



Women in the Automotive Industry:

Increasing Female Representation within B.C.'s Automotive Workforce to Combat the Growing Labour Shortage



AUTOMOTIVE RETAILERS ASSOCIATION
Driving Industry Excellence

Executive Summary

British Columbia's automotive industry is facing a growing labour shortage in 2021. Up to 35 percent of automotive technicians are expected to exit the industry by 2029, largely to retirement.¹ Clearly there is a need for a large influx of new workers, and since women represent only 5 percent of automotive tradespeople and skilled labourers, they very much are an untapped resource.² Appealing to women could be a way for the automotive industry to make up for these labour losses.

A scan of B.C. reveals two organizations that help support the attraction and retention of women in automotive: the British Columbia Centre for Women in The Trades (BCCWITT) and the Industry Training Authority (ITA). The BCCWITT supports all women in skilled trades through trainings, mentorship, networking, and job matching. The ITA financially supports BCCWITT and has committed to training all their staff on the challenges women face in the industry.

Looking internationally, many groups can be found that support women in various trades. They tend to have overlapping goals and initiatives including:^{3 4 5 6 7}

- Introductory training such as site visits, blueprint readings, and basic skills
- Networking opportunities and conferences
- Scholarships and grants
- Mentorships
- Safety, strength, and sexual harassment training
- Recruitment events

Networking and mentorship specifically are shown to be beneficial to women in the workforce. Mentorship is a strong retention factor for all millennials, but particularly for women in the trades since they start on unequal footing in comparison to men.⁸ Women tend to be less exposed to trades work in their upbringings and have more misunderstanding about careers in the trades.

¹ "Automotive Service Technicians, Truck and Bus Mechanics and Mechanical Repairers (NOC 7321)," WorkBC, Province of British Columbia, last modified March 25, 2021 <https://www.workbc.ca/careers/7321#earnings-and-outlook>.

² "Automotive Sector Labour Market Information Report," MNP, October 21, 2016, https://www.mvsabc.com/about-the-vsa/studies-and-surveys/2016_mnp_automotive-sector-labour-market-information-report.pdf.

³ "Why Aren't There More Women of Colour in Automotive?" Women of Color Automotive Network, accessed August 12, 2021, <https://www.wocautonetnetwork.com/blog/why-arent-there-more-women-of-color-in-automotive>.

⁴ "Networking and Development," Autocare Association, accessed August 12, 2021, <https://www.autocare.org/networking-and-development>.

⁵ "Women in HVACR History," Women in HVACR, accessed August 12, 2021, <https://www.womeninhvacr.org/webapp/p/42/women-in-hvacr-history>.

⁶ "Who We Are," Women in Skilled Trades, accessed August 12, 2021, <https://www.wistmichigan.org/about>.

⁷ "Programs," Women Who Weld, accessed August 12, 2021, <https://www.womenwhoweld.org/programs>

⁸ "The 2016 Deloitte Millennial Survey," Deloitte, accessed August 12, 2021, <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/About-Deloitte/gx-millennial-survey-2016-exec-summary.pdf>.

Primary research was also conducted in the form of two surveys and 15 interviews in order to understand the female experience in B.C.'s automotive industry. Survey 1 was sent to all contacts of the Automotive Retailers Association, male and female, with 102 responses. This survey found that 40 percent of women are brought into the automotive industry by someone in their lives rather than from an interest in cars. 85 percent of respondents had positive feelings towards their workplaces. Survey 2 was posted to the BC Women in the Trades Facebook group and received 82 responses with five of those being from women in automotive trades. Women in this survey largely enjoyed their jobs, and yet 90 percent agreed they had faced discrimination at work. They largely desired a network of women in their industry, more female peers and managers, and customers being more accepting of female tradespeople. Another interesting insight was that the majority of women found their trade when they were over 18, particularly in the 19-25 age range. This may be useful information when deciding which demographics to target to attract women to the automotive industry.

The final step in the primary research process was personal one-on-one interviews with industry employees and leaders. These interviews offered further insights into men and women's experiences in the automotive industry, with some people able to offer perspective from the last 30 years have been able to track changes and challenges over time. People consistently spoke to how much the industry has improved in its treatment of women in the last 15 years. However, there also was an emphasis that many of the problems women face continue to this day, such as customers not wanting a "girl working on their car" or to a lesser extent, not being respected by coworkers as a woman in the automotive industry.

Following the culmination of this primary and secondary research, the ARA has devised the following recommendations:

1. Build role models for men and women in the automotive industry that serve different needs for different genders.
2. Innovate upon existing tools and resources to help employers become more inclusive of women and incentivise employers to take on apprentices from minority groups.
3. Target those over 18 when trying to attract more women into the automotive industry.
4. Campaign to change public perception of female automotive industry workers and build the trust of the public in their work.
5. Create a continuing forum for women in the automotive industry where people can share stories, collaborate, and connect with male allies.

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1 Background and Overview of the Automotive Industry Labour Shortage

Established in 1951, the Automotive Retailers Association (ARA) represents eight different automotive industry sub-sectors including mechanical repair and collision repair; towing and recovery; glass repair; rental and licensed motor dealers; automotive recyclers; and motorcycle and power sports dealers.

The ARA has successfully carried-out several industry initiatives funded through the provincial Labour Market Partnership (LMP) Program. Preliminary research funded through the partnership identified severe labour shortages in the automotive trades and the need to actively recruit and retain apprentices. The research launched a number of initiatives including the formation of the BC Auto Sector Alliance (BCASA). BCASA later developed the BC Auto Careers website, which functions as a valuable resource for students and prospective employees wishing to pursue a career in the automotive industry.

In 2011, it became increasingly evident that the automotive industry was facing a labour shortage and that if not dealt with would have serious impacts on the viability of the industry to recruit and retain skilled workers. In fact, this was a growing concern faced by many industries, not just the automotive industry. In 2012, the ARA applied for funding through the LMP to begin research on the impact this labour shortage was having and to develop initiatives that would help ameliorate the crisis. The following year the ARA established its BC Auto Careers website with the intent of providing solutions for employers in the recruitment of workers. In 2016, again with funding providing through the LMP the ARA conducted research into the labour market shortages that made projections through to 2026 and if not dealt with would cause serious disruptions for industry.

As detailed in the 2016 Labour Market Initiative report, the trades in B.C. and specifically the automotive industry are facing a labour shortage. Women are a primary source of untapped labour; the automotive industry has almost no female representation in skilled trades such as automotive service technicians and other technical non-trade occupations, such as tow truck operators, and auto recyclers.

The ARA has compiled this report to find ways to address the labour shortage in the automotive industry through the attraction and retention of female workers. The goals are to give recommendations on how to attract and retain more female workers, to present research findings regarding the industry environment, and to create awareness of the barriers and challenges the industry is facing when attracting female labour. This report includes a jurisdictional review of national and international initiatives to attract and retain women in the automotive industry, a literature review of other male dominated fields and methods for successful employment of women and minorities, and an analysis of two surveys and fifteen interviews with current automotive industry workers in B.C.

The Automotive Industry in this paper means any business or occupation involved in the retail, repair, or service of a vehicle. When this paper refers to a lack of female representation in the automotive industry, it is referring to the skilled trades and technical non-trades such as those listed in Tables 1 and 2. It is not referring to office jobs such as accounting and insurance where there is already a strong female presence.

The automotive industry expects to see 20 percent of their workforce exit the industry by 2026, significantly to retirement. Available jobs in the automotive industry are expected to grow by 7 percent over the next five years, while the number of apprentices completing their respective programs will only fill 60 percent of these positions.⁹

A simultaneous problem is that there is little to no female representation in the technical sector of the automotive industry, while women are overrepresented in areas such as accounting and insurance. Male career dominance is seen in skilled trades, non-trade labour, executive roles, and dealership roles where the average number of female workers is 5 percent.⁹

In addition to being a large source of potential labour, women also bring diversity to the automotive industry. Studies have found that companies in the top proportion of gender diversity have higher than average profits for their industry, while Harvard Business School found that companies leading in gender diversity are also more productive.^{10 11 12} A BCIT study suggested that women even outperform men in literacy and problem-solving while in technology rich environments.¹³ Employing women in technical automotive roles can not only fill open positions, but also help propel the industry forward.

Although the proportion of females working in the industry is slowly increasing, women continue to encounter barriers and challenges that hold them back such as a lack of exposure to the trades, misunderstandings of what trades jobs entail, and improper treatment at work. This report also explores the historic and current culture within the automotive industry, in which most women feel they have experienced discrimination. Women should feel welcome and safe entering the automotive industry in 2021; people should not have to have “thick skin” at their workplace, they should simply be treated with respect. It is important to analyze what barriers might be in place and what may be discouraging women from working in the automotive industry, even if some of those factors are subconscious and unintentional.

2 Current Demographics

The automotive industry in B.C. has very little female representation in skilled trades and technical non-trade positions. Women represent anywhere from 0-12 percent of the six skilled trades positions, with an overall representation of 1 percent.⁹ Table 1 shows a breakdown of male and female participation in six skilled automotive trades from the last five years.

⁹ “Automotive Sector Labour Market Information Report,” MNP, October 21, 2016, https://www.mvsabc.com/about-the-vsa/studies-and-surveys/2016_mnp_automotive-sector-labour-market-information-report.pdf.

¹⁰ Letian Zhang, “An Institutional Approach to Gender Diversity and Firm Performance,” Harvard Business School, accessed August 12, 2021, https://www.hbs.edu/ris/Publication%20Files/An%20Institutional%20Approach%20to%20Gender%20Diversity%20and%20Firm%20Performance_4c0479f3-9d13-4af8-82da-7f1713af940d.pdf.

¹¹ David Coffin and Amanda Lawrence, “Demographic Diversity in U.S. Automotive Manufacturing,” US Trade Commission, September 2020, https://www.usitc.gov/publications/332/executive_briefings/ebot_auto_worker_demographics.pdf.

¹² Dragana Stojmenovska, Thijs Bol and Thomas Leopold, “Does Diversity Pay?,” *American Sociological Review* Vol. 82, no. 4 (2017): 857-867 <https://www.jstor.org/stable/26426359>.

¹³ “Impact of Certification on Trades Skills in British Columbia,” British Columbia Institute of Technology, accessed August 13, 2021, <https://engage.gov.bc.ca/app/uploads/sites/672/2021/06/BCITFinalReport.pdf>.

Table 1: 2016 Male and Female Participation in the Skilled Automotive Trades⁹

Occupation	Male	Female
Partsperson	90%	10%
Automotive Service Technician	99%	1%
Auto Glass Technician	99%	1%
Automotive Painter	98%	2%
Auto Refinishing Prep Technician	88%	12%
Collision Repair Technician	100%	0%
Total	99%	1%

The percentage of women in technical non-trade positions in the automotive industry is noticeably higher than in the skilled trades, but technical non-trades are still significantly male dominated. It is currently unknown why there is a greater female presence in technical non-trades than skilled trades in the automotive industry. One hypothesis is that these technical non-trades have fewer barriers to entry such as less training and therefore they are lower risk positions to enter into as a woman who may be unsure about a career in conventionally male spaces. Further research should be conducted to investigate this relationship. Table 2 shows the male and female proportions of industry workers in technical non-trade automotive jobs.

Table 2: 2016 Male and Female Participation in Automotive Technical Non-Trades⁹

Occupation	Male	Female
Inventory/Warehouse Person	78%	22%
Lot Person	97%	3%
Auto Dismantler	92%	8%
Tow Truck Operator	99%	1%
Parts Delivery Driver	97%	3%
Detailer	84%	16%
Shop Helper	94%	6%
Total	92%	8%

Female representation is growing, and each skilled trade other than Automotive Service Technician has a higher proportion of female apprentices than of current female workers, indicating an increase of women entering the industry.⁹

The position of 'Inventory/Warehouse Person' holds the most female jobs at 22 percent and the average percent of female workers is 8 percent in technical non-trade positions. Women are more visible in other sectors of the automotive industry, such as finance officer, warranty clerk, and customer service representative. It is specifically in the skilled trades and technical non-trades where a lack of female representation is evident. These industry sectors are where the focus will be placed in attracting and retaining more female workers.

Women make up almost half the labour pool in Canada and are a nearly untapped resource for the automotive industry.¹⁴ In order to keep up with demand for skilled trades and technical non-trade labour, accessing this resource would be valuable. Hiring for these jobs in B.C. will grow more challenging as a labour shortage increases. Employers should ensure they are not excluding any talent pools, especially ones as large as the female population.

WorkBC has listed automotive service technicians, truck and bus mechanics, and mechanical repairers in its top 10 high opportunity occupations due to workforce retirements and growth within the sector.¹⁵ ¹⁶ See Table 3 for a regional breakdown of these job opportunities within B.C.

Table 3: Geographic Growth of Automotive Service Technician, Truck and Bus Mechanic, and Mechanical Repairer Jobs¹⁶

Region	Employment in 2019	Average Annual Employment Growth 2019-2029	Expected Number of Job Openings in 2019-2029
Cariboo	1,010	0.5%	210
Kootenay	930	0.3%	230
Mainland/Southwest	11,290	0.7%	3,300
North Coast & Nechako	540	0.8%	140
Northeast	700	2.3%	310
Thompson-Okanagan	2,270	1.0%	780
Vancouver Island/Coast	2,830	1.6%	1,200

Ultimately, there are some limitations to the data collection for these industry demographics. This information was primarily taken from the Automotive Sector Labour Market Information Report, which is from 2016. The report has relatively low participation rates from employers in the Aftermarket Parts, Auto Rental and Leasing, and Power Sport Dealer sub-sectors.

3 History of Working Women in Canada

As of 2019, women made up 47 percent of the Canadian labour force.¹⁷ They work in a wide variety of jobs and with laws and regulations that protect their rights. Women's equality in the

¹⁴ "Women in the Workforce," Catalyst, August 19, 2020, <https://www.catalyst.org/research/women-in-the-workforce-canada/>.

¹⁵ "British Columbia Labour Market Outlook: 2019 Edition," WorkBC, Province of British Columbia, accessed August 13, 2021, https://www.workbc.ca/getmedia/18214b5d-b338-4bbd-80bf-b04e48a11386/BC_Labour_Market_Outlook_2019.pdf.aspx.

¹⁶ "Automotive Service Technicians, Truck and Bus Mechanics and Mechanical Repairers," WorkBC, Province of British Columbia last updated March 25, 2021, <https://www.workbc.ca/careers/7321#view-full-profile>.

¹⁷ "Labor Force, female (% of total labor force) – Canada," The World Bank, June 15, 2021 <https://data.worldbank.org/indicator/SL.TLF.TOTL.FE.ZS?locations=CA>.

workplace has improved significantly, as women can now legally hold any job and gender-based discrimination is illegal. Regardless, the work is not complete as some workplaces still maintain societal barriers that keep women away.

In the early 1900's approximately 20 percent of women were working outside the home, most commonly as teachers, servants, dressmakers, seamstresses, or similar homemaker roles¹⁸. World War I brought more women into the workforce, specifically towards war production and agriculture.¹⁹ World War II led to an increase of female labour as well, again working in conventionally male roles. All of a country's assets were needed at this time, including women. They took on increased office and clerical jobs as well as factory duties and manufacturing of war materials in order to free men to fight.²⁰

This began a societal shift in perception of women in the workforce, as many did not want to leave their jobs even after men returned home. The pride and accomplishment women felt in learning a trade or other job was not easy to give up and went on to fuel the women's liberation movement²¹. Other advances such as the birth control pill gave women the power to decide when and how many children they wanted, freeing them to pursue a career if desired. Electrical appliances such as washing machines, freezers, and microwaves gave women more time and therefore aided them in entering the workforce as well.²²

In 1975, women were in the workforce more than ever before, however they made only 60 cents to the dollar of what a man made²³. By 1983, Canada prohibited sexual harassment at work. Although working life for female Canadians had progressed significantly, they still faced serious prejudice and intolerance. In 1989, fourteen women in engineering were killed at École Polytechnique in Montreal as the murderer yelled "I hate feminists."²³

In 2021, women account for nearly half of the workforce and are openly encouraged to pursue any career of their choice. Although the progress is undeniable, the work is not complete. Many fields are still male dominant, especially in the automotive industry.

Change is clearly possible, as has been seen with other traditionally male dominant fields. Canadian women were granted 54 percent of medical degrees by 2018.²⁴ Almost half of

¹⁸ Janet Yellen, "The History of Women's Work and Wages and How it Has Created Success For us All," Brookings Institute, May 2020, <https://www.brookings.edu/essay/the-history-of-womens-work-and-wages-and-how-it-has-created-success-for-us-all/>.

¹⁹ "Women in World War I," The National World War I Museum and Memorial, accessed August 13, 2021, <https://www.theworldwar.org/learn/women>.

²⁰ "History at a Glance: Women in World War II," The National World War II Museum, accessed August 13, 2021, <https://www.nationalww2museum.org/students-teachers/student-resources/research-starters/women-wwii>.

²¹ "Beyond the Story: American Women During World War II," Scholastic, 2016, video, <https://www.youtube.com/watch?v=nxDdVoiLHcg>.

²² University of Montreal, "Fridges And Washing Machines Liberated Women, Study Suggests" ScienceDaily. ScienceDaily, 13 March 2009, <https://www.sciencedaily.com/releases/2009/03/090312150735.htm>.

²³ "Canadian Women's History," Public Service Alliance of Canada, accessed August, <https://psac-ncr.com/canadian-womens-history#:~:text=1941%3A%20Women%20made%20up%2019.9,no%20longer%20lose%20their%20citizenship>.

²⁴ "Canadian Medical Education Statistics 2019," The Association of Faculties of Medicine of Canada, accessed August 13, 2021, https://www.afmc.ca/sites/default/files/pdf/CMES/CMES2019-Complete_EN.pdf.

Canadian lawyers are female as well.²⁵ It is evident that strides are being made and women are capable of prevailing in previously male dominated fields. This research document explores the migration of women entering a field that remains male dominant in 2021: skilled trades and technical non-trades in B.C.'s automotive industry.

4 Childhood Car Toys and Developing Interests in Automobiles

Research was done to determine if a specific age group should be targeted when attempting to attract more women into the automotive industry. Dr. Joyce Alexander is the dean of education and human development at Texas A&M University where they have explored the intersection of childhood play and childhood development.²⁶ She found that kids who played with toys like cars, trucks, bulldozers, and machinery can show interest by the time they are 18 months and can develop a sustained interest by the time they are four.^{27 28} Parents also have a significant influence on the interests of their children, especially in the preschool years, and can support these interests with relevant toys and activities.²⁷ This concept suggests that parents are partially responsible for initiating their children's interests based on what toys and activities they provide. Since boys tend to receive car toys more than girls do, parents may be disproportionately fostering an interest in cars amongst their sons far more than they are with their daughters.

These longitudinal studies do not necessarily present a link between established interests in childhood and long-term career paths, however they do show that childhood interests in mechanics (cars, trucks, bulldozers, planes) help girls identify as being "good" at science and leads them to a positive self-image.²⁹ Even if interesting car toys do not necessarily correlate with careers in the automotive industry, helping girls identify as being good at science and interested in mechanics sets up some of the self confidence that many women agree is important for navigating male dominated industries, as discussed with industry members interviewed for this report. See section 8.2 for more details of these interviews.

Although parents can try their best to provide interesting toys and engage their children in certain activities, there is no guarantee that a child will grow to secure any particular interest. There is however, a line of thinking that these childhood activities can initiate an interest in which people return to later in life. A girl may not grow up completely intrigued by cars, but

²⁵ "Membership (2017 Statistical Report of the Federation of Law Societies of Canada)," Federation of Law Societies of Canada, accessed August 13, 2021, <https://flsc.ca/wp-content/uploads/2019/04/2017-Stats-Report.pdf>.

²⁶ Brett Berk, "Playing with Cars: How Kids Become Adults Obsessed with Machines," Car and Driver, August 9, 2020 <https://www.caranddriver.com/features/a33545738/playing-with-cars/>.

²⁷ Joyce Alexander, Kathy Johnson, and Mary Leibham, Interest in Mathematics and Science Learning, (American Educational Research Association, 2015), 268-274, ebook.

²⁸ Joyce Alexander, Kathy Johnson, and Mary Leibham, "Science Interests in Preschool Boys and Girls: Relations to Later Self-Concept and Science Achievement," Science Education, Vol. 97, no. 4: 574-593 (2013) <https://doi.org/10.1002/sce.21066>.

²⁹ Joyce Alexander, Kathy Johnson, Ken Kelley, "Longitudinal Analysis of the Relations Between Opportunities to Learn About Science and the Development of Interests Related to Science," Science Education, Vol. 96 no. 5: 763-786 (2012), DOI 10.1002/sce.21018.

experiences like childhood play or working on cars with family members are sometimes factors. Section 8 discusses surveys and interviews conducted for this research document where some respondents indicated that “tinkering with cars alongside [their] dad” or “growing up around cars” had exposed them to basic automotive work.

5 Jurisdictional Review

A jurisdictional review was conducted to understand how various regions are approaching the issue of labour shortages and female underrepresentation in the trades.

5.1 B.C. Initiatives to Increase Female Participation in the Automotive Industry

British Columbia has groups and government authorities to support women in the trades such as the British Columbia Centre for Women in the Trades (BCCWITT) and the Industry Training Authority (ITA). There are also less formal resources such as the BC Women in the Trades Facebook group.

BCCWITT has programs to support all women in trades, not specifically automotive trades. They have regional representatives around the province to champion female support, as well as their “More Than a Bystander” three-day course where people are taught about bullying and harassment and how they can build competencies to act as an ally to women in their industry.³⁰ The goal is to have enough leaders take this course and initiate top-down cultural change at work. It should be noted that the More Than a Bystander program presents a significant barrier: it is a three-day program and many business leaders do not have the ability to take that much time off work, especially small shop owners. Although BCCWITT can connect people with WorkSafe BC, VictimLink BC, or Ending Violence Association of BC, they only gets those types of calls and reports two or three times per year according to BCCWITT team members. More often, they talk to women who experience bullying, harassment or other forms of gender-based problems on the job. BCCWITT has an Outreach Coordinator and a Career Coordinator who are both Red Seal tradeswomen and are available to talk to anyone who needs help. They have found that more often than not it is enough for women to just have an understanding person to talk to. BCCWITT has a goal of increasing the proportion of women in the skilled trades above the provincial average of 4 percent through networking, mentorship, job matching, career training, and advocacy. They do not actively recruit new women to the trades, but focuses more on retention of those who are already working in the industry.³¹

The ITA is a BC government authority that “issues credentials, supports apprenticeships, funds programs, set program standards and increases opportunities in the trades.”³² According to their industry relations team, they have made the commitment to have every member of their staff

³⁰ “Be More Than a Bystander,” BC Centre For Women in the Trades, BC Centre For Women in the Trades, accessed August 13, 2021, <https://form.jotform.ca/93095461572260>.

³¹ “About Us,” BC Centre For Women in the Trades, BC Centre For Women in the Trades, accessed August 13, 2021, <https://bccwitt.ca/about/#initiatives>.

³² “Overview,” ITA BC, Industry Training Authority, accessed August 13, 2021, <https://www.itabc.ca/overview/about-ita>.

trained in the aforementioned “More Than a Bystander” program, including office staff as well as those in the field such as apprenticeship advisors. The ITA also employs a Director of Equity to help maintain and improve their efforts of advocacy for all underrepresented groups in the trades including women, indigenous peoples, people with disabilities, and members of the lesbian, gay, bisexual, transgender, and queer communities. The ITA has also put forward a guidebook of best practices for employing women in the trades. It includes suggestions such as:³³

- Ensuring to use photos of diverse groups if you have any images on your website or job ad in order to demonstrate representation and inclusion.
- Only asking questions related to the job and not asking questions regarding aspects of someone’s personal life (such as marital status, number of children, daycare arrangements, age, ethnic background or religion).
- Clearly setting expectations and asking the same question to all candidates. An example would be “Shifts commonly start at 7 am and/or 3 pm and dependability is important to us. Will you be able to be on time at all of our worksites?”
- Ensuring the workplace has safety equipment and personal protective gear that is properly fitted for employees of all sizes and body types.

The ITA is also financially supportive of programs run by the BCCWITT and ensure their staff are educated on the issues faced by these underrepresented groups.

The British Columbia Institute of Technology (BCIT) offers a Trades Discovery Program for Women. This is a sixteen-week full-time course that introduces women to 15 different trades and their associated skills, including wiring and working on mechanical systems in automobiles³⁴. Although this program exposes women to these potential career paths, it is a costly way to sample these industries at \$2,600 and therefore may be out of reach to some of the population. Following the completion of the Trades Discovery Program for Women, students are ready to begin the training of their choice, not necessarily the work of their choice. The financial barrier of \$2,600 in addition to taking sixteen weeks off work to complete this course makes it inaccessible for many women.

Next looking to social media, one will find the BC Women in the Trades Facebook group with over 2,000 members. This casual online network is a space for women to exchange stories, vent, collaborate, give advice, and support each other. A survey conducted among these women indicated that since there are so few women in the trades in B.C., for many women this Facebook group is their only communication with other female trades workers. See section 8.1.2 for further information about this survey. There are no events or in-person networking activities; this online community is casual and does not necessarily facilitate close bonds or deep networks.

³³ “Your Ticket to Best Practices,” ITA BC, Province of British Columbia, accessed August 13, 2021, <https://www.itabc.ca/sites/default/files/docs/discover/WITT/WITT%20Best%20Practices%20Guide%20March%202018.pdf>.

³⁴ “Trades Discovery For Women,” BCIT, British Columbia Institute of Technology, accessed August 13, 2021, <https://www.bcit.ca/programs/trades-discovery-for-women-associate-certificate-full-time-1190acert/#overview>.

5.2 American Organizations that Promote Women in Trades and the Automotive Industry

When researching groups outside of Canada that support women in the trades, common goals and structures emerge. For example, in the United States there are many groups for women in trades and the automotive industry such as Women in Skilled Trades, Women in HVACR, Women Who Weld, Auto Care Association, and Women of Color Automotive Network (WOCAN). These groups have overlapping actions that most often include:^{3 4 5 6 7}

- Introductory training such as site visits, blueprint readings, and basic skills
- Networking opportunities and conferences
- Scholarships and grants
- Mentorships
- Safety, strength, and sexual harassment training
- Recruitment events

Women Who Weld for offers weeklong intensive training programs as well as single day introductory welding workshops that provide some basic training and information about opportunities in the welding industry at subsidized costs to participants.⁷ Other groups such as WOCAN are more heavily focused on networking events for women and professional progression.³ Although each group may have slightly different goals, the overall approaches tend to be quite similar: increase representation of women or other visible minorities through networking and training while attempting to attract new talent.

5.3 Irish Incentives That Promote Women in Trades and the Automotive Industry

Looking outside of North America, Ireland is an interesting example of intentional inclusion in trades. In 2018, the Government of Ireland sponsored a review of pathways to apprenticeship and established an action plan to improve accessibility of trades careers. Of almost 15,000 apprentices in 2018, 85 percent were men under the age of 25.³⁵ To combat the significant gender imbalance in apprenticeships, the government offers a bursary of €2,666 (approximately \$4,000 CAD) over the training duration to employers who take on female apprentices³⁵. This bursary has been available since 1990 but has not been shown to make a significant difference on the number of female apprentices, likely because there is little knowledge among employers regarding this bursary as well as how and where to get it, making it somewhat inaccessible. This review also identified people with disabilities as being significantly underrepresented in apprenticeships.

Following this review, the Action Plan for Apprenticeships in 2021-2025 was created. Ireland has expanded the bursary to reach people with disabilities and lone parents in addition to

³⁵ “Review of Pathways to Participation in Apprenticeship,” SOLAS learning works, Government of Ireland, November 2018, <https://www.solas.ie/f/70398/x/fb640012f5/pathwaysapprenticeshipreviewnov18.pdf>.

women.³⁶ The bursary for gender minorities is available for any apprenticeship with more than 80 percent of apprentices coming from a single gender.³⁶ This means it would also be available to men in any apprenticeship that is more than 80 percent female, such as hairdressing.

In addition to these government incentives, the Society of the Irish Motor Industry (SIMI) also hosts an annual event called Women@SIMI where they host prominent guest speakers to discuss topics such as female representation, automotive industry perceptions, and motivation.^{37 38}

Women in Motorsport Ireland is an online Facebook community with over 5,000 members. The goal is to inspire ladies within motorsports and keep them up to date with all motorsport news. It is not primarily a platform used for networking, and is more geared towards sharing news stories of female success in any discipline of motorsport.

6 How Other Male Dominated Fields are Increasing Gender Diversity

Other historically male-dominant fields include the NFL and engineering. Looking at how these industries are making themselves more inclusive to women is an educational tool for the automotive industry as well.

The Arizona Cardinals hired Jennifer Walter in 2015 as the NFL's first female coach.³⁹ Since then, the league has made a conscious effort to bring in more female scouts and coaches. Many job opportunities in the NFL are acquired through networking – which is largely dependant on what football team someone played for in university – and therefore women are largely shut out. The NFL recognized this and in 2017 began hosting an annual Women's Careers in Football Forum where experienced women could meet with head coaches and executives.⁴⁰ The program has been successful, and women have been hired into coaching and scouting rolls after networking at this event. In 2021, the league now has six female coaches.⁴¹ In this situation, women who were interested in working as coaches and scouts were unintentionally shut out of these roles, and in recognizing this, the NFL has been able to make a change in

³⁶ "Action Plan for Apprenticeship," Department of Further and Higher Education, Research, Innovation and Science, Government of Ireland, last updated July 12, 2021, <https://www.gov.ie/en/publication/0879f-action-plan-for-apprenticeship-2021-2025/>.

³⁷ "About Women@SIMI," SIMI, Society of the Irish Motor Industry, accessed August 13, 2021, <https://www.simi.ie/en/about-us/women-simi>.

³⁸ "Women@SIMI Discuss, Female Representation, Automotive Perceptions and Motivation," SIMI, Society of the Irish Motor Industry, September 18, 2018, <https://www.simi.ie/en/news/women-simi-discuss-female-representation-automotive-perceptions-and-motivation>.

³⁹ Nancy Armour, "Jen Welter is still Changing the Game by making sure other women follow her to the NFL," USA Today, July 14, 2020 <https://www.usatoday.com/story/sports/columnist/nancy-armour/2020/07/14/first-woman-coach-nfl-jen-welter-made-sure-she-wasnt-last/5432004002/>.

⁴⁰ "Women's Careers in Football Forum," NFL Football Operations, National Football League, accessed August 13, 2021, <https://operations.nfl.com/inside-football-ops/community-impact/giving-back-to-nfl-communities/womens-careers-in-football-forum/>.

⁴¹ Courtney Connley, "Meet The Women Who Will Be Coaching on The Sidelines In The NFL Playoffs," CNBC Make It, January 9, 2021, <https://www.cnbc.com/2021/01/09/women-who-will-be-coaching-in-the-nfl-playoffs.html>.

order to bring women in. This was a conscious effort and a demonstrable action taken by the NFL after recognizing a lack of female staff and building a pathway for women to enter the industry.

The world of engineering is encouraging female engagement as well. Women were excluded from professional engineering education through the 19th century and most of the 20th century. In the 1950's women accounted for less than 1 percent of engineering graduates.⁴² By 2020, 19 percent of newly licensed engineers in B.C. were women. Much like the NFL, Engineers Canada is now actively taking steps to increase female participation in engineering. The initiative "30 by 30" launched in 2010 with the goal of increasing representation of women in engineering to 30 percent by 2030. Some of their work includes providing scholarships, increasing representation of female engineers in the media and community, and tracking progress towards the initiative to determine which programs have been successful or unsuccessful.^{43 44}

The NFL and Engineers Canada demonstrate that increasing female engagement in a traditionally male-dominated field can be an active and intentional decision, not necessarily something that only happens passively. Although there are other factors that have encouraged female representation in these fields – such as an increasing interest and exposure coming from women – it has also been important for the industry leaders to take responsibility for the intentional inclusive of women and visible minorities in order to aid in breaking down social barriers that have historically kept women away from these professions.

7 Factors of Female Career Success

Women in the workplace sometimes have different needs than men.

Female career success has been correlated to the maintenance of social and professional relationships with other women in their industry. It has been studied that women who are most successful in their field had close networks of women "connected to many non-overlapping third-party contacts."⁴⁵ Less successful women in the study tended to have looser connections or male-dominated networks. Women with these desirable close female networks gain access to valuable information: unwritten rules, impressions on how to present to recruiters, who is hiring, salaries from across firms, and company reputations. The women provide each other with "gender-specific private information and support" as well as "job-market information scattered among separate contacts."⁴⁵

These results support the work of BCCWITT and other similar groups who largely focus on building networks and mentor relationships for women in the automotive industry. It is shown to

⁴² Amy Bix, "Girls Coming to Tech: A History of American Engineering Education for Women" History Books, Iowa State University, 2014, http://lib.dr.iastate.edu/history_books/4.

⁴³ "Reaching 30 by 30," Engineers Canada, Engineers Canada, accessed August 13, 2021, <https://engineerscanada.ca/sites/default/files/30by30-en.pdf>.

⁴⁴ "30 by 30," Engineers Canada, Engineers Canada, accessed August 13, 2021, <https://engineerscanada.ca/diversity/women-in-engineering/30-by-30>.

⁴⁵ Yang Yang, Nitesh V. Chawla, and Brian Uzzi, "A Network's Gender Composition and Communication Pattern Predict Women's Leadership Success" Proceedings of the National Academy of Sciences of the United States of America, Vol. 116, no. 6: 2033-2038, (2019), <https://doi.org/10.1073/pnas.1721438116>.

be a valuable part of women's careers. A 2016 study from Deloitte analyzed businesses in developed and emerging economies, finding that mentorship is a major factor for millennial retention.⁴⁶

LinkedIn data shows another way that women's job hunts differ from men's: upon analyzing billions of interactions between companies, candidates, recruiters, and hires, they found that women are more selective than men are and apply for 20 percent fewer jobs.⁴⁷ This could also be because women tended to apply for jobs only when they had close to 100 percent of the qualifications whereas men tended to apply when they had about 60 percent of the qualifications. Women were also 10 percent more likely to apply for jobs that posted salary ranges, and their job selections indicated they strongly value benefits and healthcare.

8 Primary Research Regarding B.C. Women in the Automotive Industry

Most research regarding women in the trades is focused on construction. There is little data regarding female automotive industry workers, specifically in B.C. The ARA initiated data collection regarding women in the automotive industry via two surveys: one for all automotive workers in B.C. (survey 1), and one for all female tradespeople in B.C. (survey 2). Survey 1 was sent to all ARA automotive industry contacts in B.C. as well as being posted to the ARA Twitter and LinkedIn. Survey 2 was posted to the BC Women in the Trades Facebook group. Both surveys were open for at least two business days. Following the surveys, there were 15 interviews conducted with men and women in the automotive industry to gain a deeper understanding of specific issues and develop further insights into the barriers and challenges that women face at work. The interviewees were participants from survey 1 with their primary business including mechanical repair, collision repair, automotive glass, inventory and parts, automotive recycling, automotive sales, powersports, insurance consultants and compliance auditors.

The limitations of this data collection include:

- The reliability of survey responses; people can easily lie.
- Breadth of the data that may not be large enough to represent all demographics since the survey was sent out to people who are contacts of the ARA and that does not necessarily include all automotive industry workers in B.C. Survey 1 was sent to all 1,000+ paid ARA members with encouragement to share it with staff, as well as stakeholders, industry partners, the ARA Facebook page, Twitter, and the ARA LinkedIn page.
- A potential for selection bias for certain types of respondents: People who care about female representation in the industry are more likely to complete the survey than people

⁴⁶ "The 2016 Deloitte Millennial Survey," Deloitte, 2016, <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/About-Deloitte/gx-millennial-survey-2016-exec-summary.pdf>.

⁴⁷ Deanne Tockey and Maria Ignatova, "Gender Insights Report," LinkedIn, accessed August 13, 2021, <https://business.linkedin.com/content/dam/me/business/en-us/talent-solutions-lodestone/body/pdf/Gender-Insights-Report.pdf>.

who do not care. Additionally, women who have encountered uncomfortable situations at work may be more interested in sharing those stories than other women who have not had problems and have no “dramatic” stories to share.

For the purposes of this report, it is assumed that the survey information is representative enough of the automotive industry in B.C. that the ability to draw recommendations can be achieved.

8.1 Surveys of B.C. Automotive Industry Workers and Women in Skilled Trades

Two surveys were conducted to gain an understanding of the current culture within the automotive industry and skilled trades.

8.1.1 Survey 1 – B.C. Automotive Industry Workers

The goal of the first survey was to understand the culture and attitudes regarding women in the automotive industry among workers in B.C. This was sent to all ARA automotive industry contacts in B.C. This includes recyclers, towers, dealers, technicians, glass repairers, and more.

102 people completed the survey, made up of 62 males, 38 females, 1 gender diverse person, and 1 unidentified. 15 percent of respondents had never worked alongside a woman in the automotive industry. Of the 87 people who have worked with a woman, 30 percent indicated that this experience changed their perception of women working in the industry (see section 8.3 for more insights on this).

Most people had a positive attitude towards their current workplace: 85 percent of respondents believe women would feel comfortable there. This, however, is contrasted with 70 percent of respondents indicating that their workplace has implemented zero measures to actively accommodate women. Of the workplaces that indicated “yes” they do actively accommodate women, examples of these practices include mentorship programs, following hiring practices found in the ITA Your Ticket to Best Practices workbook for employing women in the trades, and sending their female glass technician to conferences or events in order to provide more female representation in the community.

A question asked hypothetically if the respondent would encourage their daughter or female relative to join the automotive industry, to which only 10 percent said no. Figure 1 shows the breakdown of female survey respondents and how they answered this question. Interestingly, there were 4 comments that offered a conditional statement; people wrote things such as “only if she had thick skin” or under the warning that “automotive is still a tough industry to be in as a woman”. These comments suggest that although women can do the job, they may have to put up with unfair or uncomfortable treatment at work. Some women had made comments that after years of working in the automotive industry, this mistreatment is something they have accepted to be part of the job. This is not fair. Although it is reasonable to accept certain job stressors such as late shifts, long hours, or physical strain, one should not have to have “thick skin” at work; people should be respectful.

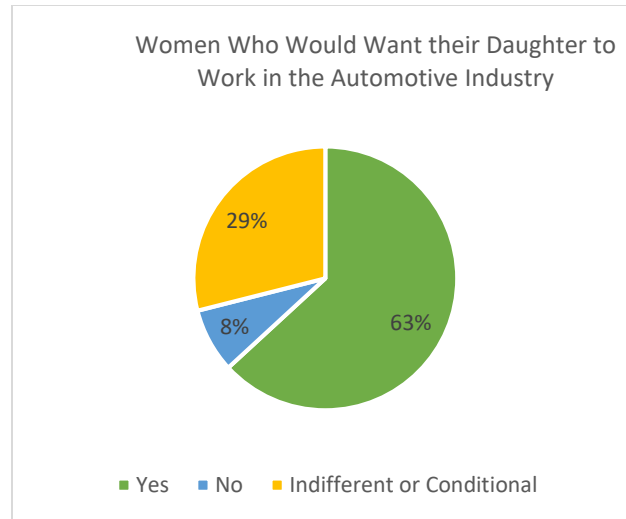


Figure 1: Women Surveyed Who Hypothetically Would Encourage Their Daughters to Join the Automotive Industry

Respondents were then asked if they felt it was problematic that the automotive industry is so male dominated. This resulted in a fairly even three-way split between “yes”, “no”, and “indifferent” with more women (32 percent) indicating ‘yes it is problematic’ when compared to the other gender categories (23 percent). Some interesting comments from this section that demonstrate the overall industry opinions include the following:

- Everyone drives cars and it should not just be men who fix them, along with one shop indicating that female customers sometimes feel more comfortable with female technicians.
- Many shops are “not representative of the people [they] serve, adding to the perceived knowledge imbalance and the ever-present feeling that women feel that they're being taken advantage of.”
- The potential idea that women just do not tend to like the type of work in the automotive industry and that there are other professions such as nursing that are very female dominant, questioning if that should change as well.
- A feeling that although it may not be ideal to have the industry so male-dominated, they sense it is slowly changing over time and will eventually work itself out.

34 percent of female survey respondents answered “no” when asked if it is problematic that the industry is so male dominated. This could indicate that they are in a good work environment where gender-based differences have never been a problem, or possibly that they never let any negative experiences get to them. Alternatively, some women were of the opinion that it is not the gender imbalance itself that is a problem, but a lack of respect they sometimes feel. This indicates that a solution to the problems women are facing can be tackled in other ways besides increasing female representation.

Another interesting question asked how respondents got into their job in the automotive industry. This showed a clear difference between men and women, where 40 percent of women stated someone in their lives, often a family member, introduced them to the field. This is

opposed to just 25 percent of male respondents indicating someone in their lives introduced them to automotive work. See Figures 2 and 3 for breakdowns of how different genders tend to enter the automotive industry.

The women surveyed predominantly stated that someone in their lives brought them into the automotive industry. Only 22 percent stated they began their careers out of an interest in cars. Even when looking at the data for men, gender diverse, and unidentified gender respondents, 60 percent of people got into the automotive industry for reasons other than being interested in cars. Other reasons for entry include job stability, easy entry into an income-stable career, or less intentional entries such as simply being desperate for a job and a shop was hiring.

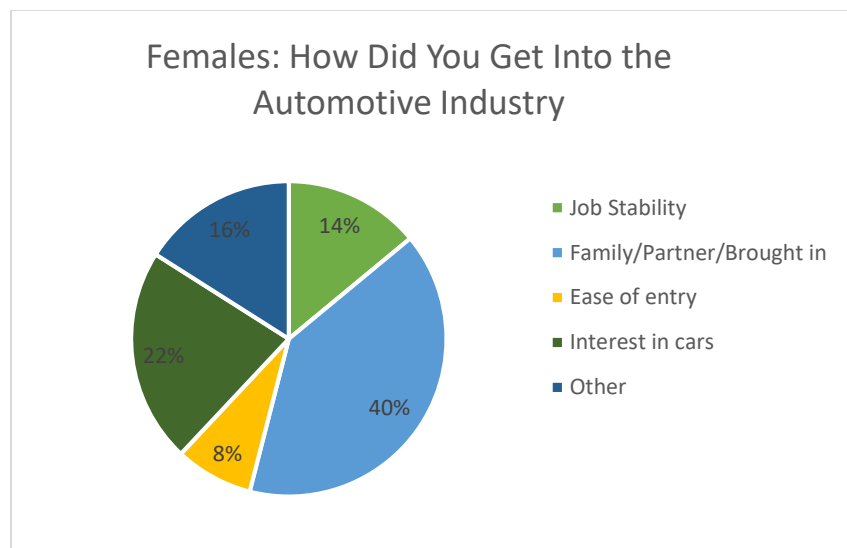


Figure 2: Breakdown of Entrance Methods into the Automotive Industry for Women in B.C.

Figure 3 shows a breakdown of entry methods into the automotive industry for all survey respondents who did not identify as female.

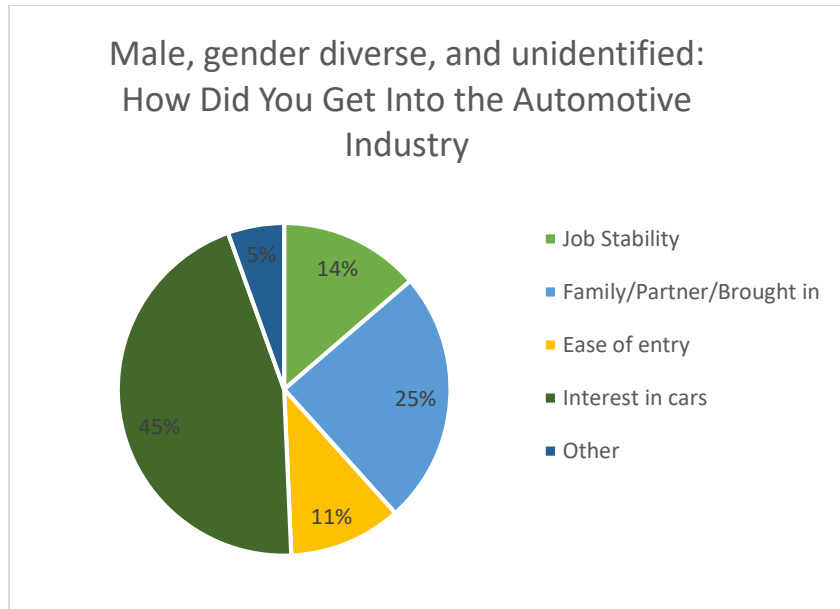


Figure 3: Breakdown of Entrance Methods into the Automotive Industry for Men, Gender Diverse, and Unidentified Survey Respondents

8.1.2 Survey 2 – B.C. Women in Skilled Trades

Survey 2 was sent out to the BC Women in the Trades Facebook group with 82 responses, 5 of which were women in automotive trades. Survey 2 faces similar limitations to Survey 1. This report assumes that these results are representative of the feelings of female automotive trades workers in B.C.

The largest portion of women surveyed were electricians (over 30 percent). Interestingly there was a comment from a woman who left welding and entered the electrical industry where she noted that people treated her better as a woman in electrical than they ever did in welding and that she respected female welders for “sticking it out”. This could be an indication that since electricians see more women in their trade they have come to be the most accepting of women in the industry, thus making it a more comfortable place for women overall. Alternatively, it could be her own perception changing as she sees more people like her working in her trade.

Women were asked at what age they began to consider a career in the trades. By far the most common answer was in the early adulthood 19-25 category, as seen in Figure 4. Very few women thought about trades below the age of fourteen. This indicates that adult women are more likely to be interested in a trade than school-aged girls; It was only women with strong ties to a family business that knew from a young age (13 and younger) that their career path would be in their trade.

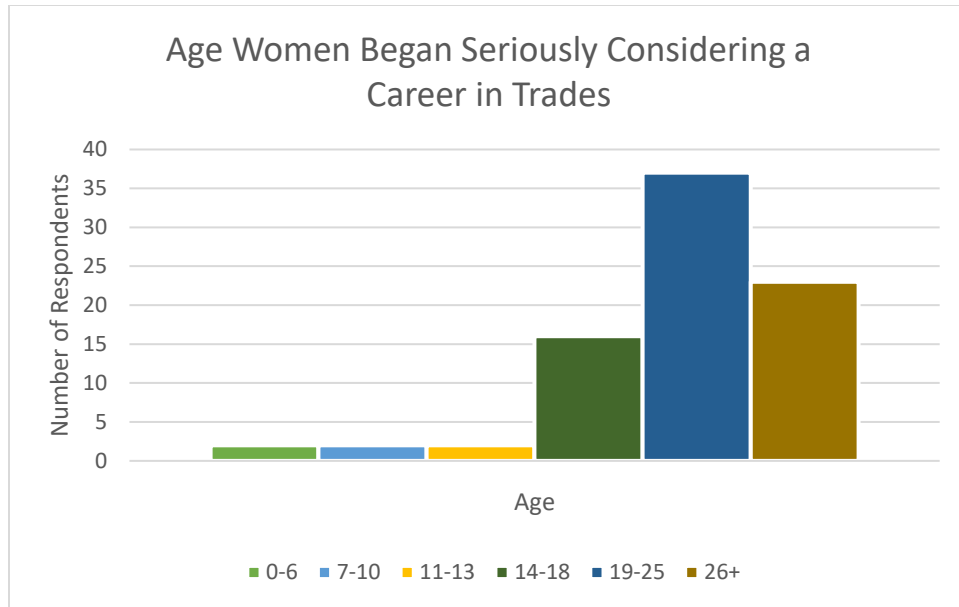


Figure 4: Age Ranges Where Surveyed Women Began Considering Careers in Trades

A staggering 90 percent of women surveyed felt that they have experienced discrimination at work. Although this is contrasted by most women stating that they enjoy working in their trade and have not seriously considered leaving, it is still problematic and cause for concern. It is possible that the discrimination is not serious enough to warrant a desire to leave the profession or that they have since found a better work environment, but it is also possible that the women who have left the industry simply were not accessible through this survey. More studies should be conducted with women who have left the automotive industry in order to understand what challenges they faced which they could not overcome. Regardless, discrimination should be taken seriously whether it forces people out of their job or not.

Women were then asked what kinds of resources would make them feel more comfortable at work, and respondents' choices are shown in Figure 5. This question allowed respondents to select multiple answers. Half of the women agreed that their current workplace is welcoming to all people. Although this may seem to contradict the earlier note that 90 percent of women have faced discrimination at work, it can be explained by reasoning that their current work environment is safe, not that every work environment they have ever had was safe.

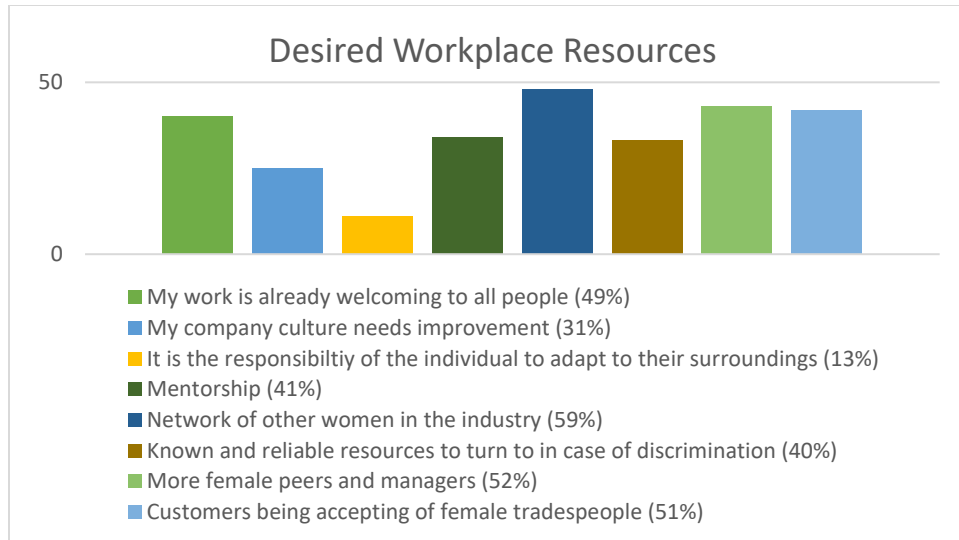


Figure 5: Workplace Resources B.C. Women in Skilled Trades are Desiring

98 percent of these women indicated they enjoy or sometimes enjoy working in the trades, as seen in Figure 6. This information combined with the results of the prior survey indicates that women do not have to identify as a “car person” or have any strong interest in cars themselves in order to enjoy a career in the automotive industry. It also indicates that perhaps the most effective way to bring more women into the trades is not to foster interest in cars, but to get people in automotive work talking to the women in their lives about the various benefits of being in the industry.



Figure 6: Survey Respondents Reported Enjoyment of Their Job in the Trades

Although all the suggested resources and changes received strong positive feedback, the most common wish was for a network of other women in their industry. Women in the trades are craving interactions with other people like them. Only 13 percent of women believed that it is the responsibility of the individual to adapt to their surroundings. This suggests that the majority of

women do not expect that they should have to deal with these problems on their own and that their employer is responsible for creating a safe and inclusive work environment.

8.2 Interviews with B.C. Automotive Industry Workers

Men and women from Survey 1 were contacted and asked to participate in short one-on-one interviews to understand the culture of the automotive industry more deeply. Questions were asked to gain insight into the female experience as well as to further discuss noteworthy comments these people wrote in the survey. The 15 people interviewed included 9 women and 6 men from across the province with various focuses of business within the automotive industry.

The interviews had three primary takeaways:

- The problems women are facing with discrimination at work largely come from customers not trusting women to work on their cars, and although some women still feel discrimination from the other staff at work, that is a far less common occurrence.
- Although the industry has made major strides towards creating safe and inclusive workplaces for women, the journey is not near over and much of the harassment and discrimination continues in 2021.
- Most people do not know of any resources they could turn to in case of trouble at work regarding gender discrimination or bullying.

These were common themes amongst interviewees, but certainly not all inclusive. People had other problems they encountered as well as great positive experiences.

8.2.1 Interview Discussions: Discrimination from Customers

When asked about gender discrimination at work, 13/15 interviewees mentioned customer bias. These were current stories, with people claiming to encounter these problems almost daily. Males, females, bosses, and staff members all told stories of customers telling a woman that they “won’t have a girl working on their car” or that the repair work “is a man’s job”. Women would reassure these customers that they do in fact have significant experience and know what they are doing, but many customers still would not trust them. The exception to this was a woman who owned a motorcycle dealership who discussed how when she clarifies that she is the owner and a rider herself, men are pleasantly surprised and happy to chat with her. A potential explanation is that although most women drive cars, very few women ride motorcycles and being a rider herself distinguishes her from other women and therefore she gains trust. This, however, is merely a hypothesis and further research into this occurrence is recommended. It is an interesting note that this is one space where a woman was trusted once she clarified her experience, whereas in other sub-sectors of the automotive industry women repeatedly share stories of not being trusted with cars regardless of their breadth and depth of knowledge.

One shop owner spoke of a female technician apprentice he had. She was the victim of so much abuse from customers that she left the automotive industry and began a career in marine trades instead where she did not come face to face with customers as often. One shop owner who employs a female technician intentionally keeps certain portfolios away from her, knowing

that the customers are discriminatory against women and “wouldn’t want a woman working on their cars” therefore he does not want to expose her to that kind of attitude.

Discrimination from customers is a challenging and complex problem. From a business standpoint, people want to make money and might accept that treatment of their female staff in order to make a sale. However, it can feel very disrespectful being that woman whose boss is allowing unfair treatment from customers. It does not foster a positive work environment and leads to resentment from the female staff, along with a feeling of being unvalued. Although most women do not seem to blame their management for how customers act, they still make it clear that the discrimination and lack of trust in female workers is hurtful and frustrating.

8.2.2 Interview Discussions: Shapes of Discrimination in 2021

When the 15 interviewees were asked if these stories of discrimination were from the past or from the present, 12/13 people said it is a present-day problem. One person stated it was a problem in the past, but not one faced anymore, while two male shop owners were not able to answer this question since they had not employed a woman in the last 10 years. There were multiple interviewees who have worked in the automotive industry for at least 30 years and although they could attest to undeniable improvements in attitudes towards women, they noted there is a ways to go.

This included poor treatment from customers, but also sometimes from coworkers. Women recounted having to switch shops multiple times until finding one that was pro-woman. Another current day issue brought up in an interview was from a woman with 33 years of experience in powersports who felt that she faces significant bias when she has a difference of opinion with a male counterpart. Both men and women, although noting there has been significant improvement, stated that there are still shops around that would never hire a woman and referred to those shop owners as “part of the old boys club”.

Some women repeated stories of feeling the need to excel at work; being an average employee was not a luxury they were allowed. At certain shops they felt their co-workers assumed they were going to make many mistakes and therefore they had to work extremely hard just to prove that women are capable and good at their jobs. One woman spoke of a shop she worked at where they openly and repeatedly asked her if, and when, she would be having children, a question she never heard asked to any men in the shop. There were also reports from men and women of instances where “shop talk” crossed a line and became hurtful or inappropriate.

Although these forms of discrimination may seem less overt than some of the examples given from 20 years ago (where women were told they would not be promoted since they could become pregnant or men attesting to phone calls where groups of male leaders would make derogatory and sexist comments about women) they still matter and they still show that the journey to full inclusion for women in the automotive industry is not complete.

8.2.3 Interview Discussions: Resources in 2021 for Gender-Based Problems at Work

People did not seem to know about any resources available to help women through problems at work related to the more subtle forms of gender discrimination discussed in 8.2.2. At best, women identified leaders within their organization that they could turn to, or as bosses identified themselves hoping that their employees would feel comfortable coming to them. There were however also five women who said they would not have anywhere to go or anyone to turn to in

those situations. People generally were aware that if something illegal happened there would be resources for them such as WorkSafe BC but did not have a known and trusted resource for less blatant problems. Five of 9 women interviewed had no one to talk to regarding their problems at work related to their gender.

Women discussed in the interviews that reliable resources for these situations would be extremely beneficial to them and is something they desire.

8.3 Additional Insights

It is important to note that many women also told positive stories about working in automotive careers. They enjoy the type of work they are doing, they often have supportive team members around them, and overall like their jobs. People spoke of great bosses they have had and positive experiences with customers. It is not all bad. The women who had the most positive attitudes about their job and the automotive industry also were the ones who spoke of strong friendships and bonds at work, another indication of the significance of good networks.

The interviews also gave insights into question 4 in Survey 1, which asked, “did working alongside a woman change your perception of women in the automotive industry?” to which 30 percent of respondents said yes. One could assume that this meant they had a negative perception of women in the industry until they saw a successful woman working in the profession, however this rarely was the case amongst interviewees. One leader described his experience employing women to be eye opening in that it helped him understand challenges that women face in the automotive industry such as the fear that they will not fit in in a male industry. It helped him visualize what it is like for someone to come into that position and in turn, he believes it made him a better boss. Another woman said she did not realize how empowering it was to be a woman in the trades until she saw another woman working as an automotive service technician. These changes in perception, therefore, do not reflect an original negative view of women at work but rather are much more varied. This shows one must be very careful in interpreting survey data.

9 Recommendations

This research and analysis depicts the current demographics and culture within B.C.’s automotive industry in 2021. The ARA has the following recommendations to address the labour shortages by attracting women into technical positions:

1. **Create and showcase role models for men in the industry.** Seeing male leaders fostering respectful and welcoming environments for women can be a way to increase male participation in the inclusion of women. Women surveyed largely felt that they are not individually responsible for creating a comfortable work environment. Male allyship is an important aspect of building inclusive spaces.
2. **Create and showcase role models for women in the industry.** Men and women in the automotive industry are in need of different types of role models. Increase female representation by showing women completing technical work at conferences, workshops, presentations, and in classrooms.

3. **Develop an employer grant for hiring apprentices from minority groups.** This money could be put towards developing a more inclusive shop by funding tasks such as building a women's washroom or purchasing safety gear and personal protective gear that fits a wider variety of body shapes and sizes.
4. **Build a more accessible version for the Trades Discovery for Women program.** This program allows women to explore the various trades BCIT has to offer, including automotive work. Although a great idea, it has significant barriers to entry. This program costs approximately \$2,600 in September 2021 and is a 16-week full-time program, essentially requiring participants to take 16 weeks off work. This is a major commitment for a program that only samples various trades work and does not actually prepare women for work in the industry.
5. **Make BCCWITT 'Just Workplaces' trainings known.** Any companies who are interested can work with BCCWITT to create a more just and inclusive workplace for women and minorities.
6. **Target women over 18 and specifically in the 19-25 age group when attempting to attract more women into the industry.** 70 percent of women surveyed indicated that they only began to seriously consider a job in the trades when they were 19 or older.
7. **Encourage the idea that you do not need to be a "car person" to pursue and enjoy a successful career in the automotive industry.** 60 percent of all people surveyed did not include an interest in cars as a reason they entered the industry, yet most respondents from both surveys indicated a liking for their jobs. There are many good reasons to work in the automotive industry such as job stability, income stability, paid apprenticeships, and relative simplicity of entering the field (no college degree required).
8. **Get more people talking to those around them.** Word of mouth is the most powerful recruitment tool for women. Encourage automotive workers to talk to friends, family, and community members about work in automotive careers.
9. **Make existing resources known amongst women in the automotive industry.** Many women shared that they did not have any known and trusted resources if they experience gender-based problems at work. BCCWITT is run by red seal tradeswomen and they have regional representatives available to talk, even if it is just to vent.
10. **Support and promote networking opportunities and connection for women in the automotive industry.** Some women noted that the BC Women in the Trades Facebook group is their only contact with other women in the trades. Studies have shown that having a strong network is influential for female career success, and 59 percent of women surveyed indicated a desire for female networks.
11. **Conduct additional research.** The surveys and interviews conducted for this document reached only those who have remained in the automotive industry or trades. More research should be conducted regarding women who have left the automotive industry in order to determine what pushed them to leave and what the differences are between those who stay and those who exit. There also should be inquiries into why technical non-trades have higher female representation than skilled trades.
12. **Edit job ads with women in mind.** LinkedIn data has shown that women and men apply for jobs differently. Employers can create job ads with characteristics that have been shown to increase the chances of women applying. Produce a document specific

to the automotive industry that gives insight into how to create a job ad like this. Additionally, the ITA 'Your Ticket to Best Practices' guidebook to employing women in the trades can be expanded or specified to the automotive industry.

13. Extend Women's Day conference initiatives throughout the year and into a forum.

Rather than a single day event, find ways to continue the conversation throughout the year with podcast series', social media, or work/study groups.

14. Campaign to change public perception of female automotive industry workers.

Customers distrust in female staff was a top complaint from women in the automotive industry and in the skilled trades. Use tools such as social media and promotional videos to connect with the public and showcase women excelling in their trade.

10 Appendix

10.1 Survey 1: All Automotive Industry Workers and Contacts of the ARA

Survey 1 was sent to all contacts of the ARA as well as being posted to the ARA Facebook, Twitter, and LinkedIn. The survey received 102 responses and asked:

1. What best describes your primary business?

Answer Choices	Responses
Mechanical repair	15%
Collision repair	44%
Towing and recovery	5%
Auto recycling	5%
Automotive sales	4%
Other	27%

Half of the respondents who selected “other” specified they work in automotive glass. Additional sectors included paintless dent removal, custom restorations, college automotive instructor, powersports, insurance, and administration.

2. How do you identify yourself?

Answer Choices	Responses
Male	61%
Female	37%
Gender diverse	1%
Prefer not to answer	1%

3. Have you ever employed or worked alongside at least one woman in the automotive industry?

Answer Choices	Responses
Yes	85%
No	15%

4. If yes, did this experience change your perception of women working in the automotive industry?

Answer Choices	Responses
Yes	30%
No	58%
Not sure	12%

5. If not, do you think the culture at work would change if women were present?
Would you feel the need to adjust any of your actions?

Answer Choices	Responses
No, it would not change	57%
Yes, it would change	21%
Other	22%

6. Do you think women (would) feel comfortable in the shop where you currently work?

Answer Choices	Responses
Yes	86%
No	3%
Not sure	11%

7. Do you think your current work environment is welcoming and accepting of all people? If not, do you think your company culture needs to change, or do you think that it is the responsibility of the individual (any gender) to adapt to their surroundings?

Answer Choices	Responses
Yes, my current work environment is welcoming and accepting of all people	91%
My company culture needs improvement	6%
It is the responsibility of the individual to adapt to their surroundings	3%

8. What measures, if any, have you/your employer implemented to try to accommodate more women? Please explain.

Answer Choices	Responses
None	70%
Mentorship programs	18%
Changes in hiring process	18%

9. Would you hypothetically want your daughter or another female relative to join the automotive industry?

Answer Choices	Responses
Yes	68%
No	10%
Indifferent	23%

10. Do you think that it is problematic that automotive is a male-dominated industry? Why?

Answer Choices	Responses
Yes	35%
No	38%
Indifferent	26%

11. Why did you get into the automotive industry?

Answer Choices	Responses
Job stability	17%
Interest in cars	43%
Ease of entry into the field	12%
I was recruited	16%
Other	33%

Most of the respondents who indicated “other” specified that they joined a family business. In the body of this report, those responses were combined with “I was recruited” to encompass all respondents who had someone else bring them into the automotive industry. Additional responses included “it was the first full time job opportunity presented to me” or “it happened by chance”.

10.2 Survey 2: Women in Skilled Trades

1. What field are you in?

Answer Choices	Responses
Automotive	6%
Electrical	33%
Carpentry	5%
HVAC	1%
Plumbing	6%
Welding	9%
Other	40%

The single greatest proportion of women were electricians. Women who selected “other” then specified their trade included millwright, horticulture, pipefitters, heavy duty mechanics, crane operator and boilermaker.

2. When did you start to consider a career in the trades?

Answer choices	Responses
Early childhood (0-6)	2%
Childhood (6-10)	2%
Middle school (10-13)	2%
High school (13-18)	20%
Early adulthood (19-25)	45%
Adulthood (25+)	28%

3. Did you find trades on your own or did someone bring you in?

Answer Choices	Responses
I developed an interest on my own	43%
A teacher opened my mind to it	4%
A parent/family member opened my mind to it	23%
Friends opened my mind to it	12%
Other	18%

Many women who selected “other” then specified that someone else in their lives brought them into the trades. There were no other significant reasons people entered the industry, but some individual examples include their house was falling apart and they needed to learn how to fix it or trying the BCIT trades program for women.

4. Do you like working in the trades?

Answer Choices	Responses
Yes	84%
Sometimes	13%
No but I have not considered leaving	0%
No and I have considered leaving	2%

5. If you ever wanted to leave your trade, what has made you stay?

Answer Choices	Responses
I have never seriously considered leaving my trade	59%
I have wanted to leave, but stayed because it is too much work to get into a new career	5%
I have wanted to leave, but stayed for financial reasons	23%
I have wanted to leave, but my problems with my trade eventually resolved	13%

6. Have you ever felt you have experienced gender bias or discrimination at work?

Answer Choices	Responses
No	10%
Unsure	2%
Yes	88%

7. Would any of the following resources make you more comfortable at work?

Answer Choices	Responses
My current work environment is welcoming and accepting of all people	49%
My company culture needs improvement	30%
It is the responsibility of the individual to adapt to their surroundings	13%
I am already very comfortable at work	39%
Mentorship	41%
Network of other women in my industry	58%
Known and reliable resources to turn to in case of discrimination	40%
More female peers/managers	52%
Customers being accepting of female tradespeople	51%
Other comments	16%

8. Which of the following applies to your upbringing?

Answer Choices	Responses
My family mostly followed traditional gender roles	51%
My family did not significantly follow traditional gender roles	27%
My parents were supportive of me entering a male-dominated field	66%
I played with conventionally “girl” toys	46%
I played with conventionally “boy” toys	39%

9. Did you have female teachers/role models/mentors in the trades?

Answer Choices	Responses
Yes	26%
No	74%