

The Accelerator Project

A CALL TO ACTION

Furthering workforce productivity and innovation along the Asia Pacific Gateway and Corridor



**A Calgary Logistics Council project in partnership with
Canadian Supply Chain Sector Council and
Asia Pacific Gateway Skills Table**

Funded by Government of Alberta Ministry of Human Services

Abstract

The Accelerator Project forecasts that Alberta and British Columbia together will have nearly 100,000 job openings in just 10 critical supply chain occupations over the next 10 years.

Where will these skilled workers come from, and if they are found, will they have the skill sets and knowledge required? What effect would a shortage of skilled supply chain workers have on Canada's economic prosperity and strategic position in a competitive global economy?

We have no time to lose to address these issues.

What is needed now is the creation and implementation of an effective Supply Chain Human Resources Strategy, a Strategy founded on shared purpose, collaboration and most of all, *action*.

Table of Contents

Abstract	2
Executive Summary.....	4
Accelerator Project Background	6
Guiding Principles.....	9
Accelerator Project Methodology.....	10
1. The Roundtable	10
2. The Project Advisory Committee	12
3. Labour Market Information Research.....	14
Labour Market Information Study Design	14
Labour Market Information Context and Background	16
LMI Analysis: Identification of 10 Key Supply Chain Occupations	19
A Summary of Industry Labour Market Information Interviews.....	24
Labour Market Information Research Summary and Recommendations	32
4. Connection to the CSCSC Human Resources Study Update.....	34
5. Alberta Supply Chain Education Partners' Meeting	36
6. Creation of a Supply Chain Human Resources Strategy.....	37
Strategic Priorities.....	38
Goals and Initiatives	39
A Final Comment: Transforming Challenges into Opportunities–A Call to Action	43
Works Cited	44
Appendix A: The Alberta and British Columbia Contexts	46
Appendix B: The Global Context	53
Appendix C: Bibliography	64

Executive Summary

If Canada is to remain competitive in a rapidly changing global economy, it must be able to “seize every opportunity...by leveraging the hard work and past investments in order to take the Asia Pacific Gateway and Corridor Initiative to the next level.” This means, “working more closely, more effectively with all public and private partnerships to maximize the efficiency of the global supply chains” (Day, 2010 p. 6).

Canada’s Asia Pacific Gateway and Corridor is a world-class transportation system created to strengthen Canada’s position as a global trading nation and to more effectively link Asia and North America. This network’s integrated, seamless supply chain is comprised of businesses and organizations that build, operate and maintain Canada’s airports, seaports, railways and border crossings.

Over the next decade, competition in the exploding freight, retail and manufacturing business will be fierce. While Canada’s Asia Pacific Gateway and Corridor has a natural advantage over other supply chains in the travel time to and from port, customers will be looking at the total time and cost of getting their goods to market. Other west coast ports, and east coast ports via an expanded Panama Canal, will be strong competitors for the Asia Pacific Gateway and Corridor. It is anticipated that Canada’s competitive edge and ability to capitalize on its substantial investment in the Asia Pacific Gateway and Corridor will be greatly influenced by the quality and availability of skilled and experienced labour.

Funded by the Alberta Government and specifically by the Alberta Human Services Ministry, the Accelerator Project was created to bring key partners and stakeholders together in order to create and model more effective ways of working for the Asia Pacific Gateway and Corridor partners. A second Project focus was to identify 10 critical supply chain occupations that support the Gateway and Corridor and to understand their impact on an efficient, safe and reliable Canadian supply chain and transportation system.

Led by the Calgary Logistics Council in partnership with the Canadian Supply Chain Sector Council, the Asia Pacific Gateway Skills Table and other stakeholders, the Accelerator Project combined labour market information research, economic forecasting and data gathered through the Canadian Supply Chain Sector Council’s Human Resources Study Update Project. This information was assembled, then formulated into a current and forecasted assessment of the human resources, education and training, and technological challenges associated with these 10 supply chain occupations in British Columbia and Alberta.

The picture that rapidly emerged is one of a perfect storm for Alberta and to a lesser extent for British Columbia with a convergence of factors related to economic growth, demographic shifts and gaps in education and training, especially related to practical learning and technological up-skilling. Coupled with these factors is a Canadian supply chain sector which has been, and continues to be, challenged by a lack of awareness and understanding related to its strategic value and to its many career pathways and employment opportunities. This sector is chronically overlooked as a profession of choice.

Despite global economic challenges, the Canadian economy is forecast to grow with Alberta leading the way, driven largely by the energy sector. It is anticipated that the West will be Canada's economic driver over the foreseeable future.

In Alberta, over 50,000 job openings are expected in the 10 supply chain occupations over the 2011–2020 forecast period. With an anticipated loss of knowledge and expertise due to the retirement of mature leaders and workers, businesses will need to adapt and be innovative if they are to remain productive and competitive.

British Columbia is forecasted to have over 46,000 job openings in the 10 supply chain occupations over the next decade. Unlike Alberta, which starts the forecast period in a tight position for six of the 10 occupations and stays tight, British Columbia shows a consistent tightening of conditions.

The Canadian Supply Chain Sector Council's Human Resources Study Update released in March 2012 identified that in Canada there are 27,000 supply chain jobs currently unfilled. Furthermore, the Study forecasts that in addition to the current shortages, there will be an additional 66,000 job openings across Canada for each year of the next five years.

If we are to maintain Canada's position as a trading nation, it is clear that employers will need to be aware of the impact of economic growth and attrition created in large part by the baby boomers' increasingly significant exit from the work place. Employers will need to become strategic in their workforce planning. Retention of older workers, succession planning, knowledge transfer, immigration, effective use of technology and continuous learning are just a few of the tools that will need to be effectively deployed in the Canadian workplace; a workplace created by senior workers and now soon to be led and operated by a new generation.

A concerted, focused and well-executed Supply Chain Human Resources Strategy targeted at the Canadian economy, and specifically those parts of the economy affected or dependant upon the Asia Pacific Gateway

and Corridor, will ensure that Canadian business can seize economic opportunities and leverage current and future infrastructure investments.

Without a resilient, appropriately skilled and knowledgeable labour force, the Canadian economy faces the very real possibility of being eclipsed by more effective competitors better able to meet the needs of global trading partners.

Accelerator Project Background

In December 2010, the Asia Pacific Gateway and Corridor Research Consortium hosted the 2nd International Conference on Gateways and Corridors, called *Routes to the Next Economy*. In his address to delegates at that conference, the Honourable Stockwell Day, then President of the Treasury Board of Canada and Minister for the Asia Pacific Gateway, encouraged attendees not to cruise towards economic development of global markets. He said:

Now is the time to do even more. Over the next four years, we must continue to seize every opportunity to remain competitive by leveraging the hard work and past investments to take the Asia Pacific Gateway and Corridor Initiative to the next level. It means working more closely, more effectively with all public and private sector stakeholders to maximize the efficiency of the global supply chains. Most of all, it means partnerships.

(Day, 2010)

The Accelerator Project was a direct response to the Honourable Stockwell Day's challenge to take things to the "next level" through partnerships.

Interprovincial collaboration, such as that of the *New West Partnership*, is recognized as an effective way to improve Canada's competitiveness and productivity. Within Alberta, the *Alberta Human Service's Business Plan 2010 – 2013* indicated that, despite the challenges of the current economic circumstances, "it is the right time for Alberta to remain strategically focused on addressing short and long term labour needs.... Another opportunity exists to collaborate with community organizations, the federal government, Aboriginal leaders, business, industry, educators and other provincial ministries...." (Government of Alberta, 2010, p. 81)

The Accelerator Project created such interprovincial linkages through the Calgary Logistics Council and the Asia Pacific Gateway Skills Table which is located in Vancouver. A national connection was formed by the inclusion of the Canadian Supply Chain Sector Council, an organization which engaged other national bodies and provided a pan-Canadian lens. A partnership with the CSCSC was also timely as it conducted its own Human Resources Study Update, the timing of which coincided nicely with

the Accelerator Project. This national linkage also presented opportunities to build a complementary communication strategy by sharing the results of these activities with other Canadian jurisdictions dealing with similar issues.

The Accelerator Project focused on the supply chain, logistics, warehousing, distribution and transportation sectors of the British Columbia and Alberta economies—and for good reason. Alberta Human Service’s *A Workforce Strategy For Alberta’s Supply Chain Logistics Industry* further underscored the importance of the supply chain logistics sector to the Alberta economy.

Supply chain logistics is an undeniable cornerstone of the Alberta economy. Virtually every enterprise in the province relies on a highly efficient supply chain industry to do business. Other industries recognize their dependence on this industry. For example, workforce strategy participants for the energy, construction and manufacturing sectors all identify supply chain logistics (and in particular, transportation) as being critical to their success. This is especially important for land-locked Alberta, which depends on road, rail and pipeline transport to move goods to seaports for shipping to offshore markets. Logistical factors are among the most important considerations made by industries when looking to select new locations for development.

(Government of Alberta, 2008, p. 3)

According to the Canadian Supply Chain Sector Council, as of 2009, almost 175,000 people worked in the supply chain in Alberta and British Columbia.

There is a strong sense of urgency associated with this work. According to a December 15, 2010 *Globe and Mail* news story, Canadians have no time to waste in finding ways to increase our productivity. The article, “‘Dismal’ Productivity Growth a Roadblock to Recovery,” revealed that, “According to Statistics Canada, the labour productivity of Canadian businesses increased by a measly 0.1 per cent in the third quarter, after declining by 0.6 per cent in the second quarter” (Trichur, 2010).

A key to Canada’s future prosperity is understood to be labour productivity. The C.D. Howe Institute, in their *Commentary on Economic Growth and Innovation* piece entitled, “Lagging Behind: Productivity and the Good Fortune of Canadian Provinces,” cautioned that Canada’s natural resources cannot last forever as a driver of Canada’s good fortune and economic bounty. Canada’s overall productivity growth was very low when measured against international standards over the past 25 years. However, labour productivity can be increased with investment in human capital, which means investment in education and other learning, physical capital and technology (Coulombe, 2011, pp. 1–2).

An additional challenge to be overcome is the fact that the supply chain sector has been faced with a chronic lack of understanding and awareness as to just what the sector does, what the opportunities are to build a dynamic career, and fragmented career ladders and learning pathways. The awareness issue must be addressed and overcome in the months and years ahead if this sector is going to attract new entrants and compete with other sectors also facing labour shortages.

A February 7, 2012 *Globe and Mail* article states: “An increasingly ‘desperate’ labour shortage is the main obstacle keeping companies from becoming more competitive.” The article reviews a Canadian Chamber of Commerce Report, *Top 10 Barriers to Competitiveness* in which Perrin Beatty, Chief Executive of the Chamber, is quoted as saying, “Prime Minister Stephen Harper’s visit to China this week [February 2012] is a powerful reminder that faster-moving trade rivals are rapidly moving up the economic ‘value chain’... [and that] Canada must ‘up its game’ to keep pace” (McKenna, 2012). There is no time to lose to get a human resources strategy and action plan right.

Accelerator Project Goals

- To build an integrated and aligned Supply Chain Human Resources Strategy for Alberta and British Columbia which provides a model for further workforce-productivity improvements along the northern and inland corridors of the Asia Pacific Gateway.
- To expand and solidify professional networks by sharing knowledge, tools, programs and services already developed by the Asia Pacific Gateway Skills Table, Calgary Logistics Council, Canadian Supply Chain Sector Council and other stakeholders.
- To support Canada’s economic well-being, competitiveness in global markets and the efficiency of the Asia Pacific Gateway and Corridor.
- To take the Asia Pacific Gateway and Corridor Initiative to the next level. “Canada’s Asia Pacific Gateway and Corridor Initiative (APGCI) combines infrastructure, policy, governance and operational measures into an integrated, multi-modal, public-private strategy” (Sandhar-Cruz, p. 3).

Guiding Principles

- **Identify opportunities for the Asia Pacific Gateway Skills Table, Calgary Logistics Council, Canadian Supply Chain Sector Council and their stakeholders to work together** over the next 12 months in ways which will have the most immediate impact for the Asia Pacific Gateway and Corridor (APGC), with actions and outcomes specifically related to workforce productivity, innovation and technological applications within the supply chain, logistics and transportation sectors.
- **Share knowledge, resources, tools and programs relating to the supply chain sector in Alberta and British Columbia.**
- **Identify gaps in labor market and economic projections and intelligence for Alberta and British Columbia's supply chain sector.** What best practices exist for education and training programs, along with innovative delivery methodologies, for key APGC occupations which, if effectively promoted, could impact and accelerate the development and implementation of human resources support for the Asia Pacific Gateway and Corridor.
- **Provide opportunities to leverage the work completed and currently underway** by the Canadian Supply Chain Sector Council and other national sector councils to provide input into the development of the labour force of British Columbia and Alberta as it relates to the Asia Pacific Gateway and Corridor Initiative.
- **Utilize and share best practices and lessons learned** from North America and internationally with other regions dealing with similar labour market issues as part of Canada's Trade and Transportation Corridors Initiative.
- **Formulate a human resources strategy for the most critical supply chain occupations for the Alberta and British Columbia component of the Asia Pacific Gateway and Corridor Initiative,** which if worked on collaboratively among partners, would accelerate the effective development and implementation of the Corridor.
- **Ensure that the federal government's investment in the Asia Pacific Gateway and Corridor Initiative is protected and leveraged** in order that the money spent on infrastructure is made functional by the development of a complementary human resources strategy.
- **Build relationships, networks and community among Alberta and British Columbia and other stakeholders,** thereby creating possibilities for further collaboration and cooperation along the rest of the Corridor once the Accelerator project is completed.

Accelerator Project Methodology

The Accelerator Project commenced on April 1, 2011, was completed on March 31, 2012, and was comprised of six separate elements:

- A **Roundtable** video conference event held with participants in Calgary and Vancouver
- The establishment of a **Project Advisory Committee (PAC)** and hosting of monthly meetings
- **Labour Market Information Research** and the integration of **Economic Forecasting** information
- Connection to the **Canadian Supply Chain Sector Council Human Resources Study Update** data and findings
- Hosting of an Alberta-wide **Supply Chain Education Partners' Meeting**
- Creation of a **Supply Chain Human Resources Strategy** Report

Overall, these elements were combined into an interprovincial, collaborative Project which set out to engage stakeholders, build community, analyze labour market gaps in British Columbia and Alberta, develop a human resources strategy and transform challenges into opportunities by sounding a Call to Action, an action focused on meeting the future workforce needs along the Asia Pacific Gateway and Corridor.

1. The Roundtable

The Accelerator Project was launched on June 21, 2011, through a video conference link to 55 participants in Calgary, Vancouver and Regina who heard from industry, education and government speakers and were invited to validate data from the Canadian Supply Chain Sector Council's Human Resources Study Update.

One of the Project's partner organizations, Mount Royal University, contributed the Calgary video link and technical support for the Roundtable and for the subsequent monthly Project Advisory Council meetings. The Canadian Supply Chain Sector Council contributed the use of their teleconferencing system for all project meetings. This type of partnering and sharing allowed collaboration to occur with people separated by distance but not common interest and facilitated the building of relationships among participants.

The Roundtable was led by **Peter Wallis**, CEO and President of the Van Horne Institute. Roundtable speakers and their topics are listed in the table below:

Speaker	Topic
<ul style="list-style-type: none"> • Shannon Marchand, Assistant Deputy Minister, Workforce Supports, Alberta Human Services, Government of Alberta 	<i>Greetings from the Government of Alberta, and Alberta's Workforce Strategy</i>
<ul style="list-style-type: none"> • Doug Moulton, Program Manager, Sector Council Program, Human Resources and Skills Development Canada 	<i>Canada's National Workforce Strategy</i>
<ul style="list-style-type: none"> • Paul Sandhar-Cruz, Director, Pacific Gateway Coordination, Transport Canada 	<i>Asia Pacific Gateway and Corridor Initiative</i>
<ul style="list-style-type: none"> • Krista Bax, Program Manager, Asia Pacific Gateway Skills Table 	<i>What the Skills Table is and does</i>
<ul style="list-style-type: none"> • Kevin Maynard, Executive Director, Canadian Supply Chain Sector Council 	<i>What are the resources that the Sector Council offers?</i>
<ul style="list-style-type: none"> • Linda Lucas, Chair, Calgary Logistics Council 	<i>What the Accelerator Project is about and how to get involved</i>
<ul style="list-style-type: none"> • Rob Assels, Vice President Business Development, R. A. Malatest & Associates 	<i>Canadian Supply Chain Sector Council Human Resources Study Update and Focus Groups</i>

The following industry leaders were asked to comment on the key trends and issues anticipated in their respective areas of the supply chain sector over the next 5 to 10 years, as well as how these trends might impact and inform a human resources strategy.

- **Jason Copping**, General Manager, Government Relations & Gateways, Canadian Pacific Railway
- **Ralph Wettstein**, President, Canadian Freightways
- **Tom Kirk**, Director of Cargo Development and Logistics, Calgary Airport Authority
- **Wendy Cooper**, President and CEO, Port Alberta
- **Peter Wallis**, President and CEO, The Van Horne Institute

Roundtable presentations are available on The Van Horne Institute website.

2. The Project Advisory Committee

The Project Advisory Committee (PAC) was created to guide the work of the Accelerator Project. Members met by video and teleconference monthly from September 2011 to February 2012. PAC members' input, interest and enthusiasm grew with each meeting. Members attended from Calgary, Vancouver, Edmonton, Prince George and Toronto and have expressed interest in staying connected beyond the term of the Accelerator Project itself.

Purpose

- To understand, support and communicate broadly about the critical nature of supply chain occupations of the Asia Pacific Gateway and Corridor, which when identified, will lead to the formulation of the *Supply Chain Human Resources Strategy*.
- To shape a functional, collaborative network along the Asia Pacific Gateway and Corridor where new opportunities and efficiencies can be identified and implemented.
- To work with the Project Team and others to guide the Accelerator Project, ensuring that the project's outcomes and deliverables are successfully met.

Roles and Responsibilities

The following roles and responsibilities were identified for PAC members:

- Share relevant knowledge, resources, tools and programs relating to the supply chain, logistics (including warehousing and distribution) and transportation sectors along the Asia Pacific Gateway and Corridor, but especially in Alberta and British Columbia.
- Identify and discuss relevant issues, concerns and future opportunities which relate to the development of workforce productivity and innovation along the Asia Pacific Gateway and Corridor.
- Provide feedback and input to the various deliverables and products of the Accelerator Project, including a *Supply Chain Human Resources Strategy*.

Project Advisory Committee Membership

Calgary, Alberta

Brian Fleming	Associate Professor, Bissett School of Business, Mount Royal University.
Julia Stickel and Bryndis Whitson	Manager, Strategic Development & Member Relations (sequential), The Van Horne Institute.
Janet Sainsbury	Academic Coordinator, Distance Education, School of Business, SAIT Polytechnic.
Cindy Clark	General Manager, Sterling Western Star Trucks Alberta Ltd.
Sean Baker	President, APICS Calgary Chapter; Recruitment Consultant, Lock Search Group.
Doug Bulger	Managing Director, PIRA Energy Group.
Jason Copping	General Manager, Government Relations & Gateways, Canadian Pacific Railway.
Cathy Faber	Superintendent and CIO, Learning Innovation, Calgary Board of Education.
Jim Bergeron	Vice Chair, Calgary Logistics Council.
Jean Loitz	President, Alberta Institute Purchasing Management Association of Canada.
Wendy Cooper	President and CEO, Port Alberta.

Vancouver, British Columbia

Catherine Wishart	Vice-President, Community & Student Services, College of New Caledonia.
Ruth Sol	President, WESTAC.
Heather Oland	Vice President Strategic Initiatives, Initiatives Prince George.
Ken Martin	Quality Assurance & Compliance Manager, Van Kam Freightways.
Krista Bax	Program Manager, Asia Pacific Gateway Skills Table.

Project Team

Linda Lucas	Project Lead and Chair, Calgary Logistics Council.
Kevin Maynard	Executive Director, Canadian Supply Chain Sector Council.
Oksana Exell	Executive Director, The Asia Pacific Gateway Skills Table.

Guests

Eulala Mills	LevelHeading Thinking.
Rob Assels	R. A. Malatest and Associates.
Hardy Griesbauer	College of New Caledonia.
Mike LoVecchio	Canadian Pacific Railway.
Sandy Gough	Sanscript Studio.
John Cheeseman	Mount Royal University.

3. Labour Market Information Research

Eulala Mills, LevelHeaded Thinking, was contracted to undertake the labour market information research component of the Accelerator Project. This work included the following deliverables:

- Identify 10 key occupations which are or will be critical to the Alberta and British Columbia supply chain sector of the Asia Pacific Gateway and Corridor.
- Analyze information from interviews and questionnaires with key people in the sector to develop an Industry Labour Market Information (LMI) Interviews Report.
- Identify current and future needs for technology skills or knowledge related to any or all of the 10 identified occupations.
- Develop an LMI Summary Report which distills and integrates the information gathered through the interview and questionnaire process, the economic forecasting information provided by Ernie Stokes, Managing Partner of the Centre for Spatial Economics, and the CSCSC Human Resources Study Update for British Columbia and the Prairies, and make recommendations as appropriate.

The entire LMI Summary Report is available for download on the Calgary Logistics Council website as part of the Accelerator Project resources. The following section has been extracted from the LMI Summary Report.

Labour Market Information Study Design

The Accelerator Project Labour Market Information (LMI) research was comprised of two key components: a review of LMI data in relation to 10 key supply chain occupations, and a profile of trends and issues derived from interviews with 20 sector professionals.

Ten occupations were identified as critical to the supply chain sector by the majority of professionals interviewed in the qualitative discussions conducted for this study. The LMI data for these occupations was analyzed for the forecast period of 2011 to 2020. The analysis examined the demand, supply and attrition characteristics and trends for the period.

This study used Human Resources and Skills Development Canada's National Occupational Classification (NOC) 2006 as the source for defining the 10 supply chain sector occupations. The four-digit NOC was used to provide the greatest degree of granularity and robustness in occupation forecasts and estimates. While there are limitations to the NOC model,

it is widely accepted and enabled comparisons and analyses across and within several sectors and models, as well as with other provincial and national data sources.

Data specific to this project was derived from three existing labour market information models:

- The British Columbia Labour Market Outcomes Model, July 2011
- The Alberta Labour Market Outcomes 2010 – 2021, December 2011
- The Centre for Spatial Economics Labour Market Forecast, British Columbia and Alberta, July 2011

These data sources were selected because they have strong credibility. The two provincial forecasts are used widely throughout both provinces. The work of the Centre for Spatial Economics not only generated the forecasts used in this study but also supports the LMI work of several national and provincial organizations. These forecasts, such as the Construction Sector Council Labour Market Forecast or the Province of British Columbia’s Labour Market Outlook, are recognized as some of the most robust and accurate forecasts in Canada.

The data in this report represents demand, supply and associated statistics for the whole of each occupation. The rationale for examining the whole of the occupation, rather than only that portion working in the supply chain and logistics industry, is that it reflects the reality that if there is a supply gap (a lack of labour supply) in an occupation, the supply chain sector will be affected in similar ways as the broader labour market.

In addition to the LMI analysis, qualitative data was presented from face-to-face open-ended interviews held with 19 individuals, representing 11 sectors that deal with many supply chain activities. The interview guide contained 19 questions that covered a range of topics such as labour market challenges, current technology needs and future trends, leadership best practice, and human resource needs. Respondents reflected on these topics from the lens of their specific sector, the Asia Pacific Gateway and Corridor, and the end-to-end supply chain the Gateway and Corridor supports.

The information presented represents the experiences, perceptions and ideas of those interviewed. It was not compared to, or vetted, against any of the positions put forward in academic research or other “think tank” type material. However, many of these perspectives are echoed in both *Global Business Strategy and Innovation: A Canadian Perspective* (2011), an Industry Canada survey of supply chain best practices sent to over 6,000 businesses, and *Drivers for Change in the Asia Pacific Gateway, Asia*

Pacific Gateway Skills Table (2011), a survey-based report on technology and human resource challenges in British Columbia's Asia Pacific Gateway industries.

Concurrent with the work of the Accelerator Project was the Canadian Supply Chain Sector Council's Human Resources Study Update. The CSCSC was kind enough to allow the Accelerator Project to shape some of the focus group work done in the Human Resources Study Update project in order to allow for a broader examination of the key themes. While the Human Resources Study Update examined the Prairies as a whole, rather than Alberta specifically, in examining the data generated by the Human Resources Study Update it was clear that themes uncovered in the Accelerator Project were echoed in the Human Resources Study Update.

Labour Market Information Context and Background

The Importance of LMI to the Supply Chain and Logistics Industry Sector

A properly functioning labour market is vital to a modern economy. A robust LMI system facilitates the matching of people and jobs both in times of labour shortages and in periods of high unemployment. Reliable LMI is necessary to make sure that good policy decisions are made to improve the economy's performance and reduce joblessness. Alternatively, in an under-supplied, or tight, labour market, accurate LMI identifies occupations with shortages and helps channel new entrants to the labour market into high-demand occupations. Accurate information in the form of accessible LMI can lead to better labour planning and that, in turn, can create the competitive edge necessary to capture a growing portion of the trade coming to and going from North America.

Labour market information may include but is not limited to vacancies, expectations of the impact of economic growth or contraction, wages, skills required for an occupation, number of individuals who possess the required skills, types of training available and certifications granted, retirements expected, demographic changes, current jobs filled, mobility of workers in and out of the region, and large projects beginning or ending.

Traditional users of detailed labour market forecasts include the following:

- **Employers** for the development of in-house training programs for occupations expected to be in short supply, as well as for compensation and business planning decisions

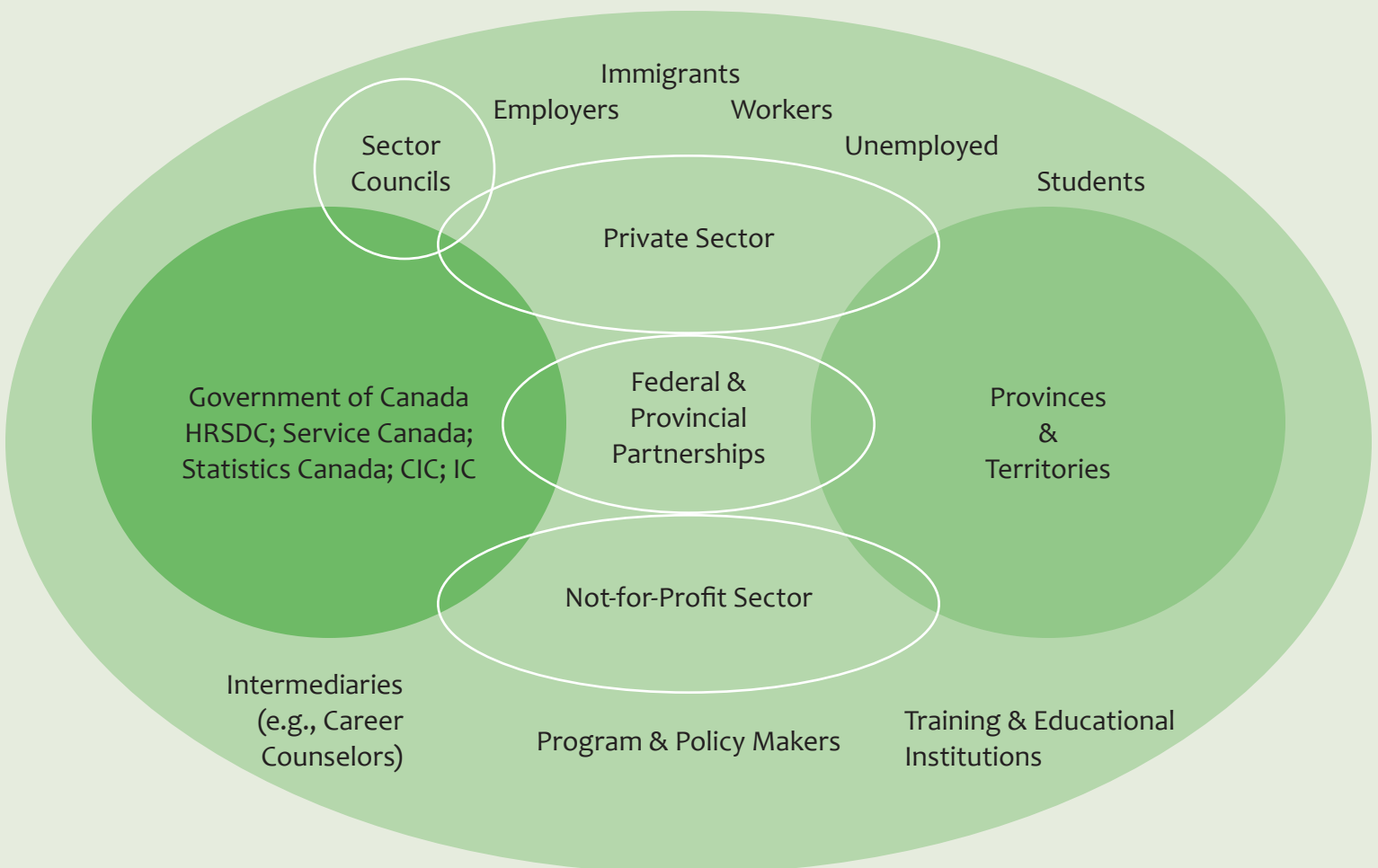
- **Government policy makers** for decisions related to the allocation of resources for education and training, and decisions related to immigration
- **Post-secondary educators** for decisions related to program allocation
- **Individual Canadians** for decisions related to career paths and relocation

To better interpret the LMI analysis presented in this study, the following section provides an overview of the key LMI players and definitions.

Labour Market Information Context

The figure below comes from *Working Together to Build a Better Labour Market Information System for Canada*, Advisory Panel on Labour Market Information, 2009, and it gives a good overview of the players and sources of labour market information throughout the country.

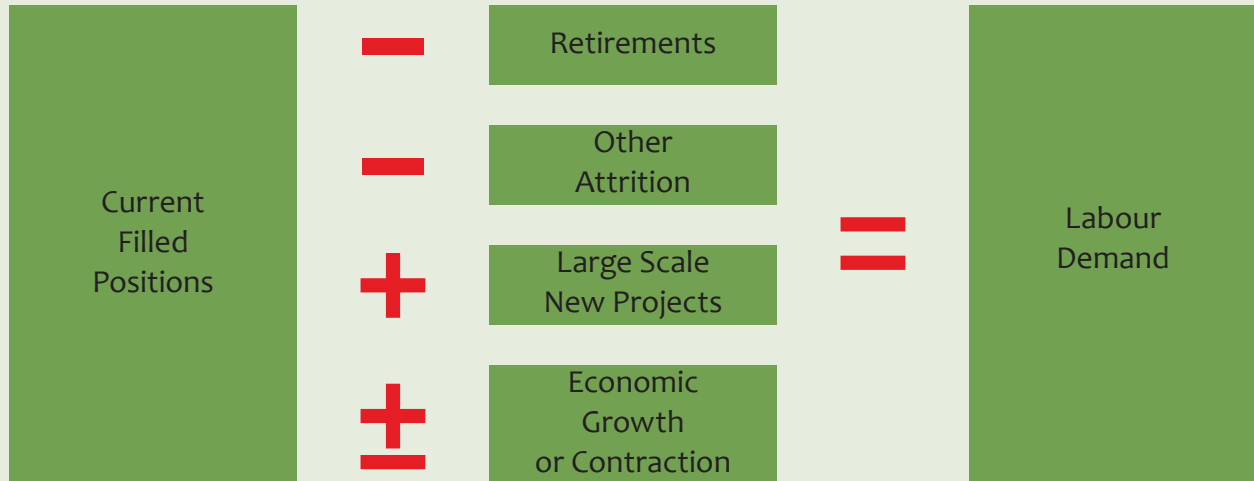
Labour Market Information – Key Players in Canada:



Definitions

- **Labour Demand:** A combination of economic expansion and the introduction of large-scale projects combined with changes in the labour supply due to retirement and other attrition (such as movement out of the labour force and death).

Basic Determinants of Labour Demand:

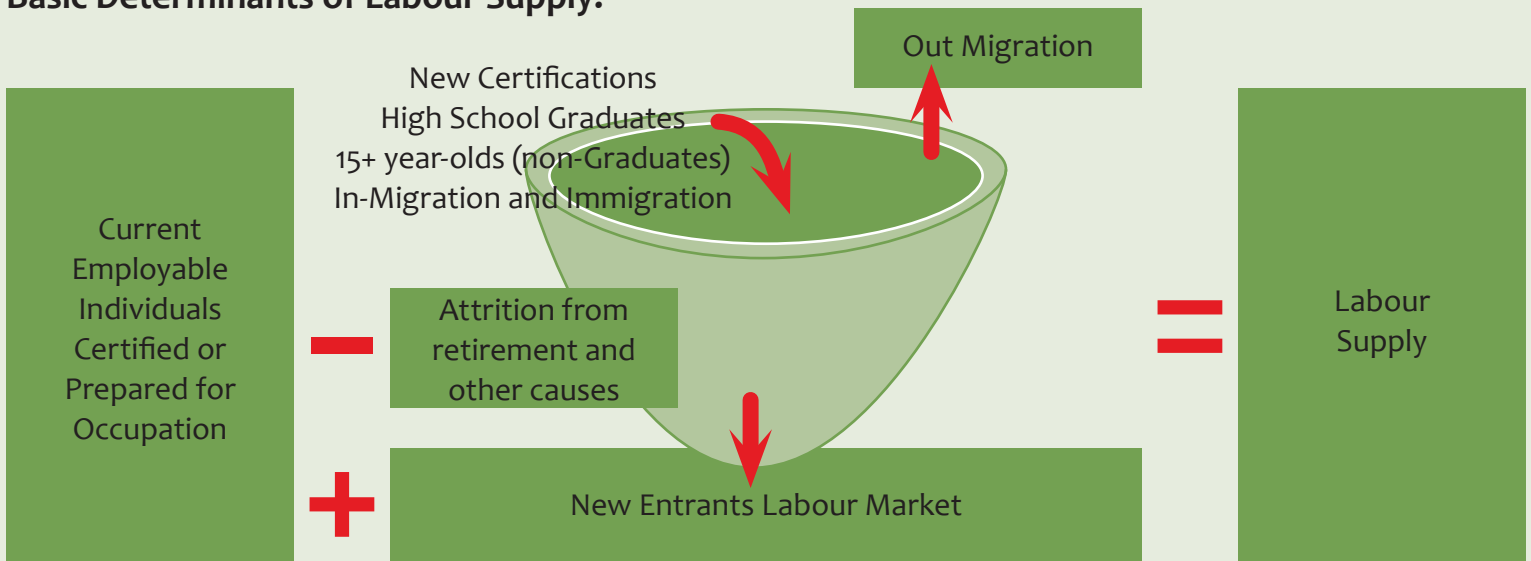


Source: Eulala Mills, LevelHeaded Thinking

Labour demand is the number of positions (full-time equivalent) available in each occupation per year.

- **Labour Supply:** The number of workers who are trained and or certified to work in an occupation, whether or not they currently are working in that occupation. Supply is generated by demographic drivers such as birth and death rates, school completion, inter-provincial migration and immigration.

Basic Determinants of Labour Supply:



Source: Eulala Mills, LevelHeaded Thinking

Labour supply is the number of workers with the skills and or required certifications to be considered qualified to work in each occupation in each year.

- **Attrition:** The number of workers who leave each occupation and the labour market as a whole due to retirement or death each year.
- **Calculated Unemployment:** The percentage of supply above demand. i.e., individuals who are certified but not currently working in the occupation for which they are certified.

LMI Analysis: Identification of 10 Key Supply Chain Occupations

The 10 occupations listed in the charts below are anticipated to be critical to the success of the supply chain in Alberta and British Columbia. The occupations are listed by National Occupational Classification 2006 (NOC), which are used by Human Resources and Skills Development Canada to classify over 40,000 job titles into 500 standard groups.

The ranking structure used in the charts shown on pages 20 and 21 was developed for the Asia Pacific Gateway Skills Table (APGST) LMI Project. It gives a simple picture of the status of the labour market for each occupation in each year of the 2011–2020 forecast period.

The rankings were generated based on an assumed level of structural unemployment of 4% for all occupations. The 10 occupations selected for this study were derived from professional and industry interviews, where they were noted as the top 10 most critical occupations in the supply chain and logistics sector.

Key LMI Findings

The charts below demonstrate that significant growth in job demand combined with labour supply challenges will characterize workforce requirements for the 10 key supply chain occupations between 2011 and 2020. This lack of supply (red squares) will be particularly compelling in Alberta. It is clear that for all occupations employers will need to be aware of the impact of attrition, develop succession plans that will ensure effective knowledge transfer, and implement workplace replacement strategies.

While British Columbia begins the forecast period with a “balanced or over-supplied” labour force in all 10 occupations, it moves to a “tight or under-supplied” labour market for 9 of the occupations in the last 5 years of the forecast. The exception is truck drivers (NOC 7411), which is a special case, see the note below. British Columbia has a marginally older labour

10 Key Supply Chain Occupations: Labour Market Ranking

British Columbia											
NOC	Occupation	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
0016	Senior Managers – Goods Production, Utilities Transportation and Construction	Yellow	Yellow	Red	Red	Red	Red	Red	Red	Red	Red
0113	Purchasing Managers	Yellow	Yellow	Yellow	Red	Red	Red	Red	Red	Red	Red
0213	Computer and Information Systems Managers	Yellow	Yellow	Yellow	Red	Red	Red	Red	Red	Red	Red
0713	Transportation Managers	Yellow	Yellow	Red	Red	Red	Red	Red	Red	Red	Red
0721	Facility Operation and Maintenance Managers	Yellow	Yellow	Yellow	Red	Red	Red	Red	Red	Red	Red
1215	Supervisors, Recording, Distributing and Scheduling Occupations	Yellow	Yellow	Yellow	Yellow	Yellow	Red	Red	Red	Red	Red
1225	Purchasing Agents and Officers	Yellow	Yellow	Yellow	Yellow	Yellow	Red	Red	Red	Red	Red
1236	Customs, Ship and Other Brokers	Yellow	Yellow	Yellow	Yellow	Yellow	Red	Red	Red	Red	Red
2717	Information Systems Analysts and Consultants	Yellow	Yellow	Yellow	Yellow	Yellow	Red	Red	Red	Red	Red
7411	Truck Drivers (see note below)	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow

Legend:

Colour	Description
Red	An under-supplied, tight labour market—4% or fewer workers in the occupation than there are jobs
Yellow	A balanced labour market—between 4% and 10% more workers in the occupation than there are jobs
Green	An over-supplied, loose labour market—at least 10% more workers in the occupation than there are jobs

Alberta											
NOC	Occupation	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
0016	Senior Managers – Goods Production, Utilities Transportation and Construction										
0113	Purchasing Managers										
0213	Computer and Information Systems Managers										
0713	Transportation Managers										
0721	Facility Operation and Maintenance Managers										
1215	Supervisors, Recording, Distributing and Scheduling Occupations										
1225	Purchasing Agents and Officers										
1236	Customs, Ship and Other Brokers										
2717	Information Systems Analysts and Consultants										
7411	Truck Drivers (see note below)										

force than Alberta and as a result has a higher proportion of job openings due to attrition rather than expansion.

In Alberta, 5 of the occupations (NOC 0016, 0113, 0213, 0713, 0721) begin in a “tight or under-supplied” labour market condition and stay that way for the duration of the forecast period. All occupations, with the exception of truck drivers (NOC 7411), show “tight or under-supplied” labour market conditions for at least half of the forecast period. Unlike British Columbia, which shows consistently tightening conditions, the Alberta labour market has a more cyclical profile for 4 occupations (NOC 1215, 1225, 1236, 2717): balanced then tight, then balanced, then tight, then balanced at the end of the forecast period. In general, expansion demand (that is growth in jobs from economic expansion) is higher in Alberta than in British Columbia.

Note: There is an important caveat in interpreting the results for truck drivers. This occupation profile (NOC 7411) aggregates the labour market conditions for 28 different types of truck drivers ranging from heavy-duty drivers, working mostly in and around construction sites, to tow truck drivers. While the whole of the NOC is clearly in balance, even over-supplied in the early years of the forecast, industry stakeholders report they are experiencing a critical shortage of long-haul drivers.

Long-haul drivers require different work experience and have markedly different working conditions than the other job categories in NOC 7411. Long-haul drivers are captured in about 25% of the other job categories for truck drivers. The result is that 75% of the roles that are described by industry as not facing a shortage, blur the data and obscure the challenges faced by companies who struggle to hire experienced long-haul drivers.

The LMI Forecast for British Columbia

- Over 46,000 job openings are expected in the 10 key supply chain occupations for British Columbia during the 2011–2020 forecast period.
- Attrition accounts for nearly 34,000 job openings over the 2011–2020 forecast period, and just under 12,000 jobs will be created in the supply chain occupations as a result of economic growth (expansion demand) over the 2011–2020 forecast period.
- Demand for workers in the 10 supply chain occupations is expected to grow at an annual average rate of 1.5% over the 2011–2020 forecast period, but growth is faster in the first five years (2.2%) than in the last five (0.7%).
- While the shortage of long-haul truck drivers does not show in the data due to the definition of that occupation in the NOC system, every company interviewed identified a critical current and ongoing shortage for experienced long-haul drivers.
- Overall expansion demand (generated by economic growth rather than attrition) for the 10 supply chain occupations is 25% over the 2011–2020 forecast period.
- The three occupations with the highest percentage of job openings from expansion over the 2011–2020 forecast period are supervisors, recording, distributing and scheduling occupations (14% growth); transportation managers (13% growth); and facility operation and maintenance managers (13% growth).

- The three occupations with the most expected job openings from attrition over the 2011–2020 period are senior managers—goods production, utilities, transportation and construction (49% of initial demand lost to attrition); transportation managers (42% of initial demand lost to attrition); and facility operation and maintenance managers (42% of initial demand lost to attrition).
- The average age of workers in the 10 occupations is 44 and ranges between 41 and 47 years of age. For the whole of the workforce, the average age is 41.
- The 10 occupations represent close to 6% of the replacement demand in BC over the 2011–2020 forecast period.
- Half of the 10 occupations lose 40% or more of the initial labour force (the labour demand in 2011) by the end of the forecast period and all will lose at least 25%.

The LMI Forecast for Alberta

- Over 50,000 job openings are expected in the 10 supply chain occupations for Alberta over the 2011–2020 forecast period. This represents just under 6% of the total expected job openings in Alberta (as forecasted in the Center for Spatial Economics, July 2011 Forecast) over the forecast period.
- Attrition accounts for just over 35,000 job openings over the 2011–2020 forecast period and just over 15,000 jobs will be created in the supply chain occupations as a result of economic growth (expansion demand).
- The three occupations with the highest percentage of job openings from expansion over the 2011–2020 forecast period are transportation managers (19% growth); computer and information systems managers (19% growth); and customs, ship and other brokers (19% growth).
- The three occupations with the most expected job openings from attrition over the 2011–2015 forecast period are transportation managers (89% of initial demand lost to attrition); purchasing agents and officers (66% of initial demand lost to attrition); and computer and information systems managers (66% of initial demand lost to attrition).
- Demand for workers in the supply chain occupations is expected to grow at an annual average rate of 1.7% over the 2011–2020 forecast period, but growth is faster in the first five years (2.1%) than in the last five years (1.4%).

- While the shortage for long-haul truck drivers does not show in the data due to the definition of that occupation in the NOC system, every company interviewed identified a critical current and ongoing shortage for experienced long-haul drivers.
- The age of workers in supply chain occupations generally ranges between 41 and 47 year of age, with the average at 44 years of age. For the whole of the workforce, the average age is 40.
- The 10 supply chain occupations represent just over 5% of the replacement demand in Alberta over the 2011–2020 forecast period.
- Nine of the 10 supply chain occupations will lose 30% or more of the initial labour force (the labour demand in 2011) by the end of the forecast period, and 60% of the 10 supply chain and logistics occupations lose 40%.

In the case of both provinces, a high proportion of labour attrition will have business concerned about productivity and lost experience. In general, employees moving into the vacated jobs will be less experienced than those leaving. This can reduce the overall productivity of an industry as new workers adapt to the jobs and gain the experience necessary to meet the productivity levels of those who preceded them.

A Summary of Industry Labour Market Information Interviews

Qualitative face-to-face interviews were held with industry representatives in the fall of 2011. The list below provides the names, companies and locations of the interviewees.

Labour Market Research Interviewees

Vancouver, British Columbia

Brian Best	London Drugs
Ian McIver	Canfor
Melinda Mui	Health Shared Services British Columbia
Alan Pearce	Kuehne & Nagel

Calgary, Alberta

Anonymous	Oil and Gas
Jamie Baker	Supply Chain Management
Sean Baker	Challenger
Jim Brown	Schenker of Canada
Doug Bulger	PIRA Energy Group
Cindy Clark	Sterling Western Star Trucks
Dean Duffin	FLS Transportation Services

Thelma Henry	Calgary Inter-Faith Food Bank
Lane Kranenburg	Rocky Mountaineer Vacations
Andrew Mardon	City of Calgary
Lisa Ross	University of Calgary
Steve Towns	Loblaws

Edmonton, Alberta

Jean Loitz	President, Alberta Institute Purchasing Management Association of Canada
-------------------	--

Fort McMurray, Alberta

Krista Burton	Suncor
Gerard Milburn	Suncor

Emergent Themes for Consideration

Eleven themes emerged from the discussions. The themes and their articulation represent the general consensus of all interviewees unless otherwise noted.

- **There is a critical role for practical learning and work experience (apprenticeships, co-ops and internships).**

There was overwhelming consensus that newly trained hires need more direct work experience—via co-ops, apprenticeships or internships—to better enable the translation of theory into practice and to quickly and effectively add value to their organization. Employers saw a gap in employees’ practical application of skills to work. It was clearly stated that a candidate with lower marks but recent direct and relevant experience would be preferred over a candidate with higher marks but little or no concrete work experience.

The industry respondents were strongly supportive of co-op and other in-education work experience programs, but leaned toward a preference for that experience to come near the end of the education program. In general, respondents reported that they do and will continue to retain strong employees whom they had mentored through an in-education program.

Educators reported that employers’ desire to retain co-op students has led to students moving into the workforce before they complete their certifications and that this could hamper students’ future ability to move upwards in their careers.

- **Employers chose formal training or in-house training**

When asked, “How do employees get the training they need to be effective in their roles?” responses fell into one of two distinct camps. There was no

overarching attribute or condition that placed the organizations in either camp, other than their perspective on the positions they were filling.

Employers who were looking to hire employees with the skills (and in many cases experience) needed for a specific role focused on the employee having the required skills and did not look towards career progression or corporate “fit” in their recruitment activities.

Employers who were looking to build a corporate culture were often more interested in hiring long-term employees who would take on greater responsibilities and grow within the company. These organizations felt that they could train for the initial job and grow the employee into subsequent positions, and therefore looked at corporate fit as equal to job skills in hiring practices.

- **There is stiff competition for workers from other sectors of high pay/high growth (energy, natural resources and ship building sectors).**

In Alberta, the perceived insatiable demand for labour coming from the oil and gas industry, and its ability to pay significantly higher wages and better benefits, was seen as a significant human resource obstacle to companies recruiting and retaining skills in high-demand occupations.

To be clear, this was also seen as an issue in British Columbia, although more from the perspective of natural resource firms recruiting labour into more rural areas of the province.

Regardless of location, respondents consistently noted that growing demand for labour in the natural resources sector across northern Canada, and the growing ship building industry in both British Columbia and the Atlantic Provinces, was adding substantial pressure to an already tightening labour market.

- **Labour shortages drive automation and innovation.**

Business has historically adapted its processes in response to a shortage of key production components. This is also true when labour is the resource in short supply. Many respondent industries are adapting their processes to replace labour with machinery and/or technology.

Whether in the distribution process, the streaming of goods from production, a shift from trucking to rail in the face of driver shortages, or in response to increasing wages driven by high demand and/or short supply, the costs of automation and the Return On Investment (ROI) of mechanization is becoming increasingly more viable for businesses.

- **Supply Chain Management is emerging as a key corporate business strategy.**

Many respondents were emphatic in their belief that formalizing supply chain functions as a distinct business line is critical to gaining the full strategic benefit. They noted that when these functions are divided between other lines of accountability (e.g., finance or operations) the synergies of collaboration are lost. Supply chain and logistics' full strategic value will be realized when consolidated and given a place at the executive table.

The Human Resources Study Update done by R. A. Malatest and Associates for the Canadian Supply Chain Sector Council found that awareness of supply chain and logistics as a discipline or career path was low in British Columbia and the Prairies. This supports the finding of this research project: many of the companies had yet to recognize the strategic role played by their supply chain professionals.

- **There is a critical need for employees with soft skills (collaboration, creativity and problem solving).**

When asked about the critical skills workers will need to succeed as supply chain professionals, the soft skills were consistently heralded. This was also found in the *CSCSC Human Resources Study Update*, and by findings from research done across industry in the western world. The need for workers to have strong skills in collaboration, innovation, strategic use of diverse knowledge sets, and the ability to work as part of a complex team is increasing in importance to employers and industry. In some industries this outstrips the need for technical or analytical abilities.

These findings augment respondents' perspective that a shift in industry definition is required. A shift from where the supply chain sector is considered a profession of brawn to one that requires workers who have the skills and motivation to identify, assess and resolve challenges. Respondents articulated that the intent is not to replace the need for physical strength, as this will always be a component of the industry, but to augment the industry's profile to encompass the suite of soft skills, whether in the warehouse, the planning department or administration.

- **There is a shortage of long-haul drivers and some inefficiency in empty backhauling.**

Across the provinces and in every sector the issue of trucking was raised by respondents as a key concern. The supply shortage of experienced long-haul drivers was named as the most critical or concerning labour issue. In addition, the efficiency of the trucking process was paired with this concern. In British Columbia, some studies have argued that upwards of 40% of trips made by tractor-trailers to and from metro Vancouver

ports are “empty legs.” Respondents in this study, especially in Alberta, noted that the number of trips that are “empty legs” are a critical concern both from a profit management perspective and because it exacerbates the shortage of drivers.

From this issue, discussions emerged about increasing the means for real-time, interactive goods tracking. There is a need for information systems and tracking tools that allow individual drivers or supply chain professionals in a central office to manage the dispatch and movement of goods and trucks in a manner such that few if any legs are run without product on board the trucks.

- **The public sector is at a disadvantage when competing for labour.**

Public sector respondents noted that as labour market conditions become tighter, and private sector wages and benefits increase, their ability to attract and/or retain skilled supply chain employees is more limited. They attributed this to the complexity of the public sector hiring process which they believe makes them less nimble in completing a hiring. This is exacerbated by the controls on public sector wages and benefits.

This issue was seen to be more significant when looking at retention. The respondents stated that entry-level employees are often easy to find; however, once they have a year or two of experience, they quickly move out to the private sector.

- **Business issues include environmental impact, cost containment and sustainability.**

In the interviews there was ongoing reference to creating greener ways of doing business. Sustainability, as a business philosophy, is an overarching driver from three perspectives:

- It is a recruitment benefit as new employees are often attracted to firms they perceive as creating a positive environmental impact.
- It can be a way to reduce operating costs when a new facility is put into production.
- It provides brand support from the customer perspective as customer loyalty can be enhanced by environmentally positive practices.

- **Communities seek ways to meet regional needs with a locally developed workforce.**

Many respondents considered strategies that would lead to a stable labour supply and increased retention. For many of those interviewed, the ability to train workers close to home and enable them to work in their

home community seemed to be the most viable and practical solution. The idea expressed by respondents was that employees who are attached to the community are also more attached to the employer, and thereby more likely to want to develop their careers within the company rather than across several companies.

This was more important to those operating in rural or remote communities than in urban ones. However, the concept was raised by respondents in urban areas as often as it was by those in more remote locations.

- **Short-term and long-term labour requirements must include immigration.**

Data from the labour market forecasts, the experiences of respondents in this study, and the findings from the *CSCSC Human Resources Study Update*, all demonstrate that labour shortages in supply chain professions are here now and are growing. Even with focused and sustained training efforts, the Canadian population is unlikely to be able to meet the labour demand from business for supply chain professionals across the country. In order to meet the need, a considered and creative immigration policy will be of significant benefit.

It is important to note however, that respondents in this study were clear that an immigration policy that only brings workers to Canada temporarily is not in their long-term best interest. Consistent with the ideas expressed in the “locally developed workforce” section above, respondents stated that immigrants who come with the intention of staying not just in Canada, but in the community they are hired into, are of greater benefit and value than those who do not plan to remain.

Comments on the Impact of Technology

With today’s emphasis on the bottom line, many companies are looking to improve their profitability with more effective supply chain processes. Technology plays an important role in the success of supply chain management. The use of web-based software and communication tools has enabled the supply chain function to significantly expand its ability to add value to business strategy decisions. Before the Internet, companies were limited because they were not able to receive or to send updates, feedback or other important information in a timely fashion. Additionally, companies were limited in their ability to work with global partners because of language barriers and time differences. Using the Internet to handle most of the elements involved in supply chain management, including procurement and communication, makes the exchange of data and running the supply chain more efficient.

One of the biggest benefits technology has given to the supply chain function is the ability for companies to collaborate. These collaborations are designed for the mutual benefit of all parties. For example, a supplier of consumer goods may be linked up via the Internet to one of its distributors so that when the supply gets too low, an order for more of those goods can be placed automatically. In this way, the distributor never has to worry about running out of a product and disappointing customers, and the supplier doesn't have to worry about maintaining a large inventory in expectation of demand.

In the interviews, respondents discussed technology and automation as an integral and expanding part of their work. Generally, the types of technologies employed are determined by the part of the supply chain the respondent worked in. Those with corporate or end-to-end roles looked at overarching communications technologies, such as Enterprise Resource Programs (ERP), that integrate procurement, purchasing, transportation and warehousing. On the distribution end, respondents looked at more specific technologies, such as GPS tracking of goods or automation in warehousing.

The effect of technology from a labour market and human resource standpoint is that workers need to be able to understand, use, and most importantly, leverage technology to be effective in supply chain professions. It is clear that these respondents saw technology and technological skills as critical to ongoing success in the workplace, increased productivity, and the evolution of the supply chain and logistics function across all sectors.

Education and Training Implications

Throughout the interviews, respondents were clear that they saw a role for the education sector in British Columbia and Alberta in supporting and expanding the supply chain professions and in addressing the expected challenges in finding skilled and experienced workers. Their thoughts are reflected in the categories below.

- **Work Experience**

It was clear that the businesses responding to this study believed that supply chain professionals were of greater benefit when they had practical experience applying the knowledge learned in training programs. Any expansion of work experience components in training programs would likely have significant up take by industry.

- **Creating supply chain as an academic discipline of choice**

Both in this study and in the *CSCSC Human Resources Study Update* the issue of low awareness of supply chain as a profession and an academic

discipline was considered a critical factor in attracting new workers to the sector. While there is an understanding that good training programs exist, the sense that the supply chain has the same discipline and career variety as the finance sector, for example, is not at all widespread. The more the supply chain can be promoted as a discipline of strategic value, the more students and workers will be attracted to it as a career path, and thus, the better the labour supply for all.

- **Retiree mentorships**

While not unique to supply chain professions, the extent of retirements coming in the next decade is substantial. While this certainly creates challenges, there is also a real opportunity for retirees to become mentors to employees entering the profession. This could be of significant benefit to industry as the knowledge base of those retiring can be transferred to newer workers, potentially increasing their productivity much faster than experience alone would.

- **Comprehensive driver training, management and recognition programs**

Truck drivers, especially long-haul tractor-trailer drivers, are reported by industry to be in very short supply. The reasons for this shortage range from the perception of the profession to the challenging working conditions. An education program that professionalizes the driver role, adds a level of technical and performance management to the scope of the job, and includes recognition for good performance, was considered by respondents to be essential to creating interest in the profession. This type of certification would attract youth and create the overall perception of drivers as professionals who contribute to the success of the supply chain.

- **Connecting with youth**

The combination of attrition, which shrinks the labour force as a whole, and the lack of awareness of supply chain as a profession creates challenges for recruiting workers. Promoting the benefits of supply chain careers to youth, schools and parents will be critical to attracting new employees into supply chain occupations.

- **Performance standards, e-training, certification and assessment**

Many professions have set national, and often international, standards of performance, knowledge and capability. Many of the respondents noted that the development of a similar, recognized and validated system for supply chain professionals would be beneficial, both to the capacity of the workers and to the awareness and perception of the profession.

Respondents elaborated on this theme, stating that e-training programs that delivered certifications, assessments and ongoing learning programs would create consistency, cross-organizational integration, and raise the profile of the profession in the Canadian business community.

- **Collaboration, problem solving, team attitudes and creativity**

Training must include the development and enhancement of increasingly critical soft skills. Respondents were clear that, although analytical disciplines were important to the development of strong supply chain professionals, without experience and training in working collaboratively and creatively, employees' value to business was limited at best.

- **Expansion of post-secondary and other industry-supported training and/or certification programs**

Respondents were aware of existing programs and were nearly universal in their suggestion that these programs need to be expanded, both regionally and in terms of work and other practical experience components.

Labour Market Information Research Summary and Recommendations

The information gathered in this study reflected the thoughts and challenges faced by respondents in late 2011. The LMI data paints a picture of changes in the labour market to 2020 and the impact that the exiting baby boom generation will have in the next decade.

- **The story for the labour force is attrition.**

Whether it is the 10 occupations that are the focus of this study, or any other aspect of the labour market, the scale of retirement and the loss of knowledge and expertise that go along with it will be the central focus in the next decade. In the occupations reviewed in this study, 9 out of 10 job openings in Alberta will result from attrition by 2020. In British Columbia, over 6 out of 10 of all job openings between 2011 and 2020 will be created by retirement, and for the 10 occupations examined in this study, it will be 8 out of 10 by 2020. Clearly, employers, educators and workers need to be mindful of the impact of these changes, both in terms of knowledge lost, but also in terms of perspectives gained.

Of the 10 supply chain occupations, 5 in British Columbia and 6 in Alberta lose 40% or more of the initial labour force (the labour demand in 2011) by the end of the forecast period, and all occupations lose at least one quarter. With this high a proportion of labour attrition, business will have concerns about productivity and lost experience. What this implies is a productivity or experience gap throughout the whole of the supply chain

sector. It also provides opportunities for positive and innovative changes as newly trained workers bring “fresh eyes” to the work they are hired to perform. This highlights the importance of strategic workforce planning, succession planning and knowledge transfer as critical components in managing the evolving labour market challenges over the next 10 years.

- **Baby boomers begin to turn 65 in 2011.**

For over two decades, labour market forecasts and analyses have identified the challenges and opportunities of the “baby boom bubble” and its impact on the labour market due to retirement. The time is now here, and in 2011 the baby boom cohort begins to turn 65. The rate of retirement will increase significantly over the next 10 years as more and more boomers turn retirement age and those who stayed in the labour force past 65 leave.

This will create substantial challenges in the workforce, as there are demonstrated and significant differences in attachment and work-life balance expectations of the younger generations that will become the dominant age group in the workplace.

- **The need for youth is here now, and will get stronger as the decade progresses.**

Action to build the right kind of labour force needs to begin now. The provinces and leaders in the supply chain sector have an opportunity to build on this growing demand and promote supply chain professions as well paid, challenging and technologically sophisticated careers of choice to youth, parents and the business community at large.

- **There is a new generation of workers for the supply chain sector.**

Most of the 10 occupations examined in this study have an older age profile than the provincial averages and so will be impacted by attrition and retirement even more strongly than other occupations. To be effective in a competitive labour market, the supply chain needs to focus on adapting the workplace to attract and retain younger workers, engage workers who are eligible to retire to remain in the workplace as part-time workers, advisors and mentors, and create an environment that takes advantage of the creative energy of new workers to increase productivity and innovation.

- **Supply chain functions are a critical component of business strategy.**

It was clear that respondents saw critical business advantages in integrating supply chain functions into an overall business strategy. The ability for supply chain functions to contribute to customer loyalty, product strength and market stability, productivity and cost containment

is seen as a key strength in those businesses that have created visible and strong supply chain functions.

- **Human resource planning and coordination across the Asia Pacific Gateway and Corridor will strengthen its competitiveness.**

Transportation of goods to market and industry is a competitive business. With the impact of labour market changes affecting North America and Europe, the Asia Pacific Gateway and Corridor can enhance its ability to compete with other North American transportation hubs through coordination of training, standards of performance, mobility of workers and other human resource strategies.

Planning, programs and coordination can be both interprovincial and cross-sector. The challenges created by the changing labour market and the needs of industry for workers who can collaborate, innovate and work effectively with complex technology are common to the supply chain professions throughout the entire Asia Pacific Gateway and Corridor. Strategies and actions to address these challenges will only be enhanced and strengthened by collaboration.

4. Connection to the CSCSC Human Resources Study Update

The Canadian Supply Chain Sector Council launched its national Human Resources Study Update on March 22, 2012 at Lakeshore Collegiate Institute in Toronto. The following description of the project and key findings were taken from the CSCSC website:

The 2012 HR Study Update included participation from more than 3,200 sector stakeholders who completed a survey. There was representation from all regions of the country and from a wide range of industries. Both large and small employers participated, as did their employees. Over 80 training systems providers across the country also provided their input. The survey data were supported with a great deal of qualitative research: 11 focus groups and 16 in-depth interviews.

The supply chain sector is growing. Over the next five years, employers are expecting a growth in the number of employees from a low of 8.4% (Tactical: Transportation) to a high of 14.9% (Managerial: Marketing and Sales), with all other occupations and sub-functions falling in between. Based on the current sector total of 767,200 employees, an annual employee demand growth rate of 8.6% will result in approximately 65,979 new and vacant positions to be filled. In addition, respondents to the employer survey indicate current unmet employment demand of 3.5%, resulting in the need to fill approximately 26,852

current vacant positions within the sector. This is an enormous challenge.

Comparisons were made with the 2005 baseline study completed by Deloitte. Many of the same issues remain a challenge, including:

- Low awareness and understanding of the sector (resulting in recruitment issues);
- Lack of the required skills among new recruits (particularly leadership skills);
- Small and diminishing talent pool (due to poaching and retirement); and
- Inadequate attention paid to succession and career planning (impacting employee retention).

The Human Resources Study Update Report is available at the Canadian Supply Chain Sector Council website.

Rob Assels, Vice President Business Development, R. A. Malatest & Associates Ltd, presented the CSCSC Human Resources Study Update findings to the Accelerator Project Advisory Committee on October 26, 2011. The following is an extract from his presentation:

What is of particular interest in this study is the information which describes the situation in British Columbia and Alberta in particular. Key findings include:

- Both provinces are strikingly similar in the challenges they face in maintaining and enhancing their supply chain human resources
- The sector is facing a current shortage of skilled employees as experienced employees retire. This shortage situation will grow.
- Shortages are expected in every supply chain employment category and in every sub-function.
- The HR talent pool is shrinking. This has led to increased poaching from competitive companies.
- There is a very low awareness of the sector among high school guidance counselors, teachers and therefore, students. The pool is not being replenished.
- The major HR issues identified in the quantitative research include:
 - Recruitment, leadership skills, retirement of experienced employees, succession planning, lack of awareness and career paths, soft skills, retirement, retention strategies

5. Alberta Supply Chain Education Partners' Meeting

One of the key findings of the CSCSC Human Resources Study Update was the importance but lack of career pathways for the supply chain management sector, both as attraction and retention tools. Given the breadth and depth of the sector, one pathway isn't workable; however, it is possible to create a picture of the opportunities at a functional, provincial or regional level.

Such a career pathway has existed in Alberta for the last ten years based on the work of an earlier provincial collaborative consortium called the Joint Learning Initiative (JLI). The JLI was an industry, government and education group that came into being prior to the creation of the CSCSC.

The JLI consortium created a *Career Pathways in Logistic Map* which has been very useful in a multitude of instances, but especially at career fairs or as a component of professional presentations. When printed in large format, the Map makes a powerful poster which, ideally, should be in all Alberta high school guidance and career counseling offices and industry human resources departments. However, it is now out of date and in need of revision.

Using the opportunity that the Accelerator Project afforded, the Calgary Logistics Council brought learning leaders together in a meeting hosted by SAIT Polytechnic on November 25, 2011 in order to:

- Hear about changes in secondary and post-secondary current or proposed programs that relate in some way to the broad title of supply chain management
- Consider how to update the *Career Pathways in Logistics Map*
- See if we could formulate a true Learning Pathway for Alberta

Twelve leaders from educational institutions, government departments and professional organizations attended the meeting. They considered the findings of the Accelerator Project, how they could work together to align their programs and create new articulation agreements, and were encouraged to develop or expand programs that would meet the very urgent need for a skilled supply chain workforce.

This conversation will be ongoing and will be connected to other conversations taking place at a national level being facilitated by the CSCSC. Other actions and initiatives are encouraged in order to inform government regarding the urgent need for additional supply chain related programs at the post-secondary level.

When updated, a revised and renamed *Careers in Supply Chain Map* will be available for download from the Calgary Logistics Council website.

6. Creation of a Supply Chain Human Resources Strategy

Once the labour market information research findings from the Accelerator Project and the CSCSC Human Resources Study Update were assembled and integrated with the economic forecasting information for Alberta and British Columbia, an overwhelming picture of supply chain labour demand emerged.

This information was shared with the members of the Project Team, the Project Advisory Committee and the editing team and ideas and approaches were considered in terms of how this information could best be represented—it was rather a daunting task. Fundamental to the sharing of this information was a strong desire that the Accelerator Project make a difference and not be another study which has no impact on the challenges identified.

For that reason, the Project Team determined that the results of this project should be represented by two distinct documents: *The Supply Chain Human Resources Strategy* and *The Accelerator Project – A Call to Action*. The *Strategy* is intended as a promotional piece for a broad audience and ultimately as a call to action. *The Accelerator Project – A Call to Action* provides greater detail on the Project itself in terms of what we did, who we talked to, who contributed, what we learned and what we intend to do about finding ways to address the challenges ahead. Included in this document are several short summaries of key documents from Alberta and British Columbia as well as overviews from international studies.

Nothing of what we've learned about the looming demographic shift due to retirement of the baby boomers is new—the shift has been known and has been looming for years. But what is new, are the numbers and sheer size of the supply chain workforce shortages ahead both nationally and provincially. *The number of supply chain job openings are staggering and cannot be ignored.*

What has been demonstrated so clearly by the Accelerator Project, and nationally with the CSCSC Human Resources Study Update, is that supply chain workforce shortages, just like other sectors, are occurring now and will continue to occur at all levels of the supply chain, across Canada and indeed globally, driving home once again, the need for collaborative, focused action.

The Supply Chain Human Resources Strategy as described here is not offered as a directive for change, but rather as a template or framework

for action. The Strategy is intended to be dynamic and organic, encouraging others to create initiatives which meet regional or national needs and which ultimately foster change, adaptation and response.

As strategic alliances are created in order to meet unique labour market requirements or develop resources or programs, it is hoped that communication to the broader supply chain sector will happen, creating efficiency and further productivity throughout the Asia Pacific Gateway and Corridor and across Canada.

The CLC will provide an e-postcard template which organizations can use to communicate about their specific initiatives. The e-postcard includes a brief description of the project, how it supports the Supply Chain Human Resources Strategy, a picture and contact information. The e-postcards can be distributed to any network or relevant organization.

This communications tool will allow the *Supply Chain Human Resources Strategy* to grow and evolve and will provide access to a continuous stream of new ideas, initiatives and outcomes. The e-postcards can be downloaded from the Calgary Logistics Council website.

The complete and separate *Supply Chain Human Resources Strategy* is available on the Calgary Logistics Council website; what follows in this section is a summary of that Strategy as shaped by the Accelerator Project Advisory Committee and Project Team.

Strategic Priorities

Attraction

The Supply Chain community needs to increase awareness for specific target groups such as youth, women and immigrants.

Retention

The Supply Chain community needs to work with stakeholders to develop strategies which address the loss of senior workers and their knowledge.

Goals and Initiatives

- **Goal 1: Provide a model and platform for further workforce productivity improvements**

Actions that address issues raised through the LMI research and the identification of the project's themes:

- Ensure that succession planning workshops are available to help businesses identify issues and create solutions related to the loss or retention of mature workers and senior leaders.
- Collaborate with local or regional economic development officers, municipal planners and education and training providers to address unique recruitment requirements. Do education and training programs match employment opportunities and the skill sets required?
- Look outside the supply chain community and post-secondary faculties to find new workers with the right personal and professional profiles.
- Work with education, government and industry partners to meet the coming labour demand.
- Support the accelerated development of new post-secondary programs and learning opportunities related to supply chain skills and knowledge.
- Support the efforts of partner organizations to develop professional truck driver education programs and to increase the number of professional long-haul drivers.
- Develop regional or provincial learning pathways that articulate program connections from high school to post-secondary to graduate and professional certification programs.
- Encourage education providers to offer supply chain programs that have a practical learning component and work placement opportunities.

- **Goal 2: Expand professional networks by sharing knowledge, tools, programs and services**

Examples of **regional** initiatives that support this goal:

- *Alberta Education Partners’ Network*: Since 2000, government, industry and education partners have worked together to describe and articulate a Supply Chain Career and Learning Pathway. This work is currently being updated by the CLC to reflect changes in program offerings and strategic connections.
- *Calgary Logistics Council / Calgary Board of Education—Career and Technology Initiative*: In February 2012, the CLC was invited to create a program development team to work with CBE leaders to develop and implement a supply chain program as a prototype high school offering.
- *The Van Horne Institute—Women in the Supply Chain*: A Steering Committee was formed in January 2012 to build an attraction and retention strategy focused on women as an under-represented population in the supply chain sector.
- *Calgary Regional Partnership and Alberta Human Services Youth Workforce Strategy Pilot*: A supply chain workforce project is being developed. Youth will be attracted into the supply chain sector by working in companies which have a sustainable business practice as part of their corporate strategy and culture.
- *Northern Strategy Labour Market Partnership*: An Asia Pacific Gateway Skills Table proposal is aimed at BC’s northern development. Information from the Accelerator Project will be used as a foundation for this submission.
- *Rocky View County, Chestermere Economic Development and Alberta Human Services*: Discovery Days, an initiative planned to develop greater career awareness among youth related to transportation, regional economic development and employment opportunities.
- *Education–Sector Council Partnerships Project*: The ESCPP is a partnership between sector councils and the Toronto District School Board which explores ways to better support student success for the significant portion of their student population not going on to post-secondary education. An example of this partnership exists between the Canadian Supply Chain Sector Council and Lakeshore Collegiate Institute which is locally based and driven by an Industry Partnership Network that matches sector resources to local needs.

- *Vancouver Aboriginal Skills and Employment Partnership (VanASEP)*: A non-profit partnership dedicated to increasing Aboriginal employment in the supply chain sector. VanASEP is offering courses through the Tsawwassen Gateway Skills Centre, FNES and Kwantlen Polytechnic University’s material handling and logistical training programs to train individuals for the expansion of the Delta Port Terminal and ancillary business development on Tsawwassen First Nation lands as well as port operations throughout the Lower Mainland.

Examples of **national** initiatives that support this goal:

- *Canadian Supply Chain Sector Council*: The CSCSC provides resources, materials, and connections, as well as timely information and insights into the labour market gained through the Human Resources Study Update 2012.
 - *CSCSC Supply Chain Awareness Collaborative*: 15 stakeholder groups from across Canada have entered into a Memorandum of Understanding aimed at working together to create greater supply chain career awareness and aligned, coordinated actions.
 - *CSCSC partnership with Junior Achievement*: This initiative is designed to deliver supply chain career awareness information to students across Canada.
 - *Workplace Institute*: The Workplace Institute offers programs to help businesses retain mature workers so that these workers can continue their careers and add value to their workplace in different ways.
- **Goal 3: Support Canada’s economic well-being and competitiveness**
 - As new projects and capital improvements emerge related to trade and the Asia Pacific Gateway and Corridor, members of the Accelerator network will reach out to key organizations and industry leaders to understand what their anticipated labour requirements are, share resources and information, and determine how our network of industry, government and education partners might assist.
 - Determine the skills and technology requirements of emerging supply chain occupations and employment opportunities, whether education and training are available, and if not, how institutions can be supported to develop new program offerings and effective delivery methods.

- **Goal 4: Take the Asia Pacific Gateway and Corridor Initiative to the next level**
 - Find ways to support the expansion of the Accelerator Project network to related stakeholder groups along the northern and eastward routes of the Asia Pacific Gateway and Corridor.
 - Invite Accelerator Project partners and interested stakeholders to stay connected in order to share progress on the implementation of the Supply Chain Human Resources Strategy, to problem solve, facilitate each other's work, and identify opportunities for further research and collaborative initiatives.

A Final Comment: Transforming Challenges into Opportunities A Call to Action

Canada's workforce development challenges, identified by the Accelerator Project and other related studies, cry out for action. Below is a synthesis of some of those challenges, which when considered with a constructive and an optimistic determination, can provide significant opportunities to meet Canada's supply chain sector workforce development needs and labour shortages. Small, relentless, strategic and integrated, incremental steps that lead to solving big issues will make all the difference to the supply chain's labour market picture in the years to come.

- A lack of supply chain sector awareness and promotional campaigns which attend to competition for workers from other sectors and economic growth.
- The need to attract under-represented groups to the supply chain sector.
- Promotion of the supply chain sector as a profession, a career path of choice and as a strategic element in corporate business functions and organization.
- The creation and expansion of education and training programs that reflect the growing professionalism of the sector, include practical learning and work experience opportunities, leadership, critical thinking, collaboration and soft skills development.
- Succession planning, knowledge transfer and effective efforts to retain and redeploy mature workers.
- The formation of regional career pathways, performance standards and certification programs that are aligned and connected to industry's labour needs.
- Effective short-term and long-term immigration policies and programs that include a focus on supply chain workers and their expertise.

Perhaps this variation on a Voltaire quotation is appropriate when we think about the urgency of the challenges and opportunities before us and how we all might answer *A Call To Action*:

“Don't let the perfect be the enemy of the good.”

Works Cited

- Canadian Supply Chain Sector Council. (2012). *Human resources study update*. Toronto, ON: R. A. Malatest & Associates Ltd.
- Coulombe, S., & C.D. Howe Institute. (2011). *Lagging behind: Productivity and the good fortune of Canadian provinces*. Commentary: Economic Growth and Innovation. Toronto, ON: C.D. Howe Institute. Retrieved from: <<http://site.ebrary.com/id/10484559>>
- Day, S. (2010). *Remarks by the Honourable Stockwell Day, President of the Treasury Board of Canada and Minister for the Asia-Pacific Gateway*. Presented at the APGCI International Conference On Gateways And Corridors, Vancouver, BC. Retrieved from: <http://www.gateway-corridor.com/vancouverconference2010/documents/presentations/Ministerial%20Session_Minister%20Stockwell%20Day_Speech.pdf>
- Government of Alberta. (2008). *A workforce strategy for Alberta's supply chain logistics industry*. Edmonton, AB: Government of Alberta. Retrieved from: <http://employment.alberta.ca/documents/WIA/WIA-BETW_supply_chain_strategy.pdf>
- Government of Alberta. (2010). *Employment and immigration business plan 2010 – 2013. Budget 2010: Striking the right balance*. Edmonton, AB: Government of Alberta. Retrieved from: <<http://www.finance.alberta.ca/publications/budget/budget2010/employment-immigration.pdf>>
- Human Resources and Skills Development Canada. (2012). *About the NOC 2011*. Ottawa, ON: Government of Canada. Retrieved from: <<http://www5.hrsdc.gc.ca/noc/english/noc/2011/AboutNOC.aspx>>
- McKenna, B. (2012). Labour shortage becoming “desperate.” *Globe and Mail*, February 8, 2012. Retrieved from: <<http://advisor1.dynamic.ca/servlet/ArticleNews/story/gam/20120208/RBSKILLSSHORTAGEMCKENNAATL>>
- Mills, E. (2012). *The Accelerator project: Labour market information and study interviews*.
- Sandhar-Cruz, P. (2011). *Asia Pacific gateway and corridor*. Presented at the Asia Pacific Gateway and Corridor Workforce Productivity and Innovation Roundtable. Transport Canada.
- Trichur, R., & Blackwell, R. (2010). Dismal productivity growth a roadblock to recovery. *Globe and Mail*, February 15, 2012. Retrieved from: <<https://secure.globeadvisor.com/servlet/ArticleNews/story/gam/20101215/RBECONOMYPRODUCTIVITYTRICHURATL>>



Appendices

Appendix A: The Alberta and British Columbia Contexts 46

Appendix B: The Global Context 53

Appendix C: Bibliography 64

Appendix A: The Alberta and British Columbia Contexts

This section summarizes five documents that provide background information about the labour market, trends and forces that affect the workforce development strategy in Alberta and British Columbia.

- *Building and Educating Alberta's Workforce – Alberta's 10-Year Strategy*, Alberta Human Resources and Employment.
- *A Workforce Strategy for Alberta's Supply Chain Logistics Industry*. Alberta Government, et al.
- *Skills For Growth – British Columbia's Labour Market Strategy to 2020*, Ministry of Regional Economic and Skills Development.
- *Drivers of Change in the Asia Pacific Gateway*, Asia Pacific Gateway Skills Table.
- *Human Resources Study Update – British Columbia and the Prairies*, Canadian Supply Chain Sector Council .

Building and Educating Alberta's Workforce Alberta's 10-Year Strategy

In 2006 the Government of Alberta, and specifically the Alberta Human Services Ministry, developed a comprehensive workforce development strategy called, *Building and Educating Tomorrow's Workforce* (BETW). BETW had three key outcomes: an improved supply of appropriately skilled and motivated workers; highly skilled, educated and innovative people; and high performance work environments (Alberta Human Resources and Employment, 2006, p. i).

The strategic framework for BETW had four themes:

- *Inform*: Albertans and stakeholders have increased access to current, accurate and relevant education, career, workplace and labour market information needed to make informed career, workplace and labour market decisions.
- *Attract*: Alberta attracts interprovincial migrants, immigrants and temporary foreign workers necessary to address labour force needs.
- *Develop*: Albertans gain improved access to education and training needed to address short-term labour market demands and build long-term capacity to respond to future opportunities and challenges.

- *Retain*: enhanced community and work attractiveness leads to more workers remaining engaged in Alberta's labour force (Alberta Human Resources and Employment, 2006, p. i).

At the time that the BETW strategy was developed, Alberta was facing significant challenges related to Alberta's people, businesses and industries which needed to be addressed if the province was to continue to thrive and maximize its wealth and natural resources. Those challenges were identified as:

- A changing and increasingly competitive global landscape.
- An overall aging of our population.
- Expected strong economic growth and tightening labour markets.
- Increased urbanization causing regional labour and skills shortages in many rural communities.
- Rising education requirements for many jobs and a population that is falling behind other provinces in post-secondary educational attainment.
- Low graduation and post-secondary transition rates as well as low credentialing rates (Alberta Human Resources and Employment, 2006, p. 1).

A Workforce Strategy for Alberta's Supply Chain Logistics Industry

As one of many sector-specific *Workforce Strategies* developed by Alberta Human Services, stakeholders from the supply chain sector met in a series of meetings between November 2007 and October 2008. Built around the four BETW pillars of Inform, Attract, Develop and Retain, the Supply Chain Logistics Workforce Strategy identified the issues inherent in the changing face of the workforce: shortage of appropriately skilled workers; changing skill requirements; education/training programs lacking in focus and cohesion; an aging workforce; attraction, recruitment and retention challenges; and increased risk to workplace health and safety.

While progress has been made towards some of these workforce issues, it is interesting to note that the basic challenges of labour shortages, education, training, skill development and innovation remain in 2012.

Skills For Growth British Columbia's Labour Market Strategy to 2020

Published by the British Columbia Ministry of Regional Economic and Skills Development, this report outlines British Columbia's labour market strategy for the next decade.

It is estimated that over the next ten years, British Columbia will have approximately 1.1 million job openings, with only 650,000 young people to fill these jobs. Skill shortages will impact all regions and communities across the province. British Columbia's Gross Domestic Product (GDP) is anticipated to grow by over 25%. As a result of economic growth and attrition, employment is expected to grow by 1.8% each year through to 2019 (British Columbia Ministry of Regional Economics and Skills Development, 2011, p. 5).

As presented in this report, the outlook and key challenges for British Columbia's labour market include an aging workforce; more and higher skills required to support a knowledge economy; global competition for talent; regional diversity in terms of economic and skills differences; the need to improve British Columbia's workforce productivity; the need for accessible labour market information; the inclusion of supporting organizations; education and training.

The report outlines three priority actions:

- **Priority 1: Increase the Skill Level and Labour Market Success of British Columbians.**
 - *Objective 1:* Responsive labour market programs that meet the needs of workers, employers and communities are available in every region.
 - *Objective 2:* Workforce development plans that support economic growth are in place in each region of the province.
 - *Objective 3:* British Columbia's apprenticeship system meets the short and long term needs of employers and communities.
 - *Objective 4:* British Columbia's K-12 education system prepares youth—from early learning to high school—for successful post-secondary training and entry into the labour market.
 - *Objective 5:* British Columbia's post-secondary education and training system is responsive to student, employer and regional needs.

(British Columbia Ministry of Regional Economics and Skills Development, 2011, pp. 13 – 16).

- **Priority 2: Attract Workers and Entrepreneurs from Outside the Province Who Meet British Columbia’s Regional Economic Needs.**

- *Objective 1:* Employers can readily access trained workers from outside of British Columbia with skills not available in the region.
- *Objective 2:* Provincial settlement and immigration programs position British Columbia as a destination of choice for international workers.
- *Objective 3:* British Columbia has recruitment agreements with countries that support the flow of workers in occupations under pressure.
- *Objective 4:* Improve the labour market attachment and employment outcomes for newcomers.
- *Objective 5:* British Columbia is an international choice for international students.

(British Columbia Ministry of Regional Economics and Skills Development, 2011, pp. 17 – 20).

- **Priority 3: Improve Workplace Productivity.**

- *Objective 1:* British Columbia employers and workers are aware of the benefits of increasing productivity.
- *Objective 2:* Productivity assessments and funding to support workforce training for employees are available.
- *Objective 3:* Development of entrepreneurs is supported.
- *Objective 4:* Expand essential skills programs to accelerate the participation of British Columbians in the knowledge economy.
- *Objective 5:* Government of British Columbia is a public sector productivity leader.

(British Columbia Ministry of Regional Economics and Skills Development, 2011, pp. 21 – 24).

Drivers of Change in the Asia Pacific Gateway

The Asia Pacific Gateway Skills Table (APGST) was created by the Government of Canada in order to deal with an anticipated shortage of workers in the construction, expansion and operation of the Gateway. The APGST brings together business, labour and education in order to identify issues and collaboratively seeks solutions for the development of an adaptable, skilled workforce which will support and ensure the Gateway's competitive success.

Specifically, the Asia Pacific Gateway “is comprised of the west coast ports (Prince Rupert and Port Metro Vancouver), major airports (Vancouver, Abbotsford, Prince George), three major transcontinental railways (CP, CN and BNSF), one British Columbia short line railway that serves local industries (Southern Railway of British Columbia) and an integrated high quality highway system accessing all of North America” (APGST, 2011, p. 6). The Corridor extends from the Gateway east into the Prairies and the rest of Canada.

In 2011 the APGST undertook a study designed to identify the current areas of innovation or technological improvements connected to the various sectors and associations related to the operational elements of the Asia Pacific Gateway. While the main focus of the study was to understand the functional technology and tools of innovation, it was understood that increasing Canada's efficiency and competitiveness also included the need to ensure that people working in these areas have the skills, knowledge and attitudes which would capture the opportunities that innovation would create.

Through interviews with 38 individuals from 26 organizations, the following five themes emerged:

- As the economy recovers, business remains primarily focused on improving existing processes and technologies, not introducing new ones.
- Innovations in recruitment and retention that focused on the needs, perspectives and priorities of the under 30 aged worker have greater impact than technological training programs for the over 50 aged workers.
- On the whole, the Asia Pacific Gateway operates as efficiently as its competitors—other North American port, road and rail systems.
- Individual worker performance management and monitoring are increasingly used as key tools in business management innovation.

- Best practice and innovative thinking entities, such as universities, research associations or other ‘think tanks’ are not widely used or considered as a source of information.

(APGST, 2011, pp. 14 – 15)

The development of a human resources strategy for the Asia Pacific Gateway, and more broadly for the Canadian supply chain sector, could have a significant effect on the attraction and retention of workers with critical skills, knowledge and attitudes. Such a human resources strategy would also help to support a culture of innovation and change throughout the Gateway, help to revolutionize transportation and logistics processes and practices and position Canada so that we can capitalize on the opportunities and economic advantages that the Gateway offers.

Human Resources Study Update: British Columbia and the Prairies

The Canadian Supply Chain Sector Council (CSCSC) was established in 2006 based on the recommendation of a national Human Resources Study of the Supply Chain Sector in Canada. The purpose of the 2012 Human Resources Study Update was to capture changes since 2005 and changes that specifically relate to recruitment, training, technology and retention.

Major issues identified in the study include recruitment, leadership skills, succession planning and the retirement of experienced workers (CSCSC, 2012, p. ii). It was fortunate for the Accelerator Project that the timeline of the CSCSC Human Resources Study Update coincided with the Accelerator Project’s research phase. With the CSCSC being a national Accelerator Project partner, connecting and comparing the information gathered in both studies made good sense.

When the information for British Columbia and the Prairies was examined, the following key findings emerged from the study:

- British Columbia and the Prairies are strikingly similar in the challenges they face in maintaining and enhancing their supply chain human resources.
- The sector is facing shortages of skilled employees as experienced employees retire. This is not in the future – it is a current and growing problem.
- Shortages are expected in every supply chain employment category and in every sub-function.
- The human resources talent pool is shrinking. This has led to poaching from competitive companies.

- Very low awareness of the sector among high school guidance counselors, teachers and therefore, students—the pool is not being replenished.
- Employers take advantage of a wide range of training options and are generally satisfied. There is a widely held view that new entrants into the sector lack soft skills including basic decision-making, numeracy and literacy.
- Relative to the Prairies, a greater proportion of British Columbia employees see their career plans leading them away from their current employer and the sector as a whole.
- Careers in supply chain are generally seen as fairly attractive relative to other sectors, but low profile/awareness of the sector is a major barrier.
- Promotional efforts should speak to career development opportunities and work-life balance.
- Retention efforts need not be expensive. Flexible work arrangements and a family-friendly work environment have a positive impact on job satisfaction (CSCSC, 2012).

Appendix B: The Global Context

This section summarizes six documents that provide background information and insights into the labour market, economic trends and policies affecting the Asia Pacific Gateway and Corridor in Canada:

- *Human Resources: A Vital Driver of Canadian International Trade Capacity and Capability*, Forum for International Trade Training (FITT).
- *Innovation To Strengthen Growth And Address Global And Social Challenges*, OECD.
- *Workforce Skills and Innovation*, OECD Education Working Papers, No. 55.
- *Beyond the Recovery*, Institute for Competitiveness & Prosperity, Report on Canada 2010.
- *Global Business Strategy and Innovation: A Canadian Logistics Perspective*, Industry Canada.
- *National Policy Framework For Strategic Gateways And Trade Corridors*, Transport Canada.

Human Resources: A Vital Driver of Canadian International Trade Capacity and Capability

In this report, the Forum for International Trade Training (FITT) outlines the need for Canadian business and political leaders to understand the direct link between trade, investment, economic growth and national prosperity.

FITT calls for government and academics to work together to envision and build an effective national human resource strategy which will support and position Canada for the “realities of international trade and business investment” (FITT, 2011, p. 7).

Canada is encouraged to build a national human resources strategy by design rather than default. In order to do that, FITT makes three observations:

- **Observation 1: International trade is the most important driver shaping the performance of the Canadian economy.**
 - Canada’s current trade performance is deteriorating and is threatening Canada’s economic growth and prosperity.
- **Observation 2: Many of Canada’s greatest international trade challenges depend upon the development and delivery of effective and innovative human resource solutions.**
 - The process of trade is changing – it is not just about exports. A new paradigm called “Integrative Trade” requires new skills and competencies for workers who support trade processes. Canadian firms must be able to effectively manage sourcing in one country, production and processing in another, and distribution in a third market. No longer is trade just a two-party exchange.
 - Gaps in human resource capacity and labour force shortages will place Canada at a disadvantage.
- **Observation 3: An effective national human resource strategy is vital to support international trade [and] a comprehensive sector study of the human resources challenges in international trade is urgently required. (FITT, 2011, p 7).**

FITT further identifies areas where new and comprehensive skills and competencies are required:

- Sharpened business development competencies are required to identify new opportunities in global value chains.
- Firms urgently require skills to handle regulatory compliance issues.
- Service sectors (management, professional/technical services, health, education and communications services, and other commercial services) have a growing need for international trade skills.
- Canadian firms require skills which support gains in productivity and innovation. “Innovation is widely acknowledged as a driver of productivity gains – and better skills for innovation will be essential for success of Canadian businesses.” (FITT, 2011, p. 11)

The return on investment of an effective pan-Canadian human resources strategy for international trade is substantial. For every additional 1 billion dollars that Canada exports, there is on average, an addition of 11,000 new jobs. International trade jobs pay higher than average wages, contribute to Canada’s prosperity and quality of life and ensure that fewer costly mistakes are made in international business opportunities.

When asked about emerging occupations, competencies, skills and knowledge required, stakeholders in FITT's consultation process described occupations that fell into 4 broad categories:

- Senior level international business development officer or “trade champion” (new)
- Supply chain executive (new)
- Trade compliance professional (new, in shortage)
- Skilled production occupations (shortage) [FITT, 2011. p. 65]

Innovation To Strengthen Growth And Address Global And Social Challenges

In 2010, the OECD (Organization for Economic Co-operation and Development) reviewed global economic and social challenges and presented a five-point Innovation Strategy “built around five priorities for government action” designed to promote innovation as a way to promote economic growth (OECD, 2010, p. 4).

In order to recover from the 2008–2009 economic downturn and thrive in a highly competitive, global economy, countries need to find ways to recover and to find new and sustainable sources of growth. This need for growth comes at a time when countries may be facing population decline and limited returns from labor and capital investments. Innovation is, therefore, the key to productivity and to future growth.

OECD identifies 5 policy principles for innovation:

- Empowering people to innovate;
- Unleashing innovation in firms;
- Creating and applying knowledge;
- Applying innovation to address global and social challenges; and
- Improving the governance and measurement of policies for innovation. (OECD, 2010, p. 4)

When we connect people and innovation, we understand the link between the generation of ideas and the knowledge, skills, and ability to apply this knowledge to new situations and challenges. Innovation requires a wide variety of skills, including the capacity to learn, adapt

or retrain, with an emphasis on skills such as critical thinking, creativity, communication, user orientation and teamwork.

In OECD countries, 7.3% of 15- to 19-year-olds are not in school nor are they employed. They are sometimes called the NEET generation, Not Employed nor in Education or Training. These youth are at high risk of marginalization and exclusion from the labour market.

Education lays the foundation for life, including social, economic and educational outcomes. Universities, colleges and training centres produce and attract human capital and act as a link between businesses, governments and countries. These learning institutions may act as clusters of innovative activity, but they must be more than just providers of “public goods,” rather they must push policy makers to focus on independence, competition, excellence, flexibility and entrepreneurial spirit.

Universities, colleges and vocational training centres act as hubs for innovation, both attracting and producing people needed for innovation. However, while schools lay the base for learning, the acquisition of skills does not just happen through formal education. Organizational structures and employment policies help shape the way human capital translates into innovation and productivity. Government’s role in the innovation system is to foster conditions for learning within organizations and the workplace and to make sure that labour market policies are supportive of innovation and mobility.

Workforce Skills and Innovation: An Overview of Major Themes in the Literature, OECD Education Working Papers, No. 55.

The author of this report identified eight key messages from a review of the literature linking workforce skills, knowledge and innovation. The messages are summarized below:

- Strong connections between education and economic development have been proposed, but specifics are a matter of debate based on content, mechanisms and outcomes of the linkages.
- Despite some lack of clarity, there is a clear circular and cumulative connection between the interactions of knowledge, skills and innovation.
 - An increase in levels of skills promotes greater productivity of skilled workers; technical change, especially ICT [Information and Communication Technologies], drives the growth of employment in both higher level and lower level skills.

- “Skilled workers have greater ‘functional flexibility’ at work as their greater stock of knowledge increases the rate at which they learn and develop higher order problem solving skills.” (p. 60)
- Investment in education and work skills is cumulative. Additional training is associated with increased capacity for innovation.
- A broad range of occupations and skills are involved in the implementation of innovation, because a wide range of economic activities and occupations are required to make incremental changes that drive innovation.
- Of critical importance, is the role of quality primary and secondary education in providing an essential foundation for the development of higher-level workforce capabilities.
 - Equal access to quality education is essential to remove large variations in basic skill attainment across countries.
 - A large minority of a population with low literacy and numeracy skills represents a significant restraint on the capacity for innovation.
 - Innovation that relies on advanced scientific, engineering and management skills requires a higher level of elite training.
- Appropriate incentives and obligations are essential for firms and workers to invest in transferable intermediate-level skills for specific occupations.
- Workforce skills are not the only condition required for successful innovation. Firms and economies may have to choose between practices which have contradictory outcomes. For example, greater flexibility for their workforces may create greater worker turnover. Job security promotes knowledge sharing between workers and greater acceptance for technical changes and adoptions.
- Technically progressive firms and their workforces drive the demand for higher workforce skills. Public policy plays a role in the promotion of such technically progressive firms through the diffusion of technology programs within or across a country, region or firm.
- Investment in skills upgrading must be undertaken and based on a thoughtful and thorough assessment of labour demand for higher skills. (Toner, 2011, pp. 59–62)

High Performance Work Systems (HPWS) link the kinds and intensities of innovations and the adoption of specific kinds of work organization

patterns. The literature relating to HPWS demonstrates a clear link between innovation and a range of workforce skills and that making effective use of workforce skills requires a supportive work organization.

Features of a HPWS include rigorous employee selection procedures, broad job classifications, job rotation, work teams, worker initiative, flat management structure, worker voice, incentives for innovation, capturing learning, and extensive training. A commitment to HPWS is required at all levels of an organization—through the whole workforce, not just at the top.

Beyond the Recovery

The Institute for Competitiveness & Prosperity, published *Beyond the Recovery: Report on Canada* in 2010. The report looked at the state of the Canadian economy following the recession of 2008–2009 and explored ways to move “beyond the recovery toward prosperity” (Institute for Competitiveness & Prosperity, 2010, p. 18). Key findings from the report are summarized below.

Despite the downturn in the economy, investments in education must be maintained and are crucial for building Canada’s long-term innovation capacity and productivity. Other areas of evidence point to a need for less regulation, not more, in our economy and the removal of structural barriers to innovation and competition. Examples, such as the creation of a common economic zone in central Canada, demonstrate ways that collaboration and the strengthening of ties between provinces can make a difference through the establishment of trade agreements.

However, compared to the U.S., Canada’s prosperity in terms of GDP per capita continues to lag. “Closing the prosperity gap would generate an additional \$106.3 billion in tax revenues for all three governments across the country” (Institute for Competitiveness & Prosperity, 2010, p. 11).

The Prosperity Agenda, an integrated set of actions for achieving Canada’s prosperity potential, consists of four main goals, summarized below from pages 58 to 59 of the report:

- **Attitudes – Canadians must have the desire to compete and innovate.**
 - Encourage innovation and competition to win in the current global economic turmoil.
 - Challenge traditional attitudes of business people that have been shaped over time and by the Canadian economy. We have had easy access to the large U.S. market and limited domestic competition.

The smallness of our domestic market leads to inertia and complacency.

- Canadian businesses must now accept the challenges of a global economy and move to an aggressive, offensive position in order to increase our competitiveness.

- **Investment – Invest in the human and physical capital critical for recovery.**

- Our levels of public expenditure and investment in education are falling behind those of the previous decade and in comparison to that of the U.S.
- By 1998, governments in Canada were spending more on healthcare than on education, and as governments tackled deficits, they cut real spending on education at a much faster rate than that of healthcare.
- Schooling is one of the best predictors of the relative wealth of individuals, including higher wages, less unemployment, healthier, longer lives, and less likelihood of being involved in crime.

- **Motivations – Ensure tax changes lead to business investment.**

- Continue to lower taxes and support business investments including the harmonization of retail sales taxes.
- Reduce corporate income tax rates that penalize new productivity-enhancing investments by business.

- **Structures – Drive creativity and prosperity through strengthened commitment to trade and smarter public policy on innovation.**

- Current public policy is directed towards invention, not innovation.
- Federal and provincial governments need to invest in hard sciences and the humanities as well as developing management skills, as strong management is considered a critical element in the level of innovation in our economy.
- Research indicates that new management techniques, such as Just-In-Time-Logistics and Lean Operations, can lead to economy-wide growth in productivity and prosperity. (Institute for Competitiveness & Prosperity, 2010, p. 44)
- A third of Canadian managers hold university degrees compared to half in the U.S.; a similar gap exists in the number of people holding

business degrees between Canada and the U.S. This is the result of fewer spaces in our post-secondary institutions, not the lack of demand by students.

The Institute for Competitiveness & Prosperity asks the very critical question regarding the supply and demand of skilled trades: is there really a shortage? On the supply side, it is noted that the average age of skilled trades has been steady since 2004, while it has increased for all other occupations. New registrations in apprenticeship programs grew at an average rate of 9 per cent between 1996 and 2005, while employment growth among the trades averaged 2 per cent in that same period. What this points to is not that young people don't want to enter the trades, but that their rate of completion is poor. Another barrier identified here is the "bottlenecks in trades supply created by legislation." (Institute for Competitiveness & Prosperity, 2010, p. 23)

On the demand side of the shortage issue, the growth in employment in the skilled trades has been slower than across all other occupations. As well, unemployment rates match all other occupations, but national statistics don't adequately describe regional differences and disparities. Economic growth in one area of the country may strain the supply of skilled trades, leading to regional labour shortages in other areas.

Canada's prosperity gap, which is the difference in GDP per capita compared to the U.S., was smaller twenty years ago. The framework used to disaggregate the GDP per capita has four measures:

- *Profile*: of all the people of working age in a defined jurisdiction, what percentage is working and able to contribute to the creation of products and services that add economic value and prosperity?
- *Utilization*: for all of working age, 1) participation – the percentage of working age who are searching for work; 2) employment – the rate at which those participating in the job market are successful.
- *Intensity*: for all employed, how many hours in a year do they spend on the job?
- *Productivity*: for each hour worked in a jurisdiction, how much economic output is created by its workers? There are six sub-elements: industry mix; cluster mix; cluster effectiveness; urbanization; education; capital investment and a last undefined element, productivity residual.

In thinking beyond the recovery of the Canadian economy, Canadians are encouraged to avoid short-term economic policies and to stay the course of actions which will ensure the achievement of Canada's prosperity potential by 2020. That will happen through innovation and upgrading

and by the creation of unique products, services and processes which will enhance and add value to people's lives.

Global Business Strategy and Innovation A Canadian Logistics Perspective

Industry Canada partnered with Canadian Manufacturers and Exporters (CME) and Supply Chain & Logistics Association Canada (SCL) to collect information from industry, academia and government to “produce a complete profile of logistics innovation and global business strategies in Canada.” Key highlights from the report, *Global Business Strategy and Innovation: A Canadian Logistics Perspective* are summarized below.

Logistics activities have become more complex, global and sophisticated. Logistics strategists indicate that the design, structure and sophistication of the supply chain is influenced by six main factors:

- Globalization
- Increasing logistics complexity
- Rising risk
- Increasing labour costs in developing countries
- Sustainability
- Growing volatility

Leading firms understand the critical role logistics plays in the core functions of their businesses and, as a result, have created executive-level positions to manage and coordinate that function.

Some of the key findings of this research indicate the following:

- International trade increases have propelled logistics activities to the forefront of business strategies.
- Supply chain mandates have a direct impact on innovation across value chains.
- Logistics innovation is at the forefront of global value chain network integration.
- Investment in distribution centres in Canada has increased by 106% over the past five years, which includes significant investment in Alberta and British Columbia.

Firms are seeking to establish dynamic, responsive, automated and low-cost distribution centres that will support their global business strategies (Industry Canada et al, 2011, p. 3).

Between 1990 and 2010, Canada's west coast container traffic increased by 592% compared to the East Coast with a growth rate of 83% (Industry Canada et al, 2011, p. 5).

Key activities related to global sourcing include a dedicated team which interacts with external and internal stakeholders and the development of specific practices, such as project management, quality assurance, expediting, loading/unloading supervision, inspection, vendor assessment and failure analysis. All of these activities are essential to the effective functioning of a global logistics network (Industry Canada et al, 2011, p. 8).

Canada's Gateways: National Policy Framework for Strategic Gateways and Trade Corridors

The *National Policy Framework for Strategic Gateways and Trade Corridors* was released in 2009 and functions in tandem with the Asia Pacific Gateway and Corridor Initiative (APGCI) and the Border Crossings Fund. It articulates a comprehensive, integrated and strategic approach which supports Canada's prosperity and opportunities as a trading nation. The *National Policy Framework* enhances multimodal integration of Canada's transportation systems, as well as their efficiency, security, safety and sustainability.

The *National Policy Framework* has five lenses:

- International Commerce Strategy
- Volumes and Values of National Significance
- Future Patterns in Global Trade and Transportation
- Potential Scope of Capacity and Policy Measures
- Federal Role and Effective Partnerships

The Asia Pacific Gateway and Corridor Initiative was created in order to strengthen Canada's competitive position in international commerce and to more effectively link Asia and North America. Specifically, the Initiative is a set of investment and policy elements intended to achieve the following goals:

- Boost Canada's commerce with the Asia Pacific region.

- Increase the share of North America bound container imports from Asia.
- Improve the reliability of the Gateway and Corridor for Canadian and North American exports (Transport Canada, 2009, p. 4).

As an integrated network of transportation and infrastructure, the Asia Pacific Gateway and Corridor includes British Columbia's Lower Mainland and Prince Rupert ports, the road and rail connections, which stretch across Western Canada and south to the United States, key border crossings and major Canadian airports.

With \$1 billion committed by the Government of Canada, the APGCI brings together several major thrusts:

- Strategic infrastructure investments across Western Canada.
- Innovation in the application of Intelligent Transportation Systems (ITS) technology to improve traffic flow and safety.
- Security and efficient border management.
- Governance and policy renewal... [with] a focus on skills issues (Transport Canada, 2009, p. 4).

Appendix C: Bibliography

Alberta and British Columbia Contexts

- Alberta Human Resources and Employment. & Alberta Advanced Education. (2006). *Building and educating tomorrow's workforce : Alberta's 10-year strategy*. Edmonton, AB: Government of Alberta.
- Asia Pacific Gateway Skills Table. (2011). *Drivers of change in the Asia Pacific Gateway*. Retrieved from: <<http://www.apgst.ca/>>
- Canadian Supply Chain Sector Council. (2011). *Human resources study update*. Toronto, ON: R.A. Malatest & Associates Ltd.
- Government of British Columbia. (2011). *Skills for growth: British Columbia's labour market strategy to 2020*. Ministry of Regional Economic and Skills Development. Retrieved from: <http://www.workbc.ca/labour_market_statistics/skills_for_growth.htm>
- Government of Alberta. (2008). *A workforce strategy for Alberta's supply chain logistics industry*. Edmonton, AB: Government of Alberta. Retrieved from <http://employment.alberta.ca/documents/WIA/WIA-BETW_supply_chain_strategy.pdf>

Global Context

- FITT. (2011). *Human Resources: A vital driver of Canadian international trade capacity and capability*. Forum for International Trade and Training. Retrieved from: <www.fitt.ca/sectorstudy.htm>
- Industry Canada, Canadian Manufacturers and Exporters & Supply Chain and Logistics Association Canada. (2011). *Global business strategy and innovation: a Canadian logistics perspective*. Ottawa, ON: Industry Canada.
- Institute for Competitiveness and Prosperity. (2010). *Beyond the recovery report on Canada 2010*. Toronto, ON: Institute for Competitiveness and Prosperity.
- OECD. (2010). *Innovation to strengthen growth and address global and social challenges (Ministerial report on the OECD Innovation Strategy)*. Paris, France: Organization for Economic Co-operation and Development. Retrieved from: <<http://www.oecd.org/innovation/strategy>>
- Toner, P. (2011). *Workforce skills and innovation: An overview of major themes in the literature*. Paris, France: OECD Education Working Papers, OECD.
- Transport Canada. (2009). *National policy framework for strategic gateways and trade corridors*. Ottawa, ON: Transport Canada. Retrieved from: <http://epe.lac-bac.gc.ca/100/200/301/tc/natl_policy_framework_strategic-ef/T22-136-2009-eng.pdf>

General

- Alberta Human Capital Plan Update. (2009). Presented at the Supply Chain Logistics Meeting.
- Alberta Motor Transport Association. (2012). *Chamber report: Impending worker shortage “Desperate.”* Retrieved from: <<http://www.amta.ca/ENews/Feb2012/ChamberReport.html>>
- Barnes, P., Courville, I., & Lee, P. (2010). Aggressive action needed to promote Canada’s trade relations with Asia. *Financial Post*, November 9, 2011.
- Burney, D., & Goldenberg, E. (2011). Shipping oil to Asia? The route’s east, not west. *The Globe and Mail*, September 13, 2011. Retrieved from: <<http://www.theglobeandmail.com/news/opinions/opinion/shipping-oil-to-asia-the-routes-east-not-west/article2268474/>>
- Canadian Supply Chain Sector Council. (2009). *Request for proposal: Recruitment and retention project.*
- Canadian Transportation and Logistics (2011). *First phase of Ridley Terminals’ modification project nearing completion.* Retrieved from: <<http://www.ctl.ca/news/first-phase-of-ridley-terminals-modification-project-nearing-completion/1000725531/>>
- Coughlan, S. (2011). *Battle of the knowledge superpowers.* London, UK: BBC. Retrieved from: <<http://www.bbc.co.uk/news/education-14949538>>
- Employment Alberta. (2010). *Afternoon discussion session: Developing a higher performance workforce and workplace.* Minister’s Workforce Forum, October 27, 2010.
- Fekete, J. (2010). Tory strategy to map out transportation plan toward 2050. *Calgary Herald*, July 5, 2010.
- Government of British Columbia(2011). *Canada Starts Here: The BC Jobs Plan.* Victoria, BC: Province of British Columbia. Retrieved from: <<http://www.bcjobsplan.ca/canada-starts-here/>>
- Hodgson, G. (2010). *From global crisis to the next generation economy for Canada and Alberta.* Presented at the Alberta Minister’s Workforce Forum. Retrieved from: <www.conferenceboard.ca>
- Holden, M., & Canada West Foundation. (2011). *Through the gateway unlocking western Canada’s potential for economic diversification by expanding trade with Asia-Pacific.* Retrieved from: <<http://site.ebrary.com/id/10456800>>
- IBM. (2009). *The smarter supply chain of the future.* IBM Global Services. Retrieved from: <<http://www-935.ibm.com/services/us/gbs/bus/html/gbs-csco-study.html>>
- Kotter, J. P. (2008). *A sense of urgency.* Boston, Massachusetts: Harvard Business Review Press.
- Martin, J. P. (2011). Unfinished business: Investing in youth employment. *OECD Observer* 286 (3): 9–10.
- Mills, E. (n.d.). *Drivers for change in the Asia Pacific Gateway.* Vancouver, BC: Asia Pacific Gateway Skills Table.

- Newsroom BC Government Online News Source. (2011). *New bigger ships expand BC potash trade globally*. Retrieved from: <<http://www.newsroom.gov.bc.ca/2011/11/new-bigger-ships-expand-bc-potash-trade-globally.html>>
- Palmer, V. (n.d.). *Big-ticket projects help balance the negative baggage Clark carries*. Retrieved from: <<http://www.vancouversun.com/news/ticket+projects+help+balance+negative+baggage+Clark+carries/5807289/story.html>>
- PricewaterhouseCoopers International Limited. (2012). *Transportation and logistics 2030, Volume 5: Winning the talent race*. Retrieved from: <<http://www.pwc.com/gx/en/transportation-logistics/publications/tl-2030-volume-5.jhtml>>
- Coleman, R. (2011). *Schools need to train engineers, not teachers, to meet demand*. Retrieved from: <<http://www.vancouversun.com/business/Schools+need+train+engineers+teachers+meet+demand+Coleman/5807344/story.html>>
- Toneguzzi, M. (2011). *Alberta economic outlook remains bright: RBC*. Retrieved from: <<http://www.calgaryherald.com/business/Alberta=economic=outlook=remains=bright/5846395/story.html>>
- Turnbull, L. (2011). *Ocean freight – Time for change?* Cole News, Cole International. Retrieved from: <<http://www.cole.ca/news/?p=38>>

Contributors

Project Advisory Committee

Brian Fleming, Associate Professor, Bissett School of Business, Mount Royal University

Julia Stickel and **Bryndis Whitson** (sequential), Manager, Strategic Development & Member Relations, The Van Horne Institute

Janet Sainsbury, Academic Coordinator, Distance Education, School of Business, SAIT Polytechnic

Cindy Clark, General Manager, Sterling Western Star Trucks Alberta Ltd

Sean Baker, President, APICS Calgary Chapter; Recruitment Consultant, Lock Search Group

Doug Bulger, Managing Director, PIRA Energy Group

Jason Copping, General Manager, Government Relations & Gateways, Canadian Pacific Railway

Cathy Faber, Superintendent and CIO, Learning Innovation, Calgary Board of Education

Jim Bergeron, Vice Chair, Calgary Logistics Council

Jean Loitz, President, Alberta Institute Purchasing Management Association of Canada

Wendy Cooper, President and CEO, Port Alberta

Catherine Wishart, Vice-President, Community & Student Services, College of New Caledonia

Ruth Sol, President, WESTAC

Heather Oland, Vice President Strategic Initiatives, Initiatives Prince George

Ken Martin, Quality Assurance & Compliance Manager, Van Kam Freightways

Krista Bax, Program Manager, Asia Pacific Gateway Skills Table

Guests: **Eulala Mills**, LevelHeaded Thinking; **Rob Assels**, R.A. Malatest & Associates; **Hardy Griesbauer**, College of New Caledonia; **Mike LoVecchio**, Canadian Pacific Railway; **Oksana Exell**, Asia Pacific Gateway Skills Table; **Kevin Maynard**, Canadian Supply Chain Sector Council; **Sandy Gough**, Sanscript Studio; **John Cheeseman**, Mount Royal University

Roundtable Speakers

Shannon Marchand, Assistant Deputy Minister, Workforce Supports, Alberta Human Services, Government of Alberta

Doug Moulton, Program Manager, Sector Council Program, Human Resources and Skills Development Canada

Paul Sandhar-Cruz, Director, Pacific Gateway Coordination, Transport Canada

Krista Bax, Program Manager, Asia Pacific Gateway Skills Table

Kevin Maynard, Executive Director, Canadian Supply Chain Sector Council

Linda Lucas, Chair, Calgary Logistics Council

Rob Assels, Vice President Business Development, R.A. Malatest & Associates

Jason Copping, General Manager, Government Relations & Gateways, Canadian Pacific Railway

Ralph Wettstein, President, Canadian Freightways

Tom Kirk, Director of Cargo Development and Logistics, Calgary Airport Authority

Wendy Cooper, President and CEO, Port Alberta

Peter Wallis, President and CEO, The Van Horne Institute

Researchers

Eulala Mills, LevelHeaded Thinking

Ernie Stokes, President, Stokes Economic Consulting

Rob Assels, Vice President Business Development, R.A. Malatest & Associates

Labour Market Research Interviewees

Jim Brown, Schenker of Canada, Calgary

Dean Duffin, FLS Transportation Services, Calgary

Alan Pearce, Kuehne & Nagel, Vancouver

Jamie Baker, Supply Chain Management, Calgary

Ian McIver, Canfor, Vancouver

Melinda Mui, Health Shared Services British Columbia, Vancouver

Andrew Mardon, City of Calgary, Calgary

Thelma Henry, Calgary Inter-Faith Food Bank, Calgary

Anonymous, Oil and Gas, Calgary

Doug Bulger, PIRA Energy Group, Calgary

Jean Loitz, President, Alberta Institute Purchasing Management Association of Canada, Edmonton

Krista Burton, Suncor, Fort McMurray

Lisa Ross, University of Calgary, Calgary

Gerard Milburn, Suncor, Fort McMurray

Steve Towns, Loblaw's, Calgary

Brian Best, London Drugs, Vancouver

Lane Kranenburg, Rocky Mountaineer Vacations, Calgary

Cindy Clark, Sterling Western Star Trucks, Calgary

Sean Baker, Challenger, Calgary

Project Team

Linda Lucas (Project Lead), Chair, Calgary Logistics Council

Kevin Maynard, Executive Director, Canadian Supply Chain Sector Council

Oksana Exell, Executive Director, Asia Pacific Gateway Skills Table

Photo Credits

CP: top left front cover, right front cover, page 45; **Schenker of Canada**: lower left front cover, back cover.

Acknowledgments

Thank you to Canadian Pacific Railway and Schenker of Canada for providing the pictures used in this document.

Labour Market research presented in this report was developed by Eulala Mills, LevelHeaded Thinking, for the Accelerator Project along with information provided by the CSCSC Human Resources Study Update 2012.

Pre-press design and production services provided by Last Impression Publishing Service. Editorial services provided by Sanscript Communication Studio Inc.

The Accelerator Project Report and the Supply Chain Human Resources Strategy are available on the Calgary Logistics Council website: <www.calgarylogisticscouncil.org>



Canadian
Supply Chain
Sector Council

Conseil canadien
sectoriel de la chaîne
d'approvisionnement



ASIA PACIFIC GATEWAY
SKILLS TABLE

© Calgary Logistics Council 2012