

Calgary Economic Development

SKILL LEVEL REPORT: JOBS REQUIRING ON-THE-JOB TRAINING

January 2008

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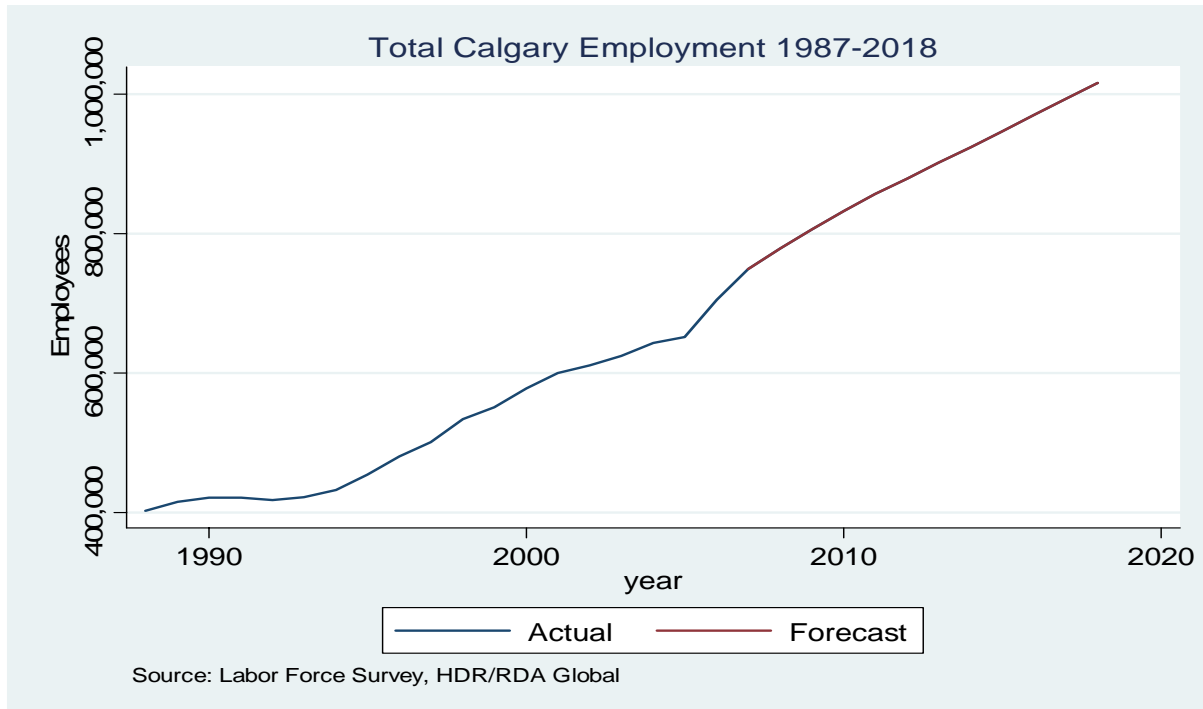
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Figure 1: Total Calgary Employment Forecast (All Industries)



The Calgary economy has seen tremendous growth in labour demand over the previous decade with employment growth reaching an all-time high of 8.1%¹ in 2006. The recent strong growth in the Calgary economy has been driven by a combination of economic factors spurring growth in specific sectors and generally throughout the Calgary economy. Energy prices are a significant driver with West Texas Intermediate oil price rising 17%² in 2006. Investment levels in major construction projects have risen significantly compared to historical levels. Housing starts have risen from 13,700³ starts in 2005 to 17,000 starts in 2006, an increase of 25%. Calgary GDP grew at 7.7% in 2006.

Recent increases in employment levels have been highest in sectors of the Calgary economy which are related to energy, in particular in the professional services sector. However, overall growth has been relatively balanced among industries with significant growth in most sectors of the economy.

As Figure 1 shows, labour demand in the Calgary Economic Region is expected to continue to grow at a healthy rate throughout the forecast, albeit at a lower, more sustainable level. The overall growth in employment in Calgary is expected to decline over the next several years settling at a more sustainable long-term employment growth rate of 2.4%, in line with historical average growth. However, this lower growth rate will continue to result in strong job creation. Over the previous ten years (1996-2006) Calgary employment increased adding 224,000 new

¹ Source: Labor Force Survey

² Source: US Energy Information Administration

³ Source for housing starts statistics and Metro GDP at basic prices was the Conference Board of Canada

jobs. Over the ten year forecast period (2007-2017) Calgary employment growth will result in the creation of an additional 244,000 new jobs. This growth in the Calgary economy will be driven by a number of factors including expectations that oil prices will remain at or near historically high levels. Energy prices are expected to be volatile in the near term, with possible spikes in prices, partially due to the declining value of the US dollar. However, for the long-term forecast, an average annual 1.7% growth rate in oil prices has been forecasted, which is consistent with conservative expectations of energy analysts⁴. Calgary GDP growth will moderate to a strong long term compound annual real growth rate of 3.8%.

Figure 2 Calgary Job Creation in Each Industry

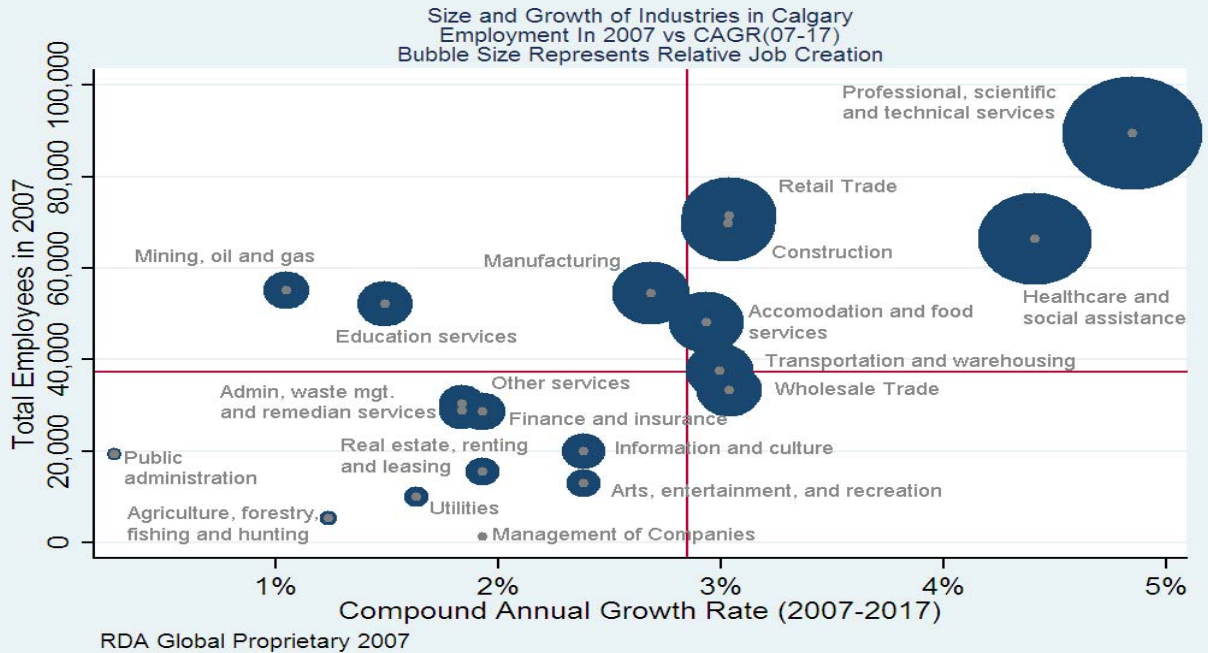


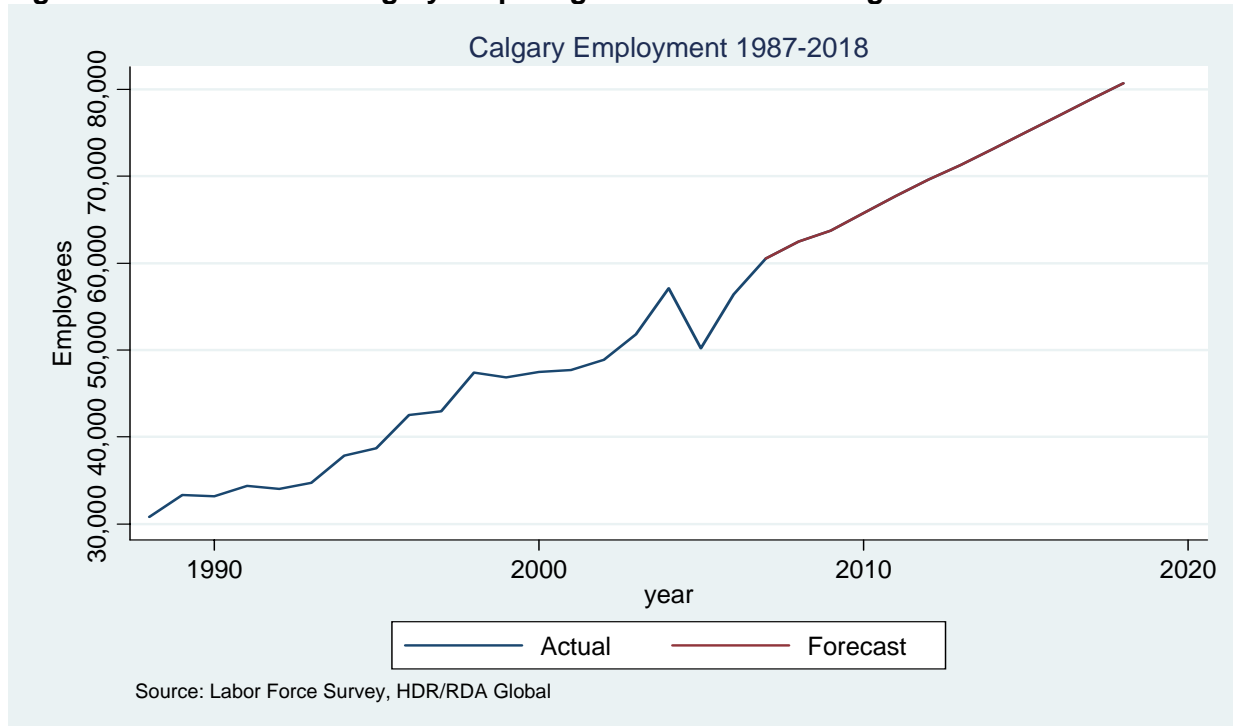
Figure 2 highlights the differences in job creation across industries in Calgary, with the larger circles representing industries with more job creations. Significant gains in employment will be somewhat distributed among economic sectors. However, there will be particularly strong expansion in the professional services sector, which is tied to continued demand for technical and engineering services in the energy sector. There will also be strong job growth in healthcare, driven by overall population growth and growth in the older segments of the population. Job expansion will also continue to be robust in retail, construction, accommodation & food services, transportation, manufacturing, and wholesale. Population growth is expected to drive up demand for education services. Most segments of the economy are expected to continue to see positive growth with employment growth rates in the 1% to 2.5% long-term growth range. However, total job creation in niche industries will be constrained by the relatively smaller size of these segments.

⁴ In development of this forecast, oil price forecasts of the Energy Information Administration and Sproule and Associates were consulted, however, final assumptions in the forecast model were based on a nominal annual growth rate of 1.7%.

JOBS REQUIRING ON-THE-JOB TRAINING

About 8% of workers in Calgary have job occupations which require on-the-job training. Jobs requiring on-the-job training are expected to continue to expand at a compound annual growth rate of 2.6% over the next ten years. These jobs will grow slightly slower the overall employment growth in Calgary of 2.9% over the same forecast period. Growth in demand for jobs requiring on-the-job training will result in the creation of an additional 18,250 jobs in Calgary over the forecast period.

Figure 3: Total Jobs in Calgary Requiring On-The-Job Training 1987-2018



Jobs requiring on-the-job training rank fifth out of five skill level categories, representing nearly 61,000 workers in 2007. Historically, growth in demand for these jobs has outpaced that of the region. In terms of jobs created, the segment ranked fifth over the 1997-2007 period, expanding by about 17,600 jobs. The sector will continue to be the fifth largest contributor to job creation in the 2007-2017 forecast period, and will represent 18,250 workers in 2017.

Table 1: Comparison of Calgary Jobs in Five Skill Levels

Key Sector	Total Employment				Compound Annual Growth			Jobs Added		
	1987	1997	2007	2017	1987-97	1997-07	2007-17	1987-97	1997-07	2007-17
College Education or Apprenticeship Training	135,696	167,297	251,999	334,246	2.1%	4.2%	2.9%	31,601	84,702	82,247
Secondary School or Occupation-Specific Training	111,354	132,719	197,176	254,599	1.8%	4.0%	2.6%	21,366	64,457	57,422
University Education	74,946	102,054	164,811	226,964	3.1%	4.9%	3.3%	27,107	62,757	62,153
Management Occupation	36,858	55,680	74,819	98,676	4.2%	3.0%	2.8%	18,822	19,138	23,857
On the job training	30,946	42,950	60,563	78,814	3.3%	3.5%	2.7%	12,004	17,613	18,251
Grand Total	389,800	500,700	749,368	993,298	2.5%	4.1%	2.9%	110,90	248,668	243,93

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JOBS CREATED BY OCCUPATION – JOBS REQUIRING ON-THE-JOB TRAINING

Figure 4 illustrates the jobs that require on-the-job training in each occupational group. The vast majority of these workers are employed in sales and service occupations. In 2007, about 46,100 out of 60,100 workers in this skill level worked in sales and service occupations. Demand for sales and service workers requiring on-the-job training will grow to about 59,000 workers by the end of the forecast period. About 6,500 of these workers have jobs in trades, transport and equipment operators. Demand for these workers will grow to over 8,400 by 2017. There are about 4,500 of these workers in processing, manufacturing and utilities occupations and this figure will grow to over 6,400 workers by 2017.

Figure 4: Total Jobs by Occupation 2007 and 2017 that Require On-The-Job Training

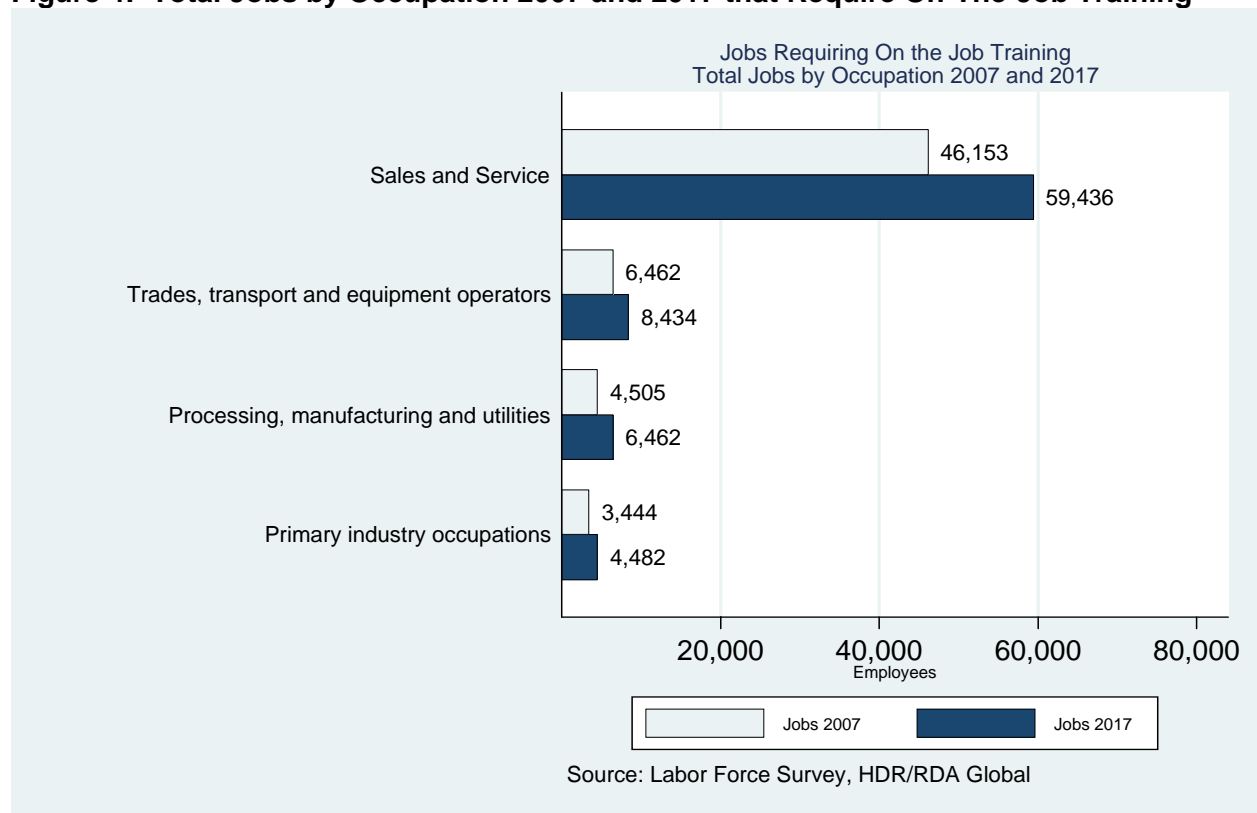
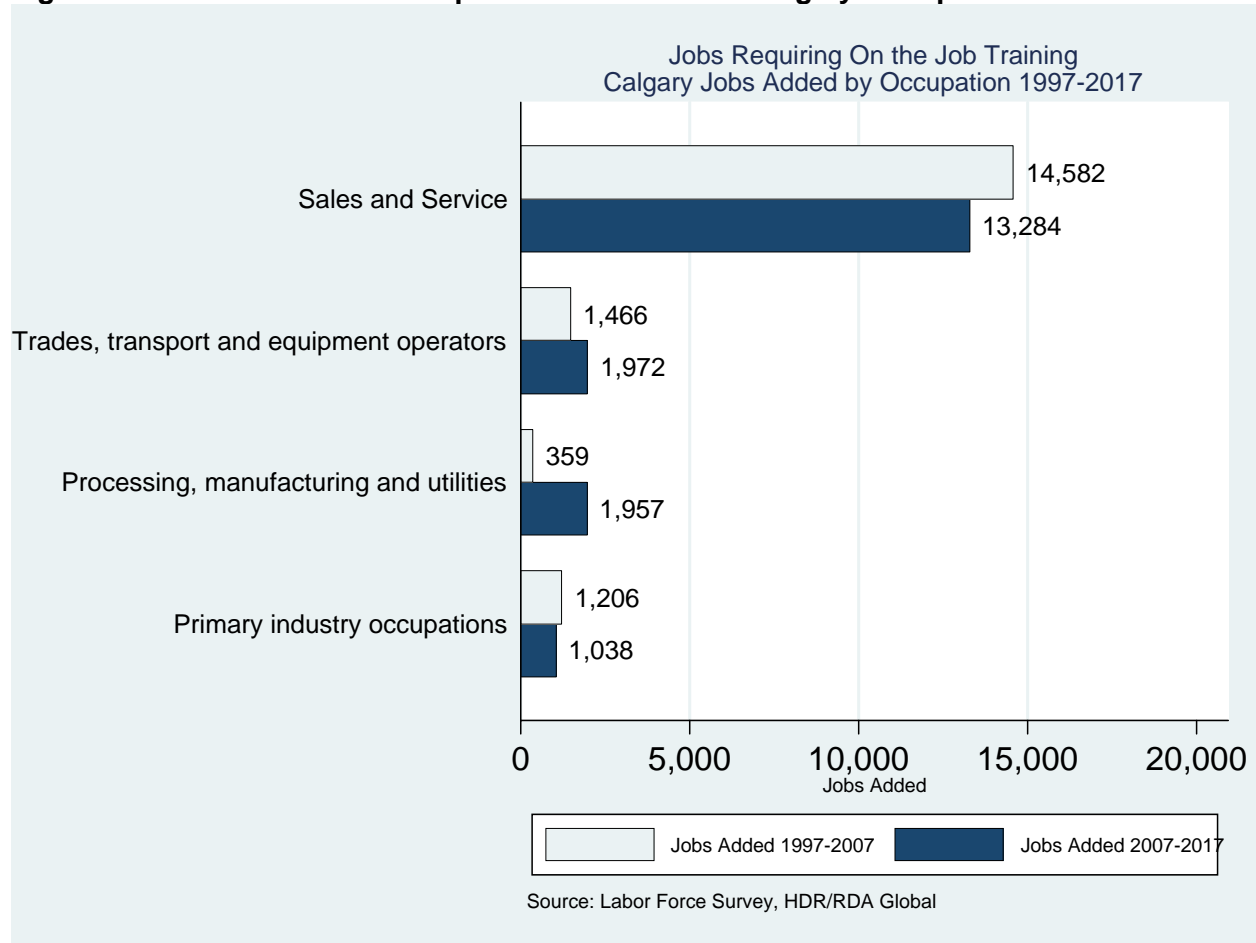


Figure 5 illustrates the jobs requiring on-the-job training that were added in the 1997-2007 time period compared with the job creation expected for the 2007-2017 forecast period. The figure pertains only to the jobs created with a skill level that requires on-the-job training. For this skill level, there will be about 13,300 new sales and service jobs, about 2,000 new trades, transport, and equipment operator jobs, and about 2,000 new processing, manufacturing and utilities jobs created.

Figure 5: Jobs Created that Require On-The-Job Training by Occupation



JOBS CREATED IN EACH INDUSTRY REQUIRING ON-THE-JOB TRAINING

In 2007, the retail trade industry employed the largest percentage of workers who require on-the-job training, employing nearly 13,000 workers. The administrative and support, waste management industry is the second largest employer of workers requiring on-the-job training, with about 11,200 workers. The accommodation and food services industry ranks third with about 10,200 workers and construction ranks fourth with about 5,100 workers.

Figure 6: Jobs Requiring On-The-Job Training in Each Industry in 2007

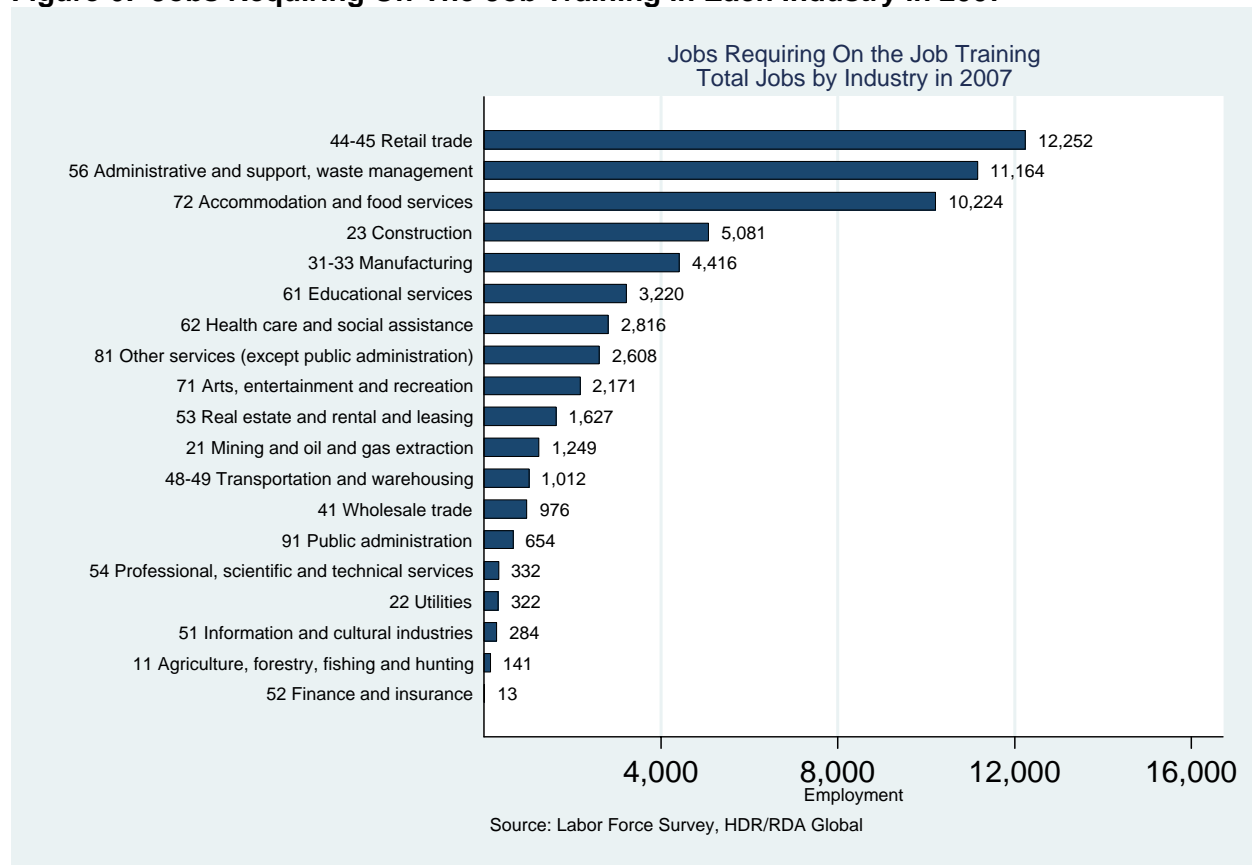
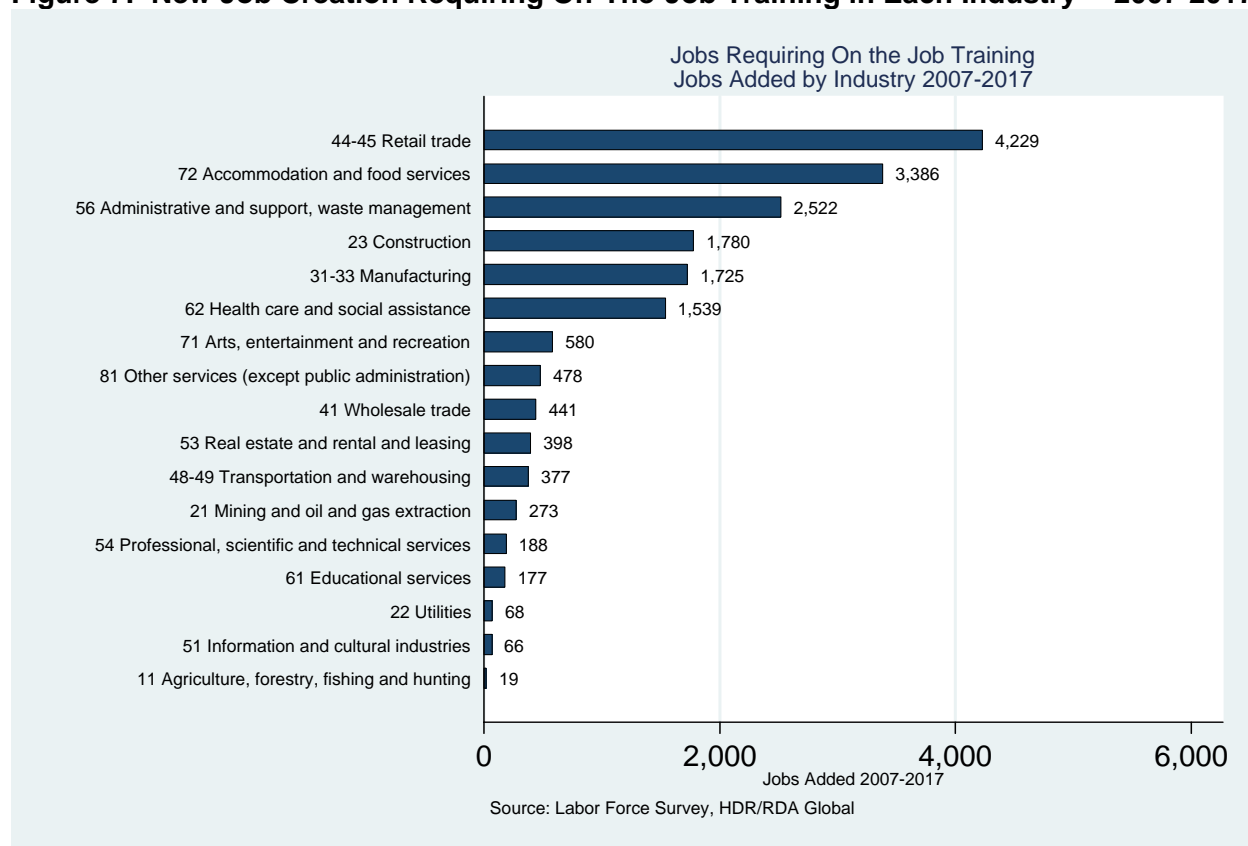


Figure 7: New Job Creation Requiring On-The-Job Training in Each Industry —2007-2017



The retail trade industry will add about 4,200 new jobs over the forecast period that require on-the-job training. The accommodation and food services industry will create the second most new jobs, adding about 3,400 new workers. The administrative and support, waste management industry will add about 2,500 new workers in this skill level over the forecast period.

Table 2: Ten-Year Forecast of Jobs by Skill Level – Jobs Requiring On-The-Job Training

Occupation (1 Digit NOC)	Annual Employment											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
College Education or Apprenticeship Training	237,075	251,999	262,777	272,510	281,163	289,145	296,520	303,831	311,210	318,761	326,451	334,246
Secondary School or Occupation-Specific Training	186,560	197,176	204,108	209,328	215,853	221,902	227,505	232,746	238,275	243,773	249,207	254,599
University Education	155,684	164,811	171,384	178,975	185,143	190,768	196,569	202,625	208,562	214,567	220,735	226,964
Management Occupation	69,138	74,819	78,368	81,827	84,515	86,879	88,947	90,999	92,944	94,882	96,780	98,676
On the job Training	56,443	60,563	62,512	63,730	65,801	67,753	69,581	71,273	73,159	75,051	76,938	78,814
Grand Total	704,900	749,368	779,149	806,370	832,474	856,447	879,122	901,474	924,150	947,035	970,110	993,298

Table 3: Occupations Adding Jobs From 2007-2017⁵

Rank	Occupation (4 Digit NOC)	Employees				Jobs Created
		1987	1997	2007	2017	2007-2017
1	G961 Food counter attendants, kitchen helpers and related occupations	3,388	5,148	7,441	9,846	2,406
2	G933 Janitors, caretakers and building superintendents	5,013	6,881	9,977	12,285	2,308
3	G311 Cashiers	4,180	4,500	6,899	9,106	2,208
4	G931 Light duty cleaners	2,967	4,504	6,393	8,198	1,805
5	H821 Construction trades helpers and labourers	1,813	3,854	5,189	6,811	1,623
6	G972 Grocery clerks and store shelf stockers	3,018	3,066	4,643	6,180	1,537
7	G631 Security guards and related occupations	1,412	1,912	2,918	3,691	773
8	J317 Labourers in food, beverage and tobacco processing	1,118	1,555	1,707	2,447	740
9	I212 Landscaping and grounds maintenance labourers	571	1,495	2,272	2,993	721
10	J319 Other labourers in processing, manufacturing and utilities	934	1,353	1,479	2,132	654
11	G973 Other elemental sales occupations	1,135	1,312	1,946	2,559	613
12	G932 Specialized cleaners	864	1,241	1,767	2,258	491
13	G971 Service station attendants	585	593	916	1,222	306
14	I215 Oil and gas drilling, servicing and related labourers	340	543	1,059	1,360	300
15	G983 Other elemental service occupations	584	724	1,006	1,266	260
16	J312 Labourers in metal fabrication	312	467	499	720	221
17	G981 Dry cleaning and laundry occupations	492	611	846	1,056	210
18	H831 Public works and maintenance labourers	428	684	747	936	190
19	G732 Other attendants in accommodation and travel	283	425	603	787	184
20	J311 Labourers in mineral and metal processing	212	312	335	477	142
21	G731 Operators and attendants in amusement, recreation and sport	393	518	614	754	141
22	J314 Labourers in wood, pulp and paper processing	157	219	238	341	103
23	H822 Other trades helpers and labourers	142	270	323	417	94
24	H832 Railway and motor transport labourers	95	188	204	269	65
25	G982 Ironing, pressing and finishing occupations	111	135	185	228	43
26	J315 Labourers in rubber and plastic products manufacturing	75	110	110	152	42
27	J313 Labourers in chemical products processing and utilities	63	79	93	133	40
28	I211 Harvesting labourers	232	199	112	129	17
29	J316 Labourers in textile processing	32	50	46	61	15
	Grand Total	30,946	42,950	60,563	78,814	18,251

⁵ Note that these job creations in Table 3 capture only jobs created requiring on-the-job training and do not represent total job creations for all of Calgary.