

Calgary Economic Development

INDUSTRY REPORT: TRANSPORTATION AND WAREHOUSING

January 2008

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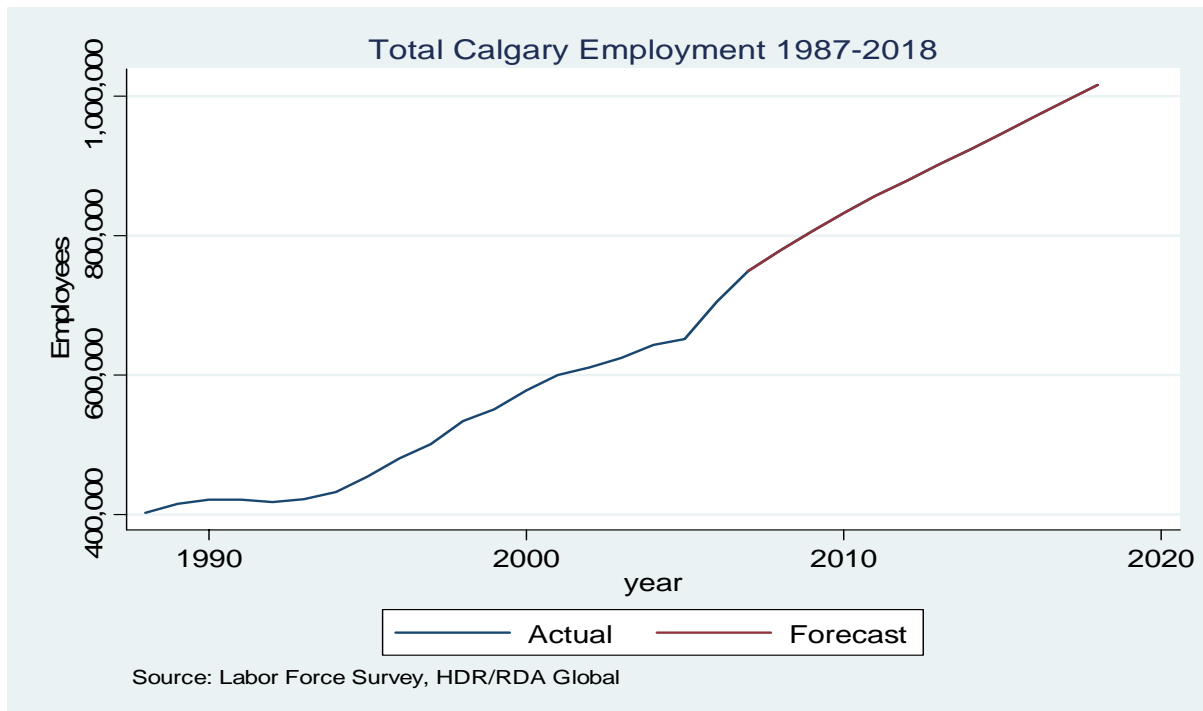
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Figure 1: Total Calgary Employment Forecast (All Industries)



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

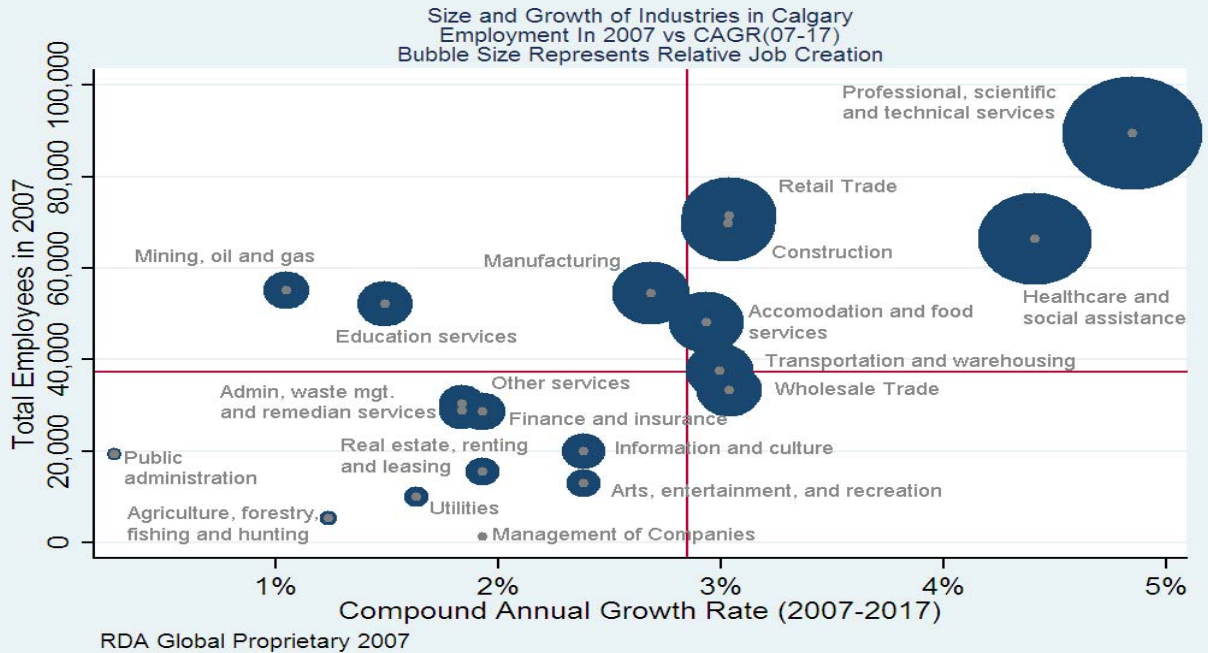


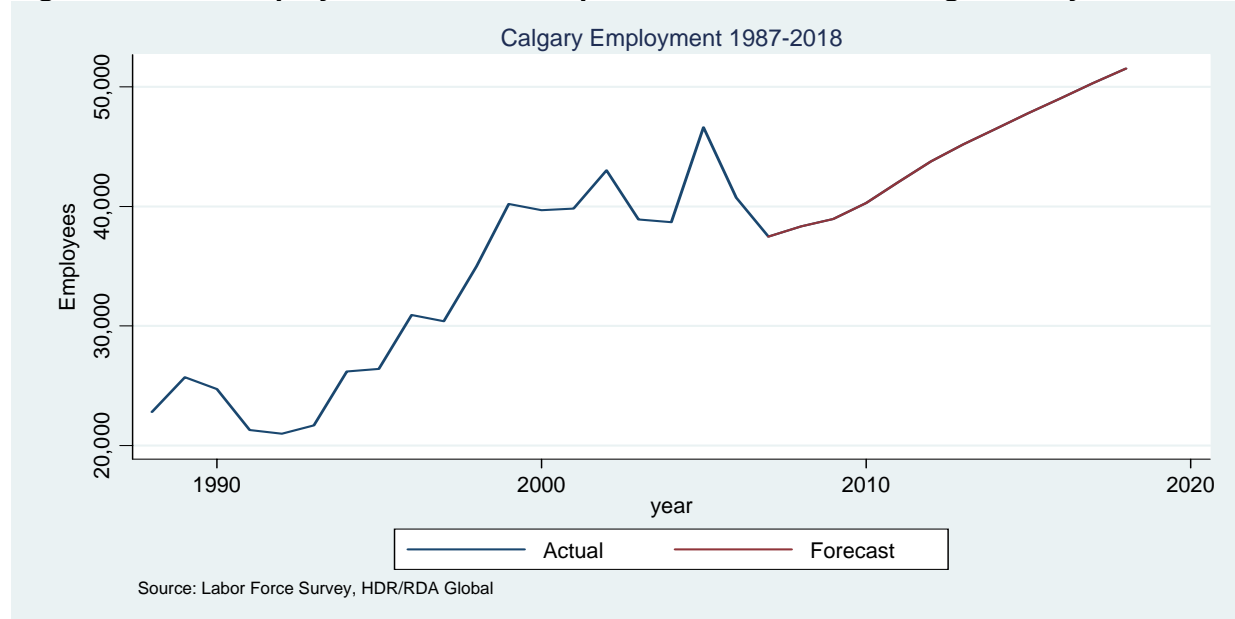
Figure 2 highlights the differences in job creation across industries in Calgary, with the larger circles representing industries with more job creations. Significant gains in employment will be somewhat distributed among economic sectors. However, there will be particularly strong expansion in the professional 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%.

TRANSPORTATION AND WAREHOUSING INDUSTRY

The Transportation and Warehousing industry is expected to continue to expand at a compound annual growth rate of 3.0% over the next ten years. This will grow in step with the overall employment growth in Calgary of 2.9% over the same forecast period. Growth in the industry will result in an additional 12,800 jobs added to the industry over the forecast period.

Figure 3: Total Employment in the Transportation and Warehousing Industry 1987-2018



The Transportation and Warehousing industry ranks ninth out of twenty industries for total employment. Historically, growth in this industry has roughly matched that of the region and will continue to match the overall regional growth. In terms of jobs created, the industry ranked twelfth over the 1997-2007 period, creating over 7,000 jobs. The industry will move up to become the seventh largest contributor to job creation in the 2007-2017 forecast period, creating over 12,800 new jobs.

Table 1: Transportation and Warehousing Industry Compared with Other Industries

NAICS Industry	Total Employment				Compound Annual Growth			Jobs Added		
	1987	1997	2007	2017	1987-97	1997-07	2007-17	1987-97	1997-07	2007-17
11 Agriculture, forestry, fishing and hunting	10,357	8,230	5,262	5,951	-2.3%	-4.4%	1.2%	(2,127)	(2,968)	689
21 Mining and oil and gas extraction	34,043	32,970	55,092	61,154	-0.3%	5.3%	1.0%	(1,073)	22,122	6,062
22 Utilities	4,700	3,800	9,881	11,621	-2.1%	10.0%	1.6%	(900)	6,081	1,740
23 Construction	21,500	36,600	69,847	94,177	5.5%	6.7%	3.0%	15,100	33,247	24,331
31-33 Manufacturing	30,500	42,900	54,380	70,890	3.5%	2.4%	2.7%	12,400	11,480	16,510
41 Wholesale trade	21,375	22,041	33,228	44,815	0.3%	4.2%	3.0%	666	11,187	11,586
44-45 Retail trade	46,025	47,459	71,546	96,493	0.3%	4.2%	3.0%	1,434	24,087	24,948
48-49 Transportation and warehousing	21,300	30,400	37,452	50,295	3.6%	2.1%	3.0%	9,100	7,052	12,844
51 Information and cultural industries	11,317	16,489	19,961	25,271	3.8%	1.9%	2.4%	5,172	3,472	5,310
52 Finance and insurance	16,662	21,266	28,538	34,543	2.5%	3.0%	1.9%	4,603	7,272	6,006
53 Real estate and rental and leasing	9,038	11,534	15,479	18,736	2.5%	3.0%	1.9%	2,497	3,944	3,258
54 Professional, scientific and technical services	27,200	43,700	89,591	143,873	4.9%	7.4%	4.9%	16,500	45,891	54,282
55 Management of companies and enterprises	501	879	1,169	1,415	5.8%	2.9%	1.9%	378	289	246
56 Admin & support, waste mgmt & remediation svcs.	11,299	19,821	28,790	34,543	5.8%	3.8%	1.8%	8,522	8,969	5,753
61 Educational services	23,800	31,900	52,154	60,488	3.0%	5.0%	1.5%	8,100	20,254	8,334
62 Health care and social assistance	33,700	43,200	66,471	102,326	2.5%	4.4%	4.4%	9,500	23,271	35,855
71 Arts, entertainment and recreation	7,283	10,611	12,845	16,262	3.8%	1.9%	2.4%	3,328	2,234	3,417
72 Accommodation and food services	20,200	32,100	48,100	64,248	4.7%	4.1%	2.9%	11,900	16,000	16,148
81 Other services (except public administration)	17,800	21,900	30,408	36,484	2.1%	3.3%	1.8%	4,100	8,508	6,076
91 Public administration	21,200	22,900	19,176	19,712	0.8%	-1.8%	0.3%	1,700	(3,724)	536
Grand Total	389,800	500,700	749,368	993,298	2.5%	4.1%	2.9%	110,900	248,668	243,930

JOBS CREATED BY OCCUPATION – TRANSPORTATION AND WAREHOUSING INDUSTRY

Figure 4: Total Jobs by Occupation 2007 and 2017 – Transportation and Warehousing Industry

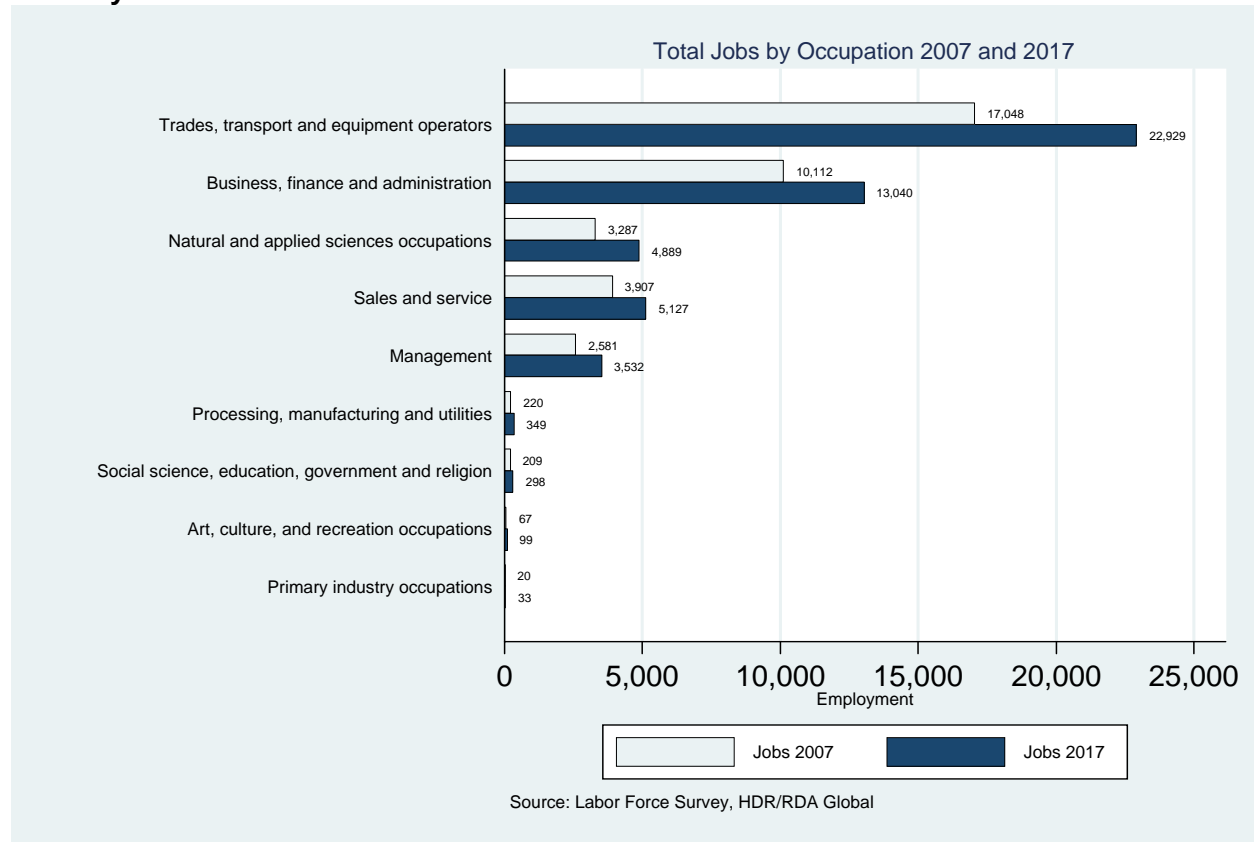


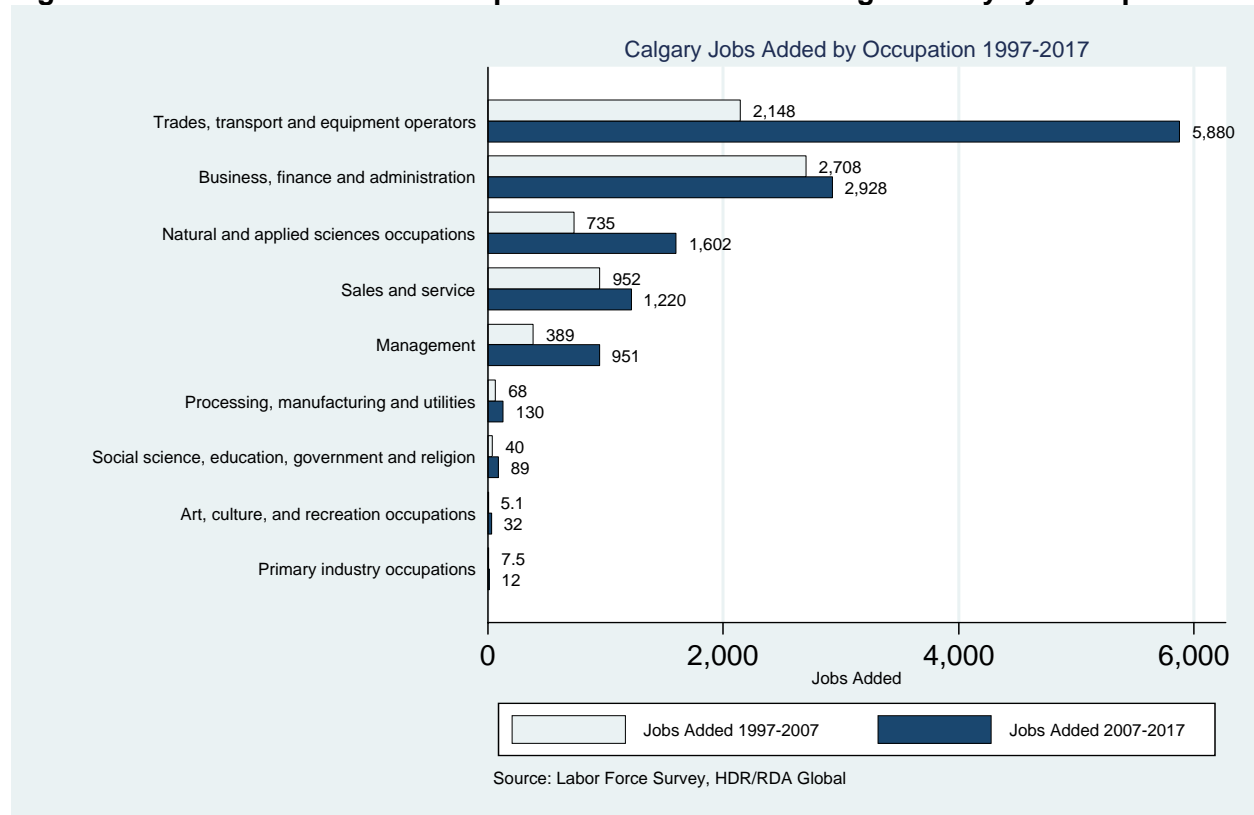
Table 2: 30-Year Occupational Growth for the Transportation and Warehousing Industry

Occupation (1 Digit NOC)	Total Employees				Compound Annual Growth		
	1987	1997	2007	2017	1987-97	1997-07	2007-17
A Management occupations	1,267	2,192	2,581	3,532	3.0%	3.2%	2.6%
B Business, finance and administration occupations	5,489	7,404	10,112	13,040	3.0%	3.2%	2.6%
C Natural and applied sciences and related occupations	1,672	2,552	3,287	4,889	4.3%	2.6%	4.0%
E Occupations in social science, education, government service and religion	104	169	209	298	5.0%	2.1%	3.6%
F Occupations in art, culture, recreation and sport	42	62	67	99	4.0%	0.8%	4.0%
G Sales and service occupations	2,074	2,956	3,907	5,127	3.6%	2.8%	2.8%
H Trades, transport and equipment operators and related occupations	10,528	14,901	17,048	22,929	3.5%	1.4%	3.0%
I Occupations unique to primary industry	5	13	20	33	9.6%	4.7%	4.8%
J Occupations unique to processing, manufacturing and utilities	120	152	220	349	2.4%	3.8%	4.7%
Grand Total	21,300	30,400	37,452	50,295	3.6%	2.1%	3.0%

There are nearly 37,500 employees in the Transportation and Warehousing industry today. About 17,000 of these workers have trades occupations or work as transport and equipment operators, representing the largest share of worker occupations. Demand for these jobs will rise to about 22,900 workers over the forecast period. The next largest occupational category is business, finance, and administration jobs, which currently represent about 10,100 workers and

will employ about 13,000 workers in 2017. Sales and Service occupations is the third largest category with over 3,900 employees today growing to about 5,100 workers in 2017.

Figure 5: Jobs Added in the Transportation and Warehousing Industry by Occupation



About 45% of all jobs created in this industry will be trades, transport and equipment operators and related occupations (a total of about 5,900 new jobs by 2017). The industry will generate about 2,900 jobs for workers in business and finance occupations and about 1,600 jobs for workers in natural and applied sciences occupations.

Table 3: Ten-Year Forecast of Jobs by Major Occupational Group – Transportation and Warehousing Industry

Occupation (1 Digit NOC)	Annual Employment											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
A Management occupations	2,780	2,581	2,663	2,717	2,821	2,954	3,080	3,182	3,274	3,362	3,448	3,532
B Business, finance and administration occupations	11,242	10,112	10,359	10,466	10,807	11,250	11,679	12,002	12,282	12,545	12,796	13,040
C Natural and applied sciences and related occupations	3,762	3,287	3,437	3,585	3,704	3,854	4,060	4,250	4,402	4,553	4,719	4,889
E Occupations in social science, education, government service and religion	236	209	212	214	222	234	246	256	267	277	287	298
F Occupations in art, culture, recreation and sport	76	67	64	67	69	74	78	83	86	91	95	99
G Sales and service occupations	4,222	3,907	3,977	3,935	4,087	4,277	4,449	4,577	4,720	4,860	4,995	5,127
H Trades, transport and equipment operators and related occupations	18,127	17,048	17,372	17,703	18,304	19,086	19,847	20,512	21,133	21,740	22,336	22,929
I Occupations unique to primary industry	23	20	21	21	23	24	26	28	29	30	31	33
J Occupations unique to processing, manufacturing and utilities	231	220	227	236	250	267	283	297	310	324	337	349
Grand Total	40,700	37,452	38,332	38,945	40,287	42,020	43,749	45,187	46,503	47,782	49,044	50,295

Table 4: Top 50 Occupations Adding Jobs From 2007-2017⁵

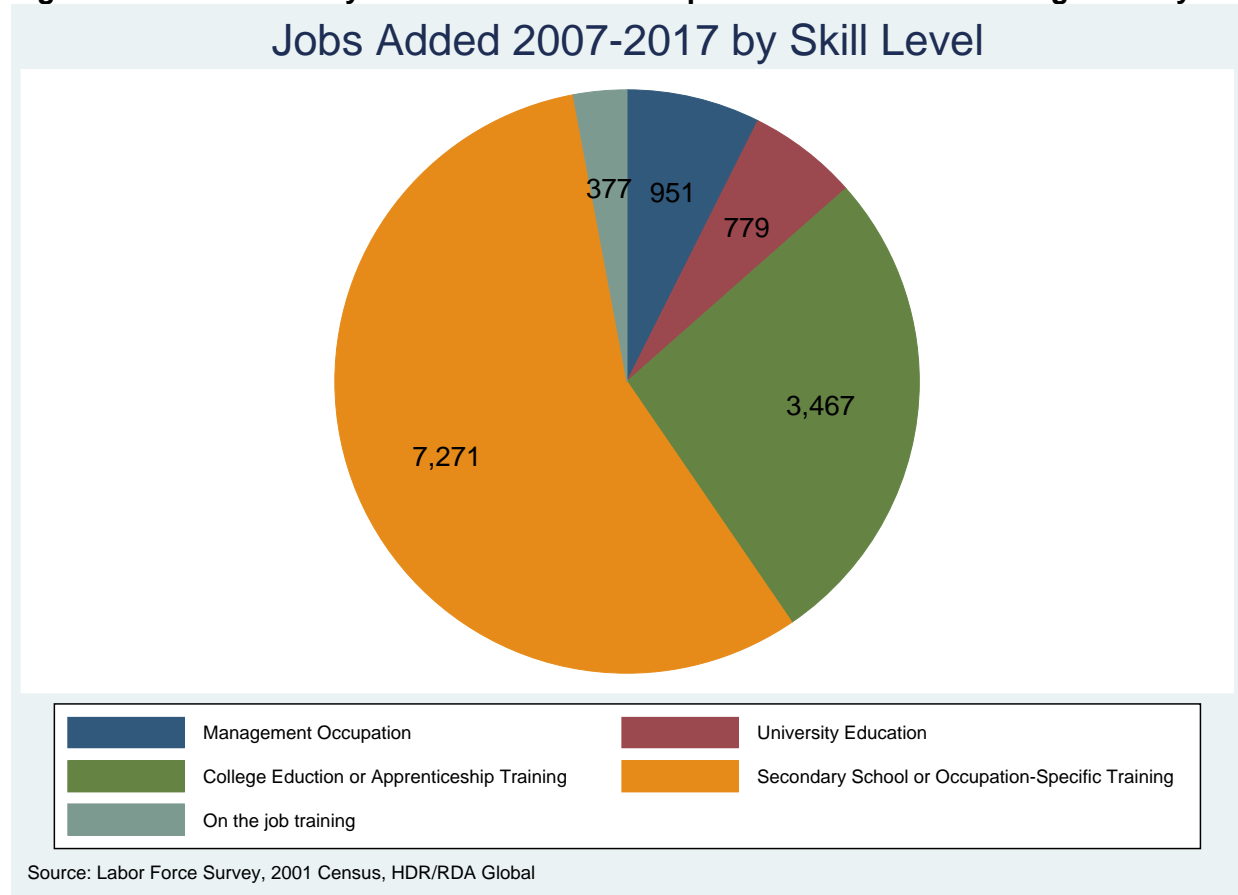
Rank	Occupation (4 Digit NOC)	Employees				Jobs Created
		1987	1997	2007	2017	2007-2017
1	H711 Truck drivers	2,733	3,744	4,139	5,587	1,448
2	H712 Bus drivers and subway and other transit operators	1,435	2,042	2,314	3,102	789
3	H812 Material handlers	946	1,758	1,736	2,348	612
4	H714 Delivery and courier service drivers	1,025	1,420	1,419	1,956	537
5	C171 Air pilots, flight engineers and flying instructors	493	758	965	1,472	507
6	B563 Couriers, messengers and door-to-door distributors	634	870	1,323	1,703	380
7	H713 Taxi and limousine drivers and chauffeurs	693	987	1,130	1,494	364
8	G712 Purser and flight attendants	692	983	1,268	1,631	363
9	A373 Transportation managers	441	793	1,016	1,371	356
10	B562 Letter carriers	591	826	1,082	1,428	346
11	G713 Airline sales and service agents	632	899	1,167	1,503	337
12	H415 Aircraft mechanics and aircraft inspectors	536	727	965	1,264	299
13	H022 Supervisors, motor transport and other ground transit operators	420	503	870	1,162	291
14	B575 Dispatchers and radio operators	409	552	841	1,111	269
15	B561 Mail, postal and related clerks	459	640	814	1,073	258
16	H421 Automotive service technicians, truck mechanics and mechanical repairers	310	441	598	842	244
17	H737 Air transport ramp attendants	431	579	573	746	172
18	B571 Shippers and receivers	343	421	624	795	171
19	H412 Heavy-duty equipment mechanics	229	313	419	580	162
20	B531 Accounting and related clerks	278	376	543	702	159
21	C071 Information systems analysts and consultants	206	307	383	539	156
22	B553 Customer service, information and related clerks	297	389	534	690	156
23	C172 Air traffic control and related occupations	143	222	305	458	153
24	C175 Railway traffic controllers and marine traffic regulators	125	192	275	415	140
25	B511 General office clerks	258	338	474	612	138
26	H021 Supervisors, railway transport operations	212	242	383	500	117
27	H017 Contractors and supervisors, heavy construction equipment crews	216	247	350	466	116
28	C144 Aircraft instrument, electrical and avionics mechanics, technicians and inspectors	103	160	214	328	115
29	B011 Financial auditors and accountants	213	385	512	625	114
30	A141 Facility operation and maintenance managers	139	233	271	385	113
31	H414 Railway carmen	148	200	288	376	88
32	B311 Administrative officers	251	299	338	423	84
33	B522 Data entry clerks	139	186	263	346	83
34	B414 Supervisors, mail and message distribution occupations	127	177	231	311	80
35	G111 Sales representatives, wholesale trade (non-technical)	97	150	238	317	79
36	H721 Railway and yard locomotive engineers	183	244	257	336	79
37	B211 Secretaries (except legal and medical)	209	246	281	357	76
38	G732 Other attendants in accommodation and travel	146	209	260	337	76
39	C045 Petroleum engineers	69	97	125	200	76
40	C074 Computer programmers and interactive media developers	105	157	200	273	73
41	B116 Customs, ship and other brokers	167	203	230	300	70
42	A312 Postal and courier services managers	76	142	166	235	69
43	G714 Ticket agents, cargo service representatives and related clerks (except airline)	87	131	200	264	65
44	G211 Retail salespersons and sales clerks	95	134	184	248	63
45	A131 Sales, marketing and advertising managers	96	166	181	244	63
46	G932 Specialized cleaners	76	114	148	211	63
47	H832 Railway and motor transport labourers	90	178	191	252	61
48	B576 Transportation route and crew schedulers	132	176	262	323	61
49	B021 Specialists in human resources	85	154	203	263	61
50	H016 Contractors and supervisors, mechanic trades	99	116	159	219	60
	Others	3,180	4,571	5,546	7,574	2,028
	Grand Total	21,300	30,400	37,452	50,295	12,844

⁵ Note that these job creations in Figure 6 capture only jobs created in the Transportation and Warehousing industry and do not represent total job creations for all of Calgary. Jobs with these occupations will also be created in other industries.

EMPLOYMENT GROWTH BY SKILL LEVEL – TRANSPORTATION AND WAREHOUSING INDUSTRY

From a skill level perspective, there will be about 950 new management occupations, nearly 3,500 jobs requiring some college education or apprenticeship training, over 7,200 jobs which require secondary school or occupation-specific training, nearly 800 that require university training and about 380 that require only on the job training

Figure 6: Jobs Added by Skill Level in the Transportation and Warehousing Industry



APPENDIX 1: INDUSTRY DEFINITION – TRANSPORTATION AND WAREHOUSING INDUSTRY

This sector comprises establishments primarily engaged in transporting passengers and goods, warehousing and storing goods, and providing services to these establishments. The modes of transportation are road (trucking, transit and ground passenger), rail, water, air and pipeline. These are further subdivided according to the way in which businesses in each mode organize their establishments. National post office and courier establishments, which also transport goods, are included in this sector. Warehousing and storage establishments are subdivided according to the type of service and facility that is operated.

Many of the establishments in this sector are structured as networks, with activities, workers, and physical facilities distributed over an extensive geographic area.

Exclusion(s): Establishments primarily engaged in:

- renting and leasing transportation equipment without operator (532, Rental and Leasing Services)