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Automotive Industry Labour Market Analysis:
Women, Youth, and Indigenous Persons in Canada's Automotive Industry

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

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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.

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Executive Summary

This report examines diversity and employment in Canada's automotive industry. More specifically, it focuses on better understanding the employment characteristics of women, youth, and Indigenous persons who are employed in Canada's automotive industry and initiatives by industry stakeholders to improve these demographics' labour market outcomes.

The report is based on an analysis of government statistics and literature review. We make several observations based on this analysis:

- Women are under-represented in Canada's automotive industry and tend to be concentrated in lower-paying occupations.
- Youth are under-represented in Canada's automotive industry and earn less than core-aged and older workers. However, their low earnings is likely a factor of experience, and youth who work in the automotive industry earn more than youth who work in most other industries.
- Indigenous persons are reasonably well-represented in the automotive industry, although the automotive industry tends to be concentrated in regions of Canada with relatively small Indigenous populations.

The report also identifies several potentially effective initiatives implemented by automotive and other transportation manufacturing equipment manufacturing stakeholders in their attempts to recruit and retain women, youth, and Indigenous persons. While these initiatives appear to be worthwhile, they are difficult to evaluate. This is due to a lack of corresponding data or analysis regarding the impacts or outcomes of these initiatives.

Introduction

The automotive manufacturing industry is among Canada's most important employers. This is particularly the case in southern Ontario, Montréal, the eastern townships of Québec, and Winnipeg. However, automotive manufacturing employers face tight labour markets and shortages of skilled workers. At the same time, they face challenges recruiting and retaining women, youth, and Indigenous persons.

This report examines the labour force characteristics of women, youth, and Indigenous persons in Canada's automotive industry. In so doing, it identifies challenges that these demographic groups face accessing automotive industry employment and challenges that automotive industry employers face recruiting and retaining them. Moreover, the report identifies several initiatives implemented by firms to recruit and retain women, youth, and Indigenous persons.

The information in this report supports initiatives being undertaken by the Government of Canada and industry stakeholders to improve labour market outcomes and transitions to work for women, youth, and Indigenous persons. While these initiatives are important to broader goals of equity, diversity, and inclusiveness in Canadian workplaces, they can also help industry stakeholders address labour and skill shortages by improving their ability to recruit and retain employees from heretofore under-represented demographics. This is especially important given currently tight labour markets, the aging manufacturing workforce, and the need to access skilled and innovative employees in order to improve productivity and maintain competitiveness.

Implementing new or augmenting existing equity, diversity, and inclusiveness initiatives can benefit automotive manufacturing firms. Research has found positive relationships between firm performance and employee diversity (Hunt et al., 2015). Programs designed to improve equity, diversity, and inclusiveness can benefit firms by signaling their core values to customers and potential employees (Hunt et al., 2018). They can also improve employee engagement, intra-organizational communication, and public image (Sherman Garr et al., 2014; PWC, 2018). Taken together, such programs and initiatives can improve firms' abilities to recruit and

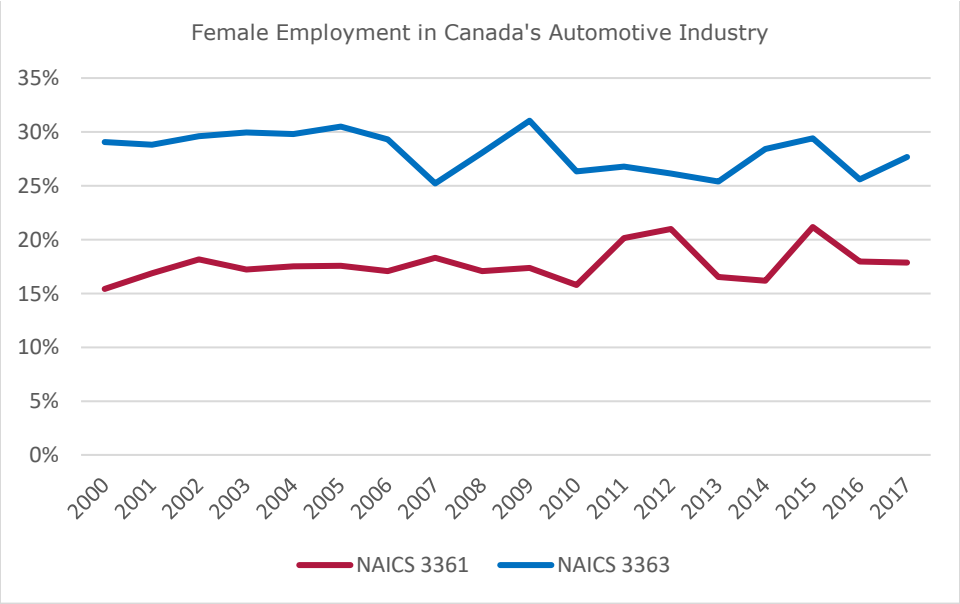
retain skilled employees, and can support employees in their career advancement within the organization.

The report is organized into three sections. Each section focuses on one particular demographic (i.e. women, youth, and Indigenous persons), and examines 1) government statistics related to employment and earnings, 2) specific challenges and barriers to employment, and 3) potentially effective initiatives implemented by industry stakeholders in an attempt to improve recruitment and retention. A conclusion follows.

Women in Canada's Automotive Industry

Women are under-represented in most facets of Canada's automotive manufacturing industry. Moreover, women who are employed in the automotive manufacturing industry tend to be concentrated in lower-paying occupations and all but excluded from higher-paying trades, managerial, and professional occupations. In 2017, women comprised 18% of all motor vehicle manufacturing employees (NAICS 3361) and 28% of all motor vehicle parts manufacturing employees (NAICS 3363). As Figure 1 illustrates, the proportion of women in Canada's automotive industry has not changed significantly since the early 2000s. Moreover, these proportions have remained relatively consistent as the total number of automotive manufacturing employees fell from 234,000 in 2000 to 157,000 in 2017. This stands in contrast to the proportion of women in Canada's broader labour force (48%), but is comparable to the broader manufacturing (27%) and utilities (25%) labour forces.

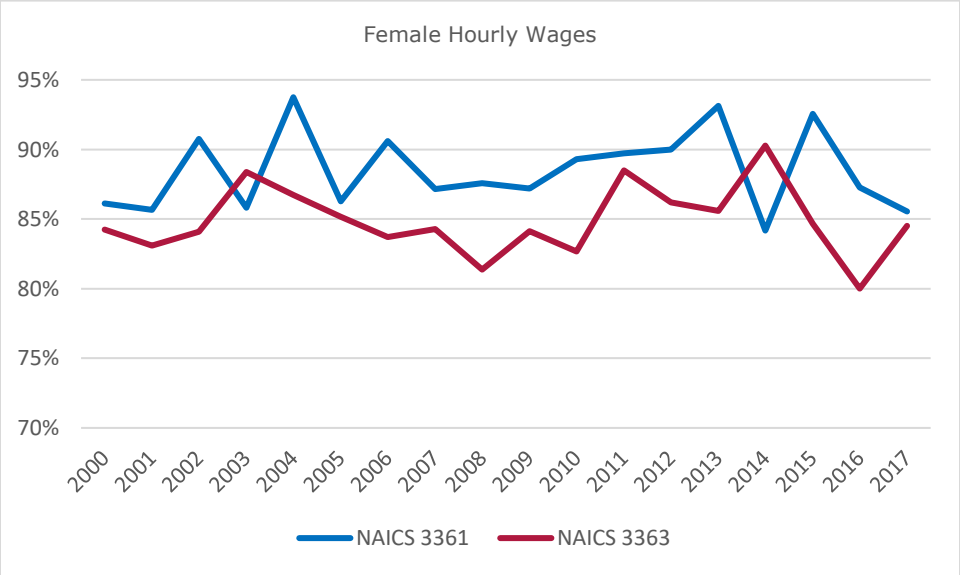
Figure 1. Female Employment as a % Canada's Automotive Industry, 2000-2017.



Source: Statistics Canada (2018a); Labour Force Survey, Table 14-10-0023-01, 2019.

On average, female automotive industry employees earn less than their male counterparts. They are also less likely to be unionized and more likely to be employed on a temporary basis (see Miller, 2018). Between 2000 and 2017 women's hourly wages were, on average, 88% of the average hourly wage in motor vehicle manufacturing and 85% of the average hourly wage in motor vehicle parts manufacturing (Figure 2). One of the reasons for these wage discrepancies is that women who work in the automotive industry tend to be concentrated in lower-paying positions. Census data shows that women who work in motor vehicle manufacturing are far more likely to be employed as assemblers, inspectors, and testers (NOC 9522) than as higher-paying occupations such as supervisors (NOC 9221) or mechanical engineers (NOC 2132). Moreover, the number of female tradespeople working in Canada's motor vehicle manufacturing industry is negligible. The motor vehicle parts manufacturing industry is similar, although the number of female supervisors and tradespeople is slightly higher (Table 1).

Figure 2. Female Hourly Wages as a Proportion of Average Hourly Wages, 2000-2017.



Source: Statistics Canada (2018b); Labour Force Survey, Table 14-10-0064-01.

Table 1. Females as a % of Select Automotive Industry Occupations in Canada.

NOC	Occupation	NAICS 3361 % Female	NAICS 3363 % Female
	All Occupations	19.9%	28.8%
NOC 2132	Mechanical Engineers	7.0%	7.4%
NOC 7232	Tool and Die Makers	0.0%	1.7%
NOC 7242	Industrial Electricians	0.8%	1.6%
NOC 7311	Millwrights and Industrial Mechanics	1.3%	3.2%
NOC 9221	Supervisors	15.7%	36.8%
NOC 9522	Assemblers, Inspectors, and Testers	24.4%	38.0%

Source: Statistics Canada (2016); Census of Population, Catalogue no. 98-400-X2016357.

There is a large body of academic and popular literature that identifies the underlying reasons for the low proportion of women in the automotive manufacturing industry in Canada and in other countries. Some studies note that factors such as job design, occupational and workplace culture, and familial demands that are placed on women but not on men as deter women from working in the industry (Yates, 2006; Levine, 2009; Woodhall and Leach, 2010). Other studies focus on female employees' lack of access to coveted positions. They note the challenges presented by seniority-based promotion systems (Woodhall and Leach, 2010), the lack of female mentors in leadership and high-earning positions (Williams et al., 2014), and employers' concerns about compromising meritocracy in hiring decisions (this is especially the case in the promotion of women to executive and upper management positions; see Giffi et al., 2015). Others still focus on more extreme cases where women face hostile and toxic work environments (Yates and Leach, 2007; Chira and Einhorn, 2017).

There are, however, a number of ways that employers, often working in partnership with governments, educational institutions, and other interest groups, can recruit more women and help advance the careers of incumbent female employees. These include recruitment programs targeted exclusively at women, training and education programs designed specifically for female recruits or existing female employees, hiring targets and mandates, networking events, mentorship programs, and partnerships with educational institutions (MacDougall et al., 2016). Table 2 provides examples of related initiatives implemented by several major Canadian automotive and transportation equipment manufacturing employers.

Table 2. Manufacturers' Initiatives to Recruit and Retain Women.

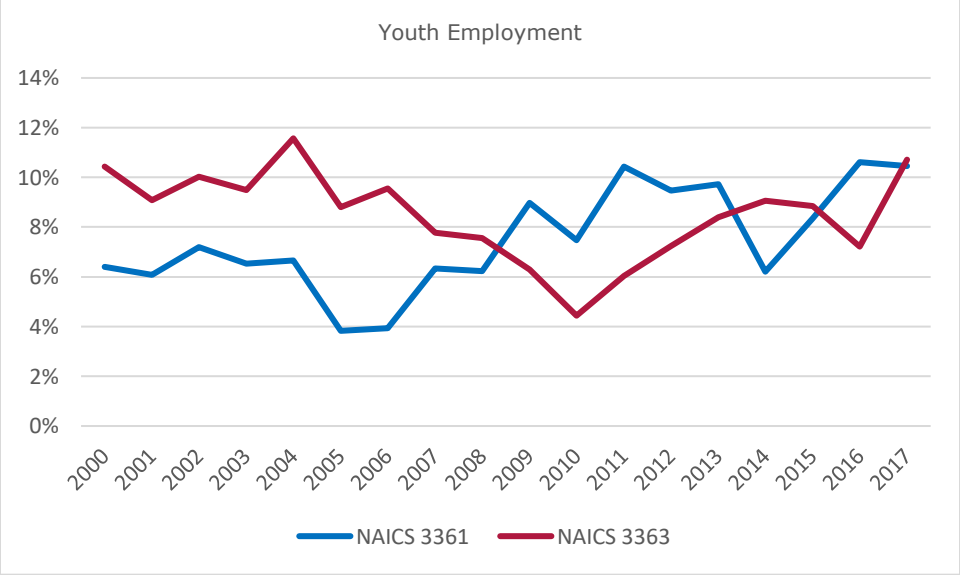
Initiatives	**Companies**
Recruitment • Recruitment programs aimed specifically at women	Honda of Canada Manufacturing • Honda of Canada Manufacturing holds monthly Women@Honda hiring events. • At these events, female applicants are invited to tour Honda's production facilities, hear testimonials from current female employees, and participate in question and answer sessions to learn more about work at a vehicle assembly plant.
Educational Partnerships • Manufacturing-related training programs targeted at women recruits or employees	Irving Shipbuilding, Women's Unlimited, and NSCC • To engage women and address shortages in the metal trades, Irving Shipbuilding of Dartmouth, Nova Scotia partnered with the non-profit organization Women's Unlimited and Nova Scotia Community College to develop and deliver a 14 week 'Career Exploration Program' for women. • Upon completion of the program, participants are eligible to enter NSCC's two-year Welding and Metal Fabrication Program. Upon graduating this program, they are offered employment at Irving Shipbuilding. Several dozen graduates of this program have been hired beginning in 2017.
Mandated Hiring • Collective agreement language that mandates the hiring of female apprentices • Appointing executives in proportion to the number of female employees	Cooper-Standard and Unifor Local 27 • Beginning in 2014, Cooper-Standard Automotive and Unifor Local 27 in Glencoe, Ontario have addressed the gender gap in skilled trades by including language in their collective agreement that mandates the hiring of female apprentices. Linamar • Linamar, Canada's 4th largest automotive industry employer and the world's largest female-led automotive parts manufacturer, has appointed female executives in proportion to the company's total number of female employees since 2016.
Networking/Mentorship • Intra-organizational networking and mentorship opportunities for women	Toyota Motor Manufacturing Canada (TMMC) • Select TMMC employees participate in the annual Toyota North American Women's Conference and TMMC created a mentorship program to help recruit, retain, and improve career advancement opportunities for women.
Funding for Education • Funding educational programs to introduce girls and young women to pursue STEM	General Motors of Canada • In combination with the opening of their Canadian Technical Centre in Markham, Ontario in 2018, General Motors committed $1.8 million to the GM Canada STEM fund, which supports initiatives designed to introduce female elementary and high school students to STEM and, partnership with the University of Waterloo, fund graduate-level engineering research.

Youth and Canada's Automotive Industry

Like women, youth (defined as persons under the age of 25) are under-represented in Canada's automotive manufacturing industry. According to 2017 Labour Force Survey data, youth comprised 13.3% of Canada's labour force in 2017, 10.5% of the motor vehicle manufacturing workforce, and 10.7% of the motor vehicle parts manufacturing workforce. The proportion of youth in the motor vehicle manufacturing and motor vehicle parts manufacturing workforces is, however, higher than the proportion of youth in Canada's overall manufacturing workforce (8.6%).

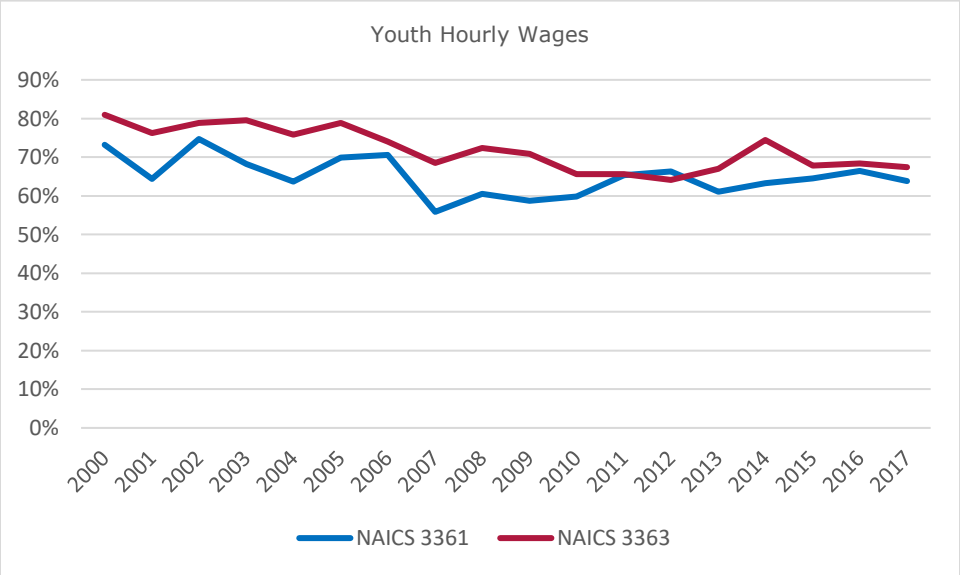
Although youth are under-represented in the automotive manufacturing industry, they have increased as a proportion of the total workforce in the past decade. The proportion of youth in the motor vehicle manufacturing workforce has increased from an average of just over 6% in the early 2000s to over 10% as a result of industry growth, retirements, and hiring by automakers. The proportion of youth in Canada's motor vehicle parts manufacturing workforce decreased throughout the 2000s as the industry contracted, but increased since 2010. These data are illustrated in Figure 3.

Figure 3. Youth Employment as a % of Canada's Automotive Industry, 2000-2017.



Source: Statistics Canada (2018a); Labour Force Survey, Table 14-10-0023-01, 2019.

Figure 4. Youth Hourly Wages as a % of Average Hourly Wages, 2000-2017.



Source: Labour Force Survey (2018b); Labour Force Survey, Table 14-10-0064-01.

Youth working in Canada's automotive industry do not earn as much as their core-aged (25-54 years old) and older (above 54 years old) counterparts. This is not surprising considering that youth lack experience and seniority, and are less likely to occupy managerial and professional positions. More germane to this report, however, is that the average hourly wages of youth working in Canada's automotive industry have decreased relative to the average hourly wages of core-aged and older workers (see Figure 4). This is the result of decreased real entry-level wages throughout the industry and the proliferation of extended 'grow-in' and two-tier wage systems in unionized firms (Sweeney, 2017). When compared to core-aged and older workers, youth are also more likely to be employed on a part-time or temporary basis.

Despite the widening gap in the wages of youth and the remainder of the automotive manufacturing workforce, the wages of youth who work in Canada's automotive manufacturing industry are higher than the wages of youth who work in other industries. In 2017, the average hourly wages for youth who worked in the motor vehicle manufacturing industry ($21.76) and in the motor vehicle parts manufacturing industry ($17.44) was higher than the manufacturing average ($17.12) and then the average for all industries ($15.12). Youth working in the automotive manufacturing industry were also nearly twice as likely to be employed full-time as youth working in other industries.

Given these relatively high wages and the abundance of job opportunities in Canada's automotive industry, why do automotive manufacturing employers face challenges recruiting and retaining youth? Research suggests several reasons why this is the case. First, youth in Canada (and the United States) are often discouraged from choosing manufacturing as a career. This is related to the industry's image, which is itself related to the history of layoffs and plant closures, which can have a disruptive impact on individuals and communities (Neiheisel and Tucker, 2014). Second, and despite its high wages, manufacturing work is not well-aligned with the career aspirations and expectations of youth. Research suggests that youth are motivated by rapid career advancement, purposefulness, and work-life balance, and that manufacturers face challenges offering opportunities that are aligned with these aspirations or have not done a good job communicating these opportunities to potential employees (Harrington et al., 2015). Third, some suggest that employers are not necessarily having difficulty recruiting youth, but rather, they are having difficulty recruiting youth with the proper skills (Smith et al., 2012; Stuckey and Munro, 2013). A lack of youth entering or completing trade and technical schools is of particular concern to manufacturers, especially as a large proportion of tradespeople working in the industry near retirement age. Fourth, seniority rules in unionized workplaces ensure that the most coveted jobs go to older workers and that youth are concentrated in the least desirable jobs (Wilson et al., 2017). Fifth, the relative lack of gender and age diversity may deter younger workers, an increasing number of whom grew up in diverse communities and expect their workplaces to be similar (ESDC, 2017).

There are a number of ways that employers can improve the recruitment and retention of youth, and that policy-makers and educational institutions can help promote opportunities in manufacturing to youth. First and foremost, it is important to expose youth to the opportunities available in manufacturing and the benefits that come with these opportunities. In Canada and the United States, many manufacturers have worked with local workforce institutions, municipal and regional governments, and community colleges to promote annual 'Manufacturing Days' every October. These events provide an opportunity for youth to learn about the career opportunities available in manufacturing, the skills required by manufacturers, and

what type of education is necessary to acquire those skills. Second, manufacturers have engaged directly with local community colleges and high schools to help recruit and train future employees. Third, some firms engage in 'paid-to-learn' hiring, whereby they hire youth with the intent of training them for highly-skilled positions. In these situations, a firm hires an employee and pays them while they receive simultaneous classroom and on-the-job training, with the intention of offering them a full-time position upon completion of their education and training. Table 3 provides examples of recent initiatives designed to improve the recruitment and retention of youth implemented by automotive and transportation equipment manufacturing employers.

Table 3. Manufacturers' Initiatives to Recruit and Retain Youth.

Initiatives	**Examples**
Increased Exposure to Manufacturing	Manufacturing Days • Working with local manufacturer's, municipal and regional governments, workforce development boards, school boards, and community colleges to expose youth to manufacturing • At Manufacturing Days hosted by Workforce Windsor-Essex and the Windsor-Essex Economic Development in 2017 and 2018, hundreds of young people toured automotive tooling and parts suppliers including Windsor Mold, Leggett & Platt, JD Norman, LAVAL International, and Reko International. • At Manufacturing Days hosted by the Workforce Planning Board of Waterloo-Wellington-Dufferin in 2017 and 2018, hundreds of young people toured Kitchener-Waterloo and Cambridge toured automotive industry parts and tooling suppliers such as Ontario Drive and Gear, Kuntz Electroplating, and ATS Automation.
Educational Partnerships	Valiant TMS and St. Clair College • In 2008, Valiant TMS, a manufacturer of automated assembly systems for the automotive and aerospace industries, established a regional training centre at St. Clair College in Windsor to address workforce needs. Participants in this program were offered full-time employment at Valiant upon completion of the 46-week program. St. Clair College has since assumed responsibility for this centre, which continues to focus on training skilled tradespeople for the manufacturing industry (Fairley, 2017).
'Pay-to-Learn'	Cyclone Manufacturing and the Ontario Manufacturing Learning Consortium (OMLC) • Mississauga-based aerospace firm Cyclone Manufacturing partnered with the OMLC to recruit, train, and ultimately hire several CNC machinists. The participants received classroom and on-the-job training, during which time they were paid.

The Automotive Industry and Indigenous Persons

From a pan-Canadian perspective, Indigenous persons are under-represented in Canada's automotive manufacturing industry. Based on recent census data, 3.5% of Canada's workforce identified as Indigenous, while only 2.5% of Motor Vehicle Assemblers, Inspectors, and Testers (NOC 9522) and 2% of Motor Vehicle Assembling Supervisors (NOC 9221) identified as Indigenous. However, the majority of Canada's automotive manufacturing industry is located in regions with relatively small Indigenous populations. If we focus our analysis on Ontario and Québec, which are home to over 97% of Canada's automotive industry, or on particular regions within Ontario and Québec, census data suggests that Indigenous persons are reasonably well-represented in Canada's automotive manufacturing industry.

Table 4 illustrates the proportion of the workforce in Ontario, Québec, and select Census Metropolitan Areas (CMAs) with substantial automotive manufacturing capacity who identify as Indigenous, as well as the proportion of persons categorized as NOC 9221 and NOC 9522 that identify as Indigenous. It shows that the proportion of Indigenous persons working in these two occupations, which are the most common production and supervisory jobs in automotive manufacturing, is on average roughly equivalent to the proportion of that province's or that CMA's workforce that identifies as Indigenous. In some instances the proportion of Indigenous persons working in higher-paying supervisory occupations (e.g. Windsor) is lower, in others the proportion of Indigenous persons in both supervisory and production occupations is higher (e.g. London, St. Catharines). Moreover, the difference in median annual earnings for Indigenous persons working in these occupations is not substantially different than the average for all employees. Taken together, these data suggest that Indigenous persons are at least reasonably well-represented in the regions of Canada where the automotive manufacturing industry is concentrated.

Table 4. Proportion of the Workforce that Identify as Indigenous, Select Occupations.

	Ontario	Québec	Windsor	London	KW-Cambridge	Toronto	Oshawa	St. Catharines
Total	2.4%	2.0%	2.5%	2.0%	1.6%	0.7%	2.3%	2.6%
NOC 9221	2.1%	2.2%	1.4%	3.8%	1.7%	1.0%	2.9%	3.9%
NOC 9522	2.5%	2.1%	3.2%	3.5%	2.3%	0.8%	3.2%	3.1%

Source: Statistics Canada (2016); Census of Population, Catalogue no. 98-400-X2016357.

This is not to say that Indigenous persons – particularly women and youth – do not face barriers to employment in Canada's automotive industry. Nor is it to say that automotive employers do not face challenges recruiting and retaining Indigenous persons or persons from Indigenous communities. Our literature review identifies several of these challenges. First, Indigenous persons working in manufacturing are more likely than non-Indigenous persons to lose their jobs during economic downturns. A Statistics Canada (2011) study found that the employment of core-aged Indigenous persons in manufacturing decreased by 30% during the 2008-2009 recession, compared to an 8% decrease for core-aged non-Indigenous persons (see also Lamb, 2015). Second, Indigenous persons, especially those living on-reserve, face challenges accessing the types of skills and training required by manufacturers. This is often related to the high cost of education that is not offered locally and to a lack of access to transportation between home and school (Statistics Canada, 2011). Third, and while there are a number of federal and provincial government programs designed to help Indigenous persons access employment or apprenticeship opportunities in resource-based industries (e.g. mining, forestry, oil and gas), there are few designed specifically to help Indigenous persons access opportunities in manufacturing. As noted, a large proportion of Canada's manufacturing industry is located in southern Ontario and southern Québec. The proportion of the population that identifies as Indigenous in both of these regions is relatively small compared to the rest of Canada. Indigenous persons living on-reserve outside of Ontario and southern Québec may have very little knowledge of the employment opportunities in Canada's automotive industry specifically and in manufacturing more generally.

There are several ways that manufacturing and resource-based employers have improved their ability to recruit and retain Indigenous persons. These may be

instructive for Canada's automotive manufacturing employers. First and foremost, employers who have had success recruiting and retaining Indigenous persons foster relationships with Indigenous communities and 'Indigenize' certain elements of their hiring and training processes (Vander Wier, 2018). This may involve engaging Indigenous employees as ambassadors for the firm, recruiting directly within Indigenous communities both on- and off-reserve, and engaging Indigenous leaders in the recruitment process. Second, and as part of the broader process of Indigenization, several employers' efforts to identify cultural differences in training, development, and mentoring and design programs with these difference in mind have proven successful (CBC News, 2018). Third, some employers have had success by developing direct and formal partnerships with Indigenous communities, community colleges, and government agencies to recruit, train, and provide employment opportunities to Indigenous persons. Fourth, resource-based firms have developed partnerships with Indigenous-owned businesses that provide important services at their large production facilities. The latter strategy may be particularly relevant to automotive industry employers, the largest of which outsource a large proportion of their logistics and other activities related to production. Table 5 provides examples of initiatives implemented by several Canadian manufacturing, resource, and technology firms to improve Indigenous persons' access to training and employment.

Table 5. Effective Practices to Recruit and Retain Indigenous Persons.

Program	**Partners and Program Details**
Mentorship Programs	Irwin's Industrial Safety • Irwin's Industrial Safety, a risk management and occupational health and safety service provider, has developed emergency services training programs in partnership with Indigenous employment organizations. They place particular emphasis on mentorship programs, whereby early career employees are partnered with more experienced Indigenous employees who help them identify their preferred opportunities within the organization. They expect to mentor and train over 500 people through these partnerships by 2020.
Indigenizing Training	PQA and PLATO • The Fredericton, New Brunswick-based software developer PQA Testing and their sister company, the Professional Aboriginal Testing Association (PLATO), employ more than 60 Indigenous persons across Canada. PQA offers a six-month training course specifically for Indigenous persons as a recruitment tool. The course is delivered in Indigenous communities in New Brunswick and British Columbia, and those who complete it are offered full-time employment (CBC News, 2018). • This program is designed partly to address a growing shortage of software and IT professionals in Canada. Doing so is increasingly important to automotive industry stakeholders, who have invested in automotive software development facilities across Canada.
Educational Partnerships	Irving Shipbuilding, NSCC, and Several Partners • Irving Shipbuilding has developed a partnership with Nova Scotia Community College, Unifor, ESDC, Indigenous Services Canada, the Nova Scotia Office of Aboriginal Affairs, and the Nova Scotia Apprenticeship Agency to mentor and train Indigenous persons in Metal Fabrication. • After completing a 14-week preparatory training program and a Diploma in Metal Fabrication at NSCC, participants are offered full-time employment at Irving Shipbuilding's Halifax Shipyard. A cohort of 12 graduated in the summer of 2018 and began work shortly after (Ships for Canada, 2018).
Business Partnerships	Syncrude • Syncrude has developed a long-term partnership with the Indigenous-owned Fort McKay Group of Companies. The Fort McKay Group employs over 1,000 people – most of whom are Indigenous – who are responsible for a host of logistical activities at Syncrude's Mildred Lake. Syncrude has also developed partnerships with over 50 Indigenous-owned businesses, providing them with over $3 billion worth of business since 1993 (Syncrude, 2018). These provide both employment and business development opportunities for Indigenous persons.

Conclusion

Canadian automotive manufacturing employers face tight labour markets and potentially face shortages of skilled employees in the near future. One of the ways they can address these potential challenges is by implementing initiatives designed to improve employment and training opportunities for under-represented groups such as women, youth, and Indigenous persons. Some of the ways they can do so

include recruitment programs targeted at specific demographics, partnerships with educational institutions and community groups, and mentorship programs that provide support for youth, women, and Indigenous persons in the early stages of their career.

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