

Labour Market Development Strategies for Durham's Construction Sector

Delivered in partnership: Durham Region Local Training Board and tradeability.ca

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Executive Summary

The Durham Region Local Training Board (DRLTB) in partnership with tradeability.ca has initiated this research project to examine the ICI (Industrial, Commercial, Institutional) sub-sector within the local context of Durham region. In essence this work will provide the necessary evidence to develop a strategic direction for actions and partnerships supporting labour force demand and positioning the sector to respond to business opportunities.

The Construction Sector Council of Canada (CSC) categorizes construction work under for key categories:

- **New Home Building and Renovation:** the construction, remodelling and/or renovation of single family and multi-family residential buildings;
- **Heavy Industrial:** the construction of large industrial projects such as oil refineries, petrochemical plants and power plants;
- **Institutional and Commercial:** the construction of commercial (i.e. strip malls, shopping centres, office buildings) and institutional buildings (i.e. schools, hospitals) and related structures such as stadiums, grain elevators and indoor swimming pools; and
- **Civil Engineering:** the construction of entire engineering projects such as highways, dams, water and sewer lines, and bridges.

For the purpose of this report the construction sector is defined specifically as construction of buildings, heavy and civil engineering and specialty trade contractors. However, the construction sector has many related industries that either require construction services or provide services for the sector. These support related industries are defined as: oil and gas extraction; utilities; rail transportation; pipeline transportation; telecommunications; credit intermediation and related activities; real estate; and professional, scientific and technical services.

National and Provincial Outlook for the Construction Sector - The CSC argues that demographic trends and major projects are the two key drivers pulling labour markets in opposing directions. Demographic patterns are slowing growth in residential development construction. Government and industry area leading major non-residential, large resource projects in response to domestic and international demands.

The CSC predicts that Ontario will not completely recover from the labour market volatility until this year (2012). Looking forward, labour markets in Ontario will need to draw new workers from outside of the construction sector and from unemployed people. In addition, the CSC predicts that all construction industries, residential and non-residential, will be in growth mode after 2014. Residential growth will continue at a slowing pace to 2019. Non-residential building will lead



the expansion and will be driven by broad-base projects, including commitments to expand public transit in the GTA and parts of Central Ontario, new mining and processing facilities in Northern Ontario, the building of new facilities and infrastructure related to the 2015 Pan American games and major investment in energy infrastructure.

Local Economic, Labour Force and Skills Review and Analysis - In 2006, there were an estimated 20,760 residents in the labour force and 6,290 jobs in Durham's core construction sector. For this sector's support industries there were an estimated 27,215 residents in the labour force and 16,795 jobs in Durham Region.

For the core construction sector, over half of the labour force has attained a high school diploma (26.9%) or apprenticeship training (26.5%) as their highest educational attainment. Contrast these attainment rates with support industries, and the highest educational attainment is a college diploma (31.9%) followed by a high school diploma (27.3%) and a university degrees (23.1%). This contrast in education and training can be attributed to many of the occupations in support industries requiring higher levels of business, finance and professional services expertise that can only be acquired at a college or university.

Technical education and skills are common requirements for occupations in the core construction sector. However, there are occupations in this sector that range from the completion of secondary school and WHMIS training to advanced university degrees and experience. Occupations in the sector that supports the core construction sector commonly require business management and administration education and skills.

The high proportions for the 40-44 and 45-49 years of age indicates a need to provide training for people interested in the construction trades professions. Occupations in support industries also have a large proportion in the 50-54 years of age group, which indicates that a segment of the labour force is on the cusp of retirement.

In June 2011, there were an estimated 4,469 businesses in Durham Region in the core construction sector. Nearly 3,000 (66% of the total) of these businesses were specialty trade contractors. Over 7,500 businesses are engaged in support industries in Durham Region. The largest component of the support industries is classified under professional, scientific and technical services (4,690 businesses or 62% of the total).

Framing the Labour Market Development Strategy for Durham's Construction Sector

Stakeholders involved in the consultation process identified two key province-wide challenges to developing the labour force in the construction sector.

- Existing policies related to employer-to-apprentice ratios creates too much strain on employers; and
- Limited funding grants for employers to hire apprentices and limited funding for people pursuing skilled trades training to support their living expenses.



other challenges that may impede a strong supply and demand alignment include:

- Labour market demographics are changing. As these aged workers leave the labour force there will be a significant gap in skilled, knowledge experienced workers to replace them.
- Durham's construction sector is made up of a larger number of small to medium sized companies. Managing the day to day operations can oftentimes deflect attention away from recruitment and retention placing companies in a difficult position.
- Highest educational attainment levels of workers in Durham's construction sector tend to be at the high school or apprenticeship level. This may serve problematic as the need to fill positions requiring a high level of education or knowledge increases due to the greying workers exiting the workforce.
- Construction employment is projected to remain at record-high levels in Canada placing an even greater challenge on employee retention and recruitment.
- Image of the sector requires direct and ongoing attention if recruitment strategies are to be successful.

Labour Market Development Strategies – Recommended Actions

The strategies and actions are based on the background research analysis and consultation results. To achieve local impact these strategies require a commitment from the Durham Region Local Training Board (DRLTB)/tradeability.ca, partner construction sector organizations, intermediary groups and the business community.

Strategy #1: Support the sector to increase its economic value and strengths.

- Document the influence of innovation within the construction sector (new materials, processes, technology) and the impact on career opportunities.
- Promote best practices of employers that successfully integrate a multi-generational and diverse workplace.
- Annually disseminate information collected from the targeted outreach of employers in the construction sector and supporting industries. Information bulletins should be utilized to share the findings with each being designed to target specific audiences including business, job seekers/students, and government/intermediaries.
- Work with the sector to create a user-friendly communication resource that profiles the value and importance of the construction sector in the local economy.
- Host a forum “Building Bench Strength” where business owners and entrepreneurs interact with educators about labour force demands, trades curriculum and training gaps.
- Showcase local businesses that support continued learning, health and safety, and innovative compensation programs.



- Support the delivery of blended work-college apprenticeship programs at Durham College that allow a better balance between work commitments and schooling.

Strategy #2: Promote appropriate training and learning opportunities that best position labour force groups to achieve successful employment within the sector.

- Package and deliver information on construction sector opportunities to Durham College, Durham Region Employment Ontario Service Providers and other service agencies that serve the workforce.
- Catalogue available on-line and short duration learning opportunities that are focused on strengthening soft skills development among those employees working and those pursuing employment in the construction sector.
- Promote the Ontario Skills Passport tool that was developed by the Ministries of Education and Training, Colleges and Universities.
- Examine the influence of new technologies and innovative practices within the construction sector on productivity and occupational demands.
- Explore the concept of a regional training network that supports accessible and cost-effective training for common skills development; employers can maximize on-site training courses by welcoming participants from other organizations to reduce costs and maximize return on investment.

Strategy #3: Promote the construction sector as a viable and exciting option with a multitude of employment streams.

- Identify and showcase how innovation in the construction sector has influenced occupations within the trades and non-trade occupations.
- Reinforce the increasing requirement for education in the construction sector by encouraging the Specialist High Skills Major program offered through the district school boards.
- Create an employer directed resource that showcases progressive employment practices and successful initiatives that have resulted in the retention of mature workers in the industry. This provides greater opportunity for knowledge exchange between skilled trades people looking to exit the workplace and those that are entering the workplace.
- Develop a “women in trades” promotional program to encourage young women to pursue opportunities in the construction sector and support industries as a viable and rewarding career.
- Create and deliver interactive career planning presentations for jobs in the construction sector and related industries in local secondary schools.



- Create a targeted social media campaign to communicate occupational opportunities and training programs for the construction sector and support industries to those groups that rely on social media for information.
- Engage local businesses in the development of scholarships and bursaries to support entrance into trades in the construction sector; target potential employee groups who are not strongly represented in the sector.
- Encourage targeted recruitment efforts by major contractors within the ICI sub-sector.

The following pages will offer both qualitative and quantitative data and analysis leading to a customized local construction sector strategy. It is widely recognized that local economies are driven by business development, retention and expansion. While technology and machinery play a key role in productivity improvements, it is the local workforce that serves as an attractor for new business investment and works to ensure that products and services are readily available and delivered. As the labour market tightens, communities that successfully attract the talent required by local companies, will be best positioned to compete in a global marketplace.



1 Introduction

In 2011, the Ontario Construction Secretariat released a report entitled *2011 Survey of Ontario's ICI Construction Industry*. This report states that the construction sector is projected to experience continued growth, but there is an anticipated barrier with respect to the availability of labour. This labour includes skilled workers, supervisors and management staff. The barrier will challenge the sector's ability to take full advantage of the increased business opportunities across the province.

The Durham Region Local Training Board (DRLTB) in partnership with tradeability.ca has initiated this research project to examine the ICI (Industrial, Commercial, Institutional) sub-sector within the local context of Durham region. In essence this work will provide the necessary evidence to develop a strategic direction for actions and partnerships supporting labour force demand and positioning the sector to respond to business opportunities. This report addresses the DRLTB's need and seeks to:

- Provide a labour market profile which informs supply and demand for Durham region
- Assess the size of the region's sector including growth and declining industries
- Assess workforce challenges and implications
- Inform workforce development planning to meet occupational demands
- Develop targeted strategies with recommended actions to address labour shortages in the sector.

This report is broken down into the following components

- **Section 2.0 – Situational Analysis** assesses the national and provincial construction sector labour market. This assessment addresses sector size and workforce development issues and challenges and informs planning to meet the sector's occupational demands. In addition, the assessment analyses the local (i.e. Durham Region) labour market and business profile to inform the local context for labour supply and demand.
- **Section 3.0 – Construction Community Perspectives** provides a review of results from the key informant consultations and online survey.
- **Section 4.0 – Framing the Labour Market Development Strategy for Durham's Construction Sector** synthesizes the study findings into three key themes.
- **Section 5.0 – Labour Market Development Strategy** provides a strategy with recommended actions and implementation plan.



2 Situational Analysis

This section of the report explores the current and future labour force of the construction sector for Canada and the Province of Ontario. In addition, the section examines the local (i.e. Durham Region) construction sector's labour force, skills and size of the business community.

The Construction Sector Council of Canada defines four categories of construction work as:

- New Home Building and Renovation: the construction, remodelling and/or renovation of single family and multi-family residential buildings;
- Heavy Industrial: the construction of large industrial projects such as oil refineries, petrochemical plants and power plants;
- Institutional and Commercial: the construction of commercial (i.e. strip malls, shopping centres, office buildings) and institutional buildings (i.e. schools, hospitals) and related structures such as stadiums, grain elevators and indoor swimming pools; and
- Civil Engineering: the construction of entire engineering projects such as highways, dams, water and sewer lines, and bridges.

For the purpose of this report the construction sector is defined specifically as:

- Construction of buildings (NAICS 236)
- Heavy and civil engineering (NAICS 237) and
- Specialty trade contractors (NAICS 238).

However, the construction sector has many related industries that either require construction services or provide services for the sector. These support related industries are defined as:

- Oil and gas extraction (NAICS 211)
- Utilities (NAICS 221)
- Rail transportation (NAICS 482)
- Pipeline transportation (NAICS 486)
- Telecommunications (NAICS 517)



- Credit intermediation and related activities (NAICS 522)
- Real estate (NAICS 531) and
- Professional, scientific and technical services (NAICS 541)

2.1 National and Provincial Outlook for the Construction Sector

National Outlook – The labour force for Canada’s construction sector was estimated at 1.3 million people in 2010, representing 7.3% of the total labour force. Despite the economic downturn that occurred in 2009, there continues to be growth in this sector’s labour force.¹ The Construction Sector Council (CSC), a national industry-led organization that supports the future workforce needs of Canada’s construction industry, has completed a large amount of research for labour force skills requirements. The Council argues that there are two key drivers that are pulling labour markets in opposing directions. They are demographics trends and major projects.

Demographic patterns are slowing growth in residential development construction. Demographic trends will also affect the labour supply in the construction sector. As the age of the workforce grows older, the number of new entrants falls below retirements and mortality and the local workforce declines. The long-term demographic trends (i.e. the aging of the population) will limit the potential for new housing construction. The CSC estimates that there will be labour force requirements of 320,000 workers in response to new construction, retirements and mortality across the 2011-2019 time period. Half of the total requirements are estimated to be met with 163,000 first-time new entrants to the workforce and a further 157,000 workers, or 15,000 workers per year over 2011 to 2019. These projections indicate a need for recruitment efforts to meet the demand for skilled workers and a need to increase the number of youth, women, Aboriginal people, workers from other industries and foreign workers entering the construction industry.

Major non-residential projects are led by government and industry and they are planning large resource projects in response to domestic and international demands. These drivers are dividing job prospects in residential and non-residential construction industries.

The Government of Canada continues to develop essential skills² profiles for all Red Seal occupations in conjunction with the updating of the National Occupational Analyses. These profiles identify not only the specific essential skills required to perform in an individual trade or occupation, but also provide a description of the level of each skill required. Essential

“As the industry enters this second decade of strong growth, stakeholders are drawing on past experience to find ways to meet future demand,” says CSC Business Co-chair Tim Flood, President of John Flood and Sons (1961) Ltd. “Recruiting for the projects is the first priority, but there is a second, critical challenge related to training and retaining workers to meet current needs as well as long-term needs.”

¹ Statistics Canada, 2010 Labour Force Survey Historical Review, Table 008.

² The Government of Canada’s list of essential skills includes reading text, document use, writing, numeracy, oral communication, thinking skills (problem solving, decision making, critical thinking, job task planning, significant use of memory), working with others, computer use, continuous learning.



skills are fundamental skills for the construction sector and there is a need to facilitate the training of the workforce to ensure that every worker has these required skills to meet the evolving demands of the sector. The CSC summarizes essential skills issues emerging either directly or indirectly in many construction trade labour market studies. These issues are provided in the following table.

FIGURE 2.1: ESSENTIAL SKILLS ISSUES FOR THE CONSTRUCTION SECTOR LABOUR FORCE

Trade	Direct Reference	Indirect Reference
Carpenters	<ul style="list-style-type: none"> Need for refresher training in basic math, reading, blueprint reading. 	
Cement Finishers	<ul style="list-style-type: none"> Need to promote upgrading training in basic math. Significant gaps in the basic skills of the workforce (e.g. blue print reading) 	<ul style="list-style-type: none"> New concrete mixtures, additives, placement systems and safety are making the job more demanding and requiring more specialized training.
Electricians		<ul style="list-style-type: none"> Constantly changing technology requires ongoing skills upgrading Need to build consensus on the importance of life-long learning.
Floor Covering Installers	<ul style="list-style-type: none"> The industry needs to expand its capacity to provide upgrading training in areas such as language, basic business skills, legal matters, bidding and trade math. 	<ul style="list-style-type: none"> Need to keep the industry current on new floor coverings products, systems, adhesives and materials.
Ironworkers	<ul style="list-style-type: none"> Need well developed literacy and numeracy skills and the capacity to quickly understand and apply complex technical information. Need for ongoing training in reading blueprints and drawings. 	



Labourers	<ul style="list-style-type: none"> Need to increase literacy and math upgrading to respond to widespread weakness in basic reading and math. 	
Millwrights		<ul style="list-style-type: none"> New technologies create a need to keep training current.
Operating Engineers	<ul style="list-style-type: none"> Need to integrate basic skill training into training activities. 	
Pipe Trades	<ul style="list-style-type: none"> Need for increased cognitive skill levels driven by new technologies. Requirement for upgrading of management skills such as negotiation, client relations, dispute resolution, personnel management. 	
Roofers	<ul style="list-style-type: none"> Need to improve communications, math and team leading skills. 	
Sheet Metal Workers	<ul style="list-style-type: none"> Need to upgrade computer and team leading skills. 	<ul style="list-style-type: none"> The introduction of new information technology, materials, environmental requirements and building systems are requiring new and sophisticated skills. Large demand for upgrading the skills of existing labour force.

Source: Essential Skills Strategy for the Construction Industry, pp. 6-7.

Provincial Outlook - Ontario's construction sector labour force was estimated at 469,600 people in 2010, representing 6.5% of the total labour force. Despite a short decline in 2009, the labour force continued to grow over the previous



years.³ The CSC predicts that Ontario will not completely recover from the labour market volatility until this year (2012). Looking forward, labour markets in Ontario will need to draw new workers from outside of the construction sector and from unemployed people. In addition, the CSC predicts that all construction industries, residential and non-residential, will be in growth mode after 2014. Residential growth will continue at a slowing pace to 2019. Non-residential building will lead the expansion and will be driven by broad-base projects, including commitments to expand public transit in the GTA and parts of Central Ontario, new mining and processing facilities in Northern Ontario, the building of new facilities and infrastructure related to the 2015 Pan American games and major investment in energy infrastructure. There is anticipated strong and steady growth carrying construction employment to new record levels.⁴

In terms of the available workforce, it is projected that from 2011 to 2019 the estimated annual number of new entrants will be less than total retirements and mortalities and that additions from outside the industry and provide will be required to meet local demands. The Province will be reliant on in-mobility of labour as the age profile of the workforce grows older.⁵

2.2 Local Economic, Labour Force and Skills Review and Analysis

This section of the report examines the common occupations in the construction sector along with occupations in support industries. More specifically, the section examines common occupations by education attainment levels, employment and skills requirements, and gender and age characteristics. The size of the business community for the core construction sector and support industries is also evaluated.

In 2006, there were an estimated 20,760 residents in the labour force and 6,290 jobs in Durham's core construction sector. For this sector's support industries there were an estimated 27,215 residents in the labour force and 16,795 jobs in Durham Region. The higher numbers of residents in the labour force were engaged in the following occupations:

- Trades helpers and labourers (2,430 residents)
- Electrical trades and telecommunication occupations (1,935 residents)
- Carpenters and cabinetmakers (1,815 residents)

³ Statistics Canada, 2010 Labour Force Survey Historical Review, Table 008

⁴ Construction Sector Council, Ontario: Construction Looking Forward 2011-2019 Key Highlights, pp.1-2.

⁵ Same as previous citation.



- Other construction trades (1,790 residents)
- Managers in construction and transportation (1,615 residents)
- Masonry and plastering trades (1,350 residents)
- Plumbers, pipefitters and gas fitters (1,330 residents) and
- Contractors and supervisors, trades and related workers (1,310 residents).

In the support industries, the highest numbers of residents in the labour force were engaged in finance and real estate industries. The following occupations had the highest number of residents:

- Finance and insurance clerks (2,715 residents)
- Managers in financial and business services (1,635 residents)
- Insurance and real estate sales occupations and buyers (1,580 residents)
- Electrical trades and telecommunications occupations (1,275 residents) and
- Computer and information systems professionals (1,250 residents).



FIGURE 2.2: COMMON OCCUPATIONS IN THE CORE CONSTRUCTION SECTOR AND SUPPORT INDUSTRIES

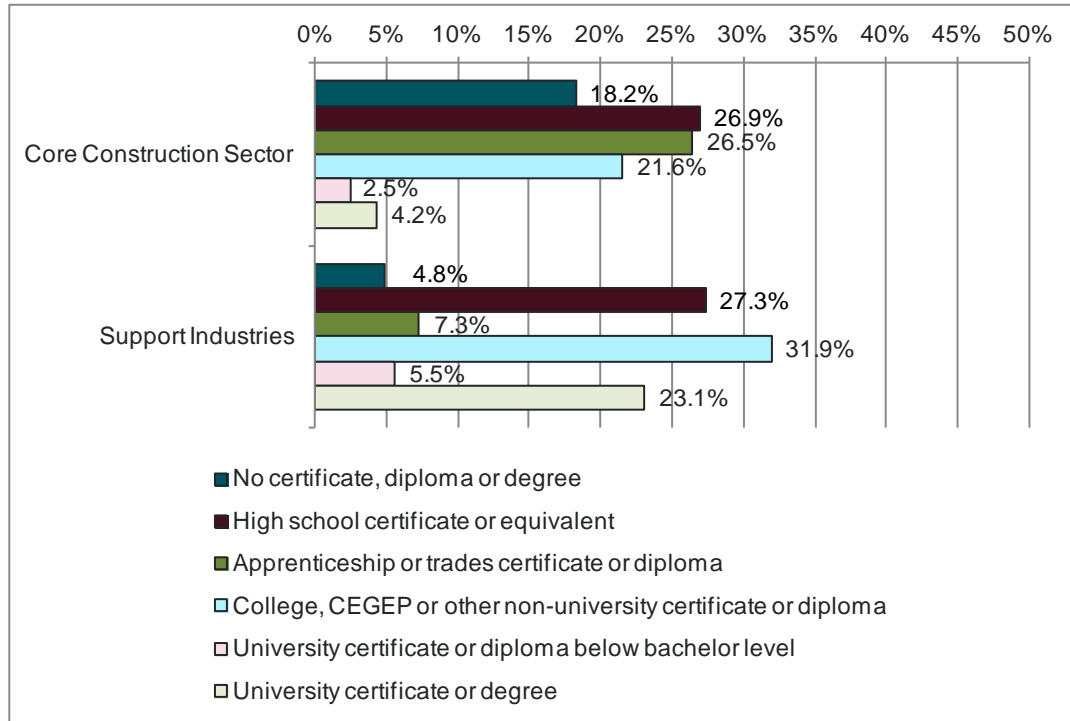
Core Construction Sector		Support Industries			
Occupation (NOC)	Labour Force	Jobs	Occupation (NOC)	Labour Force	Jobs
Trades Helpers and Labourers (761)	2,430	650	Finance and Insurance Clerks (143)	2,715	1,335
Electrical Trades and Telecommunication Occupations (724)	1,935	385	Managers in Financial and Business Services (012)	1,635	675
Carpenters and Cabinetmakers (727)	1,815	420	Insurance and Real Estate Sales Occupations and Buyers (623)	1,580	1,305
Other Construction Trades (729)	1,790	390	Electrical Trades and Telecommunication Occupations (724)	1,275	660
Managers in Construction and Transportation (071)	1,615	505	Computer and Information Systems Professionals (217)	1,250	255
Masonry and Plastering Trades (728)	1,350	175	Administrative and Regulatory Occupations (122)	1,220	545
Plumbers, Pipefitters and Gas Fitters (725)	1,330	305	Clerical Occupations, General Office Skills (141)	1,140	610
Contractors and Supervisors, Trades and Related Workers (721)	1,310	335	Auditors, Accountants and Investment Professionals (111)	1,135	255
Machinery and Transportation Equipment Mechanics (Except Motor Vehicle) (731)	930	285	Civil, Mechanical, Electrical and Chemical Engineers (213)	1,075	1,520
Metal Forming, Shaping and Erecting Trades (726)	540	115	Stationary Engineers and Power Station and System Operators (735)	1,000	1,370
Other Installers, Repairers and Servicers (744)	535	110	Finance and Insurance Administrative Occupations (123)	850	440
Heavy Equipment Operators (742)	435	70	Technical Occupations in Computer and Information Systems (228)	590	90
Clerical Occupations, General Office Skills (141)	380	215	Cleaners (666)	580	545
Secretaries, Recorders and Transcriptionists (124)	375	305	Library, Correspondence and Related Information Clerks (145)	560	120
Administrative and Regulatory Occupations (122)	370	280	Administrative Services Managers (011)	510	180
Total (Labour Force Top 15)	17,140	4,545	Total (Labour Force Top 15)	17,115	9,905
Core Construction Sector Total	20,760	6,290	Support Industries Total	27,215	16,795

Source: Statistics Canada, Census, 2006 from the Durham Region Local Training Board.

Highest Educational Attainment - The following figure highlights the highest educational attainment for the common occupations in Durham Region's core construction sector and support industries. For the core construction sector, over half of the labour force has attained a high school diploma (26.9%) or apprenticeship training (26.5%) as their highest educational attainment. Contrast these attainment rates with support industries, and the highest educational attainment is a college diploma (31.9%) followed by a high school diploma (27.3%) and a university degrees (23.1%). This contrast in education and training can be attributed to many of the occupations in support industries requiring higher levels of business, finance and professional services expertise that can only be acquired at a college or university.



FIGURE 2.3: HIGHEST EDUCATIONAL ATTAINMENT, DURHAM REGION CORE CONSTRUCTION SECTOR AND SUPPORT INDUSTRIES, 2006



Source: Statistics Canada, Census, 2006 from the Durham Region Local Training Board.

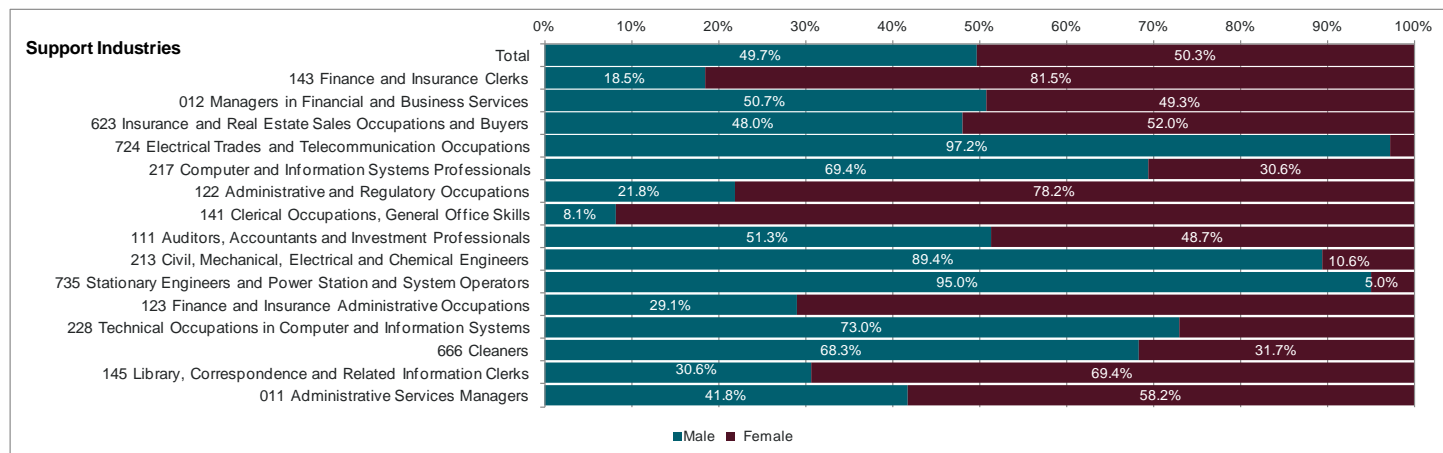
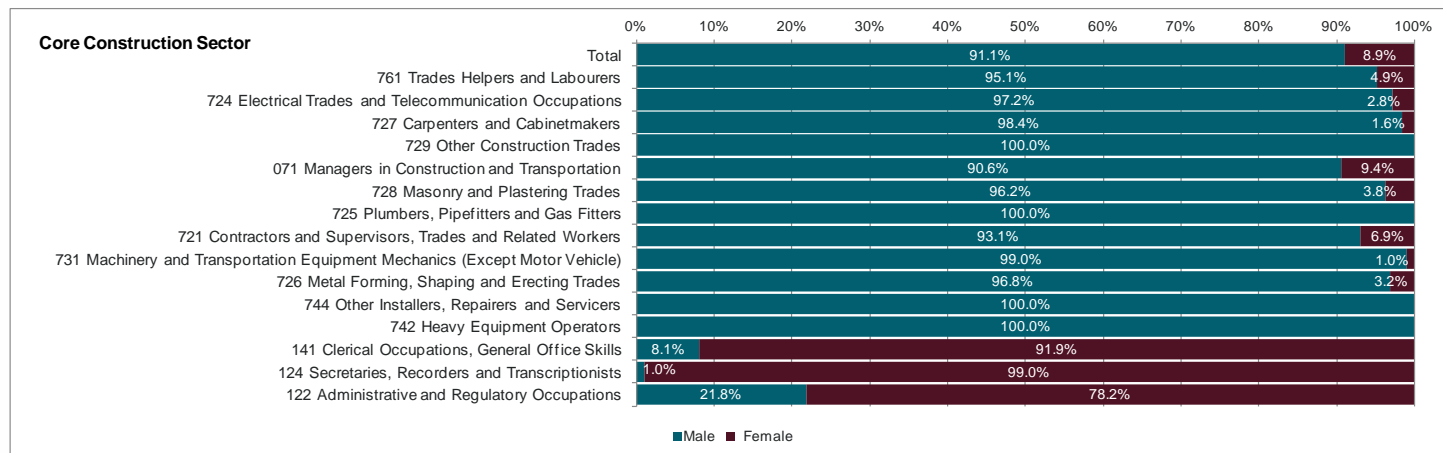
Note: Percentages presented in this figure were weighted or adjusted to reflect the common occupation proportions in Durham Region.

Employment and Skills Requirements – The employment and skills requirements for common core construction sector and support industries occupations are outlined in detail in Appendix A. Technical education and skills are common requirements for occupations in the core construction sector. However, there are occupations in this sector that require completion of secondary school and WHMIS training to advanced university degrees and experience. Occupations in the sector that supports the core construction sector commonly require business management and administration education and skills.



Gender Proportions - Durham Region's core construction sector's labour force is largely made up of men (91.1%). All of the trades occupations (e.g. trades helpers, carpenters, plumbers, etc.) are dominated by men. However, women are well represented in the administrative occupations (i.e. clerical occupations, secretaries, regulatory occupations).

FIGURE 2.4: GENDER PROPORTIONS FOR COMMON OCCUPATIONS, 2006



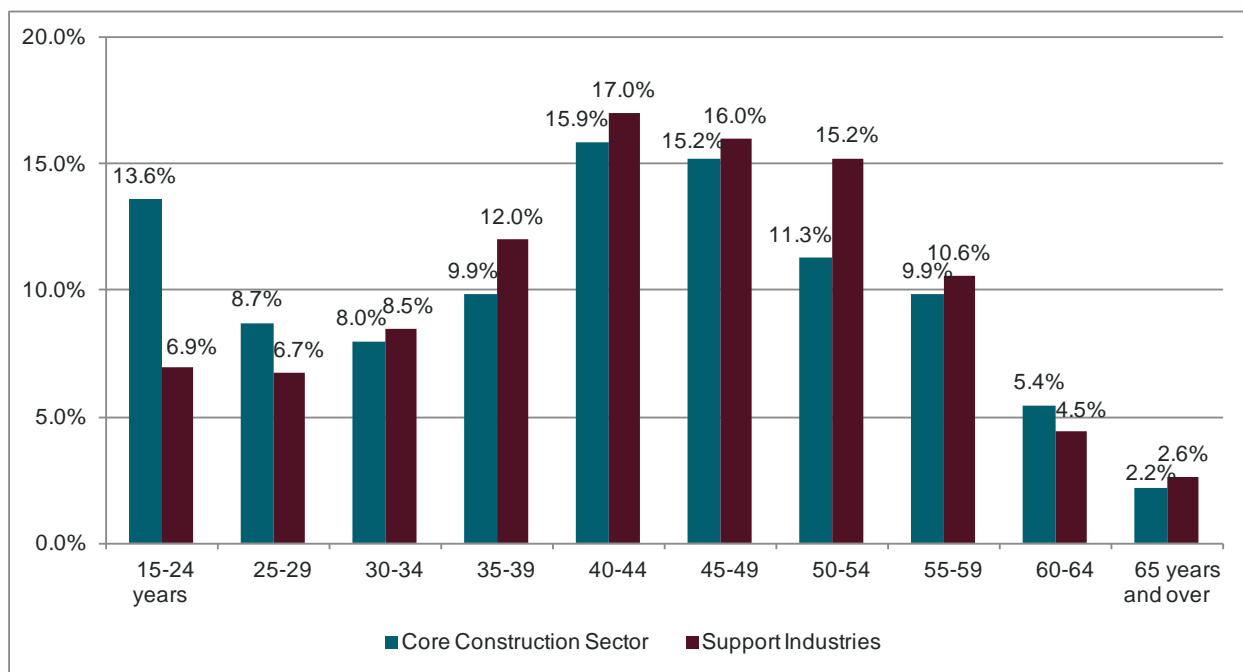
Source: Statistics Canada, Census, 2006 from the Durham Region Local Training Board. Note: Percentages presented in this figure were weighted or adjusted to reflect the common occupation proportions in Durham Region.



In contrast, the support industries are much more balanced (49.7% male and 50.3% female) in terms of the gender profile than the core construction sector. This balance is largely driven by the top most common occupation (finance and insurance clerks) in the support industries, which is over 80% represented by women.

Age Group: The largest proportions of the labour force in the core construction sector and support industries are in the 40-44 or 45-49 years of age groups, as the figure below highlights. The high proportions for the 40-44 and 45-49 years of age indicates a need to provide training for people interested in the construction trades professions. Occupations in support industries also have a large proportion in the 50-54 years of age group, which indicates that a segment of the labour force is on the cusp of retirement. There is also a large component of the core construction sector that is 15-24 years of age, which is largely driven by people serving as trades helpers and labourers.

FIGURE 2.5: AGE PROFILE FOR COMMON OCCUPATIONS, 2006



Source: Statistics Canada, Census, 2006 from the Durham Region Local Training Board.

Note: Percentages presented in this figure were weighted or adjusted to reflect the common occupation proportions in Durham Region.



Business Composition - In June 2011, there were an estimated 4,469 businesses in Durham Region in the core construction sector. Nearly 3,000 (66% of the total) of these businesses were specialty trade contractors. Approximately 1,250 businesses (28% of the total) were in the construction of residential and non-residential buildings. Over 7,500 businesses are engaged in support industries in Durham Region. The largest component of the support industries is classified under professional, scientific and technical services (4,690 businesses or 62% of the total). The second largest component is classified as real estate (2,458 businesses or 33% of the total).

FIGURE 2.6: CORE CONSTRUCTION SECTOR AND SUPPORT INDUSTRIES, DURHAM REGION, JUNE 2011

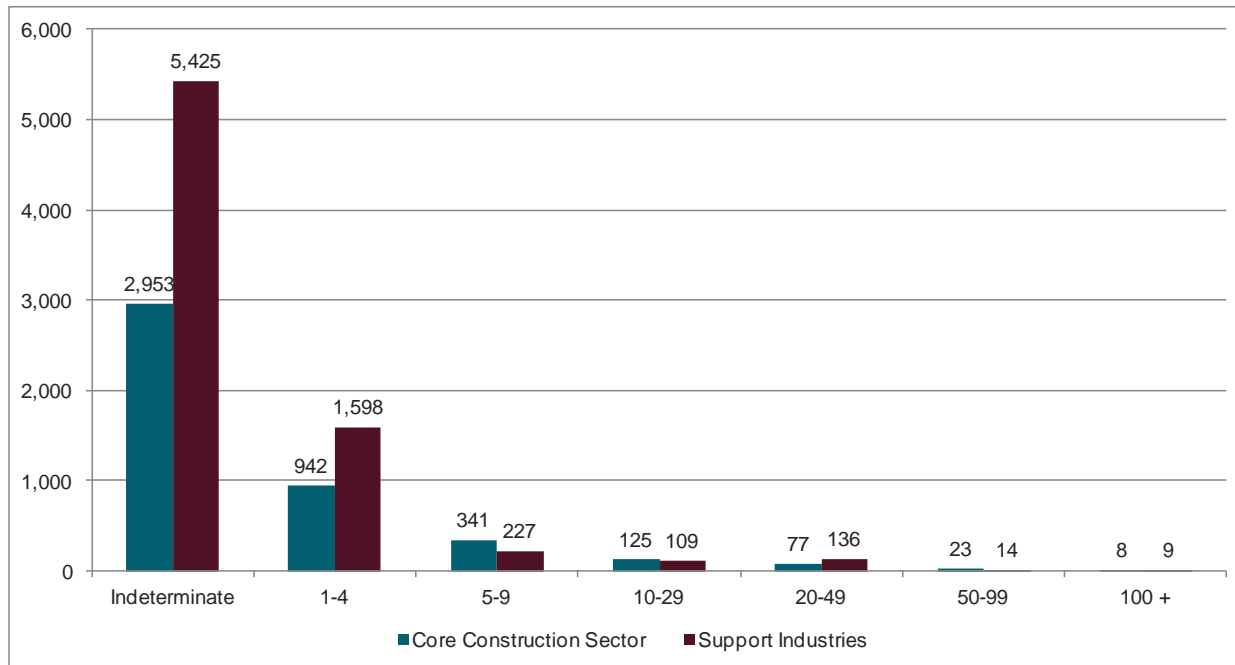
	Total	% of Total	Indeterminate	1-4	5-9	10-29	20-49	50-99	100 +
Core Construction Sector	4,469	100%	2,953	942	341	125	77	23	8
236 - Construction of Buildings	1,256	28%	872	252	79	23	22	6	2
237 - Heavy and Civil Engineering Construction	271	6%	217	26	8	5	8	5	2
238 - Specialty Trade Contractors	2,942	66%	1,864	664	254	97	47	12	4
Support Industries - Total	7,518	100%	5,425	1,598	227	109	136	14	9
211 - Oil and Gas Extraction	0	0%	0	0	0	0	0	0	0
221 - Utilities	27	0%	12	5	1	0	4	2	3
482 - Rail Transportation	1	0%	0	1	0	0	0	0	0
486 - Pipeline Transportation	2	0%	1	1	0	0	0	0	0
517 - Telecommunications	46	1%	24	14	2	3	1	1	1
522 - Credit Intermediation and Related Activities	294	4%	107	57	18	28	83	1	0
531 - Real Estate	2,458	33%	2,130	252	43	18	11	3	1
541 - Professional, Scientific and Technical Services	4,690	62%	3,151	1,268	163	60	37	7	4

Source: Statistics Canada, Census, 2011 from the Durham Region Local Training Board.

As the following figure indicates, the core construction sector and support industries are largely represented by small business owners and entrepreneurs. The largest category is the indeterminate (i.e. self-employed) category followed by businesses with 1-4 employees. The numbers of firms in the following categories with five or more employees decreases sharply. In fact, the firms with more than 100 employees were limited to less than 10 businesses in both the core construction sector and support industries. These findings indicate a strong dependency on small businesses and entrepreneurs to create employment opportunities.



FIGURE 2.7: CORE CONSTRUCTION SECTOR AND SUPPORT INDUSTRIES, DURHAM REGION, JUNE 2011



Source: Statistics Canada, Census, 2006 from the Durham Region Local Training Board.

2.3 Local Labour Demand

This sub-section of the report examines the local labour demand for employment opportunities for the occupations in the core construction sector and support industries. The section also examines committed large, local construction projects that will provide employment opportunities in Durham Region and surrounding area.

The local employment demand outlook for many occupations in the core construction sector and support industries is 'average-to-good'. The province and country is recovering from an economic recession and the employment outlook is a reflection of the economic times. Certain construction-related occupations are faring better than others in Durham



Region. Occupations such as electrical trades, carpenters, masonry and plastering trades have a good employment demand outlook; however, installers and repairers for windows, gas lines and waterworks have limited employment demand. Occupations that are administrative in function (i.e. clerical, secretaries) have limited employment demand. In the support industries, many of the business and finance related industries have an `average` employment outlook. Electrical trades and civil, mechanical and electrical engineers have a `good` employment outlook.

FIGURE 2.8: EMPLOYMENT DEMAND OUTLOOK, CORE CONSTRUCTION SECTOR AND SUPPORT INDUSTRIES

Core Construction Sector	Employment Demand Outlook	Support Industries	Employment Demand Outlook
761 Trades Helpers and Labourers	Good	143 Finance and Insurance Clerks	Average
724 Electrical Trades and Telecommunication Occupations	Good	012 Managers in Financial and Business Services	Average
727 Carpenters and Cabinetmakers	Good	623 Insurance and Real Estate Sales Occupations and Buyers	Average
729 Other Construction Trades	Good	724 Electrical Trades and Telecommunication Occupations	Good
071 Managers in Construction and Transportation	Average	217 Computer and Information Systems Professionals	Average
728 Masonry and Plastering Trades	Good	122 Administrative and Regulatory Occupations	Average
725 Plumbers, Pipefitters and Gas Fitters	Good	141 Clerical Occupations, General Office Skills	Limited
721 Contractors and Supervisors, Trades and Related Workers	Good	111 Auditors, Accountants and Investment Professionals	Average
731 Machinery and Transportation Equipment Mechanics (Except Motor Vehicle)	Average	213 Civil, Mechanical, Electrical and Chemical Engineers	Good
726 Metal Forming, Shaping and Erecting Trades	Average	735 Stationary Engineers and Power Station and System Operators	Average
744 Other Installers, Repairers and Servicers	Limited	123 Finance and Insurance Administrative Occupations	Good
742 Heavy Equipment Operators	Good	228 Technical Occupations in Computer and Information Systems	Average
141 Clerical Occupations, General Office Skills	Limited	666 Cleaners	Not Provided
124 Secretaries, Records and Transcriptionists	Limited	145 Library, Correspondence and Related Information Clerks	Good
122 Administrative and Regulatory Occupations	Average	011 Administrative Services Managers	Average

Source: Ministry of Training, Colleges and Universities, Ontario Job Futures Database, <http://www.tcu.gov.on.ca/eng/labourmarket/ojf/findoccupation.asp> , last modified June 24th, 2010, viewed on February 13th, 2012, Government of Canada, Working in Canada job bank search, http://www.workingincanada.gc.ca/report-eng.do?action=search_occupation , last modified on November 30th, 2011, viewed on February 13th, 2012.



There are a number of industrial, commercial and institutional construction projects throughout the Greater Toronto Area and surrounding areas that will directly benefit Durham Region's construction sector over the short to medium term. The table that follows indicates the range and timing of these projects. Although many of them are public sector driven, the projects range in scope to include health care facilities (e.g. Centre for Addiction and Mental Health, Bridgepoint Health), recreational facilities (e.g. Pan American Athlete's Village) and police services facilities (e.g. Clarington Police Services).

FIGURE 2.9: INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL CONSTRUCTION PROJECTS

Construction Project	Location	Forecast Year				
		2012	2013	2014	2015	2016
Centre for Addiction and Mental Health	Toronto					
Forensic Services and Coroner's Complex	Toronto					
OPP Modernization	18 Province wide					
Toronto South Detention Centre	Toronto					
Audley Recreation Centre	Ajax					
Ontario Highway Service Centres	23 Province wide					
Bridgepoint Health	Toronto					
8.6 km Spadina Subway Extension	Toronto					
Women's College Hospital	Toronto					
Fairview Lodge Long Term Care	Whitby					
Quinte Consolidated Courthouse	Belleville					
Pan/Parapan American Athletes' Village	Toronto					
Pan/Parapan American Stadia and Velodrome	Toronto and Hamilton					
Pan American Aquatics Centre, Field House and Canadian Sport Institute Ontario	Toronto / U of T Scarborough campus					
Region of Durham Energy-from-Waste Facility	Clarington					
Ryerson - Student Centre	Toronto					
Brock Community Health Centre	Cannington					
Clarington Police Station	Clarington					
GO Transit Maintenance Facility	Oshawa					
York, Durham Wastewater System	York, Durham Region					



Durham Region`s non-residential construction sector also benefits from road building construction projects in the Greater Toronto Area and surrounding communities. Major projects that are underway are the Highway 7 widening from 2 to 4 lanes in Pickering and Whitby, the Highway 427 extension in Toronto, Highway 7 Lindsay by-pass and Highway 404 extension in East Gwillimbury. Major projects that will continue into the medium term are the Highway 407 extension to Highway 115. All these projects indicate a demand for construction labour in the non-residential construction sector.

FIGURE 2.10: ROAD BUILDING CONSTRUCTION PROJECTS

Construction Project	Location	Forecast Year				
		2012	2013	2014	2015	2016
Hwy 7 widening from 2 to 4 lanes	Pickering to Whitby					
427 Extension	Toronto					
Hwy 7 Lindsay by-pass	Lindsay					
404 Extension	York Region Queensville					
Hwy 407 Extension	Durham - Oshawa					
Hwy 12/48 to Hwy 48 in Beaverton	Whitby - Beaverton					



3 Construction Community Perspectives

3.1 Key Informant Sessions

In order to understand the perspectives of the construction sector in Durham Region, the project team conducted a series of one-on-one interviews with key stakeholders. These stakeholders were engaged in the construction sector and represented businesses or labour unions. In all, 16 people were consulted through this process. The organizations and businesses represented in this process are provided in Appendix A. The following provides a summary of the responses that emerged during the consultations. All responses have been aggregated to preserve the anonymity of individual respondents.

1. **How will the 20 large ICI projects and major road building projects in the Greater Toronto Area impact your business/organization?**

For the small companies participating in the consultations, many indicated that they would not directly benefit from the large ICI projects and major road building projects. The larger firms would bid on these building projects.

2. **What are the key advantages to operating a construction firm in Durham Region?**

Some of the respondents consider the Durham Region to be an emerging area for Greater Toronto. The transportation infrastructure (i.e. Highway 407 extension) will improve access to the area and the sector's workforce will be able to move more easily to other regions in Greater Toronto. In addition, the growing population base creates a demand for more residential, commercial and institutional construction.

3. **What are the key industry trends that present opportunities for Durham in the ICI construction sector?**

The key industry trends that present opportunities for Durham Region are the expansion of Highway 407, which will make the region more accessible, and the increase in population, which will create a need for expanded hospital facilities and commercial areas. In addition, the new Clarington incinerator and OPG training centre will result in spin off development in the surrounding industrial areas.

4. **Are there any major barriers or threats to growth in the ICI construction sector for Durham?**

The major barriers to growth in the ICI construction sector for Durham are as follows:



- The average age of skilled trades is high and there will be many of these trades people retiring. These positions need to be replaced by younger workers.
- The tightening of federal and provincial government stimulus spending for infrastructure will threaten construction sector expansion.
- The local and regional government awarding of construction projects are threatening the growth of the construction sector for Durham. Many of these projects are being awarded to out of region contractors or to non-unionized contractors.
- Northern Durham region lacks highway access. This barrier is a contributing factor for limited growth and development in the northern part of the region.

5. From your perspective, what needs to happen to address those barriers or gaps?

- The expansion of Highway 407 is very important to Durham Region's future development. Durham Region needs to find ways to encourage business activity along this stretch of highway.
- There needs to be a "level playing field" and a greater understanding of the benefits of hiring unionized companies with trained workers. The provider of the lowest overall cost does not necessarily provide the best quality end product.
- Employers will need to hire young people and train them to a standard (i.e. Red Seal or similar standard that is transferable).

6. From your perspective, how might we best support the completion of apprenticeships?

Tradeability/Durham Region Local Training Board can best support the completion of apprentices by:

- Advocating for more incentives to completing apprenticeship training or disincentives for not completing apprenticeship training
- Promoting the Ontario Youth Apprenticeship Program (OYAP)
- Advocating for reductions to the employer to apprenticeship ratios
- Encouraging businesses and the trades unions to train young workers
- Encouraging and motivating young workers

7. Do you intend to hire in 2012 and/ or 2013?

- Many employers intend to hire construction trades and unskilled labourers in 2012 and 2013.



8. **What are the critical attributes, skills, and/ or knowledge that you look for in hiring new employees?**
 - The critical attributes, skills and knowledge that employers look for in hiring new employees are motivation, a willingness to be trained, teamwork, math and measuring skills, tool operating skills, English language skills and an ability to read blueprints and site plans.

9. **Are there training gaps in Durham region that must be addressed?**
 - The training gaps in Durham region that must be addressed are providing more practical application opportunities in college programs and training for the reading of blueprint plans.

10. **What considerations have you made for succession planning? Are you hiring staff to replace your aging workforce? Are you cross training existing staff to meet your demands for skilled staff?**
 - The aging workforce is being replaced by hiring new trades people annually. The biggest challenge is matching recruitment needs to the number of workers exiting the workforce due to retirement. Some of the larger construction companies can move staff around internally and develop skills in different areas of the construction business.

11. **What do you see as the biggest challenge in hiring staff?**
 - The biggest challenge in hiring staff is finding qualified, well trained young people with a strong work ethic. Many employers hire staff through word of mouth or through referrals.

3.2 Online Survey

The online survey provided another method of garnering an understanding of labour force requirements from the construction sector's business community. There were 11 responses to the online survey. The questions asked were similar to the questions asked during the stakeholder interviews.

1. **How will the 20 large ICI projects and major road building projects in the Greater Toronto Area impact your business/organization?**
 - Many of the respondents indicated that these projects positively impact their businesses indirectly by there being a trickledown effect on their businesses.



2. **What are the key advantages to operating a construction firm in Durham region?**

- The key advantages to operating a construction firm in Durham region are the proximity to the larger Greater Toronto construction market and lower priced land compared to other parts of the GTA.

3. **What are the key industry trends that present opportunities for Durham in the ICI construction sector?**

- The key industry trend that presents itself as an opportunity for Durham is the need for more commercial space to support residential growth.

4. **Are there any major barriers or threats to growth in the ICI construction sector for Durham? What needs to happen to address those barriers or gaps?**

Major Barrier	What needs to happen to address the barrier
The limited east-west transportation routes	<ul style="list-style-type: none">■ The transportation route plan for Durham Region needs to be implemented.
Lack of skilled labour	<ul style="list-style-type: none">■ More people need to seek employment in the construction sector■ Provide financial subsidies (e.g. living expenses) for skilled trades training.
Development charges	<ul style="list-style-type: none">■ Pass some of the development costs to others outside of the development industry

5. **From your perspective, how might we best support the completion of apprenticeships?**

The Durham Region Local Training Board/tradeability.ca can best support the completion of apprenticeships by

- Advocating to the provincial government for reductions to employer to apprentice ratios
- Advocating to the provincial and/or federal government for grants to employers that hire apprentices
- Encouraging skilled journey persons to continue apprenticeship training and
- Educating students at the elementary and secondary school level about the demand for trades.



6. Do you intend to hire in 2012 and/or 2013?

- Opinions are mixed if employers intend to hire full-time, part-time or seasonal workers in 2012 and/or 2013.

7. What recommendations would you have to facilitate development of course material?

Recommendations to facilitate development of course material include:

- Educating students about the trades at a young age.
- Providing opportunities for educators who offer training programs to do on-site business visits to better understand employer needs.
- Coordinating a team of skilled journey persons, representatives from the Ministry of Training, Colleges and Universities and certified teachers to write the curriculum. This curriculum must address developing math skills.
- Providing opportunities for students to have on-site training.

8. What are the critical attributes, skills, and/or knowledge that you look for in hiring new employees?

- The critical attributes, skills and knowledge that employers look for in hiring are motivation, eagerness to learn, a driver's licence, math skills and English skills.

9. If there are training gaps in Durham Region that must be addressed, what are they?

- The training gap in Durham Region that must be addressed is to provide opportunities to complete the Grade 12 diploma instead of the GED. Apprentices require math and English skills and need to be computer literate.

10. In the past 12 months what were the main issues your organization needed to address?

- Preparing for retirement of an aging workforce
- Retaining workers
- Enhancing productivity and
- Attracting qualified workers.



11. Which methods have you used to recruit employees?

- The most common method for recruiting employees is through word of mouth.

12. What kinds of staffing difficulties have you experienced?

- The most common difficulty employers have experienced is skill shortages.

13. Where did you find labour market information?

- The most common places to find labour market information is through professional associations/ unions/ employee associations and educational institutions.

All of the input received from the construction business community has helped inform the project team to frame a targeted labour market development strategy for Durham's construction sector.



4 Framing the Labour Market Development Strategy for Durham's Construction Sector

4.1 Challenges Identified through Consultation Process

Stakeholders involved in the consultation process identified two key province wide challenges to developing the labour force in the construction sector.

Existing policies related to employer to apprentice ratio creates too much of a strain on employers and serve as a barrier for many to take on apprentices. A report by Graeme Stewart, of the Higher Education Quality Council of Ontario (HEQCO), provides an overview of the relevant literature on apprenticeship in Ontario. He identifies challenges including barriers to entry, and system performance concerns such as the inflexibility of program delivery, the lack of emphasis on 'soft' employability skills, and low completion rates.⁶ There is much discussion ongoing across trade unions, associations and education on the importance of changes to the apprenticeship system. It is not clear at this point when these changes will be introduced but it is evident that concerns such as those expressed through the consultation process are receiving attention.

Limited funding grants for employers to hire apprentices and limited funding for people pursuing skilled trades training to support their living expenses were identified. While both federal and provincial governments have introduced grants and tax credits to support both employers and the apprentice, it is clear that there is a lack of awareness of available programs.

4.2 Challenges Based on Local Data Analysis

Drawing from the analysis of Durham's local labour market for the construction sector, it is clear that there are other challenges or potential barriers that may impede a strong supply and demand alignment.

⁶ http://www.collegesontario.org/policy-positions/position-papers/apprenticeship_transformation.pdf



Labour market demographics are changing across developed countries. In Durham region, not unlike other communities across Ontario, the population is greying. As these aged workers leave the labour force there will be a significant gap in skilled, knowledge experienced workers to replace them. Many of these trades take multiple years to advance from apprentice to journeyperson and in the non-mandatory trades, the skill and expertise is developed over time. This time factor, married with the lower apprentices completion rates that will challenge employers to find skilled labour. Coupled with this will be the necessity for an increased focus on health and safety as less experienced workers will need increased supervision and training on safety practices.

Durham's construction sector is made up of a larger number of small to medium sized companies (SME's) with approximately 3,900 core construction businesses having between 0-4 employees while the support services businesses see that number rise to close to 7,000. Managing the day to day operations can oftentimes deflect attention away from recruitment and retention placing companies in a difficult position. Without access to a skilled labour pool, these smaller companies are faced with decisions to not pursue new business opportunities for lack of people to do the work. Alternatively they may take on new business and increase the workload expectations within existing staff. The latter then influences employee safety, decision to remain with their existing employer, work-life balance considerations, quality of work, to name just a few.

Education attainment levels of workers in Durham's construction sector tend to be at the high school or apprenticeship training level as their highest level of education. This may serve problematic as the need to fill positions requiring a high level of education or knowledge increases due to the greying workers exiting the workforce. Supervisory or project management positions may be more difficult to fill and promotion within the workplace may be challenged. Restricted upward mobility of may deter workers away to other employers who offer a higher wage, particularly as the labour market tightens.

4.3 Broader Challenges Influence Local Capacity

Construction employment is projected to remain at record-high levels in Canada placing an even greater challenge on employee retention and recruitment. In the past, the sector has relied on a mobile workforce supported by such initiatives as the Inter-provincial Standards (Red Seal). As market activity increases in other jurisdictions, so too will their efforts to retain their existing workforce and attract new workers. Provinces such as Newfoundland and Labrador and Alberta are very much in attraction mode, introducing campaigns to entice back past residents and to welcome new workers into their provinces. An Ernst and Young report states that India's Engineering, Procurement and Construction sector is facing a 40% shortage of skilled construction workers. Our dependence on immigration as a contributor to our labour demand will be impeded by such increased global competition



Image of the sector requires direct and ongoing attention if recruitment strategies are to be successful. Construction Sector Council co-chair Tim Flood, reiterates this, “Industry promotion is a high priority, as we will need to tap into all potential sources of labour supply to meet growing needs. Increased efforts will aim at attracting youth, women, Aboriginal people, other industries and immigrants,” says Flood.

4.4 A Strategic Approach

This section offers three key themes around which actions have been built to address the identified challenges and frame a local sector strategy for Durham’s Construction Sector. The key themes are as follows:

- Empower employers to play an active and engaging role in positioning the sector
- Facilitate sector training to meet evolving demands
- Educate labour force groups about opportunities in the construction sector

4.5 Empower employers to take an active role in positioning the sector

From an economic development perspective there is little question on the importance of the construction sector in a local economy. This understanding may be present within the sector itself, but can be better articulated amongst the broader community and potential employee target groups. To do so will serve to elevate the sector’s profile, and create opportunities for local businesses to work cooperatively to emphasize the important relationship between the construction sector and other areas of the economy. There is a dependence of local and foreign investment on the capacity to provide built infrastructure. There is no group better positioned to increase awareness of this sector’s value, than the sector itself.

For delivering on this theme, the labour market development strategy’s goal is as follows.

Strategy 1:

Support the sector to increase its economic value and strengths.



4.6 Facilitate Sector Training to Meet Evolving Demands

Collectively, the stakeholders stated that the critical attributes, skills and knowledge they are looking for in hiring new employees are motivation, a willingness to be trained, teamwork, math and measuring skills, tool operating skills, computer literacy, English language skills and an ability to read blueprints and site plans. For apprentices, the math, English language and computer literacy are especially important.

In Durham Region, nearly half of the core construction sector has apprenticeship, trades or college training. Over one-quarter had a high school diploma and nearly one-fifth had less than a high school diploma. Although the data is six years old and does not differentiate between age groups, there remains a need to improve educational attainment levels in the construction sector. Innovative programs including the Ontario Youth Apprenticeship Program (OYAP), funded by the Province of Ontario, provides opportunities for secondary school aged students to explore and work in apprenticeship occupations. Students can become registered apprentices and work towards becoming certified journeypersons in skilled trades while completing their secondary school diplomas. This program offers a solution to the problem of skilled trade shortages and the lack of young people entering into the trades professions.

Targeted approaches to promoting the sector and the employment and upward mobility opportunities will be valuable in also attracting other labour force populations including women, aboriginals, and persons with disabilities.

Employment and skills requirements for common occupations in the core construction sector were provided in the report. This employment and skills information and message needs to continue to be pushed out to the labour force to reduce the training gaps between the businesses' labour needs to the employees' skills offerings.

Another challenge for the sector will be matching recruitment needs to the number of workers exiting the workforce due to retirement. Some of the larger construction companies can move staff around internally and develop skills in different areas of the construction business. However, most companies cannot provide skills development exposure in different areas of the business.

For delivering on this theme, the labour market development strategy is as follows.

Strategy 2:

Promote appropriate training and learning opportunities that best position labour force groups to achieve successful employment within the sector



4.7 Educate labour force groups about opportunities in the construction sector

The construction sector has a promising future since there are many employment and business opportunities. There are a number of industrial, commercial and institutional construction projects throughout the Greater Toronto Area and surrounding areas that will directly benefit Durham region businesses and employees over the short to medium term. Occupations such as electrical trades people, carpenters, masonries and plastering trades people have good employment prospects because of the sector's opportunities. In addition, supervisory and project management remains a key focus as productivity, lean practices, work schedules, and cost efficiencies must be effectively managed.

The types of businesses in the core construction sector and support industries are largely represented by small business owners and entrepreneurs. This reality has created a strong dependency on small businesses and entrepreneurs to create employment.

Many of the employment opportunities are communicated through word of mouth. It will become imperative to broaden the awareness levels of those seeking to enter the labour force including students at the elementary and secondary school level. For those transitioning in the labour force due to a change in employment, this sector offers opportunity through the demand for trades and the multitude of other occupations that are part of this important sector.

For delivering on this theme, the labour market development strategy is as follows.

Strategy 3: Promote the constructor sector as a viable and exciting option with a multitude of employment streams.



5 Labour Market Development Strategies – Recommended Actions

The **STRATEGIES** and associated **RECOMMENDED ACTIONS** that follow are based on the background research analysis and consultation results. They require a commitment from the Durham Region † Local Training Board (DRLTB)/tradeability.ca, partner construction sector organizations and business community. The labour market development strategies are:

- Support the sector to increase its economic value and strengths.
- Promote appropriate training and learning opportunities that best position labour force groups to achieve successful employment within the sector.
- Promote the construction sector as a viable and exciting option with a multitude of employment streams.

The associated actions that serve to implement these goals are prioritized as **SHORT TERM** (1-3 years), **MEDIUM TERM** (4-6 years) and **LONG TERM** (7-10 years). The prioritization of actions is intended to reflect a logical sequence of activities,

Effective implementation of the recommended actions for the DRLTB/tradeability.ca must be accompanied by effective performance measurements. Performance measures are a tool to determine how well a job has been done using both qualitative and quantitative information and activities. Performance measurements track quality and performance by:

- Providing public accountability
- Assisting with human resources management
- Using results to improve performance and
- Identifying the return on investment

These strategies provide a series of potential performance measurements. These performance measures are suggestions to inform the DRLTB/tradeability.ca and could be developed more formally.



5.1 Strategy #1: Support the sector to increase its economic value and strengths.

Recommended Actions	Potential Partners	DRLTB/ tradeability.ca Role	Timing
1. Document the influence of innovation within the construction sector (new materials, processes, technology) and the impact on career opportunities.	Durham College, Construction Associations, Durham Region Economic Development & Tourism Department	Lead	Short-term
2. Promote best practices of employers that successfully integrate a multi-generational and diverse workplace.		Lead	Ongoing
3. Annually disseminate information collected from the targeted outreach of employers in the construction sector and supporting industries. Information bulletins should be utilized to share the findings with each being designed to target specific audiences including business, job seekers/students, and government/intermediaries.	Durham Region Economic Development & Tourism Department	Lead	Ongoing
4. Work with the sector to create a user-friendly communication resource that profiles the value and importance of the construction sector in the local economy.	Sector representatives, Durham Region Economic Development & Tourism Department	Partner	Short-term
5. Host a forum “Building Bench Strength” where business owners and entrepreneurs interact with educators about labour force demands, trades curriculum and training gaps.	Durham College, UOIT, Ministry of Training, Colleges and Universities	Lead	Short-term
6. Showcase local businesses that support continued learning, health and safety, and innovative compensation programs.	Durham College and UOIT	Lead	Medium term



7. Support the delivery of blended work-college apprenticeship programs at Durham College that allow a better balance between work commitments and schooling.	Durham College	Support	Ongoing
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<p>Performance Measures:</p> <ul style="list-style-type: none"> ■ Number of construction-related industries identified as emerging ■ Labour force growth projections in emerging industries ■ Enrollment in Durham College and UOIT's construction related programs ■ Number of graduates from construction related programs

5.2 Strategy #2: Promote appropriate training and learning opportunities that best position labour force groups to achieve successful employment within the sector

Recommended Actions	Potential Partners	DRLTB/ tradeability.ca Role	Timing
1. Package and deliver information on construction sector opportunities Durham College, Durham Region Employment Ontario Service Providers and other service agencies that serve the workforce.	Durham College, Durham Region Employment Ontario Service Providers	Lead	Short term
2. Catalogue available on-line and short duration learning opportunities that are focused on strengthening soft skills development among those employees working and those pursuing employment in the construction sector.	Durham College	Lead	Short term
3. Promote the Ontario Skills Passport tool that was developed by the		Lead	Short term



Ministries of Education and Training, Colleges and Universities.			
4. Examine the influence of new technologies and innovative practices within the construction sector on productivity and occupational demands.	Durham College and UOIT	Support	Ongoing
5. Explore the concept of a regional training network that supports accessible and cost-effective training for common skills development; employers can maximize on-site training courses by welcoming participants from other organizations to reduce costs and maximize return on investment.	DRLTB	Lead	Medium to long term

Performance Measures:

- Number of employers participating in short-term training opportunities
- Job growth in the construction sector and supporting industries

5.3 Strategy #3: Promote the constructor sector as a viable and exciting option with a multitude of employment streams

Recommended Actions	Potential Partners	DRLTB/ tradeability.ca Role	Timing
1. Identify and showcase how innovation in the construction sector has influenced occupations within the trades and non-trade occupations.	Durham District School Board, Durham Catholic District School Board	Lead	Short term
2. Reinforce the increasing requirement for education in the construction sector by encouraging the Specialist High Skills Major program offered	Durham District School Board, Durham Catholic	Lead	Ongoing



through the district school boards.	District School Board		
3. Create an employer directed resource that showcases progressive employment practices and successful initiatives that have resulted in the retention of mature workers in the industry. This provides greater opportunity for knowledge exchange between skilled trades people looking to exit the workplace and those that are entering the workplace.	Local unions and sector associations	Lead	Short term
4. Develop a “women in trades” promotional program to encourage young women to pursue opportunities in the construction sector and support industries as a viable and rewarding career.	Microskills Women Services	Lead	Medium term
5. Create and deliver interactive career planning presentations for jobs in the construction sector and related industries in local secondary schools.	Durham District School Board, Durham Catholic District School Board	Lead	Medium term
6. Create a targeted social media campaign to communicate occupational opportunities and training programs for the construction sector and support industries to those groups that rely on social media for information	Durham District School Board, Durham Catholic District School Board Post-secondary institutions	Lead	Short term
7. Engage local businesses in the development of scholarships and bursaries to support entrance into trades in the construction sector; target potential employee groups who are not strongly represented in the sector.	Community philanthropists	Lead	Medium to long term
8. Encourage targeted recruitment efforts by major contractors within the ICI sub-sector.	Durham Region Employment Ontario Service Providers	Lead	Ongoing

Performance Measures:



- Number of Durham students graduating with the specialist high school major in construction
- Number of presentations delivered in the local secondary schools
- Total dollar value and number of bursaries and scholarships available to the young population
- Engagement of target groups within the social media campaign (based on interactions)



Appendix A

Core Construction Sector Employment and Skills Requirements

Support Industries Employment and Skills Requirements



FIGURE A.1: CORE CONSTRUCTION SECTOR EMPLOYMENT AND SKILLS REQUIREMENTS BY OCCUPATION

Occupation	Employment Requirements	Skills Requirements
761 Trades Helpers and Labourers	<ul style="list-style-type: none"> Training in Workplace Hazardous Materials Information System (WHMIS) and Construction Safety Training Systems (CSTS) 	<ul style="list-style-type: none"> Load, unload and transport construction materials. Remove rubble and other debris at construction sites.
724 Electrical Trades and Telecommunication Occupations	<ul style="list-style-type: none"> Completion of secondary school is usually required. Several years of experience as a qualified tradesperson in a relevant trade are required. Journeyman/woman trade certification in a relevant trade is required. 	
727 Carpenters and Cabinetmakers	<ul style="list-style-type: none"> Completion of secondary school is usually required. Completion of a three- to four-year apprenticeship program or A combination of over four years of work experience in the trade and some high school, college or industry courses in carpentry is usually required to be eligible for trade certification. Interprovincial trade certification (Red Seal) is also available to qualified carpenters. 	<ul style="list-style-type: none"> 3-5 years experience. Operate power tools. Measure, cut, shape, assemble and join mouldings, wood materials, drywall and plastics materials. Fit and install windows, doors, stairs, mouldings and hardware. Read and interpret blueprints, drawings and specifications.
729 Other Construction Trades	<ul style="list-style-type: none"> Completion of secondary school is usually required. Several years of experience as a qualified tradesperson in a relevant trade are required. Journeyman/woman trade certification in a relevant trade is required. 	
071 Managers in Construction and Transportation	<ul style="list-style-type: none"> A university degree in civil engineering or a college diploma in construction technology is usually required. A master's degree in project management may be required. 	<ul style="list-style-type: none"> 3-5 years experience. Plan, organize, direct and control daily operations. Plan and prepare construction schedules and



Occupation	Employment Requirements	Skills Requirements
	<ul style="list-style-type: none"> ■ Several years of experience in the construction industry, including experience as a construction supervisor or field superintendent, are usually required. ■ Extensive experience in the construction industry may substitute for post-secondary education requirements. ■ Professional engineering status or construction trade certification may be required by some employers. 	<p>milestones and monitor progress. Prepare reports. Hire and supervise activities of subcontractors. Recruit, hire and supervise staff. Oral communication, working with others, computer use, problem solving, job task planning and organizing, writing, reading text, document use, finding information, critical thinking, decision making, continuous learning, numeracy and significant use of memory.</p>
728 Masonry and Plastering Trades	<ul style="list-style-type: none"> ■ Completion of secondary school is usually required. ■ Several years of experience as a qualified tradesperson in a relevant trade are required. ■ Journeyman/woman trade certification in a relevant trade is required. 	
725 Plumbers, Pipefitters and Gas Fitters	<ul style="list-style-type: none"> ■ Completion of secondary school is usually required. ■ Completion of a three- to four-year apprenticeship program or ■ A combination of over four years of work experience in the trade and some high school, college or industry courses in carpentry is usually required to be eligible for trade certification. ■ Interprovincial trade certification (Red Seal) is also available to qualified carpenters. 	
721 Contractors and Supervisors, Trades and Related Workers	<ul style="list-style-type: none"> ■ Completion of secondary school is usually required. ■ Several years of experience as a qualified tradesperson in a relevant trade are required. ■ Journeyman/woman trade certification in a relevant trade is required. 	
731 Machinery and Transportation Equipment Mechanics (Except	<ul style="list-style-type: none"> ■ Completion of secondary school is usually required. ■ Completion of a three- to four-year apprenticeship program <i>or</i> 	<ul style="list-style-type: none"> ■ 3-5 years experience ■ Specific Skills: Repair or replace defective machinery parts. Detect and troubleshoot



Occupation	Employment Requirements	Skills Requirements
Motor Vehicle)	<ul style="list-style-type: none"> ■ A combination of over five years of work experience in the trade and some high school, college or industry courses in industrial machinery repair or millwrighting is usually required to be eligible for trade certification. ■ Trade certification is available, but voluntary, in Ontario. ■ Interprovincial trade certification (Red Seal) is also available to qualified industrial mechanics or millwrights. 	<ul style="list-style-type: none"> ■ irregularities and malfunctions. Perform routine maintenance work on machinery. ■ Read and interpret blueprints, drawings and specifications.
726 Metal Forming, Shaping and Erecting Trades	<ul style="list-style-type: none"> ■ Completion of secondary school is usually required. ■ Completion of a three to five year apprenticeship program <i>or</i> ■ A combination of over four years of work experience in the trade and some high school, college or industry courses in sheet metal working is usually required to be eligible for trade certification. ■ Trade certification is compulsory in Quebec, Ontario, Saskatchewan, Alberta and British Columbia and available, but voluntary, in all other provinces and the territories. ■ Interprovincial trade certification (Red Seal) is also available to qualified sheet metal workers. 	
744 Other Installers, Repairers and Servicers	<ul style="list-style-type: none"> ■ Completion of secondary school is usually required. ■ Several years of experience as a qualified tradesperson in a relevant trade are required. ■ Journeyman/woman trade certification in a relevant trade is required. 	
742 Heavy Equipment Operators	<ul style="list-style-type: none"> ■ Some secondary school education is required. ■ Completion of a one- to two-year apprenticeship program <i>or</i> ■ Some high school, college or industry courses in heavy equipment operating combined with on-the-job training are required. 	<ul style="list-style-type: none"> ■ 1-5 years experience ■ Specific Skills: Clean and lubricate equipment and refill equipment tanks. Conduct pre-operational checks on equipment.



Occupation	Employment Requirements	Skills Requirements
	<ul style="list-style-type: none"> ■ Internal company certification may be required by some employers. 	
141 Clerical Occupations, General Office Skills	<ul style="list-style-type: none"> ■ Completion of secondary school is usually required. ■ Completion of secondary school or college business or commercial courses is usually required. 	<ul style="list-style-type: none"> ■ 0-2 years experience ■ Specific Skills: Receive and forward telephone or electronic enquiries. Type and proofread correspondence, forms and other documents. Send and receive messages. ■ Business Equipment and Computer Applications: MS Word, Excel, general office equipment and Windows. ■ Keyboarding (Words Per Minute): 41 - 60 wpm
124 Secretaries, Recorders and Transcriptionists	<ul style="list-style-type: none"> ■ Completion of secondary school is usually required. ■ Completion of a one- or two-year college or other program for secretaries <i>or</i> ■ Previous clerical experience is required. 	<ul style="list-style-type: none"> ■ 0-2 years experience ■ Specific Skills: Answer telephone and relay telephone calls and messages. Maintain filing system. Schedule and confirm appointments. ■ Business Equipment and Computer Applications: Windows, general office equipment, word processing software and electronic mail.
122 Administrative and Regulatory Occupations	<ul style="list-style-type: none"> ■ Completion of secondary school is required. ■ A university degree or college diploma in business or public administration may be required. ■ Experience in a senior clerical or executive secretarial position related to office administration is usually required. 	

Source: Government of Canada, Working in Canada job bank search, http://www.workingincanada.gc.ca/report-eng.do?action=search_occupation, last modified on November 30th, 2011, viewed on February 13th, 2012.



FIGURE A.2: SUPPORT INDUSTRIES EMPLOYMENT AND SKILLS REQUIREMENTS BY OCCUPATION

Occupation	Employment Requirements	Skills Requirements
143 Finance and Insurance Clerks	<ul style="list-style-type: none"> Completion of secondary school is usually required. Completion of college or other courses certified by the Certified General Accountants Association of Canada, Canadian Securities Institute or Canadian Bookkeepers Association may be required. Some accounting clerks must be bondable. 	
012 Managers in Financial and Business Services	<ul style="list-style-type: none"> A university degree or college diploma in business administration, economics or other related field is usually required. Several years of experience within the appropriate industry are usually required. Licensure appropriate to the service sold, such as real estate, mortgage, securities or insurance, may be required. In the insurance industry, a recognized professional designation is usually required. 	
623 Insurance and Real Estate Sales Occupations and Buyers	<ul style="list-style-type: none"> Completion of secondary school is usually required. On-the-job training and insurance industry courses and training programs are provided and are required for employment. Completion of a real estate training course is required. Licensure by the insurance governing body in the province or territory of employment is required 	<ul style="list-style-type: none"> No experience required, training will be provided. Specific Skills: Use insurance software packages.
724 Electrical Trades and Telecommunication Occupations	<ul style="list-style-type: none"> Completion of secondary school is usually required. Several years of experience as a qualified tradesperson in a relevant trade are required. Journeyman/woman trade certification in a relevant trade is required. 	
217 Computer and Information Systems Professionals	<ul style="list-style-type: none"> A bachelor's degree in computer science, computer systems engineering, software engineering, business 	<ul style="list-style-type: none"> 1-5 years experience Specific Skills: Design, develop and implement



Occupation	Employment Requirements	Skills Requirements
	<p>administration or a related discipline <i>or</i></p> <ul style="list-style-type: none"> ■ Completion of a college program in computer science is usually required. ■ Experience as a computer programmer is usually required. ■ Certification or training provided by software vendors may be required by some employers. 	<p>information systems business solutions. Provide advice on information systems strategy, policy, management and service delivery. Confer with clients to identify and document requirements.</p> <ul style="list-style-type: none"> ■ Computer and Technology Knowledge: Windows and Internet.
122 Administrative and Regulatory Occupations	<ul style="list-style-type: none"> ■ Completion of secondary school is required. ■ A university degree or college diploma in business or public administration may be required. ■ Experience in a senior clerical or executive secretarial position related to office administration is usually required 	
141 Clerical Occupations, General Office Skills	<ul style="list-style-type: none"> ■ Completion of secondary school is usually required. ■ Completion of secondary school or college business or commercial courses is usually required. 	<ul style="list-style-type: none"> ■ 0-2 years experience ■ Specific Skills: Receive and forward telephone or electronic enquiries. Type and proofread correspondence, forms and other documents. Send and receive messages. ■ Business Equipment and Computer Applications: MS Word, Excel, general office equipment and Windows. ■ Keyboarding (Words Per Minute): 41 - 60 wpm
111 Auditors, Accountants and Investment Professionals	<ul style="list-style-type: none"> ■ Chartered accountants require a university degree <i>and</i> ■ Completion of a professional training program approved by a provincial institute of chartered accountants and, depending on the province, either two years or 30 months of on-the-job training <i>and</i> 	<ul style="list-style-type: none"> ■ 3-5 years experience ■ Accountant Specific Skills: Prepare financial statements and reports. Analyze financial documents and reports. Prepare financial information for individuals, departments or



Occupation	Employment Requirements	Skills Requirements
	<ul style="list-style-type: none"> ■ Membership in a provincial Institute of Chartered Accountants upon successful completion of the Uniform Evaluation (UFE). ■ Certified general accountants and certified management accountants require a university degree <i>and</i> ■ Completion of a training program approved by the Society of Certified General Accountants or Society of Management Accountants and several years of on-the-job training <i>and</i> ■ Certification by the Certified General Accountants Association or the Society of Management Accountants. ■ Auditors require education, training and recognition as indicated for chartered accountants, certified general accountants or certified management accountants <i>and</i> ■ Some experience as an accountant. ■ Auditors may require recognition by the Institute of Internal Auditors. ■ To act as a trustee in bankruptcy proceedings, auditors and accountants must hold a licence as a trustee in bankruptcy. ■ Licensing by the provincial or territorial governing body is usually required for accountants and auditors practising public accounting. 	<p>companies.</p> <ul style="list-style-type: none"> ■ Financial Auditor Specific Skills: Ensure accuracy and compliance to accounting standards, procedures and internal control. Examine financial records and transactions. Prepare reports and audit findings. ■ Supervise trainee or staff.
213 Civil, Mechanical, Electrical and Chemical Engineers	<ul style="list-style-type: none"> ■ A bachelor's degree in civil engineering or in a related engineering discipline is required. ■ A master's degree or doctorate in a related engineering discipline may be required. 	<ul style="list-style-type: none"> ■ 3-9 years experience ■ Project and Personnel Management Skills: Preparing or evaluating technical proposals. Multidisciplinary projects co-ordination.



Occupation	Employment Requirements	Skills Requirements
	<ul style="list-style-type: none"> ■ Licensing by a provincial or territorial association of professional engineers is required to approve engineering drawings and reports and to practise as a Professional Engineer (P.Eng.). ■ Engineers are eligible for registration following graduation from an accredited educational program, and after three or four years of supervised work experience in engineering and passing a professional practice examination. 	
735 Stationary Engineers and Power Station and System Operators	<ul style="list-style-type: none"> ■ Completion of secondary school is usually required. ■ Completion of a regulated apprenticeship program in stationary or power engineering <i>or</i> ■ On-the-job training and additional courses or a college training program in stationary or power engineering or building systems operations are required. ■ Provincial or territorial certification or licensing according to class is required. 	
123 Finance and Insurance Administrative Occupations	<ul style="list-style-type: none"> ■ Completion of secondary school is required. ■ Completion of a college program in accounting, bookkeeping or a related field <i>or</i> ■ Completion of two years (first level) of a recognized professional accounting program (e.g., Chartered Accounting, Certified General Accounting) <i>or</i> ■ Courses in accounting or bookkeeping combined with several years of experience as a financial or accounting clerk are required. 	<ul style="list-style-type: none"> ■ 1-5 years experience ■ Reconcile accounts. Post journal entries. Maintain general ledgers and financial statements. ■ Business Equipment and Computer Applications: General office equipment, Windows, Excel and Accounting software.



Occupation	Employment Requirements	Skills Requirements
228 Technical Occupations in Computer and Information Systems	<ul style="list-style-type: none"> ■ Completion of a college or other program in computer science, network administration, Web technology or a related field is usually required. ■ Certification or training provided by software vendors may be required by some employers 	<ul style="list-style-type: none"> ■ 1-5 years experience ■ Provide problem-solving services to network users. Maintain, troubleshoot and administer the use of local area networks (LANs), wide area networks (WANs). Perform routine network start up and close down and maintain control records. Evaluate and install computer hardware, networking software and operating system software. ■ Computer and Technology Knowledge: Windows, networking hardware and software, servers and network security.
666 Cleaners	<ul style="list-style-type: none"> ■ There are no specific education requirements for occupations in this unit group. ■ Certification for housekeeping room attendants or similar certification may be required by some employers. 	
145 Library, Correspondence and Related Information Clerks	<ul style="list-style-type: none"> ■ Completion of secondary school is usually required. 	
011 Administrative Services Managers	<ul style="list-style-type: none"> ■ A bachelor's degree in business administration, economics, commerce or a related field is required. ■ Accounting and audit managers may require a recognized accounting designation (CA, CMA or CGA). ■ A master's degree in business administration (concentration in finance), or another master's level management program may be required. ■ Several years of experience in accounting, auditing, 	<ul style="list-style-type: none"> ■ 3-5 years experience ■ Oversee the collection and analysis of financial data. Monitor financial control systems. Oversee the preparation of reports. Plan, organize and direct daily operations. ■ Train, direct and motivate staff. Plan and control budget and expenditures.



Occupation	Employment Requirements	Skills Requirements
	budgeting, financial planning and analysis or other financial activities are required.	

Source: Government of Canada, Working in Canada job bank search, http://www.workingincanada.gc.ca/report-eng.do?action=search_occupation , last modified on November 30th, 2011, viewed on February 13th, 2012.