

# THE BUSINESS CASE FOR APPRENTICESHIP TRAINING IN ALBERTA

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## 2023



The Province of Alberta is working in partnership with the Government of Canada to provide employment support programs and services.

## ABOUT THE CANADIAN APPRENTICESHIP FORUM

The Canadian Apprenticeship Forum – Forum canadien sur l'apprentissage (CAF-FCA) is a national, not-for-profit organization working with stakeholders in all regions of Canada. We influence pan-Canadian apprenticeship strategies through research, discussion and collaboration sharing insights across trades, across sectors and across the country. We promote apprenticeship as an effective model for training and education. Our Board of Directors has representatives from business, labour, the jurisdictional apprenticeship authorities, education and equity-priority groups. Through our work, CAF-FCA has shed light on several key issues affecting apprenticeship, such as the perceived barriers to accessing and completing apprenticeship and the business case for apprenticeship training. For more information, visit the CAF-FCA website at [www.caf-fca.org](http://www.caf-fca.org).

This research was completed by Malatest and Associates Ltd.

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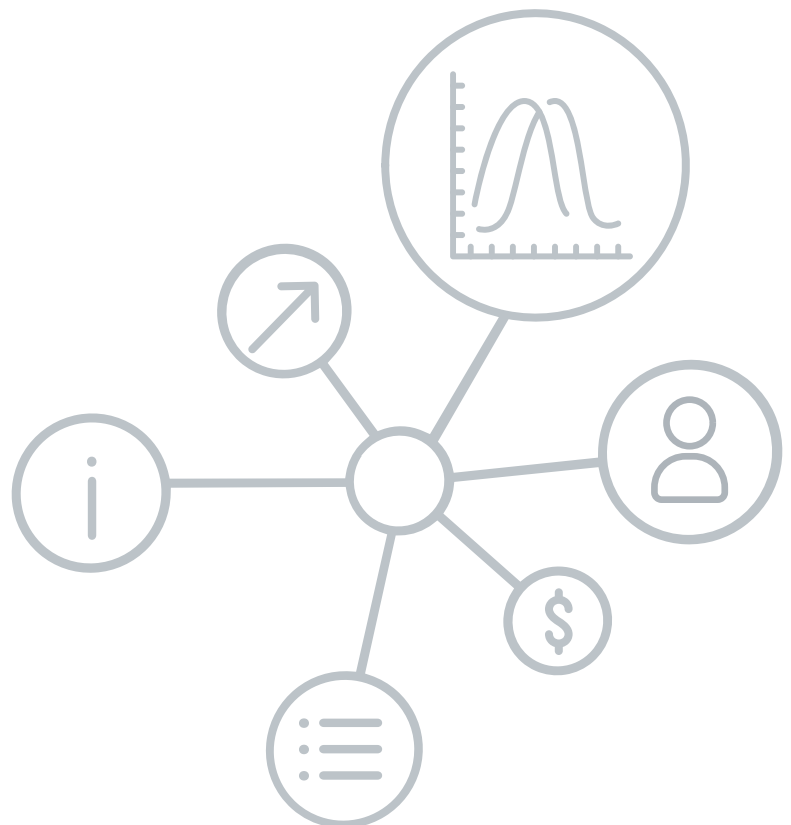
## EXECUTIVE SUMMARY

This report summarizes costs and benefits information that was provided by 159 employers across Alberta who employed one or more apprentices in 2022. The results of the research suggest that there is a strong business case for employers to engage in apprenticeship training in Alberta. All three trades examined in this study exhibited positive returns in terms of employer investment in apprenticeship training. The return for each dollar invested ranged from \$1.20 for carpenters, \$1.43 for electrician apprentices and \$1.63 for automotive service technician apprentices.

Contrary to beliefs that apprentices “cost” employers in the first year of their training, the Alberta data for the three trades examined in this study suggest that employers experience positive returns throughout all the years of apprenticeship. Although the returns to employers are lower for first year apprentices than is the case for third-or fourth-year apprentices, employers experience positive returns as early as the first year of apprenticeship. Additional provincial and territorial studies would have to be completed to verify whether these results are valid in other jurisdictions.

The results of the research suggest that the largest portion of employer costs associated with apprenticeship training is the wage and benefit costs that are associated with the apprentice as well as wages and benefits paid to journeypersons for the portion of their time spent training and mentoring apprentices. In contrast, other costs such as wastage, time associated with apprenticeship administration and management, and other expenses represent a very low proportion of the overall costs associated with apprenticeship training. In this study, it is estimated that these “other” costs represent, on average, less than 4% of the total cost of apprenticeship across the three trades examined.

Although the primary focus of this study was to document the economic return associated with apprenticeship training, the study also collected data about the non-financial impacts of internally training employees through apprenticeship. Most employers mentioned positive impacts, including better worker retention, better fit of the employee within the corporate work structure, and positive impacts among journeypersons who provided training and mentorship to apprentices.



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# 1. Brief Project Background and Objectives



To help make the business case for training apprentices in the skilled trades, the Canadian Apprenticeship Forum (CAF-FCA) contracted Malatest and Associates Ltd. (Malatest) to evaluate the return on training investment (ROTI) for three trades across the province of Alberta.

It was envisioned that this study would help industry in a variety of skilled trades sectors to:

- build the business case for training
- help better understand why qualified employers (i.e., those with a journeyperson) elect to not employ apprentices
- improve policy decision-making on workplace training based on the actual experiences of skilled trades employers in Alberta
- inform future training strategies that impact industry's ability to sustain itself and to remain competitive.

The primary objective of this study was to document employer costs and benefits of apprenticeship training across the province of Alberta in three trades: automotive service technician, electrician, and carpenter. In the future, it would be beneficial to gather information about additional trades.

## 2. Methodology

This section provides an overview of the project methodology.

### 2.1 Survey Design

Informed by previous surveys including the landmark study completed in 2008 and 2009 by CAF-FCA (*It Pays to Hire an Apprentice*<sup>1</sup>) and parallel research occurring in other jurisdictions, two employer surveys were developed.

The first (Survey A), was designed to assess the costs and benefits of training apprentices in the three selected trades and was targeted at employers in those trades across the province of Alberta who employed an apprentice at the time of the survey. This survey took employers approximately 20 to 30 minutes to complete. There were 159 employers who completed this survey.

The second survey (Survey B) was designed to assess the reasons why qualified employers (i.e., who employ journeymen but who do not employ apprentices) do not hire apprentices. This survey was completed by employers in the three trades and took approximately 7 to 10 minutes to complete. There were 85 employers who completed this survey. Additional information about the key issues examined in the surveys is contained in section 2.3.2 of this report.

### 2.2 Survey Administration

Survey administration occurred from July 2022 to September 2022. A sample of employers in relevant sectors were invited to complete these surveys by email. The sample was purchased from the ASDE Survey Sampler.<sup>2</sup> Businesses were identified as relevant based on their NAICS code. CAF-FCA also created awareness about the survey by distributing information to its networks. The emails sent to employers outlined the purpose of the survey, the participation being requested, and instructions to complete the survey. Employers were provided with a URL and a unique ID to complete the survey online. They were also provided with a toll-free phone number to complete the survey by telephone if they did not want to complete the survey online or if they required support. Employers who did not respond to the initial email invitation were then contacted by telephone.



### 2.3 Analysis of Survey Data

The ROTI calculations are based on a cost-benefit analysis for a single employer that hires an apprentice. All costs and benefits were calculated per apprentice and per year of apprenticeship. As for the calculation of the net return to employers, each employer was assigned an equal weight, irrespective of the number of apprentices they employed. This was to maintain consistency with the 2008 and 2009 study as well as to help ensure that the reported benefit would be largely representative of all employers and not skewed by the influence of large employers who may have a different cost-benefit structure compared to small to medium-sized employers.

#### 2.3.1 Data Cleaning

All financial data were inspected for extreme or nonsensical values. When it was possible to follow-up with the business, the data were corrected or confirmed. Any values that could not be confirmed or corrected were suppressed and the values were not included in the calculations. Reported results are based on averages across trades and some variation within trades was expected. To minimize the impact of extreme values, the top and bottom 2.5% of cases were trimmed when calculating average costs and benefits. Finally, any missing data were imputed, where possible. When a business provided data on more than one, but not all apprentice levels, the “missing” apprentice levels were imputed. For example, if a business provided wage data for year one and year three apprentices, the wage for year two and four apprentices was imputed.

1 See: [https://caf-fca.org/research\\_reports/it-pays-to-hire-an-apprentice-roti/](https://caf-fca.org/research_reports/it-pays-to-hire-an-apprentice-roti/).

2 The acronym was not spelled out on the company's website.

## 2.3.2 Cost-Benefit Model

The model considered the following costs:

- Wage and benefits
  - Estimates of full wages for apprentices, including base pay and non-compulsory or compulsory benefits (e.g., Employment Insurance (EI), Worker's Compensation, Canada Pension Plan, etc.).
- Opportunity costs
  - An estimate of costs related to the resources that apprentices require as part of their training process (e.g., journeyperson time and wasted or damaged materials).
- Disbursements
  - An estimate of costs related to employer shares of costs to support the ongoing training and development of apprentices, (e.g., registration fees, tuition fees for continuing education or EI top up expenses).
- Administration
  - An estimate of the administrative costs associated with hiring and training apprentices (e.g., costs that are unique to hiring apprentices and managing their apprenticeship program but do not include regular administrative tasks such as payroll).

Benefits were estimated by calculating the revenue generated by or that were attributable to the apprentice. In most cases, employers reported charge-out rates. An estimate of average annual revenue associated with each apprentice was calculated based on the total annual average chargeable hours of work. It should be noted, however, that while many employers could easily compute a charge-out rate for their apprentices, some were unable to estimate this. Any employers who could not provide a charge-out rate were asked to estimate a total cost if they were to replace the work that was done by the apprentice.

ROTI is a ratio of benefits to costs that indicates what the return is for every \$1 invested in training (e.g., the benefit for every \$1 of cost).

## 2.3.3 Limitations of the Data

The survey also collected information on additional benefits that are not easily quantifiable. Although those benefits have been captured in survey responses, they cannot be accounted for in the ROTI calculation.

Results are based on small samples of data and must be interpreted with some caution. Furthermore, while the data were collected from the manager or supervisor who was best positioned to comment on the apprentice, the person completing the survey may not have had access to the full range of cost data for the apprentice. In this context, the results of the survey were not corroborated by financial records that could provide further insights into actual costs and benefits. Notwithstanding these concerns, employers spent considerable time on these surveys and this does suggest that many respondents did consult other staff and did review financial documents when completing them.

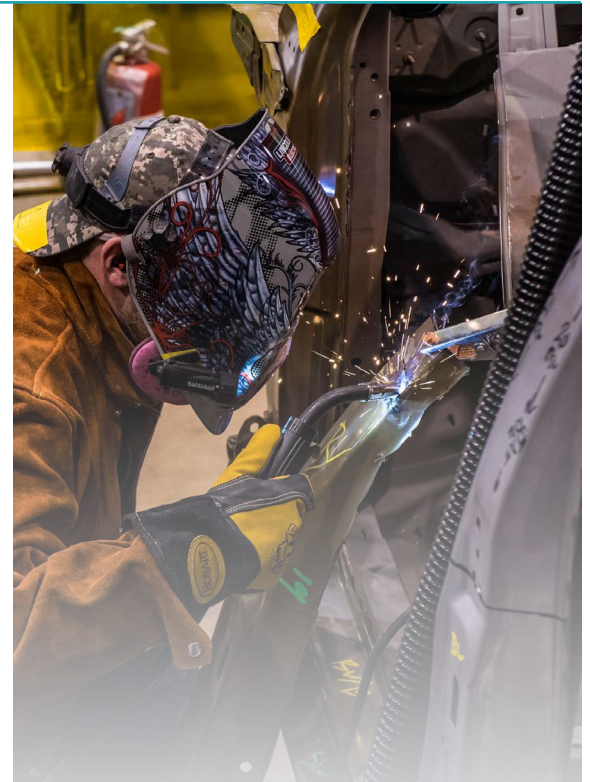


## 3. Findings

This section summarizes key findings from the employer surveys (Survey A and Survey B). Results in this section have been separated into four main areas: summary of business characteristics, cost-benefit analysis and ROTI, non-monetary benefits of hiring and training apprentices, and challenges and barriers to hiring and training apprentices.

### 3.1 Summary of Business Characteristics

Survey A was completed by 159 employers who had an apprentice. Survey B was completed by 85 employers who did not have an apprentice. As highlighted in **Table 3.1**, data were collected on the costs and benefits associated with the 2,169 apprentices who were hired by the 159 employers who completed Survey A. Results were gathered from employers in different geographic regions across Alberta. Similarly, information was gathered from employers of all sizes, ranging from small companies with only one or a few journeypersons to larger companies with 25 or more journeypersons (see **Table 3.2**). Most employers (80%) reported that their employees were not unionized.



**Table 3.1 Location of Survey Respondents**

Region	Employers with Apprentices			Employers without Apprentices
	AST	Electrician	Carpenter	
Edmonton	33%	56%	47%	35%
Calgary	40%	22%	16%	29%
Lethbridge – Medicine Hat	13%	14%	22%	21%
Red Deer	21%	13%	9%	13%
Wood Buffalo – Cold Lake	13%	11%	18%	13%
Athabasca – Grande Prairie – Peace River	15%	6%	16%	11%
Banff – Jasper – Rocky Mountain House	13%	6%	2%	6%
Camrose - Drumheller	15%	5%	2%	4%
<b>Number of employers</b>	<b>73</b>	<b>51</b>	<b>35</b>	<b>85</b>
<b>Number of apprentices</b>	<b>841</b>	<b>1,081</b>	<b>247</b>	<b>N/A</b>

**Table 3.2 Employer Size (based on number of journeypersons)**

Number of Journeypersons	AST	Electrician	Carpenter
1-5	69%	31%	31%
6-10	11%	25%	23%
11-25	11%	25%	14%
26+	8%	19%	23%
<b>n</b>	<b>73</b>	<b>51</b>	<b>35</b>



### 3.1.1 Reported Apprentice Demographics

Employers who hire apprentices were asked to comment on the demographic characteristics of the apprentices they currently employ. Specifically, they were asked about the age and gender identity of their apprentices and whether any of their apprentices were members of various equity groups.

Across the three trades, most apprentices (74%) were between the ages of 20 and 24 at the time they were hired. Smaller proportions of apprentices were older (15%, 25-29 years old) at the time they were hired and some were younger (10%, 16-19 years old). A very small proportion (1%) were over the age of 35 when they were hired (see **Table 3.3**).

**Table 3.3 Employer Reported Average Age of Apprentices at the Time Hired**

Age	Percentage of Apprentices
20-24	74%
25-29	15%
16-19	10%
30+	1%

Source: AB ROTI Survey A, Q25; n=117

Employers who responded to the survey reported that most of their apprentices were men (94%), and this finding did not differ by trade.



When asked about whether apprentices represented any equity groups, many employers were unsure, likely because they do not collect or track this information. Overall, approximately 30% of employers reported that some of their current apprentices identified as a visible minority (ranging from 20% to 40%).<sup>3</sup> A similar proportion (26%) reported that some of their current apprentices identify as Indigenous (ranging from 13% to 47%). Finally, a small proportion of employers (3%) reported that at least one of their current apprentices identified as persons with disabilities (see **Table 3.4**).

**Table 3.4 Employer Reported Equity Priority Groups**

Equity Priority Group	Proportion of Apprentices
Visible minority	30%
Indigenous peoples	26%
Persons with disabilities	3%

Source: AB ROTI Survey A, Q29; n=103, Q28; n=106, Q27; n=109

<sup>3</sup> Visible minority was the term used in the survey because it is the term used by Statistics Canada: <https://www12.statcan.gc.ca/census-recensement/2021/ref/98-500/006/98-500-x2021006-eng.cfm>

### 3.2 Cost-Benefit Analysis and ROTI – Summary of Findings

Results show a positive return on training investments for all three trades (see **Table 3.5**). Reported benefits ranged from \$1.20 for carpenters to \$1.62 for automotive service technicians. Across all three trades there is a positive return for all four years of apprenticeship.

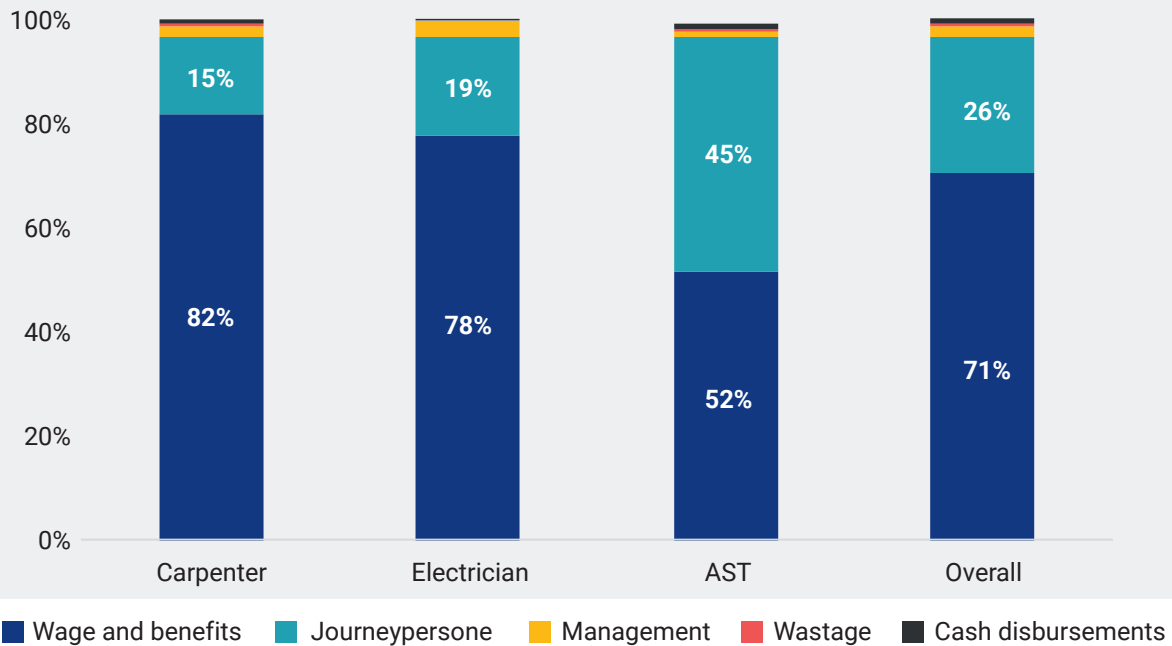
**Table 3.5 Location of Survey Respondents**

Trade	Total Costs	Total Benefits	Net Benefits	ROTI
Automotive Service Technician (AST)	\$435,291	\$703,579	\$268,288	\$1.62
Electrician	\$267,686	\$378,652 (+\$327 grant)	\$111,293	\$1.43
Carpenter	\$309,730	\$372,919	\$63,189	\$1.20

Source: Survey A, n= 159

As indicated in **Figure 3.1**, most of the costs (71%) can be attributed to apprentice wages and benefits. Journeyperson time also accounts for a significant portion of costs (26%), but these costs are largely concentrated in year one and they decrease as the apprentice becomes more independent. Other costs, such as wastage of materials (<1%), management costs (2%) and cash disbursements (1%), were relatively minimal.

**Figure 3.1 Distribution of Apprentice Training Costs**



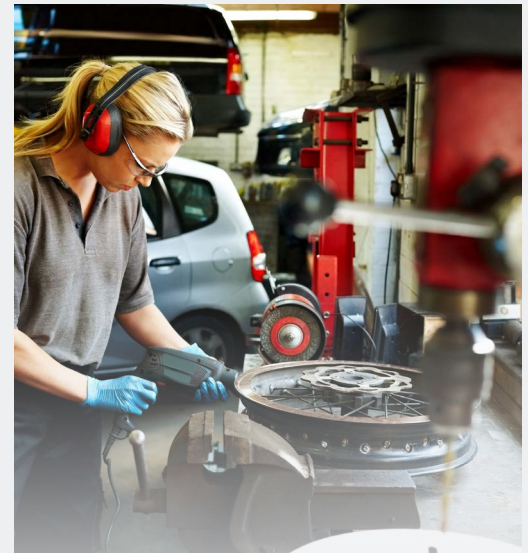
Source: Survey A, n= 159

### 3.2.1 Specific Trade Findings

#### Automotive Service Technician

The results of the cost-benefit analysis for the automotive service technician trade are presented in **Table 3.6**. According to the cost-benefit model, the return on training investment is \$1.62 for every \$1 invested in training. Results show a positive return for all four years of apprenticeship, totalling an average return of \$268,288 over four years.

The breakdown of costs shows that apprentice wage and benefits (52%) and journeyman time lost to training (45%) account for the majority of these costs. Management, wastage, and other cast disbursements are relatively small components of the total cost of apprenticeship training as each comprises about 1% of the total costs.



**Table 3.6 Summary of Estimated Costs and Benefits**

	Year 1	Year 2	Year 3	Year 4	Total
<b>Costs:</b>					
Wage & benefit costs	\$45,946	\$54,241	\$61,501	\$66,053	\$227,741
Journeyman time	\$50,476	\$52,022	\$53,569	\$40,599	\$196,666
Management	\$1,544	\$1,544	\$1,544	\$1,544	\$6,174
Wastage	\$611	\$285	\$285	\$186	\$1,368
Cash disbursements	\$1,020	\$938	\$638	\$745	\$3,341
<b>Total Costs</b>	<b>\$99,597</b>	<b>\$109,031</b>	<b>\$117,537</b>	<b>\$109,127</b>	<b>\$435,291</b>
<b>Benefits:</b>					
Revenue from charge out	\$126,377	\$169,919	\$203,242	\$204,040	\$703,579
<b>Net Benefits:</b>	<b>\$26,780</b>	<b>\$60,888</b>	<b>\$85,706</b>	<b>\$94,913</b>	<b>\$268,288</b>
Avg hourly wage rate	\$21/hr	\$26/hr	\$29/hr	\$31/hr	\$38/hr journeyman

Note that some totals may not sum exactly due to rounding (i.e., some totals appear to be off by about +/- \$1)

## Electrician

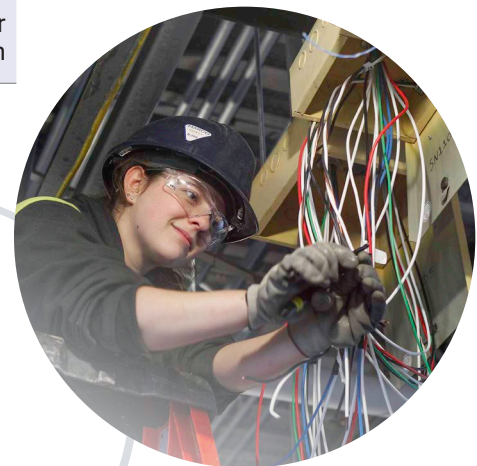
The results of the cost-benefit analysis for the construction electrician trade are presented in **Table 3.7**. Results show a positive return as for every \$1 invested in training apprentices, employers receive an average return of \$1.43. The model suggests a positive return for all four years of apprenticeship, for an average return of \$111,293 over four years.

Looking at the distribution of costs, those costs are largely attributable to apprentice wage and benefits, accounting for 78% of all costs. Journeyman time lost to training represents the second largest cost (19%), while other costs including management expenses (3%), wastage of materials (<1%), and cash disbursements (1%) are minimal.

**Table 3.7 Summary of Estimated Costs and Benefits**

	Year 1	Year 2	Year 3	Year 4	Total
<b>Costs:</b>					
Wage & benefit costs	\$40,856	\$47,921	\$57,064	\$62,669	\$208,511
Journeyman time	\$18,119	\$14,981	\$10,335	\$6,180	\$49,615
Management	\$1,777	\$1,777	\$1,777	\$1,777	\$7,108
Wastage	\$65	\$76	\$0	\$0	\$142
Cash disbursements	\$526	\$565	\$456	\$764	\$2,310
<b>Total Costs</b>	<b>\$61,343</b>	<b>\$65,320</b>	<b>\$69,632</b>	<b>\$71,391</b>	<b>\$267,686</b>
<b>Benefits:</b>					
Revenue from charge out	\$75,900	\$91,244	\$98,852	\$112,656	\$378,652
Grant/Subsidy					\$327
<b>Net Benefits:</b>	<b>\$14,557</b>	<b>\$25,924</b>	<b>\$29,221</b>	<b>\$41,265</b>	<b>\$111,293</b>
<b>Avg hourly wage rate</b>	<b>\$19/hr</b>	<b>\$23/hr</b>	<b>\$27/hr</b>	<b>\$30/hr</b>	<b>\$38/hr journeyman</b>

Note that some totals may not sum exactly due to rounding (i.e., some totals appear to be off by about +/- \$1)



## Carpenter

The results of the cost-benefit analysis for the carpenter trade are presented in **Table 3.8**. The model shows an average return of \$1.20 for every \$1 of costs. Year one returns average \$11,785 and increase to about \$22,868 in the fourth year of apprenticeship. Similar to previous trades, apprentice wage and benefits are the majority of the cost (82%), followed by costs attributed to journeyman time (15%). By fourth year, costs attributed to lost journeyman time are fairly minimal as the apprentice gains proficiency through their training.

**Table 3.8 Summary of Estimated Costs and Benefits**

	Year 1	Year 2	Year 3	Year 4	Total
<b>Costs:</b>					
Wage & benefit costs	\$50,470	\$60,432	\$66,444	\$75,787	\$253,134
Journeyman time	\$16,643	\$13,059	\$12,864	\$5,007	\$47,573
Management	\$1,393	\$1,393	\$1,393	\$1,393	\$5,572
Wastage	\$218	\$182	\$455	\$0	\$855
Cash disbursements	\$591	\$634	\$512	\$858	\$2,596
<b>Total Costs</b>	<b>\$69,316</b>	<b>\$75,700</b>	<b>\$81,668</b>	<b>\$83,046</b>	<b>\$309,730</b>
<b>Benefits:</b>					
Revenue from charge out	\$81,101	\$90,921	\$94,983	\$105,914	\$372,919
<b>Net Benefits:</b>	<b>\$11,785</b>	<b>\$15,221</b>	<b>\$13,315</b>	<b>\$22,868</b>	<b>\$63,189</b>
<b>Avg hourly wage rate</b>	<b>\$21/hr</b>	<b>\$25/hr</b>	<b>\$28/hr</b>	<b>\$32/hr</b>	<b>\$35/hr journeyman</b>

Note that some totals may not sum exactly due to rounding (i.e., some totals appear to be off by about +/- \$1)



### 3.3 Additional Benefits

In addition to capturing the costs and monetary benefits of hiring and training apprentices, this study also aimed to capture additional benefits that are not as easily quantifiable. Employers who hire apprentices were provided a list of potential non-monetary benefits and were asked to select any benefits that were applicable to their workplaces. Overall, a majority of respondents indicated they had experienced most of the benefits included in the list. The single most common benefit was that apprentices were a better fit with the company as reported by 94% of automotive service technician employers, 88% of electrician employers, and 92% of carpenter employers. See **Table 3.9** for a summary of these reported non-monetary benefits.

There were some minor differences by trade:

- Among employers of automotive service technician apprentices, frequently reported benefits included better retention of employees (87%), in-house mentors (81%), and potential for career advancement in the company (81%).
- Electrician apprentices indicated the benefits of better retention of employees (80%), in-house mentors (70%), greater overall productivity (69%), and better relationships with customers (69%).
- Employers of carpenter apprentices most frequently reported benefits of in-house mentors (89%), potential for career advancement in the company (86%), and fewer mistakes (83%).

**Table 3.9 Employer Reported Benefits of Hiring Apprentices**

Benefit	Percentage of Employers			
	AST	Electrician	Carpenter	All trades
Better fit with the organization	94%	88%	92%	91%
Better retention of employees	87%	80%	75%	81%
In-house mentors	81%	70%	89%	79%
Potential for career advancement in the company	81%	63%	86%	76%
Avoids risk of skills shortages	79%	61%	81%	73%
Greater overall productivity	71%	69%	75%	72%
Better relationships with customers	75%	69%	67%	71%
Fewer mistakes	67%	57%	83%	68%
Better health and safety performance	64%	65%	72%	66%
Other	6%	2%	3%	4%
<b>n</b>	<b>52</b>	<b>49</b>	<b>36</b>	<b>137</b>

Source: Survey A, Q8

### 3.4 Retention of Apprentices

A majority of employers felt that the risk of another organization poaching an apprentice or the risk of an apprentice leaving to finish their apprenticeship training with another employer was a serious problem when the “somewhat serious” or “very serious” responses are combined (see **Table 3.10**). Despite the perception that the risk of poaching is a problem, only 11% of employers reported that apprentices had left their organization within one year of completing their training. Almost half (46%) of employers reported that, on average, apprentices stay with the organization for five or more years after completing their training.

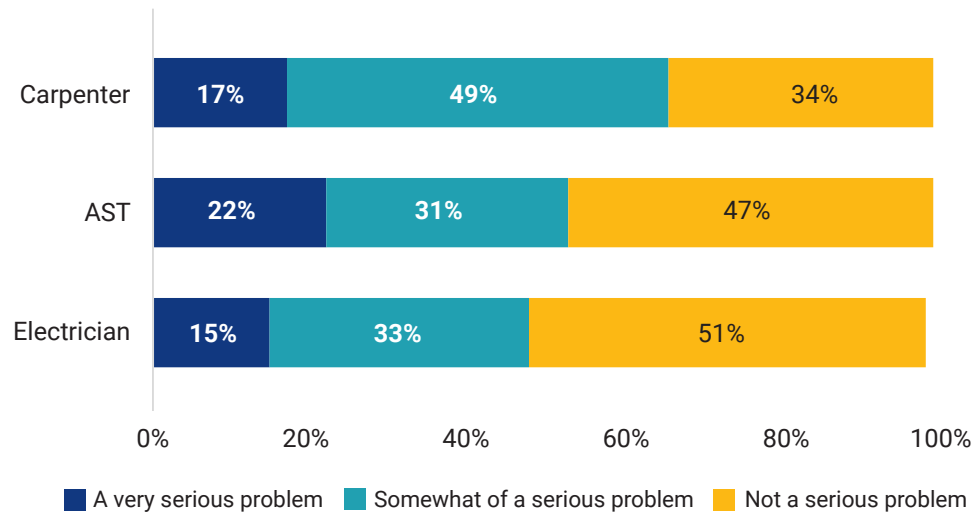
**Table 3.10 Risk of Poaching or Apprentices Leaving Before Finishing Training**

	Percentage of Employers	
	Risk of Poaching	Leaving to finish their training with another employer
Not a serious problem at all	45%	65%
Somewhat of a serious problem	37%	25%
A very serious problem	19%	9%

Source: Survey A, Question 17 & 17B n= 123

As shown in **Figure 3.2** it appears that the perception of the risk of poaching varies slightly across the three trade areas studied. Carpenter employers were more likely than automotive service technician or electrician employers to report the risk of poaching as a problem. More than half of automotive service technician employers (53%) and just under half of electrician employers (48%) felt that poaching was at least somewhat of a serious problem, compared to two-thirds of carpenter employers (66%).

**Figure 3.2 Employer Reported Severity of Poaching Risk**



Source: Survey A, Question 17, n= 123

### 3.5 Challenges and Barriers to Hiring Apprentices

Qualified employers who do not hire apprentices were asked to comment on the challenges, barriers, or reasons why they do not engage in apprentice training. Respondents were provided with a list of reasons for not hiring apprentices and asked to select the response most relevant to their situation. Across all three trades, the most frequently reported reasons were:

- A lack of continuous contracts to sustain apprenticeships (57%)
- A lack of apprentices and applicants to job postings (23%)
- Insufficient journeypersons to supervise apprentices (19%)
- Other reasons (18%). Three key themes characterized the other responses:
  - The organization’s business structure does not accommodate apprentice training
  - A lack of resources to support apprentice training
  - A lack of demand for apprentices.



**Table 3.11** below shows employers’ reasons for not hiring apprentices.

**Table 3.11 Employer Reported Reasons for Not Hiring Apprentices**

Reasons for not Hiring Apprentices	Percentage of Employers
Not enough continuous contracts to sustain apprenticeships	57%
Not enough apprentices / no-one applies to job postings	23%
Insufficient journeypersons to supervise apprentices	19%
Not a compulsory trade	14%
The possibility that an apprentice will be poached or recruited by another company	13%
Apprentices require too much of the journeyperson’s time	10%
In the past, my apprentices had too many essential skills issues	8%
In the past, my apprentices had too many life management issues	6%
Interruption in apprentice availability due to need for the apprentice to take technical training	5%
Insurance costs	4%
Health and safety concerns related to apprentice training	3%
Worker’s Compensation costs for apprentices	3%
Other	18%

Source: Survey B, Q2; n=79



Employers who do not hire apprentices were also asked about factors that would encourage them to hire apprentices in the future (see **Table 3.12**). The two most commonly reported factors were more financial support (45%) and tax credits (45%). Employers also reported that having more apprentices to choose from and ways to get in contact with potential apprentices would encourage them to hire apprentices in the future.

**Table 3.12 Employer Reported Factors to Encourage Hiring**

Factors to Encourage Hiring	Percentage of Employers
More financial support	45%
More tax credits	45%
More apprentices / I would hire apprentices if I could find them	39%
More accessible avenues to get in contact with potential apprentices	36%
More liaison and coordination support provided by the government or a non-profit organization or an employer association	29%
More information about the flexible training options available when training apprentices	28%
More assistance with pre-screening candidates so they better meet my needs as an employer	20%
More work / better economy	20%
Better understanding of how to hire apprentices, including better understanding of where to find required paperwork and how to fill it out	18%
Trade specific data that proves apprenticeship training is a profitable investment	16%
Fellow employers talking about the benefits of apprenticeship for their business	13%
A change in the collective agreements at my organization to accommodate apprentices	9%
Nothing	9%
Other	5%

Source: Survey B, Q3, n = 80

## 4. Summary and Conclusion

Overall, the results suggest that there is a positive net return on investment in apprentice training for the three trades examined in Alberta. The reported benefits range from \$1.20 for carpenters to \$1.62 for automotive service technicians, which is a net return of between \$0.20 and \$0.62 for every \$1 invested in training apprentices.

Most costs can be attributed to apprentice wage and benefits, which accounted for 52% to 82% of all the costs associated with training apprentices. The second largest cost was journeyman time, accounting for 15% to 45% of all costs. For most trades this cost decreases over the course of the apprenticeship as the apprentice becomes more proficient and can complete more tasks independently. Other costs associated with management of apprentices or the apprenticeship program, wastage of materials, and cash disbursements were relatively small compared to apprentice wage and benefits and journeyman time. Each of these accounted for approximately 1% to 3% of the total reported costs.

It is important to note that the applied methodology of this survey likely underestimates the actual return on training investment. Employers reported other benefits of hiring and training apprentices that while not easily quantifiable but still had financial implications. For example, most employers cited retention of apprentices as an additional benefit. Lower turnover means reduced recruitment costs.

Findings from the survey with employers who do not train apprentices highlighted that there may be a perceived or real lack of apprentices to fill available positions. About one-third of these employers commented that they did not know where to look for apprentices or that they might be encouraged to hire an apprentice in the future if there were better ways to make contact and learn about potential apprentices. These findings speak to a potential need for matchmaking services to help apprentices and employers find each other. Additionally, employers highlighted a lack of continuous contracts or insufficient work to support training apprentices. This finding may speak to the seasonal nature of some construction and industrial trades that tend to be busier during the warmer, summer months and experience a decrease in work in the winter months. For these employers, there may be opportunity to share apprentices, for example through an apprenticeship consortium or similar program.

