MANUFACTURING OPPORTUNITIES

WORKFORCE DEVELOPMENT FOR THE MANUFACTURING INDUSTRY IN PEEL AND HALTON REGIONS

LEPC PEEL-HALTON LOCAL EMPLOYMENT PLANNING COUNCIL ADVANCING THE LABOUR LANDSCAPE PEEL HALTON WORKFORCE DEVELOPMENT GROUP

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Manufacturing Opportunities: Workforce Development for the Manufacturing Industry in Peel & Halton Research Project

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Executive Summary

The purpose of this study was to identify labour market challenges among local manufacturers in Peel and Halton and to propose potential initiatives which could be undertaken to address these challenges.

This project undertook a number of activities to help it achieve its objectives:

- A roundtable discussion with representatives of organizations connected to the manufacturing sector;
- A scan of relevant literature;
- A review of relevant labour market data;
- Interviews with manufacturing employers;
- Interviews with key informants (economic development offices, employment service providers);
- A survey of manufacturing employers;
- Focus groups with manufacturers.

This report summarizes the findings arising from these various activities and proposes initiatives that can be pursued as part of the LEPC's next phase of work.

The main insights to be drawn from this report are the following:

Manufacturing remains an important industry; it is changing, creating opportunities which require adjustment

Manufacturing continues to be a significant industry for Ontario, and with advanced manufacturing it is likely that it will continue to be a significant contributor to Ontario's GDP in the near future.

However, manufacturing will not provide the same level of employment that it had in the past. The types of jobs that will be available and the skills required are changing, with a greater emphasis on higher-level skills; it also means that managers will have to up their game, through adopting new technologies and in guiding and motivating skilled workers to be innovative and adaptable in their tasks.

Part of the challenge for the industry is to overcome some stereotypes, firstly that the industry is in decline and lacks promise as a career choice, and secondly regarding the range and nature of the jobs and career paths that exist.

What the data tells us about jobs in manufacturing

While the overall labour force is aging, it is particularly the case in manufacturing; in 2016, 26% of all workers in manufacturing in the Toronto CMA were 55 years and older, compared to 21% in the labour force; among 15 to 24 year olds, their share of manufacturing jobs was 6%, half the 12% rate in the overall labour force. Manufacturing employers will be experiencing challenges replacing these workers as they retire.

While the number of manufacturing jobs has dropped, the share of manufacturing occupations represented by labourers has actually increased (from 12% in 2004 to 17% in 2016); at the same time, the share of supervisors has also gone up, while machine operators and assemblers has gone down.

Wages for manufacturing labourers are lower than they were in the mid-nineties, although in the past ten years they have been relatively steady. However, even as job vacancies rise, there is no increase in the asking wage.

There is a high reliance on using staffing agencies for manufacturing labourers.

All of this suggests that employment services focused on recruiting and preparing job candidates would serve a need.

Recap of the manufacturers' survey results

Half of all respondents found it very challenging to recruit entry-level production workers, and over a third found it somewhat challenging. Only a small percentage found it not at all challenging or that the recruitment of such workers did not apply to their firms. This challenge was considerably greater for small firms (5-19 employees).

Around half of employers (49%) felt that better recruitment services for employers, to help them locate and pre-screen job candidates, would help a lot, and a considerable proportion of employers were willing to contribute some effort to help see such an initiative be developed, either by participating in a further survey, an interview, a focus group or an advisory committee.

Almost half of employers (46%) felt that an employment preparation program would help a lot, a view that was stronger among firms with less than 100 employees as well as those that paid in the medium range of starting wages. Once again, a considerable number were willing to contribute their time and insights to seeing such an initiative developed. Around four in ten employers wished to be contacted about Employment Ontario services, and another three in ten wanted more information. Mid-sized firms (20-99 employees) were especially interested.

Almost four in ten employers find it very difficult to find qualified workers among skilled trades and maintenance positions; the smallest and largest firms express the most difficulty,

When employers were asked about the value of a task force of local manufacturers that would develop a local strategy to strengthen the talent pipeline, engaging with high schools and community colleges, 46% felt it would help a lot, with a high of 56% among firms with 100 or more employees. Once again, employers expressed their willingness to participate in developing the solution, with near equal support from mid-sized and large firms.

Around 20-40% of respondents already host an apprentice, a community college or a university intern, and another 21-22% indicate that they would be interested in doing so. Almost a quarter expressed an interest in being a resource to a school experiential learning program (be a speaker, provide a plant tour) and 18% said they would consider hosting a high school co-op student.

Large firms are far more likely to host an apprentice or student, and firms that pay a high starting wage are more likely to host as well.

Additional insights from the focus groups

By far the biggest skills issue relating to entry-level workers was soft skills, including attitude, work ethic and a willingness to make a longer-term commitment to the firm.

While employers felt that schools did not sufficiently prepare youth for the world of work, there was also a view that employers had not engaged with schools enough to provide them with their insights and to explain what employers needed.

Experiences with workforce development

Workforce development, which involves preparing individuals for employment as well as supporting their ability to transition into work and advance along career pathways, takes time to develop. Acquiring the necessary insights into industry needs, developing the relationships and trust between stakeholders and employers, is an iterative process that can take several years. The report concludes with an outline of the next steps which will be pursued in the subsequent phase of this initiative:

- Expand the network of manufacturing employers participating in this initiative
- Coordinate with employment services providers to support manufacturing employers seeking job candidates for entry-level manufacturing occupations
- Work with educational institutions to increase connections with employers as well as raise the level of enrolment of students in programs related to the manufacturing sector
- Develop an on-going process/mechanism for highlighting workforce development issues among local manufacturers

Table of Contents

	Page
Acknowledgments	8
Introduction	9
Literature review	11
Advanced manufacturing and Industry 4.0	11
Manufacturing workforce initiatives in other jurisdictions	14
Overview of the data: manufacturing in Ontario and in Peel	
and Halton	20
Description of the manufacturing industry and manufacturing	
occupations	20
Manufacturing in the Toronto GTA	20
Local jobs and resident employment in manufacturing in Peel and	
Halton	21
Trends in employment in the manufacturing industry	23
Manufacturing output	27
Characteristics of the manufacturing workforce	27
Type of employment	32
Wages	32
Job Vacancy and Wage Survey	34
Preliminary consultations and interviews	38
Interviews with key informants and employers	38
Manufacturing employer survey	41
Profile of survey respondents	41
Recruitment of entry-level production workers	44
Recruitment of CNC machinists	51
Recruitment of other skilled workers	52
Work-based learning activities	55
Overall comment	58

Focus groups with manufacturing employers	59
Conclusion	62
Context for next steps	62
Next steps	64

Acknowledgments

A common complaint about the labour market is the lack of good data. The truth is, there is more data available than is generally understood. The problem is, data only tells a portion of the story.

Good labour market analysis relies on deep and varied qualitative data, the kind one gets from interviews, focus groups and surveys that probe respondents beyond surface reactions. What value readers may derive from this report is largely due to the depth of insight we were able to draw on from manufacturers. To those employers we owe considerable thanks for taking time away from their busy schedules to answer our questions.

Further thanks also needs to be given to LEPC partners and especially to LEPC staff, who invested quite an effort in making the connections with employers that resulted in their willingness to contribute to this study.



Introduction

This project report is a part of the *Local Employment Planning Council (LEPC)* initiative which is funded by the Ontario Ministry of Advanced Education and Skills Development. The *Peel Halton Workforce Development Group* was awarded the LEPC project to improve local labour market condition in the Peel and Halton regions. The purpose of the LEPC initiative is to address local labour market needs through research, education and an integrated network of the following four stakeholder groups:

- The Peel and Halton communities
- Employers
- Employment and training service providers
- Government

As a result, several research studies have been conducted to identify the labour market gaps and challenges in local industries. This report is focused on the manufacturing industry, one of the dominant industry sectors in Peel and Halton.

The purpose of this research was to identify labour market challenges among local manufacturers in Peel and Halton and to propose potential initiatives which could be undertaken to address these challenges. In the initial environmental scan undertaken to develop the strategic plan for the LEPC, a number of workforce issues in the manufacturing sector had already been identified among key informants, including competitive pressures from lower-wage jurisdictions and the perception that manufacturing was a declining industry, with the consequence that young people in particular were not considering careers in this sector.

The goal of the research was to explore further these issues and others, to acquire greater clarity regarding workforce challenges, so as to build a foundation for addressing these issues. This includes not only identifying the challenges, but also developing connections with manufacturing employers and involving employment service providers and other stakeholders in this process, so that they too may be part of the solution.

This project undertook a number of activities to help it achieve its objectives:

- A roundtable discussion with representatives of organizations connected to the manufacturing sector;
- A scan of relevant literature;
- A review of relevant labour market data;
- Interviews with manufacturing employers;
- Interviews with key informants (economic development offices, employment service providers);
- A survey of manufacturing employers;



• Focus groups with manufacturers.

This report summarizes the findings arising from these various activities and proposes initiatives that can be pursued as part of the LEPC's next phase of work.



Literature review

The purpose of the literature is not to engage in an exhaustive summary of current reports and studies about manufacturing, but rather to provide a context for the current state of manufacturing and to draw some insights that could be of benefit in understanding the changing manufacturing landscape and how that might affect manufacturers in Peel and Halton Regions. In this regard, two subjects are of particular relevance:

- Advanced manufacturing and Industry 4.0;
- Manufacturing workforce initiatives in other jurisdictions.

Advanced manufacturing and Industry 4.0

Talk of the decline of Canadian manufacturing has been around for a long time. Indeed, as a share of Canada's GDP, manufacturing had its peak in 1944 (due to production geared toward the war effort). But even after a return to the pre-Second World War levels, manufacturing continued its decline through the 1960s and beyond. However, this was not a circumstance unique to Canada, as manufacturing's share of GDP declined in all advanced economies. Part of that decline had to do with improved productivity, so that manufacturing was producing goods at a cheaper price while it maintained the same volumes, resulting in a declining share of an economy's growing output.

Interestingly, Canada was one of the few countries to buck the decline in manufacturing between the 1980s and 2000s, as the drop in the value of the Canadian dollar made Canadian manufacturing exports more competitive. It was only with the rise in commodity prices, which drove up the value of the Canadian dollar, that Canadian manufacturing started declining once more, driven down further by the recession of 2008. Meanwhile, lower-cost jurisdictions were starting to cut into the manufacturing share of advanced economies, led by China, largely concentrated among non-durable goods such as textiles, apparel and leather, as well as consumer durables (e.g. appliances).¹

These longer-term trends, the decline of manufacturing among advanced economies and the rise of manufacturing in lower wage jurisdictions, have a certain inevitable feel to them. As those emerging economies acquire experience in manufacturing, they are often able to engage in more sophisticated forms of manufacturing, and their underlying competitive wage advantage undercuts their more established competitors.

Advanced manufacturing has actually countered these tendencies to shift manufacturing to lowwage, lower-skilled jurisdictions. Advanced manufacturing is characterized by:

¹ These first two paragraphs drew on John R. Baldwin and Ryan Macdonald, "The Canadian Manufacturing Sector: Adapting to Challenges," *Economic Analysis Research Paper Series*, Statistics Canada, 2009.



- Intensive use of capital and knowledge;
- Long-term investment decisions to develop processes and buy equipment;
- High levels of technology utilization and R&D and intangible investments (training, improvements to business process) to support innovation;
- A flexible workforce with strong specialist skills in the areas of science, technology, engineering and mathematics and design, competing in international and domestic markets.²

This reliance on applying rapidly advancing technologies, coupled with closer regard for the needs of customers, changes not only how products are made on the factory floor, but also how they are invented and designed, putting a premium, as one American report states, on continual innovation and highly skilled workers. "A shift in manufacturing toward smaller runs and custom-designed products is favouring agile and adaptable workplaces, business models, and employees, all of which have become a specialty in the United States."³ One forecast suggests that advanced economies should see their manufacturing sectors experience a renaissance:

As the manufacturing industry increasingly applies more advanced and sophisticated product and process technologies and materials, traditional manufacturing powerhouses of the 20th century (i.e. the United States, Germany, Japan, and the United Kingdom) are back toward the very top of the 10 most competitive nations in 2016. These nations which invested in advanced manufacturing technologies, are projected to remain in the top 10 until the end of the decade. Innovation, talent, and ecosystems play a key role in their renewed strength.⁴

While China is currently considered the most competitive manufacturing nation, the Deloitte study predicts that the United States will resume its position as number one by the end of this decade.

It is clear from this description of advanced manufacturing that human capital, the presence of a skilled, adaptable workforce, is a major factor in successful advanced manufacturing. Thus, even though manufacturing employment has declined, it does not mean that there is a large surplus of qualified manufacturing workers waiting to be re-hired. Technological change and global competition has particularly affected lower-skilled manufacturing workers, whereas



² UK Commission for Employment and Skills, *Sector Skills Insights: Advanced Manufacturing,* Evidence Report 48, 2012, p. 5.

³ Kate S. Whitefoot and Steve Olson (eds.), *Making Value: Integrating Manufacturing, Design, and Innovation to Thrive in the Changing Global Economy*, National Academy of Engineering, 2012, p. vii.

⁴ Deloitte, 2016 Global Manufacturing Competitiveness Index, p. 1.

manufacturing employers are often increasingly searching for higher skilled tradespersons, technicians and technologists.⁵

The skills gap is not limited to production workers, or to research and design specialists. As one British report stated:

Success relies on the capability of our managers to develop a culture of continuous improvement, to innovate, keep ahead of developments, and utilise employee skills more effectively...

When it comes to productivity, management and utilisation of skills make a difference:

- Extensive research shows that the main reason for the productivity gap is the quality of management practices;
- Management capability and workforce skills are key drivers of growth (along with innovation and infrastructure);
- Good management ensures effective work organisation, skills utilisation and development of skills;
- The quality of management training and calibre of managers make a difference.⁶

Advanced manufacturing should not be seen as some distinct category of manufacturing, in the way that food manufacturing or chemical manufacturing is a separate subsector. It describes an approach and a way of doing things, the "how" and not the "what." It is what all manufacturing in Ontario should be striving for.

If technology is the engine of advanced manufacturing, then digitization is the core of Industry 4.0, the "advanced" advanced manufacturing. The ambition of Industry 4.0 is revealed by its name: the first industrial revolution was initiated by steam and water power that made possible mechanical equipment (the spinning jenny and the railway locomotive). The second industrial revolution was spurred by electricity, that permitted mass production and the division of labour (the factory assembly line, together with the telegraph, the light bulb, the telephone). The third industrial revolution was the start of the digital era, with computers, automation and the introduction of IT in all aspects of work.⁷

Industry 4.0 (no longer following the pattern of the Nth Industrial Revolution, instead styling the name as the next version of a software program) is shaped by four disruptions:



⁵ Britton Lombardi and William A. Testa, "Why are manufacturers struggling to hire high-skilled workers?" *Chicago Fed Letter*, August 2011, Number 289, The Federal Reserve Bank of Chicago.

⁶ UK Commission for Employment and Skills, *Sector Skills Insights: Advanced Manufacturing*, summary slide pack, 2012.

⁷ The National Academies Press, *The Fourth Industrial Revolution: Proceedings of a Workshop—in Brief*, March 2017, p. 1.

The astonishing rise in data volumes, computational power, and connectivity, especially low-power wide-area networks; the emergence of analytics and business-intelligence capabilities; new forms of human-machine interaction such as touch interfaces and augmented-reality systems; and improvements in transferring digital instructions to the physical world, such as advanced robotics and 3-D printing.⁸

To this list must also be added machine-learning as well as the Internet of Things ("things" communicating with each other over the Internet, such as sensors sending information to a database, possibly triggering an automated response command).

In short, advanced manufacturing and Industry 4.0 offer the conditions under which manufacturing in advanced economies such as Canada can be competitive and flourish. It places a high degree of emphasis on highly-skilled workers who are adaptable and particularly comfortable with technology and computer-aided processes. It also requires sophisticated management, capable of integrated new approaches and new technologies, and guiding higherskilled workers in the pursuit of innovation and the adaptation of new technologies.

Manufacturing workforce initiatives in other jurisdictions

This section examines what can learned about manufacturing workforce initiatives from other jurisdictions, including other communities in Ontario. Three examples will be provided from the following areas:

- Greater Bay of Quite Region
- Waterloo and Wellington
- General summaries from the United States

Quinte. The Quinte Region has a history of local stakeholders coming together to address the needs of the local manufacturing sector. In 2007, the Greater Quinte Region Manufacturing Local Labour Market Report resulted in a 10-Point Action Plan, which contributed to the development of a Sustainable Skills, Technology and Life Skills Centre at Loyalist College and the creation of a Manufacturing Resource Centre, a hub for sharing best practices among manufacturers.

In 2013, a local Labour Market Project was undertaken, to gather and analyze local labour market data and to propose ways to support the manufacturing sector, especially with respect to workforce needs. The study relied on a qualitative survey (60 on-site participants), a

⁸ Cornelius Baur and Dominik Wee, Manufacturing's next act, McKinsey & Company, June, 2015, p. 1.



quantitative survey (54 on-line respondents) and a working group symposium of 65 attendees. The project report proposed five overarching priorities:⁹

- **Priority for manufacturing support:** Local support systems coordinate timely activities and resources to help manufacturers grow their facilities, markets and people;
- **Priority for achieving global manufacturing competitiveness:** Employers and employees are equally creative and focussed on improving deliverables for customers and the community;
- **Priority for managing labour supply and demand:** The region will attract and retain employees with the right skills, and offer them rewarding, fulfilling long-term employment;
- **Priority for employee technical skill development:** Manufacturers and secondary and post-secondary schools in the region will have the equipment and curriculum to adequately prepare the workforce's technical skills;
- **Priority for soft skills development:** From elementary school to workplace training, the region will have the leadership and curriculum to adequately prepare the workforce's soft skills.

Each of these overarching priorities has a detailed elaboration which includes the employers' vision for the future (the end-goal for this item), together with 6-7 sub-goals, which themselves have several specific steps to be taken to contribute to that sub-goal. For example, under the Priority for Employee Technical Skill Development, action sub-goal #4 is as follows:

4. Manufacturers develop technical skills and cross-train employees to maximize productivity.

- i. Assess operating budgets and make allowances for the future development of the workforce.
- ii. Manufacturers and stakeholders incorporate technical problem-solving skills into internal and external employee education programs.
- iii. Help ensure workers are cross-functionally engaged (e.g. come to understand how various production and business functions are intertwined in theory and company practice).

(And three further such steps.)

In short, the strategy covers a wide range of priorities, from helping industry to addressing technical and soft skill needs of workers, and provides detailed steps to pursue each of these goals. What is less apparent from the document is who will drive the implementation of these objectives. While it can be suggested to manufacturers to assess their operating budgets with an

⁹ The resulting report: Quinte Economic Development Commission, *Engaging People, Embracing Technology: The Greater Bay of Quinte Region's Strategy to Advance Manufacturing*, 2013.



eye to developing their workforce, it would no doubt help to have a catalyst that can prod action, including providing advice and sharing best practices. That being said, the assembly of such an extensive set of practical and concrete actions, framed by a number of key goals, provides a holistic plan for strengthening both the local manufacturing industry and addressing its workforce needs.

Waterloo and Wellington. Over the course of several years, the Workforce Planning Board of Waterloo Wellington Dufferin has undertaken a series of studies focusing on the local manufacturing sector.

In 2011, the board produced *Wellington County Manufacturing – Characteristics and Trends*, a study that relied on labour market data and interviews with manufacturers, clarifying the local manufacturing labour market supply and demand issues. The following year, the board published a further report, this one focused on *Waterloo Region: Dynamic and in Need of Talent – Manufacturing in Waterloo Region*. In addition to analyzing local labour market data and another set of interviews with manufacturing, this study also undertook a literature review, to situate the circumstances of the local manufacturing sector amidst the context of broader global trends.

This background, with the addition of a compilation of recommendations from local, provincial and federal research reports, produced a set of potential actions which were tested via a Manufacturing Forum attended by a range of stakeholders. This resulted in the release in 2013 of a *Manufacturing Action Plan*. This report proposed a series of initiatives:

- Highlight the success of local manufacturing
- Promote the notion of careers in manufacturing to students
 - Improve education-manufacturing partnerships
- Ensure manufacturing is engaged throughout the community
- Establish a manufacturing leadership council

This led to the release of three further studies in 2014:

- A <u>Manufacturing Talent Strategy</u>, which proposed Industry Action Plans that applied to the entire industry and focused on: promoting employment in manufacturing through a website, outreach activities and programs for the attraction and retention of talent, a forum to promote the creation and use of robotic and automation technology, the encouragement of manufacturing entrepreneurship, and a training challenge to promote skills upgrading; as well, the Strategy also articulated specific Action Plans for Priority Occupations;
- A <u>Manufacturing Marketing Study</u>, which mapped out the relevant population groups who need to be reached (for example, different age segments of youth, parents, educators, employment counsellors, the unemployed, opinion leaders), what the key



messages are (the importance and relevance of manufacturing, the prevalence of a range of careers), and various outreach strategies and communications tactics;

• A <u>Manufacturing Career Information Strategy</u>, which proposed raising the profile of career opportunities in manufacturing through plant tours, speakers, career nights, contests to engage youth, a dedicated Manufacturing Day, and other strategies and events.

In essence, one can see the progression of activities and the evolution toward a strategy, starting with data gathering and consultations with manufacturers in the early studies, culminating several years later in more targeted studies outlining specific initiatives to be undertaken.

General summaries from the United States. A number of initiatives in the United States that seek to address the labour market needs of employers often represent sector strategies that incorporate a workforce development approach. That is, they focus on one industry (sector specific), in order to acquire the necessary knowledge about dynamics in that industry, and they adopt a holistic approach to addressing the challenges.

Workforce development often involves several activities, such as:

- Enhancing the employability and skills of individuals
- Integrating the necessary range of services and supports
- Responding to demonstrated needs among employers
- Creating processes and relationships that serve multiple clients

Workforce development aims to improve the soft and hard skills of individuals, not only to increase their chances of getting a job, but also to support their ability to advance along a career pathway while they are working, by encouraging continuing workplace training. It is holistic in its desire to address the numerous and distinct barriers that may inhibit success, from proper assessment and referrals to necessary services (from child care to assistance with transportation), to enrolment in appropriate educational upgrading and vocational training programs. It ensures that the training is relevant and reflects marketplace demand. And its goal is to create systems that can continuously benefit successive cohorts of job seekers and workers. In short, workforce development is not about the one-by-one matching and placement of an unemployed individual into a job opening, it is about creating a system that prepares individuals for on-going talent needs among local industries.

Two short examples illustrate how such programs can look:



*Guildford Apprenticeship Partnership (North Carolina)*¹⁰ – Local manufacturers faced challenges recruiting younger workers and so decided to target youth before they graduated from high school. The program recruited high school juniors and seniors to participate in a 3-4 years' apprenticeship program during high school and after graduation. Participants began with a two-month pre-apprenticeship period with an indepth exposure to the worksite and work culture. Seniors spent a half-day at school and a half-day in paid training at the workplace. Pre-apprentices also enrolled in courses at the local community college. The minimum-size class requirements (12 students) meant a number of employers had to commit to the program to ensure a full complement. The businesses also partnered with local community services to address other barriers that threatened successful participation (for example, transportation needs or childcare needs).

Pathways to Manufacturing Initiative (Hartford, Connecticut)¹¹ – A partnership between a funder, a non-profit agency serving urban youth, a community college and a workforce intermediary, creating a "bridge" program (a transitional program) to prepare youth to succeed in the college's manufacturing program. The one-year bridge program included enrolment in college courses, academic assistance, and other services and support (literacy, life skills, employment readiness, job shadowing and internships), followed by continuing support while the youth progressed through the college's manufacturing program.

Workforce development focuses on a longer time horizon, where the skills acquired now will benefit the company some time down the road. It also requires a longer period to implement, something that governments, with their annual funding cycles and year-to-year accountability frameworks, have a harder time embracing. The following quote regarding sector initiatives, a subset of workforce development strategies, applies broadly to this field:

Sector initiatives are relatively easy to implement in diluted form, with mediocre results, and much harder and resource-intensive to implement in such a way that they truly benefit both employers and workers.

The study goes on to say that the depth of knowledge required to understand the needs of employers is significant, and requires a fair bit of work and time. An effective sector strategy can take up to five years to develop. Looking at the experience of Quinte and Waterloo/Wellington, one can see that the learning curve was stretched over several years.



¹⁰ Thomas Showalter and Katie Spiker, *Promising Practices in Work-Based Learning for Youth*, National Skills Coalition and National Youth Employment Coalition, 2016

¹¹ Terry Grobe, Nancy Martin and Adria Steinberg, *Creating Pathways to Employment: The Role of Industry Partnerships in Preparing Low-Income Youth and Young Adults for Careers in High-Demand Industries*, National Fund for Workforce Solutions and Jobs for the Future, 2015..

Another area worth highlighting is the range of initiatives aiming at attracting new workers to the manufacturing sector, in particular youth and women, seeking to dispel the many myths about work in the manufacturing sector and showcasing the innovative and creative aspects of careers in modern manufacturing.

For example, the home page of the Manufacturing Institute is primarily about attracting talent, including youth, women and veterans, to the industry, and one of its tabs refers to the topic of "Image," which tackles the negative stereotypes about manufacturing and promotes a career awareness and recruitment program called "Dream It. Do It.".¹² Such national initiatives are complemented by local projects, "Industry Needs You" is a major career awareness, recruitment and skills development program covering 14 counties in Ohio and Pennsylvania, involving over 80 employer partners. This initiative has a website providing information about manufacturing for students, parents, educators/counselors, employers and job seekers, to help them plan their education, career and/or job search. The initiative also sponsors a seven-week work readiness program for employment in manufacturing.¹³

In short, the efforts in the United States appear focused on both attracting individuals to careers in manufacturing as well as providing pathways supported with training whereby individuals can access employment and progress to better paying positions.

¹² Manufacturing Institute website: <http://www.themanufacturinginstitute.org/>.

¹³ "Industry Needs You" website: <http://www.industryneedsyou.com/>.



Overview of the data: manufacturing in Ontario and in Peel and Halton

The following section provides a description of manufacturing through data, including trends over time.

Description of the manufacturing industry and manufacturing occupations

The manufacturing industry consists of 21 subsectors, as follows:

Food manufacturing Beverage and tobacco	Paper manufacturing	Fabricated metal product
products	Printing and related activities	Machinery manufacturing Computer & electronic
Textile mills	Petroleum and coal products	products Electrical equipment,
Textile product mills	Chemical manufacturing	appliance
Clothing manufacturing	Plastics and rubber products Non-metallic mineral	Transportation equipment Furniture and related
Leather and allied products Wood products	products	products
manufacturing	Primary metal manufacturing	Miscellaneous manufacturing

Occupations in manufacturing refer to jobs on the plant floor and consist of the following:

- Processing and manufacturing supervisors and central control operators
- Processing and manufacturing machine operators and related production workers
- Assemblers in manufacturing
- Labourers in manufacturing

Only around four jobs out of ten jobs in the manufacturing industry are actually manufacturing occupations. Trades, transport and equipment operators make up another 20%, and roughly one in ten can be found in each of the following categories: business, finance and administration occupations (12%); natural and applied sciences occupations (11%); management occupations (10%): and sales and service occupations (7%).

Manufacturing in the Toronto GTA

About 44% of Canada's manufacturing GDP is produced in Ontario, the Toronto CMA (which includes Peel and most of Halton) accounts for slightly over a third (37%) of Ontario's manufacturing sales.



Toronto's manufacturing sector is the largest of all CMAs in Canada, and quite diverse. The largest manufacturing industry in Toronto, by far, is the transportation equipment industry, part of which is composed of automotive industry, automobile parts and aerospace products manufacturing. The food manufacturing is the second largest industry in Toronto and plays a significant role in its manufacturing sector. Toronto also produces chemicals, fabricated metals, and rubber and plastics.

While sales in the Toronto transportation equipment industry fell between 2007 and 2012, it actually arose during that same period among Toronto's food manufacturing and chemical manufacturing industries.¹⁴

Local jobs and resident employment in manufacturing in Peel and Halton

Local jobs refer to jobs physically located in the area (and so does not include jobs that have no fixed workplace, for example, certain construction jobs or itinerant cleaners). Employed residents may live in a certain area, but their job may either be located in their local area or they may commute outside their local area for work. Thus, resident employment simply tells us in what industry or occupation residents may be employed, but it does not mean those jobs are located in the local area.

According to the 2011 National Household Survey, every one of the 21 manufacturing subsectors account for jobs in each of Peel and Halton (except for textile mills and textile product mills in Halton). However, around half of these subsectors each account for 3% or less of all manufacturing jobs in each area.

Tables 1 and 2 profile the number of jobs in manufacturing in each of Peel and Halton among the larger local manufacturing subsectors, as well as the number of residents employed in those same subsectors.

In 2011, manufacturing accounted for 15% of all jobs present in Peel Region. Of all these manufacturing jobs, almost two-thirds (63%) were found in six subsectors, the two largest being transportation equipment manufacturing (14.6% of Peel manufacturing jobs) and food manufacturing (14.0%).

In 2011, there were slightly more Peel residents who were employed in manufacturing (87,940) than there were manufacturing jobs in Peel (86,170).

¹⁴ Data for this subsection comes from Sebastien Chiasson and Javad Sadeghzadeh, *Local Manufacturing Data: A longitudinal analysis of manufacturing sales and employment for Canada's largest CMAs*, Statistics Canada, 2016, pp. 18-19.



	ALL INDUSTRIES	ALL MANUFACTURING	Food manufacturing	Chemical manufacturing	Plastics/rubber products	Fabricated metal products	Machinery manufacturing	Transportation equipment
Jobs	575,285	86,170	12,035	6,525	6,670	8,950	7,560	12,610
% of manufacturing			14.0%	7.6%	7.7%	10.4%	8.8%	14.6%
Employed residents	647,805	87,940	12,875	6,635	8,175	9,250	6,930	12,695

Table 1: Local jobs and employed residents in select manufacturing subsectors, Peel Region, 2011

In the case of Halton Region, manufacturing also accounted for 15% of all local jobs. Around two-thirds of these manufacturing jobs were found in five subsectors, by far the largest being transportation equipment manufacturing, representing a quarter (25.7%) of all manufacturing jobs in Halton.

In 2011, slightly fewer Halton residents were employed in manufacturing (27,125) compared to the number of Halton manufacturing jobs (30,485). That difference was particularly pronounced in the transportation equipment sector (5,240 employed residents versus 7,830 jobs).

Table 2: Local jobs and employed residents in select manufacturing subsectors, Ha	alton
Region, 2011	

	ALL INDUSTRIES	ALL MANUFACTURING	Food manufacturing	Fabricated metal products	Machinery manufacturing	Computer/electronics	Transportation equipment
Jobs	208,875	30,485	3,220	2,685	3,520	2,240	7,830
% of manufacturing			10.6%	8.8%	11.5%	7.3%	25.7%
Employed residents	263,850	27,125	3,055	2,330	2,545	2,105	5,240



A further analysis examines the distribution of jobs and employed residents by category of occupation, for 2011 in Peel and Halton. Table 3 presents the percentage distribution of jobs as well as residents by level of education required for the job, with a separate calculation for blue collar jobs (manufacturing, trade and transport/equipment operators) and white/pink collar jobs (management, finance and administration, applied science, and sales and service).

Table 3: Distribution of jobs and employment by education level in manufacturing, Peeland Halton Regions, 2011

	PEEL		HAI	TON	
	Jobs	Employed	Jobs	Employed	
		residents		residents	
BLUE COLLAR OCCUPAT	IONS				
University level	0%	0%	0%	0%	
College or trades	29%	29%	34%	38%	
High school	54%	53%	54%	50%	
No certificate required	17%	18%	12%	12%	
WHITE COLLAR OCCUPA	TIONS				
University level	47%	43%	47%	53%	
College or trades	26%	28%	27%	23%	
High school	25%	26%	23%	22%	
No certificate required	2%	2%	3%	2%	

In most respects, there is a very close match between the skill level of the jobs present in each region and the skill level of the jobs that residents are employed in for that same region. The slight differences tell a story:

- Peel has slightly more low-skilled blue collar jobs in its manufacturing sector than Halton, which has a higher proportion of blue collar jobs requiring a college or trades certificate, and a considerably higher proportion of residents in jobs requiring a college or trades certificate (38% in Halton versus 29% in Peel);
- Among white-collar jobs, both regions have the same proportion of manufacturing jobs that require a university degree (47%), but a considerable difference in the proportion of white-collar jobs that residents are employed in that require a university degree (Peel has 43% whereas Halton has 53%).

Trends in employment in the manufacturing industry

It is commonly known that employment in the manufacturing sector has been decreasing, largely caused by growing reliance on labour-saving automation and robotics, as well as the challenge of competing against low-wage jurisdictions.



When one looks at manufacturing employment over 30 years, the trend has not been entirely in one direction. Chart 1 traces employment in the manufacturing industry for Ontario and the Toronto CMA.¹⁵





Employment in manufacturing fell in the early 1990s as a result of the recession and the introduction of NAFTA, then slowly started climbing again as the Canadian dollar dropped in value and exports became more competitive. In fact, manufacturing employment reached its peak over this 30-year period in 2004. With the rise in value of the Canadian dollar, manufacturing employment started declining again, then had a sharper drop with the onset of the 2008 recession. Since then, employment has been more or less steady.

In actual numbers, total manufacturing employment in the Toronto CMA fell from 487,720 employees in 2004 to 331,060 in 2016, a drop of 32%, essentially by a third. However, not all manufacturing subsectors suffered losses. During that same period, employment in food manufacturing in the Toronto CMA increased by 6%, from 49,680 to 52,460.

During this time, the mix of occupations on the plant floor also changed. Employment in the manufacturing industry consists of blue-collar jobs in the factory and white-collar management, marketing, sales and administrative jobs in the office. The National Occupational Classification assigns a major occupational category to Occupations in Manufacturing and Utilities, which consists of four major groups:



¹⁵ Annual labour market data is only available at the Toronto CMA level. Data for Peel and Halton regions comes from data collected every five years for the Census, via the National Household Survey.

- Processing, manufacturing and utilities supervisors and central control operators (occupations typically requiring a college diploma or trades certificate);
- Processing and manufacturing machine operators and related production workers (occupations typically requiring a high school diploma);
- Assemblers in manufacturing (occupations typically requiring a high school diploma);
- Labourers in processing, manufacturing and utilities (occupations which usually do not require any formal educational requirements and only a short period of on-the-job training).

Chart 2 illustrates the drop in the number of manufacturing occupations as well as the change on the mix of these occupations, between 2004 (at the employment height) and 2016 in the Toronto CMA.



Chart 2: Employment in manufacturing occupations, Toronto CMA, 2004 and 2016 (in '000s)

Statistics Canada, Labour Force Survey

In 2004, employment in all manufacturing occupations totalled 261,460. By 2016, that figure had dropped to 166,260. Moreover, the mix of these occupations changed, with an increase at the high and low ends of these occupations, among supervisors and central control operators (from



17% to 23%) and labourers (12% to 17%), and a corresponding drop among machine operators (from 27% to 23%) and assemblers (45% to 38%).

Manufacturing output

There are two ways to convey the volume of economic activity represented by manufacturing. In the first instance, one can look at total sales as a measure of output. Chart 3 shows the dollar value of manufacturing sales in Ontario between 1996 and 2016, in constant 2016 dollars.



Chart 3: Manufacturing sales, Ontario, 1996 to 2016 (constant 2016 dollars) (in millions)

Over this 20-year period, manufacturing sales (expressed in constant dollars) peaked in 2000, then started a slow decline which accelerated sharply with the 2008 recession. Since that time, there has been a slow and steady recovery. In 2016, manufacturing sales reached the level that existed in 2008 (as well as in 1996).

However, the overall economy has been growing during this period. As a consequence, manufacturing's share of Ontario's gross domestic product has declined. In 1996, manufacturing represented 22.1% of the province's GDP, more than double the GDP contributed by any other industry sector (Chart 4). Since 2000, there has been a steady decline in manufacturing's share, but that decline has stabilized since 2009, hovering around the 12% mark.



Statistics Canada, Cansim Table 304-0015.



Chart 4: manufacturing industry's percentage share of Ontario's gross domestic product, 1996 to 2016

Despite this decline, manufacturing remains a significant industry in Canada, and is seen as such from a global perspective. In Deloitte's *2016 Global Manufacturing Competitiveness Index*, a study that includes a survey of over 500 senior manufacturing executives from around the world, Canada is ranked 9th, with a projected ranking of 10th in 2020. Canada's export strengths are in motor vehicles and parts, aircraft, telecommunications and electronics, and the country is seen as having a supportive business and regulatory environment, with public investment in the manufacturing sector. One notable challenge cited by the report is a shortage of skilled labour, made worse by an aging workforce.¹⁶

Characteristics of the manufacturing workforce

There are a number of ways that the make-up of the manufacturing workforce is different from the overall labour force.

Gender. The manufacturing workforce has a higher proportion of males. Among full-time workers, two-thirds are male, compared to a labour force average that stands at 56% (Table 4). As well, now half of all part-time manufacturing employees are male, a considerable increase

¹⁶ Deloitte, 2016 Global Manufacturing Competitiveness Index, pp. 4, 61-62.



from the 1987 figure of one-third. The share of males among part-timers in all industries has also increased, but not to the same degree.

Among full-time manufacturing occupations, males particularly dominate among supervisors (in 2016: 79%) and assemblers (71%), and less so among machine operators (60%) and labourers (51%).

Table 4: Proportion of males by industry and occupation categories, Toronto CMA, 198	B7,
1996, 2006 and 2016	

	1987	1996	2006	2016
ALL INDUSTRIES – FULL-TIME	59%	57%	56%	56%
ALL INDUSTRIES – PART-TIME	30%	34%	35%	37%
Manufacturing industry				
Full-time	66%	67%	65%	67%
Part-time	32%	41%	39%	51%
Manufacturing occupations – Full-time				
Supervisors	80%	87%	82%	79%
Machine Operators	63%	61%	58%	60%
Assemblers	64%	63%	63%	71%
Labourers	50%	48%	40%	51%
Manufacturing occupations – Part-time	44%	44%	52%	56%

Statistics Canada, Labour Force Survey

Age. It is well-known that our workforce is aging, but that tendency is particularly pronounced among the manufacturing labour force. Chart 5 shows the age distribution of employed workers in the Toronto CMA across several decades. One can see how the proportion of workers aged 15-24 years of age has dropped over time, while the share of workers aged 55 years or older has increased (in 2016, at 21%).





Chart 5: Age distribution of employed workers, all industries, Toronto CMA, 1987, 1996, 2006 and 2016

Statistics Canada, Labour Force Survey

Those trends are far greater in the manufacturing sector (Chart 6). The share of young workers (aged 15-24 years old) is at 6%, half the proportion among all employed workers. And the share of workers aged 55 years or older is over one quarter (26%).





Chart 6: Age distribution of employed workers, manufacturing, Toronto CMA, 1987, 1996, 2006 and 2016

Statistics Canada, Labour Force Survey

Indeed, the manufacturing workforce in Peel and Halton is older than the manufacturing workforce in other manufacturing-intensive regions, particularly among workers aged 45-64 years of age.¹⁷

In the 2015 Peel-Halton Employer Survey carried out by the Peel Halton Workforce Development Group, employers were asked the extent to which they are, or anticipate to be, affected by the retirement of the baby boom generation. Manufacturing employers were far more likely to express the view that they anticipate feeling the impact in the next one to five years (Chart 7).

¹⁷ Canadian Manufacturers & Exporters and Canadian Skills Training & Employment Coalition, *Regional Manufacturing Profile – Peel-Halton Region* (2015), p. 6.





Chart 7: Impact of baby boom retirements (N=461 for ALL; N=96 for Manufacturing)

Peel-Halton Employer Survey, 2015

Education. Workers in the manufacturing sector tend to have a somewhat lower level of educational attainment than that found among all workers (Table 5).

Table 5: Distribution of employed workers by age, all industries and manufacturing	,
Toronto CMA, 1991, 1996, 2006 and 2016	

	ALL INDUSTRIES			MANUFACTURING				
	1990	1996	2006	2016	1990	1996	2006	2016
No high school	24%	16%	11%	7%	31%	25%	15%	11%
High school	23%	23%	20%	16%	24%	28%	25%	24%
Some post-secondary	11%	9%	8%	6%	10%	7%	6%	6%
Post-sec diploma/certificate	21%	26%	28%	28%	20%	24%	28%	29%
University	21%	26%	33%	43%	15%	16%	27%	30%

Statistics Canada, *Labour Force Survey*

In 1990, almost a third of manufacturing workers did not have a high school diploma. That proportion has dropped to 11% in 2016, just slightly higher than the figure for all industries. The share of employees with a high school diploma has stayed steady in manufacturing (in 2016 at 24%), while it has dropped in the overall employed labour force. Manufacturing has an equal



proportion of workers with a post-secondary certificate or diploma as it does with a university degree, while among all workers there are considerably more individuals who have a university degree.

Type of employment

Manufacturing has a lower proportion of part-time employment compared to the overall workforce (Table 6). In 2016, 5.4% of manufacturing employees in the Toronto CMA worked part-time, compared to 17.3% across all industries.

Table 6: Incidence of part-time work, all industries and manufacturing, Toronto CMA,1987, 1996, 2006 and 2016

	1987	1996	2006	2016
All industries	13.5%	15.9%	15.8%	17.3%
Manufacturing	3.2%	4.2%	3.3%	5.4%

Statistics Canada, Labour Force Survey

When it comes to reliance on temporary workers, the manufacturing industry used to rely less on temporary workers than other industries as late as 2006 (9.1% compared to 12.3% overall) (Table 7). Since then it has increased its use of temporary workers to slightly more that of other industries. The one exception is in the case of manufacturing labourers, where the use of temporary workers was already high in 2006 and has gone to very high (almost a third) by 2016.

Table	7: Incidence of temporary work, all industries and manufacturing,	Toronto CMA
1987,	1996, 2006 and 2016	

	2006	2016
All occupations	12.3%	13.4%
Manufacturing occupations	9.1%	14.3%
Supervisors	0.0%	0.0%
Machine operators	8.0%	11.6%
Assemblers	4.8%	13.9%
Labourers	19.0%	32.1%

Statistics Canada, Labour Force Survey

Wages

Table 8 compares the average hourly wage for full-time workers in all occupations to those in manufacturing occupations. Overall, the average hourly wage has risen between 1997 and 2006 and between 2006 and 2016. For manufacturing, the overall pattern has been that wages



dropped between 1997 and 2006, and since then there has been somewhat of a recovery, although the experience has been different with each sub-category:

- Supervisors experienced a drop in wages and then more or less a complete recovery;
- Machine operators have had almost no change in their wages;
- Assemblers have seen a drop and then more or less steady;
- Labourers saw a significant drop, then steady.

Table 8: Average hourly wage, all occupations and manufacturing occupations, full-time
workers, Toronto CMA, 1997, 2006 and 2016 (in constant 2016 dollars)

	1997	2006	2016
All occupations	\$25.31	\$26.46	\$28.49
Manufacturing occupations	\$19.43	\$18.70	\$19.19
Supervisors	\$27.81	\$26.76	\$27.77
Machine operators	\$18.44	\$18.49	\$18.39
Assemblers	\$19.79	\$19.10	\$19.06
Labourers	\$16.70	\$15.01	\$15.05

Statistics Canada, Labour Force Survey

The only instances where education seems to make a difference in terms of wages for those employed in manufacturing occupations is in the case of those machine operators and assemblers who have a post-secondary certificate or diploma, which may reflect vocationspecific education that qualifies an individual for a higher salary. Otherwise, there is no consistent pattern when one compares the wages of high school graduates to university degree holders among the various manufacturing occupations (Table 9). (The average wages are different between Tables 8 and 9 because Table 8 represents full-time workers and Table 9 includes all workers for each occupational category.)



Table 9: Average hourly wage,	, manufacturing occupations,	all workers,	Toronto CMA,
2016			

	TOTAL	0-8 YEARS OF GRADE SCHOOL	SOME SECONDARY	HIGH SCHOOL DIPLOMA	SOME POST- SECONDARY	POST-SECONDARY CERTIFICATE /DIPLOMA	UNIVERSITY DEGREE
Supervisors	\$27.74	\$	\$	\$27.98	\$	\$28.41	\$28.46
Machine operators	\$18.25	\$17.39	\$16.18	\$18.53	\$16.75	\$19.41	\$18.71
Assemblers	\$18.97	\$14.86	\$17.94	\$18.77	\$21.03	\$21.53	\$16.93
Labourers	\$14.72	\$14.46	\$17.04	\$14.32	\$15.05	\$14.03	\$13.56

Statistics Canada, Labour Force Survey

Job Vacancy and Wage Survey

Since the start of 2015, Statistics Canada has been administering a Job Vacancy and Wage Survey, in response to a growing need to know where the job openings are. The survey is undertaken quarterly, with a sample of 100,000 business locations, stratified to provide representation by industry, number of employees and geography. The survey is able to report not only on such issues as the number of vacancies that exist (by various occupational categories) and the asking wages, but also whether the job is full-time or part-time, permanent or temporary, the level of education required for the position, and other relevant factors. However, as with any survey, the narrower the geography or the cross-tabulation of too many variables results in a sample size that is too small to be reliable.

The following four charts explore the level of vacancies and the asking wage in the Toronto CMA for four major manufacturing occupations. In order to make comparisons easier, the results for Quarter 2 in 2015 are selected as the base and given a value of 100, and all other results are expressed in relation to the 2015 Q2 figures. (Although the survey was started in Quarter 1 of 2015, the first results, especially for certain variables, were less reliable because of sampling issues that were adjusted for Quarter 2.) The vacancy numbers and the asking wage are also compared to the total number of jobs in that occupation in the Toronto CMA by quarter, drawn from the Labour Force Survey.







Chart 9: Trends in job vacancies, asking wage and total number of jobs, manufacturing machine operators, Toronto CMA, Quarter 2 2015 to Quarter 4 2016













The significant point to note from these four charts is that in the case of the first three occupations (Chart 8: Supervisors; Chart 9: Machine Operators; and Chart 10: Assemblers), there is some variation in the asking wage, which to a limited degree goes up or down when the vacancy numbers and/or total employment numbers go up or down (sometimes delayed by a quarter). That does not at all appear to be the case when it comes to manufacturing Labourers



(Chart 11), where the asking wage stays more or less flat, even as the job vacancy numbers rise and employment rises. It suggests there is less variability in the wage of labourers, less a matter of supply and demand and more a matter of an industry practice.



Preliminary consultations and interviews

The literature review provided a context regarding current trends in manufacturing generally, as well as an insight into the approaches undertaken by a number of workforce development initiatives. The overview of the data section gave a sense of certain characteristics of the manufacturing sector in Peel and Halton. However, in order to get a better appreciation of the workforce needs of local manufacturers, it was necessary to engage in consultations and qualitative information gathering.

The first step in this regard involved convening an advisory committee to help set the project in the right direction. The advisory group was made up of representatives from the following organizations:

- Canadian Manufacturers and Exporters Association
- Excellence in Manufacturing Consortium
- Peel Regional Labour Council
- Yves Landry Foundation

The purpose of the session was to narrow the scope of the potential initiatives that the manufacturing project would eventually propose, in essence to reduce the scale of possible options that would be considered by the project, as we moved toward making recommendations about actual initiatives which could be undertaken by the LEPC in the next phase of its activities.

There were two clear take-aways from the brainstorming session with this advisory group:

- That any workforce development initiative was defined by local circumstances; there were not one or two overarching needs or challenges that were common to all manufacturers, regardless of location. The only way to identify the specific needs of Peel and Halton manufacturers was to go out and consult with them;
- 2) That it was also important to get clarity on what already was being done locally, to ensure there was no duplication; that would be a waste of resources and would bring about confusion among employers regarding where to turn for assistance.

As a result, the next stage of the project undertook interviews with key informants and with local manufacturing employers.

Interviews with key informants and employers

Over the course of two months, 12 interviews with key informants and 24 interviews with manufacturing employers were carried out, each usually lasting 30-45 minutes. The key informants consisted of municipal economic development officers, employment services



counsellors and educators at the high school and community college levels. The manufacturing employers represented a range of manufacturing industry subsectors and establishment sizes, and were recruited through follow-up to the Peel Halton Employer Survey and through direct outreach by LEPC staff.

Among the municipalities of Peel and Halton, almost all focus attention on manufacturing in their economic development strategies, often highlighting advanced manufacturing and in a few cases, food products manufacturing. Several also promote specific centres dedicated to innovation and technology, of which advanced manufacturing is an important aspect.

Employment service agencies vary in their engagement with manufacturers, some have less contact with the manufacturing sector, others more, in part due to their location. For those with more contact with manufacturers, the most prominent issue is recruitment of job candidates for entry-level/lower skilled production worker occupations. In the past, these positions had relatively higher wages compared to similar jobs, but nowadays the average pay is often only slightly above the minimum wage. In comparison to entry-level service sector jobs, the distinguishing feature which still makes these positions appealing is the greater likelihood that they offer full-time hours, sometimes overtime, and sometimes a benefit package. On the other hand, these jobs often involve shift-work, and newly recruited workers are often assigned to evening and night shifts. Finally, depending on the location of the workplace, transportation can be an issue, especially where public transit is non-existent or has a limited schedule.

Among the educational sector, two items warrant mention:

- There are 11 high schools across the public and separate school board systems in Peel and Halton, which offer a Specialist High Skills Major program in manufacturing: four in Burlington; three in Mississauga; and one in each of Brampton, Halton Hills, Milton and Oakville;
- Sheridan College has a Centre for Advanced Manufacturing and Design Technologies, a 28,000 square-foot facility which offers a place where students can acquire advanced manufacturing skills and where small and medium-sized manufacturing firms can collaborate with students, researchers and technologists to develop innovative solutions specific to their business needs.

There were a number of findings from the interviews with manufacturing employers:

- Employers rely on a range of strategies to recruit entry-level workers, including on-line job boards (such as Indeed, LinkedIn, Canada Job Bank, Kijiji) and referrals from current employees; fewer employers were familiar with job candidate recruitment assistance available through Employment Ontario employment services agencies;
- In a number of instances where employers hire for summer positions, these positions are usually offered first to children of current employees;

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- A fair number of manufacturers made use of temporary worker agencies, often as a way to test an employee before offering them a permanent position;
- Some manufacturers expressed challenges recruiting and retaining for higher skilled positions, notably maintenance staff, skilled trades, engineering and technician positions, and millwrights;
- Those who indicated they did not have major turnover challenges cited the presence of good communications between management and staff and opportunities for advancement within the firm;
- There is a fair degree of use of co-op students from community colleges and universities, less so high school students; in the case of the latter, some manufacturers felt high school students did not have skills to bring to the employer, and that they were still some distance from choosing a career path.

While 24 interviews with employers was a considerable number, it could not be a representative sample, given the diversity of industry sub-sectors, number of employees and geography. What was reassuring was the general consistency of viewpoints from a considerable number of the interviewees on the range of topics discussed.

The insights derived from the interviews were critical to informing the next stage of the project, the design and administration of a survey to manufacturing employers. The main themes of the survey were as follows:

- Recruitment challenges for entry-level occupations
- Recruitment challenges for higher-level occupations
- Interest in engaging with educational partners



Manufacturing employer survey

The on-line survey consisted of 20 questions, most of which were close-ended. 196 individuals visited the on-line survey and, while the number of responses tended to decline with each question, overall the average rate of response per question was 171. Contact information was provided by 92 employers for future follow-up to this survey, a further signal of their interest in this initiative.

Profile of survey respondents

In a number respects, the profile of the survey respondents broadly matched the distribution of manufacturers according to a number of characteristics.

Location. Table 10 shows the distribution of survey respondents by region and by municipality, and compares the percentages to the actual distribution of manufacturing firms with employees in these same municipalities.

	SURVEY		PEEL + HALTON ACTUAL
	NUMBER	PERCENT	PERCENT
Burlington	29	16%	10%
Halton Hills	1	1%	3%
Milton	10	6%	4%
Oakville	33	18%	8%
HALTON	73	40 %	25%
Brampton	48	26%	21%
Caledon	9	5%	4%
Mississauga	67	37%	49%
PEEL	124	68%	74%
Other	16	9%	

Table 10: Distribution by municipality and by region, survey respondents and manufacturing firms with employees

Canadian Business Counts, June 2016

Overall, the survey has a somewhat higher proportion of employers from Halton than is actually the case, primarily on account of a larger number of responses from Oakville and Burlington. The share of responses from Mississauga is somewhat lower than Mississauga's actual share of all manufacturing employees.



Industry. The distribution of respondents by industry subsector was quite close to the actual distribution, for each of Peel and Halton. Table 11 compares the figures. The orange-shaded cells represent those subsectors which make up roughly two-thirds of the survey respondents for each region. (The subsectors are listed in order of the combined value of the actual share of all manufacturing forms in Peel and Halton, that is, the sum of figures in columns 4 and 5.)

MANUFACTURING SUBSECTOR	SURVEY		ACTUAL	
	PEEL	HALTON	PEEL	HALTON
Fabricated metal product manufacturing	26%	17%	20%	16%
Machinery manufacturing	11%	17%	12%	16%
Miscellaneous manufacturing	5%	7%	9%	10%
Printing & related support activities	4%	0%	8%	8%
Food manufacturing	9%	7%	8%	7%
Furniture & related production manufacturing	3%	0%	8%	4%
Plastics & rubber products manufacturing	11%	10%	6%	4%
Chemical manufacturing	3%	3%	4%	6%
Computer & electronic product manufacturing	3%	5%	4%	6%
Transportation equipment manufacturing	5%	12%	4%	5%
Wood product manufacturing	1%	3%	4%	3%
Electronic equipment, appliance & component mfg	11%	3%	3%	3%
Non-metallic mineral product manufacturing	0%	3%	3%	4%
Paper manufacturing	2%	2%	2%	1%
Primary metal manufacturing	2%	5%	2%	1%
Textile product mills	0%	0%	1%	1%
Clothing manufacturing	1%	2%	1%	1%
Beverage & tobacco product manufacturing	1%	2%	1%	1%
Textile mills	0%	0%	1%	1%
Petroleum & coal product manufacturing	3%	0%	0%	0%
Leather & allied product manufacturing	0%	0%	0%	0%
TOTAL NUMBER	107	58	2736	932

Table 11: Distribution by industry subsector, survey respondents and manufacturing firmswith employees

Canadian Business Counts, June 2016

Size of establishment. Table 12 compares the profile of respondents by number of employees and compares it to the actual figure. The first and second lines of the table show the actual number and percentage distribution of firms by size categories in Peel and Halton, while lines three and four show the number and percentage distribution by size of the survey respondents. The fifth line shows the survey respondents as a percentage of the actual number of employees, by different size categories. Thus, in June 2016 there were 279 manufacturing employers with over 100 employees, and this made up 8% of all manufacturers with employees. The survey



attracted 68 of these employers, meaning that almost a quarter of the firms in this size category were participants in the survey.

Table 12: Distribution by number of employees, survey respondents and manufacturin	ng
firms with employees	

	NUMBER OF MANUFACTURERS				
	1-4 5-19 20-99 100				
Actual number	1302	1251	836	279	
Actual percent	36%	34%	23%	8%	
Survey number	12	44	61	68	
Survey percent	7%	24%	33%	37%	
Survey as percent of actual	0.9%	3.5%	7.3%	24.4%	

Canadian Business Counts, June 2016

Starting wage. Respondents were asked to indicate the starting wage for their entry-level occupations. Chart 12 presents the results by size of firm and Chart 13 by municipality.



Chart 12: Entry-level starting hourly wage, by size of firm

The first column shows the responses for all employers, with a slightly larger proportion who pay \$16 an hour or more. However, when the responses are broken down by size of firm, there is a pattern of the starting wage rising with the size of firm (there were not enough respondents



with 1-4 employees to produce a reliable figure for this size range). Among firms with 5-19 employees, the largest proportion (36%) paid under \$13.50. That being said, the differences by size were not especially great, but enough to demonstrate a tendency.

According to Chart 13, Burlington residents appear to attract better starting wage earnings than the other three municipalities listed, which tended to have more similar wage distribution profiles than Burlington.



Chart 13: Entry-level starting hourly wage, by employers in select municipality

Recruitment of entry-level production workers

Respondents were asked how challenging was it for them to find entry-level production workers, selecting from one of the following possible answers:

- Very challenging
- Somewhat challenging
- Not at all challenging
- This does not apply to our firm

Chart 14 presents the responses by size of firm and Chart 15 presents the responses by the starting hourly wage (Low = under \$13.50; Medium = \$13.50 to \$15.99; High = Over \$16.00). Overall, half of all respondents found it very challenging to recruit entry-level production



workers, and over a third found it somewhat challenging. Only a small percentage found it not at all challenging or that the recruitment of such workers did not apply to their firm.

This challenge was considerably greater for small firms (5-19 employees) compared to large (100+ employees) firms. And it was somewhat greater for firms that paid in the Medium starting wage range, compared to those who paid less or who paid more.



Chart 14: Degree of challenge finding entry-level production workers, by size of firm





Chart 15: Degree of challenge finding entry-level production workers, by starting wage

The survey went on to propose two responses to these challenges and asked respondents to assess how helpful each initiative would be.

The first proposed response was: "Provide better recruitment services for employers, to help locate and pre-screen job candidates." Around half of employers (49%) felt such a solution would help a lot, and there was very limited variation by size of firm (Chart 16) or their starting wage (Chart 17).





Chart 16: Assessment of helpfulness of better recruitment services for entry-level production workers, by size of firm

Chart 17: Assessment of helpfulness of better recruitment services for entry-level production workers, by entry-level starting wage



For most categories of firms, around 11-14% felt this strategy would not really help, and that figure was slightly greater among large firms (19%) and firms that paid in the High entry-level starting wage range (20%).



Respondents were further asked what level of assistance they would be willing to contribute to help make the proposed solution possible. Chart 18 tabulates the number of employers responding positively to each of the following categories of involvement:

- Would agree to complete a further survey to help identify specific recruitment needs;
- Would agree to participate in a 15-minutes telephone interview to help design the recruitment service;
- Would agree to participate in a one-time focus group to provide feedback to the proposed recruitment service;
- Would agree to participate in an advisory committee that would meet two or three times to help design the referral service.



Chart 18: Number of employers agreeing to provide different categories of assistance to help shape better recruitment services (N=169)

In essence, the more time commitment is involved in providing assistance, the fewer employers are willing to commit to that activity. Nevertheless, the activity requiring the greatest time commitment, participating in an advisory group, still was agreed to by over a quarter (45 out of 169) of all respondents to this question. When the results are analyzed by firm characteristics, employers representing large firms or firms that pay entry-level starting wages in the High range are more likely to commit to the more time intensive activities of participating in a focus group or advisory committee.

The second proposed response was: "Put in place an employment preparation program, to prepare individuals for entry-level production occupations, teaching both hard and soft skills, as well as workplace safety." Very close to half of employers (46%) felt this suggestion would help a



lot. For this item, firms with less than 100 employees were more likely to feel it would help a lot (Chart 19), as well as firms that paid entry-level starting wages in the medium range (Chart 20).



Chart 19: Assessment of helpfulness of an employment preparation program for entrylevel production workers, by size of firm

Chart 20: Assessment of helpfulness of an employment preparation program for entrylevel production workers, by entry-level starting wage



The responses regarding the level of assistance employers were willing to contribute to see this solution implemented were similar to the responses for the first strategy of better recruitment



services, with comparable numbers indicating their willingness to participate, with the numbers dropping off by level of time commitment, and with large firms and firms paying High starting entry-level wages being more likely to contribute their time. Again, around one quarter (40 out of 154 respondents) agreed to participate in an advisory committee.

The next question introduced respondents to the recruitment services provided by Employment Ontario agencies and asked employers if they wished to have someone follow-up with them. The question was worded as follows:

There are employment recruitment services funded by the Province of Ontario to help employers find qualified job candidates at no cost. Would you be interested in having someone from Employment Ontario contact you to explore how they could assist you in recruiting job candidates?



Chart 21: Employer interest in being contacted regarding Employment Ontario services

Around four in ten employers wished to be contacted about EO services, and another three in ten wanted more information (Chart 21). Mid-sized firms (20-99 employees) were especially interested in being contacted (50%), while large firms were most interested in receiving more information.



Recruitment of CNC machinists

The next question focused specifically on CNC machinists (CNC refers to computer numerical control, that is, machines that are controlled by pre-programmed computer sequences as opposed to being manually controlled). Employers were asked how difficult it was for them to find qualified CNC machinists.





The first point to note is that almost two-thirds (65%) of respondents indicated that this issue did not apply to them (Chart 22). There was little variation by size of firm to this question, but there was more variation when it came to the range of the starting entry-level wage. For starters, the degree to which this issue applied to the firm varied by level of starting wage, from 53% of Medium pay level firms saying it did not apply, to a considerable 75% among High range paying firms.

Secondly, there were variations in whether it was very challenging or somewhat challenging. Among Medium level paying firms, there was an equal proportion expressing either a great challenge or somewhat of a challenge, while the proportion expressing that it was very challenging was lower for Low pay range firms, and much lower for High pay range firms.

Respondents were then asked to rate the helpfulness of the following solution:



There is a need to increase the pool of CNC machinists. This program would help recruit and screen new machinists, provide foundational training, and assist employers in training these workers. The trainees would receive coaching and monitoring, and employers would receive financial support.



Chart 23: Assessment of helpfulness of a CNC machinist training program, by firm characteristics

Roughly half of respondents felt such an initiative would help a lot (Chart 23), and that sentiment was especially high among firms with less than 100 employees and among firms that paid in the Medium range for starting entry-level wages.

Recruitment of other skilled workers

The next question focused on other categories of skilled workers: How challenging is it for your firm to find quality job candidates for skilled trades and maintenance positions?

Almost four in ten employers find it very difficult to find qualified workers in these occupations, and adding those finding it somewhat difficult brings the percentage to 75% (Chart 24). By size, the smallest and largest firms express the most difficulty, while mid-sized firms were more likely to say it was "somewhat difficult."



There was almost no variation when the responses were compared on the basis of different starting wage ranges for entry-level production workers.





Survey respondents were then asked the degree to which the following initiative could help improve the number of skilled workers available for local manufacturers:

There is a need to bring together local manufacturers to strengthen the talent pipeline in Peel and Halton, starting with high schools and community colleges, and ensuring there are sufficient apprenticeship opportunities and completions. This needs a task force of local manufacturers to design local solutions.

Chart 25 presents the response from employers. The level of strong support for such an initiative matches the positive assessments for the previous options presented to employers, which involved more concrete suggestions such as better recruitment or a work preparation program. In this instance, the idea of a process engaging a range of stakeholders attracted 46% of respondents who said "it would help a lot." That support was especially high among firms with over 100 employees (56%). Overall, only 10% of respondents said it would not make much difference.



Chart 25: Assessment of helpfulness of a process for building a talent pipeline for local manufacturers starting with the school system



When it came to their willingness to contribute to developing the solution, much the same pattern emerged as before, with a considerable number agreeing to be involved, dropping off at the same rate as the time commitment of the activity increased (Chart 26).

When the responses are broken down by size of firm (Chart 27), medium-size firms (20-99 employees) show almost as much willingness as large firms (100+ employees) to participate in a focus group or an advisory group.



Chart 26: Number of employers agreeing to provide different categories of assistance to help shape a talent pipeline (N=122)



Chart 27: Percentage of employers agreeing to provide different categories of assistance to help shape a talent pipeline by size of firm



Work-based learning activities

The last question related to involvement in work-based learning activities. Respondents were asked whether they were interested in the following:

• Hosting a high school co-op student;



- Hosting a community college co-op student;
- Hosting a university co-op student;
- Hosting an apprentice;
- Being a resource for school experiential learning, such as by giving a talk to a class or by hosting a plant tour.

Chart 28 presents the results.



Chart 28: Interest in participating in work-based learning activities

Between 18-24% of respondents indicated they wished to be engaged in one of these activities. In a few instances, many already do: 37% said they already hosted a community college co-op student, and 32% said they hosted a university co-op student. When it came to high school co-op students, the fewest proportion indicated they wished to host (18%), and few already did so (13%), while two-thirds said they didn't wish to do so. A high proportion also didn't wish to act as a resource to an experiential learning program, and very few already did so, although almost a quarter (24%) were willing to take on such a role.

There were significant variations in the proportions of manufacturing establishments who already were engaged in such activities, especially by size of firm (Chart 29). Large firms were usually more than twice as likely to be engaged in such an activity than medium or small firms. Indeed, over 40% of firms with over 100 employees said they hosted an apprentice, while around 10% of firms with under 100 employees said they did so.







While firms paying higher starting wages for entry-level production workers were more likely to host a community college or university co-op student, that pattern was not the same for hosting an apprentice or high school co-op student, or for being a resource for an experiential learning program (Chart 30).



Chart 30: Firms already engaged in work-based learning activities, by entry-level starting wage



There was also some variation in the responses by municipality (Chart 31). For the four municipalities with a sufficient number of responses to make a comparison, there was little difference when it came to hosting an apprentice, but noticeable differences when it came to hosting a university co-op student (Burlington manufacturers somewhat lower) or a community college co-op (Brampton somewhat higher than the rest). In the case of the community college co-op placements, one has to wonder whether the presence of Sheridan College's Centre for Advanced Manufacturing and Design Technologies In Brampton is a factor.



Chart 31: Firms already engaged in work-based learning activities, by municipality

Overall comment

In addition to providing the project with very useful data about employers' views regarding workforce recruitment across various occupations, together with their assessments of several potential solutions, the survey also demonstrated a high level of interest on the part of manufacturers for being part of the solution. The survey is not a random sample of manufacturing employers; it is already a self-selected group of employers who chose to fill out the survey. Nevertheless, their high level of interest in participating in one way or another in designing potential responses to workforce issues provides a great deal of hope that it will be possible to engage with employers further as this project proceeds to its next stages.



Focus groups with manufacturing employers

Following the survey, the next step involved convening two focus groups for manufacturers, in order to probe deeper on the questions in the survey. Two sessions were held, one in each of Peel and Halton Regions, with a near equal number of employers, in order to make it easier for employers to attend. In total, 28 manufacturing firms were represented at the focus groups (several companies sent more than one person).

The main findings emerging from the focus groups were as follows:

Defining entry-level: The term "entry-level" had been used in the survey, but it was never defined; employers were asked to name the occupations they considered entry-level:

- General labourer
- Material handler
- Operator helper
- Junior process operator
- Apprentice

The challenge of recruiting entry-level: While the survey had revealed that many employers found it very challenging to recruit for entry-level positions, there was not an opportunity to understand why. According to both focus groups, by far the biggest issue are the soft skills. The following represent some of the elaborations of this point:

- Difficulty finding individuals with the right attitude, in terms of team spirit and commitment;
- The challenge is finding the right soft skills; it is not something that always presents itself during the interview process, but emerges over time in the workplace;
- Hard to find people who understand, adopt and embrace the company's culture;
- Difficult to find workers who are willing to make a long-term commitment to the company; there is a high level of turnover, especially among the larger firms;
- Other employers defined soft skills as a willingness to work hard, team work and the right attitude;
- Some prospects don't even bother to show up for the job interview.

Other issues cited included:

- The general interest in manufacturing as an industry is down;
- Many firms have short schedules, while many job seekers desire a Monday to Friday, 9 am to 5 pm work schedule;
- Some job candidates, while qualified, would rather receive Employment Insurance than work.



Minimum educational qualifications for entry-level positions: Most employers cited a high school diploma, although for some even that was not a requirement; the achievement of a high school diploma demonstrated an accomplishment and a basic level of discipline.

Recruitment strategies: The most common requirement strategies were on-line job boards and social media, publicly-funded employment agencies and staffing agencies; a smaller number cited advertisements in newspapers or at schools; lower on the list were job fairs. Two to three firms have incorporated an employee referral program, which encourages current employees to refer qualified people they know for job openings, and where a monetary reward is given when the referred prospect maintains employment for a specified period of time (at least six months).

The education system and the needs of manufacturers: There were a number of opinions regarding the educational system:

- There was a general view that educational institutions do not prepare students for the real world of work; graduates appear to want an easy route to success; they have a sense of entitlement; some felt that soft skills should be taught in high schools;
- Guidance counsellors do not appear to know much about the world of manufacturing, and in any case they have to deal with far too many students to be able to provide adequate counselling;
- At the same time, manufacturing companies are not that engaged with educational institutions; there are Specialist High Skills Majors programs focused on manufacturing in local high schools but it has been a challenge to involve manufacturers; how can schools know what to teach if employers won't provide some direction; there are a number of things employers can do, such as provide input to the curriculum, offer on-the-job experiences, including co-op placements and internships; host plant tours;
- There was a view that in communities where manufacturing is the most prominent industry, such as Fort Erie, Essex and Windsor, there is a broader appreciation of manufacturing and that high schools have done a better job of focusing students on potential careers in manufacturing.

Other challenges affecting recruitment: Some participants cited other issues that affected the ability to recruit quality workers, such as greater commuting distances and the lack of public transit, the high cost of housing in the immediate area; others explained that mid-sized organizations, even if they paid in the mid-range, found the cost of training too burdensome, especially if workers could be lured away by higher-paying firms; for mid-level skilled positions and the skilled trades, experienced baby boomers are retired and the pipeline of workers with experience in these positions is not sufficient—some employers are looking at newcomers with the appropriate experience.

What would help? A number of suggestions were offered:



- Soft skills such as communication skills, critical thinking, perseverance and understanding a company's culture were lacking and could benefit from some training;
- Employment agencies could provide basic workplace safety training, so job candidates had some familiarity with these issues, and employers could build on that and provide safety training specific to their workplace (ultimately, employers feel responsible for ensuring the right training has occurred);
- Basic pre-screening by an employment agency would take some of the burden off employers, such as confirming eligibility to work in Canada, literacy, numeracy and basic capabilities;
- Some employers were interested in more sophisticated assessment tools (mention was made of the Thomas Profiling Behavioral Assessment) which helps screen candidates for the corporate culture they are being recruited for;
- Other employers felt that they themselves should do the ultimate screening, that they didn't feel comfortable leaving it to a third party;
- While manufacturing employers did use temporary worker agencies, both for reasons of the cyclical nature of the work and as a way to test a potential future hire, a number felt that staffing agencies did not always have their best interests at heart and instead were just looking to fill a position.

The value of the focus groups was that, unlike the one-on-one interviews, the format allowed employers to react to the viewpoints of other employers, highlighting areas of broad agreement (for example, soft skills being a major challenge).



Conclusion

There is a lot of information presented in this report. There are two elements to this conclusion:

- Drawing from this information, what are the salient points that should inform the next steps; and
- What are the next steps.

Context for next steps

The main insights to be drawn from this report are the following:

Manufacturing remains an important industry; it is changing, creating opportunities which require adjustment

Manufacturing continues to be a significant industry for Ontario, and with advanced manufacturing it is likely that it will continue to be a significant contributor to Ontario's GDP in the near future.

However, manufacturing will not provide the same level of employment that it had in the past. The types of jobs that will be available and the skills required are changing, with a greater emphasis on higher-level skills; it also means that managers will have to up their game, through adopting new technologies and in guiding and motivating skilled workers to be innovative and adaptable in their tasks.

Part of the challenge for the industry is to overcome some stereotypes, firstly that the industry is in decline and lacks promise as a career choice, and secondly regarding the range and nature of the jobs and career paths that exist.

What the data tells us about jobs in manufacturing

While the overall labour force is aging, it is particularly the case in manufacturing; in 2016, 26% of all workers in manufacturing in the Toronto CMA were 55 years and older, compared to 21% in the labour force; among 15 to 24 year olds, their share of manufacturing jobs was 6%, half the 12% rate in the overall labour force. Manufacturing employers will be experiencing challenges replacing these workers as they retire.

While the number of manufacturing jobs has dropped, the share of manufacturing occupations represented by labourers has actually increased (from 12% in 2004 to 17% in 2016); at the same time, the share of supervisors has also gone up, while machine operators and assemblers has gone down.



Wages for manufacturing labourers are lower than they were in the mid-nineties, although in the past ten years they have been relatively steady. However, even as job vacancies rise, there is no increase in the asking wage.

There is a high reliance on using staffing agencies for manufacturing labourers.

All of this suggests that employment services focused on recruiting and preparing job candidates would serve a need.

Recap of the manufacturers' survey results

Half of all respondents found it very challenging to recruit entry-level production workers, and over a third found it somewhat challenging. Only a small percentage found it not at all challenging or that the recruitment of such workers did not apply to their firm. This challenge was considerably greater for small firms (5-19 employees).

Around half of employers (49%) felt that better recruitment services for employers, to help them locate and pre-screen job candidates, would help a lot, and a considerable proportion of employers were willing to contribute some effort to help see such an initiative be developed, either by participating in a further survey, an interview, a focus group or an advisory committee.

Almost half of employers (46%) felt that an employment preparation program would help a lot, a view that was stronger among firms with less than 100 employees as well as those that paid in the medium range of starting wages. Once again, a considerable number were willing to contribute their time and insights to seeing such an initiative developed.

Around four in ten employers wished to be contacted about Employment Ontario services, and another three in ten wanted more information. Mid-sized firms (20-99 employees) were especially interested.

Almost four in ten employers find it very difficult to find qualified workers among skilled trades and maintenance positions; the smallest and largest firms express the most difficulty,

When employers were asked about the value of a task force of local manufacturers that would develop a local strategy to strengthen the talent pipeline, engaging with high schools and community colleges, 46% felt it would help a lot, with a high of 56% among firms with 100 or more employees. Once again, employers expressed their willingness to



participate in developing the solution, with near equal support from mid-sized and large firms.

Around 20-40% of respondents already host an apprentice, a community college or a university intern, and another 21-22% indicate that they would be interested in doing so. Almost a quarter expressed an interest in being a resource to a school experiential learning program (be a speaker, provide a plant tour) and 18% said they would consider hosting a high school co-op student.

Large firms are far more likely to host an apprentice or student, and firms that pay a high starting wage are more likely to host as well.

Additional insights from the focus groups

By far the biggest skills issue relating to entry-level workers was soft skills, including attitude, work ethic and a willingness to make a longer-term commitment to the firm.

While employers felt that schools did not sufficiently prepare youth for the world of work, there was also a view that employers had not engaged with schools enough to provide them with their insights and to explain what employers needed.

Experiences with workforce development

Workforce development, which involves preparing individuals for employment as well as supporting their ability to transition into work and advance along career pathways, takes time to develop. Acquiring the necessary insights into industry needs, developing the relationships and trust between stakeholders and employers, is an iterative process that can take several years.

Next steps

These insights lead to the following considerations that provide guidance for the proposed next steps for a manufacturing initiative for Peel and Halton Regions:

- That this initiative should be thought of as a longer-term process, spanning several years, and that each activity contributes to the knowledge base about the needs of employers which can be shared across the various stakeholders (the workforce planning board, employment services agencies, educators and trainers) and can help inform each next step;
- 2) That participation in this process helps build the relationships and trust between these various stakeholders and the local manufacturing employer communit
- 3) y; success in some early activities creates momentum and the confidence to tackle bigger, systemic issues;



- 3) With that perspective in mind, this process should focus on some immediate objectives that match the current capacities of the stakeholders;
- That there is a demonstrable interest on the part of local manufacturers to see a manufacturing workforce development strategy being developed, as well as demonstrable evidence of their willingness to participate in the creation of that strategy;
- 5) Given the dynamic of the focus groups, it is also evident that the next step need not be limited to one initiative, that it is possible to cover a range of separate issues as part of this group process.

There are some immediate needs regarding the recruitment of entry-level production workers that can be addressed in the short-term. The long-term goal should be the enhancement of the talent pipeline for the range of occupations and skills that are required to support an advanced manufacturing strategy for Peel and Halton manufacturers.

For the next phase of this manufacturing initiative, the activities being proposed are:

I. Expand the network of manufacturing employers

The project to-date has demonstrated there are significant workforce development needs expressed by manufacturing employers and a willingness on the part of these employers to participate in developing the solutions. The project will engage in outreach to connect a larger proportion of local manufacturing employers to this initiative, placing particular emphasis on firms with 5 to 99 employees.

II. Coordinate with employment services providers

The project will consult further with the Employment Ontario agencies as well as OW employment services in Peel and Halton to establish their capacity to widen their activities in support of the manufacturing sector, in particular focusing on entry-level manufacturing workers. This will include identifying some of the skills, perceptional, attitudinal and logistical barriers which job candidates have in relation to these jobs.

III. Initiate activities to address the need for entry-level manufacturing workers

There are three items being contemplated for this activity:

- i. Outreach to manufacturing employers informing them of recruitment services available through employment services agencies, including hiring incentives;
- ii. Developing a profile of employer expectations regarding manufacturing entrylevel workers, and using it as a screen for selecting job candidates to be referred to employers;



iii. Designing a pre-employment preparation program that would enhance the capabilities of individuals to qualify for entry-level manufacturing jobs.

IV. Work with educational institutions to enhance manufacturing activities

The project will undertake extensive outreach with educational institutions, primarily the manufacturing High Skills Majors programs in local high schools and the community colleges, to identify ways to increase connections with employers as well as raise the level of enrolment of students in programs related to the manufacturing sector.

V. <u>Develop an on-going process/mechanism for highlighting workforce development issues</u> <u>among local manufacturers</u>

A project such as this relies on many stakeholders, and part of the challenge involves maintaining information flows. This activity will consult with manufacturing employers and with the numerous stakeholders (employment services, educational institutions, economic development offices, chambers of commerce) regarding the best mechanism for ensuring that information and feedback can be effectively shared in a timely fashion.

