

2007

**LABOUR MARKET ASSESSMENT  
OF THE INDUSTRIAL - COMMERCIAL - INSTITUTIONAL  
CONSTRUCTION SECTOR OF NOVA SCOTIA**

**PREPARED FOR:**



**NOVA SCOTIA  
CONSTRUCTION SECTOR COUNCIL  
INDUSTRIAL - COMMERCIAL - INSTITUTIONAL**

**BY:**

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- The Nova Scotia Construction Sector Council–ICI Staff
- Bernie Carr, Sheet Metal Workers International Association
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<sup>2</sup> The opinions and interpretations in this publication are those of the authors and do not necessarily reflect those of the Government of Canada.

## Executive Summary

The Nova Scotia Construction Sector Council (NSCSC–ICI) is a not-for-profit organization that partners with industry, federal and provincial government departments and agencies and other stakeholders to identify present and future skill and labour issues. Through cooperation and research, the NSCSC–ICI provides solutions to challenges and opportunities in the Industrial, Commercial and Institutional (ICI) construction industry.

The NSCSC–ICI's mandate is to communicate and consult with founding Member Organizations to identify areas of concern related to human resource planning and skills development within the sector.

The NSCSC–ICI's founding members include:

- Cape Breton Island Building & Construction Trades Council;
- Construction Management Bureau; and
- Mainland Nova Scotia Building & Construction Trades Council.

Working in partnership with member organizations, NSCSC–ICI directors and staff provide human resource and labour market information to industry partners including Service Canada, Province of Nova Scotia departments and agencies, the national Construction Sector Council, public and private training institutions, associations, organizations, groups and individual Nova Scotians.

The NSCSC–ICI's objective is

*...to contribute research and labour market information that will:*

- Identify imminent and future skills required by sector employees;
- Identify current worker skills and qualifications;
- Identify the demand for additional skills development;
- Identify current and future essential skills and new technology; and
- Promote this industry as a professional career choice.

The information supports short-, medium- and long-term improvements and solutions, focusing on the sector's human resource capacity.

The NSCSC–ICI's goal is "To complement the work of labour and management organizations, government departments and other industry associations and organizations and work to ensure industry and government investment is managed to benefit the sector."

In fulfillment of its mandate, the NSCSC–ICI issued a request for proposal (RFP) to conduct a labour market assessment of the current body of ICI workers active in Nova Scotia Industrial-Commercial-Institutional (ICI) construction sector.

## Study Objectives

The primary objective of this research project was to create a demographic profile of the Industrial, Commercial and Institutional construction labour force in Nova Scotia. Secondary study objectives were to:

- Assess and analyze inter- and intra-provincial mobility structures for the industry
- Identify specific issues that impact hiring within the industry
- Assess gaps in labour market supply and demand

## Study Methodology

The study methodology, developed in consultation with the LMA Project Steering Committee, followed multiple lines of evidence. With Committee direction, our methodology emphasised a process (described below) aimed at achieving quality results rather than pursuing a work plan that was purely results-focused—i.e., quality was more important than quantity.

Our approach and methodology paid close attention to the indicators and study areas highlighted in the terms of reference. However, because the work plan was developed in consultation with the Committee and Project Manager throughout, it also provided a high degree of latitude for the consulting team to follow useful lines of inquiry that emerged during the assignment.

The work steps within our methodology included the following:

- **Development of road map**—We obtained contact information for a variety of industry stakeholders. This was used for broad-level communications regarding the study and for conducting interviews.
- **Secondary data sources**—We identified a variety of secondary sources throughout the process and referenced them as necessary. Since our consulting effort focused on primary research, use of existing data was secondary and limited to the development of the survey tools.
- **Personal/group interviews**
- **Presentations to stakeholders**
- **Surveys**, including:
  - Worker Survey—Designed to capture perspectives from individual workers.
  - Business Manager Survey—Provided to capture broad-level statistics about the worker population, as well as individual business managers' perspectives on the labour force.
  - Employer Survey—Similar to the Business Manager Survey
- **Case studies analysis**

Our reporting and accountability were supported by weekly progress meetings with the NSCSC–ICI's Project Manager, summary reports, e-mails and Steering Committee review meetings held at the end of each phase.<sup>3</sup>

This report provides a current analysis of:

- 693 Labour Surveys (workers)<sup>4</sup>
- 22 responses to the Employer Survey
- 12 responses to the Business Manager Survey

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<sup>3</sup> This Final Report constitutes the final deliverable.

<sup>4</sup> A total of **693** completed worker surveys have been received. Of these, 665 have been coded electronically for analysis.

## General Highlights

- The national Construction Sector Council (CSC) reports that “from 2006 to 2014, there will be a need to replace an estimated 23% of the construction workforce (5,052 workers) to maintain the 2004 labour force levels in Nova Scotia.”
- There are local anecdotal reports of current skills shortages, particularly in the electrical trades, carpentry and computer-assisted design, but these are difficult to quantify. In some cases, the skills shortages may be amplified by an increase in re-work and declining productivity.
- Commitment to work and attitude towards work are issues for some contractors. An opinion expressed by some interview participants was that young workers (less than 30 years old) are *not accustomed to following directions and believe it is for them to choose what work they want to do on a job site rather than what needs to be done* or what they are told to do.

## Worker Highlights

- *Worker availability:*
  - 46% of respondents said that they were able to work “about as much as they wanted to” over the past 24 months.
  - 47% indicated they worked less than they would have wanted.
  - 7.1% worked more than they wanted.

Even with the 7% who worked more than their ideal, the 47% working less is indicative of some “slack” in the labour supply.

- *Mobility:*
  - 78% of workers surveyed do not plan to move for work (although this survey process was not able to reach those who have already moved).
- *Perspectives on Entering the Trades:*
  - 59% would recommend a career in ICI construction to **their own children** (17% “strongly agree” and 42% “agree”), 20% are neutral, and 20% would not recommend the career to their own children.
  - Slightly more workers (67% compared to 59%) would recommend a career in ICI construction to **other family members** over their own children, while 17% are neutral and 16% would not recommend the career to their family members.
- *Demographics:* The ICI workforce is dominated by males over 39 years of age who:
  - Have an average education level of grade 12 with some trade school
  - Bring more than 15 years of experience to their job
  - Enjoy their work and have a strong sense of pride in their work
  - Would recommend what they are doing to others about 70% of the time and about 60% of the time to their own children
  - In more than one-third of all cases, worked less than they would have preferred over the past 24 months
  - Are likely to have participated in skills development during their career
  - Have completed an average of eight safety training programs

- Have access to computers and the Internet
- Are willing to train using computers and the Internet
- Have some measured interest in working in ICI even after retirement
- Want to remain in Nova Scotia to work and do not plan to move for work
- 39% identified themselves as Apprentices
- 46% are Journeymen
- 7% are Foremen

### **Business Manager Highlights**

- Are younger workers willing to take over from the older workers who are approaching retirement? Given that the workforce is aging and approaching retirement, are younger people willing to take over? If there is willingness, then they can be trained within the present system. There is still time to provide replacement workers for the 2011 spike. The question is whether there will be enough people at that time, because it will take time to gain experience and then “take over”.<sup>5</sup>
- As more responsibility is downloaded to the foreman, there will be less and less supervisory capacity. The issue is that the minimal extra pay provided to Foremen will not compensate them for the disproportionate increase in personal liability.
- The ICI worker has changed in recent years and is less willing to travel than previously. Workers want a regular schedule and pace that fits in with their contemporaries’. This is supported in the worker survey—workers would prefer to remain home and work more stable jobs.<sup>6</sup>
- Business manager’s impressions of development opportunities in Nova Scotia are mixed. Optimism is high (given the development outlook over the next several years), particularly in the Halifax Regional Municipality (HRM). Other business managers commented that the lack of available work will continue to affect the province’s ability to attract and retain young ICI workers.

### **Recommendations**

The following recommendations emerge from this study:

- Target the high schools and youth—university is not for everyone. Trade school options have to be interesting; there should be financial and career incentives.
- Promote ICI as a career choice open to all young people and encourage targeted recruitment efforts by major contractors to offset long-standing beliefs that ICI construction work will not *really* be available to minority people.
- Help open opportunities to the minority market; advocate for scholarship programs and (government) contributions to training and salaries.

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<sup>5</sup> This comment seems to contradict the national Construction Sector Council’s projection that overall demand will decline after 2010 (based on investment projections). The comment seems to address niche demands, specifically demand for Foremen and Supervisors, which is not reflected in the national CSC data. This comment rings true when we take into account demographics and the barriers to moving into Foremen roles.

<sup>6</sup> This conclusion is based on surveys filled out by workers who are still here. We did not capture a sufficient number of responses from those who are more mobile or who have moved for good to draw accurate conclusions.

- Adopt pre-trades programs, Junior Apprenticeship and job shadowing for young people who have not made their career decisions.
- Advocate for increased resources in the schools to teach trades and then get young people out to gain exposure and experience.
- Provide/promote more possibilities for the unions/employers to do some (more) of the training.
- Develop and provide new approaches to address liability issues that seem to be inhibiting individuals from participating in the ICI industry as Foremen and Supervisors.
- Continue to develop partnerships with like-minded stakeholders who expressed interest in the work of the NSCSC–ICI. Build momentum around such partnerships and added value to industry-specific research and initiatives.
- Increase NSCSC–ICI's profile through dialogue with the media and government and develop a strategy to present the opportunities of the local sector.
- Implement a program to support career awareness through mentorship with specific individuals who can act as role models for underrepresented groups (e.g., align industry development work with the work of Techsploration).



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## 1 BACKGROUND

The NSCSC–ICI's mandate is to communicate and consult with founding member organizations to identify areas of concern related to human resource planning and skills development within the sector.

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- Construction Management Bureau; and
- Mainland Nova Scotia Building & Construction Trades Council.

Working in partnership with member organizations, NSCSC–ICI directors and staff provide human resource and labour market information to industry partners including Service Canada, Province of Nova Scotia departments and agencies, the national Construction Sector Council, public and private training institutions, associations, organizations, groups, and individual Nova Scotians.

The NSCSC–ICI's objective is:

...to contribute research and labour market information that will:

- Identify imminent and future skills required by sector employees;
- Identify current worker skills and qualifications;
- Identify the demand for additional skills development;
- Identify current and future essential skills and new technology; and
- Promote this industry as a professional career choice.”

The information supports short-, medium- and long-term improvements and solutions, focusing on the sector's human resource capacity.

The NSCSC–ICI's goal is “To complement the work of labour and management organizations, government departments and other industry associations and organizations and work to ensure industry and government investment is managed to benefit the sector.”

In fulfillment of their mandate, the NSCSC–ICI issued a request for proposal (RFP) to conduct a Labour Market Assessment (LMA) of the Industrial-Commercial-Institutional (ICI) construction industry.

### 1.1 PRIMARY AND SECONDARY RESEARCH OBJECTIVES

The primary objectives of this research project (from the RFP) include:

- Create a demographic profile of the ICI construction labour force in Nova Scotia including:
  - Identification of companies in the ICI sector
  - Determination of skill sets and qualifications
  - Active tradespersons
  - Active and non-completed Apprentices
  - Qualifications required by construction trades in the ICI sector
  - Trades with Red Seal tickets

- Individuals entering the industry through academic programs, immigration, other sectors, etc.
- Numbers of individuals leaving the industry to retire, out-migrate, enter another sector, disability, etc.
- Distinguish between the industrial and commercial skill set requirements referencing approximately 15 to 20 major occupations, trades, professions, management and support persons.

Secondary study objectives (from the RFP) required us to:

- Assess and analyze inter- and intra-provincial mobility structures for the industry;
- Identify specific issues impacting “hiring” within the industry;
- Assess the gaps in labour market supply and demand. Assess national and regional trends that will impact the Nova Scotia construction labour force, including perceptions of supply and demand imbalances and workforce sustainability in Atlantic Canada; and
- Gather perspectives from organizations such as Black Business Initiatives; Aboriginal Alliance of Companies; and Women in Trades and Technology to identify problem areas and barriers. Talk to past and future project employers and employees (Stora, Sable, etc.) to identify problems and solutions that will benefit future projects.

The direction regarding the final report was to document “market findings and recommendations for the ICI Construction Industry of Nova Scotia to consider in response to the findings of this assessment.”

As directed, the study focused primarily on “a direct consultative process (surveys and interviews) with labour supply stakeholders (including union and non-union representatives)”. Secondary “off-the-shelf” documents were reviewed only to the extent that they supported the development of survey tools and added to our understanding of the demographic and other challenges facing the sector.

## 1.2 APPROACH AND METHODOLOGY

The study’s methodology, developed in consultation with the LMA Project Steering Committee, followed multiple lines of evidence. With Committee direction, our methodology (described below) aimed at achieving quality results rather than pursuing a work plan that was purely results-focused, meaning quality was more important than quantity.

Our approach and methodology paid close attention to the indicators and study areas highlighted in the terms of reference. However, because the work plan was developed in consultation with the Committee and Project Manager throughout, it also provided latitude for the consulting team to follow useful lines of inquiry that emerged during the assignment.

The work steps within our methodology included the following:

- **Orientation meeting**—An initial orientation meeting to define the research objectives and frame the initial project scope and approach that would deliver the research goals. This meeting emphasised process.
- **Follow-up meeting and presentation of research methodology**—A document was submitted to the committee outlining the primary research steps.

- **Development of road map**—The NSCSC–ICI provided the research team with a “road map” of the industry. This document provided contact information for a variety of industry stakeholders and was used by the research team for broad-level communications regarding the study as well as for conducting interviews.
- **Stakeholder identification**—Stakeholders were noted in the RFP and expanded in discussion with the committee. Important stakeholders and industry associations were identified as:
  - Industry employers
  - Industry workers
  - Labour locals
  - Merit contractors
  - Mainland Nova Scotia Building & Construction Trades Council
  - Cape Breton Island Building & Construction Trades Council
  - Construction Management Bureau (CMB)
  - Construction Association of Nova Scotia (CANS)
  - Service Canada
  - Nova Scotia Department of Education
  - The Black Business Initiative
  - Techsploration
  - Nova Scotia Business Inc.
  - Metropolitan Immigration Settlement Association
- **Secondary data sources**—We identified a variety of secondary sources throughout the process and referenced them as necessary. Since the focus of the consulting effort was primary research, use of existing data was secondary and limited to development of the survey tools.
- **LMA objectives matrix**—In order to focus the research effort, we developed a matrix of study objectives and stakeholders. This was designed to match stakeholder groups with specific RFP study objectives so as to target the research toward the stakeholders who could best respond to questions related to those objectives. The matrix was presented to Steering Committee members, who were asked to match stakeholders with research objectives based on which stakeholders could provide the needed information. This matrix helped identify multiple stakeholders needed to address a variety of study objectives. As a result, we determined that multiple interviews and survey formats would be necessary.

The methodology and work plan were supported by data collection via:

- Personal/group interviews
- Presentations to stakeholders
- On-line and manual surveys for each of the following:
  - **Worker Survey**—Designed to capture perspectives of individual workers.
  - **Business Manager Survey**—Provided to capture broad-level statistics about the worker population as well individual business managers’ perspectives on the labour force.
  - **Employer Survey**—Similar to the design of the Business Manager Survey.

- Case studies analysis
- Multiple committee meetings

Regular reporting occurred during weekly progress meetings with the NSCSC–ICI's Project Manager, summary reports, e-mails, and Steering Committee review meetings at the end of each phase.

### 1.2.1 Study Work Steps

A brief summary of the study work steps is provided below.

- Survey development—Draft questions, review, pre-test, and refinement
- Survey deployment:
  - Hardcopy circulation—Copies left with employers and unions for return mail or pickup
  - Online surveys—Electronic copies of all surveys posted on-line with a URL link to the NSCSC–ICI's home page
  - Follow-up phone calls
  - Site visits—Visits to active construction sites, where surveys were handed out to workers following a brief explanation of the study and our project objectives. Site visits included:
    - South Street (apartment)
    - Citadel High School
    - The Isaac Walton Killiam Hospital
    - St. Mary's University new Science Building site
    - Dartmouth Crossing
    - Wal-Mart site in Bedford, Rocky Lake Development
    - Charlotte Street
  - Union participation, which included in-person interviews, surveys of business managers, and access to membership for the purpose of surveying workers
  - Employer site visits
  - Employer participation through the online surveys and access to employees for the purposes of surveying industry workers
- Additionally, phone calls were made to employers and union managers. We visited union offices in Sydney, and we visited several jobs sites (multiple times) for the purpose of both conducting interviews and delivering surveys.
- Apprenticeship Training and Skill Development Division of the Department of Education, who circulated the Worker Survey to registered Apprentices in selected ICI trades related training program.

### 1.2.2 Research Challenges

This study occurs at a time of considerable discussion about construction-related employment options in other parts of Canada; the aging workforce locally and across Canada; and the sense that Atlantic Canada is on the verge of a construction boom as a result of several large-scale projects. Career opportunities in Alberta were a frequent topic of media coverage throughout the study. It is not clear whether broad discussions about employment options in other provinces helped or hindered our study progress.

Challenges that were noted, however, include:

- **Time of Year**—The study and survey process began at a time of year when the industry was becoming increasingly active in the sector.
- **Confidentiality**—Some stakeholders believed that the nature of the questions, and the depth of information needed to address the RFP points, was excessive. Consequently, we restructured the survey to address these concerns.
- **Participation** — Not all organizations that indicated interest to participate have done so. Other participants cited workload and other priorities that required their attention.

More succinctly, the most significant challenge to the study involved simply getting participants to fill out the survey. To meet this challenge, we implemented an outreach strategy.

### 1.3 OUTREACH STRATEGY, JULY–FEBRUARY 2007

The outreach effort included a number of mass communications:

- The NSCSC-ICI sent letters and e-mails to industry stakeholders (road map contact list).
- E-mails were sent from TMML to sector stakeholders (road map contact list).
- A media release was issued during the week of July 6, 2006. This was sent to the provincial media list and was picked up by the *Cape Breton Post* via an interview with Tom McGuire.
- Immediately following this, additional e-mails and telephone calls with industry stakeholders were made throughout July–September. This stage also involved multiple construction site visits, as noted above.
- Multiple meetings with employers throughout July–September; direct contact was made with over 200 employers and all union representatives in both Mainland Nova Scotia and Cape Breton.
- Meetings were held with Women in Trades, the Black Business Initiative and the Metropolitan Immigrant Settlement Association to gather their perspectives on opportunities in ICI construction.
- A follow-up media release to the provincial media list resulted in a *Halifax Chronicle Herald* article underscoring the importance of industry participation in the survey.
- The Apprenticeship Training and Skill Development Division of the Department of Education circulated the Worker Survey to more than 2,500 registered Apprentices in selected ICI trades related training program during February 2007.

### 1.4 SURVEY RESULTS

In total, our team has placed over 500 phone calls and spoken directly with more than 300 employers, all trade union representatives and 15 stakeholders. We have also distributed more than 6,000 copies of the worker survey (mail-out and hard copy).<sup>7</sup>

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<sup>7</sup> This included 2,500 survey circulated by the Department of Education (DOE) to registered apprentices in selected trades within the ICI sector. Combined, we received 693 completed surveys – 26% from DOE registered apprentices and 74% from industry contacts made through the combination of site visits and contact through employers and unions.

In total, we have industry participation in this study through:

- 21 completed employer surveys
- 12 completed business manager surveys
- 693 completed worker surveys
- 15 completed stakeholder interviews

This final report presents the findings from this industry consultation effort.

## 1.5 REPORT ORGANIZATION

The balance of this report is organized as follows:

- **Section 2** provides a brief profile of the sector to set the context for the survey
- **Section 3** presents Study Findings, including summaries of interviews and survey responses
- **Section 4** provides a summary and recommendations
- **Appendix A** lists the interview participants
- **Appendix B** provides a bibliography

A separate Statistical Appendix (available through the NSCSC-ICI) includes the following:

- **Appendix C** details the Worker Survey Responses
- **Appendix D** details the Union Manager Survey Responses
- **Appendix E** details the Employer Survey Responses

## 2 SECTOR PROFILE

Throughout the past several years, the construction industry in Nova Scotia has enjoyed a resurgence of activity relative to the mid 1980s and 1990s. With some exceptions across Nova Scotia, the broader Nova Scotia ICI construction sector has benefited from significant growth in multi-unit housing, a variety of large scale commercial developments, institutional construction and industrial construction activity. Following a pre-1997 low, ICI spending activity rose throughout the late 1990s into early 2001. Since that time, the ICI sector has been relatively stable. Collectively, the construction sector in Nova Scotia (including residential and commercial) comprises nearly 5.7% of the province's GDP—\$3.7 billion.<sup>8</sup>

According to studies from the national Construction Sector Council, both the residential and non-residential sectors are projected to see only moderate growth between 2005 and 2008, with conditions improving after 2009.

Optimism among study participants reflects a belief that the next three to four years will see significant ICI project work throughout Atlantic Canada.

Among the list of major active projects listed for Nova Scotia for 2006 include:<sup>9</sup>

- Several schools
- Hotels
- Residential developments
- Wind turbines
- Bridges
- Highway improvements
- Continuation of the Halifax Harbour Solutions project
- Several commercial/retail developments, including:
  - \$300 million Bedford Commons
  - \$270 million Dartmouth Crossing
  - \$230 million technical support centre being construction in Bedford by Research in Motion
  - \$128 million in expansions at two Michelin Tire plants (Cambridge and Bridgewater)
- Two potential liquefied natural gas (LNG) sites in Nova Scotia

Across the Atlantic Region there is the potential for several other large industrial projects, such as the Irving Refinery. However, the potential \$500 million or more in major construction related to the 2014 Commonwealth Games appears to have disappeared as of March 2007, with the withdrawal of Provincial and Municipal (HRM) support for the bid process.

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<sup>8</sup> The 2006 Nova Scotia Statistical Review notes that "Capital expenditures on construction represent a process of human endeavour resulting in the erection, assembly, completion of freestanding, static buildings or other types of structures (excluding purchase price of land), including outlays for land servicing and site preparation. It also includes modifications, additions and major renovations, conversions and alterations to structures.", page 201

<sup>9</sup> The 2006 Nova Scotia Statistical Review, page 202.

From the 2006 Nova Scotia Statistical Review.<sup>10</sup>

- 2006 intentions show construction expenditures increasing 12.9% to \$4.2 billion.
- During 2005, in Nova Scotia 27,700 were people employed in construction. While this figure represented a 1.8% decrease over 2004, the employment level was 12.6% per cent above the 2001 level.
- Wages and salaries in the province's construction sector reached \$939.8 million in 2005, up 3.6% over 2004.
- Average weekly wages in the construction sector were \$725.46 in 2005,
- The value of building permits in the industrial and commercial sectors grew 44.1% and 5.9%, respectively, while the institutional and government sector declined 0.6%.
- Metro Halifax accounted for 49.2% of the province's value of building permits in 2005.
- Of Metro Halifax's \$584.5 million in building permits in 2005, 66.9% were residential, 24.2% commercial, 4.4% per cent industrial and 4.4% institutional or government related.

### 2.1.1 National and Regional Labour Market Trends

In its recent report *Construction Looking Forward*,<sup>11</sup> the national Construction Sector Council:

“found that a new reality of fewer workers and more work is sweeping the country, threatening to limit economic growth and affect all business cycles, provinces and industries. In Atlantic Canada, with an older population, the need to replace skilled and experienced tradespeople is more immediate [as many tradespeople are closer to retirement].”

The implications of these findings include:

- Changing perceptions and expectations of both employers and workers, as what was earlier considered a “tight” labour market will now be regarded as normal. Workers will face less unemployment and employers will have to search harder for workers and find new human resource policies to fit the circumstances.
- Possible project delays, safety, productivity, quality, and added costs as possible concerns.
- A change in the region's traditional role as a source of skilled workers to the rest of Canada, as skilled workers will be returning home to meet receptive employers [although others commenting in this study process are mixed as to whether this will actually occur].

In Nova Scotia, worker retirement is a challenge for some trades. From 2006 to 2014, there will be a need to replace an estimated 23% of the construction workforce (5,052 workers) to maintain the 2004 labour force levels in NS.<sup>12</sup> But no large-scale movement of existing workers from other sectors into the NS construction sector is expected. These

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<sup>10</sup> The 2006 Nova Scotia Statistical Review, Nova Scotia Department of Finance, Downloaded March 27<sup>th</sup>, 2007, page 202

<sup>11</sup> <http://www.csc-ca.org/pdf/ConstructionLF-Atlantic.pdf>

<sup>12</sup> Our findings suggest that as many as 43% of those surveyed intend to retire over the next ten years (Question 38 in the Worker Survey).

conditions translate into significant training requirements for new entrants and many of the existing construction tradespeople.

From the same report:

”the construction labour market forecast period for NS is divided into two intervals—2005 to 2009 and 2010 to 2014. During the first interval, a very large increase in jobs is concentrated in the industrial and engineering sectors, due to planned projects in ICI construction. Industrial construction is specialized work with the following trades:

- Welders
- Trades helpers and labourers
- Steam, pipe and gasfitters
- Insulators
- Crane operators
- Construction millwrights
- Boilermakers

There is a related increase in engineering construction that impacts many of the above trades, as well as:

- Heavy equipment operators
- Heavy equipment mechanics
- Truck drivers

Another group of trades shares in this activity, but is also involved in the other construction sectors. This group sees moderate increases in employment, with most gains likely related to non-residential projects:

- Concrete finishers
- Construction managers
- Contractors and Supervisors
- Electricians
- Plumbers
- Refrigeration and air conditioning mechanics
- Sheet metal workers

At the start of the second interval in 2010, the industrial projects end, and all sectors begin a period of slow decline. Job losses for the industrial and engineering trades are higher. While the decline in housing starts is significant, renovation activity and commercial and institutional building offer support for many of the last group noted.

In addition, The ICI sector has undergone a number of significant changes in the past 15 or so years with respect to the need for ICI workers to acquire skills in increasingly technical areas. The so called “tools of the trade” have become increasingly complex, as have the requirements that workers gain knowledge of health and safety practices, a deeper understanding of other trades within their working environment and an awareness of and skill with increasingly complex workplace technology.

**Table 1** below shows the expected labour market demand in construction trades and occupations for 2005 to 2014 associated with expected changes in construction investment.<sup>13</sup> The predicted declines after 2010 are based only on currently expected future construction investments. Note that the table does not take into account declines in labour market supply.

**Table 1 Construction Looking Forward—Expected Employment Changes in NS**

Trades		2005	2006	2007	2008	2009	2010 to 2014
Boilermakers	(#)	141	85	85	-39	-115	-14
	(%)	63	23	19	-7	-23	-4
Bricklayers	(#)	16	0	-9	-3	-4	-11
	(%)	4	0	-2	-1	-1	-3
Carpenters	(#)	158	-28	-154	-31	-14	-132
	(%)	3	-1	-3	-1	0	-3
Concrete Finishers	(#)	15	4	4	0	-9	-10
	(%)	8	2	2	0	-4	-5
Construction Managers	(#)	121	14	9	4	-37	-117
	(%)	8	1	1	0	-2	-8
Construction Millwrights and Industrial Mechanics (except textile)	(#)	37	21	22	-8	-28	-9
	(%)	46	17	16	-5	-19	-7
Contractors and Supervisors	(#)	123	18	5	-31	-89	-165
	(%)	8	1	0	-2	-5	-11
Crane Operators	(#)	18	9	10	-2	-14	-7
	(%)	18	7	8	-2	-10	-6
Electricians (including industrial and power system)	(#)	180	79	59	-41	-127	-27
	(%)	13	6	4	-3	-8	-2
Floor Covering Installers	(#)	2	-7	-18	0	4	-6
	(%)	0	-2	-4	0	1	-1
Glaziers	(#)	0	-1	-3	0	1	-1
	(%)	1	-2	-5	0	1	-2
Heavy Equipment Operators (except crane)	(#)	204	46	89	23	-88	-201
	(%)	15	3	6	1	-5	-13
Heavy-duty Equipment Mechanics	(#)	25	7	12	2	-11	-23
	(%)	19	4	7	1	-6	-14
Insulators	(#)	26	15	15	-7	-23	-2
	(%)	24	11	10	-4	-14	-2
Ironworkers & Structural Metal Fabricators & Fitters	(#)	30	16	17	-6	-24	-8
	(%)	23	10	9	-3	-13	-5
Painters and Decorators	(#)	19	-9	-34	-5	0	-17
	(%)	2	-1	-4	-1	0	-2
Plasterers, Drywall Installers and Finishers, and Lathers	(#)	3	-5	-14	0	0	-4
	(%)	1	-1	-4	0	0	-1
Plumbers	(#)	92	39	26	-21	-67	-25
	(%)	11	4	3	-2	-7	-3
Refrigeration and Air Conditioning Mechanics	(#)	20	11	10	-5	-20	-2
	(%)	11	5	4	-2	-9	-1
Residential and Commercial Installers and Servicers	(#)	27	8	2	-5	-17	-11
	(%)	7	2	0	-1	-4	-3
Roofers and Shinglers	(#)	15	1	-7	-3	-6	-9
	(%)	4	0	-2	-1	-2	-2
Sheet Metal Workers	(#)	20	9	7	-4	-17	-5
	(%)	8	3	3	-1	-6	-2
Steamfitters, Pipefitters and Sprinkler System Installers	(#)	81	45	45	-19	-64	-15
	(%)	30	13	11	-4	-15	-4
Tilers	(#)	1	-2	-5	0	1	-2
	(%)	1	-2	-5	0	1	-2
Trades Helpers and Labourers	(#)	275	74	91	1	-144	-210
	(%)	11	3	3	0	-5	-8
Truck Drivers	(#)	102	23	45	12	-43	-102
	(%)	16	3	6	1	-5	-13
Welders and Related Machine Operators	(#)	66	36	38	-14	-50	-16
	(%)	39	15	14	-4	-17	-7
Total CSC Trades as a Whole	(#)	1,810	512	355	-202	-1,013	-1,160
	(%)	9	2	2	-1	-5	-6

\* This table refers to changes in employment associated only to changes in construction investment.  
Source: Statistics Canada, Analysis: Construction Sector Council.

Source: Construction Sector Council.

<sup>13</sup> From *Construction Looking Forward*, the national CSC, based on Statistics Canada. These estimates for Nova Scotia are sometimes limited by difficulties in allocating workers to occupations, the small size of the workforce and the associated risks in statistical measurement.

### 3 SURVEY FINDINGS: “WHAT WAS SAID”

During the spring of 2006 the research team developed and issued three surveys to address the research objectives. Surveys were prepared for:

- ICI Workers Survey
- Union Managers Survey
- Employers/managers of construction companies

The surveys were issued beginning in late June and early July, and were available through the continuation of the survey deployment (methods of circulation discussed earlier in Section 1).

This section provides an overview of “what was said” through the three surveys.<sup>14</sup>

In total, 693 industry workers had completed the Worker Survey between July 1, 2006 and **March 27, 2007**. Based on a reported labour force population of 27,700 construction workers in Nova Scotia (this overstates the ICI because it includes ICI trades as well as non-residential, and residential construction), the **693** responses provide accuracy +/- 3.69% at the 95% confidence level (19 times out of 20).<sup>15</sup>

#### 3.1 WORKER SURVEY FINDINGS

The summary of the Worker Survey is detailed in the following sections:<sup>16</sup>

- Demographic profile
- Worker availability
- Unemployment
- Experience, education, and certifications
- Use of information technology for information management
- Career plans
- Worker mobility
- Perspective on becoming a tradesperson
- Follow-up research

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<sup>14</sup> A “bulleted summary” of findings was developed as part of this report. The Workers Survey Findings are sufficiently voluminous and have been issued as a standalone document which is available through the NSCSC-ICI. The presentation of results in that document (Statistical Appendix) are organized with the following information:

- The wording from each question as it appeared in the survey,
- An accompanying graphical interpretation which provides a visual representation of the results where appropriate (closed ended questions), and
- A narrative discussion of the findings for each given question.

Where open-ended comments were received, these are group into like-minded categories.

The resulting raw data has been provided to the NSCSC-ICI in MS-Excel. ID numbers are used to preserve the confidentiality of the individual respondents who agreed to participate in this survey.

<sup>15</sup> Labour force estimates as of October 2006, as reported in Nova Scotia Labour Market Monthly, October 2006, Economics & Statistics Division, Nova Scotia Department of Finance

<sup>16</sup> A copy of the actual survey may be obtained through the offices of the NSCSC-ICI.

A brief analysis follows, with detailed summary charts provided in Statistical Appendix C (available through the NSCSC-ICI).

### 3.1.1 Demographic Profile<sup>17</sup>

- Of the 693 survey participants, 643 provided information on their age. Based on this, the average age of the survey participants was 39 years.<sup>18</sup>
- Ninety-eight (98.1%) of survey participants were male, with 1.9% indicating they were female (12/620 who answered this question).
- The largest share of surveys (33%) was submitted by individuals living in the HRM. The next largest share of respondents (28%) was from Cape Breton County, followed Lunenburg (4.1%), and West Hants and East Hants (4% each). The large proportion of the sample from HRM relates to the location of most current ICI work (location of capital expenditures - (according to the NS Department of Finance, Metro Halifax accounted for 49.2 per cent of the Province's value of building permits in 2005). Redistribution of work in the province could change significantly with the start-up of one of several large-scale projects now being contemplated/planned.

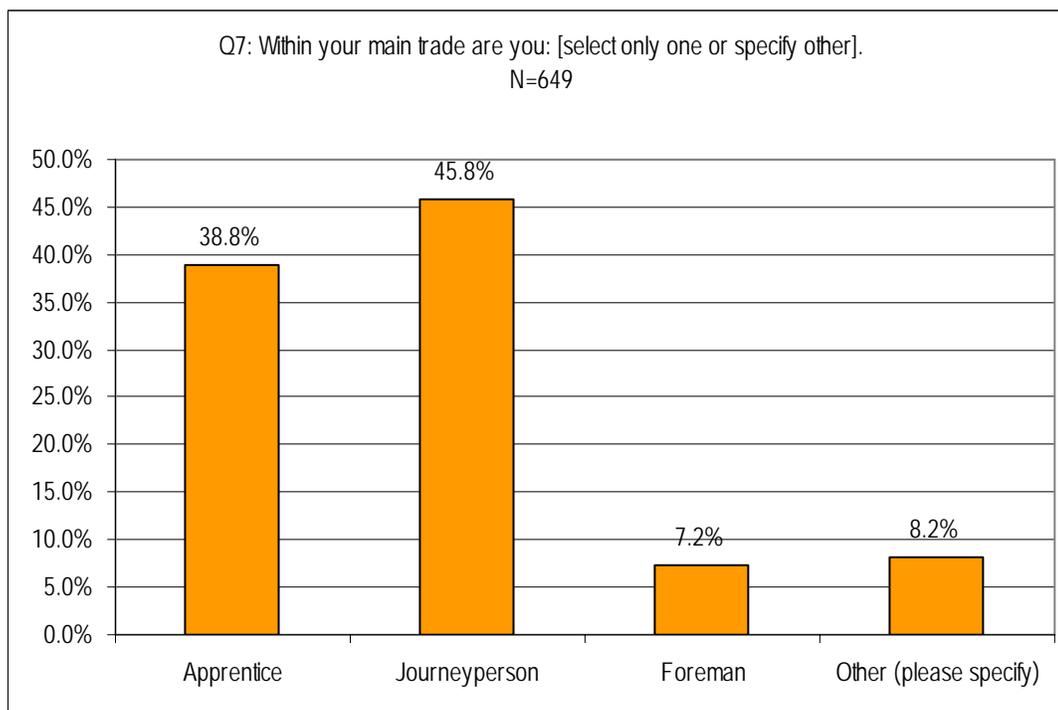


Figure 1 Worker's Status as a Journeymen or Apprentice

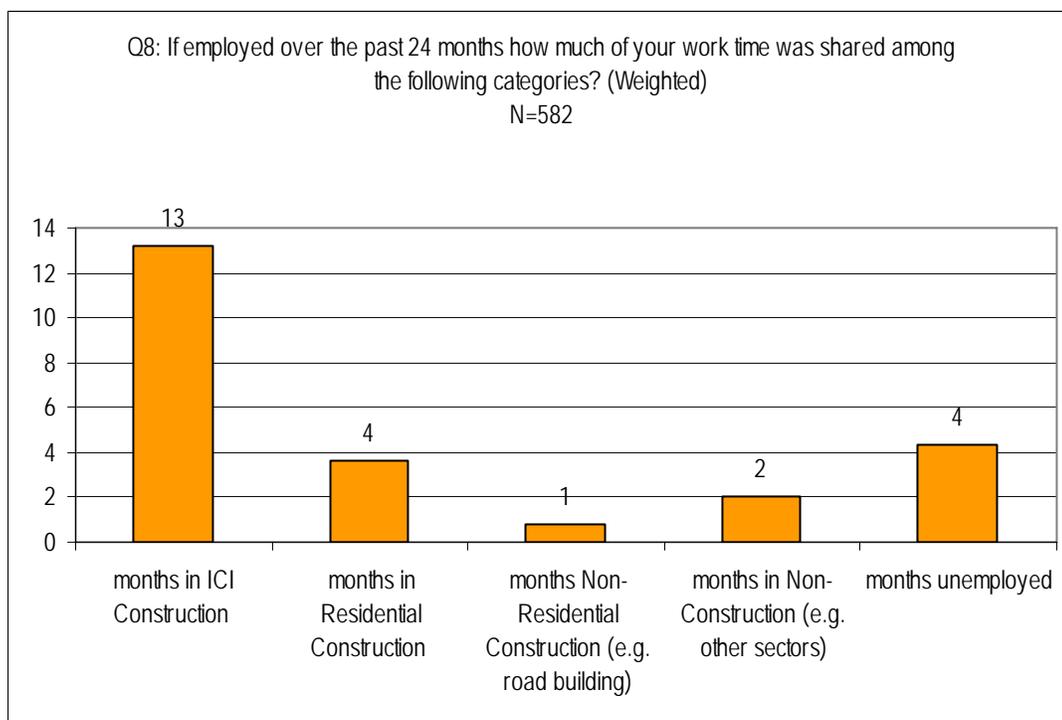
<sup>17</sup> Note that all not all questions were answered by all survey participants.

<sup>18</sup> Among the survey participants registered with the Department of Education as apprentices, the average age was 31.2 years (maximum age is 61 years, minimum age is 18 years, and most often occurring age is 28 years). Among industry participants surveyed through unions, job sites, and employers (not accessed through DOE), the average age is 42 years (maximum age is 73 years, minimum age is 18 years, and most often occurring age is 44 years). Collectively, the average age of the entire sample is 39 years.

- Of survey participants, 39% identified themselves as Apprentices. Combining 46% who are Journeymen with those who reported themselves as Foremen (7%) places 53% of the sample at “Journeyman” status. “Other” was selected by 8.2% of the survey participants, who provided 53 open comments reflecting status as a combined “Foreman and Supervisor”, combined “Journeyman, Foreman, Teacher”, “Site Supervisor” or “Technologist” for example (See **Figure 1**).

### 3.1.2 Worker Availability

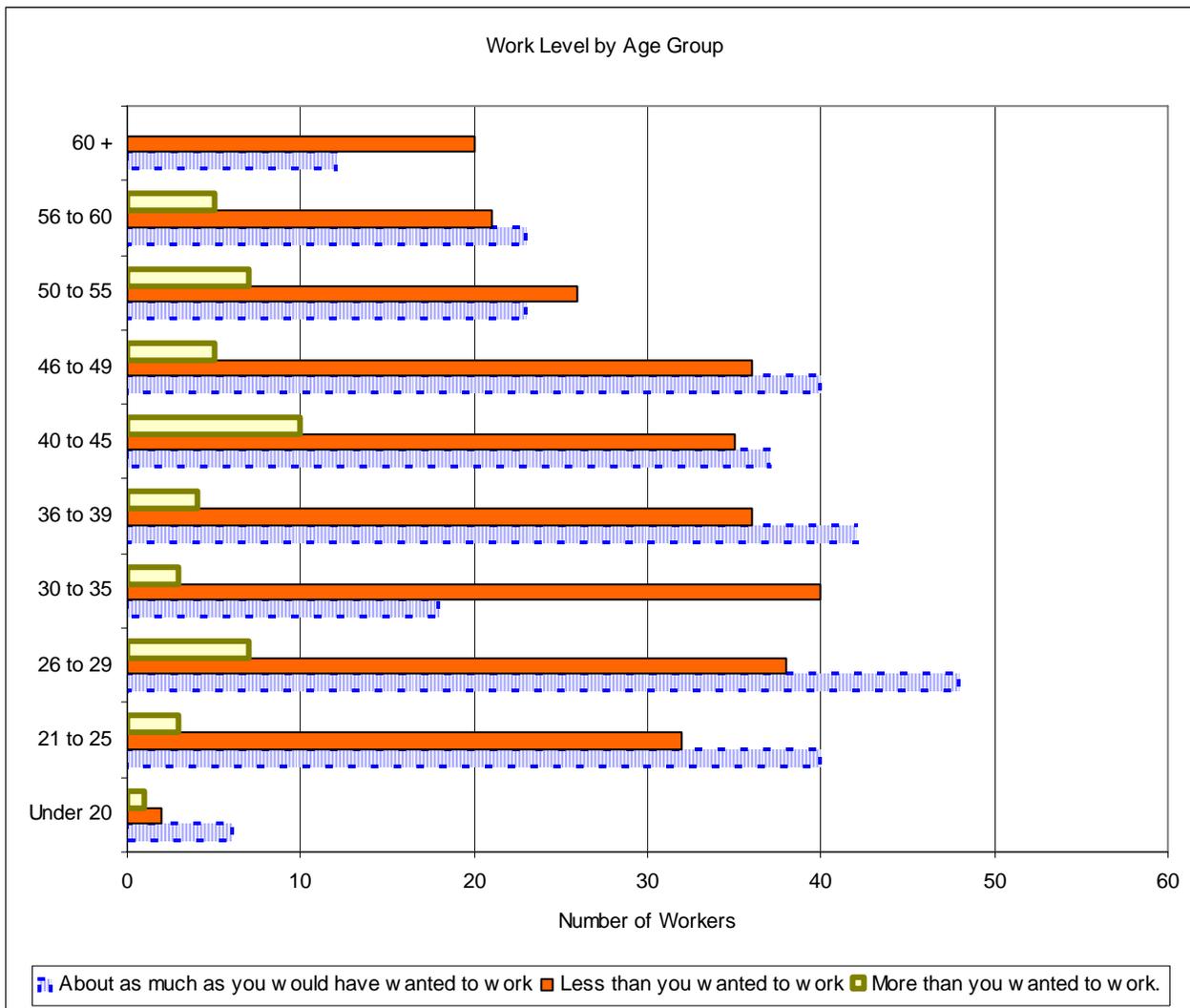
- On average, workers reported that over the past 24 months, they were (See **Figure 2**):
  - Employed in ICI work for 13 months,
  - Worked ‘residential construction’ for 4 months,
  - Worked ‘non-residential construction’ for one month,
  - Worked ‘other sectors’ for two month, and
  - Had an average of 4 months of ‘unemployment.’



**Figure 2 Workplace experiences over the past 2 years**

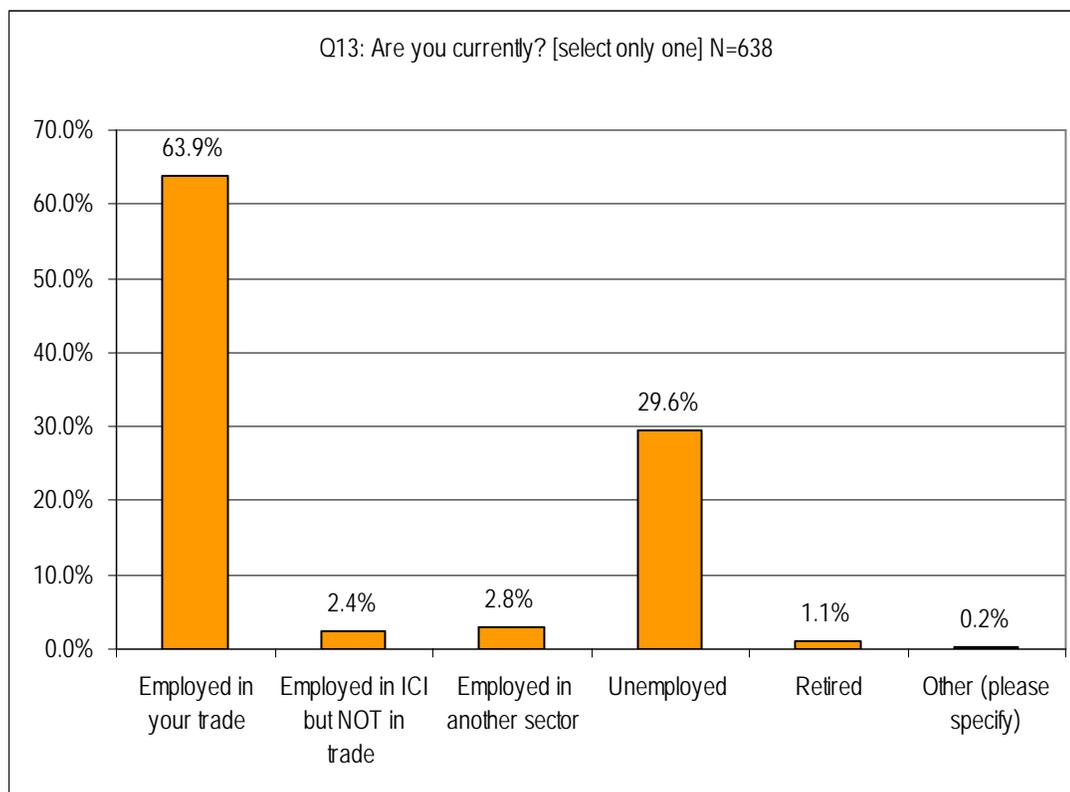
- Less than half (46%) of respondents reported that they worked “about as much as they wanted to” over the past 24 months, 47% indicated they worked less than they would have preferred. **Even with the 7% who worked more than their ideal, the 47% “working less” is indicative of some “slack” in the labour supply. This has implications for any claim that there is an absolute labour shortage.**
- Regionally, workers in Halifax were more likely to work “about as much as than they wanted” while workers in Cape Breton were more likely to work “less than they wanted to”.

- Based on the sample, those aged 21 to 25 are more likely to work “as much as they wanted” than “less than they wanted” (Similarly for those aged 26 to 29 who appear more likely to have worked “about as much as they wanted” than “less than they wanted”). The next age group (30 to 35) was more likely to have worked “less than they wanted.” The 35 to 49 year olds were more likely to have worked “as much as they wanted” and those over 50 years had a relatively even chance of working “less than” or “as much as they wanted” and those over 60 years tended to work less than they wanted. This is shown in **Figure 3**.



**Figure 3 Level of Work Activity by Age**

- Two thirds (69.6%) of the survey participants felt their main reason for working less was “the lack of enough work”.
- A very small share of the sample identified themselves as having a disability (5.2%). Most of these respondents (85.2%) said that their disability did not limit them in their trade, while only 14.8% indicated that their disability did limit their working in their trade.



**Figure 4 Current Worker Status**

- As shown in **Figure 4** survey participants were either:
  - Employed in their trade—63.9%,
  - Unemployed at the time of the survey—29.6%.
  - Employed in another sector—2.8%
  - Employed in ICI but not their trade—2.4%
  - Retired—1.1%
  - Other—0.2%

That nearly 64% of those surveyed were working in their trade or in the ICI sector is not surprising, given the methods followed to deliver the survey to workers (i.e., job site visits and reaching workers through employers and unions, as well as a large mail-out to apprenticeship program participants). Viewed in the context of earlier questions (8 and 9 where workers reported whether they did or did not work all that they wanted) the 64% employment rate **suggests strongly that some slack exists within the construction labour force.**<sup>19</sup>

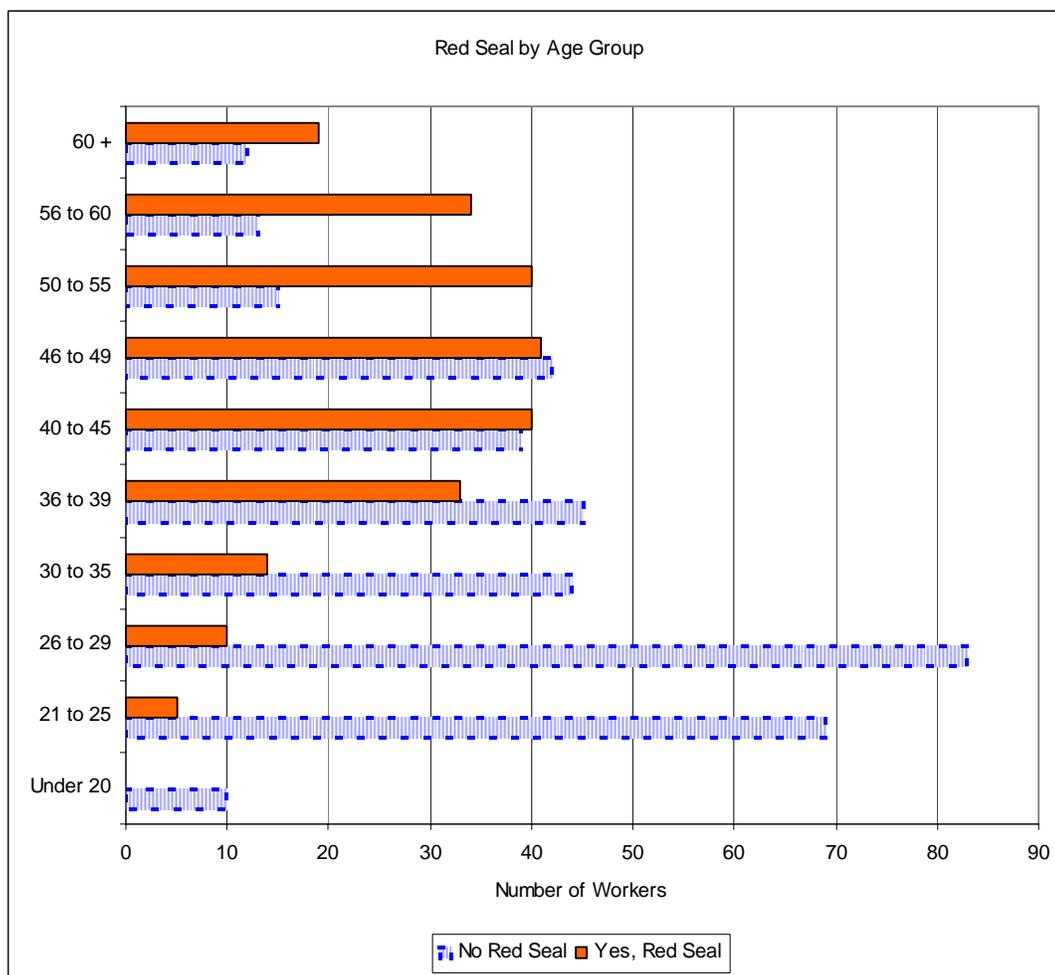
<sup>19</sup> It should also be noted that 26% of the sample came from registered apprentices within the Department of Education and that, of the entire sample, 38.8% of the respondents identified themselves as apprentices.

### 3.1.3 Unemployment

- Of workers who were unemployed, 88% reported that they “were able to work in their trade”; 11.4% indicated they could not. Forty-seven (47) individuals offered reasons why they could not work in their trade, ranging from injury to a lack of work.
  
- Of the 187 respondents commenting on their unemployment status:
  - 171—individuals were willing to work (91%)
  - 149—were actively seeking work (80%)
  - 63—were on lay-off and awaiting recall (34%)
  - 119—were awaiting the start of new employment in their trade (64%)
  
- When questioned about training to return to work, 73% (136/186) of ICI workers believed they “did not need additional training” to help them return to work.

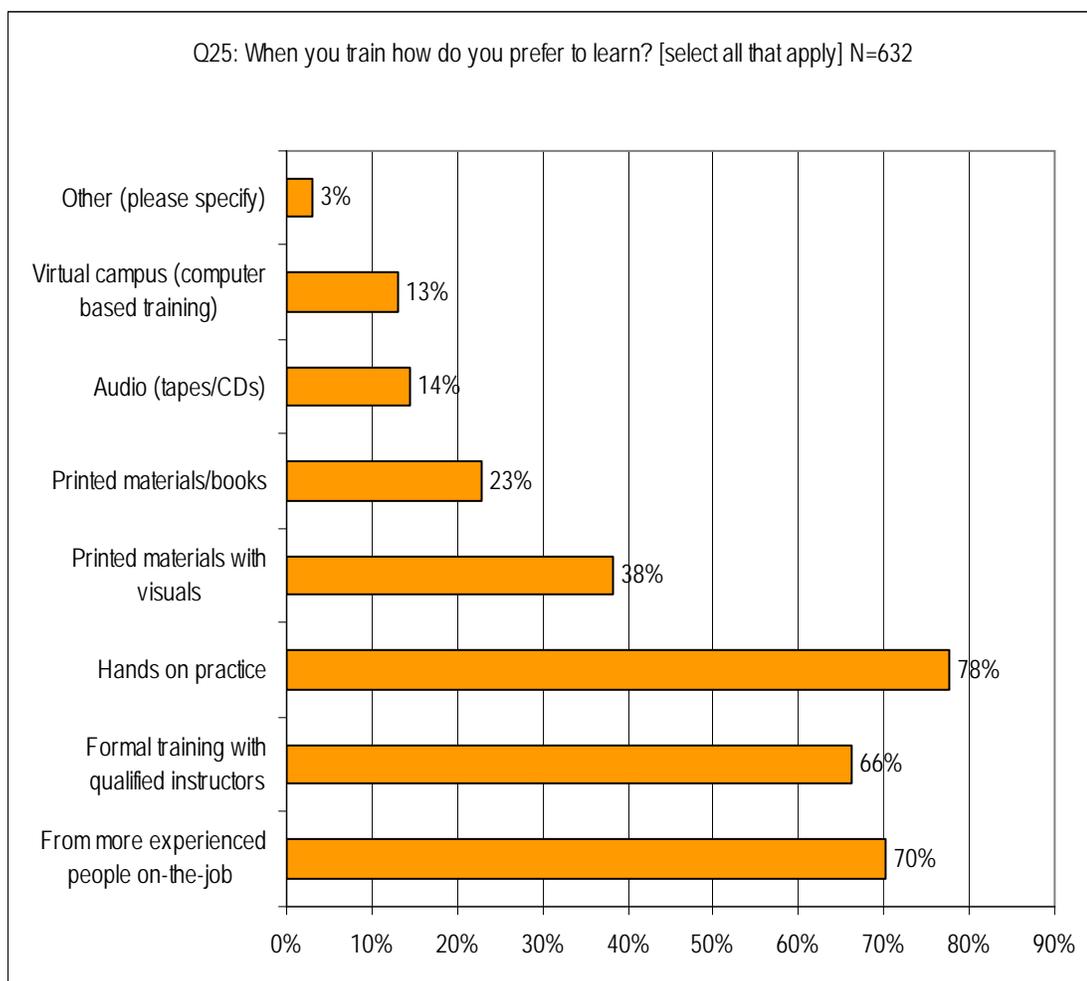
### 3.1.4 Experience, Education and Certifications

- The average survey respondent had 15 years of experience in the ICI construction industry (596 survey participants provided a response to this question).
  
- Educational attainment among survey participants indicated:
  - 57%—indicated they held a trade school or community college diploma.
  - 37%—had their Grade 12 (28% through high school and 9% through a GED Exam)
  - 13%—Grade 9 to Grade 12
  - 8%—Diploma from a Technical College
  - 4%—University Graduate (3%—University Degree and 1%—Graduate Degree)
  - 3%—Less than Grade 9
  - 2%—Other (please specify)



**Figure 5 Red Seal by Age Group**

- Of the survey respondents 40% hold Red seal certificates (See **Figure 5**). Sampled workers in the 40 to 49 age range are as likely to have a Red Seal as not. The older workers sampled (53 to 60) were more likely to have a Red Seal than not, while the younger workers (18 to 38) were less likely to have a Red Seal.
- A small majority of survey participants (53% of 619 respondents) were not currently working toward any certification at the time of the survey. The balance (47%) were working toward some certification, with 294 open comments reflecting red seal training, participation in safety related training, and continuation of apprenticeship related programming.
- Specific training opportunities of interest include: occupational related training (i.e., electricians wanting more training in their field) , Better Supervision©, estimating/costing, etc.
- Since starting work in their trade, the majority of workers (72% of 623 respondents to this question) indicated that they had participated in some form of skills development/training.

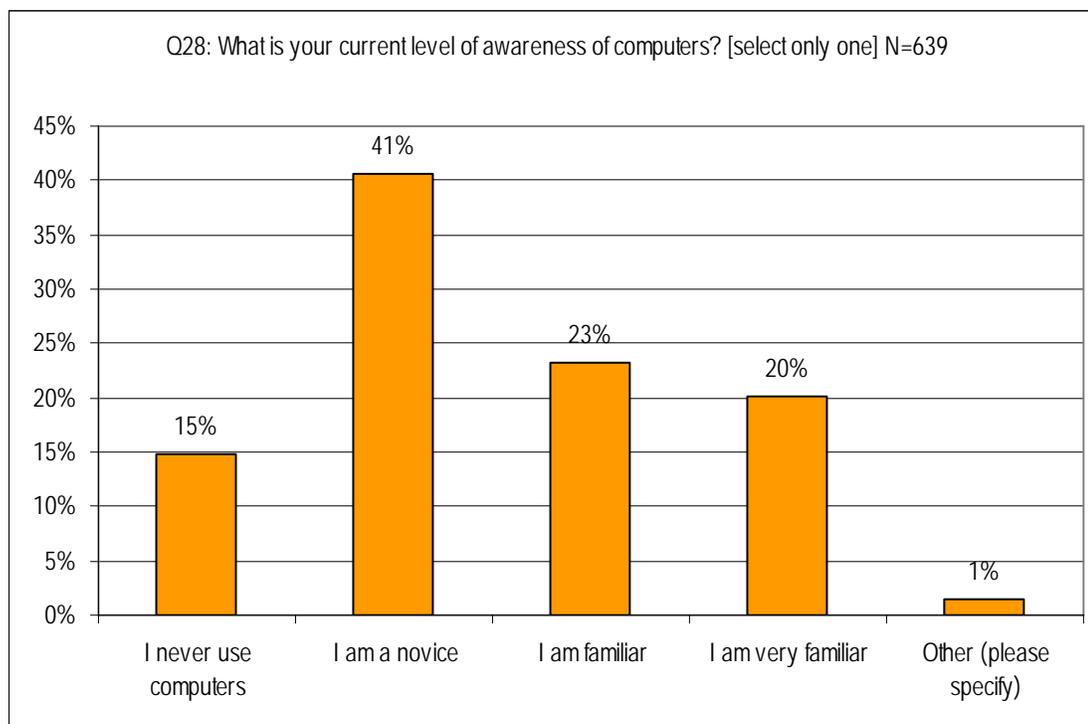


**Figure 6 Training Preferences**

- When ICI workers train, they tend to favour (See **Figure 6**):
  - Hands on practice— 78%
  - From more experienced people on-the-job—70%
  - Formal training with qualified instructors—66%
  - Printed materials with visuals (diagrams)—38%
  - Printed materials: mostly text-based books (manuals)—23%
  - Audio (tapes/CDs)—14%
  - Virtual campus (computer based training)—13%
  - Other—3%
- When identifying areas of experience, most ICI workers reported that they could:
  - Read blueprints—81%
  - Order materials and supplied—72%
  - Coordinate and schedule—59%
  - Train or instruct other workers—53%
  - Operate a forklift—53%

- Estimate projects (Estimating)—41%
- Recruiting workers—28%
- Preparing reports—33%
- Preparing bids—18%
- Workers surveyed held a variety of occupational health certifications, with WHIMIS cited most often (90%), followed by fall arrest (78%) and first aid (75%), On average, workers held **eight** (8) safety related training certificates.

### 3.1.5 Use of Information Technology for Information Management



**Figure 7 Level of Awareness of Computers**

- **Figure 7** shows that 43% of respondents reported some level of higher IT familiarity (23% described themselves as “familiar” and 20% as “very familiar”), while 41% described themselves as “a novice” and 15% said they never use computers.<sup>20</sup> Cross tabulations show that younger workers were more likely to report familiarity with computer than older workers.
- A large majority of respondents (83%) use cell phones; while the next largest group (37%) use desktop computers. On average, respondents used more than one type of digital electronic IT equipment (1.7 categories) — several respondents selected multiple categories.

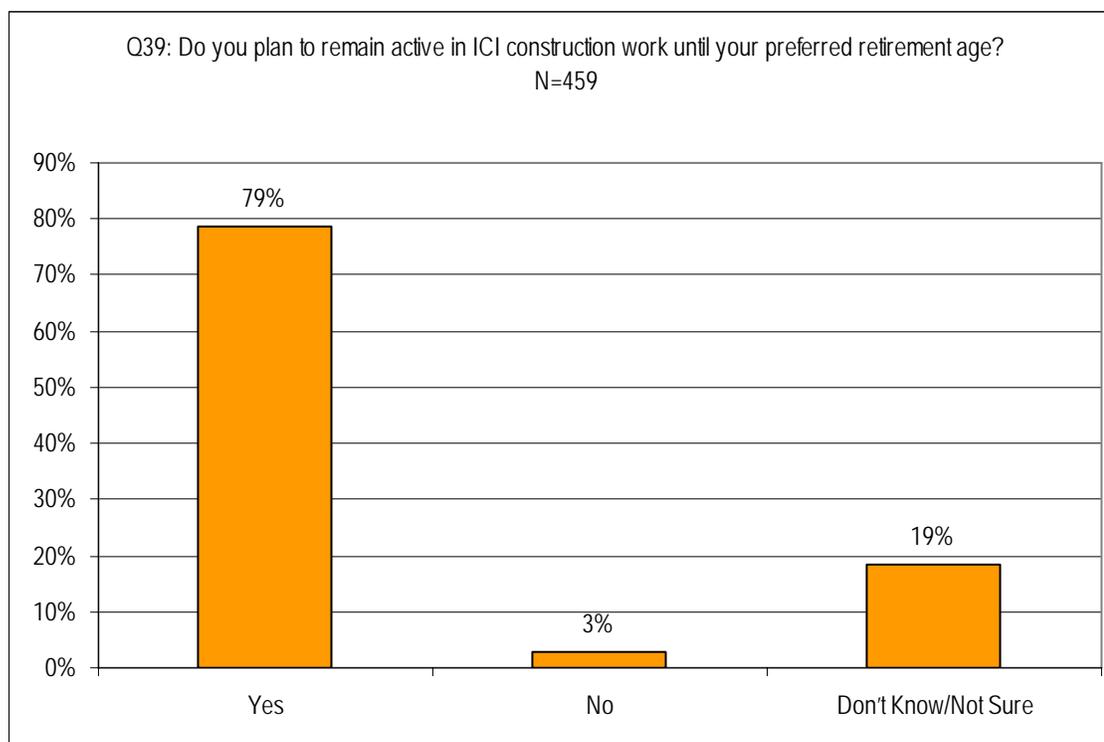
<sup>20</sup> In further research on IT needs within the ICI sector, it would be useful to correlate this result with age and trade, as interview respondents postulated that greater IT skills would be found among specialty trades and/or younger workers.

- Most respondents (79%) have home Internet access. Only 13% have no Internet access, 17% have Internet access through work, 15% through a friend or neighbour, and fewer have access through the other means such as a mobile device, public site or fee per use. Access to the internet at work seems to be in its early stages of development, with only 17% reporting availability at work. This may reflect only that “at work” for most respondents is “on site” not in the office or headquarters of their employer.
- Among respondents who use computers and the Internet for work, 237 workers identified 717 activities for which these tools are used. Within this group, uses included:
  - 57%—Research/Information gathering
  - 39%—Education/training
  - 35%—Communicating with coworkers
  - 33%—Travel information/arrangements
  - 29%—Communicating with customers (e.g. E-mailing)
  - 26%—Report writing
  - 24%—Communicating with suppliers
  - 23%—Buying product (e.g. on-line purchases)
  - 9%—Project management
  - 8%—Computer-assisted design
  - 8%—Business administration (e.g. Business banking)
- More than half (57%) of the 631 respondents expect that use of digital electronic technology will increase, while 29% believe it will remain the same and 14% are unsure of the direction digital electronics usage will take in their jobs.
- Most respondents (72%) have not participated in training delivered through computers or telecommunications. The high proportion that has not participated in e-learning is not surprising, given the structure of the skills development in the industry, which is ‘largely hands on’, on-the-job, or classroom-based.
- **A large majority (79%) were willing to use computers and e-learning to get the training they want.**
- **A strong majority (74%) would want additional training to use computers and telecommunications for e-learning.** This survey result indicates that a broad cross-section, not just the younger members, of the labour force is ready, or willing to get ready, for e-learning.

### 3.1.6 Career Plans

- When asked about career plans:
  - 8%—Plan to retire within 1 to 3 years
  - 6%—Within 4 to 5 years
  - 26%—Within 5 to 10 years
  - 14%—Within 10 to 15 years
  - 32%—In more than 15 years

Comments around retirement reflect a view that workers will retire “when retirement is possible”. Comments reflected financial realities, age, health, etc.



**Figure 8 Plans for Working to Retirement**

- **Figure 8** shows that most workers (79%) plan to remain active in ICI construction work **until their preferred retirement** age, 3% will choose something else, and 19% are not sure if they will remain.
- Of the surveyed ICI workers, 51% are not sure what they will do **at the point of retirement**. Some will work part time in ICI (23%), some say they will completely retire (17%), and others may take positions in non-ICI construction or other sectors.
- **There is some interest in working in the ICI construction sector even after retirement as:**
  - A Manager/Foreman—32%
  - In-class trainer—30%
  - A mentor to new entrants—24%
  - On-the-job trainer—31%
  - Other (please specify)—6%
- Among those planning to retire, 29% will not return to ICI under any circumstances after retirement.
- The main reason for retiring among those who plan to retire is:
  - 49%—Have reached retirement age
  - 21%—Cite the demanding nature of the work as the cause
  - 17%—Say its because the have (expect to have) another employment option
  - 13%—Reference personal/family reason
  - 11%—Provide other reasons, such as health, being tired, or not wanting to work any more

### 3.1.7 Worker Mobility

- Nearly all surveyed workers (99%) are Canadian citizens (based on 636 responses).
- The main place of residence for survey participants is Nova Scotia (99%).
- The majority of ICI work in 2005 took place within a 60-minute drive of the survey participant's home (72%), 9% was within 120 minutes, and 16% was out of province. Most of the 178 open comments about out of province work cited opportunities in Alberta, Ontario, as well as other locations through Atlantic Canada, and a few in the United States.
- Major reasons for **working out of province** included
  - 25%—higher wage rates
  - 24%—Limited opportunity close to my home
  - 14%—More hours of employment
  - 5%—Stability of work
  - 5%—Experience/opportunity
  - 1%—Quality of life
- The most often cited 'main reason' for **relocating/moving out of province for work** was a 'higher wage rate' (30%). Higher wages and limited opportunity close to home represent key push/pull factors in the decision to relocate out of province to seek employment. Remaining categorial response options included:
  - 22%—Limited opportunity close to home
  - 11%—More hours of employment
  - 8%—Stability of work
  - 4%—Experience/opportunity
  - 2%—Quality of life
- Based on move and return dates provided by 48 respondents, the average time away was 18 months, with four persons having relocated indefinitely. Those who had stayed away less than one year stayed, on average, for 4.5 months, perhaps reflecting the characteristically shorter-term employment postings that are anecdotally associated with workers who travel to other provinces. Reportedly, these workers tend to relocate temporarily for the work and then return after several months of employment. Anecdotally, we were informed that mobility issues—tax, travel costs and EI regulations—often make it difficult for workers to travel for very short duration employment.
- The average worker indicated a willingness to travel to work, with an average of at least two locations cited. Workers were willing to travel as noted:
  - Within Nova Scotia (less than 100km)—61%
  - Within Nova Scotia (more than 100km)—45%
  - Within other Canadian provinces—55%
  - Within other Atlantic province—40%
  - U.S. or Internationally—29%
- Among respondents who **moved to Nova Scotia from elsewhere**, few (19%) cited employer recognition of out-of-province credentials as an important factor in their decision to move.

- **Most survey participants (78%) do not plan to move.** On the other hand, this survey process would not have reached those who had already moved because survey deployment was throughout Nova Scotia.
- Among those who indicated a willingness to move, the largest share (47% or 82/173) indicated Alberta as the place they would move for work. Cross tabulations indicated higher probabilities for moving occur in the 21 to 25 age range and the 36 to 39 age range.

### 3.1.8 Perspective on Becoming a Tradesperson

- Workers came to the ICI construction industry through a variety of ways, with “apprenticeship program” (48%) and “vocational training programs” (41%) the most often cited avenues. Other paths to ICI included:
  - ‘On-the-job training’—37%
  - Academic training programs—7%
  - Other industry sectors—4%
  - Other areas—4%
- Before entering ICI, workers worked in an average of 1.4 fields. ICI workers came from:
  - 25%—Information Technology
  - 18%—Public Administration
  - 14%—Educational Services
  - 14%—Management of Companies and Enterprises
  - 13%—Agriculture, Forestry, Fishing and Hunting
  - 11%—Health Care and Social Assistance
  - 7%—Manufacturing
  - 5%—Real Estate and Rental and Leasing
  - 4%—Other Services (except Public Administration)
- Workers provided 500 comments explaining why workers decided to enter the ICI construction trades. Reasons for entering the ICI sector include: better wages, better standard of living, because they liked working with their hands, family reasons, a preference for the type of work (outdoor), a basic need for work, an interest in the career, etc.
- Among respondents, 54% believe that it is easy to enter into the ICI construction industry, 26% think it is neither easy nor difficult and 19% think that it is difficult to enter the sector.
- **Most respondents (59%) would recommend a career in ICI construction to their own children (17% “strongly agree” and 42% “agree”), 20% are neutral on the topic, and 20% would not recommend the career to their own children (8% “disagree” and 12% “strongly disagree” with the statement).**
- **Slightly more workers would recommend a career in ICI construction to other family members over their own children (67% compared to 59%), while 17% are neutral and 16% would not recommend the career to their family members (7% “disagree” and 9% “strongly disagree” with the statement).**

### 3.2 BUSINESS MANAGER HIGHLIGHTS AND COMMENTARY

The business manager survey was made available to unions across Nova Scotia, with most interviews conducted face-to-face. Interviews lasted 50 to 130 minutes, depending on responses. We present summary highlights from 12 interviews conducted in Cape Breton and Mainland Nova Scotia.

Q: What do you think the major issues are with respect to hiring in the industry over the next several years? (*Please comment on your supply and demand perceptions.*)

- A lack of trained on-site Foremen.
- Quality/capacity of apprentices/those out of school.
- Our challenge is to attract people to the trades—there is not [currently] a major shortage of tradespeople.
- Commitment to work and attitude towards work. Those who are less than 30 years old are not used to following and believe they are all leaders. There is an attitude that work is beneath them—they are “rich beyond their means”.
- The fact that the workforce is old and approaching retirement/retiring and the question—are younger people willing to take over? If there is willingness, then they can be trained within the present system. There is still time to provide replacement workers for the 2011 spike. The question is: Will there be enough people at this time, because it will take time to develop experience and then “take over”?<sup>21</sup>
- That, as more responsibility gets downloaded to the foreman, there will be less and less supervisory capacity. **The issue is that the minimal extra pay provided to Foremen will not compensate them for the disproportionate increase in personal liability. There are known cases where Foremen have been held legally responsible for workplace mishaps that resulted in personal and financial hardship for them.**
- The reality is that mobility is an issue. Rather than an issue of shortage, there needs to be more mobility assistance so that the existing workforce is more fluid. Allow Nova Scotians to travel and work in places like Alberta and let them be temporary there and claim travel and relocation costs (as is done for other business) so that they can return to Nova Scotia when this labour market has work for them.
- [A growing need for] inter-provincial certification and compulsory trades certificates.
- We do not have a manpower shortage on Cape Breton Island—the economics speak for themselves with 80 to 85% unemployed trades workers in some locals.
- The main issue is a lack of work and the implications of this. We need to keep young people working, but people want to be working regular hours for a minimum of 10 to 11 months a year. This is particularly the case for those who live in Halifax or urban areas where the rest of society operates on a more routine schedule than the construction sector has traditionally provided.
- More apprentice training and upgrading of members in our community.

<sup>21</sup> This comment seems to contradict the national Construction Sector Council’s projection of an overall decline in demand after 2010 (based on investment projections). The comment seems to address niche demands, specifically for Foremen and Supervisors, which is not reflected in the national CSC data. This comment rings true when we take into account demographics and the barriers to moving into Foremen roles.

Q: What do you think the major issues are with respect to hiring in the industry over the next several years? (*Please comment on your supply and demand perceptions.*)

- The only thing that will change the current industry situation is more work locally. To increase stable opportunities so that workers can earn a living here. The situation is not the same across Nova Scotia—rural areas and less buoyant economies face an even greater challenge. For example, between Cape Breton and Mainland Nova Scotia there is a difference where workers will work longer (more years) in Cape Breton because the spotty employment track has left them in a position where their pensions are insufficient to support them in their retirement years. As a result, these workers will remain employed for as long as possible.
- The industry still needs us even when we are old and broken down. The sector should look at restarting vocational training in high school, get young people exposed to trades earlier and grow journeymen.
- People are making the decision to retire based on economics and health. The year 2011 will be the transition year. There is no pre-apprenticeship program for sheet metal workers and new workers tend to be a mix of “green” to “experienced”.
- [More mobile workers] will follow the jobs. More work plus better wages will attract the young people. The simple issue is that the market needs to be willing to pay what it takes to remain competitive with other sectors. It is a fact that there will always be cycles [in this sector].
- [The industry’s need]: that Foremen transfer their knowledge to the next generation.
- Competition between union and non-union.

### 3.2.1 Business Manager Open Comments

Additional open-ended comments provided by Business Managers are grouped by subject matter and paraphrased below.

#### Labour Force Recruitment

- Recruitment of individuals “just out of school” is not as successful as recruiting individuals who enter the sector based on the recommendation of family members. Another good source for ICI workers is the group who are “underemployed” on an ICI job site. These are individuals who are already working in ICI positions or already on the job site but not working at their potential. For example: new prospects don’t seem to understand the insulating trade and only those who have watched the trade (on a job site) have enough appreciation for it. If they are aware of the trade this way, they can better make the transition into it.
- The issue for the trades in the future will be getting the “right bodies”. The ICI sector wants bright people—we want to raise the bar—we want to better compete with trades like electricians who market themselves well as a “clean trade”.
- Referrals from existing trades workers are usually more knowledgeable about the trade—and know what to expect. Consequently, they are usually a better fit.

## Retirement

- Retirement, out-migration, etc. is subjective and depends on the individual circumstances workers face at any given moment. Out of 130-plus workers, probably nine to ten are retirement-eligible. We have one who is 60 years old and is working with a travel card out in Fort McMurray.
- Most of our retirement-eligible workers are in Cape Breton. More stable work on Mainland Nova Scotia has resulted in more retirement-eligible workers on Mainland Nova Scotia. These Mainland workers are more likely to retire at their eligible retirement age than those in Cape Breton do to the relative employment stability. Mainland trades workers are believed to have had a greater opportunity to accumulate the financial resources necessary for retirement.
- The average age in our Cape Breton local is in the 50s (53 or 54), and these workers will hang on to increase their pensions.
- [Looming large projects] are creating a phenomenon where older workers are inclined to remain in the workforce for as long as they can to bolster pensions for retirement. Most of Nova Scotia's retirement will come from Cape Breton. It is also likely that, motivated by individual financial situations, workers will remain in the ICI sector until they physically can no longer work.
- If Keltic Petrochemical begins, you will see retired people put their names back in the system, but a project like this will not necessarily bring everyone home from Alberta. The next big bubble will occur in 2010. If Keltic starts up, 70% of our work will switch to industrial projects relative to our current distribution among ICI. By 2015, 35% of our membership will be eligible to retire. So, speaking about the work we do today could be a dramatically different conversation tomorrow.
- In the next four to five years our local may not be here; this is because for the last several years we were unable to acquire new members. As a result, our average age is high and we have very few apprentices. Over the next several years a "gang" of our workers will retire.
- The average age of our union is 52, so a lot of them will retire all at once.

## Industry Trends and Opportunities for Growth

- In 2007, New Brunswick will become quite busy and anyone who has hesitated to go to Fort McMurray will end up in New Brunswick. The belief among the sector is that 2007 and 2008 promise to be good years in this region. The challenge will be that, as this region peaks, our high point will coincide with peak years in Alberta. Within Nova Scotia, the major projects include the shutdown at Imperial, Bear Head LNG and Goldborough.
- The greatest strain on the labour force will come after 2010 [particularly with reference to qualified Foremen and Supervisors].
- Retirement is a function of physical fitness and financial realities. The financial realities for many mean that the physical realities will make the final decision.

- The main issue for the industry in Cape Breton is a lack of economic development. People are using the argument that skill shortages exist, and this is becoming justification to open up borders to import low-wage workers. The point, however, for this study is that people are missing the problem—you need to be focused on industry development [not more research].

## Training

- There is an issue with a lack of trades training in high school. This was stopped in the 1980s and now it is possible for a young person go through high school with no exposure to the trades at all. When they reach grade 12, they may decide to become a tradesperson or choose some other career path—but it is too late. Earlier exposure would be beneficial for all concerned. Exposing young people to trades earlier would 1) identify trades as an option for youth; and 2) make sure that their decision to become involved is better informed so that they do not arrive on their first apprenticeship posting only to learn that their choice was not right for them. (N.B.: Memorial High School in Cape Breton provides trades training).
- There is no pre-apprenticeship program for sheet metal workers and new workers tend to be a mix of “green” and “experienced”.
- We do our own scaffolding training, and this supports workers who are traveling to Alberta where demand for workers with scaffolding skills is very high. The challenge is that, in providing this training for people, we end up serving the Alberta ICI sector and not ours. In many other cases, where we export our skills, Nova Scotia effectively subsidizes development of Alberta's labour force.

## Shortage

- There is no [current] shortage [of workers]. We have 20% of our membership unemployed and we have had up to 30% unemployed from time to time. Over the next 20 years we will see fewer peaks and valleys, so that the construction trades will be a better career choice and competitive with other industries, even though there will still be some need to be mobile.

## Skills

- Employers complain about lack of skills, but they need to look at the wage rates they're offering to attract labour. The residential sector has the problem of low rates and high expectations. You must also ask who is delivering the message about shortages and what their agenda may be.
- All of our occupations are branched out into skills and 80% of our membership can do all occupations; exclusions are masonry and cement finishing. 300-plus are working out West during the winters—some stay and some transfer back.
- The issue of skills shortage is one where those people who are experiencing a shortage are unwilling to pay high enough wages to attract skilled workers.

## Succession

- Transfer of knowledge is an issue. We have “Steady Eddies”; now we need to add youth to the big jobs to get them experienced.
- Some guys in their mid 70s will go back to work. We had a 73-year-old write his inter-provincial exam. The fact is, to be fully employed is an issue and human resource relations is also an issue.
- Would rather stay here and not work overtime whereas overtime needs to be offered in Alberta to attract workers.
- The baby boomers will hit the retirement age between 2010 and 2015

## Work-Life-Balance

- **The ICI worker has changed in recent years and is less willing to travel than previously. Workers are in search of a regular schedule and pace that fits in with their contemporaries’. This is supported in the worker survey—workers would prefer to remain home and work more stable jobs.**

## Alberta

- Nobody is going to remain in Fort McMurray because there is nothing there other than the work. The issue is not so much the aging workforce. The sector will have enough workers to address industry demands and it remains that the sector should not ramp up and increase labour market capacity for big projects that are not guaranteed. The issue is that the industry needs to do a better job of making the ICI construction trades a career of choice.

A summary of the Union Manager Survey statistical results is provided in **Appendix D** (available through the NSCSC-ICI).

### 3.2.2 Employer Survey Highlights and Commentary

The Employer Survey was structured similarly to the Business Manager Survey and was made available to employers across Nova Scotia. At the time of this writing, 21 employers have provided responses; we present summary highlights below. Most of these responses were collected on-line, with individuals self-reporting. As a result, comments (paraphrased below) tend to be brief in comparison to responses from union managers.

Q: What do you view as the major issues that need to be addressed in relation to the challenge of the aging workforce in the ICI construction sector?

- The major issue is the attitude of high school graduates with respect to trades and lack of motivation [among youth].
- The aging workforce—they have a good work ethic and take pride in their work. The major issue would be how to instil the same work ethic and pride into the younger generations.
- There needs to be more opportunity within the academic educational system, e.g., junior high and high schools, where people are exposed to trades.
- Practical on the job training. What I find is a lack of companies willing to go the extra mile to train up-and-coming individuals. There should also be a requirement that the teachers be industry trained and certified. The kids coming out of the schools are ill prepared.

Q: What do you view as the major issues that need to be addressed in relation to the challenge of the aging workforce in the ICI construction sector?

- Finding younger replacement workers.
- Making sure that there are enough young people taking the trades.
- Worker's compensation claims. Many are related to physical condition rather than acute injury.
- Attraction and retention of youth.
- Commitment of youth to education versus our ability to provide continuous employment. A lack of compulsory certification.
- The issue will be the concurrence of jobs/major project work. The big jobs to eat up a lot of people, and there will be less going to Alberta.

### 3.2.3 Employers' Open Comments

Additional open-ended comments provided by employers are paraphrased below:

- Fluctuations in employment in the industry are dependent on the season.
- The immigrant workforce is impacted by language and culture—this is a limiting factor and challenges this option as a way to address labour supply.
- Most of our recruitment comes from other competitors.
- Most of our workers today have some trade school—all carpenters are required to have apprentice training and standardized block training.
- The average education is [believed to be] a full Red Seal.
- Training is done on the job, through the local, in-house safety training, and in-house job procedures; supervisory training and Better Supervision© could be provided through the NSCSC–ICI.
- Supply is not equal to demand and increasing prices will not be sustainable.
- Young people's expectations should not be so distorted that we cannot meet them at the entry level.
- Recruitment from rural areas results in better tradespeople than recruitment from urban areas. This is probably because rural life exposes individuals to the skill sets required in the trades.
- The challenge is to maintain a network to fill human resource requirements. We can always get the work, but we cannot always get the people needed to fill the jobs when they arise; this is the nature of project work.
- The motivation to leave Nova Scotia is different for different people. A young person might want the experience, others the extra money, but when the time comes to be in the workplace, the work force will be able to cope. There will be a natural shift back to the province.
- Not a lot of people understand the heat and frost insulation trade. We are working on an apprenticeship committee to provide more exposure to the trade earlier so that those who are interested can be more informed earlier.
- The workers that we keep busy will stay here. We do a lot of on-site work but we also do a lot of manufacturing.

- Procurement is an issue. A few months ago we were very slow and now there's more work than we can bid on. An option is to manage procurement (in the province). Purchasers contracting work in a way that smoothes out seasonal better. The “vagaries of the tendering process—the vagaries of the tendering authorities”. Management of workflow from the industry—staggered/coordinated shutdowns would help, but if some of these monster jobs raise their heads, we will have some major challenges to address the workload.
- One of the major issues is always bringing in new people and telling them that they have a steady stream of work. The fact is a lot of people are “catch as catch can”. The trick is to keep the apprentice busy, but the tendency is to keep the “Steady Eddies” busy.

A summary of the Employer Survey statistical results is provided in the Statistical Appendix as **Appendix E** (available through the NSCSC-ICI).

### 3.3 PROJECT LEADER INTERVIEWS

In this section we present a series of three interviews that were conducted in relation to current and past projects. Three projects were selected for profiling and we spoke with the general contractors charged with managing those projects. For reasons of confidentiality, we cannot provide the names of the projects nor can we provide the contacts that provided comment.

This section highlights labour-market-related problems based on real-world examples.

#### 3.3.1 Project Interview A

There are skill shortages and labour availability is tight right now. But the labour needed varies according to the work demands. The situation is still manageable with good planning. More important are problems with the quality of workmanship across the board in all skill areas—“You’re getting bodies but not the skills,” or at least not the attitude of doing your best that has to go with the skills. There is a lack of technical skill and a deteriorating attitude— “They [tradespeople] know they’re in demand, there’s lots of work at present [in the Halifax Metro area], so there is no incentive to do ‘better’ because they can find work with someone else. This is true across all sectors and trades.

“You hope that the trade contractors will provide better guys; you give as much scheduling notice up front as possible. You do as much planning as you can and provide information to the contractors. There is just not an unlimited supply of labour and we have to live with that. It creates a greater and greater need for more planning on our part and it’s hard to get clients and suppliers together on this.”

“Another strategy is to open up work for guys to come in early—medium and small crews—maintain smaller crews for duration of the job.”

“If a crew gets started and is then pulled out to work elsewhere, the client that screams enough gets the most attention. It’s true, sometimes you see a crew leave a site and move on to some other project and then come back. We have to be on our toes, we have to keep them [the tradespeople] busy.

“When we are looking for drywallers, etc., we (prime contractors) are all drawing from the same pool—if we get the bigger jobs, we have to have more guys. It is a huge problem and it’s only going to get worse. It’s an issue for most contractors, but manageable right now. With the volume of work slated to come it’s going to be a huge problem in the next 12 to 24 months” [RIM, a new hospital in Colchester County, a new RCMP HQ, plus “regular stuff”].

“Long range, there is a need to open up the NSCC apprenticeships and get more young people through the pipeline. We need more opportunities for young people. We can’t compete with opportunities out west—the wages are higher, the tax structure is different, and the workers are working whatever hours they want. That’s going to happen no matter what you do. And if you’re coming from Cape Breton to Metro you might as well go to Alberta.”

### “Come-Back-From-Aways”

Interviewee A did not forecast as many people coming back as leaving, but he agreed that a trickle are coming back for less tangible reasons: quality of life, family, to get out of the “rat race”, and to buy a house for \$200,000 or less.

### Minorities/Marginalized Communities

“We have had people from all walks of life ... There’s no problem hiring minorities if they have the skills and right attitude.” Interviewee A acknowledged that contractors will have to start looking beyond the traditional labour pool.

“If you walk on our site, the average age is in the mid-50s, and there are very few young people. There has to be some sort of push to get young people into the trades—establish that there is job satisfaction and financial opportunity.”

### Immigrants

Interviewee A said he has no experience with immigrants in the trades. If they’re skilled and have the capabilities he would hire them. Interviewee A noted that in Ontario they are looking to deport immigrants who are there illegally and are working “underground” with home builders. That won’t help the labour market. “But there’s no problem if the guys are trained and capable.” [Then they don’t have to work in the underground economy.]

In the end, you have to have an economy that supports growth. Growth may scale back at some point out west [and then we might see more development here].

Interviewee A acknowledged that the main issue in the trades is a lack of permanent work: “Young people want more job security and that’s where changes have to be made. But that’s a tough sell. That’s why the NSCC is turning out more business/IT students; it’s more like university.” We need more students and classes in trades like the electrical trades.

### 3.3.2 Project Interview B

Interviewee B had major responsibilities as a contractor several years ago. His comments referred to trends that were developing then and may have changed. He reported serious issues with the quality of skills as far back as 2000, but not labour shortages. The skill levels have been somewhat inadequate for some time in certain areas—drywallers, for example. In his view, younger workers weren’t adequately trained. Consequently, significant rework was necessary, which caused delays. They had to allow more time to finish the work, and over several projects (several years) they had to build more time into the planning cycle due to the amount of rework that had become necessary. This translated into decreased productivity.

He did not have suggestions for how to address this problem, other than to suggest that the NSCC has to do a better job with young trainees and apprentices.

He also noted that there is going to be a labour shortage. Old timers are retiring, but too few young workers are coming in to close the gap. In addition, “If we keep losing workers to the West and so few choose the construction trades as their career,” we will be in trouble even sooner. He believes that it is important to increase the number of construction trade workers in Nova Scotia.

Most important is to change the mindset of young people. Young people are being brainwashed into thinking they have to go to university; this situation has been going on for ten to thirty years. We need to move toward the European apprenticeship model; it’s just as good as a B.A. He described the “artisan model, like a millwright, for example.” He recognized that a shift in thinking will be hard to bring about, but we should get started now with better recruitment strategies.

### **3.3.3 Project Interview C**

Interviewee C did not report a current labour shortage. He is a developer with a major project who hires contractors, and as far as he can tell the contractors are not experiencing serious labour shortages or even skill shortages at this time. Looking ahead, he sees year-round work and opportunities for people in the construction trades.

He did note that “We are looking at a rapidly aging workforce. So we will have problems if we don’t get more people into the pipeline.” His suggestions include giving the industry “a more positive spin” to youth coming out of high school and calling attention to the value of the construction industry. He believes the ICI construction trades offer as much earning opportunity or more as university education leading to a B.A.

With respect to the view that not enough work is available in Nova Scotia, he said that his company won’t be stopping work because it is winter: “We see guys who don’t want to work. But we’re going to be building all winter—interior work, electrical, HVAC—people with those skills could be very busy all year ‘round. “

He also recommended that anyone who wants to ensure greater employability should try cross-training. Someone who has certifications or qualifications in more than one area is more valuable to most employers and will be hired even if he isn’t immediately needed in both areas.

## 4 CONCLUSIONS AND RECOMMENDATIONS

This final section of the report highlights the conclusions and recommendations drawn from the preceding analysis. Our conclusions are based on broad consultation with many industry stakeholders and our recommendations follow from the most commonly supported suggestions.

### 4.1 CONCLUSION

The ICI construction industry is a competitive industry that is driven by projects that arise as the financial realities of their individual proponents dictate. Thus the sector that services these large-scale investors must respond when the work is being called for. The industry can run through extremely busy periods followed by spells of relative inactivity. For the most part, these fluctuations are absorbed by the workers who, during periods of activity, are well paid but during periods of inactivity earn only what various support systems might provide while they await investment decision-makers' next move.

However, the changing demographic profile means that the labour pool's ability to absorb these fluctuations is declining. When work increases there may not be enough workers.

#### 4.1.1 Demographics of the Labour Market

The survey shows that the ICI workforce is dominated by males just over 39 years of age and<sup>22</sup>:

- Live in Nova Scotia.
- Work within a 60 minute drive of where they work.
- Three out of five have a diploma through a trade school or community college and have grade 12.
- One in two is actively pursuing some form of training.
- Prefer to train through hands-on practice—78% and/or through working with more experienced people on-the-job—70%
- Bring nearly 15 years of experience to their job.
- Enjoy and have a strong sense of pride in their work.
- Are unlikely to identify themselves as having a disability and among those that do identify themselves as having a disability, only about 15% indicated that their disability affected their employment by limiting their working in their trade.
- Would recommend what they are doing to others about 70% of the time and about 60% of the time to their own children.
- One in two workers report that they worked less than they would have preferred over the past 24 months.
- Are likely to have participated in skills development during their career.
- Have completed an average of eight safety training programs.
- Have access to computers and the Internet.

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<sup>22</sup> As noted earlier, survey participants who are registered with the Department of Education as apprentices had an average age of 31.2 years. Among industry participants surveyed through unions, job sites, and employers (those not accessed through the Department of Education), the average age is 42 years (maximum age is 73 years, minimum age is 18 years, and most often occurring age is 44 years). Collectively, the average age of the entire sample is just over 39 years.

- Are willing to train using computers and the Internet.
- Have some measured interest in working in ICI even after retirement.
- Want to remain in Nova Scotia to work and do not plan to move for work.

Slightly less than one half surveyed were Journeymen; 7.2% of all surveyed were Foremen.

#### **4.1.2 Wage and Salary Levels**

Wages and salaries are under upward pressure due to the perception of higher wages and salaries in other regions. The concern is that an upward wage adjustment would adversely affect the feasibility of projects and have repercussions throughout the economic system in Nova Scotia. Industry stakeholders have an opportunity to add balance to the story of the “gold road” being paved out west. The local industry needs to promote itself by objectively highlighting the costs and benefits of such a transition. Most who have experience working in the West acknowledge that the money is better, but the direct and social costs can be considerable. Another suggested option is to support greater mobility by allowing workers to deduct travel expenses, on grounds that if Nova Scotia workers could more fluidly move about, they could also return more easily when work levels increase in Nova Scotia.

Alberta has taken a coordinated approach to recruitment of outside workers. The Nova Scotia industry response, by contrast, has been fragmented. Some opinions expressed a shortage (which sends a message to workers that they should stay); others say that there is no shortage (which sends a message to the 46% who wanted more work in the past two years that they should go).

#### **4.1.3 Employment of Visible Minorities**

Representation of visible minorities continues to be an issue. This issue could be exacerbated by the varied array of general career options and the industry’s cited inability to present itself early enough in the education system such that a diverse group of people can see ICI construction as a viable career option. Our survey did not generate results that lend themselves to assessing the issue of diversity in the ICI trades. The Black Business Initiative has recently completed a study of the trades industry in the African-Canadian community. Preliminary results of this study show that the sector is continuing to develop in the African-Canadian community.

#### **4.1.4 Skills, Perceptions around Shortages, and the Message**

The data (and convention) suggests that some of the swings in ICI construction demand are mitigated by available work in residential building and renovation, non-residential work and employment insurance. Larger, long-term projects over the next several years will also allow some workers to build up a cushion against leaner times. Busy times also provide opportunities for new entrants in construction labour to gain experience and become more employable.

However, in light of the demographic changes, the industry needs to decide what message it wants to send to its constituents and to the wider economic system that depends on a core ICI construction workforce that can furnish cost-effective infrastructure when needed.

When some stakeholders speak about skills shortages, this does not necessarily mean the absence of skills. More likely, “skills shortage” indicates a need for continuing workforce training and development—as is the case for any other sector where methods, practices, tools and materials constantly change. Not having the right skill set for a particular assignment is not an absolute notion, but is often discussed as such when it more often means that already skilled

workers need to add to the range of skills, aptitudes or devices they use. The need to train and upgrade is true of all occupations that seek to remain competitive.

At the same time, the data shows that one of the most obvious shortages developing (or at least constraining the sector) is the availability of Foremen and Supervisors. This trend seems to be less a capacity issue than one of willingness. The modest wage increases are not regarded as worth the greater responsibilities and exposure to liability a foreman faces. One would suspect that, as this becomes an issue, business owners would seek out solutions with insurance companies and/or legislators to manage exposure or otherwise support a foreman's assumption of risk. It may be time for the industry and the NSCSC–ICI to accelerate this effort and work with insurance providers to develop incentives that make the foreman role more attractive.

When the industry speaks about “skills”, it should talk about the starting point. Workers already have skills, as reflected in the certifications they hold and training in which they participate. ICI workers are in a business of skills accumulation, but it is not clear that this is understood.

#### **4.1.5 Skills Required and Training Received (formal and informal)**

Currently, there is not enough capacity within the NSCC and private training providers to fill the demand for apprentices and journeymen in the electrical trades and to a lesser extent, in carpentry, CAD and some smaller trades.

NSCC has a waiting list of people ready to become electricians. As of 2006 there was a new group of 300 students in the carpentry program that was offered on only two campuses. If carpentry were offered on other campuses, there would be more take-up. NSCC tries to shift limited resources to accommodate student needs—for example, by replacing marginal programs like welding with more sought-after programs like carpentry. Yet some employers look to out-of-province training providers for apprentices. NSCC reports that financial constraints limit their capacity. Has industry been consulted by the training providers in Nova Scotia to determine the cost-benefit of expanding and upgrading existing programs?

The apprenticeship problem is two-fold: 1) More certified journeypersons are needed; and 2) Apprenticeship counsellors from the Apprenticeship Division (Industrial Training Officers, or ITOs) are overloaded. Some apprentices cannot proceed with their program until ITOs are available. This may point to a need for government to provide more resources to the NSCC.

#### **4.1.6 Work Ethics**

Employers and union managers agree that the work ethic of younger industry participants needs to improve, especially when they are very new to the job. Earlier exposure to the trades during their education process would improve students' understanding and allow them more time to consider ICI construction trades as a career option.

#### **4.1.7 Impact of Competing Occupations**

Today, young people's opportunities to discover trades are limited, particularly in cities. Trades need to be presented earlier within the educational system so that students have a better opportunity to see them as a viable option (job shadowing and summer jobs with subsidies for smaller contractors). Techsploration, a “program designed to increase the number of women working in science, trades, and technology through mentorship with women in these fields,” is an example of how this can be done. This is an existing mechanism that could be supported to present the career path to women and increase their participation in trades.

#### 4.1.8 Impact of Seasonality and Planned Workflow

Seasonality (in the true sense) is less of an issue than the cycle of procurement. Several interviewees spoke about the “vagaries of procurement”<sup>23</sup> either directly or indirectly, referencing the seasonality or cyclical nature of the sector and the need/desire to manage the workflow. The practical challenges of such a system are beyond the scope of this study, but the design of such a system would support industry planners seeking to secure local development and maximize local resources. The suggestion was made in relation to the government procurement system. A wider system for all ICI project work would need to address many issues, including which companies would have access and how to address new entrants to the industry.

#### 4.1.9 ICI Labour Mobility

The construction industry would prefer better labour flows between Cape Breton and Mainland Nova Scotia to alleviate periodic restricted labour markets in either jurisdiction. Nova Scotia is too small to permit regions of the province to risk losing their critical mass of labour as a result of out-migration to larger centres.

#### 4.1.10 Recruitment, Retention and Succession Planning

Recruitment, retention and succession are all part of the same continuum, and are issues we explored with employers, workers and business managers. As with the workforce, business owners are also entering a period when succession planning is important. The transfer of control of businesses to the next generation brings a host of issues (CANS is working with employers to support this transition).

Factors affecting succession planning, particularly among privately held companies, have become more acute with the aging of the population. This issue is uniquely important in Nova Scotia, which has the oldest provincial population profile in Canada.

The situation for both employers and workers is exacerbated by the period between the mid 1980s and mid 1990s which saw fewer “new entrants” to the labour market. **The conventional thinking is that workers in the 35- to 45-year age range are relatively fewer than those they would otherwise replace as older workers retire—in other words, fewer workers will be in place to take over from those who retire. This has significant implications for succession in the labour market and for inter-generational transfer of skills accumulated via on-the-job experience. The implications for supervisory and foreman capacity could be significant.** However, our sample found an average age of 39 years, six or more years younger than what union managers reported as the average age of local membership (46 years).<sup>24</sup>

Presumably Foremen and Supervisors develop out of years of practical and applied experience in the workforce. The reduction in new entrants over the ten-year period means both fewer workers to replace retirees and a reduced capacity to manage construction in the field. This is not necessarily a “skills” issue as much as it is and could become a “numbers with the skills” issue.

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<sup>23</sup> Interview comment.

<sup>24</sup> Survey participants who are registered with the Department of Education as apprentices had an average age of 31.2 years and those surveyed through unions, job sites, and employers (those not accessed through the Department of Education) had an average age of 42 years.

For business owners, the issue is complicated by the current generation's need to "buy" the equity current owners may have in their companies, as well as a host of other business planning issues outside the scope of this study.

In the end, we were told that individual decisions to retire will depend on the economy, the timing of workers' next episodes of "no work" and their personal health and financial circumstances. In areas where work was such that retirement savings are limited, health issues will more likely end a career.

#### 4.1.11 Labour Supply/Demand Gap Analysis

The gap in labour supply and demand (real or perceived) may be related to a question of available skills for a particular project, to the availability of a sufficient supply of workers (units), and to specific regions—sufficient labour supply is not typically perceived as an issue in Cape Breton, for example.

The message from employers is that access to labour (in Halifax) is restricting. The message from 46% of the workforce is that they want more work.

The circumstances faced in Cape Breton differ from other regions of Nova Scotia. One anecdotal interview revealed that Cape Breton's relative lack of construction related work in recent years has resulted in out-migration that now could destabilize the remaining construction industry with a lack of needed workers. **More research is needed to confirm this condition.**

Out-migration is the pendulum adjustment for those who cannot find work. In at least one circumstance, we found that out-migration has so outpaced the work shortage problem that completing currently available work with the reduced workforce is itself a challenge.

This emerging trend may also be a function of scale. Larger jobs could attract people back to Cape Breton, whereas the projects suffering slowdown are relatively small by ICI standards. This consequence may also be amplified by opportunities elsewhere and local media attention on these external opportunities.

#### 4.1.12 Opportunity Labour Pools

The option for supplying the labour market with currently underrepresented individuals is increasingly important, given Nova Scotia's aging and generally contracting population during the past census period—the Census 1996 to 2001 revealed a shrinking NS' population (0.1%), while the 2001 to 2006 Census period revealed an increase (0.6%). The issues for many underutilized labour pools include:

- Time required to train a new construction worker, which applies to all trades.
- Time required, allowing underrepresented labour pools to learn about and understand available opportunities in ICI.

There needs to be more awareness among minorities of available training and work opportunities. Targeted recruitment efforts by major contractors for young people making their career choices are needed to offset long-standing beliefs that ICI construction work is not readily available to minority people.

Many of the Metropolitan Immigrant and Settlement Association's (MISA) clients are interested in employment within the sector, but cannot initially be employed as their credentials/training are not immediately recognized. The challenge is that going through the apprenticeship process or going back to school conveys financial cost, language barriers and employers who cannot hire because

of lack of assessment. Some clients have been hired in general labour or technical positions or (with time) in their fields. Some of MISA's statistics:

- **General construction area:** of 23 clients since 2000, 10 are working in or close to the field
- **Electricians:** of 17 clients since 2000, three (3) are working in or close to the field
- **Plumbers:** of five clients since 2000, two (2) are working in or close to the field
- **Carpenters:** of nine clients since 2000, none (0) are working in or close to the field
- **Mechanics:** of 29 clients since 2000, eight (8) are working in or close to the field
- **Civil Engineers:** of 41 clients since 2000, 11 are working in or close to the field

A concern for skilled tradespeople wanting to immigrate to Canada was the immigration process itself. Many could not come to Canada because they did not meet the requirements of the points system. There could be an improved assessment/mentorship process through employers and education. Clients' only route should not require that they go back to school and start over or be stopped at apprenticeship because of a lack of assessment tools to determine where a client may be lacking. They need mentoring/training rather than the assumption that must start at beginning.

#### 4.1.13 Image of the Sector

The image of the construction sector needs to be improved. Interviewees spoke about the streaming that once took place in the education system that directed marginal academic students into trades. The message then was that lack of success in academics meant trades was the only option. Realistically, trades may have been the best option for some individuals in the first place, due, for example, to personal aptitudes and preferences for trades related work.

The survey showed that most workers in ICI are attached to their jobs, like to see the tangible results of their work, and do not want be "tied to a desk." They enjoy working outside and like to work with their hands. Yet only half would recommend the career to others and fewer would recommend their career path to their children. Why? Is it because it was "good enough for them" but not good enough for their children? This is somewhat surprising; open-ended comments reflected much personal satisfaction among workers who plan to continue in their careers up to or beyond retirement.

More needs to be done to understand how trades are perceived, but it is clear (anecdotally) from business owners with international experience that the trades are looked on with less respect in this region than in many other countries.

## 4.2 RECOMMENDATIONS

The following recommendations emerge from this study:

- The NSCSC–ICI should be targeting high schools and youth. Trade school options have to be interesting and include financial and career incentives.

This does not mean returning to the "streaming" model of secondary education; it *does* mean putting more options in the curriculum that expose young people to the trades and to summer job opportunities at an earlier age.

- The NSCSC–ICI should encourage targeted recruitment efforts by major contractors for young people making their career choices to offset long-standing beliefs that ICI construction work is not available to minority people.

- The NSCSC–ICI can help open opportunities to the minority market and advocate for scholarship programs and (government) contributions to training and salaries. Such incentives could require students to complete their second- or third-year apprenticeship, or journeyman certification, before receiving financial support. Lessons learned from similar programs in other jurisdictions would help in this area.
- Among carpenters, there have been some experiments with pre-trades programs, junior apprenticeship and job shadowing for young people who are preparing to make career decisions. There is a need to “get them on site sooner”, similar to the European model, although a lower work level involves a lower wage. Skilled pipefitters, electricians carpenters, etc. do not require their helpers to have a large/broad skill set and, where necessary, the trades person can provide the guidance and direction their helpers may need. In the European apprenticeship model, even engineers have machinist experience; industry should consider following this model and giving engineers job site experience.
- Promote more capacity/available seating in the schools to teach trades and get young people out into the field to gain exposure and experience on the job site.
- Give unions incentives to do some or more training rather than relying entirely on NSCC. For example, Nova Scotia unions now teach scaffolding, and individuals pay for the training.
- Develop and provide new approaches to address liability issues that appear to be inhibiting individuals from participating in the ICI industry as Foremen and Supervisors.
- Continue to develop partnerships with like-minded stakeholders who expressed interest in NSCSC–ICI’s work. Build momentum around such partnerships to add value to industry-specific research and initiatives.
- Increase NSCSC–ICI’s profile by initiating a dialogue with the media and government and develop a strategy to present opportunities within the local sector. Media and government relations are ongoing organizational activities that require time and resources; this study provides a good platform for the NSCSC–ICI to fulfill part of its organizational mandate to represent industry. Within the media, there is opportunity to better articulate and frame the position of industry; within government, there is potential to help elected representatives engage, navigate and activate policy reforms on behalf of industry.
- Implement a program to support career awareness through mentorship with individuals who can act as role models for underrepresented groups (e.g., align industry development work with the work of Techsploration).

Virtually all sectors of the economy depend on the existence of construction capacity. Investment is impacted when the capacity is limited—more cooperation is needed within the sector to emphasise the important relationship between the construction sector and other areas of the economy and the dependence of local and foreign investment on the capacity to provide built infrastructure. Our data shows some evidence that more intangible factors—quality of life, closeness to family, getting out of the “rat race”, and being able to buy a house for \$200,000 or less in an area with a relatively modest cost of living—count for many workers who want more stability than previous generations in the construction trades. This could be a valuable trend as the ICI industry works to encourage worker retention.

This Labour Market Study has provided a snap-shot of Nova Scotia's ICI Construction sector's workforce based on a sample of more than 690 workers who participated in the survey – this generated a rich data set with more than 270 variables. The NSCSC-ICI should continue to explore and examine this data set, and, at the same time, work with industry partners to develop a system to maintain this information as up-to-date as possible (see recommendation 4.2.1).

#### **4.2.1 Recommendation for a Real-Time Labour Market Database**

The ICI construction industry needs up-to-date labour market information that includes labour availability, work force skills and demographic profiles, and available levels of experience. Large-scale, expensive studies done every few years quickly become out of date and do not reflect rapid changes in labour supply, demand, and skill requirements.

What is required is virtually continuous updating. Such an objective was unthinkable only a few years ago, but there is already a model of a web-based database that accomplished exactly this for another sector. The NSCSC–ICI (and perhaps other partners) should consider the database already created and easily modified to fit the Nova Scotia construction industry.

#### **4.2.2 The Existing Model<sup>25</sup>**

The IT Human Resource Council (ITHRSC) created a database in 2001. Employers register and receive immediate responses with profiles of work candidates or they are notified as soon as a qualified candidate appears. The web site provides both employers and work candidates with online search features that maximize filtering capabilities and confidentiality for both employers and work candidates (Job posting is also available).

The database tracks both the skills and experience levels required by employers and the skill and experience profiles of candidates. The cumulative information can be reported anonymously, i.e., without listing company names, to give an overall picture of trends in Nova Scotia or a particular region.

The system allows some employers to search *confidentially*, without posting a job description or revealing to their competition, via the Internet, specific project skills they require. Correspondingly, work candidates may want to be considered by all potential employers, including those who do not broadcast job postings.

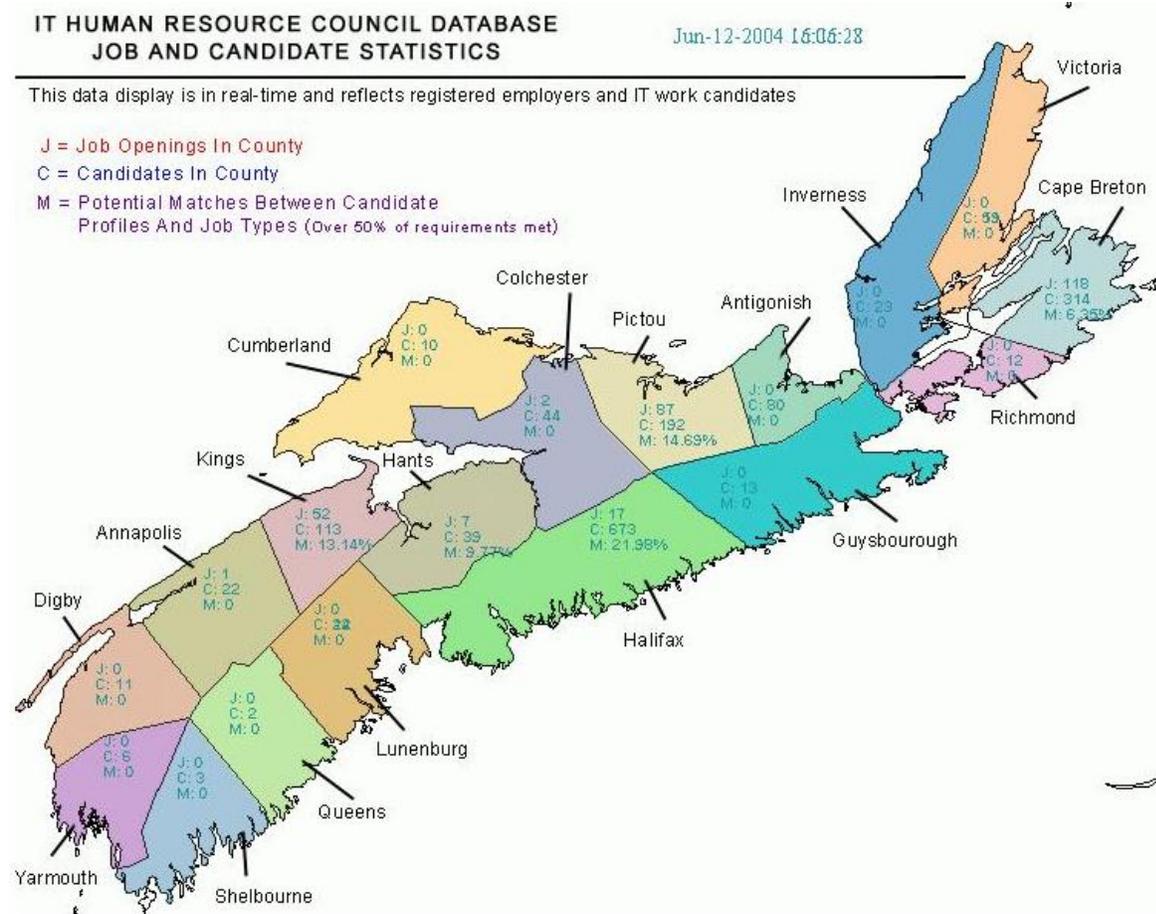
The results of this activity are crucial to human resource planning by employers, curriculum planning by training providers, and support program development by government and non-governmental agencies, as well as career awareness, guidance and planning.

In 2004–2005 the IT Human Resource Council tracked 287 IT job openings among 235 employers across Nova Scotia and the skill requirements for each type of job. The ITHRSC was also able to identify the skills profiles of almost 1000 IT work candidates vying for those job openings. By matching the skills and experience levels of candidates and employer requirements, the ITHRSC determined the potential matches between candidate profiles and job types. This information is updated and displayed in a real-time map as show below. This data and display are updated every time an employer registers in the database and confidentially searches for a candidate or publicly posts an opening.

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<sup>25</sup> Although the IT Human Resource Council lost its government funding in 2005 and consequently closed down the database, the database is archived and could be re-activated and modified on short notice.

The results in **Figure 9** show that the match between employer requirements and work candidate skills and experience profiles varied from 6% in Cape Breton Regional Municipality to 21% in Halifax.



**Figure 9 IT Job Openings and Candidates by County**

**Table 2** below shows the database skill inventory of these job candidates.

**Table 2 Skill Inventory of 997 Candidates**

Candidate IT Skills	Number of Candidates with Skill	Percentage of Candidates with Skill
Word	825	82.7%
MS Office	807	80.9%
Windows	759	76.1%
Windows 98	725	72.7%
PowerPoint	665	66.7%
Windows 2000	643	64.5%
HTML	628	63.0%
MS Excel	617	61.9%
Windows NT	600	60.2%

<b>Candidate IT Skills</b>	<b>Number of Candidates with Skill</b>	<b>Percentage of Candidates with Skill</b>
MS Access	565	56.7%
Windows ME	462	46.3%
SQL	419	42.0%
Technical Support	410	41.1%
Visual Basic	403	40.4%
JavaScript	353	35.4%
Java	332	33.3%
Technical Writing	308	30.9%
MS Project	299	30.0%
Technical Team Leadership	287	28.8%
C	252	25.3%
ASP	237	23.8%
Lotus 123	191	19.2%
DHTML	191	19.2%
Visual C++	161	16.1%
XML	156	15.6%
DB2	137	13.7%
JSP	125	12.5%
Perl	124	12.4%
CGI	123	12.3%
PHP	117	11.7%
COBOL	111	11.1%
Assembler	104	10.4%
Scheduling /Forecasting	97	9.7%
Accpac	90	9.0%
Oracle Developer 2000	73	7.3%
Operations	70	7.0%
NET	61	6.1%
CAD/CAM	57	5.7%
Fortran	51	5.1%
MFC Programming	45	4.5%
Call Quality Analyst	34	3.4%
SAP	16	1.6%
Record Management	3	0.3%
Adabas	1	0.1%
Natural	1	0.1%

Table 3 below shows the Company Required Skills.

**Table 3 Company Required Skills**

**Company Required IT Skills**

(percentage based on number of job openings posted i.e. 33.33% of job openings in database require SKILL X)

Required IT Skills/Percentage	
Windows	(238) (82.93)
MS Office	(106) (36.93)
Technical Support	(52) (18.12)
Word	(29) (10.10)
Windows NT	(24) (8.36)
Windows 98	(23) (8.01)
Windows ME	(22) (7.67)
Windows 2000	(8) (2.79)
Technical Writing	(7) (2.44)
Technical Team Leadership	(7) (2.44)
MS Excel	(7) (2.44)
NET	(6) (2.09)
Visual Basic	(5) (1.74)
MS Access	(5) (1.74)
SQL	(5) (1.74)
Powerpoint	(4) (1.39)
XML	(4) (1.39)
MS Project	(3) (1.05)
ASP	(3) (1.05)
Operations	(2) (0.70)
Java	(1) (0.35)
Javascript	(1) (0.35)
CAD/CAM	(1) (0.35)
Perl	(1) (0.35)
Scheduling /Forecasting	(1) (0.35)
HTML	(1) (0.35)

Initial analysis of **Table 2** and **Table 3** indicates that work candidates possess most of the skills in demand. However, the percentage of matches between the skills demand (job openings) and skills supply (candidate profiles) should be higher than the range across counties (6% to 21%) indicated in **Figure 9**. Further analysis shows that *work experience* is a deciding factor for many employers. **Figure 10** shows Work Experience Requested for most types of jobs. This is why most of the work candidates cannot meet employer expectations and why many IT work candidates in Nova Scotia cannot find work.



**Figure 10 Work Experience Requested**

Among the employers that specifically requested previous work experience, the data showed that about 70% are not willing to consider candidates who have less than a year of work experience. In this case, the data was used by the National Sector Council, government, unions and employers to consider offering more apprenticeships and subsidized internships to increase the experience levels of the workforce in selected skills.

This model could be adapted to great advantage for the ICI construction sector if stakeholders cooperate by entering their requirements, capabilities and related information.

### 4.2.3 Cost Estimates

We estimate the cost to modify the existing database for the ICI construction industry and maintain it for the first year at less than \$25,000. Development and testing could be done within three to four months. Subsequent annual maintenance and updating would cost less than \$12,000 per year.

## **APPENDIX A: INTERVIEW PARTICIPANTS**

1. Adrian Morrison, Black and MacDonald
2. Allan Stapleton, Construction Management Bureau Ltd.
3. Bill McLellan, Merit Contractors Association of Nova Scotia
4. Bernie Carr, Sheet Metal Workers International Association
5. Bob Dresch, VSL Canada Ltd.
6. Brian Stevens, Sheet Metal Workers International Association Local 409
7. Brian Tobin, International Brotherhood of Electrical Workers Local 1852
8. Carol MacCulloch Construction Association of Nova Scotia
9. Clayton Bartlett, Roclan Industries
10. Cliff Murphy, United Association of Journeyman & Apprentices of the Plumbing, Steamfitting & Pipefitting Industry of the United States & Canada Local 682
11. Colin Campbell, Brotherhood United of Carpenters & Joiners of America Local 1588
12. Cordell Cole, International Brotherhood of Electrical Workers Local 625
13. Dave Oulton, Marid Industries
14. Dave Pottier, Lead Structural Formwork
15. Don Chisholm, Tartan Drywall
16. Doug Holstead, Sayers and Associates
17. Doug Serroul, Labourers' International Union of North America Local 1115
18. Frank Ross, Fabco Aecon
19. Gordie MacNeil, Academic Chair for Electrical Technology Programs, NSCC
20. Gordon Dough, Black Business Initiative
21. Jim Wilkie, AB Mechanical
22. John Furneaux, Rideau Construction Inc
23. Keith Dwyer, Easco Electric Limited
24. Kirk Himmelman, Himmelman Contractors
25. Lorena Costa, Metropolitan Immigrant Settlement Association (MISA) NBP Work Placement Coordinator NSBI
26. M. Patrick Gillin, Chair in Construction Engineering and Management, Assoc. Prof., Dept. of Civil Engineering, University of New Brunswick
27. Miguel Salguero, Omega Formworks
28. Mike MacDonald, Pro Insul Limited
29. Mike Marsh, Irving Equipment
30. Pam Rudolph Sr. Trade Advisor, Nova Scotia Business Inc.

31. Peter Greer, United Brotherhood of Carpenters & Joiners of America Local 83
32. Roddie MacLennan, International Association of Bridge, Structural & Ornamental Ironworkers Local 752
33. Roy Pennell, Markland Associates Ltd.
34. Steve Graves, Mainland NS Building Trades Office/International Association of Heat and Frost Insulators and Asbestos Workers Local 116
35. Tim Swinamer, International Brotherhood of Electrical Workers Local 625
36. Tom Griffiths, International Brotherhood of Electrical Workers Local 625
37. Tricia Robertson, Techsploration

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