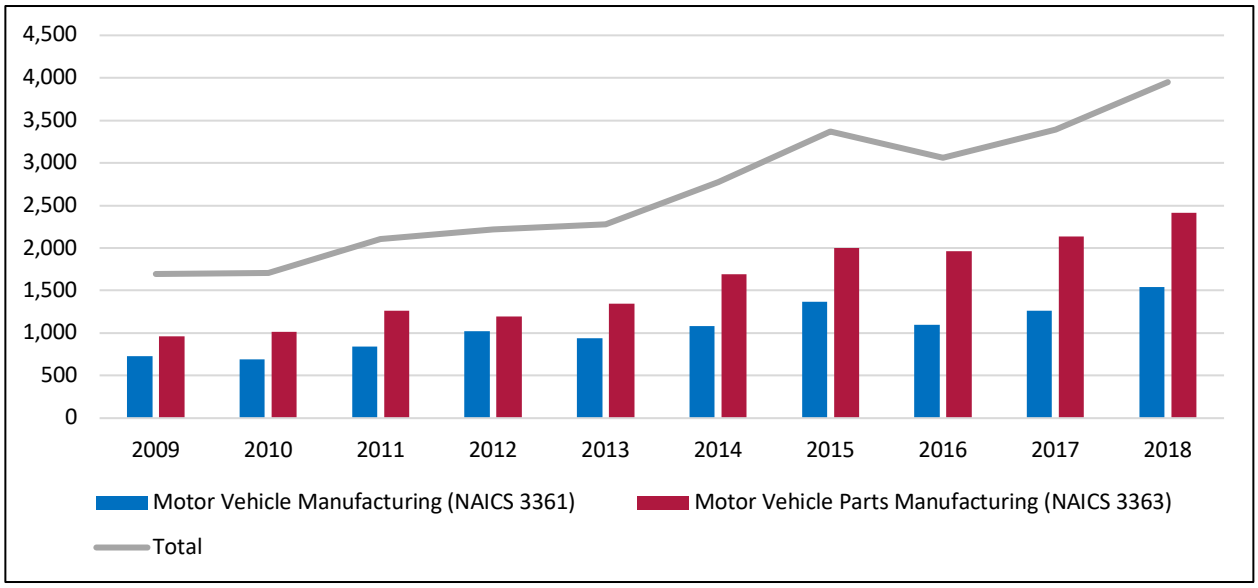
Provincial Automotive Exports ($ millions), 2009-2018



Source: Canadian Skills Training & Employment Coalition, Statistics Canada

Total automotive imports in 2018 were valued at $4 billion, with a much more even split between vehicles (39%) and parts (61%) than was seen for exports. Imports declined between 2015 and 2016, but have largely seen an increasing trend over the past decade.

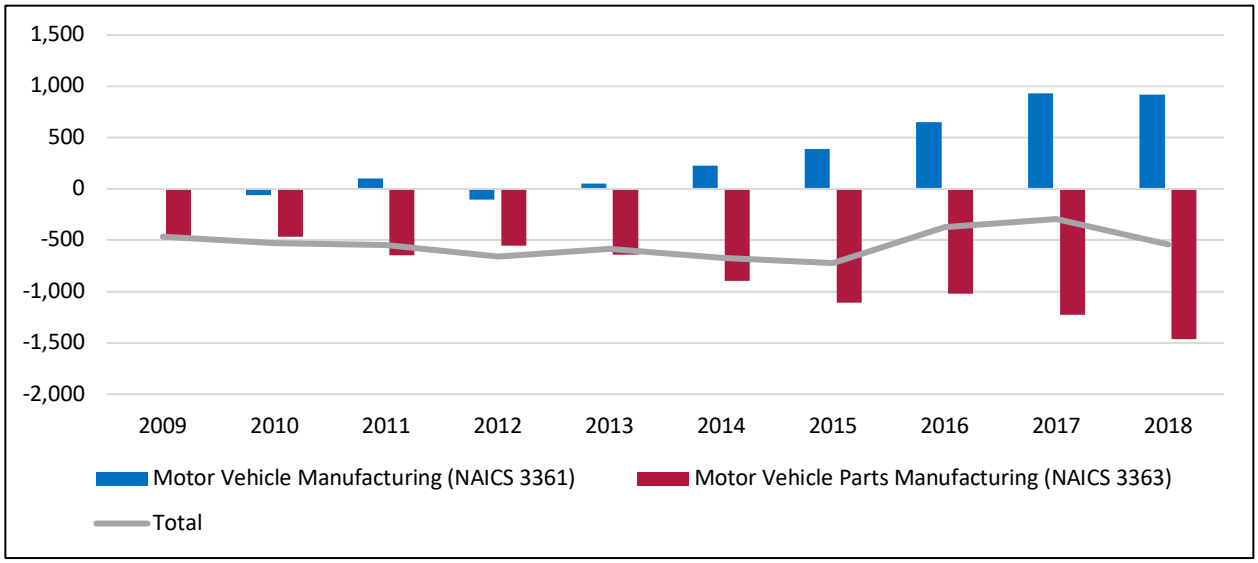
Provincial Automotive Imports ($ millions), 2009-2018



Source: Canadian Skills Training & Employment Coalition, Statistics Canada

Overall, Quebec had a trade deficit of $543 million in automotive products in 2018. Quebec has historically had a deficit in the trade of automotive parts and has had a surplus in the trade of vehicles since 2014. While that remained true in 2018 the trade surplus in vehicles was $918 million, which was slightly lower than the $932 million in 2018 and not enough to counteract the $1.46 billion trade deficit in parts.

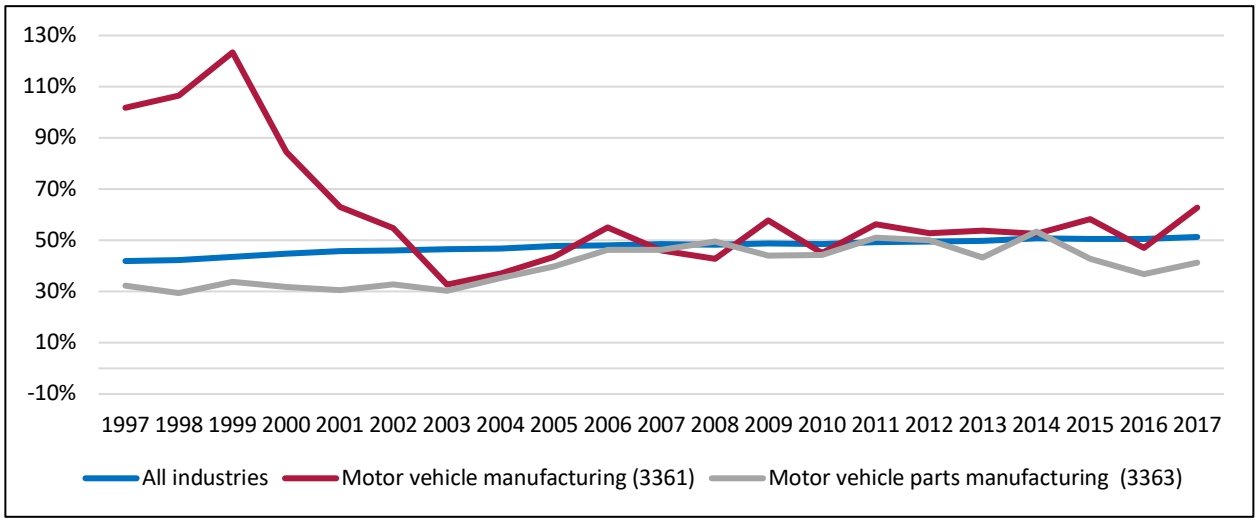
Provincial Automotive Trade Balance ($ millions), 2009-2018



Source: Canadian Skills Training & Employment Coalition, Statistics Canada

Labour productivity is defined as the ratio between real output and hours worked. Between 1999 and 2003 labour productivity in vehicle assembly fell dramatically and since then has remained relatively stable around 50%. Productivity changes in parts manufacturing were less volatile, increasing 9% over the same period and remaining on par with the average across all industries.

Provincial Automotive Labour Productivity, 1997-2017

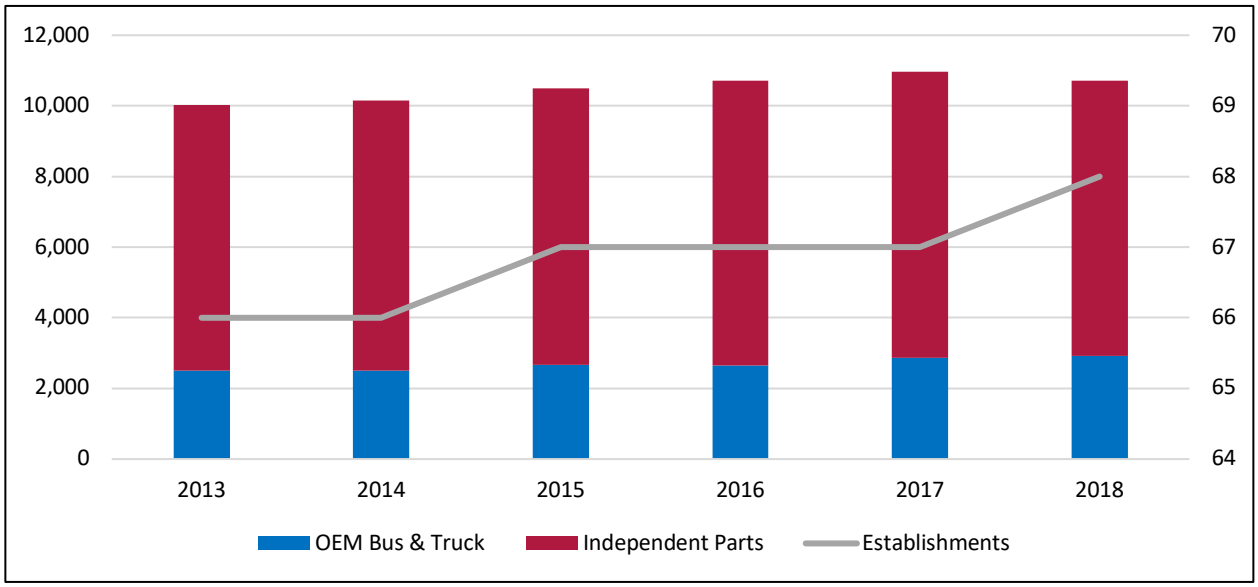


Source: Canadian Skills Training & Employment Coalition, Statistics Canada

Profile of Automotive Manufacturing Employment

Quebec has a diverse motor vehicle manufacturing industry that includes bus and truck manufacturers and a network of automotive parts manufacturers. Parts manufacturers focus on aluminum, rubber, and electronics. Quebec also has an emerging automotive technology cluster that includes EV component manufacturers, LIDAR technology firms, and software developers. Denso, one of the world's largest automotive parts and technology manufacturers, recently opened a software development centre in Montreal that focuses on AI.

Provincial Automotive Manufacturing Employment by Activity, 2013-2018

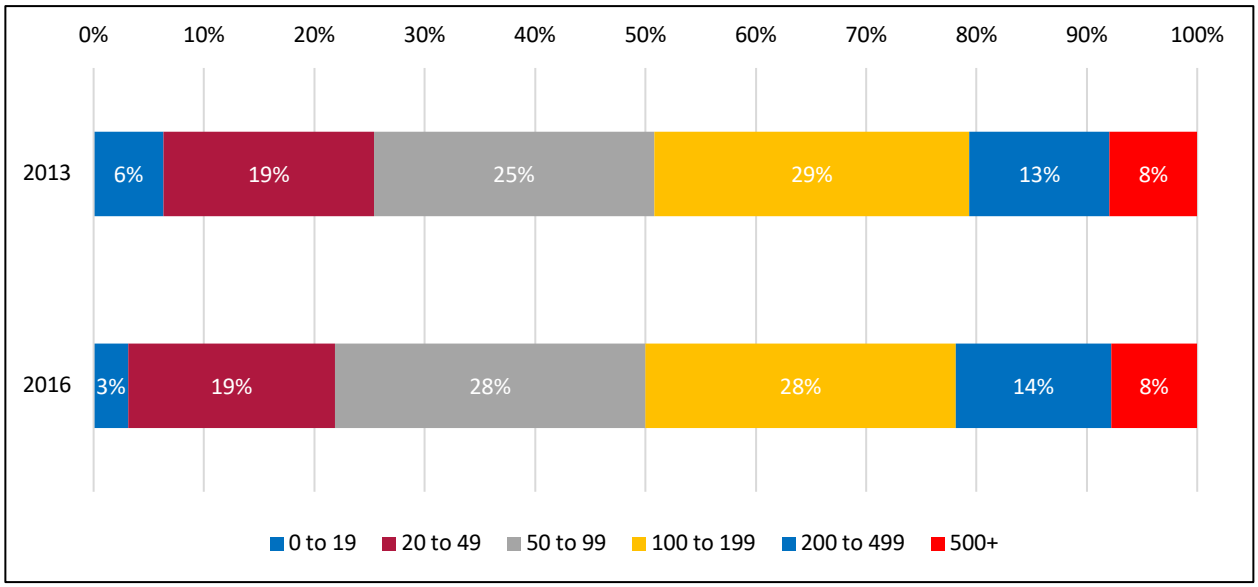


Source: Canadian Skills Training & Employment Coalition, Automotive Policy Research Centre

Profile of Automotive Manufacturing Employers

Statistics Canada's business counts data provides insights into the mix of business types present in the Quebec province's automotive manufacturing industry. A comparison of data from 2013 and 2016 reveals that the proportion of small-sized automotive manufacturing establishments (i.e. 1 to 99 employees) remained stable. The province also saw the share of medium-sized automotive manufacturing establishments (i.e. 100 to 199 employees) remained stable in both 2013 and 2016.

Provincial Automotive Manufacturing Establishments by Employment Size, 2013-2016



Source: Canadian Skills Training & Employment Coalition, Statistics Canada

The largest OEM automotive manufacturing-related employers in the Quebec province include Volvo Group with three operations. Additionally, Paccar and Toyoda Gosei operations employ over 1,700 employees in the province. Taken together, the province's top employers employed 6,300 people in 2018, based on findings from industry contacts, company websites, industry literature and other sources of publicly available data.

Largest Provincial Automotive Manufacturing-Related Employers, 2018

Employer	Plants	Employees
Nova Bus (Volvo Group)	2	975
Paccar	1	925
Prevost (Volvo Group)	1	900
Toyoda Gosei	2	885
Spectra Premium	3	845
Kongsberg Automotive	1	530
DBM Reflex	3	350
Koyo Bearings (J-Tekt)	1	325

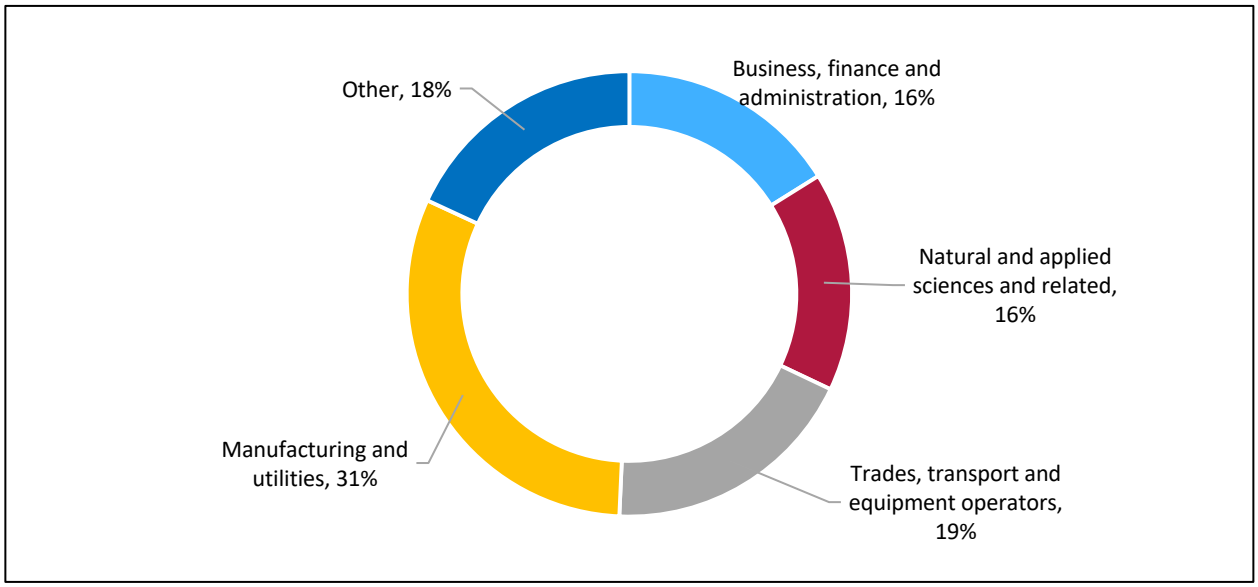
Source: Canadian Skills Training & Employment Coalition, Automotive Policy Research Centre

Automotive Manufacturing Labour Market

Workers in Quebec'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 almost one-third (31%) of the province's automotive manufacturing workforce. A further 19% is accounted for by trades, transport and equipment operators. The remaining workers are split between business, finance and administration occupations (16%); natural and applied sciences occupations (16%); and all other occupation types (18%).

Provincial Automotive Manufacturing Workforce by Job Family, 2016



Source: Canadian Skills Training & Employment Coalition, Statistics Canada

A more granular analysis of the province's automotive manufacturing workforce shows that nearly 5% of the industry's workforce are classified by Statistics Canada as motor vehicle assemblers, inspectors and testers (NOC 9522). This occupational code covers a range of activities including[5]:

- 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 province's automotive manufacturing workforce include mechanical assemblers and inspectors (NOC 9526), welders and related machine operators (NOC 7237), manufacturing managers (NOC 0911), and mechanical engineers (NOC 2132). The following table lists the occupations that make up the province's automotive manufacturing workforce:

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

Key Provincial Automotive Manufacturing Occupations and Trades, 2016

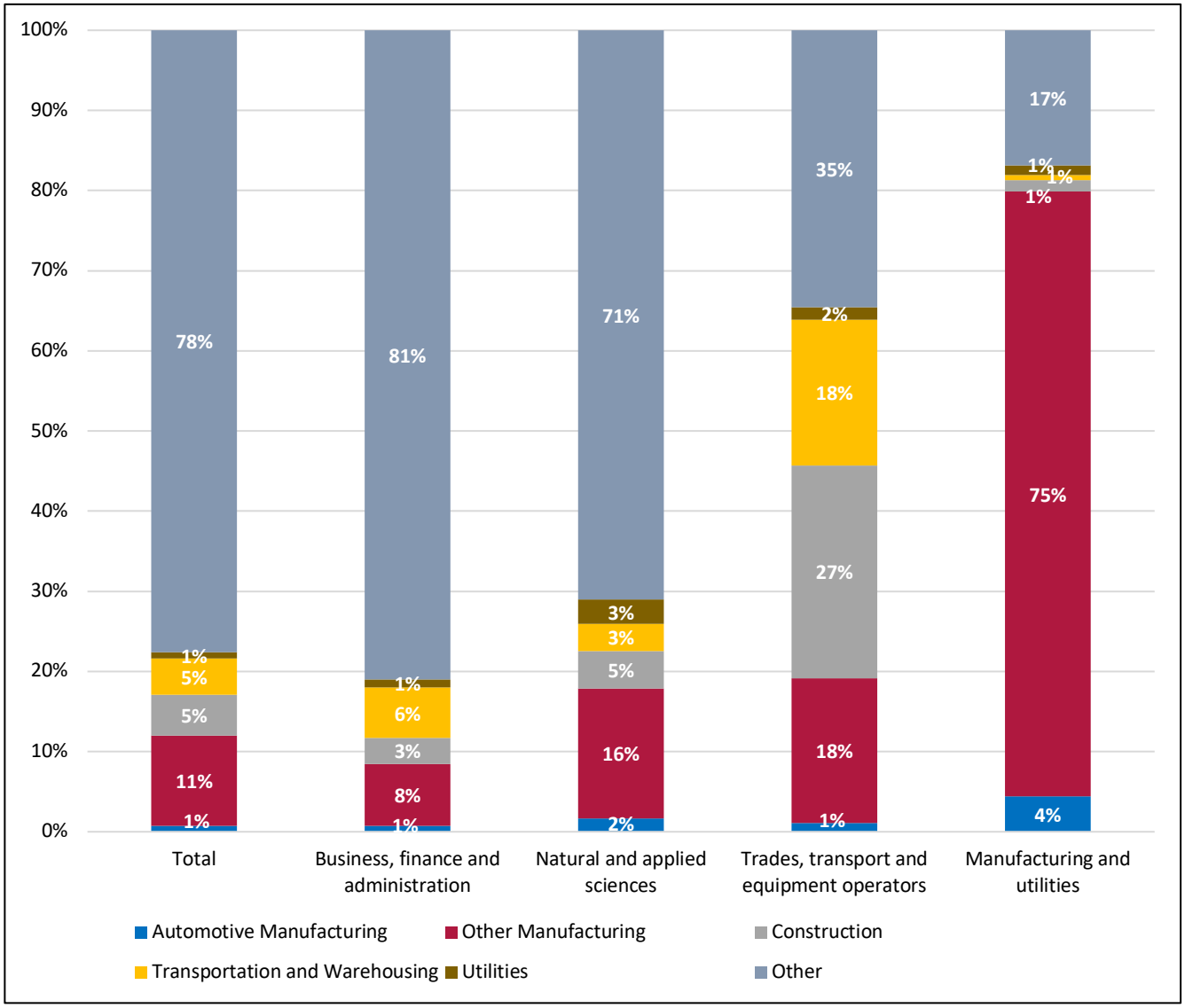
Occupation	Automotive Manufacturing Employment	Share of Automotive Manufacturing Employment
Motor vehicle assemblers, inspectors and testers (NOC 9522)	995	4.1%
Manufacturing managers (NOC 0911)	840	3.5%
Welders and related machine operators (NOC 7237)	810	3.4%
Machinists and machining and tooling inspectors (NOC 7231)	740	3.1%
Mechanical assemblers and inspectors (NOC 9526)	715	3.0%
Material handlers (NOC 7452)	555	2.3%
Mechanical engineers (NOC 2132)	515	2.1%
Plastics processing machine operators (NOC 9422)	500	2.1%
Construction millwrights and industrial mechanics (NOC 7311)	495	2.1%
Foundry workers (NOC 9412)	480	2.0%
Shippers and receivers (NOC 1521)	445	1.9%
Other labourers in processing, manufacturing and utilities (NOC 9619)	420	1.8%
Automotive service technicians, truck and bus mechanics and mechanical repairers (NOC 7321)	415	1.7%
Electronics assemblers, fabricators, inspectors and testers (NOC 9523)	405	1.7%
Senior managers - construction, transportation, production and utilities (NOC 0016)	405	1.7%
Electrical and electronics engineering technologists and technicians (NOC 2241)	395	1.6%

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 roughly 1% of Quebec`s total workforce in 2016. Among manufacturing and utilities occupations the industry accounted for 4% of the workforce. The primary competition for these occupations comes from other manufacturing employers (75%). Greater provincial competition exists within other job families. For example, the construction industry accounted for 27% of province's workforce employed in trades, transport and equipment operator positions. Provincial growth in this industry could impact the availability of workers in this job family for automotive manufacturing employers.

Provincial Workforce Distribution by Job Family and Sector, 2016

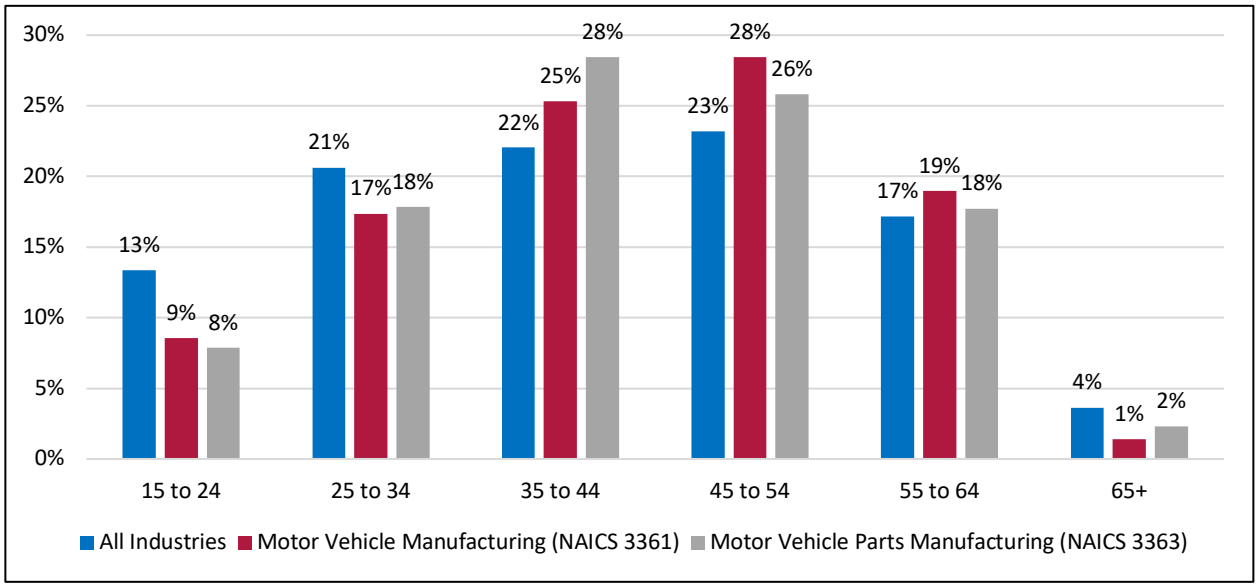


Source: Canadian Skills Training & Employment Coalition, Statistics Canada

Automotive Manufacturing Demographics

The age distribution of Quebec province's automotive manufacturing workforce is distinct from that of the province's total workforce across all industries. Notably, 9% of motor vehicle manufacturing workers and 8% of motor vehicle parts manufacturing workers were between the ages of 15 and 24 as of 2016. In contrast, 13% of the province's total workforce belonged to the 15-24 age cohort. New entrants to the workforce are critical for sustaining long-term growth for the industry. The province's automotive manufacturing workforce consists of more mid-career workers, with higher proportions of the workforce belonging to the 35-44 and 45-54 age cohorts. The province's total workforce has a similar share of workers aged 55+ (21%) compared to motor vehicle manufacturing (20%) and motor vehicle parts manufacturing (20%).

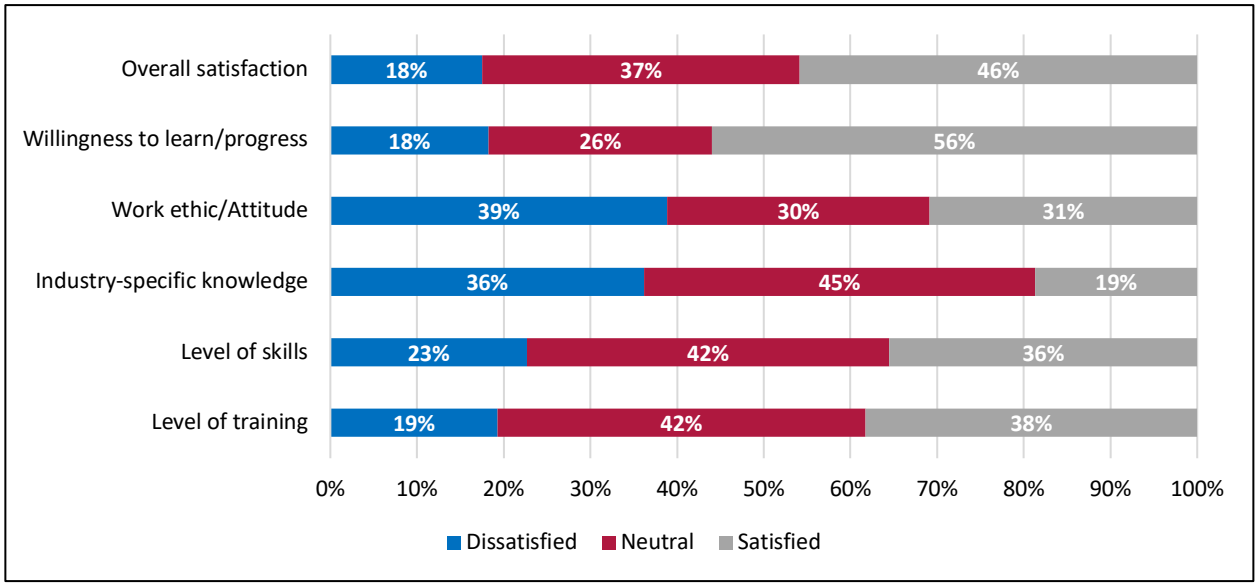
Provincial Automotive Manufacturing Workforce Age Distribution, 2016



Source: Canadian Skills Training & Employment Coalition, Statistics Canada

As older workers move into retirement it will be essential to replenish the province's automotive manufacturing workforce with the next generation of skilled workers. A recent survey of Canadian manufacturers examined the level of satisfaction with the young workers they employ. Overall, manufacturers were only moderately satisfied, with just 46% of respondents indicating that they are satisfied with their young workers. 39% of employers were dissatisfied with their work ethic and attitude, while 56% were dissatisfied with their industry specific knowledge. However, 56% of employers were satisfied with their willingness to learn.

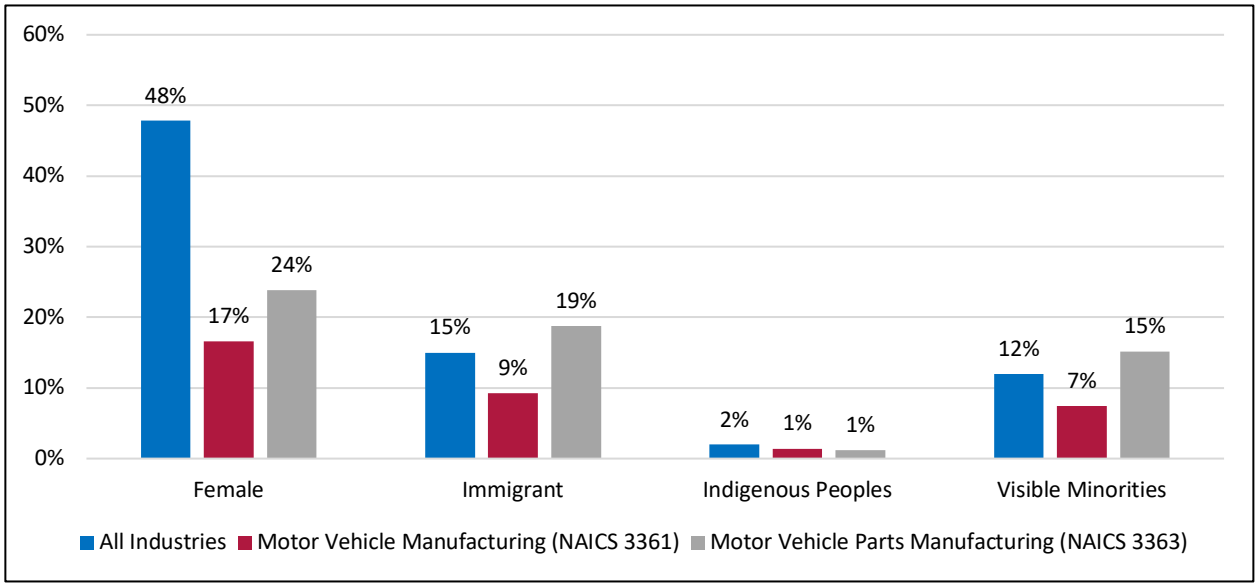
Canadian Manufacturing Employer Satisfaction with Young Workers, 2016



Source: Canadian Skills Training & Employment Coalition, Prism Economics and Analysis

The province's automotive manufacturing workforce also differs from the total workforce in terms of its diversity. The biggest difference is with respect to the proportion of women in the workforce. The female share of the province's total workforce was 48% as of 2016, on par with their population share. However, the proportions of women working in motor vehicle manufacturing (17%) and motor vehicle parts manufacturing (24%) were well-below average. Elsewhere, foreign-born workers account for 15% of the province's total workforce, slightly higher than the share found in motor vehicle manufacturing (9%) but slightly lower than the share found in motor vehicle parts manufacturing (19%). A similar trend is observed with regard to the share of workers who are visible minorities. There is no notable difference in the proportion of the workforce who are Indigenous peoples between automotive manufacturing and the total provincial workforce.

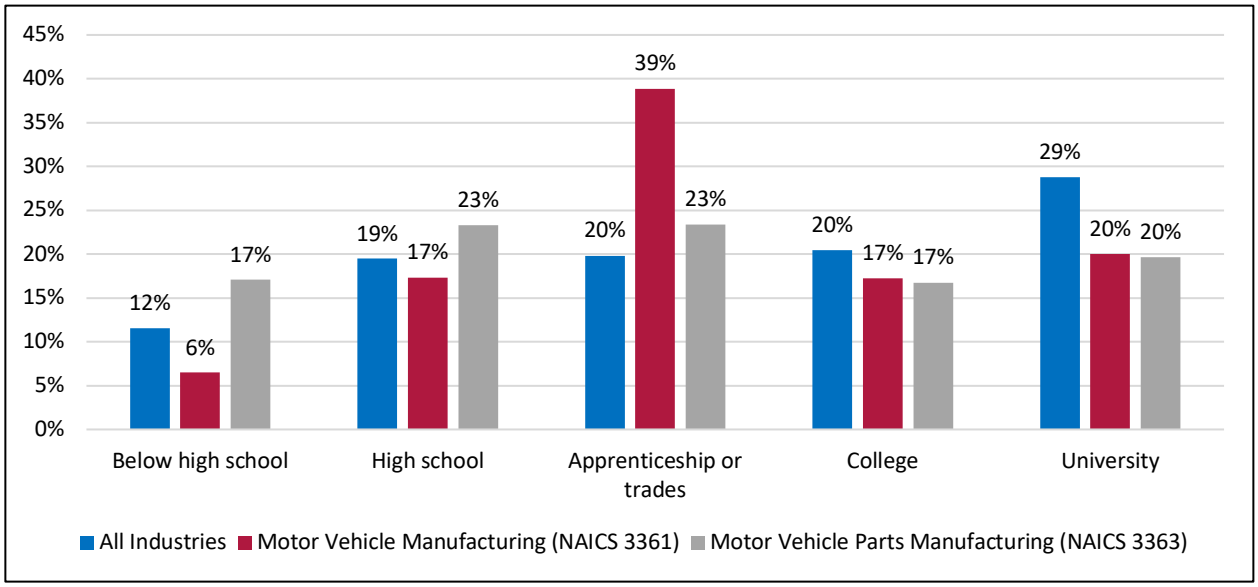
Provincial Automotive Manufacturing Workforce Diversity, 2016



Source: Canadian Skills Training & Employment Coalition, Statistics Canada

Educational attainment is yet another dimension where the province's automotive manufacturing workforce diverges from the total provincial workforce. In this province, 24% of motor vehicle manufacturing workers and 40% of motor vehicle parts manufacturing workers in the province have no more than a high school diploma as of 2016, compared to 31% for the total provincial workforce. Conversely, the automotive manufacturing workforce has a much lower than average proportion of workers with a university degree.

Provincial Automotive Manufacturing Workforce Educational Attainment, 2016



Source: Canadian Skills Training & Employment Coalition, Statistics Canada