

Calgary Economic Development

OCCUPATION REPORT (E):

OCCUPATIONS IN SOCIAL SCIENCE, EDUCATION, GOVERNMENT SERVICE AND RELIGION

January 2008

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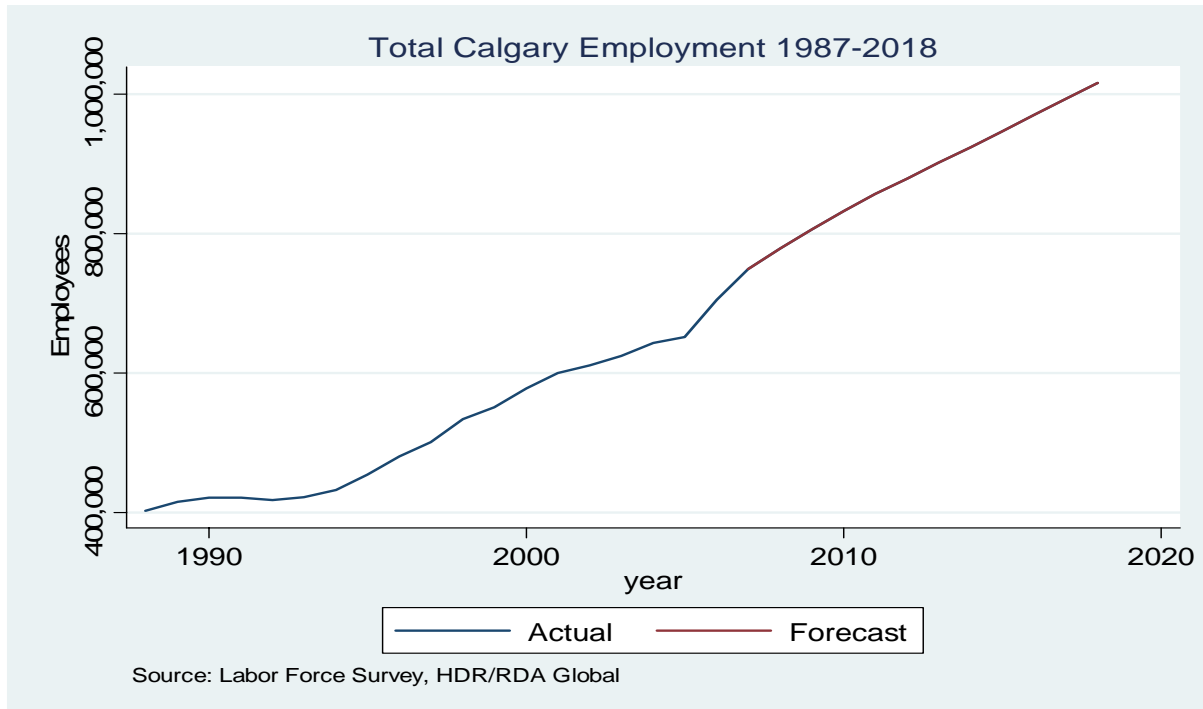
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CALGARY LABOR MARKET

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

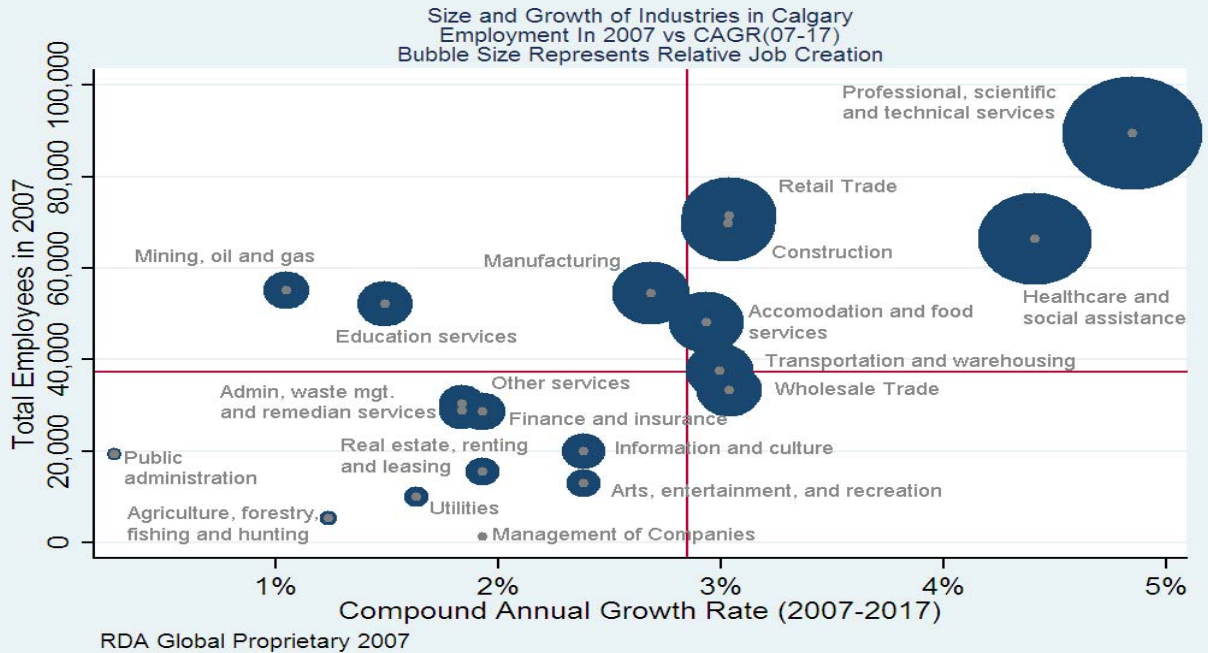


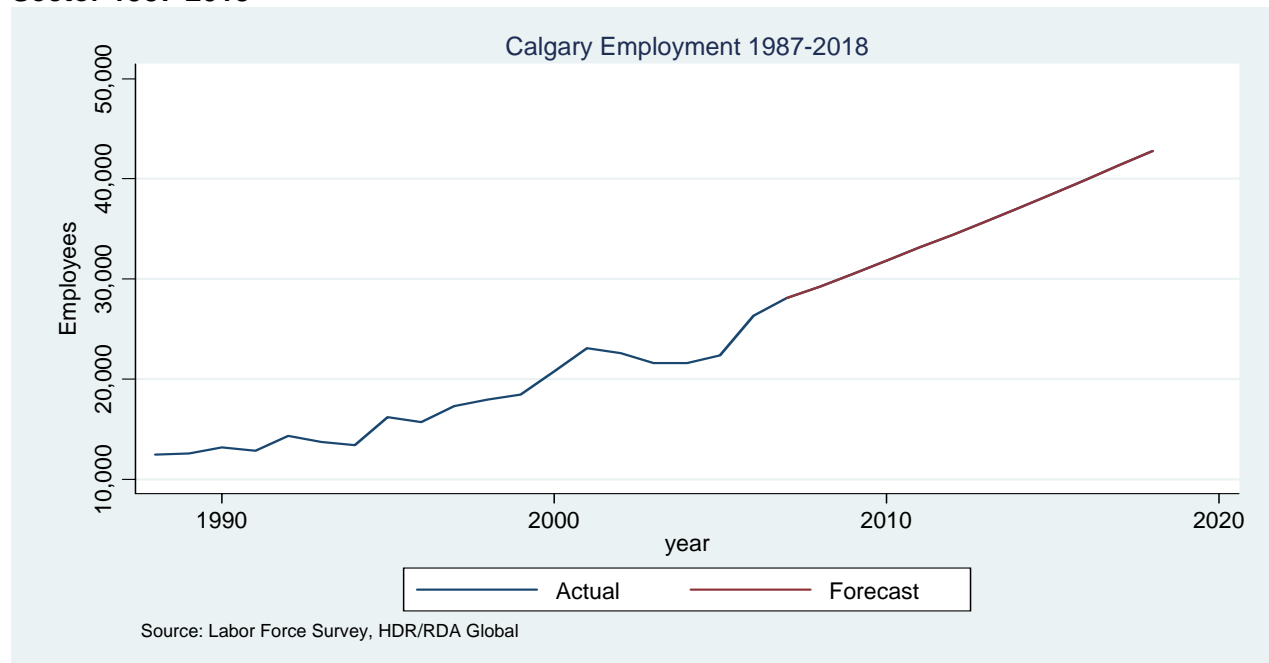
Figure 2 highlights the differences in job creation across industries in Calgary, with the larger circles representing industries with more job creations. Significant gains in employment will be somewhat distributed among economic sectors. However, there will be particularly strong expansion in the professional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

OCCUPATIONS IN SOCIAL SCIENCE, EDUCATION, GOVERNMENT AND RELIGION

Demand for social science, education, government service and religion workers is expected to continue to expand at a compound annual growth rate of 3.1% over the next ten years. This growth will slightly outpace the overall employment growth in Calgary of 2.9% over the same forecast period. Growth in demand for these jobs will result in about 22,100 new jobs being created over the forecast period.

Figure 3: Total Employment in the Social Science, Education, Government and Religion Sector 1987-2018



Social science, education, government service and religion occupations rank sixth out of ten occupation groups for total employment with about 83,600 workers in 2007. Historically, demand for workers in this occupational category has grown at a faster rate than overall employment growth in the Calgary Economic Region. Demand for these workers will continue to be strong over the forecast period with a compound annual growth rate of 3.1%, which is the fifth fastest growing occupational category in Calgary. About 23,200 natural and applied science and related jobs were created in the 1997-2007 period and about 22,200 will be created in the 2007-2017 forecast period, making this occupation category the second largest contributor to new jobs after sales and service jobs. About one out of every ten new jobs created in Calgary will be social science, education, government service and religion occupations.

There are three categories of instructor-related jobs among social science, education, government service and religion occupations. Instructors and related occupations are together the largest segment with about 21,400 primary and secondary school teachers, 3,400 college instructors, vocational instructors and 3,700 university professors and assistants. By 2017, there will be demand for about 26,900 primary and secondary school teachers, 4,300 college instructors, vocational instructors and 4,700 university professors and assistants. There are

currently about 6,100 legal jobs for lawyers and judges which will grow to about 8,800 jobs by 2011. There are about 5,800 psychologists, social workers, counsellors and related workers in 2007 and demand for these workers will grow to 8,800 by 2017. Policy and program officers, researchers and consultants represent about 7,700 workers in 2007 and demand for these jobs will grow to 10,900 workers by 2017. Finally, there are currently about 13,500 workers who are paralegals, social service workers or related occupations. There will be demand for about 19,700 workers in these jobs by 2017.

In terms of growth, paralegals, social services workers and other related occupations not elsewhere classified are the fastest growing job segments at 3.9% compound annual growth over the forecast period. These segments will add 6,200 jobs by 2017. School teachers will be the second largest group for new job creation, adding 5,500 jobs with a growth rate of 2.3%. Policy and program officers, researchers and consultant jobs will add about 3,200 workers over the forecast period, growing at a compound annual growth rate of 3.5%.

Table 1: Comparison of Job Occupation Categories in Calgary

National Occupational Classification	Total Employment				Compound Annual Growth			Jobs Added		
	1987	1997	2007	2017	1987-97	1997-07	2007-17	1987-97	1997-07	2007-17
A Management occupations	36,858	55,680	74,819	98,676	4.2%	3.0%	2.8%	18,822	19,138	23,857
B Business, finance and administration occupations	90,639	104,579	156,889	189,868	1.4%	4.1%	1.9%	13,940	52,310	32,978
C Natural and applied sciences and related occupations	39,436	51,764	86,925	128,173	2.8%	5.3%	4.0%	12,329	35,160	41,249
D Health occupations	18,121	23,096	38,007	59,079	2.5%	5.1%	4.5%	4,975	14,910	21,072
E Occupations in social science, education, government service and religion	26,756	38,502	61,698	83,847	3.7%	4.8%	3.1%	11,746	23,196	22,149
F Occupations in art, culture, recreation and sport	10,467	14,573	18,889	25,844	3.4%	2.6%	3.2%	4,106	4,316	6,955
G Sales and service occupations	88,787	108,383	163,524	211,685	2.0%	4.2%	2.6%	19,596	55,141	48,161
H Trades, transport and equipment operators and related occupations	54,521	74,654	108,860	141,739	3.2%	3.8%	2.7%	20,133	34,206	32,879
I Occupations unique to primary industry	10,779	12,465	14,111	17,751	1.5%	1.2%	2.3%	1,686	1,646	3,640
J Occupations unique to processing, manufacturing and utilities	13,435	17,002	25,646	36,636	2.4%	4.2%	3.6%	3,567	8,644	10,990
Grand Total	389,800	500,700	749,368	993,298	2.5%	4.1%	2.9%	110,900	248,668	243,930

Table 2: 10-Year Forecast of Social Science, Education, Government, and Religion Jobs

National Occupational Classification	Total Employment										CAGR 2007-2017	Jobs Added 2007-2017	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			2017
E01 Judges, lawyers and Quebec notaries	6,094	6,361	6,639	6,969	7,268	7,506	7,745	8,014	8,287	8,549	8,813	3.8%	2,718
E02 Psychologists, social workers, counsellors, clergy and probation officers	5,846	6,126	6,419	6,677	6,929	7,181	7,438	7,690	7,940	8,189	8,438	3.7%	2,592
E03 Policy and program officers, researchers and consultants	7,701	8,010	8,353	8,708	9,038	9,329	9,628	9,946	10,268	10,585	10,905	3.5%	3,203
E11 University professors and assistants	3,739	3,778	3,864	3,965	4,067	4,166	4,270	4,377	4,485	4,593	4,700	2.3%	962
E12 College and other vocational instructors	3,379	3,430	3,519	3,621	3,722	3,818	3,920	4,024	4,130	4,235	4,340	2.5%	962
E13 Secondary and elementary school teachers and educational counsellors	21,418	21,641	22,129	22,706	23,287	23,849	24,446	25,058	25,674	26,289	26,906	2.3%	5,488
E21 Paralegals, social services workers and occupations in education and religion, n.e.c.	13,522	14,129	14,796	15,419	16,034	16,630	17,248	17,869	18,495	19,118	19,745	3.9%	6,224
Grand Total	61,698	63,475	65,719	68,065	70,346	72,479	74,696	76,978	79,279	81,557	83,847	3.1%	22,149

OCCUPATIONS IN SOCIAL SCIENCE, EDUCATION, GOVERNMENT AND RELIGION IN EACH INDUSTRY

Table 3: 30-Year Growth of Occupations in Social Science, Education, Government and Religion in Each Industry

Occupation (1 Digit NOC)	Total Employees				Compound Annual Growth		
	1987	1997	2007	2017	1987-97	1997-07	2007-17
21 Mining and oil and gas extraction	832	894	1,458	1,532	0.7%	5.0%	0.5%
22 Utilities	88	84	227	280	-0.5%	10.5%	2.1%
23 Construction	42	82	173	240	7.0%	7.7%	3.4%
31-33 Manufacturing	97	157	191	247	5.0%	2.0%	2.6%
41 Wholesale trade	117	138	202	299	1.7%	3.9%	4.0%
44-45 Retail trade	84	103	154	229	2.1%	4.1%	4.0%
48-49 Transportation and warehousing	104	169	209	298	5.0%	2.1%	3.6%
51 Information and cultural industries	101	169	200	276	5.3%	1.7%	3.3%
52 Finance and insurance	203	300	387	485	4.0%	2.6%	2.3%
53 Real estate and rental and leasing	126	169	226	269	3.0%	2.9%	1.8%
54 Professional, scientific and technical services	2,844	5,103	10,471	16,515	6.0%	7.5%	4.7%
55 Management of companies and enterprises	7	13	18	25	7.3%	3.1%	3.2%
56 Administrative and support, waste management and remediation services	132	274	402	496	7.5%	3.9%	2.1%
61 Educational services	13,178	18,487	30,218	37,569	3.4%	5.0%	2.2%
62 Health care and social assistance	5,311	7,597	11,905	18,599	3.6%	4.6%	4.6%
71 Arts, entertainment and recreation	192	323	398	548	5.3%	2.1%	3.2%
72 Accommodation and food services	9	18	26	39	6.7%	4.2%	4.1%
81 Other services (except public administration)	1,427	2,037	2,856	3,777	3.6%	3.4%	2.8%
91 Public administration	1,861	2,384	1,977	2,124	2.5%	-1.9%	0.7%
Grand Total	26,756	38,502	61,698	83,847	3.7%	4.8%	3.1%

Table 4: 10-Year Forecast Social Science, Education, Government and Religion Jobs in Each Industry

Occupation (1 Digit NOC)	Annual Employment											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
21 Mining and oil and gas extraction	1,407	1,458	1,449	1,457	1,448	1,431	1,417	1,425	1,448	1,475	1,503	1,532
22 Utilities	172	227	228	238	250	252	249	249	255	262	271	280
23 Construction	155	173	200	209	217	222	225	227	228	232	236	240
31-33 Manufacturing	184	191	191	194	198	204	211	217	224	232	239	247
41 Wholesale trade	194	202	211	220	228	237	246	256	267	277	288	299
44-45 Retail trade	150	154	160	167	172	179	187	195	203	211	220	229
48-49 Transportation and warehousing	236	209	212	214	222	234	246	256	267	277	287	298
51 Information and cultural industries	202	200	205	209	216	224	232	240	249	258	267	276
52 Finance and insurance	384	387	383	391	397	406	417	430	443	456	470	485
53 Real estate and rental and leasing	220	226	227	231	234	239	243	248	254	259	264	269
54 Professional, scientific and technical services	9,357	10,471	11,119	11,781	12,549	13,240	13,784	14,303	14,868	15,434	15,975	16,515
55 Management of companies and enterprises	18	18	18	19	19	20	21	21	22	23	24	25
56 Administrative and support, waste management and remediation services	352	402	394	406	413	423	434	447	459	471	483	496
61 Educational services	27,775	30,218	30,449	31,086	31,860	32,645	33,404	34,215	35,048	35,889	36,727	37,569
62 Health care and social assistance	11,210	11,905	12,681	13,408	14,032	14,667	15,323	15,998	16,651	17,301	17,950	18,599
71 Arts, entertainment and recreation	391	398	410	427	441	454	470	486	501	516	532	548
72 Accommodation and food services	24	26	27	29	30	31	33	34	35	37	38	39
81 Other services (except public administration)	2,569	2,856	2,891	2,998	3,093	3,184	3,277	3,375	3,473	3,572	3,673	3,777
91 Public administration	2,006	1,977	2,019	2,036	2,044	2,054	2,061	2,072	2,084	2,097	2,110	2,124
Grand Total	57,002	61,698	63,475	65,719	68,065	70,346	72,479	74,696	76,978	79,279	81,557	83,847

Workers in social science, education, government, and religion occupations exist in all industries. Demand for these workers in the education industry will grow from 27,800 workers in 2007 to about 37,600 workers by 2017. The health care industry will employ about 18,600 of these workers in 2017, up from 11,200 in 2007. The professional services industry currently employs about 9,300 of these workers and this figure will grow to about 16,500 workers by 2017. Most of these workers are in the education, professional services, and health care industries, however there is demand for trainers, attorneys, and consultants, and other support occupations in practically every industry.

Table 5: Top Occupations Adding Jobs From 2007-2017⁵

Rank	Occupation (4 Digit NOC)	Employees				Jobs Created	CAGR
		1987	1997	2007	2017	2007-2017	2007-2017
1	E132 Elementary school and kindergarten teachers	5,492	7,664	12,461	15,654	3,193	2.3%
2	E012 Lawyers and Quebec notaries	1,979	3,202	5,969	8,641	2,672	3.8%
3	E217 Early childhood educators and assistants	2,370	3,322	5,359	8,026	2,667	4.1%
4	E131 Secondary school teachers	3,710	5,179	8,427	10,583	2,156	2.3%
5	E211 Paralegal and related occupations	1,179	1,926	3,538	5,129	1,591	3.8%
6	E033 Business development officers and marketing researchers and consultants	1,263	1,838	2,967	4,257	1,290	3.7%
7	E212 Community and social service workers	1,143	1,624	2,424	3,576	1,152	4.0%
8	E121 College and other vocational instructors	1,527	2,131	3,379	4,340	962	2.5%
9	E022 Social workers	919	1,284	1,781	2,620	839	3.9%
10	E023 Family, marriage and other related counsellors	644	920	1,387	2,051	664	4.0%
11	E024 Ministers of religion	833	1,189	1,618	2,266	648	3.4%
12	E111 University professors	1,025	1,431	2,329	2,924	595	2.3%
13	E031 Natural and applied science policy researchers, consultants and program officers	459	704	1,224	1,761	538	3.7%
14	E036 Recreation, sports and fitness program supervisors and consultants	513	779	1,014	1,401	387	3.3%
15	E021 Psychologists	398	617	907	1,291	384	3.6%
16	E112 Post-secondary teaching and research assistants	620	867	1,410	1,776	366	2.3%
17	E039 Health policy researchers, consultants and program officers	294	456	722	1,036	314	3.7%
18	E213 Employment counsellors	328	484	670	954	284	3.6%
19	E034 Social policy researchers, consultants and program officers	308	426	528	757	229	3.7%
20	E214 Instructors and teachers of persons with disabilities	222	322	517	735	218	3.6%
21	E215 Other instructors	291	433	722	916	194	2.4%
22	E032 Economists and economic policy researchers and analysts	267	341	467	654	187	3.4%
23	E035 Education policy researchers, consultants and program officers	206	309	514	664	150	2.6%
24	E133 Educational counsellors	234	326	531	670	139	2.4%
25	E216 Other religious occupations	150	214	292	410	117	3.4%
26	E038 Other professional occupations in social science, n.e.c.	56	92	165	239	74	3.8%
27	E025 Probation and parole officers and related occupations	130	167	152	210	58	3.3%
28	E011 Judges	111	141	125	172	46	3.2%
29	E037 Program officers unique to government	87	113	100	135	35	3.1%
Grand Total		26,756	38,502	61,698	83,847	22,149	3.1%

⁵ Note that these job creations in Table 5 capture only social science, education, government, and religion occupations and do not represent total job creations for all of Calgary.