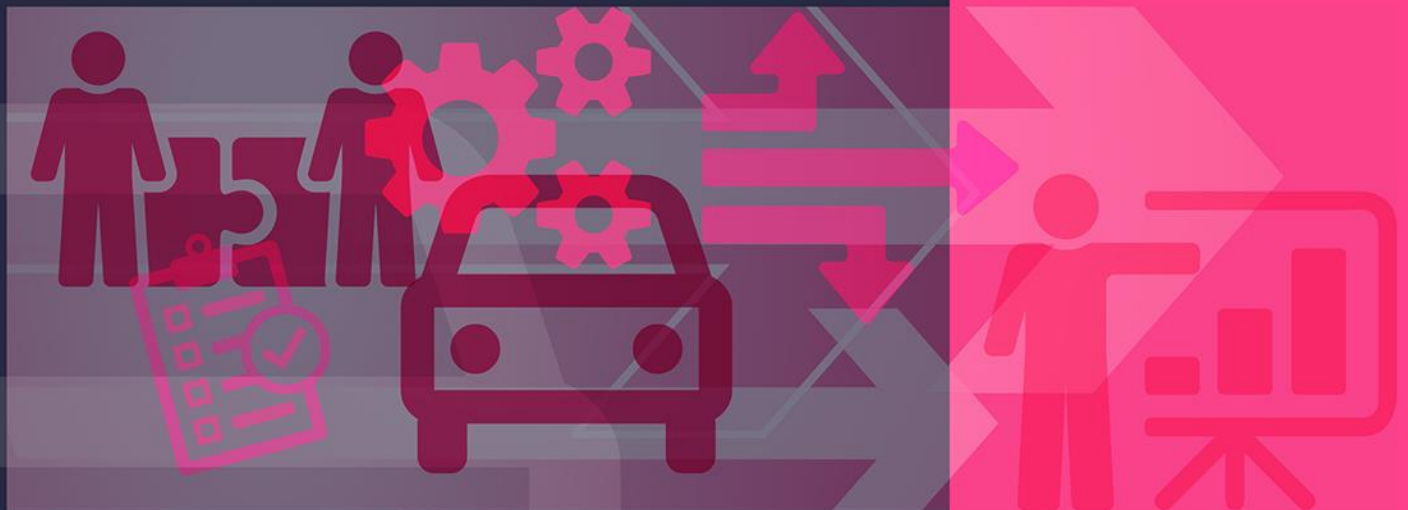


# AUTOMOTIVE INDUSTRY LABOUR MARKET ANALYSIS

## PROVINCIAL AUTOMOTIVE INDUSTRY FORECAST PROFILE: ONTARIO



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

June, 2020

[futureautolabourforce.ca](http://futureautolabourforce.ca)

**THIS PAPER** was prepared for the Auto Labour Market Information (LMI) Project, now known as the *Future of Canadian Automotive Labourforce (FOCAL) Initiative*.

The goal of the 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 labour market information 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.

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June, 2020



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## PROFILE HIGHLIGHTS

- Ontario's broader automotive industry employed an estimated 160,800 workers in 2019. A total of 62% of workers were employed in core automotive industries. 20% of workers were employed in one of Ontario's light vehicle assembly plants. An additional 42% of workers were employed in vehicle parts manufacturing, either at OEM-operated facilities and through independent parts suppliers.
- The remaining 38% of workers were employed in automotive-associated industries. These industries cover the full automotive supply chain, including employment in metals industries (13% of workers), non-metal materials industries (11%), computer and electronics (8%), and a range of other industries (5%).
- Looking ahead, employment is projected to remain flat at approximately 161,000 workers through 2030, while total employment in the province is projected to grow from 7.2 million in 2022 to nearly 8.0 million by 2030. Similarly, industry groups that comprise the broader automotive industry are projected to experience little employment growth over the next decade, with average annual growth rates below 1.0%.
- The province's broader automotive industry will need to hire 39,870 workers between 2021 and 2030 in order to meet projected labour demands. 34,900 workers will need to be hired to replace workers lost due to retirement or death, a primary consequence of the industry's aging workforce. In contrast, just 4,980 workers will need to be hired due to industry growth, a result of a mostly flat forecast for domestic (and North American) light vehicle production over the course of the decade.
- The province's broader automotive industry is expected to face a recruitment gap of 30,090 workers between 2021 and 2030, even after taking account of new entrants to the workforce. This would require hiring the equivalent of 19% of the province's current broader automotive industry employment. Recruitment gaps could be significantly higher if the industry fails to recruit new entrants at historic levels.
- Occupations with the largest absolute recruitment gaps include motor vehicle assemblers, inspectors & testers (NOC 9522); manufacturing managers (NOC 0911); and construction millwrights & industrial mechanics (NOC 7311). Occupations with the largest relative recruitment gaps include senior managers in construction, transportation, production and utilities (NOC 0016); tool & die makers (NOC 7232); and industrial electricians (NOC 7242).

## BACKGROUND

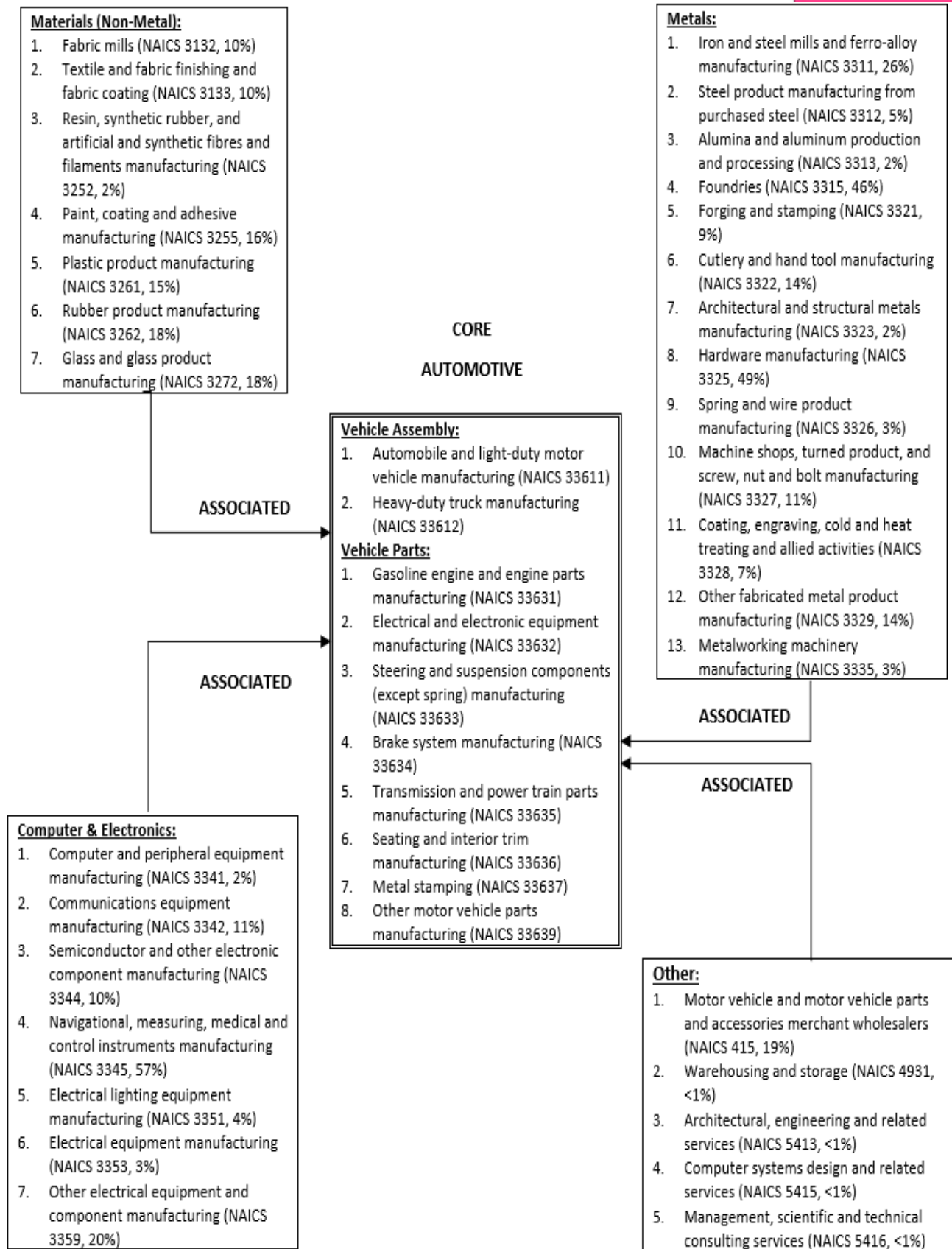
This profile summarizes a provincial labour market forecast for the broader automotive industry. The forecast model projects and quantifies trends in labour demand and supply for the industry over the forecast period from 2021 to 2030. The forecast model uses a combination of data sources to generate labour market outlooks. Workforce estimates were based on a two-pronged approach, which consisted of analyzing establishment-level data (“bottom up”) and tracing industry production through the economy (“top down”).

The “bottom up” approach used a database originally built by the Automotive Policy Research Centre (APRC) through industry contacts, company websites, industry literature and other sources of publicly available data to identify individual employers in each region’s broader automotive industry. This database added complexity to the forecast model by providing regionally-specific employment distributions across industries at a level of detail beyond what is available through government statistics. The “top down” approach tracked inter-industry transactions through Statistics Canada’s input-output tables, allowing for each industry’s contributions to employment and output for the broader automotive industry to be defined.

This analysis broadens the definition of the industry to include producers in the supply chain that have previously been classified in non-automotive industries. Industries traditionally included in the industry are defined here as core automotive industries; this includes two sub-sectors of motor vehicle assembly (NAICS 3361) and eight sub-sectors of motor vehicle parts manufacturing (NAICS 3363). Thirty-two additional industries are defined as associated industries, meaning a portion of their sales come from core automotive industries. The degree of connection between associated industries and core automotive industries varies significantly. For instance, nearly half of sales for the foundries and hardware manufacturing industries are to core automotive industries. Other industries, particularly those related to electronics manufacturing and professional services, sell less than 5% of their output to core automotive industries.

The diagram on the following page illustrates the broader definition of the automotive industry in terms of core and associated industries, grouped by their role in the automotive industry’s supply chain. Each industry is listed alongside its classification code (i.e. NAICS) and the proportion of its sales which come from core automotive industries. While Figure 1 illustrates the national broader automotive industry, each region has a distinct supply chain dependent on the businesses producing goods and/or services there. The definition of the broader automotive industry has been adjusted for some regions to reflect this fact.

**FIGURE 1.** The Broader Automotive Industry in Canada



In addition to providing labour market outlooks for the broader automotive industry as a whole, the forecast model also provides comprehensive projections for a set of key occupations that play distinct and important roles in the broader automotive industry workforce<sup>1</sup>. Forecasts were developed for the following occupations, categorized based on the nature of their role in the workforce:

**Management & Administration**

Senior managers – construction, transportation, production and utilities (NOC 0016)  
 Engineering managers (NOC 0211)  
 Computer and information systems managers (NOC 0213)  
 Manufacturing managers (NOC 0911)  
 Human resource professionals (NOC 1121)

**Engineering & Technical**

Shippers and receivers (NOC 1521)  
 Production logistics coordinators (NOC 1523)  
 Mechanical engineers (NOC 2132)  
 Electrical and electronics engineers (NOC 2133)  
 Industrial and manufacturing engineers (NOC 2141)  
 Metallurgical and materials engineers (NOC 2142)  
 Computer engineers (except software engineers and designers) (NOC 2147)  
 Information systems analysts and consultants (NOC 2171)  
 Database analysts and data administrators (NOC 2172)  
 Software engineers and designers (NOC 2173)  
 Computer programmers and interactive media developers (NOC 2174)  
 Mechanical engineering technologists and technicians (NOC 2232)  
 Industrial engineering and manufacturing technologists and technicians (NOC 2233)  
 Electrical and electronics engineering technologists and technicians (NOC 2241)  
 Industrial instrument technicians and mechanics (NOC 2243)  
 Computer network technicians (NOC 2281)  
 Information systems testing technicians (NOC 2283)

**Skilled Trades**

Contractors and supervisors, machining, metal forming, shaping and erecting trades and related occupations (NOC 7201)  
 Machinists and machining and tooling inspectors (NOC 7231)  
 Tool and die makers (NOC 7232)  
 Welders and related machine operators (NOC 7237)  
 Electricians (except industrial and power system) (NOC 7241)  
 Industrial electricians (NOC 7242)  
 Contractors and supervisors, mechanic trades (NOC 7301)  
 Construction millwrights and industrial mechanics (NOC 7311)  
 Automotive service technicians, truck and bus mechanics and mechanical repairers (NOC 7321)  
 Material handlers (NOC 7452)  
 Transport truck drivers (NOC 7511)

**Production**

Supervisors, motor vehicle assembling (NOC 9221)  
 Supervisors, electronics manufacturing (NOC 9222)  
 Supervisors, electrical products manufacturing (NOC 9223)  
 Supervisors, furniture and fixtures manufacturing (NOC 9224)  
 Supervisors, other mechanical and metal products manufacturing (NOC 9226)  
 Supervisors, other products manufacturing and assembly (NOC 9227)  
 Foundry workers (NOC 9412)  
 Metalworking and forging machine operators (NOC 9416)  
 Machining tool operators (NOC 9417)  
 Plastics processing machine operators (NOC 9422)  
 Motor vehicle assemblers, inspectors and testers (NOC 9522)  
 Electronics assemblers, fabricators, inspectors and testers (NOC 9523)  
 Mechanical assemblers and inspectors (NOC 9526)  
 Plastic products assemblers, finishers and inspectors (NOC 9535)  
 Industrial painters, coaters and metal finishing process operators (NOC 9536)  
 Other labourers in processing, manufacturing and utilities (NOC 9619)

<sup>1</sup> For details on the process of selecting key occupations for this project, please refer to the Post-secondary Education Report published by this project team in October 2019.

## INTRODUCTION

Ontario is the engine of Canada's economy, accounting for nearly 40% of total national GDP each year between 1997 and 2017. Furthermore, its automotive manufacturing industry accounted for between 90% and 95% of national automotive manufacturing GDP during this period. Not only is Ontario a key driver of Canada's automotive manufacturing industry, but automotive manufacturing is also an important component of the provincial economy. As of 2017, motor vehicle manufacturing (including both assembly and parts manufacturing) represented 2% of Ontario's total GDP, equivalent to over \$14 billion, and 2% of the province's total workforce.

Ontario's automotive manufacturing industry grew substantially between 2013 and 2016 as a result of investments by Fiat Chrysler Automobiles (FCA), Toyota, Honda and a large network of Canadian and international suppliers. However, vehicle production has declined since 2016, and the recent closure of General Motors' Oshawa facility reduced the number of assembly plants in the province to seven. Furthermore, a shrinking trade surplus for vehicles, coupled with a large trade deficit for parts, has resulted in large increases in the provincial trade deficit for automotive products since 2016<sup>2</sup>.

This provincial profile begins with an overview of the outlook for Canadian vehicle production, followed by estimates of current provincial broader automotive industry employment. The next five sections each describe a different component of the provincial labour market forecast, including employment, hiring requirements, new entrants, and recruitment gaps (with rankings). Detailed tables of hiring requirements, new entrants, and recruitment gaps are included in an appendix following the last profile section. Separate profiles have also been prepared for the following regions within Ontario, each of which has a significant and distinct automotive manufacturing presence:

1. Eastern Ontario (including Ottawa, Kingston-Pembroke and Muskoka-Kawarthas)
2. Golden Horseshoe (including Toronto and Hamilton-Niagara Peninsula)
3. London/Stratford-Bruce Peninsula
4. Windsor-Sarnia
5. Kitchener-Waterloo-Barrie

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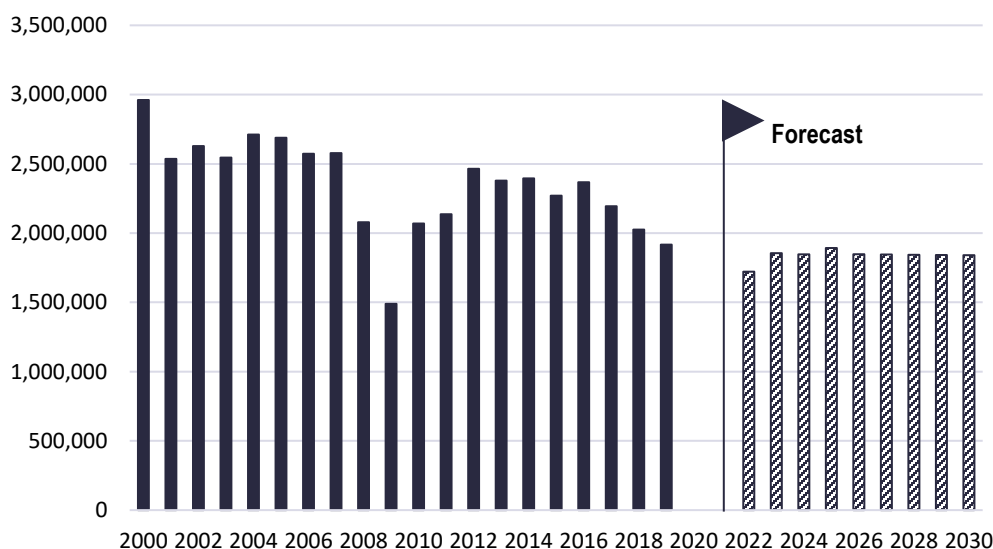
<sup>2</sup> For more information on the provincial economy and demographics, please refer to the provincial profile published by this project team in October 2019.



# GENERAL AUTOMOTIVE INDUSTRY OUTLOOK

Total motor vehicle production in Canada, including both light and commercial vehicles, consisted of 1.92 million units in 2019. This represents a reduction of over 500,000 units since 2012, when vehicle production recovered to pre-recession levels. Production fell by an average of 3.5% annually during the 2012-2019 period. Looking ahead, national vehicle production is expected to fall to 1.72 million units in 2022 before rebounding to a peak of 1.89 million in 2025<sup>3</sup>. Production levels are then projected to remain stable in the range of 1.85 million units between 2026 and 2030.

**FIGURE 2.** National Motor Vehicle Production (Units), 2000-2030



Source: International Organization of Motor Vehicle Manufacturers (2000-2019); LMC Automotive (2022-2030)

As a result of this production forecast, and similar projections for North American vehicle production, Canadian broader automotive industry employment (including workers in both core and associated industries) is expected to remain mostly flat over the forecast period. Nationally, labour market challenges for the broader automotive industry will be driven by the need to replace retirements from the industry’s aging workforce, with relatively little hiring resulting from growth.

<sup>3</sup> Due to uncertainty regarding the impact of COVID-19, forecasts of production have been withheld for 2020 and 2021. Please refer to the “Impact of COVID-19 on Automotive Industry” section for more details.

## Impact of COVID-19 on Automotive Industry

COVID-19 has already had significant consequences for the Canadian economy, with many businesses shuttered and a massive surge in unemployment claims. COVID-19's impact is also being felt in the automotive industry as automakers declared temporary closures of all Canadian assembly plants as of March 2020. While vehicle production has been temporarily halted, the industry has nevertheless shown leadership and flexibility in responding to the crisis. Manufacturers across the supply chain quickly pivoted from producing automotive parts to repurposing their operations for the production of critical medical equipment and supplies.

The vehicle production forecasts discussed in the preceding section were developed prior to the COVID-19 outbreak. Actual production levels in 2020 and 2021 are likely to be much different than previously expected due to the aforementioned shutdown. Short-term forecasts should therefore be interpreted with caution. Our project team has decided to withhold forecasts of motor vehicle production (as seen in Figure 2) and industry employment (as seen in Figures 3-5 & Table 1) for 2020 and 2021 as an acknowledgment of the current level of uncertainty surrounding the industry. However, forecasts of labour market conditions for 2021 are still presented in aggregate with the 2022-2025 period.

Due to the nature of the downturn and the experience gained during the 2008-09 recession, we believe COVID-19 will not have long-term impacts on labour supply and demand for the broader automotive industry. The provincial forecasts presented in this profile extend out to 2030; at the time of writing, our project team remains confident they present a reliable picture of labour market dynamics for the broader automotive industry. Our project team will continue to monitor the impact of COVID-19 on the industry going forward.

## PROVINCIAL AUTOMOTIVE INDUSTRY EMPLOYMENT

Total broader automotive industry employment in Ontario was an estimated 160,800 workers in 2019<sup>3</sup>. This estimate includes employment at the General Motors facility in Oshawa, which had approximately 2,700 workers and ceased production at the end of the year.

Core automotive industry employment in the province totaled approximately 100,260 workers in 2019. The province is home to all of Canada's light vehicle assembly plants; prior to the closure of the GM Oshawa plant, this consisted of eight facilities owned by five different Original Equipment Manufacturers (OEMs). There is also a medium-duty truck assembly facility located in Woodstock and operated by Hino Canada, a subsidiary of Toyota. Total vehicle assembly employment accounted for 20% of the province's broader automotive industry employment in 2019. Vehicle parts manufacturing in Ontario occurs at both OEM-operated facilities and through independent parts suppliers. The former group includes facilities that produce internal combustion engines (e.g. Ford, General Motors, Honda); transmissions (e.g. General Motors St. Catharines Propulsion); cast wheels and other structural metal components (e.g. FCA Etobicoke Castings); and plastic or composite interior and exterior trim and mouldings (e.g. FCA's CpK Interior Products). The latter includes some of the world's largest automotive suppliers such as Magna International, Linamar and Martinrea. Total vehicle parts employment accounted for 42% of the province's broader automotive industry employment in 2019.

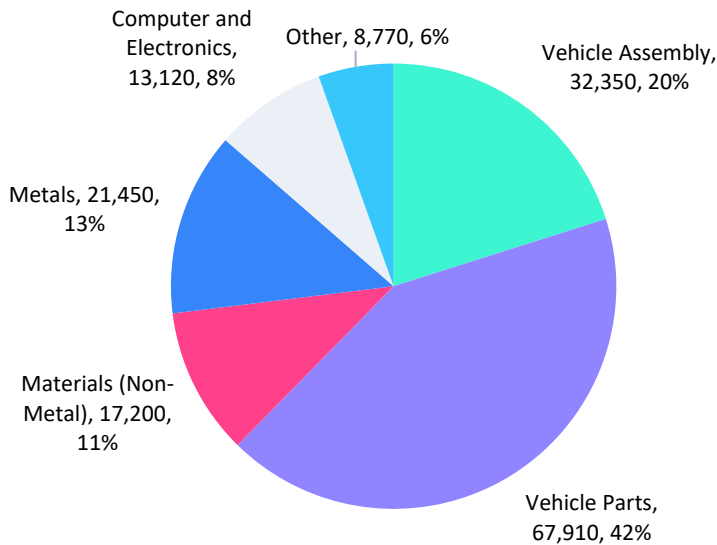
Among the region's automotive industry-associated workforce, the largest industry grouping is metals, which accounted for 13% of Ontario's broader automotive industry employment in 2019. The metals grouping includes significant automotive-associated employment from foundries (NAICS 3315) and iron & steel mills (NAICS 3311). A further 11% of broader automotive industry employment came from non-metal materials industries, the majority of which is related to plastic (NAICS 3261) and rubber (NAICS 3262) product manufacturing. The computer and electronics industry grouping accounted for an additional 8% of employment, reflecting the province's automotive technology clusters in Kitchener-Waterloo, the Greater Toronto Area and Ottawa. In total, automotive industry-associated employment in Ontario was an estimated 60,540 workers in 2019.

While developing employment estimates for Ontario's broader automotive industry, it became clear that the approach described in the Background section may underestimate the size of the province's emerging automotive technology clusters. Moreover, there is reason to believe the labour market dynamics for technology-focused employers are distinct from the remainder of the broader automotive industry, particularly with respect to labour mobility. In order to investigate these issues further, the project team plans to prepare a separate profile on the technology-focused component of Canada's broader automotive industry.

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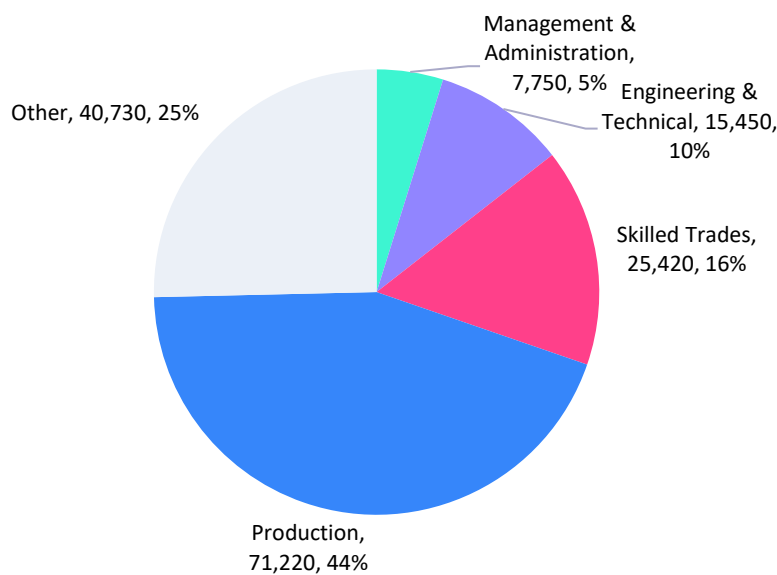
<sup>3</sup> Due to uncertainty regarding the impact of COVID-19, forecasts of industry employment have been withheld for 2020 and 2021. Please refer to the "Impact of COVID-19 on Automotive Industry" section for more details.

**FIGURE 3.** Provincial Automotive Industry Employment by Industry Group, 2019



An estimated 44% of the province’s total broader automotive industry employment worked in key production occupations in 2019. This group includes motor vehicle assemblers, inspectors & testers (NOC 9522) as well as assembly supervisors (NOC 9221). A further 16% of workers were employed in skilled trades, primarily as welders & related machine operators (NOC 7237), construction millwrights & industrial mechanics (NOC 7311), machinists (NOC 7231), and tool & die makers (NOC 7232). A combined 15% of workers were employed in key engineering & technical (10%) and management & administration (5%) occupations. The former includes mechanical engineers (NOC 2132) and several occupations related to information technology, while the latter includes manufacturing managers and shippers & receivers (NOC 1521). All other occupations accounted for 25% of employment<sup>4</sup>.

**FIGURE 4.** Provincial Automotive Industry Employment by Occupation Group, 2019

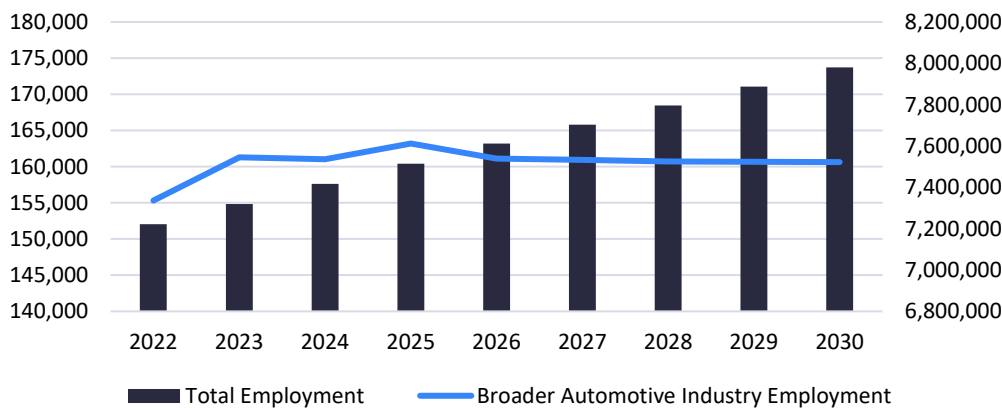


<sup>4</sup> “Other” includes all 4-digit NOCs excluding the 49 key occupations identified on pg. 6.

# PROVINCIAL AUTOMOTIVE INDUSTRY EMPLOYMENT OUTLOOK

Looking ahead, broader automotive industry employment is expected to experience a period of growth between 2022 and 2025 before plateauing over the latter half of the decade at approximately 161,000 workers. In contrast, total employment in the province is projected to grow from 7.2 million in 2022 to nearly 8.0 million by 2030, equivalent to 10% growth during the period.

**FIGURE 5.** Provincial Automotive Industry Employment Outlook, 2022-2030



Source: Canadian Skills Training & Employment Coalition; Metro Economics

Industry groups that comprise the broader automotive industry are projected to experience little employment growth over the next decade, with average annual growth rates below 1.0%. Vehicle assembly employment is expected to rise between 2022 and 2025 before falling and plateauing from 2026 to 2030. Employment growth among vehicle parts and associated industries will occur in part as a result of increasing vehicle parts exports.

**TABLE 1.** Provincial Automotive Industry Employment Outlook, 2022-2030

Industry Group	2022	2023	2024	2025	2026	2027	2028	2029	2030
Vehicle Assembly	30,940	32,600	32,150	32,490	31,520	31,180	30,830	30,500	30,170
Vehicle Parts	64,160	67,840	67,820	69,350	68,260	68,350	68,410	68,590	68,770
Materials (Non-Metals)	17,140	17,270	17,300	17,350	17,330	17,330	17,330	17,340	17,340
Metals	21,450	21,700	21,780	21,910	21,910	21,950	21,990	22,040	22,090
Computer & Electronics	13,300	13,560	13,690	13,850	13,900	13,980	14,070	14,160	14,250
Other	8,560	8,560	8,510	8,480	8,420	8,370	8,320	8,270	8,220
<b>TOTAL</b>	<b>155,550</b>	<b>161,530</b>	<b>161,250</b>	<b>163,430</b>	<b>161,340</b>	<b>161,160</b>	<b>160,950</b>	<b>160,900</b>	<b>160,840</b>

# PROVINCIAL AUTOMOTIVE INDUSTRY HIRING REQUIREMENT OUTLOOK

Hiring requirement represents the demand for labour across employers in core and associated automotive industries. Estimated hiring requirement covers the needs of all employers among core automotive industries but only the portion of employment connected with core industries for employers in associated industries. Hiring requirement consists of two components:

1. **Replacement demand** – labour demand driven by the need to replace workers exiting the broader automotive industry workforce due to retirement or death<sup>6</sup>
2. **Expansion demand** – labour demand driven by output growth in the broader automotive industry

The provincial outlook for replacement demand is driven by provincial projections of mortality rates and annual changes in labour force participation rates by age-year. The provincial outlook for expansion demand is driven by forecasts of motor vehicle production.

Overall, Ontario’s broader automotive industry is projected to require 39,870 new workers between 2021 and 2030. 24,940 workers are expected to be needed in the near-term (i.e. between 2021 and 2025), compared with 14,960 workers in the medium to long-term (i.e. between 2026 and 2030). The total projected hiring requirement during the decade represents 25% of the province’s broader automotive industry employment as of 2019.

The proportion of total hiring requirement to current employment is above average among skilled trades (29%) and management & administration occupations (28%). Conversely, it is below average among production (22%) and engineering & technical (22%) occupations. Total hiring requirement represents 28% of current employment for all other occupations in Ontario’s broader automotive industry workforce.

**TABLE 2.** Provincial Automotive Industry Hiring Requirement Outlook, 2021-2030

Occupation Group	2021-2025	2026-2030	2021-2030	Share of 2019 Emp.
Management & Administration	1,320	840	2,150	28%
Engineering & Technical	2,180	1,220	3,390	22%
Skilled Trades	4,420	2,850	7,270	29%
Production	10,050	5,600	15,640	22%
Other	6,970	4,450	11,420	28%
<b>TOTAL</b>	<b>24,940</b>	<b>14,960</b>	<b>39,870</b>	<b>25%</b>

This provincial forecast focuses only on the auto-dependent portion of associated industries, based on the proportion of each associated industry’s sales which come from core automotive industries. However, it is useful to consider how provincial hiring requirements are projected across the full workforce of associated industries since many employers in associated industries make hiring decisions based on their total business activity. To do so, a modified

<sup>6</sup> This measure of replacement demand does not account for workers exiting as part of turnover.

version of the labour market forecast model (referred to as the “full workforce” model) was created based on total provincial employment for all core automotive and associated industries in the broader automotive industry.

Total projected hiring requirement between 2021 and 2030 increased to 32% of current employment using the full workforce model. This indicates that the primary forecast model may underestimate the hiring needs of provincial employers in associated industries. The largest gains were seen among the skilled trades and management & administration occupation groups, which saw hiring requirements increase to 34% and 33% of current employment respectively.

## Replacement Demand Outlook

The forecast for replacement demand among the province’s broader automotive industry employers is the result of an expected increase in retirements as the industry’s workforce continues to age. The region’s core automotive industry workforce consists of more mid-career workers, with higher than average proportions of the workforce belonging to the 45-54 and 55-64 age cohorts. Over the coming decade, workers from these cohorts will exit the workforce and must be replaced.

Total replacement demand is projected at 34,900 workers between 2021 and 2030, meaning nearly the entire provincial hiring requirement consists of labour demand due to retirements and deaths in the workforce. This also means trends in replacement demand as a proportion of current employment for occupation groups track with those seen for the overall hiring requirement.

## Expansion Demand Outlook

Total expansion demand is projected at just 4,980 workers for the province’s broader automotive industry workforce between 2021 and 2030. Between 2021 and 2025, expansion demand is expected to total 7,590 workers. This is primarily a result of the forecast for light vehicle production, which projects production to rise by 10% between 2022 and 2025. Additional expansion demand results from growth in vehicle parts exports due to rising production in the US and Mexico. However, the trend in expansion demand is expected to reverse over the latter half of the decade as the broader automotive industry contracts. Negative expansion demand is projected between 2026 and 2030 as vehicle production declines from 2025 levels. Overall, production levels are projected to decline by 3% domestically and remain flat for North America as a whole between 2025 and 2030.

**TABLE 3.** National & North American Light Vehicle Production (Units x 1,000), 2022-2030

Industry Group	2022	2023	2024	2025	2026	2027	2028	2029	2030
Canada	1,701	1,834	1,826	1,871	1,826	1,824	1,821	1,819	1,817
North America	17,308	17,698	17,903	18,046	18,162	18,138	18,115	18,092	18,068

Source: Canadian Skills Training & Employment Coalition; LMC Automotive

## PROVINCIAL AUTOMOTIVE INDUSTRY NEW ENTRANTS OUTLOOK

In order to meet hiring requirements, employers in Ontario’s broader automotive industry must be able to recruit new entrants to the workforce. New entrants are defined as individuals between the ages of 15 and 30 who are entering the workforce for the first time. Forecasts of new entrants to the provincial broader automotive industry are based on the industry’s historic share of new entrants, as well as provincial projections of labour force participation by age-year and workforce by age-year and occupation.

Overall, Ontario’s broader automotive industry is expected to recruit 9,800 new entrants to its workforce between 2021 and 2030, based on the industry’s historic rate of entry. The forecast for new entrants is evenly split between the 2021-2025 and 2026-2030 periods. The projected number of new entrants across all occupations is equivalent to 6% of estimated provincial broader automotive industry employment in 2019. This share is between 5% and 7% for most occupation groups. However, the projected number of new entrants among management & administration roles is equal to just 2% of current employment. Occupations in this group rely the least on new entrants due to the experience typically required for these positions.

**TABLE 4.** Provincial Automotive Industry New Entrants Outlook, 2021-2030

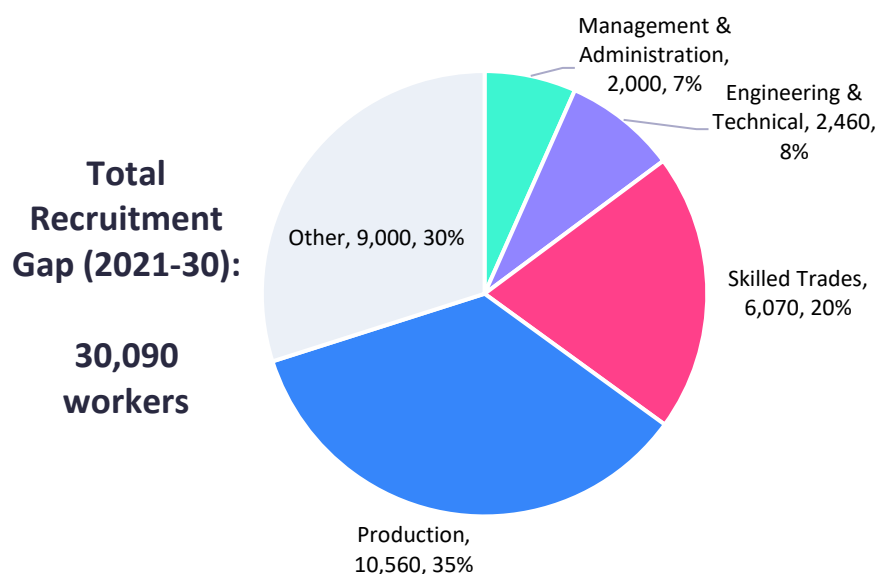
Occupation Group	2021-2025	2026-2030	2021-2030	Share of 2019 Emp.
Management & Administration	80	80	150	2%
Engineering & Technical	470	470	940	6%
Skilled Trades	600	600	1,200	5%
Production	2,550	2,530	5,080	7%
Other	1,220	1,210	2,430	6%
<b>TOTAL</b>	<b>4,920</b>	<b>4,890</b>	<b>9,800</b>	<b>6%</b>



## PROVINCIAL AUTOMOTIVE INDUSTRY RECRUITMENT GAP OUTLOOK

Ontario’s broader automotive industry is projected to face a recruitment gap of 30,090 workers during the 2021-2030 period. The majority of the shortfall is projected between 2021 and 2025, when a recruitment gap of 20,010 workers is expected. In contrast, a recruitment gap totaling 10,070 workers is expected between 2026 and 2030. Employers in the province will need to hire the equivalent of 19% of their current workforce over the forecast period to meet labour demand, even after accounting for new entrants. Furthermore, the recruitment gap could be significantly higher if the industry fails to recruit new entrants at historic levels.

**FIGURE 6.** Provincial Automotive Industry Recruitment Gap Outlook, 2021-2030<sup>5</sup>



Among the primary occupation groups in the industry, the recruitment gap is largest for key production occupations at over 10,500 workers. This is equal to 35% of the province’s total recruitment gap. The next largest grouping is skilled trades, at approximately 6,000 workers or 20% of the provincial gap. The management & administration and engineering & technical groupings will each face a recruitment gap between 2,000 and 2,500 workers. The recruitment gap for all other occupations is projected to be 9,000 workers.

Recruitment gap as a proportion of current employment is highest for management & administration occupations. Employers in the province will need to hire the equivalent of 26% of the current management & administration workforce over the forecast period to meet labour demand. Because these roles cannot rely on new entrants, employers must be able to draw in workers from other sectors or regions to meet labour demand for these roles. The skilled trades occupation group also has a relatively high recruitment gap share at 24%. In contrast, recruitment gap shares are below average for the engineering & technical (16%) and production (15%) groupings. The recruitment gap share for all other occupations is projected at 22%.

<sup>5</sup> Please note that the shares seen in this figure represent each occupation group’s recruitment gap as a proportion of the total recruitment gap.

**TABLE 5. Provincial Automotive Industry Recruitment Gap Outlook, 2021-2030**

Occupation Group	2021-2025	2026-2030	2021-2030	Share of 2019 Emp.
Management & Administration	1,240	760	2,000	26%
Engineering & Technical	1,710	750	2,460	16%
Skilled Trades	3,820	2,250	6,070	24%
Production	7,490	3,070	10,560	15%
Other	5,750	3,240	9,000	22%
<b>TOTAL</b>	<b>20,010</b>	<b>10,070</b>	<b>30,090</b>	<b>19%</b>

As with hiring requirements, recruitment gaps can also be considered based on total employment for all core automotive and associated industries. This comparison is useful because many employers in associated industries compete for workers with businesses unrelated to the broader automotive industry.

The total projected provincial recruitment gap between 2021 and 2030 grew to 25% of current employment using the full workforce version of the labour market forecast model, indicating that the primary forecast model may underestimate recruiting challenges for provincial employers in associated industries. The larger recruitment gap share occurs in part because of competition between employers in the broader automotive industry and those outside it. The largest gains are seen in the management & administration and engineering & technical groups, where recruitment gaps increased to 30% and 18% of current employment respectively. This reflects the view that competition to fill these types of roles will be especially strong.

# PROVINCIAL AUTOMOTIVE INDUSTRY RECRUITMENT GAP RANKINGS

Ranking recruitment gaps at the level of individual occupations can illustrate specific areas of the workforce that are expected to face more severe challenges in recruiting and retaining qualified workers. In order to understand the full scope of these challenges, occupations were ranked in two distinct ways.

First, occupations were ranked by recruitment gap size, meaning the total number of workers comprising each occupation’s projected provincial recruitment gap between 2021 and 2030. This *absolute* ranking method identifies occupations that will require the largest number of hires to meet labour demand, even after accounting for new entrants. Next, occupations were ranked by recruitment gap share, meaning the total number of workers comprising each occupation’s projected provincial recruitment gap between 2021 and 2030 divided by estimated provincial employment for that occupation in 2019. This *relative* ranking method identifies occupations that will need to replace a relatively high proportion of existing workers to meet labour demand, even after accounting for new entrants.

Every key occupation was ranked using both methods, excluding those occupations with insufficient provincial employment. The top occupations using each ranking method are presented in the following sections.

## Recruitment Gap Size Rankings

The occupations with the largest absolute recruitment gaps include many of the most common occupations in the broader automotive industry. The top occupation is motor vehicle assemblers, inspectors and testers (NOC 9522), which is also the largest occupation in the industry by employment. It has a projected recruitment gap of 6,190 workers between 2021 and 2030. A number of skilled trades - including construction millwrights & industrial mechanics (NOC 7311), tool & die makers (NOC 7232), and industrial electricians (NOC 7242) - also have large projected recruitment gaps. Overall, the top ten occupations have a cumulative recruitment gap of approximately 14,000 workers, equal to over 45% of the broader automotive industry’s total provincial recruitment gap.

**TABLE 6.** Provincial Automotive Industry Recruitment Gap Size Rankings, 2021-2030

Rank	Occupation	2021-2030	Share of 2019 Emp.
1	Motor vehicle assemblers, inspectors and testers (NOC 9522)	6,190	13%
2	Material handlers (NOC 7452)	1,250	18%
3	Manufacturing managers (NOC 0911)	1,220	25%
4	Construction millwrights and industrial mechanics (NOC 7311)	1,030	31%
5	Supervisors, motor vehicle assembling (NOC 9221)	970	16%
6	Tool and die makers (NOC 7232)	820	31%
7	Machinists and machining and tooling inspectors (NOC 7231)	770	27%

<b>8</b>	Industrial electricians (NOC 7242)	660	30%
<b>9</b>	Welders and related machine operators (NOC 7237)	630	17%
<b>10</b>	Shippers and receivers (NOC 1521)	500	22%

## Recruitment Gap Share Rankings

Notably, most of the top occupations by recruitment gap share have relatively low absolute recruitment gaps. Only three occupations on this list also appeared among the top occupations by recruitment gap size. The occupation with the largest relative recruitment gap is senior managers in construction, transportation, production and utilities (NOC 0016). While fewer than 500 additional workers will need to be hired on top of new entrants to meet labour demand for this occupation, that would be the equivalent of replacing over 40% of the current provincial workforce. This is well above the average recruitment gap share across all occupations of 19%. All other top occupations also have above average recruitment gap shares, ranging from 30% to 36%. Several skilled trades and technical occupations are found among the top occupations, again illustrating the potentially severe recruiting challenges for occupations that require certification and/or professional experience.

**TABLE 7.** Provincial Automotive Industry Recruitment Gap Share Rankings, 2021-2030

<b>Rank</b>	<b>Occupation</b>	<b>2021-2030</b>	<b>Share of 2019 Emp.</b>
<b>1</b>	Senior managers - construction, transportation, production and utilities (NOC 0016)	480	43%
<b>2</b>	Industrial instrument technicians and mechanics (NOC 2243)	30	36%
<b>3</b>	Supervisors, electrical products manufacturing (NOC 9223)	30	33%
<b>4</b>	Tool and die makers (NOC 7231)	820	31%
<b>5</b>	Construction millwrights and industrial mechanics (NOC 7311)	1,030	31%
<b>6</b>	Industrial electricians (NOC 7242)	660	30%
<b>7</b>	Database analysts and data administrators (NOC 2172)	30	30%
<b>8</b>	Foundry workers (NOC 9412)	210	30%
<b>9</b>	Transport truck drivers (NOC 7511)	250	30%
<b>10</b>	Electronics assemblers, fabricators, inspectors and testers (NOC 9523)	440	30%

## APPENDIX

The following tables include detailed data on projected hiring requirements, new entrants and recruitment gaps at the level of individual occupations (4-digit NOC). Note that summing the data for individual occupations may not equal the corresponding data for occupational groups presented in the profile due to rounding.

**TABLE 8.** Detailed Provincial Automotive Industry Hiring Requirement Outlook, 2021-2030

Occupation	2021-2025	2026-2030	2021-2030	Share of 2019 Emp.
<b>All occupations</b>	<b>24,940</b>	<b>14,950</b>	<b>39,890</b>	<b>25%</b>
0016 Senior managers - construction, transportation, production and utilities	280	210	480	44%
0211 Engineering managers	110	70	180	25%
0213 Computer and information systems managers	40	20	60	17%
0911 Manufacturing managers	810	500	1,310	26%
1121 Human resources professionals	80	40	130	20%
1521 Shippers and receivers	370	230	600	27%
1523 Production logistics co-ordinators	120	70	190	24%
2132 Mechanical engineers	430	220	660	19%
2133 Electrical and electronics engineers	220	130	350	25%
2141 Industrial and manufacturing engineers	210	110	320	20%
2142 Metallurgical and materials engineers	20	10	30	19%
2147 Computer engineers (except software engineers and designers)	40	20	60	23%
2171 Information systems analysts and consultants	110	60	170	22%
2172 Database analysts and data administrators	20	10	30	31%
2173 Software engineers and designers	50	20	70	15%
2174 Computer programmers and interactive media developers	40	10	60	12%
2232 Mechanical engineering technologists and technicians	140	70	220	19%
2233 Industrial engineering and manufacturing technologists and technicians	180	100	270	22%
2241 Electrical and electronics engineering technologists and technicians	180	110	300	27%
2243 Industrial instrument technicians and mechanics	20	10	30	40%
2281 Computer network technicians	30	10	40	13%
2283 Information systems testing technicians	10	<10	10	24%
7201 Contractors and supervisors, machining, metal forming, shaping and erecting trades and related occupations	90	60	150	26%
7231 Machinists and machining and tooling inspectors	540	360	910	32%
7232 Tool and die makers	520	360	890	34%
7237 Welders and related machine operators	570	340	920	24%
7241 Electricians (except industrial and power system)	50	30	80	34%
7242 Industrial electricians	420	290	710	32%
7301 Contractors and supervisors, mechanic trades	50	30	80	28%
7311 Construction millwrights and industrial mechanics	690	480	1,160	34%

7321 Automotive service technicians, truck and bus mechanics and mechanical repairers	300	180	480	25%
7452 Material handlers	1,030	600	1,630	24%
7511 Transport truck drivers	160	110	270	32%
9221 Supervisors, motor vehicle assembling	760	380	1,140	19%
9222 Supervisors, electronics manufacturing	20	10	40	28%
9223 Supervisors, electrical products manufacturing	20	10	30	38%
9224 Supervisors, furniture and fixtures manufacturing	<10	<10	<10	N/A
9226 Supervisors, other mechanical and metal products manufacturing	40	20	70	23%
9227 Supervisors, other products manufacturing and assembly	20	20	40	31%
9412 Foundry workers	150	110	250	36%
9416 Metalworking and forging machine operators	360	220	580	26%
9417 Machining tool operators	280	170	450	26%
9422 Plastics processing machine operators	360	220	580	27%
9522 Motor vehicle assemblers, inspectors and testers	6,480	3,480	9,960	21%
9523 Electronics assemblers, fabricators, inspectors and testers	300	200	500	34%
9526 Mechanical assemblers and inspectors	170	90	270	21%
9535 Plastic products assemblers, finishers and inspectors	230	150	380	29%
9536 Industrial painters, coaters and metal finishing process operators	360	200	570	22%
9619 Other labourers in processing, manufacturing and utilities	500	300	800	24%
Other occupations	6,970	4,450	11,420	28%

**TABLE 9.** Detailed Provincial Automotive Industry New Entrants Outlook, 2021-2030

Occupation	2021- 2025	2026- 2030	2021- 2030	Share of 2019 Emp.
<b>All occupations</b>	<b>4,920</b>	<b>4,880</b>	<b>9,800</b>	<b>6%</b>
0016 Senior managers - construction, transportation, production and utilities	<10	<10	10	1%
0211 Engineering managers	<10	<10	10	1%
0213 Computer and information systems managers	<10	<10	10	2%
0911 Manufacturing managers	40	40	90	2%
1121 Human resources professionals	20	20	40	7%
1521 Shippers and receivers	50	50	100	4%
1523 Production logistics co-ordinators	20	20	30	4%
2132 Mechanical engineers	130	120	250	8%
2133 Electrical and electronics engineers	40	40	90	6%
2141 Industrial and manufacturing engineers	40	40	70	5%
2142 Metallurgical and materials engineers	<10	<10	<10	N/A
2147 Computer engineers (except software engineers and designers)	10	10	10	4%
2171 Information systems analysts and consultants	10	10	30	4%
2172 Database analysts and data administrators	<10	<10	<10	N/A
2173 Software engineers and designers	10	10	20	5%
2174 Computer programmers and interactive media developers	20	10	30	6%
2232 Mechanical engineering technologists and technicians	70	70	140	13%
2233 Industrial engineering and manufacturing technologists and technicians	40	40	80	7%
2241 Electrical and electronics engineering technologists and technicians	40	40	70	7%
2243 Industrial instrument technicians and mechanics	<10	<10	<10	N/A
2281 Computer network technicians	10	10	10	3%
2283 Information systems testing technicians	<10	<10	<10	N/A
7201 Contractors and supervisors, machining, metal forming, shaping and erecting trades and related occupations	10	10	10	2%
7231 Machinists and machining and tooling inspectors	70	70	130	5%
7232 Tool and die makers	30	30	60	3%
7237 Welders and related machine operators	140	140	290	8%
7241 Electricians (except industrial and power system)	10	10	20	7%
7242 Industrial electricians	20	20	40	2%
7301 Contractors and supervisors, mechanic trades	<10	<10	10	4%
7311 Construction millwrights and industrial mechanics	60	60	130	4%
7321 Automotive service technicians, truck and bus mechanics and mechanical repairers	60	50	110	6%
7452 Material handlers	190	190	380	6%
7511 Transport truck drivers	10	10	20	3%
9221 Supervisors, motor vehicle assembling	90	90	170	3%
9222 Supervisors, electronics manufacturing	<10	<10	<10	N/A
9223 Supervisors, electrical products manufacturing	<10	<10	<10	N/A
9224 Supervisors, furniture and fixtures manufacturing	<10	<10	<10	N/A

9226 Supervisors, other mechanical and metal products manufacturing	<10	<10	10	3%
9227 Supervisors, other products manufacturing and assembly	<10	<10	<10	N/A
9412 Foundry workers	20	20	40	6%
9416 Metalworking and forging machine operators	70	70	140	7%
9417 Machining tool operators	40	40	90	5%
9422 Plastics processing machine operators	60	60	120	6%
9522 Motor vehicle assemblers, inspectors and testers	1,890	1,870	3,770	8%
9523 Electronics assemblers, fabricators, inspectors and testers	30	30	60	4%
9526 Mechanical assemblers and inspectors	50	50	100	8%
9535 Plastic products assemblers, finishers and inspectors	50	50	110	8%
9536 Industrial painters, coaters and metal finishing process operators	80	80	160	6%
9619 Other labourers in processing, manufacturing and utilities	160	160	320	10%
Other occupations	1,220	1,210	2,430	6%



**TABLE 10.** Detailed Provincial Automotive Industry Recruitment Gap Outlook, 2021-2030

Occupation	2021- 2025	2026- 2030	2021- 2030	Share of 2019 Emp.
<b>All occupations</b>	<b>20,010</b>	<b>10,070</b>	<b>30,080</b>	<b>19%</b>
0016 Senior managers - construction, transportation, production and utilities	270	200	480	43%
0211 Engineering managers	110	60	170	24%
0213 Computer and information systems managers	40	10	50	15%
0911 Manufacturing managers	760	460	1,220	25%
1121 Human resources professionals	60	20	80	13%
1521 Shippers and receivers	320	180	500	22%
1523 Production logistics co-ordinators	100	50	150	20%
2132 Mechanical engineers	310	100	410	12%
2133 Electrical and electronics engineers	170	90	260	19%
2141 Industrial and manufacturing engineers	170	70	250	15%
2142 Metallurgical and materials engineers	10	10	20	17%
2147 Computer engineers (except software engineers and designers)	30	20	50	19%
2171 Information systems analysts and consultants	100	50	150	19%
2172 Database analysts and data administrators	20	10	30	30%
2173 Software engineers and designers	40	10	40	10%
2174 Computer programmers and interactive media developers	30	<10	30	5%
2232 Mechanical engineering technologists and technicians	80	10	80	7%
2233 Industrial engineering and manufacturing technologists and technicians	140	60	200	16%
2241 Electrical and electronics engineering technologists and technicians	150	80	220	21%
2243 Industrial instrument technicians and mechanics	20	10	30	36%
2281 Computer network technicians	30	10	30	10%
2283 Information systems testing technicians	<10	<10	10	16%
7201 Contractors and supervisors, machining, metal forming, shaping and erecting trades and related occupations	90	50	140	24%
7231 Machinists and machining and tooling inspectors	470	300	770	27%
7232 Tool and die makers	490	330	820	31%
7237 Welders and related machine operators	430	200	630	17%
7241 Electricians (except industrial and power system)	40	30	70	27%
7242 Industrial electricians	400	270	660	30%
7301 Contractors and supervisors, mechanic trades	40	20	70	24%
7311 Construction millwrights and industrial mechanics	620	410	1,030	31%
7321 Automotive service technicians, truck and bus mechanics and mechanical repairers	240	120	370	19%
7452 Material handlers	840	420	1,250	18%
7511 Transport truck drivers	150	100	250	30%
9221 Supervisors, motor vehicle assembling	670	300	970	16%
9222 Supervisors, electronics manufacturing	20	10	40	26%
9223 Supervisors, electrical products manufacturing	20	10	30	33%
9224 Supervisors, furniture and fixtures manufacturing	<10	<10	<10	N/A

9226 Supervisors, other mechanical and metal products manufacturing	40	20	60	20%
9227 Supervisors, other products manufacturing and assembly	20	20	40	30%
9412 Foundry workers	130	80	210	30%
9416 Metalworking and forging machine operators	290	150	440	20%
9417 Machining tool operators	230	130	360	21%
9422 Plastics processing machine operators	290	160	450	21%
9522 Motor vehicle assemblers, inspectors and testers	4,580	1,610	6,190	13%
9523 Electronics assemblers, fabricators, inspectors and testers	260	170	440	30%
9526 Mechanical assemblers and inspectors	130	50	170	13%
9535 Plastic products assemblers, finishers and inspectors	180	100	280	21%
9536 Industrial painters, coaters and metal finishing process operators	280	130	410	16%
9619 Other labourers in processing, manufacturing and utilities	340	140	480	14%
Other occupations	5,750	3,240	9,000	22%