

# A HUMAN RESOURCES STUDY OF THE CONSTRUCTION INDUSTRY ON PRINCE EDWARD ISLAND

*Profile of the Construction Industry and Its Workforce*

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## The Industry

### 1.0 The Industry

#### 1.1 Industry Composition, Size and Structure

In June 2001, the Statistics Canada Business Register showed a total of 1,050 establishments engaged in construction activity in Prince Edward Island. Trade contracting comprised the largest group of businesses, with 612 establishments registered. Residential construction and renovation made up an additional 276 businesses on the Island.

The trades contracting category included:

- ▲ 71 plumbing firms,
- ▲ 89 electrical work firms,
- ▲ 67 carpentry firms,
- ▲ 70 painting and decorating firms and
- ▲ 44 excavating and grading firms.

Most of these establishments are small businesses, employing fewer than ten workers or are of indeterminate size (establishments that do not maintain a payroll but may hire contract workers, family members, or business owners, likely small businesses). In the trade contracting establishments for example, almost half employed fewer than five workers. Only eleven of the establishments employed more than fifty workers; these tended to be in non-building construction (mostly building highways, streets and bridges) or construction services such as project management. Although engineering construction establishments comprised only about 5% of the total number of establishments they represented a proportionately greater number of employees since they tend to hire a larger number of employees.

The table below shows the number of business establishments on the Island in 2001, according to the Statistics Canada Business Register. The table uses the Standard Industrial Classification System (SIC) to categorize companies.

**Table 1**  
**Business Establishments by Size, PEI, 2001**

	Total	Indeterminate <sup>1</sup>					
		1-4	5-9	10-19	20-49	50 +	
401 Residential Building and Development	276	77	134	33	24	8	0
402 Non-Residential Building and Development	30	5	9	2	9	5	0
411-412 Industrial and Heavy (Engineering) Construction	54	10	11	8	10	10	5
42 Trade Contracting	612	192	299	58	38	22	3
44 Construction Services incl project management	78	57	12	3	3	0	3
<b>Total Construction Establishments</b>	<b>1050</b>	<b>341</b>	<b>465</b>	<b>104</b>	<b>84</b>	<b>45</b>	<b>11</b>

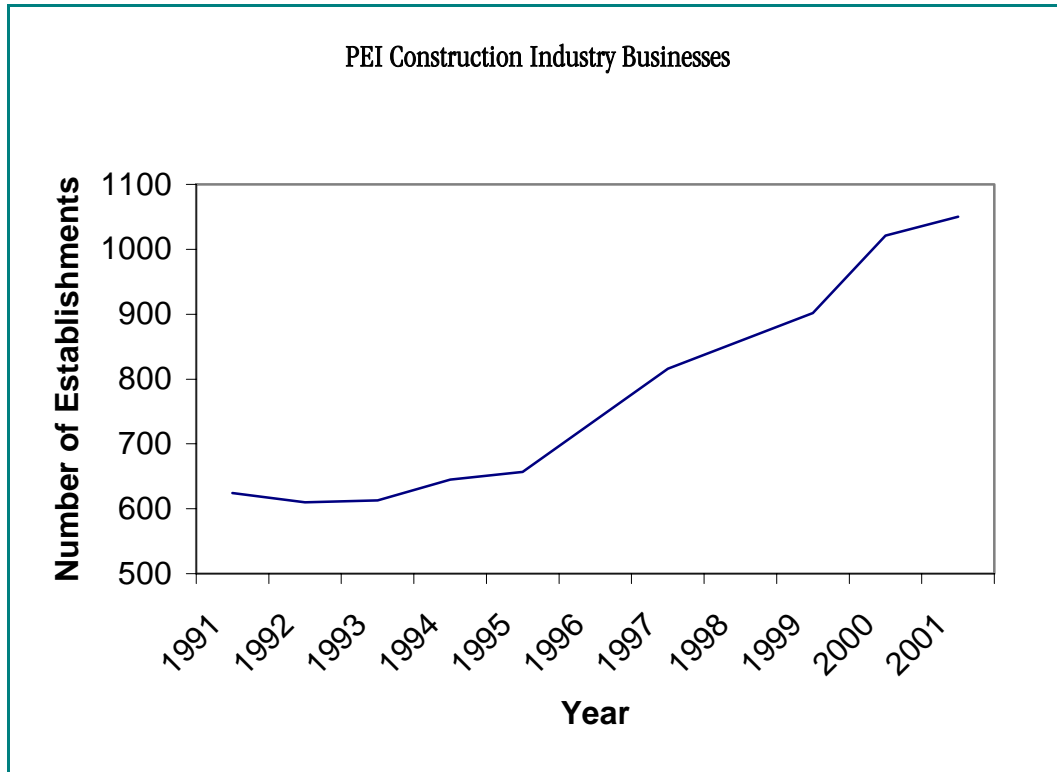
Source: Statistics Canada Business Register

There has been a substantial growth in the number of establishments in the construction industry in the past ten years. The total number of construction establishments grew from 624 in 1991 to 1050 in 2001, an average annual growth rate of 5.3%. The number of establishments showed a slight decline in the early 1990s and grew at an average rate of 8.1% since 1995.

<sup>1</sup> Establishments which do not maintain a payroll but may hire contract workers, family members, or business owners



Figure 1

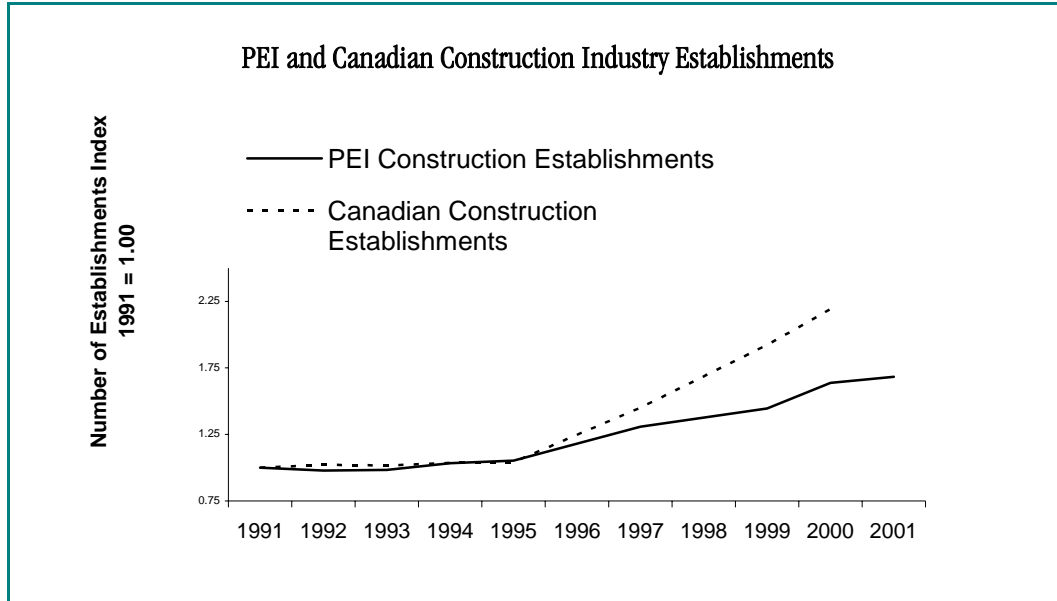


Source: Statistics Canada Business Register

The number of construction establishments in Canada as a whole has been growing at a faster rate than that of PEI. There were over twice as many construction establishments in Canada in 2001 than there were in 1991.



Figure 2

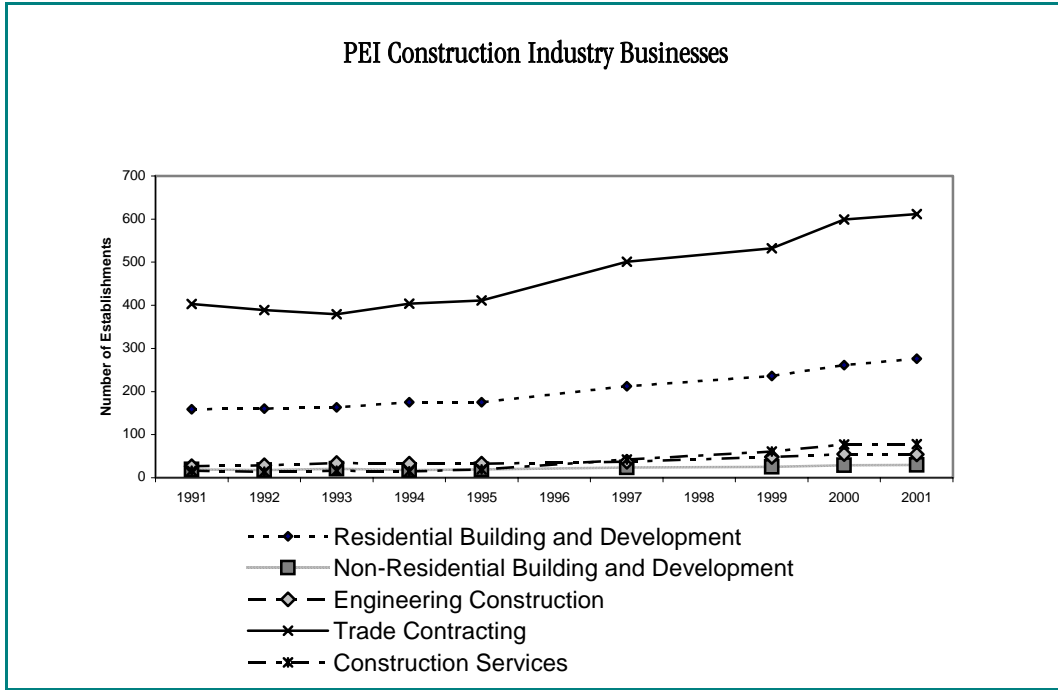


Source: Statistics Canada Business Register

Individual sectors of the industry showed similar growth. The number of establishments in trade contracting, for example, grew from 403 to 612 from 1991 to 2001, and the number of establishments in residential construction and renovation increased from 149 to 276. The number of establishments in non-residential building and development increased from 19 to 30, and the number of engineering construction firms doubled from 27 to 54.



Figure 3



Source: Statistics Canada Business Register

## 1.2 Geographic Dispersion

There are three counties in PEI: from west to east, Prince (which includes the City of Summerside), Queens (which includes the City of Charlottetown) and Kings. Queens, the most populous of the three, also has the greatest number of construction establishments.

**Table 2**  
**Construction Establishment Breakdown by County, PEI, 2001**

	<b>Prince</b>	<b>Queens</b>	<b>Kings</b>
401 Residential Building and Development	30.4%	55.8%	13.8%
402 Non-Residential Building and Development	33.3%	53.3%	13.3%
411-412 - Industrial and Heavy (Engineering) Construction	29.6%	61.1%	9.3%
42 Trade Contracting	28.9%	59.0%	12.1%
44 Construction Services incl. project management	20.5%	73.1%	6.4%
<b>TOTAL CONSTRUCTION ESTABLISHMENTS</b>	<b>28.9%</b>	<b>59.1%</b>	<b>12.0%</b>
Population 15 years +	32.8%	53.0%	14.2%
Labour Force	32.5%	53.3%	14.2%
Employed Labour Force	31.8%	54.4%	13.8%

Source: Statistics Canada Business Register

The geographical distribution of the residential and non-residential construction establishments closely mirrors the distribution of the population and labour force on the Island. Non-Building Industrial Construction, Trade Contracting and Construction Services have a disproportionate number of establishments located in Queens County (home of Charlottetown). Queens has a total of 61% of the non-building industrial construction establishments, for example, even though it has only about 53% of the population over 15 years of age.



## The Workforce

### 2.0 The Workforce

#### 2.1 Number of Workers

Major group H in the Standard Occupational Classification (SOC 91) system includes all individuals in trades, transport and equipment operators and related occupations. Construction trades (Group H1 in SOC 91) are a sub-group of trades, transport and equipment operators and related occupations (Major Group H in SOC 91). Group H1 includes occupations designated as construction occupations including plumbers, pipefitters, carpenters and cabinetmakers, bricklayers, cement finishers, tilesetters, plasterers, drywall installers and finishers, roofers and shinglers, glaziers, insulators, painters and floor covering installers.

For the remainder of this report, trades, transport and equipment operators and related occupations (Major Group H in SOC 91) will be referred to as trades workers while Construction trades (Group H1 in SOC 91) will be referred to as construction workers.

The number trades workers remained nearly constant between 1991 and 2001, dropping slightly from 10,655 to 10,555. The number of tradespeople in Canada as a whole also remained constant during this period.

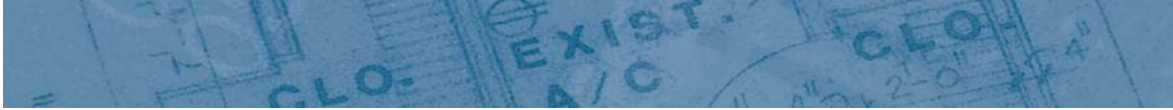
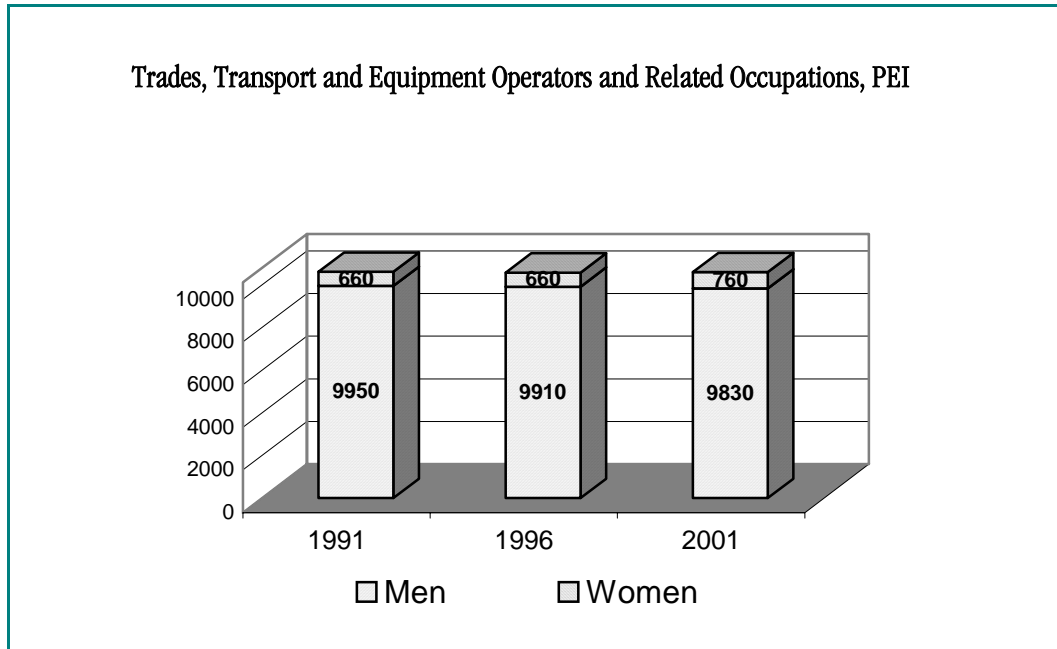


Figure 4



The overall number of workers in many trades is small, so small variations in the numbers can lead to large percentage increases or decreases. It also should be noted that the labour force estimates in the Census are based on a 20% sample and estimates for individual trades with small numbers in the labour force may contain an unacceptably high level of error. For these reasons, the Census data presented here should be interpreted with caution, especially data for individual occupations with small numbers of workers.

The following table presents Census data on the size of the labour force in occupations in Major Group H, Trades, Transport and Equipment Operators.

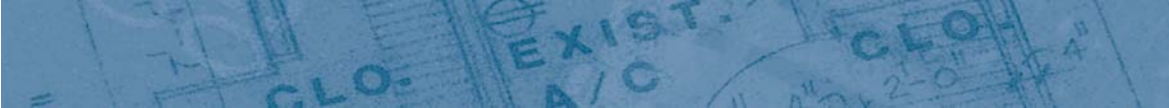


**Table 3**  
**Trades Workforce by Trade, PEI, 1991-2001**

	2001	1996	1991	% increase/ decrease 1991-2001
H Trades, transport and equipment operators and related occupations	10,560	10,615	10,630	-1%
H1 Construction trades	1,830	1,745	1,770	3%
H11 Plumbers	180	165	155	16%
H12 Carpenters and cabinetmakers	1,080	1,040	1,110	-3%
H13 Masonry and plastering trades	145	155	115	26%
H131 Bricklayers	45	50	50	-10%
H132 Cement finishers	30	45	15	100%
H133 Tilesetters	15	0	10	50%
H134 Plasterers, drywall installers and finishers, and lathers	50	65	40	25%
H14 Other construction trades	370	345	340	9%
H141 Roofers and shinglers	35	45	10	250%
H142 Glaziers	20	10	30	-33%
H143 Insulators	40	35	0	0%
H144 Painters and decorators	235	220	250	-6%
H145 Floor covering installers	45	40	50	-10%
H2 Stationary engineers, power station operators and electrical trades and telecommunications occupations	710	495	770	-8%
H21 Electrical trades and telecommunications occupations	575	430	510	13%
H211 Electricians (except industrial and power system)	250	165	210	19%
H3 Machinists, metal forming, shaping and erecting occupations	275	380	175	57%
H4 Mechanics	1,375	1,285	1,260	9%
H5 Other trades, n.e.c.	365	385	350	4%
H6 Heavy equipment and crane operators including drillers	680	775	600	13%
H7 Transportation equipment operators and related workers, excluding labourers	2,440	2,460	2,230	9%
H8 Trades helpers, construction and transportation labourers and related occupations	2,495	2,445	2,625	-5%

Source: Census Canada

The number of workers in the construction trades (SOC H1) increased slightly from 1991 to 2001. The number of carpenters and cabinet makers decreased slightly over this period while some of the smaller construction trades appear to have increased substantially. The number of plumbers increased



moderately between 1991 and 2001, as did electricians.

The number of workers in most trades other than construction trades increased moderately or, in the case of machinists (SOC H3), significantly between 1991 and 2001. It is interesting to note that the number of machinists more than doubled between 1991 and 1996 but declined in 2001. Two trade groups, Stationary Engineers (H2) and Trades Helpers/Labourers (H8) experienced moderate decreases in the size of the labour force.

The most important numerous trades in the construction industry are trades helpers (26% of total construction trades in the construction industry), carpenters and cabinet makers (24%), heavy equipment operators (10%), stationery engineers (8%), plumbing related (5%), masonry trades (3%), painters and other miscellaneous construction trades (8%).

Six percent of the construction trades workforce in the construction industry was in management and supervisory related occupations.

## **2.2 Occupations by Industry Component**

In the North American Industrial Classification System (NAICS), the industry is divided into prime contracting – building construction, prime contracting – engineering construction, and trades contracting. In terms of employment of construction trades, trade contracting is most important, hiring 42% of the construction trade workforce in the industry in 2001. Prime contractors in the engineering construction hire about 31% of these tradespeople and building construction hires the remaining 26%.

Both engineering construction and building construction employ about 7% of the total trades in management and supervisory occupations.

In engineering construction, few of the traditional construction trades are used, but engineering construction generates much more demand for heavy equipment operators, drivers, mechanics, and it uses proportionately more trades helpers and labourers.

Carpenters make up two thirds of the building construction industry trades. One fifth is trades helpers



and labourers.

Trades contracting uses more of the specialty trades than prime contracting, particularly plumbers, roofers, painters and decorators, and electricians. For example, over 85% of plumbers, 90% of plasterers and masonry workers, and 90% of electrical trades in the construction industry are in trades contracting. These trades are likely to be contracted out.

A substantial number of construction tradespeople works outside the construction industry. Sixteen percent of plumbers and 19% of carpenters work in other industries. The majority of mechanics, stationary engineers, transportation equipment operators and trades helpers and construction and transportation labourers work outside the construction industry. Of the 8,685 workers listed in the 2001 Census as having National Occupational Classification (NOC) trades, only 3,055 actually worked in the construction industry. Significant employers outside the industry include utilities, manufacturers, transportation, public administration and education.

The construction industry also employed 880 people who were not in trades. These include managers, civil and mechanical engineers, landscapers, real estate and security personnel. Overall, these occupations make up about 22-23% of the construction industry workforce.

The table below shows the number of tradespeople according to industry in which they worked in 2001. The table presents data on the employed labour force as recorded in the 2001 Census.



**Table 3**  
**Employed Labour Force 15 years and over by Occupation and Industry, 2001, PEI**

	Total employed labour force	Non-Construction Industries	23 Construction	231 Prime contracting	2312 Building construction	2313 Engineering construction	232 Trade contracting
All occupations			3935	2280	1025	1185	1655
H Trades, transport and equipment operators and related occupations	8685	5630	3055	1755	790	935	1295
H1 Construction trades	1520	305	1215	565	530	20	650
H111 Plumbers	155	25	130	20	15	0	120
H12 Carpenters and cabinetmakers	890	165	725	525	500	15	205
H13 Masonry and plastering trades	105	5	100	10	10	0	90
H131 Bricklayers	30	5	25	0	0	0	30
H132 Cement finishers	10	0	10	0	0	0	10
H133 Tilesetters	15	0	15	0	0	0	15
H134 Plasterers, drywall installers and finishers, and lathers	50	0	50	10	10	0	40
H14 Other construction trades	305	65	240	10	10	0	230
H141 Roofers and shinglers	20	0	20	0	0	0	20
H142 Glaziers	20	5	15	0	0	0	15
H143 Insulators	35	5	30	0	0	0	30
H144 Painters and decorators	190	50	140	15	10	0	130
H145 Floor covering installers	40	0	40	0	0	0	40
H2 Stationary engineers, power station operators and electrical trades and telecommunications occupations	605	370	235	25	10	20	215
H21 Electrical trades and telecommunications occupations	490	260	230	20	10	20	205
H211 Electricians (except industrial and power system)	200	30	170	0	10	0	170
H3 Machinists, metal forming, shaping and erecting occupations	595	500	95	20	10	10	80
H4 Mechanics	1260	1170	90	30	10	30	60
H5 Other trades, n.e.c.	330	290	40	10	10	0	35
H6 Heavy equipment and crane operators including drillers	405	115	290	225	20	200	70
H7 Transportation equipment operators and related workers, excluding labourers	1940	1835	105	75	10	65	30
H8 Trades helpers, construction and transportation labourers and related occupations	1705	905	800	685	155	525	115
Miscellaneous occupations (non-construction trades)			880	525	235	250	360

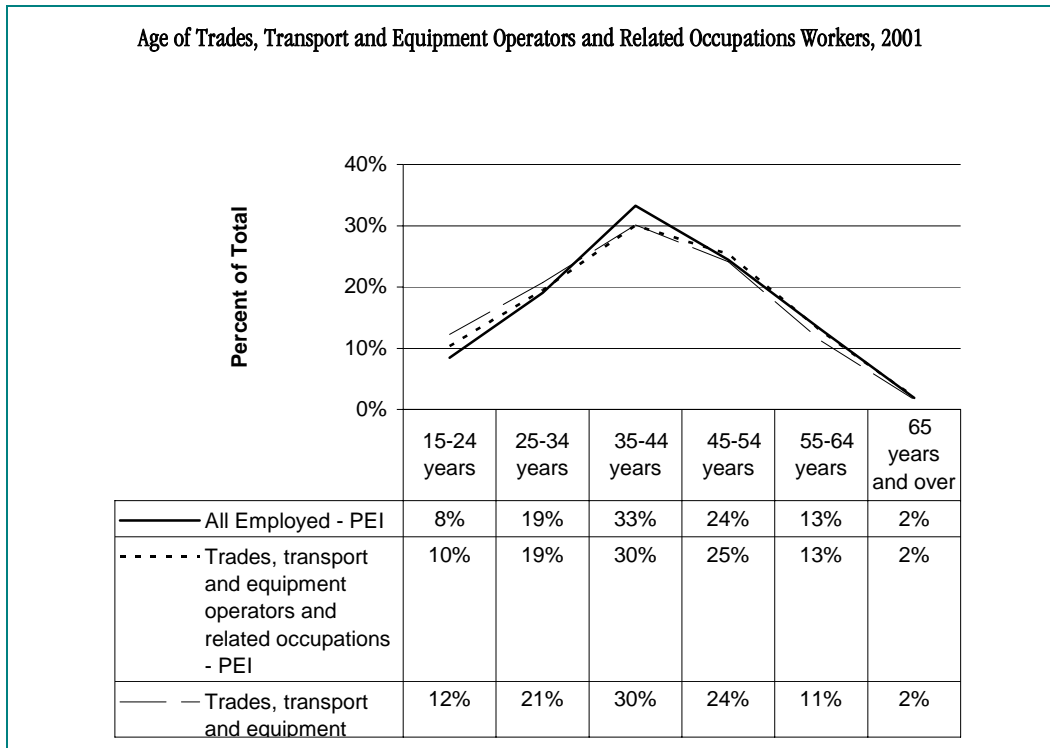
Source: 2001 Census

## 2.3 Age Profile

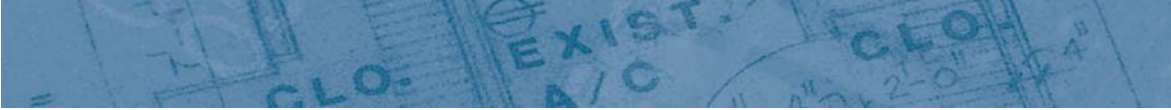
According to the 2001 Census, about 30% of people in trades occupations in PEI were in the 35-44 age category, and 40% were 45 years old or over. Twenty-nine percent were under 35 in 2001.

The age profile of trades worker occupations in PEI is similar to that of the Canadian average. It is also similar to the overall workforce on PEI.

Figure 5

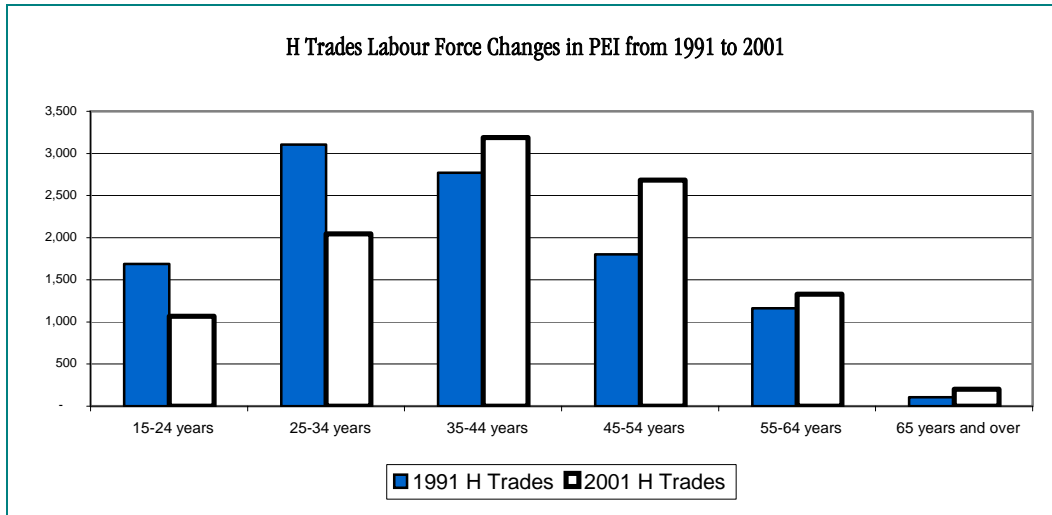


Source: 2001 Census



The total labour force in trades, transport and equipment operators and related occupations in PEI was virtually unchanged at about 10,600 between 1991 and 2001. The following exhibit shows, however, that the age profile of the workforce in 2001 was markedly different from that in 1991.

Figure 6



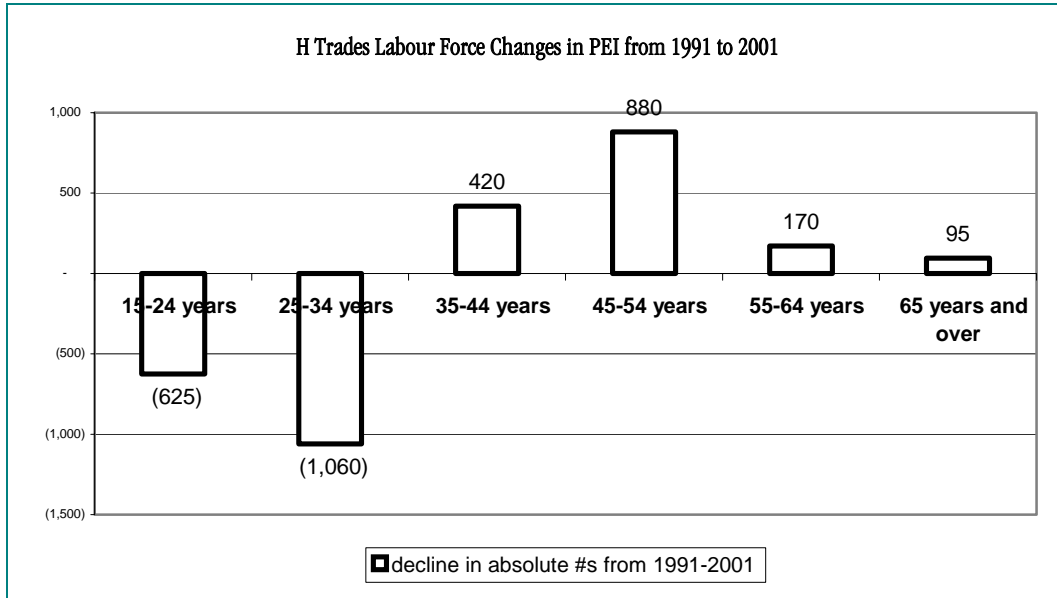
In 1991, roughly 1,700 trades workers, accounting for 16% of trades workforce, were under 25. The number of trades workers under 25 dropped to 1,065 in 2001, accounting for 10% of the trades workforce. The percentage of workers under 35 dropped from 45% to 29% during this same time period. The percentage in the 45-64 age bracket grew from 29 to 40% over the 1991- 2001 time period.

The above exhibit shows that there was a significant decline in the number of young people in trades, transport and equipment operators and related occupations in PEI and a significant increase in older workers. These changes are illustrated in the following exhibit.





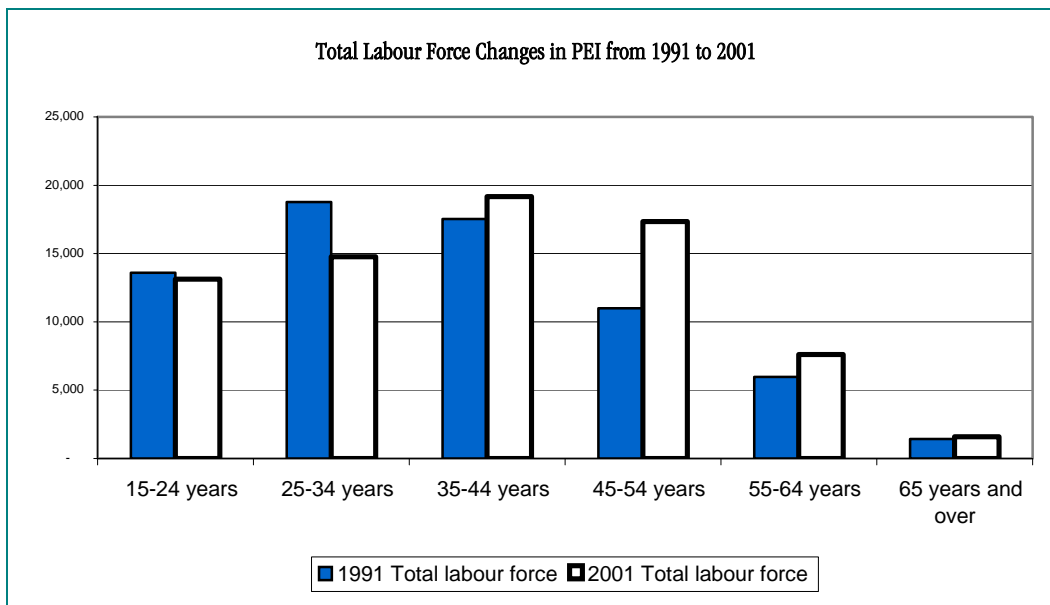
Figure 7



The number of young people (under 35 years old) in the trades decreased by about 1,700 (35%) from 4,800 in 1991 to 3,100 in 2001. Over the same period, the number of trades workers 45 and older increased by 1,565.

It is important to determine if the changing age profile of the trades workforce is a reflection of changes in the age profile of the overall workforce in PEI or whether it is caused by factors that are unique to trades workers. Analysis of the age profile of the overall workforce sheds some light on this issue. The age profile of the overall workforce in PEI is depicted in the exhibit below.

Figure 8



The exhibit shows that the number of workers under 25 in the overall workforce experienced a slight decrease (4%) compared to a 37% decrease experienced by trades workers. The number of workers in the 25-34 age group for the overall workforce also declined (21) but, once again, the decline was less than that experienced by the trades workforce (33%). The proportion of workers 45 years or older grew by 45% for the entire workforce compared to 37% for trades workers.

The comparative age profile data indicate that the decline in the number and proportion of young people in construction trades occupations was much greater than the decline in the number and proportion of young people in the overall workforce. This suggests that trades occupations experienced recruitment problems over this period that were not encountered in the overall workforce.

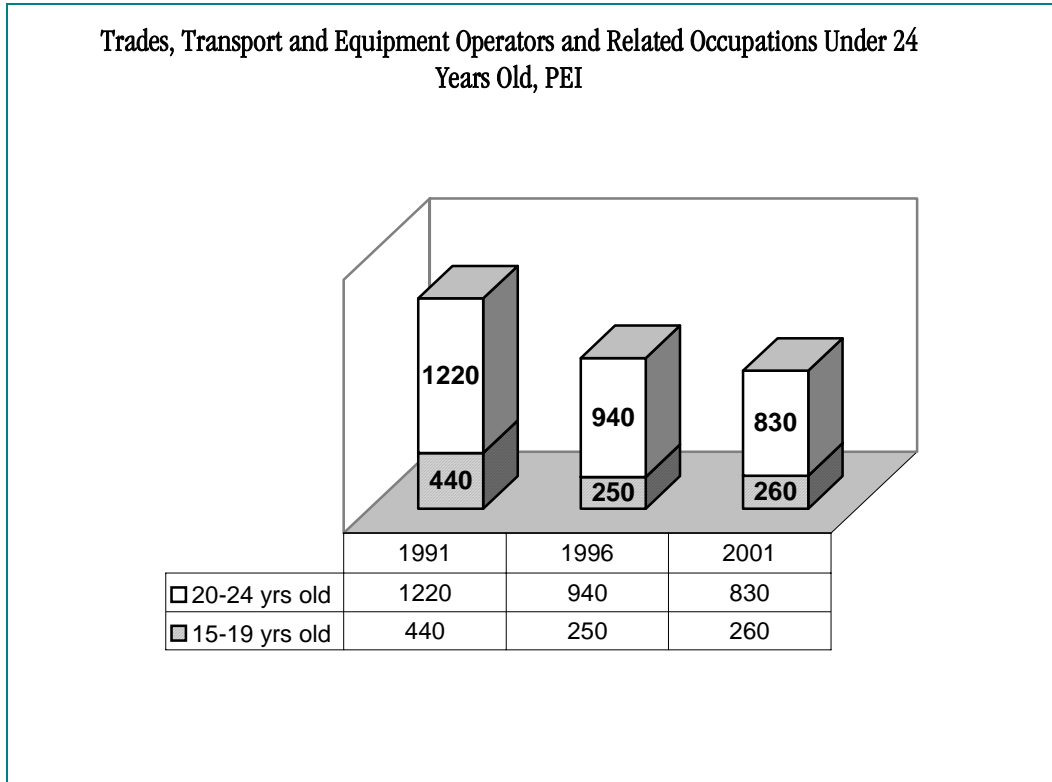


It is interesting to note that the decline in the proportion of young workers in trades, transport and equipment operators and related occupations in PEI reflects trend similar to that experienced in the Canadian labour force. For Canada as a whole, the number of workers under 25 in trades occupations declined by 17% from 1991 to 2001 compared to the 37% decline in PEI. This comparison indicates that trades occupations had Canada-wide recruitment problems between 1991 and 2001 but these problems were magnified in PEI. The widely-documented trades recruitment problems in Canada appear to be much more serious in PEI.

The number of trades people in the youngest age group (15-19) in PEI fell dramatically from 1991 to 2001. In 1991, there were 440 people in this age group in trades occupations. In 2001, there were only 260. By comparison, the total number of workers in the labour force in PEI between 15-19 increased from 5,075 to 5,400 during this same period. The fact the number of trades workers under 20 dropped dramatically while the number in the labour force grew may provide support for findings from Gunderson (2001) and others that trades occupations have an image problem among youth.



Figure 9



Source: 1991, 1996 and 2001 Censuses

For Canada as a whole, the number of people between 15 and 19 in the trades labour force was virtually unchanged at 75,500 between 1991 and 2001<sup>2</sup> while the number of people in the entire Canadian labour force in this age group grew slightly. The Canadian comparison shows that the recruitment problem for trades workers appears to be much more acute in PEI than for the country as a whole.

Small numbers in the age categories for specific construction trades limit conclusions that can be reached about the changing age profile of this sub-group. It appears, however, that the age profile of construction occupations changed in a similar way to that for all trades on PEI from 1991 to 2001.

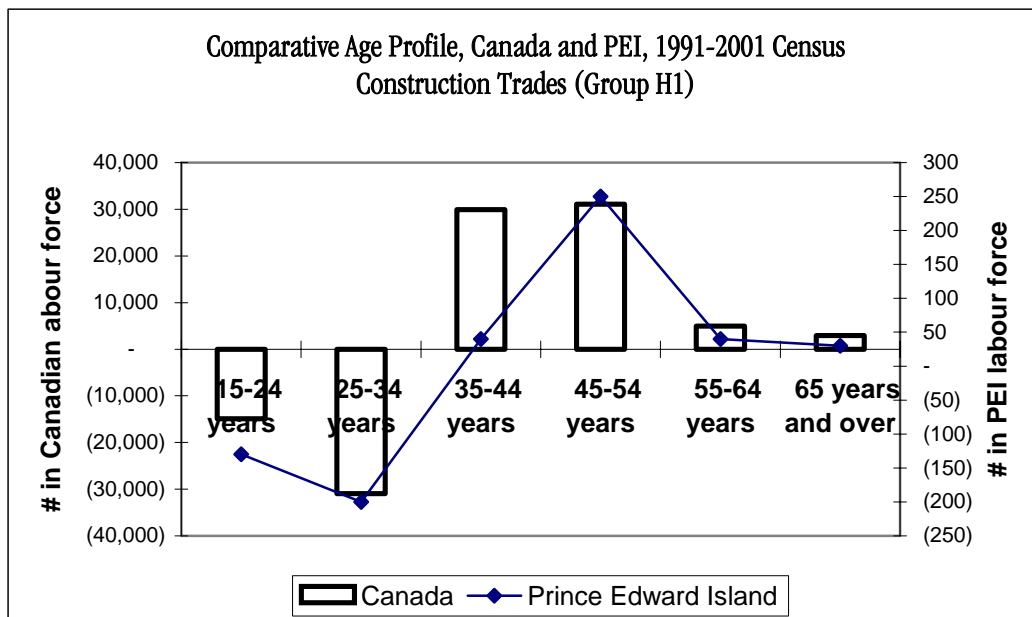
Census data show that the number of construction workers in the under 35 age groups declined by


<sup>2</sup>By contrast, the number of trades workers aged 20-24 in Canada dropped by 22% from 247,415 in 1991 to 194,045 in 2001.

about 40% from 1991 to 2001 while the age categories 45 and over experienced an increase in the number of workers. The increase in workers aged 45-54 was particularly large between 1991 and 2001.

The changing age profile of construction trades workers in PEI from 1991 to 2001 is depicted in the following exhibit. The exhibit also contains data on the age profile of construction workers in Canada as a whole. It shows that the trend in PEI reflects a very similar aging pattern as occurred in Canada between 1991 and 2001.

Figure 10





Analysis of the age profile of some key trades indicates that a serious recruitment problem may exist. In interpreting these findings it is important to remember that the Census estimates are based on a 20% sample and must be interpreted with caution. Examples of recruitment problems are:

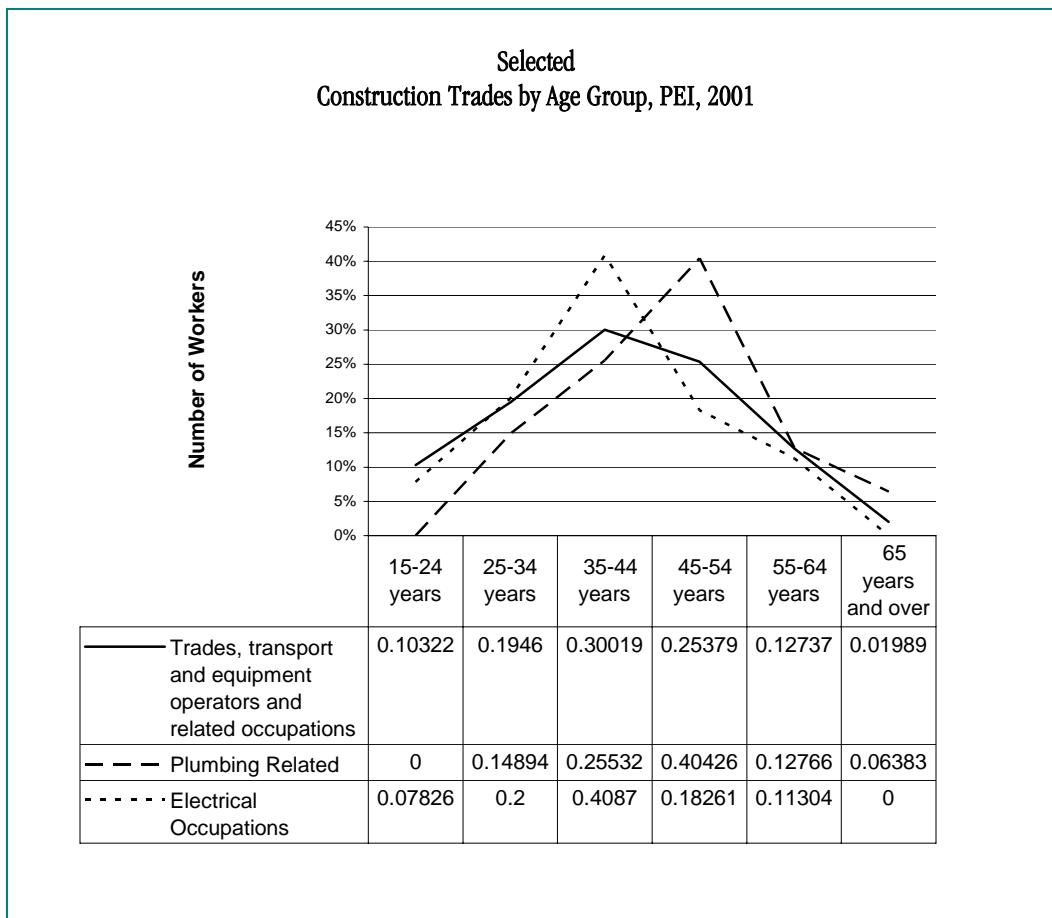
- ▲ The number of carpenters under 25 dropped from 160 in 1991 to 75 in 2001. The number between 25-34 also dropped significantly from 325 to 210. By contrast, the number between 45 and 54 jumped from 180 to 275. The PEI trend for carpenters closely reflects the trend for Canada as a whole, except that PEI had a proportionately larger loss of workers under 25.
- ▲ The number of electricians under 35 was estimated at 105 in 1991 and 55 in 2001. The Census indicates that the decline was particularly acute for electricians under 25. By contrast, the number of electricians in the 35-44 age group roughly tripled. As with carpenters Canada also experienced a significant loss of electricians in under 35 age groups but the loss was higher in PEI.
- ▲ The 2001 Census found no plumbers under 25 compared to estimates of 30 in 1991. By contrast the number of plumbers in the 45-54 age group doubled. Canada also experienced a significant loss of plumbers under 35 (11%) but the loss was higher in PEI (45%).
- ▲ The situation with painters appears to be significantly different than that experienced in the more skilled trades discussed above. The number of painters under 25 increased in PEI although the number in the 25-34 age group dropped sharply. Overall, there was a 16% drop in the number of painters under 35. The drop in the number of painters in Canada under 35 was 31% - almost twice as high as the decline in PEI.
- ▲ The number of construction labourers in PEI increased by 24% from 1991 to 2001 but the number under 35 declined by 31%. By contrast the number of construction labourers in PEI that were 35 and older jumped by over 100%, with the number in both the 45-54 and 55-64 age groups increasing especially quickly. Canada experienced a similar loss in construction trades helpers under 35 but did not gain in the older age categories as was the case in PEI.

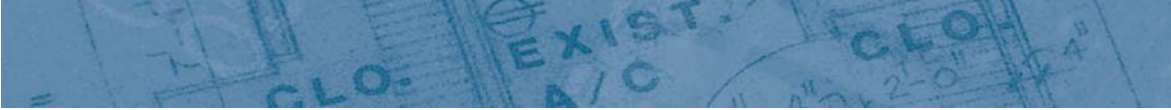
An analysis of individual categories shows that plumbers are older than other trades. Forty percent of plumbers are 45-54 years old, and 60% are over 45. The high proportion of plumbers in the 45 and over age group contrasts with electricians where 29% of the workforce was 45 and over in 2001.

A lower percentage of plumbers are in the under 34 age brackets than other major trades groups. About 15% of plumbers were under 35 years old in 2001 compared to 29% of construction tradespeople. As noted above, there were no plumbers under 25 years old in PEI in 2001 according to the Census.

Electricians and electrical related trades are disproportionately represented in the 35-44 year age bracket.

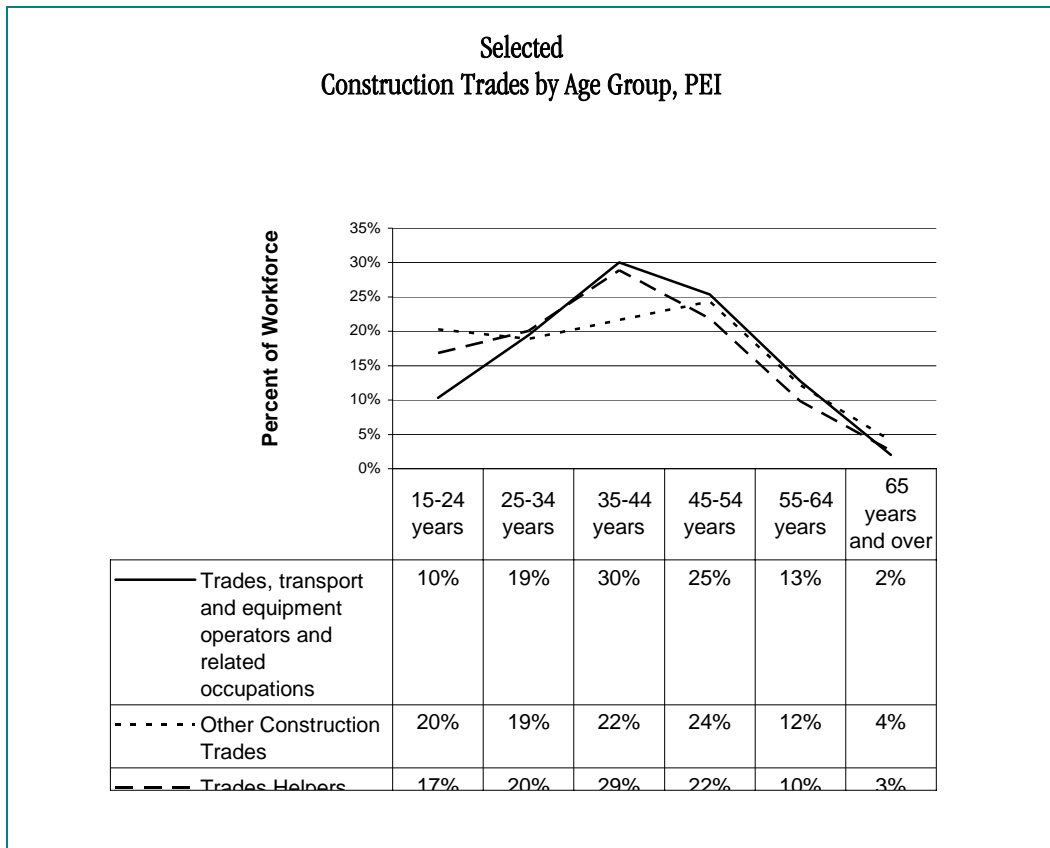
Figure 11





Trades helpers and labourers and other construction trades attracted a disproportionate number of younger workers compared to other construction trades. In particular, floor covering installers, painters, and insulators had a significant percent of young workers.

Figure 12




## 2.4 Trades Supply Projections

An important first step in determining training needs of the construction workforce is to project the future size of the labour force in these trades.

The number of people working in the trades changes from year to year for many reasons. New entrants can move to the province from other provinces or abroad, new workers can be trained in these trades, or people previously involved can re-enter the trades workforce. Similarly, every year some of the people in





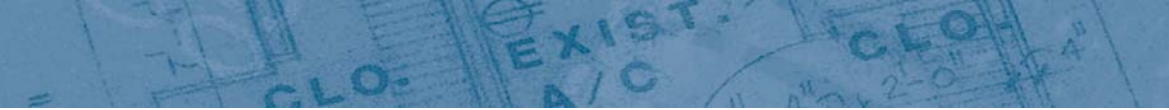
the trades labour force will move out of the province, take a job in another occupation, or leave the labour force due to illness, death, or retirement. The people entering the workforce are most likely to be young workers who have recently completed training, while the people leaving the workforce are likely to be older workers nearing retirement age.

To project the number of trades workers in these trades into the future, it would be most helpful to know the expected number from graduates of trades training programs and their age profile. It would also be helpful to know the current age profile of trades workers, since the older the current workforce, the more retirements can be expected in the near future.

The 1991, 1996 and 2001 Census provide three “snapshot” profiles of the trades labour force on PEI, showing occupation by age. In terms of providing a basis for projecting the trades labour force into the future, however, these three “snapshots” are less than ideal. First, all age cohorts over 35 are 10-year ranges. A person who is 55 years old today will retire much later than a person who is 64 years old, yet they are in the same age cohort in the Census data. Since the smallest cohort size in the available data is 10 years, we must think in terms of 10-year increments in projecting the age of the labour force. Ideally, we would like to have an age breakdown by one-year cohorts to get a more accurate picture of the current labour force.

Secondly, the number of “snapshots” is limited. Since we are interested in the projected change in the number of tradespeople, we are most interested in examining the change from one Census year to the next. It is useful, for example, to compare 1991 numbers to 2001 numbers, to determine the net change. But it would be useful to know whether this net change is increasing or decreasing over time, so we can examine what factors affect the rate of change. It would therefore be helpful to have yearly snapshots of the occupational age profile. These are not available for trades occupations on PEI.

Moreover, the while the Census provides a good indication of how the number in each cohort has changed since the last snapshot, it does not provide any insight into the reasons why these numbers have changed – whether people left due to health or aging, or whether new entrants have been trained. We are forced to assume that the previous trends will continue, without examining whether the underlying causes will change. In 2001, for example, there were 205 workers in the construction trades in the 55-64 year age group. This number is 77% of the 1991 figure of 265 workers in the 45-54 year



age group (the cohort to which these workers would have belonged in 1991). There has been a net decrease in the number of these workers of 23%, but we don't have detailed information as to why this decrease occurred.

Nevertheless, it is possible to make some very rough projections to 2011 of the future labour force in broad occupational categories. These projections are based on the following assumptions:

- ▲ The number of people aged 15-24 in the labour force in 2011 will be equal to the number of people in the PEI population aged 5-14 in 2001, times the portion of people aged 5-14 in 1991 who ended up in the trades labour force in 2001. Thus, the assumption is that training or entry into the labour force will be similar among young people to that in the 1990s.
- ▲ The number of people in the remaining trades labour force cohorts will be equal to the number of people in the previous cohort in 2001, times the portion of people in the previous cohort in 1991 who were still in the labour force in 2001. In some cases, this portion is more than 100%, indicating that there was a net increase in the number of workers in these cohorts between 1991 and 2001. It is impossible to tell whether these increases are due to later entry into the labour force, or migration from other provinces, but the assumption is that these trends will continue.

Under these assumptions, the trades, transport and equipment operators and related occupations labour force can be expected to further decline in numbers, from 10,550 in 2001 to 9,780 by 2011. This assumes that today's youth continue to enter the field in the roughly the same numbers that they did in the 1990s.

The labour force 45 years of age and over will increase as the current labour force ages and the number of retirements will outnumber the number of young people entering trades occupations. The labour force under 45 years old is projected to decrease by approximately one-third by 2011, largely due to the decrease in the number of new entrants that occurred in the 1990s.

Taking the construction occupations alone, a similar projection can be made. There was a dramatic decrease in the number of construction trades workers under 34 years old between 1991 and 2001. As



this smaller cohort ages, there will be a smaller number of workers in the under 44 age group in 2011. The number of workers in the 55-64 year age group is projected to nearly double. Overall, the number of workers in the construction trades can be expected to fall from 1,820 to 1,696 by 2011, a decrease of approximately 7%.

A reasonable policy target for 2011 might be to maintain the number of people in the trades labour force at 2001 levels and prevent the projected decline in the labour force. This could be done if an increased proportion of new entrants and younger workers in the labour force opted for trades occupations. Programs and policies to make young people more aware of trades occupations and to make these occupations more attractive to young people could be used to accomplish this goal.

Rough projections of the labour force in trades, transport and equipment operators and related occupations, and in construction trades occupations are found in the tables below.

**Table 5**  
**Actual and Projected Labour Force**  
**Trades, Transport and Equipment Operators and Related Occupations**

	1991	2001	2011 (Projected)
15-24 years	1,665	1,090	1,048
25-34 years	3,115	2,055	1,345
35-44 years	2,780	3,170	2,091
45-54 years	1,805	2,680	3,056
55-64 years	1,155	1,345	1,997
65 years and over	110	210	245
<b>TOTAL LABOUR FORCE</b>	<b>10,630</b>	<b>10,550</b>	<b>9,782</b>

**Table 6**  
**Actual and Projected Labour Force**  
**Construction Trades**

	1991	2001	2011 (Projected)
15-24 years	295	170	164
25-34 years	535	335	193
35-44 years	520	565	354
45-54 years	265	500	543
55-64 years	165	205	387
65 years and over	10	45	56
<b>TOTAL LABOUR FORCE</b>	<b>1,790</b>	<b>1,820</b>	<b>1,696</b>

## 2.5 Educational Attainment

Data on the educational attainment of the employed labour force in PEI in 2001 are available from the Census. The consultants could not obtain data for the entire labour force. Since unemployment is significant in trades occupations in PEI, the data on the employed labour force may not accurately reflect that for the labour force as a whole. One might expect the unemployed to have a



lower level of educational attainment although there are no data to support this belief.

Most trades, transport and equipment operators and related occupations workers in PEI in 2001 had either a trades certification (30%) or some high school education (38%). Nineteen percent attended, but did not complete, some form of post secondary education including university. Only 1% graduated from university, while 12% had less than a grade 9 education.

Even among supervisors and contractors, university education is not common. Only 14% had attended or graduated from university. The largest group of workers in this category had a trade certification.

Trade certification is important for plumbers, stationery engineers, electricians, machinists and mechanics, with 50 to 60% of workers in these categories having trade certification. Trade certification was less important for carpenters and masonry workers, only about one-third of whom had trade certification.

In interpreting the Census data, it is important to understand the relationship between trades certification and community college graduation. This was described as follows by Craig Norton, Manager, Apprenticeship Training.

*“The usual process for someone entering a trade career is to complete a one or two year program at Holland College (or NSCC or NBCC etc.) at which time they receive a certificate or diploma for completion of that program (but this is not a trade qualification certificate). The next step is to enter apprenticeship training and we, at apprenticeship, will give the graduate time credit for successful completion of the fulltime program, 1000 hours for one year and 2000 hours for two years.*

*After the new graduate enters apprenticeship a number of steps are required to complete apprenticeship including, skills sign-off in the logbook, pass the progress exams during the in-school technical training, complete the time required in the trade and have the logbook signed off by the employer who agrees that the apprentice is now working at the journey person level in the trade.*

*Most trades on PEI are 8000 hours and some are 6000. When all requirements are met*



*including the scheduled periods of in-school training each winter, the apprentice writes the certification exam.*

*The pass mark on the certification exam is 70% and those who pass receive a Certificate of Qualification in their trade from the PEI Dept. of Education and in most cases the certificate includes the Red Seal endorsement which is recognized across Canada.”*

The table below shows the highest level of schooling achieved by PEI tradespeople (employed labour force, 15 years and over), according to the 2001 Census.

**Table 7**  
**Highest Level of Schooling, PEI Construction Trades, 2001**  
**Employed Labour Force 15 years and over**

	Total	Less Than Grade 9	Grades 9-13	Trades Certificate or Diploma	Some Post Secondary	University Degree
HRDC 2001 NOC						
H Trades, transport and equipment operators and related occupations	8680	1015	3255	2645	1655	115
H1 Construction trades	1520	165	570	520	255	10
H111 Plumbers	155	10	30	90	25	0
H12 Carpenters and cabinetmakers	890	105	335	300	150	0
H13 Masonry and plastering trades	105	15	45	35	0	0
H131 Bricklayers	25	15	10	10	0	0
H132 Cement finishers	15	0	0	0	0	0
H133 Tilesetters	15	0	20	0	0	0
H134 Plasterers, drywall installers and finishers, and lathers	50	0	25	20	10	0
H14 Other construction trades	305	35	150	60	60	0
H141 Roofers and shinglers	15	0	15	0	0	0
H142 Glaziers	15	0	10	15	0	0
H143 Insulators	35	15	20	0	0	0
H144 Painters and decorators	185	20	85	35	45	10
H145 Floor covering installers	40	0	20	10	10	0
H2 Stationary engineers, power station operators and electrical trades and telecommunications occupations	605	10	55	365	165	15
H21 Electrical trades and telecommunications	495	0	50	285	150	15



occupations

H211 Electricians (except industrial and power system)	205	0	20	155	25	0
H3 Machinists, metal forming, shaping and erecting occupations	590	15	120	345	105	10
H4 Mechanics	1265	105	240	620	300	0
H5 Other trades, n.e.c.	330	15	165	50	95	10
H6 Heavy equipment and crane operators including drillers	410	75	190	75	60	0
H7 Transportation equipment operators and related workers excluding labourers	1945	255	955	370	315	45
H8 Trades helpers construction and transportation labourers and related occupations	1705	330	860	160	330	20

Source: 2001 Census

### 2.5.1 Educational Attainment and Labour Force Activity of People under 30 in PEI

In order to examine the potential labour force in the construction trades, we need to look at the training levels existing in the population as a whole in PEI. The population under 30 is the most interesting because many people in this age group may have completed high school and post secondary education but may not have established themselves in the labour force. Census data are used to examine the educational attainment and labour market activity of 20-24 year olds in PEI and then to look at 25-29 year olds.



## 20-24 Year Olds

From 1986 to 2001 the total population in this age group declined from 11,305 to 8,745, with most of this decline occurring between 1986 and 1991. Labour force participation rates remained between 88 and 90% over this period and the labour force of 20-24 year olds declined from 10,100 to 7,730. According to the 2001 Census, 21% of the labour force in this age group was unemployed. The unemployment rate for 20-24 year olds was virtually constant over the 1981 – 2001 period.

In 2001 nearly everyone in the 20-24 age group in PEI had attended high school. In fact, only 80 people in this age group indicated in the 2001 Census that they had less than a grade 9 education. By comparison, about 1,200 people aged 20-24 had less than a grade 9 education in 1981 and 400 had less than grade 9 in 1991.

Approximately 3,000 of the roughly 8,700 individuals in the 20-24 age group in 2001 attended high school but did not go on to pursue further post secondary training. Slightly less than one-half (1,405) of this group graduated from high school while 1,585 did not graduate. Both of these groups are of special interest to labour market initiatives designed to fill skills shortages in the economy of PEI. They represent a substantial group of young people whose education could be upgraded and extended to provide specialized skills identified as being in shortage.

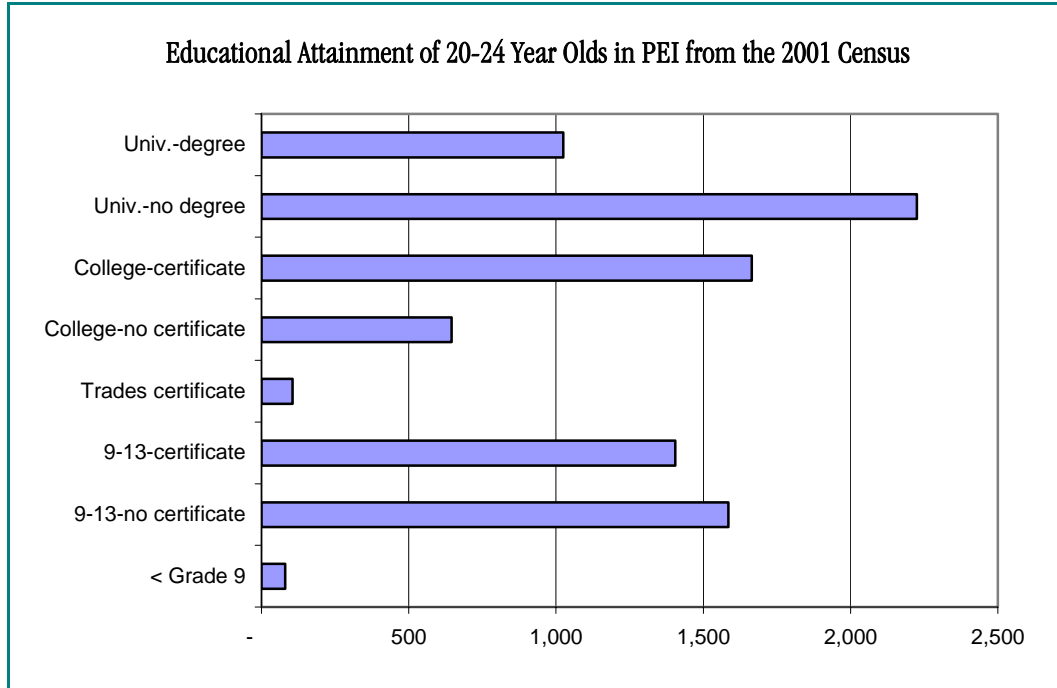
Approximately 5,700 (65%) of individuals in the 20-24 age group in 2001 took some form of post secondary training. It is interesting to note that this number has been quite constant since 1981 even though the proportion of people in this age group taking some kind of post secondary training increased from 50% in 1981. The drop in the population of 20-24 year olds between 1981 and 2001 explains this phenomenon.

The post secondary training taken by 20-24 year olds as reported in the 2001 Census is depicted in the following exhibit. The numbers who did not go beyond high school also are shown in the exhibit to provide perspective.





Figure 13



The exhibit shows that only about 100 individuals, accounting for a small fraction of the population (1.2%) held a trades certificate. This may partially due to the fact that trades training is acquired through the apprenticeship program that takes years to complete. Some individuals in the 20-24 age group in 2001 might have been taking, but not completed, apprenticeship training at the time the Census was undertaken.

The percentage of the 20-24 year old population with a trade certificate dropped from a high of 3% in 1986 to 2.4% in 1991 and 1.2% in 2001. This drop, combined with a decrease in the population in the age group, led to a dramatic drop in the number of people in this age group with trade certificates, from 335 in 1986 to 105 in 2001. The Census data indicate that there has been a disturbing trend away from trades training since 1986.

The proportion of young people who attended community college remained approximately constant at about 25% since 1981 although there was a slight increase between 1991 and 2001. About two-thirds of



those who indicated in the 2001 Census that they attended community college graduated while one-third, or 650 people, did not obtain a community college certificate. These individuals also would be prime candidates for targeted trades training.

Census data indicate that university attendance has become more popular since 1981. In 1981, 24% of the population had attended or graduated from university. This proportion increased to 36% in the 1991 Census and remained at this percentage in the 1996 and 2001 Census. Despite the increase in the percentage of people in the 20-24 age group that took university training, the absolute numbers taking this training have been quite constant in the 3,300 to 3,500 range since 1986. Once again, the declining population of 20-24 year olds in recent years explains this phenomenon.

### 25-29 Year Olds

Policy makers seeking to fill skills shortages also may want to focus on individuals in the 25-29 age group who did not receive post secondary training. The education of these individuals also could be upgraded and extended to provide specialized skills identified as being in shortage.

The 25-29 year old cohort contained 7,855 individuals in PEI in 2001. This was about 10% less than the 8,745 individuals in the 20-24 cohort. The drop reflects the on-going decline in the population of young people in PEI.

The educational attainment of 25-29 year olds differs from that for 20-24 year olds in the following ways:

- ▲ The number and percent of 25-29 year olds with less than a grade 9 education in 2001 was about twice that of 20-24 year olds while a somewhat smaller proportion of 25-29 year olds graduated from high school.
- ▲ A significantly higher proportion (1.7% vs 1.2%) of 25-29 year olds held a trades certificate and a community college certificate (26% vs 19%) in 2001. This finding is predictable as some 20-24 year olds would be still be working towards their trades and community college certificates at the time the Census was conducted.
- ▲ The low proportion of individuals in both age groups who held a trades certificate in 2001



is striking. The proportion of 25-29 year olds with a trades certificate was about one-half that for the population of PEI as a whole. This may provide evidence that young people are turning away from the trades as a career option.

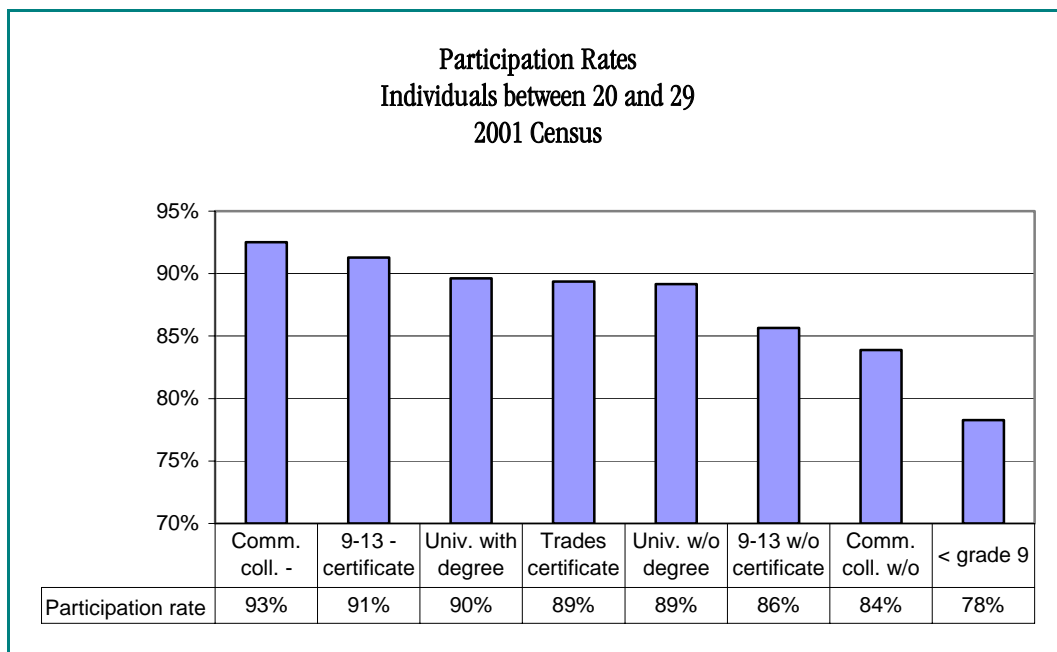
- ▲ A lower proportion of 25-29 year olds were attending university compared to 20-24 year olds while a higher proportion completed university. This undoubtedly reflects the fact that some 20-24 year olds were working toward their university degrees at the time the 2001 Census was completed.

## 2.6 Labour Market Activity for People under 30 in PEI in 2001

### Participation Rates

The 2001 Census data can be used to derive participation rates for individuals aged 20-29 for each level of education. These data are presented in the exhibit below.

Figure 14

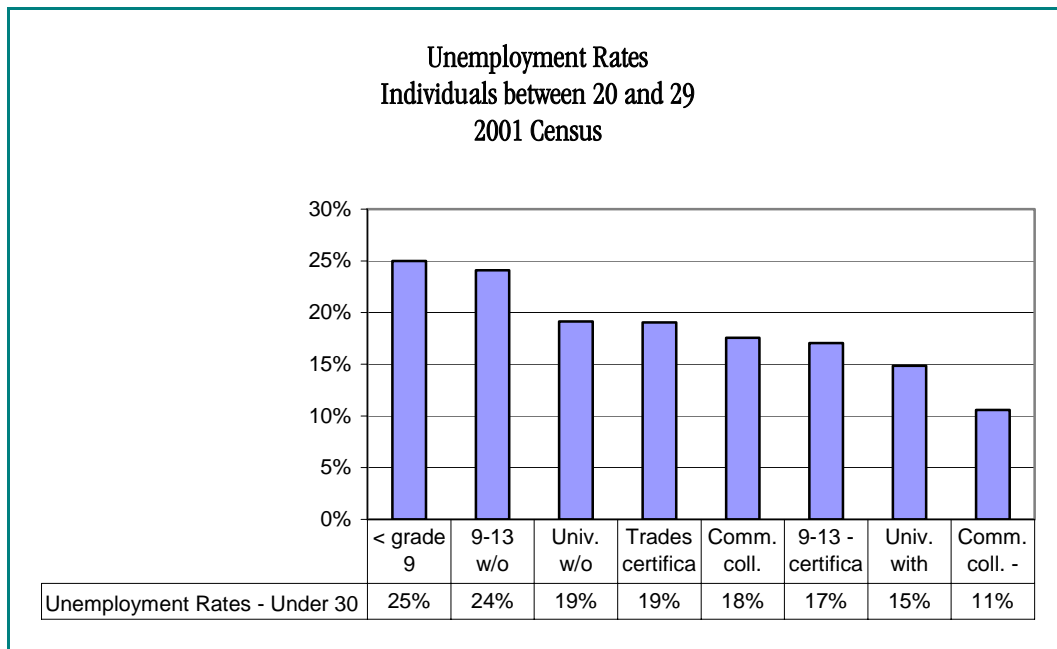


The exhibit shows that individuals with less than grade 9 had participation rates that were significantly lower than those for any other educational category. Participation rates for individuals who attended, but did not graduate from, both high school and community college also were relatively low. All the other educational categories, led by community college graduates, had participation in the 90% range.

## Unemployment Rates

The 2001 Census data can be used to derive unemployment rates for individuals aged 20-29 for each level of education. These data are presented in the exhibit below.

Figure 15



Unemployment rates for individuals with a community college certificate were less than one-half the rates experienced by individuals who didn't complete high school. University and high school graduates also did relatively well in terms of unemployment rates while those who did not graduate did poorly.

Participation and unemployment rates show that community college graduates had significantly more success in the labour market than any other educational category. University and high school graduates also did relatively well in the labour market. Individuals with a trades certificate were in the middle of the pack. People who had not completed community college and university programs fared significantly worse than those who did. Individuals who did not complete high school did relatively poorly in the labour market and those who had less than grade 9 fared the worst.



## Policy Implications

The educational attainment data for individuals under 30 show that the numbers of young people going into the trades declined seriously from 1981 to 2001. The decline is due to smaller age cohorts in 2001 along with a lower proportion of the individuals in the age groups opting to obtain a trades certificate.

The Census data also show that individuals who did not complete programs, whether it be high school, community college or university, had less success in the labour market than those who completed these programs. These individuals could be prime targets for policy initiatives designed to boost trades training.

About one-third of high school graduates in both the 20-24 and 25-29 age groups did not take any form of post secondary training. This may reflect a discontinuity between the public education system and the labour market. The post secondary training gap could be caused by a number of factors including:

- ▲ A lack of information on career and training options among high school graduates,
- ▲ Employment opportunities available to graduates,
- ▲ The cost of training, including the foregone income of individuals who choose to take post secondary training rather than work, and
- ▲ Lack of a training culture in PEI.

It is important to identify which of these factors explain why large numbers of high school graduates did not take post secondary training. If the cause or causes could be found, policies and programs could be developed to offset them. The subsequent increase in the post secondary training would contribute to the alleviation of skills gaps in a wide variety of occupations.

Some information on the perceptions of high school students is available from focus groups completed by AEG consultants for the Construction Association of PEI (CAPEI)<sup>3</sup>. AEG identified the following barriers perceived by youth in their decision to choose the construction industry as a career.

*Students felt that images such as hard, dirty work, not challenging, and not open to*

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<sup>3</sup>A focus group session was held by AEG with a grade XI academic Physics Class at Charlottetown Rural High School in February 2002.



*women, would be barriers to students. In addition, they also noted things such as working conditions, and safety and health concerns (e.g. due to dangerous working conditions resulting from working with machines, chemicals, etc).*

*Also the fact that it continues to be seen by many as a “second class” field continues to be a barrier (i.e. you don’t need much training/skill, and you are not going to make much money).*

AEG also noted that parents have a significant role in shaping decisions made by high school students and the students stated that their parents encouraged them to find employment in non-construction sectors that were in their opinion more challenging and lucrative. AEG noted that students in the academic stream had very little opportunity to learn about potential career options in the field of construction. The students recommended several courses of action:

- ▲ Begin to promote the opportunities and possibilities through TV advertisements.
- ▲ Have industry leaders and experts come to schools to promote and explain possibilities.
- ▲ Set up industry-specific and student-specific career expo events.
- ▲ Set up an information website.

These findings are particularly relevant to trades occupations as Census data show that the number and proportion of people under 25 in trades occupations in PEI declined significantly from 1991 to 2001. This decline is somewhat ironic given the widespread reports of skills shortages in trades occupations. The large group of young trained-trained adults who did not complete post secondary training should be a prime target for specialized training to meet skills shortages.

## 2.7 Gender Breakdown

Construction trades on PEI remain a largely male-dominated field. Of all trades, transport and equipment operators and related occupations, women make up only 6% in PEI, and the majority of these are found in trades helpers, transportation equipment operators and related operators, and other construction trades including upholsterers and tailors. Plumbers, carpenters, electricians, and masonry workers are nearly all male.

**Table 4**  
**Construction Trades by Sex, PEI, 2001**

	<b>Total</b>	<b>Male</b>		<b>Female</b>	
H Trades, transport and equipment operators and related occupations	8680	8175	94%	510	6%
H1 Construction trades	1520	1495	98%	20	1%
H111 Plumbers	155	155	100%	0	0%
H12 Carpenters and cabinetmakers	890	890	100%	0	0%
H13 Masonry and plastering trades	105	105	100%	0	0%
H131 Bricklayers	25	30	120%	0	0%
H132 Cement finishers	15	10	67%	0	0%
H133 Tilesetters	15	15	100%	0	0%
H134 Plasterers, drywall installers and finishers, and lathers	50	50	100%	0	0%
H14 Other construction trades	305	285	93%	20	7%
H141 Roofers and shinglers	15	15	100%	0	0%
H142 Glaziers	15	20	133%	0	0%
H143 Insulators	35	35	100%	0	0%
H144 Painters and decorators	185	170	92%	15	8%
H145 Floor covering installers	40	45	113%	0	0%
H2 Stationary engineers, power station operators and electrical trades and telecommunications occupations	605	600	99%	0	0%
H21 Electrical trades and telecommunications occupations	495	490	99%	0	0%
H211 Electricians (except industrial and power system)	205	205	100%	0	0%





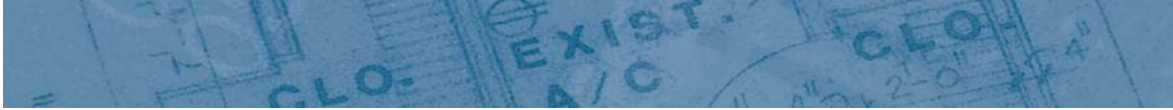
H3 Machinists, metal forming, shaping and erecting occupations	590	585	99%	10	2%
H4 Mechanics	1265	1230	97%	30	2%
H5 Other trades, n.e.c.	330	250	76%	80	24%
H6 Heavy equipment and crane operators including drillers	410	380	93%	25	6%
H7 Transportation equipment operators and related workers excluding labourers	1945	1810	93%	125	6%
H8 Trades helpers construction and transportation labourers and related occupations	1705	1500	88%	205	12%

Source: 2001 Census

Overall, the dominance of these trades by men has not changed since 1991. The percentage of women in these trades in Canada as a whole is also similar.

## 2.8 Tenure of Employment

The average employee in the trades, transport and equipment operators and related occupations has been working for his or her current employer for 7.8 years, only slightly lower than the average for all occupations in PEI of 8.1 years. However, nearly a quarter of workers in these occupations have been working for the same employer for less than half a year. Contractors and supervisors in trades and transportation have on average worked for the same employer for the longest average period of time (12.9 years). Trades helpers, construction, and transportation labourers and related occupations have the shortest average job tenure of 4.7 years. Over a quarter of the trades helpers category has worked for the same employer for less than three months, and only 13% had tenure of over five years.



**Table 9**  
**Job Tenure for Construction Occupations, PEI, 2001**

Job Tenure	Average Tenure (years)	1 - 3 months	4 - 6 months	7 - 12 months	13 - 60 months	61 - 120 months	121 - 240 months	240 months or more
Total employed	8.1	10.9%	7.6%	8.3%	27.9%	13.4%	18.5%	13.2%
Trades, transport and equipment operators and related occupations	7.8	13.5%	9.4%	7.3%	26.0%	13.5%	16.7%	13.5%
Contractors and supervisors in trades and transportation	12.9	0.0%	0.0%	0.0%	16.7%	16.7%	25.0%	25.0%
Construction trades	6.9	12.5%	12.5%	12.5%	25.0%	12.5%	12.5%	12.5%
Other trades occupations	9.4	0.0%	0.0%	0.0%	28.0%	20.0%	24.0%	16.0%
Transport and equipment operators	6.3	14.3%	14.3%	7.1%	28.6%	10.7%	14.3%	10.7%
Trades helpers, construction, and transportation labourers and related occupations	4.7	26.7%	0.0%	0.0%	26.7%	13.3%	0.0%	0.0%

Source: Labour Force Survey

## 2.9 Mobility

The 2001 Census shows a net interprovincial in-migration to PEI (people who had moved between provinces in the previous year) of workers in trades, transport and equipment operators and related occupations of 80. According to the Census, 220 workers moved to PEI from elsewhere in Canada, while 140 workers moved from PEI to other Canadian provinces. In addition, 20 workers in these trades moved to PEI from abroad.<sup>4</sup> This represents a net increase of approximately 0.7% of the trades, transport and equipment operators and related occupations workforce.

The immigrants in 2001 came from Newfoundland (25), Nova Scotia (50), Ontario (45), New Brunswick (30) and Alberta (30).

The emigrants in 2001 went to the provinces of Ontario (60), Alberta (40) and Nova Scotia (30).

<sup>4</sup> Since the Canadian Census did not survey those living in other countries, it does not provide data on how many workers left PEI for abroad.

Occupations with the highest immigration numbers included mechanics (30), carpenters and cabinet makers (15), and trades helpers and labourers (15).

The 1996 census also showed a slight net inter-provincial in-migration – 280 immigrants and 220 emigrants.

255 construction workers moved within PEI in the year previous to the 2001 Census.<sup>5</sup>

**Table 10**  
**Net Migration to PEI, 2001**  
**(Labour Force 15 years and over)**

	Intraprov. Migrants	Interprov. Immigrants	Interprov. Emigrants	Net Interprov. Migration	External Migrants
H Trades, transport and equipment operators and related occupations	255	220	140	80	20
H1 Construction trades	40	30	25	5	10
H111 Plumbers	0	0	0	0	0
H12 Carpenters and cabinetmakers	25	15	0	15	0
H13 Masonry and plastering trades	0	0	0	0	0
H131 Bricklayers	0	0	0	0	0
H132 Cement finishers	0	0	0	0	0
H133 Tilesetters	0	0	0	0	0
H134 Plasterers, drywall installers and finishers, and lathers	0	0	0	0	0
H14 Other construction trades	20	15	15	0	0
H141 Roofers and shinglers	0	0	10	-10	0
H142 Glaziers	0	10	0	10	0
H143 Insulators	0	0	0	0	0
H144 Painters and decorators	15	0	0	0	0
H145 Floor covering installers	0	0	0	0	0
H2 Stationary engineers, power station operators and electrical trades and telecommunications occupations	10	15	10	5	0
H21 Electrical trades and telecommunications occupations	0	10	10	0	10

<sup>5</sup> These workers moved far enough to be in a different census division than the previous year.



**Table 10**  
**Net Migration to PEI, 2001**  
**(Labour Force 15 years and over)**

	Intraprov. Migrants	Interprov. Immigrants	Interprov. Emigrants	Net Interprov. Migration	External Migrants
H211 Electricians (except industrial and power system)	10	0	0	0	0
H3 Machinists, metal forming, shaping and erecting occupations	50	20	10	10	0
H4 Mechanics	20	40	10	30	0
H5 Other trades, n.e.c.	0	10	15	-5	0
H6 Heavy equipment and crane operators including drillers	15	10	15	-5	0
H7 Transportation equipment operators and related workers excluding labourers	55	25	25	0	10
H8 Trades helpers construction and transportation labourers and related occupations	65	60	45	15	0

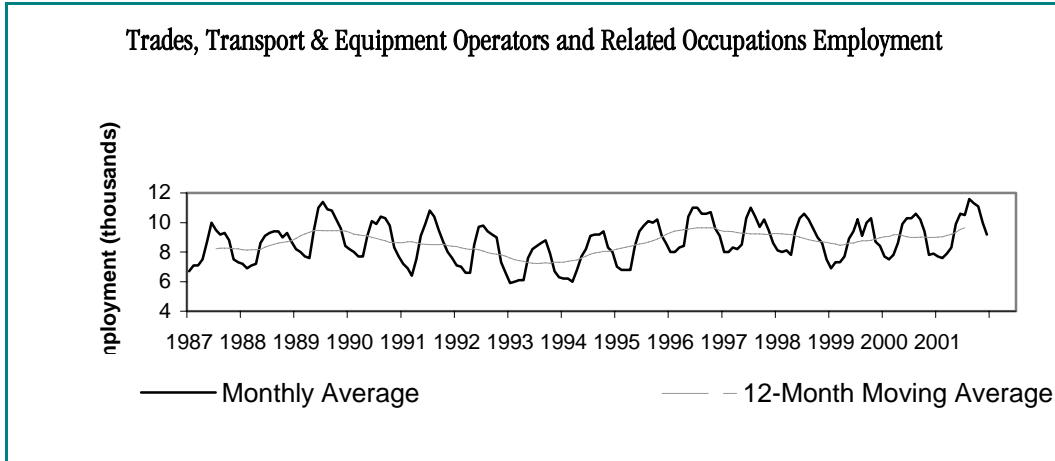
Source: 2001 Census

## 2.10 Seasonality

Construction is by nature a seasonal business, and PEI is no exception. The industry increases its employment in the months of May-October when the weather permits outdoor work. Overall, the number of workers in trades, transport and equipment operators and related occupations between 1987 and 2001 has been 40% higher in the peak month of July than in February or March. The chart below shows the clear pattern in seasonal employment levels of construction trades in PEI.



Figure 16



Source: Statistics Canada Labour Force Survey

Within this category of occupations, the trades helpers, construction, and transportation labourers and related occupations category experiences the highest degree of seasonality. In these occupations, there have been, on average, 2.4 times as many jobs in the peak months between 1987 and 2001 as there were in the lowest months. Also affected by a high level of seasonality are the construction trades, which experience 1.8 times the number of jobs in the summer as the winter months.



The supervisory trades and transport and equipment operators occupations, while seasonal as well, do not experience as wide a fluctuation in employment. The number of employees in these trades is only 13% higher in peak months than in the low months.

**Table 11**  
**Seasonality of Construction Occupations Employment**  
**(Average Employment as percentage of moving annual average, 1987-2001)**

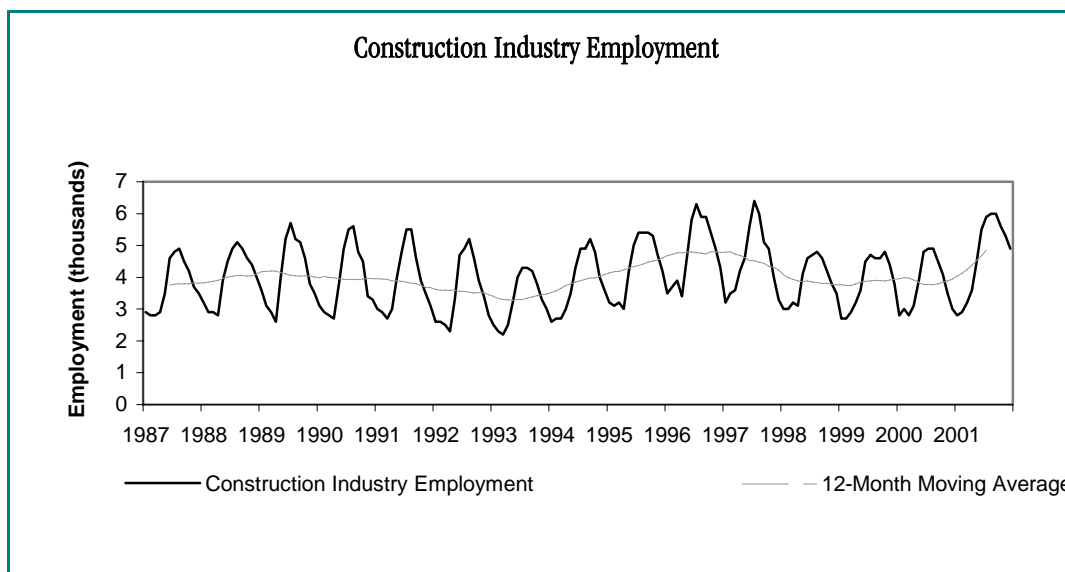
	Trades, transport and equipment operators and related occupations	Contractors and supervisors in trades and transportation	Construction trades	Other trades occupations	Transport and equipment operators	Trades helpers, construction, and transportation labourers and related occupations
January	85%	97%	72%	93%	89%	70%
February	84%	92%	74%	93%	91%	62%
March	84%	87%	75%	95%	90%	60%
April	86%	90%	82%	96%	89%	71%
May	103%	99%	106%	100%	103%	107%
June	113%	102%	122%	105%	112%	128%
July	117%	103%	133%	106%	110%	140%
August	115%	104%	127%	106%	106%	141%
September	113%	111%	118%	103%	111%	129%
October	110%	108%	104%	104%	112%	119%
November	98%	101%	97%	100%	96%	93%
December	91%	100%	87%	97%	91%	79%
Peak to Low Ratio	1.39	1.13	1.81	1.13	1.25	2.36

Source: Statistics Canada Labour Force Survey



A similar analysis can be done using total employment in the construction industry. On average, the construction industry hires more 1.9 times more workers in the summer than in the winter months.

Figure 17



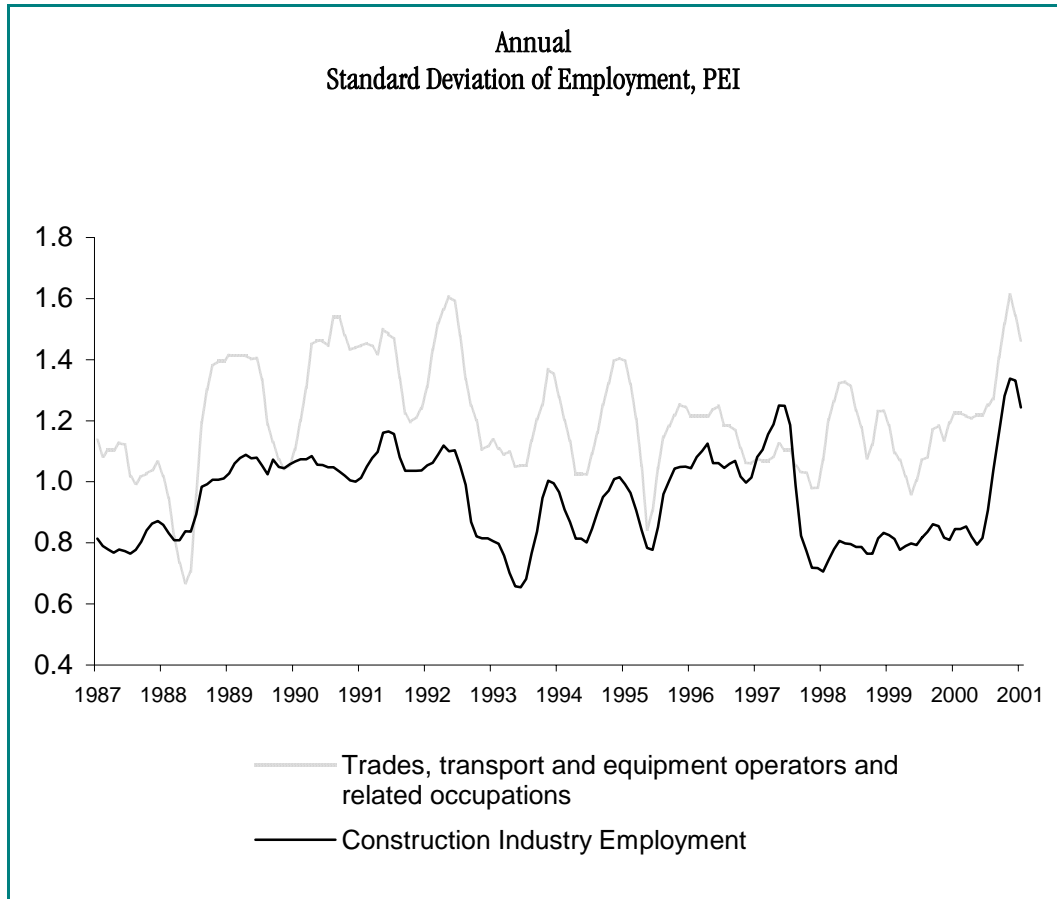
Source: Labour Force Surveys

An interesting question is whether this seasonality is increasing or decreasing, in other words, are the swings between peak employment and winter employment getting bigger or smaller over time. The chart below shows the standard deviation<sup>6</sup> of employment in the construction industry and among the trades, transport and equipment operators and related classes occupations over time. There is no obvious trend in the degree of seasonality of either of these measures between 1987 and 2001.

<sup>6</sup> Standard Deviation is a statistical measure used to show the degree of variance in a set of data. The higher the standard deviation, the more dispersed the data.



Figure 18



## 2.11 Hours Worked per Week

According to the Labour Force Survey, workers in the trades, transport and equipment operators occupations in PEI worked an average of 40.9 a week, not including overtime. This is somewhat higher than the Canadian average for these trades of 37.9 hours per week, but higher than the average for all PEI occupations of 35.0 hours per week. Within these occupations, transport and equipment operators had the longest workweek (44.6 hours) and trades helpers, construction and transport labourers had the shortest workweek (37.5 hours).

Self-employed workers tend to work longer hours than employees. Overall in the trades, transport and equipment operators and related occupations, self-employed individuals worked an average of 42.2



hours in a usual week, compared to 40.7 hours for employees. However, for construction trades specifically, self-employed workers worked fewer hours, an average of 30.7 compared to 37.7 for employees.

In addition, according to the Labour Force Survey, workers in the trades, transport and equipment operators and related occupations worked an average of 1.2 hours of overtime per week in 2001, somewhat less than the PEI average for all occupations of 1.4 hours. Other trades occupations and trades and transport and equipment operators worked the most overtime as a group, or an average of 1.4 hours. Construction trades worked the fewest hours of overtime, or .8 hours a week.

**Table 12**  
**Actual Hours Worked Per Week, 2001 PEI Annual Average**

<b>Class of worker</b>	<b>Total employed</b>	<b>Employees</b>	<b>Self-employed</b>
<b>Occupation</b>			
Total employed	35.0	34.5	38.2
Trades, transport and equipment operators and related occupations	40.9	40.7	42.2
Contractors and supervisors in trades and Transportation	42.8	41.3	44.2
Construction trades	38.8	37.7	30.7
Other trades occupations	39.2	38.5	54.0
Transport and equipment operators	44.6	43.1	42.7
Trades helpers, construction, and transportation labourers and related occupations	37.5	39.6	0.0

Source: Labour Force Survey

The chart below shows the trend in hours worked for employees and self-employed individuals over time. Hours for the self-employed have been consistently greater than those of employees. However, there has been more variability in hours worked in self-employed workers. Both groups worked fewer hours in the period around 1993 and again in 1999, when unemployment increased, but the drop for self-employed workers was greater in both cases.<sup>7</sup>

<sup>7</sup> In 1997 the labour force survey was changed to allow responses in the actual hours worked question of up to 168. The previous limit had been 99 hours a week.

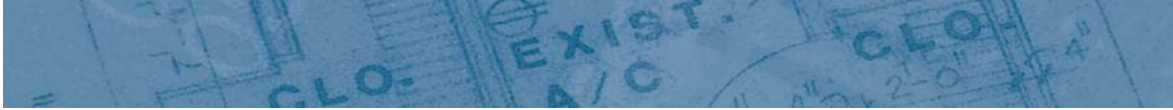
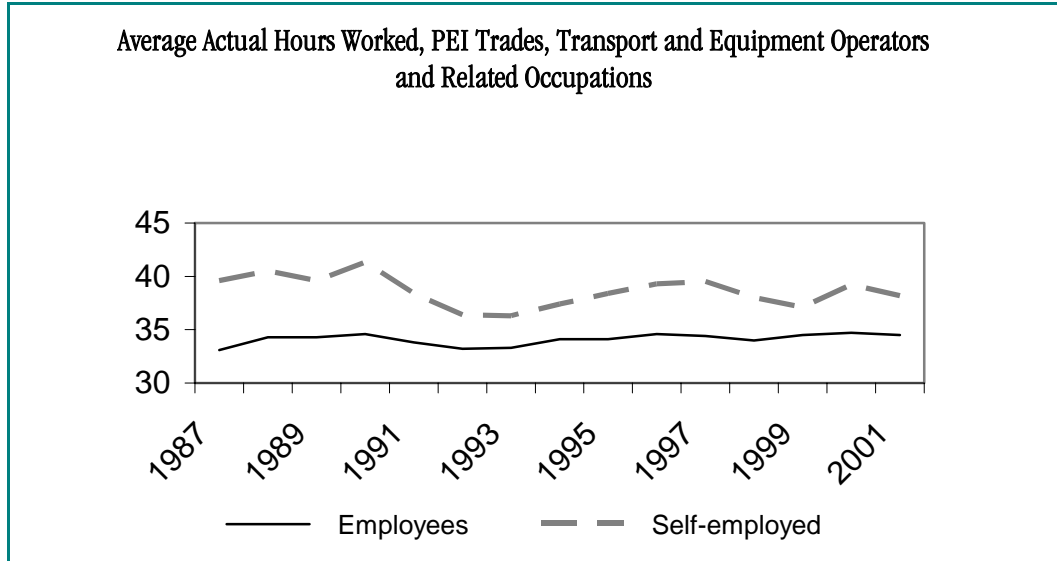


Figure 19



Source: Labour Force Survey

## 2.12 Employment Status

Overall, about 10% of the trades, transport and equipment operators and related occupations on PEI were self-employed in 2001, and 15% of the construction trades were self-employed. Trades most likely to be self-employed include plumbers (20%), tilers (67%), plasterers and drywall installers (30%), floor covering installers (22%), and electricians (18%).



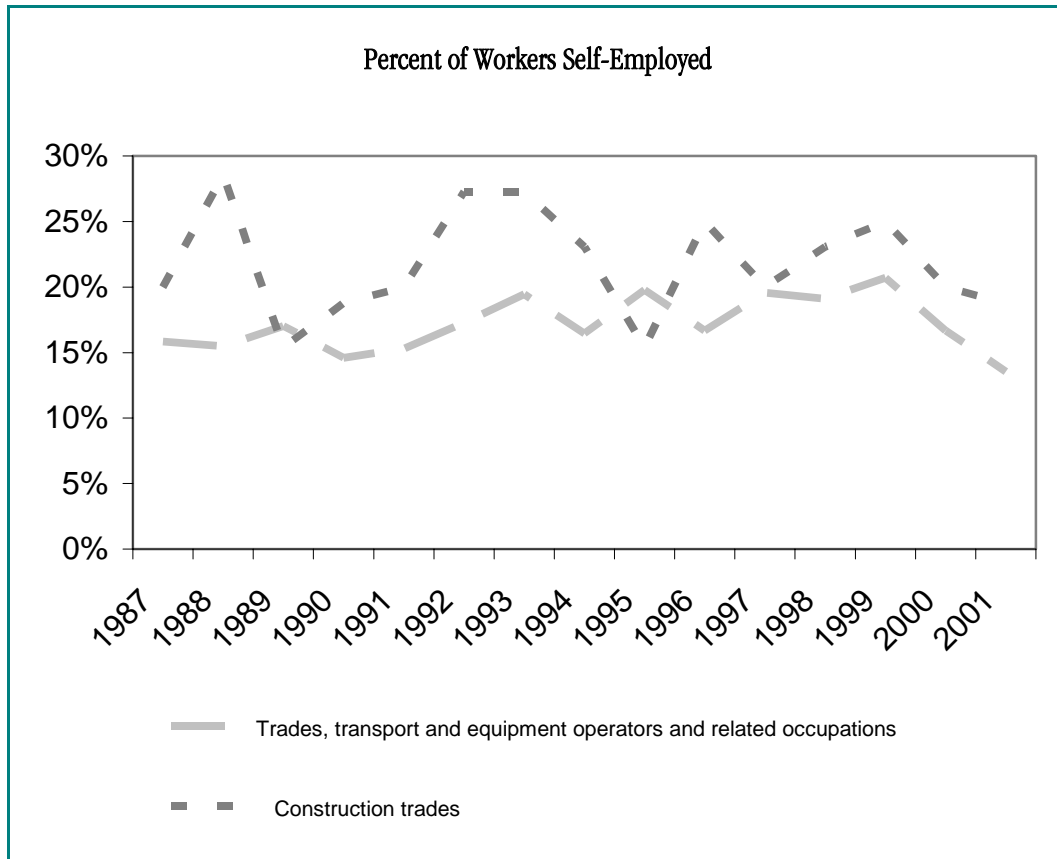
**Table 13**  
**Self-Employment Rates by Occupation, PEI, 2001**

H Trades, transport and equipment operators and related occupations	10.6%
H1 Construction trades	13.3%
H11 Plumbers	15.4%
H12 Carpenters and cabinetmakers	20.0%
H13 Masonry and plastering trades	16.2%
H131 Bricklayers	0.0%
H132 Cement finishers	0.0%
H133 Tilesetters	66.7%
H134 Plasterers, drywall installers and finishers, and lathers	30.0%
H14 Other construction trades	12.3%
H141 Roofers and shinglers	0.0%
H142 Glaziers	0.0%
H143 Insulators	0.0%
H144 Painters and decorators	14.9%
H145 Floor covering installers	22.2%
H2 Stationary engineers, power station operators and electrical trades and telecommunications occupations	7.7%
H21 Electrical trades and telecommunications occupations	7.8%
H211 Electricians (except industrial and power system)	18.0%
H3 Machinists, metal forming, shaping and erecting occupations	8.0%
H4 Mechanics	17.9%
H5 Other trades, n.e.c.	35.6%
H6 Heavy equipment and crane operators including drillers	5.2%
H7 Transportation equipment operators and related workers excluding labourers	11.7%
H8 Trades helpers construction and transportation labourers and related occupations	1.0%

Source: 2001 Census

The chart below shows the percentage of workers who were employed and self-employed in the trades, transport and equipment operators and related occupations and in the construction trades between 1987 and 2001.

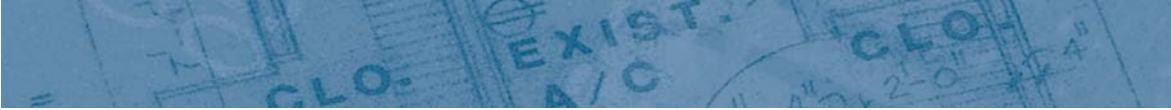
Figure 20



Source: Labour Force Survey

### 2.13 Wages and Salaries

According to the 2001 Census, the average employment income for the trades, transport and equipment operators and related occupations in 2000 was \$21,324. For those who worked full time, year round, the average was \$29,664, while part time or seasonal workers averaged \$15,623.



Only about 40 % of workers overall in these trades worked full-time, year round. The rest either had seasonal employment or worked part-time.

The highest paid trades (full time workers) are contractors and supervisors, electrical trades, machinists, and machinery and transportation equipment mechanics, all averaging over \$30,000 for full time, year round employment.

The lowest paid trades were painters and decorators, other construction trades, and trades helpers and labourers, at less than \$25,000 for full time year round work.



**Table 14**  
**Average Employment Income, Construction Trades, PEI, 2000**

	<b>Total</b>	<b>Worked full year, full time</b>	<b>All others</b>
H Trades, transport and equipment operators and related occupations	\$21,324	\$29,664	\$15,623
H1 Construction trades	\$31,753	\$39,167	\$22,894
H111 Plumbers	\$31,753	\$39,167	\$22,894
H12 Carpenters and cabinetmakers	\$21,846	\$28,059	\$18,523
H13 Masonry and plastering trades	\$28,073	\$29,925	\$26,093
H131 Bricklayers	\$21,393	\$27,962	\$17,864
H132 Cement finishers	\$18,466	\$24,174	\$16,148
H133 Tilesetters	\$13,889	\$19,546	\$12,002
H134 Plasterers, drywall installers and finishers, and lathers	\$32,173	\$37,307	\$22,484
H14 Other construction trades	\$32,164	\$37,080	\$22,212
H141 Roofers and shinglers	\$29,194	\$32,205	\$23,096
H142 Glaziers	\$28,193	\$33,542	\$22,601
H143 Insulators	\$25,158	\$28,627	\$16,771
H144 Painters and decorators	\$28,296	\$31,860	\$19,717
H145 Floor covering installers	\$24,334	\$27,100	\$16,383
H2 Stationary engineers, power station operators and electrical trades and telecommunications occupations	\$19,299	\$23,719	\$13,658
H21 Electrical trades and telecommunications occupations	\$19,848	\$28,913	\$16,641
H211 Electricians (except industrial and power system)	\$22,746	\$29,475	\$17,494
H3 Machinists, metal forming, shaping and erecting occupations	\$13,093	\$24,368	\$10,708

Source: 2001 Census

## **2.14 Labour Force, Employment and Unemployment**

### **2.14.1 By Occupation**

According to the 2001 Census, the Labour Force Participation Rate (the percent of workers who are working or actively seeking work) in trades, transport and equipment operators and related occupations was 94.4%. This rate is slightly higher than the Canadian average for these trades of 93.6% and lower than the rate for all PEI occupations of 95.8%.



The overall unemployment rate among trades, transport and equipment operators and related occupations trades in PEI in May 2001, according to the 2001 Census, was 20.9%. This rate is considerably higher than the Canadian unemployment rate in this group of 7.8% in the same year. Unemployment rates in PEI were generally over twice the unemployment rates of Canada as a whole.

The overall unemployment rate among trades, the rate for transport and equipment operators and related occupations trades in PEI was also seven points higher than the unemployment rates of all occupations in PEI of 13.7%.

There is considerable variation in the unemployment rate between the various construction occupations in PEI. The 2001 Census estimated that the highest rates of unemployment were experienced by concrete finishers (60% unemployment), roofers and shinglers (42%), bricklayers (40% unemployment), heavy equipment and crane operators (40%), and trades helpers and construction and transportation labourers (31%).

The occupations with the lowest unemployment rates in 2001 were mechanics (8%), plumbers (11%), electrical trades and related occupations (15%), and machinists (15%).

**Table 15**  
**Labour Force Activity by Occupation, PEI, 2001**

	Total Population 15 Years and Over by labour Force Activity	Total Labour Force	Employed	Unemployed	Total Not in Labour Force	Participation Rate	Employment Rate	Unemployment Rate
H Trades, transport and equipment operators and related occupations	11625	10975	8685	2290	650	94.4	74.7	20.9
H1 Construction trades	1955	1830	1520	305	125	93.8	77.9	16.7
H111 Plumbers	190	175	160	20	15	92.1	81.6	11.4
H12 Carpenters and cabinetmakers	1140	1080	890	185	60	94.7	78.1	17.6
H13 Masonry and plastering trades	145	140	105	35	0	100.0	75.0	24.1
H131 Bricklayers	45	45	30	20	0	100.0	60.0	40.0
H132 Cement finishers	30	30	15	15	0	83.3	50.0	60.0



**Table 15**  
**Labour Force Activity by Occupation, PEI, 2001**

	Total Population 15 Years and Over by Labour Force Activity	Total Labour Force	Employed	Unemployed	Total Not in Labour Force	Participation Rate	Employment Rate	Unemployment Rate
H133 Tilesetters	15	20	15	0	0	0.0	0.0	0.0
H134 Plasterers, drywall installers and finishers, and lathers	45	50	45	0	0	100.0	100.0	0.0
H14 Other construction trades	410	370	305	65	40	89.2	73.5	16.2
H141 Roofers and shinglers	30	30	20	10	0	100.0	66.7	42.9
H142 Glaziers	20	20	15	0	0	100.0	100.0	0.0
H143 Insulators	35	40	35	10	0	100.0	100.0	28.6
H144 Painters and decorators	270	235	190	50	35	85.5	67.3	19.1
H145 Floor covering installers	50	45	45	0	10	90.0	90.0	0.0
H2 Stationary engineers, power station operators and electrical trades and telecommunications occupations	725	710	605	105	15	97.2	83.4	14.2
H21 Electrical trades and telecommunications occupations	580	575	490	80	0	99.1	85.3	14.8
H211 Electricians (except industrial and power system)	245	250	205	45	0	100.0	80.0	18.0
H3 Machinists, metal forming, shaping and erecting occupations	720	690	590	100	30	95.8	81.9	14.5
H4 Mechanics	1420	1375	1260	115	40	97.2	88.7	8.3
H5 Other trades, n.e.c.	375	370	330	35	10	97.3	88.0	9.6
H6 Heavy equipment and crane operators including drillers	735	680	405	275	55	93.2	55.8	40.1
H7 Transportation equipment operators and related workers excluding labourers	2545	2445	1940	500	100	96.3	76.6	20.7
H8 Trades helpers construction and transportation labourers and related occupations	2765	2500	1705	795	270	90.2	61.7	31.7

Source: 2001 Census





### **2.14.2 Historical Trends**

Another source of information on labour force activity is the Labour Force Survey. It does not provide a detailed breakdown of occupational categories for statistical reliability reasons.

According to the labour force survey, the unemployment rate for trades, transport and equipment operators and related occupations has averaged about six percentage points higher than that of all occupations on PEI. Within these occupations, the unemployment rate for trades helpers, construction, and transportation labourers and related occupations has been consistently higher than the other groups. Construction trades have also tended to have higher rates than other occupations in this group.

Historical data from the labour force survey shows a period of higher unemployment in the years 1991-1993, with smaller rises in 1997 and 1999. During these years, unemployment for all occupations on PEI rose as well, but unemployment in the construction industries rose to a greater degree, widening the gap between unemployment in these occupations and unemployment in other occupations.

The unemployment rate for the construction industry is also higher than the unemployment rate for the PEI labour force as a whole. It reached an annual average high of 35.3% in 1993, peaked again at 30.8% in 1997, and has tapered off slightly since. The annual average unemployment rate for the construction industry was 17.5% in 2001.

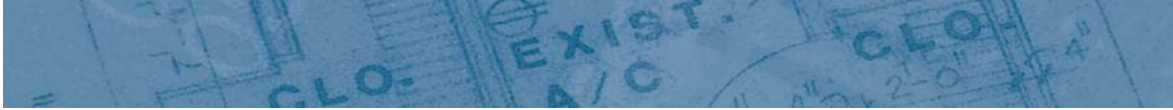
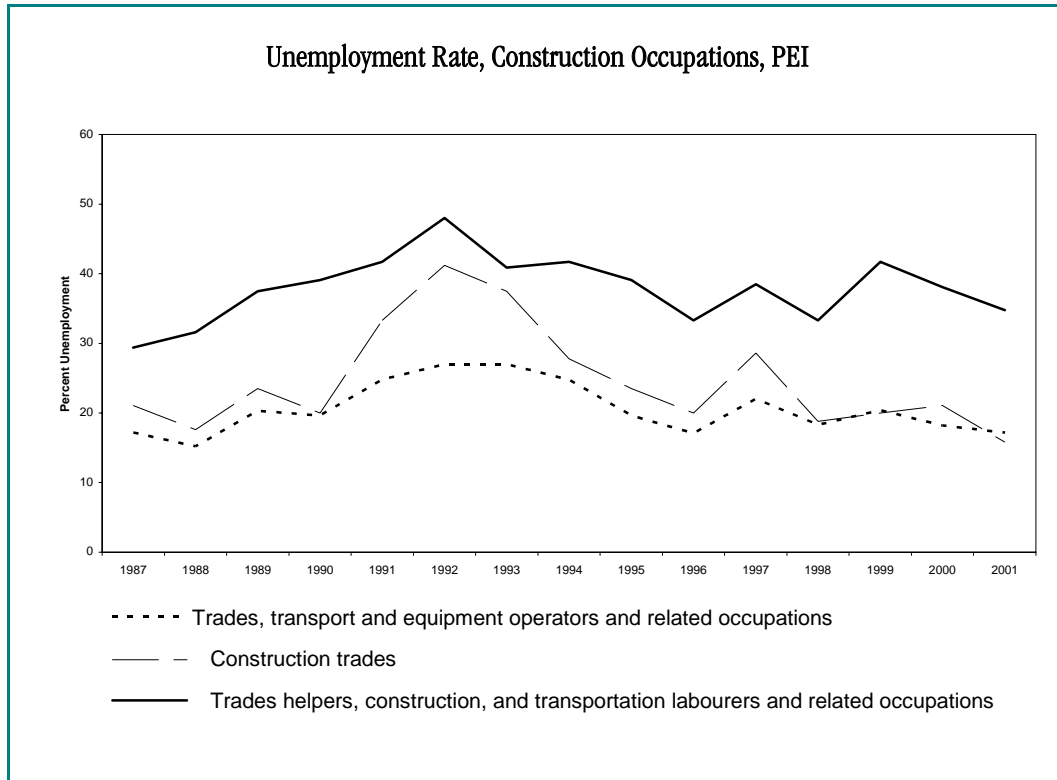


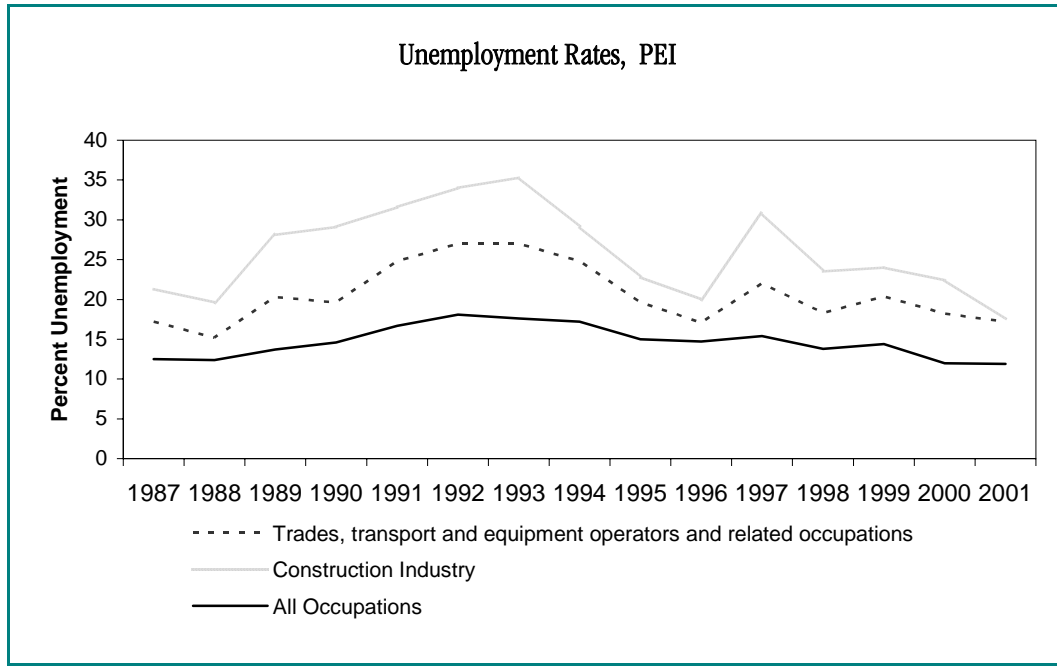
Figure 21



Source: Labour Force Survey



Figure 22



Source: Labour Force Survey