

BENCHMARK REPORT AND LMI USER GUIDE

RESIDENTIAL BUILDING CONSTRUCTION

NOVA SCOTIA

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TABLE OF CONTENTS

| | | |
|------|---|----|
| 1.0 | INTRODUCTION AND OVERVIEW | 1 |
| 2.0 | DEMAND SIDE: GROSS DOMESTIC PRODUCT | 1 |
| 3.0 | DEMAND SIDE: HOUSING STARTS | 2 |
| 4.0 | SUPPLY SIDE: LABOUR FORCE SIZE | 3 |
| 5.0 | SUPPLY SIDE: EMPLOYEES IN RESIDENTIAL BUILDING CONSTRUCTION | 4 |
| 6.0 | SUPPLY SIDE: LOCATION COUNTS BY SPECIALTY | 5 |
| 7.0 | SUPPLY SIDE: EMPLOYEES BY INDUSTRY SECTOR | 6 |
| 8.0 | SUPPLY SIDE: CARPENTRY LABOUR FORCE | 7 |
| 9.0 | SUPPLY SIDE: AGE PROFILE OF CARPENTERS | 7 |
| 10.0 | SUPPLY SIDE: EDUCATION PROFILE OF CARPENTERS | 8 |
| 11.0 | SUPPLY SIDE: APPRENTICESHIP COMPLETIONS – CARPENTERS..... | 9 |
| 12.0 | SUPPLY SIDE: LOCATION COUNTS IN RBC BY SIZE..... | 10 |
| 13.0 | SUPPLY SIDE: CONSTRUCTION INDUSTRY UNEMPLOYMENT RATE, NS | 11 |
| 14.0 | SUPPLY SIDE: HOURLY AND WEEKLY WAGES IN RBC..... | 12 |
| 15.0 | POLICY IMPLICATIONS..... | 12 |
| 15.1 | Importance of RBC..... | 12 |
| 15.2 | Carpentry Specialties | 12 |
| 15.3 | Recruitment..... | 13 |
| 15.4 | Succession..... | 13 |
| 15.5 | Renovations | 13 |
| 15.6 | Labour Mobility..... | 13 |
| 16.0 | FOLLOW-UP DATA COLLECTION AND STUDIES | 14 |
| 16.1 | Carpentry-related Specializations | 14 |
| 16.2 | Recruitment..... | 14 |
| 16.3 | Succession..... | 14 |
| 16.4 | Labour Mobility..... | 14 |
| 16.5 | Renovations | 15 |

1.0 INTRODUCTION AND OVERVIEW

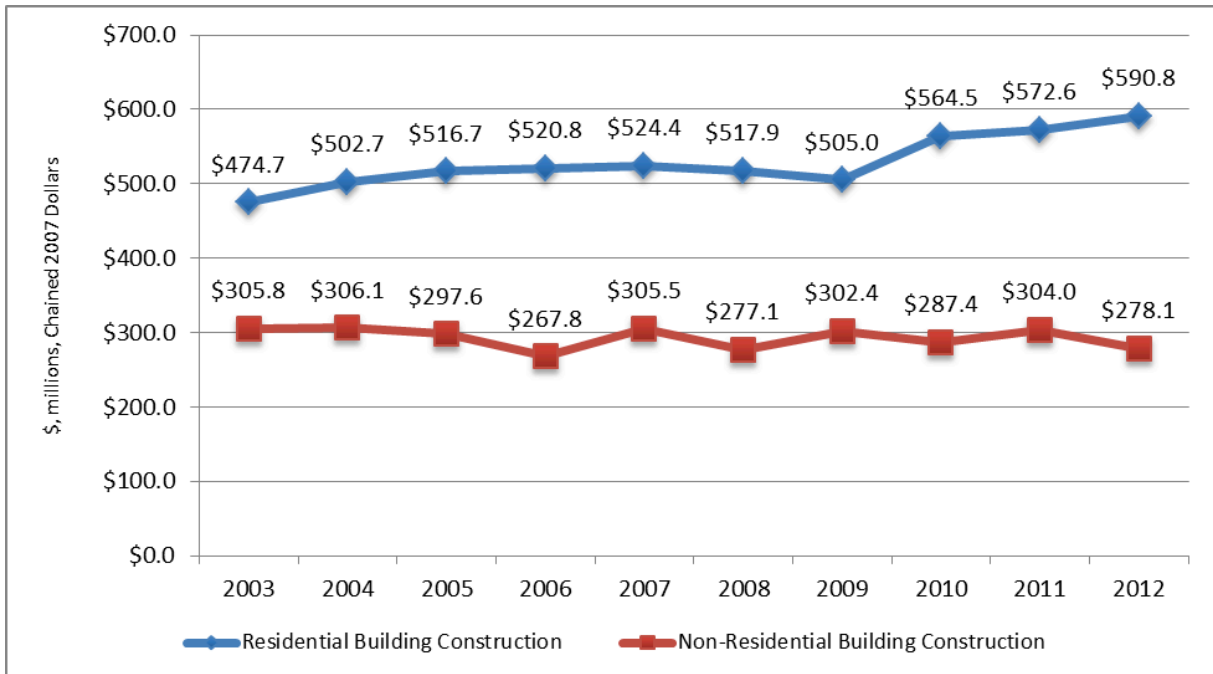
Despite serious gaps, secondary data can say a great deal about the Residential Building Construction (RBC) industry and its workforce. In particular, the data provide insights into key labour market issues such as the recruitment, training and succession of workers in the labour force. The indicators presented in this report provide an information base to assist in understanding the RBC labour force.

Secondary data on indicators of demand in the RBC industry are shown in the first two sections of this report followed by a presentation of labour supply indicators. Human resource and training issues that emerge from a review of the data are identified and special studies needed to address the human resource and training policy issues in the RBC industry are presented in the concluding section of the report.

2.0 DEMAND SIDE: GROSS DOMESTIC PRODUCT

Gross Domestic Product (GDP) measures the contribution of an industry to the Canadian economy. Figure 1 shows inflation-adjusted GDP for RBC rose consistently at a 3.5% rate from 2009 to 2012. The contribution of RBC to the economy has been rising over the last ten years. Figure 1 also shows that GDP in the Non-Residential Building industry is less than one-half of that in RBC and has not changed appreciably over the last ten years.

Figure 1 – Gross Domestic Product at Basic Prices, Nova Scotia



Source: Statistics Canada, CANSIM Table 379-0030. <http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&p2=33&id=3790030>.

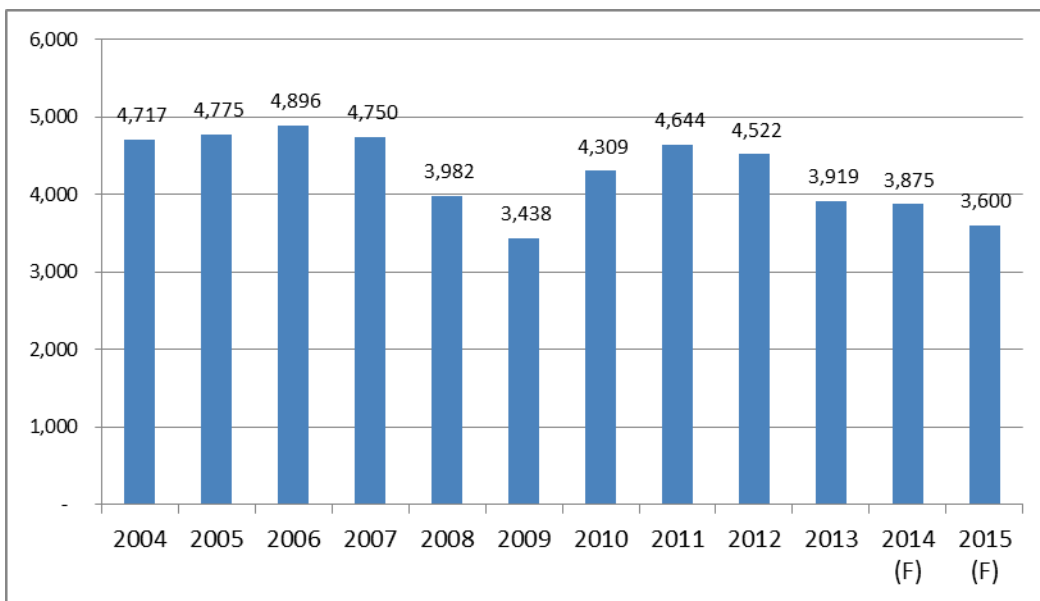
The Statistics Canada GDP data should be updated annually to document the changing economic contribution of the RBC industry to the Canadian economy. It will be interesting to see if GDP in 2013 continues to trend upward despite a downturn in housing starts in the province.

GDP data are available on line through CANSIM on the Statistics Canada website. They are updated annually; data for 2013 were not available at the time this report was prepared.

3.0 DEMAND SIDE: HOUSING STARTS

Housing starts, along with renovations activity, are an indicator of the growth in the RBC industry.

Figure 2 – Housing Starts in Nova Scotia



Source: Canada Mortgage and Housing Corporation (CMHC) – CHS: Residential Building Activity, “Dwelling Starts, Completions ... - 2011”, Table 6; “Housing Market Outlook – Canada Edition, First Quarter 2014”, <https://www03.cmhc-schl.gc.ca/catalog/productDetail.cfm?lang=en&cat=55&itm=1&fr=1397933192433>.
<https://www03.cmhc-schl.gc.ca/catalog/productDetail.cfm?cat=63&itm=1&lang=en&fr=1397933378952>.

Figure 2 shows that housing starts declined from 2006 to 2009, rose to 2011, and fell in both 2012 and 2013. The second lowest level of housing starts in Nova Scotia in a decade occurred in 2013. Housing starts are forecast to decline further in 2014 and 2015.

Forecasts for renovation activity in Nova Scotia prepared by BuildForce Canada and Canmac Economics indicate that renovation activity has been growing and is forecast to continue to grow. Positive forecasts of renovation activity offset declining forecasts in housing activity. BuildForce Canada calls for a steep decline in investment in the RBC industry while Canmac Economics calls for very modest growth to 2018 followed by a decline in growth from 2018 to 2020.

CMHC's Housing Market Outlook reports are produced quarterly. The data can be downloaded in PDF format on the CMHC website. The data should be broken down by region and housing type for improved understanding of the housing market.

4.0 SUPPLY SIDE: LABOUR FORCE SIZE

The most fundamental question to ask about the RBC labour force is its size. Surprisingly, this question cannot be answered with existing secondary data. Figure 3 shows the size of RBC labour force, and that of other Construction sectors, as of 2011.

Figure 3 – Employed Labour Force in the Residential Building Construction Industry, NS, 2011

| | |
|--|--------|
| <i>Residential Building Construction</i> | 5,095 |
| Non-Residential Building Construction | 1,810 |
| Heavy and Civil Engineering Construction | 3,510 |
| Specialty Trade Contractors | 16,795 |
| Construction Total | 27,210 |

Source: Statistics Canada, National Household Survey, 2011. <http://www12.statcan.gc.ca/census-recensement/index-eng.cfm>. (See: National Household Survey tab)

The Statistics Canada estimates presented in Figure 3 use the North American Industry Classification System (NAICS). This system identifies the RBC industry sector along with a number of other sectors within the Construction industry. One of these sectors is Specialty Trade Contractors (STC) which is the largest industry sector employing over 60% of all workers in the Construction industry in Nova Scotia.

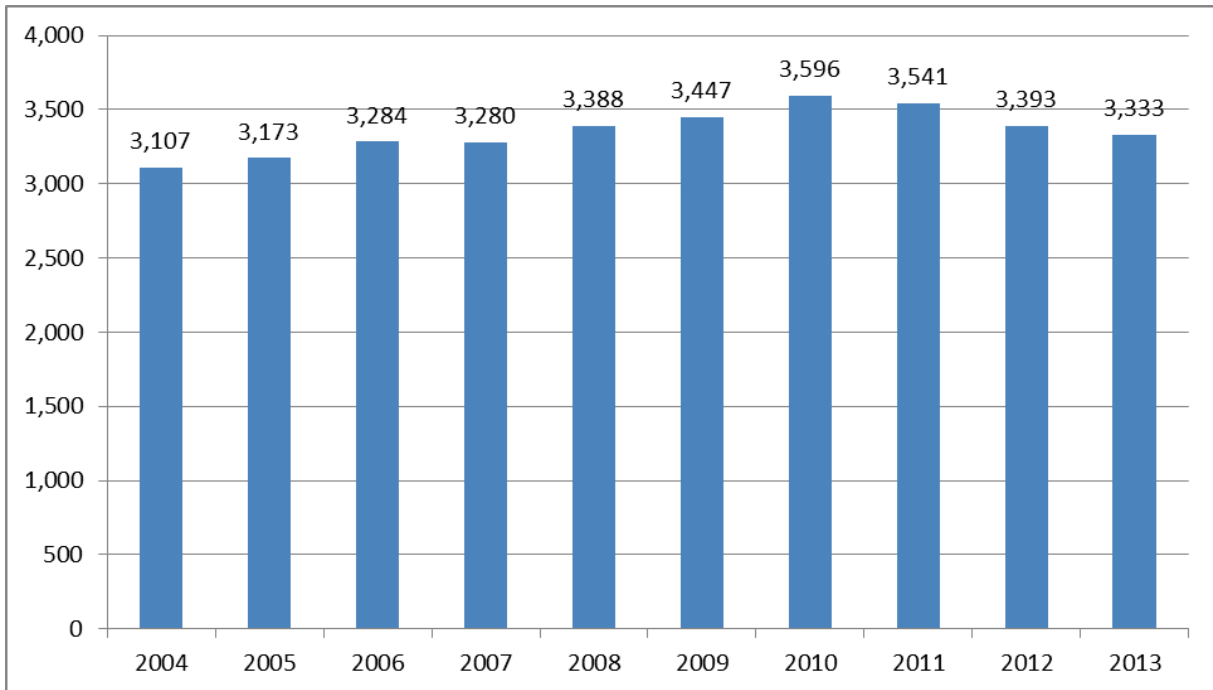
Firms and workers in Specialty Trade Contractors (STC) perform work in many industry sectors including RBC and Non-Residential Construction. The amount of time spent working in RBC is unknown. Specialty contractors, including finish and framing carpenters, may work full-time or part-time in the RBC industry and yet be categorized as working in the STC industry. For this reason the figure 5,095 under-estimates the number of workers who performed all or part of their work in RBC in 2011.

Data for Figure 3 came from The National Household Survey (NHS). Data from this survey are available on line on the Statistics Canada website. The NHS is done in conjunction with the Census and is carried out every five years. Tables are produced from the survey at dates specified on the Statistics Canada website.

5.0 SUPPLY SIDE: EMPLOYEES IN RESIDENTIAL BUILDING CONSTRUCTION

The Survey of Employment, Payroll and Hours (SEPH), produced by Statistics Canada, provides an estimate of employment in the RBC industry. These data cover employees only and do not include self-employed trades workers in the industry. The number of employees in the industry from 2004 to 2013 is shown in Figure 4.

Figure 4 – Employees in the RBC Industry, NS



Source: Survey of Employment, Payroll and Hours, Statistics Canada, CANSIM Table 281-0024, <http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&p2=33&id=2810024>.

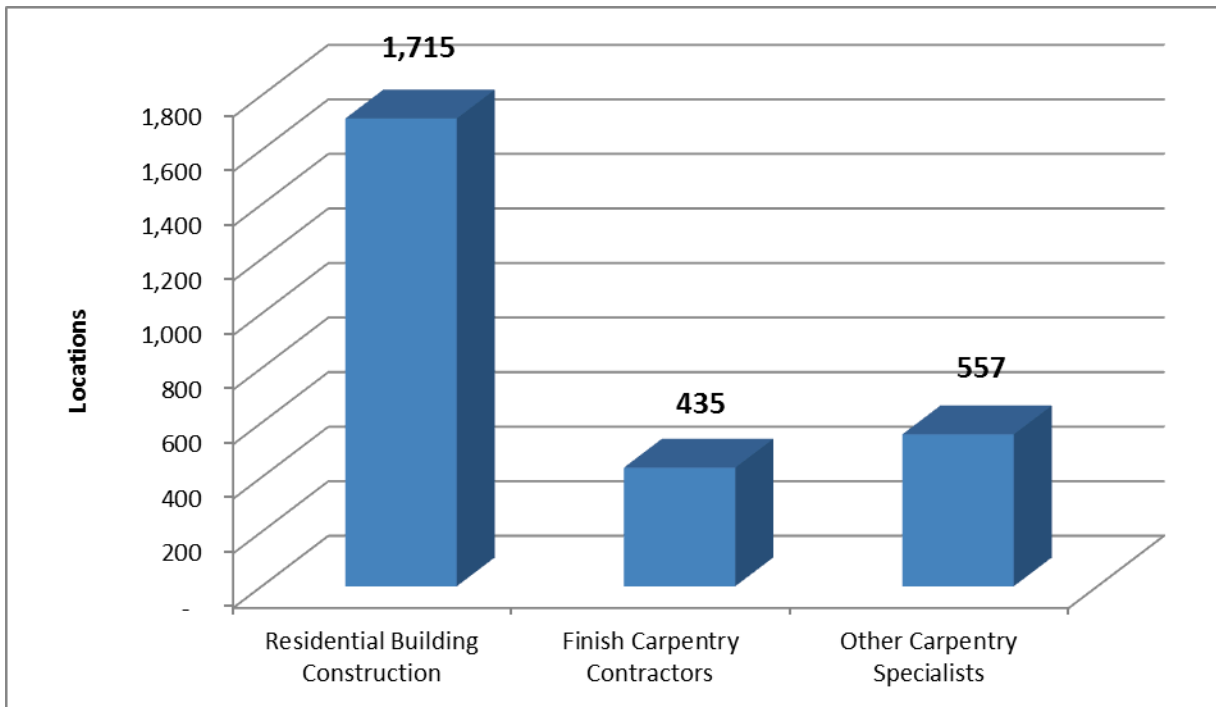
Figure 4 shows that the number of employees in the RBC industry grew from about 3,100 in 2004 to 3,600 in 2010 and then declined to approximately 3,300 in 2013. These data can be updated annually.

Data from the SEPH are available on line from CANSIM on the Statistics Canada website. They are produced monthly and annually.

6.0 SUPPLY SIDE: LOCATION COUNTS BY SPECIALTY

The Business Register produced by Statistics Canada provides more information on specialized trades that work in the Specialty Trades Contracting industry. Figure 5 provides location counts for enterprises classified using NAICS as of December, 2013.

Figure 5 – Location Counts by Specialty, December, 2013



Source: Statistics Canada, Business Register, CANSIM Table 551-0005, § <http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&p2=33&id=5510005>,

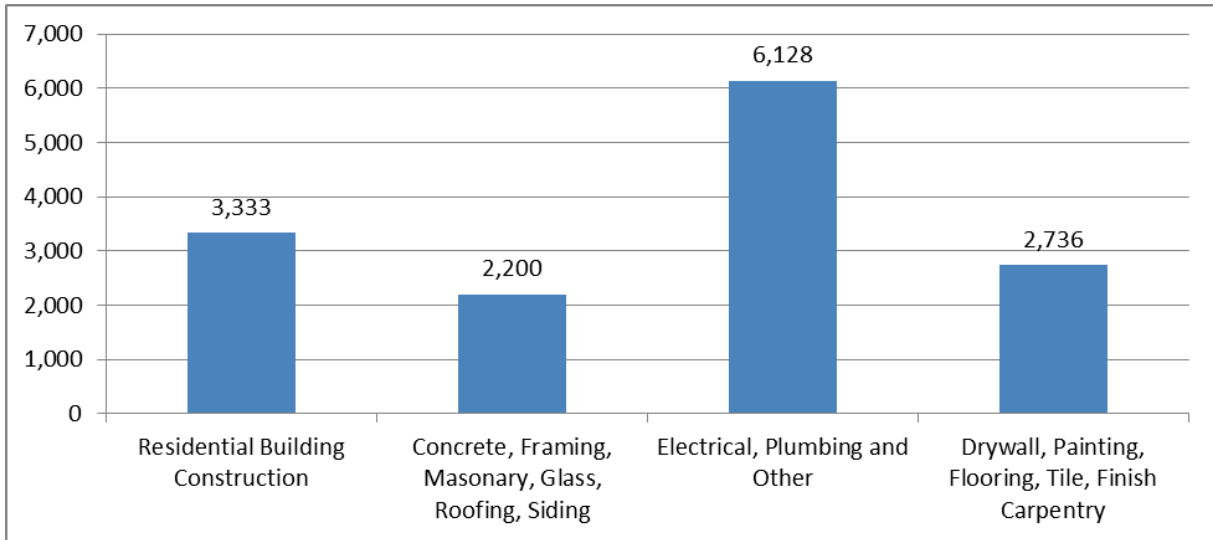
Figure 5 shows that there were hundreds of Carpentry-related specialists business locations classified outside the RBC industry in 2013. The data in Figure 5 come from the Business Register produced by Statistics Canada twice annually on June 30 and December 31.

Business Register data are available from CANSIM on the Statistics Canada website. The data are updated biannually on June 30 and December 31.

7.0 SUPPLY SIDE: EMPLOYEES BY INDUSTRY SECTOR

Figure 6 shows the number of employees classified in the RBC industry, and those in firms in the Specialty Trades Contracting industry, in Nova Scotia in 2013.

Figure 6 – Employees by Industry Sector, 2013



Source: Statistics Canada, Survey of Employment, Payroll and Hours, CANSIM Table 281-0024, <http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&p2=33&id=2810024>.

Figure 6 shows that thousands of employees working in trades specialties were classified as working in the within the Specialty Trades Contracting industry rather than the RBC industry. Many of these workers spent all or part of their time in residential building construction but were classified according to their specialty rather than the industry in which they worked.

The data in Figure 6 were extracted from the SEPH. Data from the SEPH are available on line from CANSIM on the Statistics Canada website. They are produced monthly and annually.

8.0 SUPPLY SIDE: CARPENTRY LABOUR FORCE

Carpentry is the most important occupation in the RBC industry. The number of Carpenters in the RBC industry cannot be determined from available data. Available data do show that 42% of Carpenters worked in the Building Construction industry in 2011. The Building Construction industry is comprised of RBC and Non-Residential Building Construction. Just under one-half of the Carpentry labour force worked in the Specialty Trades Contracting industry in Nova Scotia in 2011. The employment distribution of Carpenters among Construction industry sectors is presented in Figure 4.

Figure 7 – Employed Carpenters, NS, 2011

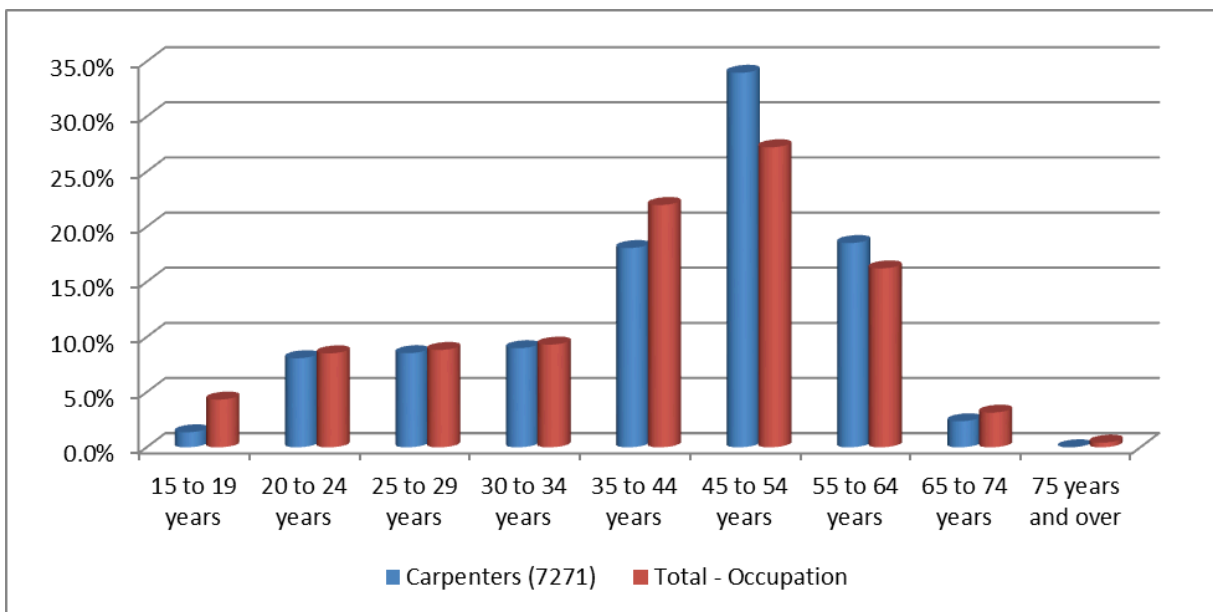
| | |
|-----------------------------|-------|
| <i>All Industries</i> | 5,510 |
| Construction Industry | 4,685 |
| Building Construction | 2,295 |
| Specialty Trade Contracting | 2,380 |

Source: Statistics Canada, National Household Survey, 2011. <http://www12.statcan.gc.ca/census-recensement/index-eng.cfm>. (See: National Household Survey tab)

9.0 SUPPLY SIDE: AGE PROFILE OF CARPENTERS

The age profile of Carpenters provides important information relevant to expected retirements in this occupation. The 2011 profile is summarized in Figure 8.

Figure 8 – Carpenter Age Profile, NS, 2011



Source: Statistics Canada, National Household Survey, 2011. <http://www12.statcan.gc.ca/census-recensement/index-eng.cfm>. (See: National Household Survey tab)

Note that the proportion of Carpenters 45 years old and above is higher than for all occupations in the province. These data indicate that retirement rates in Carpentry may be relatively high in upcoming years. This possibility is confirmed by both BuildForce Canada and Canmac Economics who both forecast high retirement rates among Carpenters.

It is interesting to note that far fewer Carpenters were under 20 years old than was the case for the Nova Scotia labour force as a whole. BuildForce Canada and Canmac Economics point to weak recruitment into the Carpentry occupation and retirement levels in excess of recruitment levels as issues facing the workforce. The Statistics Canada age profile confirms expert analysis that indicates that recruitment and pending retirements are significant issues facing the Carpentry labour force in Nova Scotia.

As with the previous two topics, data on age profile of Carpenters comes from the NHS which is updated every five years on the Statistics Canada website.

10.0 SUPPLY SIDE: EDUCATION PROFILE OF CARPENTERS

The educational attainment of Carpenters in Nova Scotia is summarized in Figure 10.

Figure 9 – EDUCATION PROFILE OF CARPENTERS, 2011

| | |
|---|------------|
| Percentage that did not complete high school | 19% |
| Percentage with a high school diploma but nothing more | 21% |
| Percentage with a post-secondary certificate, diploma or degree | 60% |
| Percentage with an Apprenticeship or trades certificate or diploma | 34% |

Source: Statistics Canada, National Household Survey, 2011. <http://www12.statcan.gc.ca/census-recensement/index-eng.cfm>. (See: National Household Survey tab)

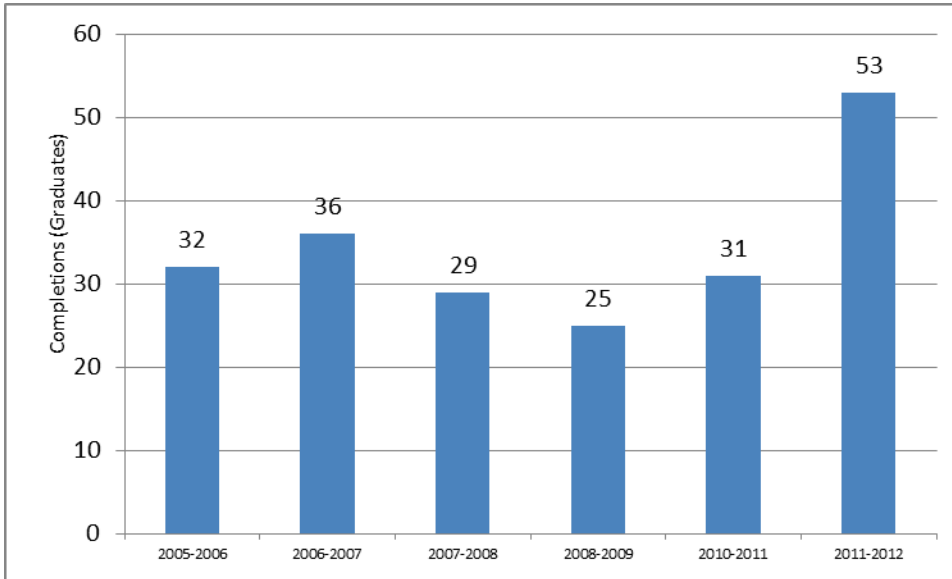
Figure 10 shows that roughly 40% of Carpenters had no educational attainment beyond high school and 66% did not hold a trades certificate. Figure 9 illustrates an important aspect of the Carpentry trade; it is not mandatory to participate in Apprenticeship and hold a trades certificate to be employed as a Carpenter.

Data for Figure 9 came from The National Household Survey (NHS). Data from this survey are available on line on the Statistics Canada website.

11.0 SUPPLY SIDE: APPRENTICESHIP COMPLETIONS – CARPENTERS

One measure of recruitment into the Carpentry trade is Apprenticeship. It is not mandatory to have a Trades Certificate to practice the trade so recruitment into the trade is not limited to individuals who are Apprentices or Trades Certificate holders. Nevertheless, it is useful to examine data Apprenticeship completions. These data are presented in Figure 10.

Figure 10 – Carpentry Apprenticeship Completions, NS



Source: Labour and Advanced Education, NS, Apprenticeship Statistics, <http://nsapprenticeship.ca/>.

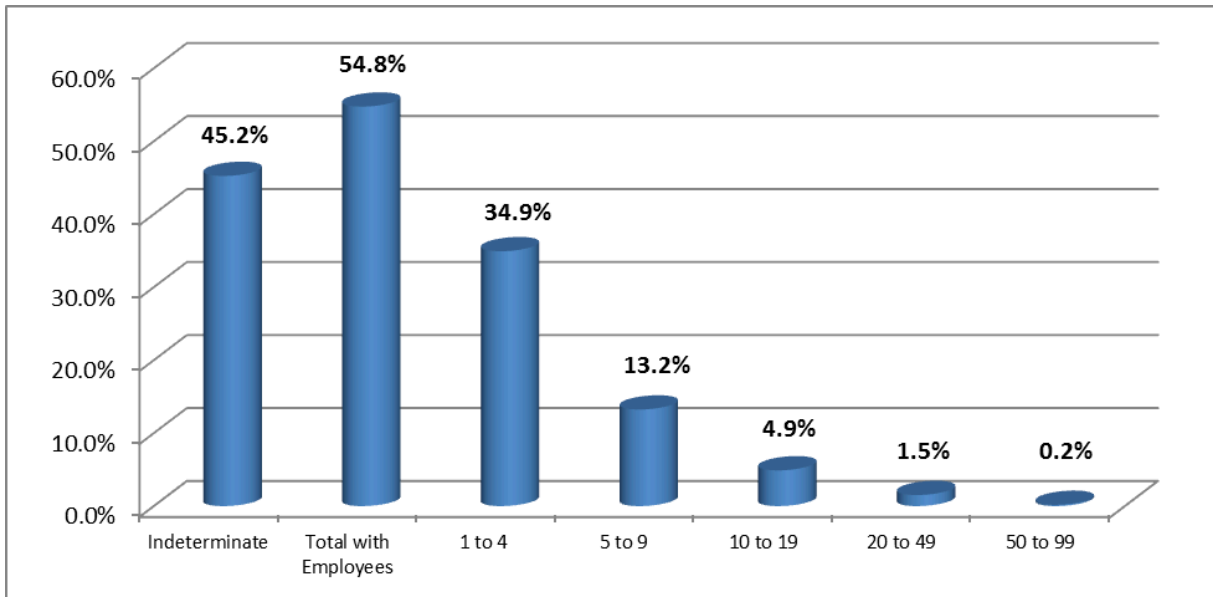
Figure 10 shows that completions were in the 30 range from 2005 to 2011 before jumping up to 53 in 2011-2012. Even at the relatively high figure of 53 in 2011-2012, Carpentry completions accounted for about 1% of the estimated Carpentry workforce in 2011. Previous data and analysis indicate that recruitment is a major issue in the Carpentry trade. The data in Figure 10 show that a lack of recruitment through Apprenticeship contributes to the recruitment problem facing the Carpentry trade.

Data on Apprenticeship completions is available on line at the Labour and Advanced Education website. The Forms and Publications tab on this website provides access to the Annual Reports of the Apprenticeship Training Division which includes the Apprenticeship Completions data.

12.0 SUPPLY SIDE: LOCATION COUNTS IN RBC BY SIZE

Data produced by Statistics Canada in the Business Register provide insights into the structure of the RBC industry. The data are presented in Figure 11.

Figure 11 – Location Counts in RBC by Employee Size Range, December, 2013



Source: Statistics Canada, Business Register, CANSIM Table 551-0005, § <http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&p2=33&id=5510005>,

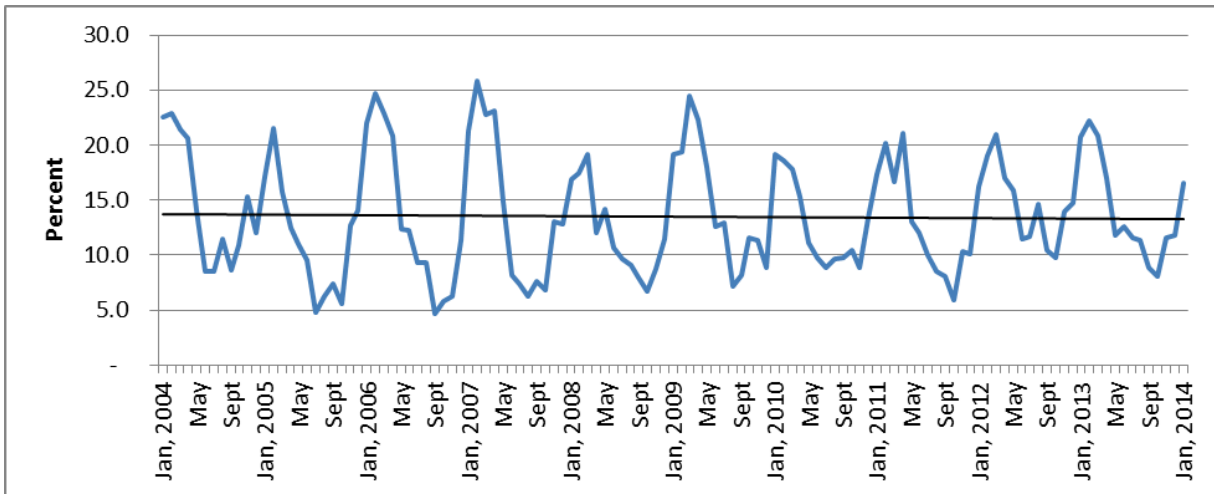
Indeterminate locations are those that do not maintain an employment payroll. Many of these would be single person enterprises owned and operated by Carpenters and other trades specialists. Figure 11 indicates that just under 50% of enterprise locations in the RBC industry are comprised of only one individual and 80% have fewer than five employees. These data, combined with the data on the age profile of Carpenters, point to an impending problem of succession in the industry, that is, many firms in the industry are small and the owners of the firms are nearing retirement.

Business Register data are available from CANSIM on the Statistics Canada website. The data are updated biannually on June 30 and December 31.

13.0 SUPPLY SIDE: CONSTRUCTION INDUSTRY UNEMPLOYMENT RATE, NS

The unemployment rate is an indicator of labour demand relative to the supply of labour. The monthly unemployment rate in the Construction industry in Nova Scotia, as estimated by the Labour Force Survey, is illustrated in Figure 12. The unemployment rate for the RBC is not available from this survey.

Figure 12 – Unemployment Rate in the Construction Industry, NS



Source: Statistics Canada, Labour Force Survey, CANSIM Table 282-0007, <http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&p2=33&id=2820007>.

Figure 12 shows that the unemployment rate increases in the winter months and decreases in the summer. The seasonality in the unemployment rate was the highest in the 2006 – 2007 period and has dropped somewhat in recent years. The black trend line in Figure 12 shows that the unemployment rate has trended down slightly over the last ten years. The unemployment rate in the Construction industry was 57% higher than the rate for all industries in Nova Scotia over the 2004 – 2013 period and 55% higher in 2013.

Labour Force Survey data are available from CANSIM on the Statistics Canada website. The data are updated monthly and annually.

14.0 SUPPLY SIDE: HOURLY AND WEEKLY WAGES IN RBC

Wages are another indicator of the balance between the demand for and supply of labour. Hourly and weekly wages for the RBC industry in Nova Scotia were examined from 2004 and 2013 and compared to wages for all industries in Nova Scotia. Average weekly earnings in RBC were \$680.37 in 2013 and were 17% below wages in all industries in Nova Scotia. Average weekly earnings in RBC grew by 7% from 2004 to 2013 compared to 26% for all industries.

Average hourly earnings in RBC were \$18.76 in 2012 and were 8% lower than wages in all industries in Nova Scotia. Average hourly earnings in RBC grew by 27% from 2004 to 2013 which was roughly the same rate as for all industries in Nova Scotia.

Hourly and weekly wage estimates are based the Survey of Employment, Payroll and Hours and are available on line on the Statistics Canada website through CANSIM (See: CANSIM Table 281-00274 and Table 281-0030, <http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&p2=33&id=2810027>, <http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&p2=33&id=2810030>).

15.0 POLICY IMPLICATIONS

The data presented in this report have the following policy implications.

15.1 Importance of RBC

The data on the contribution of Residential Building to the Canadian economy show that it is an important industry and it has become increasingly important over the last ten years. It contributes more than twice as much to the economy as Non-Residential Building and its contribution to the economy and employment is understated in official government statistics. The trades training and human resource needs Residential Building Construction industry should receive priority attention, especially for critical Carpentry-related trades.

15.2 Carpentry Specialties

Labour force and employment data show that a large number of business enterprises specialize in specific aspects of Carpentry such as Framing and Finishing. Obviously, workers at these enterprises also would be specialists. While these enterprises and workers are classified outside the RBC industry, many work full- or part-time in residential building. The human resource and training needs of Carpentry-related specialists should be identified and addressed.

15.3 Recruitment

Recruitment into the crucial Carpentry trade is a major issue due to a relatively old workforce and forecasts of high retirements and low recruitment into the trade in upcoming years. Factors effecting recruitment include wage levels, working conditions and benefits, seasonality, job security and trades qualification requirements. Methods to improve the recruitment and retention of Carpenters should be identified and implemented and data on the factors affecting recruitment should be monitored.

15.4 Succession

High retirement rates imply that succession could become a significant issue in the RBC industry. Business Register data suggest that most businesses in the industry are small, often consisting only of a single owner-operator. Large numbers of highly skilled journeymen Carpenters and successful business people will be looking to sell their businesses and retire over the next decade. This transition could have negative consequences for skill levels and business efficiency in the RBC industry. The significance of this issue should be determined and policies that could mitigate the negative consequences of succession issues should be studied and implemented if warranted.

15.5 Renovations

Both forecasts reviewed for this study indicate that renovation activity will increase in the future. The training and human resource policies of the renovation sector of the RBC should be prioritized to reflect the increasing importance of this sector. A particular issue to be addressed is the degree to which renovators specialize and the existence of specialized skills among renovators.

15.6 Labour Mobility

No data exist on the geographic mobility of workers in the RBC industry. Mobility is critically important to resolving regional shortages and surpluses of workers. The BuildForce Canada forecast noted that some areas of the province, particularly Halifax, will enjoy more robust growth in the RBC industry than other regions. If so, shortages of workers could be experienced in the Halifax area while surpluses could occur in other regions of the province. A key question is: will mobility resolve the forecast labour imbalances? A follow-up question is: what policies can be adopted to increase the mobility of workers from regions of surpluses to those where shortages exist?

16.0 FOLLOW-UP DATA COLLECTION AND STUDIES

The development of human resource and training policies in the RBC industry must be supported by the ongoing analysis of data on key indicators and by the completion of several special studies. The data support the derivation of human resource and training strategies that best address the needs of the RBC industry. There are a number of areas where additional information would be an asset. In particular, more information on Carpentry-related specializations, recruitment, succession, labour mobility and renovations activity are required to understand and address human resource and training issues in the RBC industry.

16.1 Carpentry-related Specializations

Figures 5 and 6 showed that there are a large number of enterprises and workers in the Specialty Trades Contracting industry who specialize in a Carpentry-related trade. What isn't known is the degree to which these enterprises and workers provide services to the RBC industry. It also would be useful to document the skills set of workers in the STC industry and the similarity of this skillset to workers in the RBC industry. This analysis would facilitate the development of training programs aimed specifically at the needs of the STC industry.

16.2 Recruitment

Inadequate recruitment of Carpenters poses perhaps the greatest problem for the RBC industry. The high levels of retirements forecast for the RBC industry bring an even greater sense of urgency to this issue. The causes of low recruitment should be carefully studied and policies to increase recruitment should be developed.

16.3 Succession

A large number of the most senior Carpenters and business owners are forecast to retire over the next five to ten years resulting in a significant loss of skills and expertise. This situation warrants study to determine the incidence and significance of succession problems and develop policies to mitigate negative impacts.

16.4 Labour Mobility

BuildForce Canada forecasts indicate that future growth in the RBC industry will be greater in metro Halifax than in other areas of the province. This finding suggests that labour shortages may be an issue in the Halifax area while other areas of the province may experience labour surpluses. The key question is whether workers in areas of surplus will move to areas of shortage. The lack of information on labour mobility of RBC workers

makes it impossible to answer this question. A study to document labour mobility and develop policies to increase mobility could improve the balance of workers in the RBC industry across the province.

16.5 Renovations

This study shows that the renovations sector of the RBC industry is growing in importance. The human resource and training requirements of the renovations sector should receive priority focus in policy development. A particular issue of importance is the degree to which renovators specialize and skill requirements of renovation workers in relation to those of involved in new home building.