



Regional

***Labour Force
Profile***

for Central Alberta

March 2019



BLACKFALDS
ALBERTA

Red Deer County




Sylvan Lake
BRILLIANT ALL YEAR

 THE CITY OF
Red Deer

CENTRAL ALBERTA LABOUR FORCE PROFILE

BLACKFALDS
ALBERTA

 THE CITY OF
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Red Deer County




Sylvan Lake
BRILLIANT ALL YEAR

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CENTRAL ALBERTA LABOUR FORCE PROFILE

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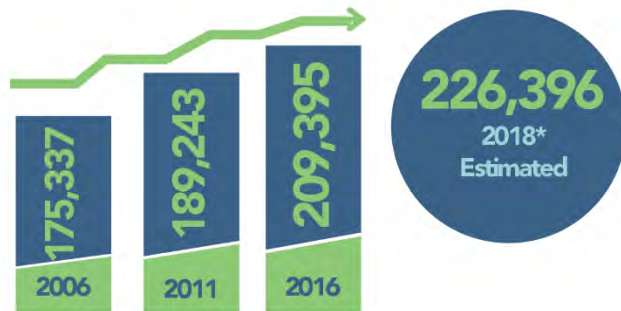
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Economic SNAPSHOT of Division No. 8

POPULATION

Census Population and Beyond

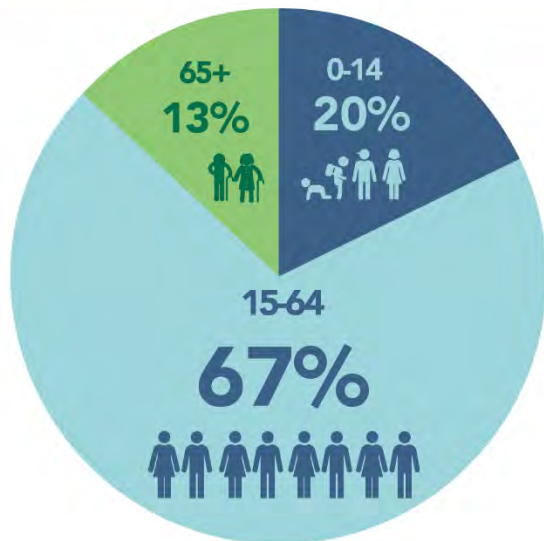


Census growth (2006 to 2016):

19% Division No. 8 | 24% Alberta



AGE PROFILE



Median Age **37**

Average Age **38**

EDUCATION

Highest Education Level



Top 5 Fields of Study

1. Health professions and related programs
2. Business, management, marketing and related
3. Mechanic and repair technologies/technicians
4. Construction trades
5. Education

All data sourced from 2018 Manifold SuperDemographics unless otherwise specified

Economic SNAPSHOT of Division No. 8

LABOUR FORCE

Top 5 Industries by Employment



11%
Health Care &
Social Assistance



11%
Retail Trade



11%
Construction



8%
Mining, Quarrying,
Oil & Gas Extraction



7%
Accommodation &
Food Services

Top 5 Occupations by Resident Labour Force



20%
Sales &
Service



20%
Trades, Transport &
Equipment Operators



13%
Business, Finance &
Administration



11%
Management



9%
Education, Law/Social,
Community & Govt

Top 5

Highest Paying Occupations

1. Fire chiefs & senior firefighting officers
2. Advertising, marketing & public relations managers
3. Commissioned police officers
4. Utilities managers
5. Insurance, real estate & financial brokerage managers

Industries Expected to Drive Employment Demand (2018-2026)

1. Health Care & Education Services
2. Administrative & support services
3. Professional, scientific & technical services
4. Specialty trade contractors
5. Heavy & civil engineering construction

Occupations Expected to be in Demand (2018-2026)

1. Industrial, electrical & construction trades
2. Service support & other service occupations
3. Professional occupations in nursing
4. Supervisors and technical occupations in natural resources & agriculture
5. Technical occupations related to natural & applied sciences

Participation

72.0%

ALBERTA: 71.7%

Employment

66.4%

ALBERTA: 66.7%

Unemployment

7.7%

ALBERTA: 7.1%

Income

\$43,862

Median employment
income

ALBERTA: \$46,576

\$57,752

Average employment
income

ALBERTA: \$59,961

1 EXECUTIVE SUMMARY

A municipal collaboration has emerged between the Town of Blackfalds, City of Red Deer, Red Deer County, and the Town of Sylvan Lake driven by a common interest to support businesses and workforce development at the regional level. After examining labour commuting flows, it became evident that the commuter shed, or in other words the available workforce, to support local businesses in the four municipalities expands to the census division of Division No. 8. A map of this area follows on the next page. This report examines both the labour force within each of the partner municipalities and the regional labour force available.

The census division accounts for 226,396 Albertans, of which 68% are of working age (15 to 64). Residents have an average employment income slightly (4%) lower than the provincial figure. However, more than half of the population between the ages of 25 to 64 has completed some form of post secondary education. College or other non-university certificate or diploma is the most common type of education level attained. Residents primarily attain post secondary education within fields of study related to health professions, business; management, marketing and support services, and mechanic and repair technologies/technicians.

The labour market within Division No. 8 boasts a higher participation and employment rate compared to the rest of the province. By examining the labour force by age and gender, males ages 15-24 were found to have the highest unemployment rate in the regional labour force, and women ages 25 and older were found to have the lowest levels of participation in the labour force. These two groups remain underutilized / underemployed assets of the regional labour force.

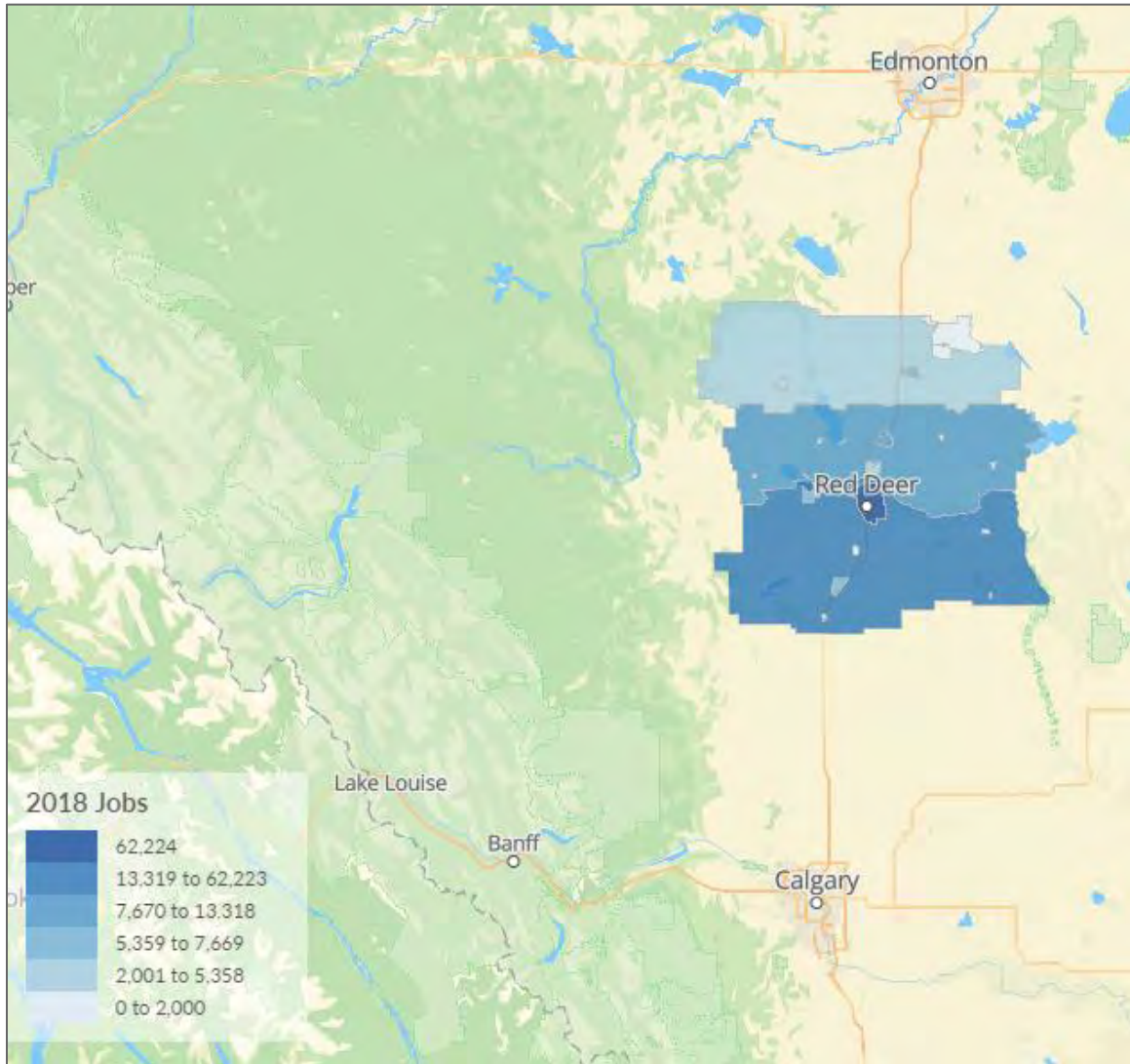
The regional economy, which grew by 5% between 2013 and 2018, sustains over 119,000 jobs. Key occupations in the labour shed (those that are growing, emerging, and concentrated) include ‘Accounting technicians and bookkeepers’, ‘Contractors and supervisors in oil and gas drilling and services’, ‘Welders and related machine operators’, ‘Heavy equipment operators (except crane)’, and ‘Contractors and supervisors in heavy equipment operator crews’, amongst others. Based on the staffing patterns, the following industries located in Division No. 8, are growing and employ in large percentages the key occupations: Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance, Highway, street and bridge construction, Other specialty trade contractors, Oil and gas extraction, Utility system construction.

When looking at the number of jobs versus the number of workers in the region, a large **surplus of workers was found within the following occupational groups: ‘Trades, transport and equipment operators’, ‘Management’, and ‘Education, law and social, community and government services.’** Residents with the skills and talent to work in these occupations appear to leave to go work elsewhere. Conversely, the region has a gap of approximately 270 workers to support Natural resources, agriculture and related production occupations. This gap in workers is normally filled by non-residents coming to work in these occupations from outside of the region.

CENTRAL ALBERTA LABOUR FORCE PROFILE

2 MAPS OF DIVISION NO. 8

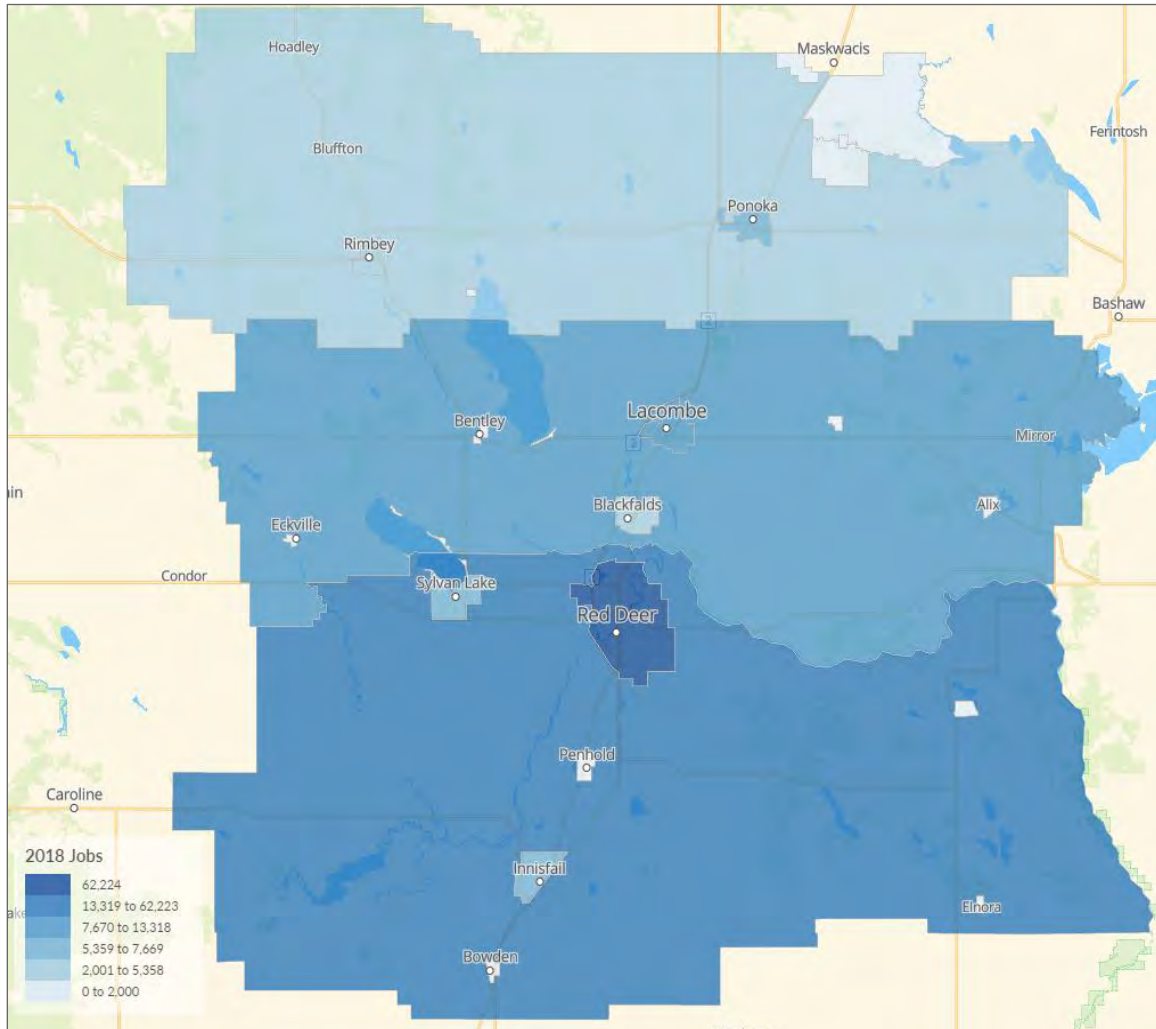
Figure 1: Census Division No. 8 Relative to Major Urban Centers



Source: EMSI 2018. Q4, Employed and Self-employed

CENTRAL ALBERTA LABOUR FORCE PROFILE

Figure 2: Division No.8 Jobs Density by Location.



Source: EMSI 2018. Q4, Employed and Self-employed

CENTRAL ALBERTA LABOUR FORCE PROFILE

3 DATA SOURCES

Please note that every effort has been made to use the most current data available. There are four major sources of information for the remainder of this document:

- The 2001 to 2016 Census from Statistics Canada.
- Canadian Business Registry (CBR) - June 2013 and June 2018
- SuperDemographics 2018 from Manifold Data Mining Inc.
- EMSI Analyst 2018.Q3



Manifold Projection Method

Production of 2018 Demographic data estimates are partially based on population statistics collected by Statistics Canada Census Program. Manifold estimates demographic data annually, including population projections for 5 and 10 years in the future. Manifold methodologies are based on the following techniques:

- Enhanced cohort survival methods;
- Nearest neighbourhood and regression techniques; and
- Structural coherence techniques.

Manifold Data Sources include:

Statistics Canada	Real Estate Boards/Companies
Health Canada	Canadian Bankers Association
Regional Health Ministries	Bank of Canada
Citizenship and Immigration Canada	Canada Post Corporation
Regional School Boards	Consumer and business directories books
Flyer Distribution Association	Proprietary survey and research
Publication of hospitals, CMHC, BBM and partners	

CENTRAL ALBERTA LABOUR FORCE PROFILE

EMSI Analyst

EMSI data brings the various snapshots of the Canadian economy together in a single picture. First, it aligns the geographies of the data from 2001 to the present, which means the Central Alberta of 2001 is the same as the Central Alberta of 2018. This results in geographically detailed data (down to the Census Subdivision level) that is applicable to **today's economy**.

The data is remarkably detailed, giving you information on 305 industry classifications using the North American International Classification System (NAICS) system and 522 **occupations from Statistics Canada's** National Occupational Classification (NOCs) classification system in over 4,300 integrated geographical areas. The data is updated twice a year, so users have the most current information possible. And to top it all off, it adds 10-year projections based on the CBR data so that it provides an idea of the future alongside the past and present.

EMSI Data Sources include:
Canadian Business Registry (CBR) June 2013.Q2 - June 2018.Q3
2001, 2006, and 2011 Census data
Survey of Employment, Payroll and Hours (SEPH)
Labour Force Surveys (LFS)
Canadian Occupational Projection System (COPS)
CANSIM Demographics
Post-secondary Student Information System (PSIS) Education Data

CENTRAL ALBERTA LABOUR FORCE PROFILE

4 DEMOGRAPHIC ANALYSIS

4.1 Population and Age Structure Profile

This section reflects on the population and age growth of Division No. 8 compared to Alberta. Alberta boasts some of the youngest populations in the country. Table 1 illustrates population changes from 2001 to 2018 compared to Alberta.



Table 1: Population Change, 2001-2018

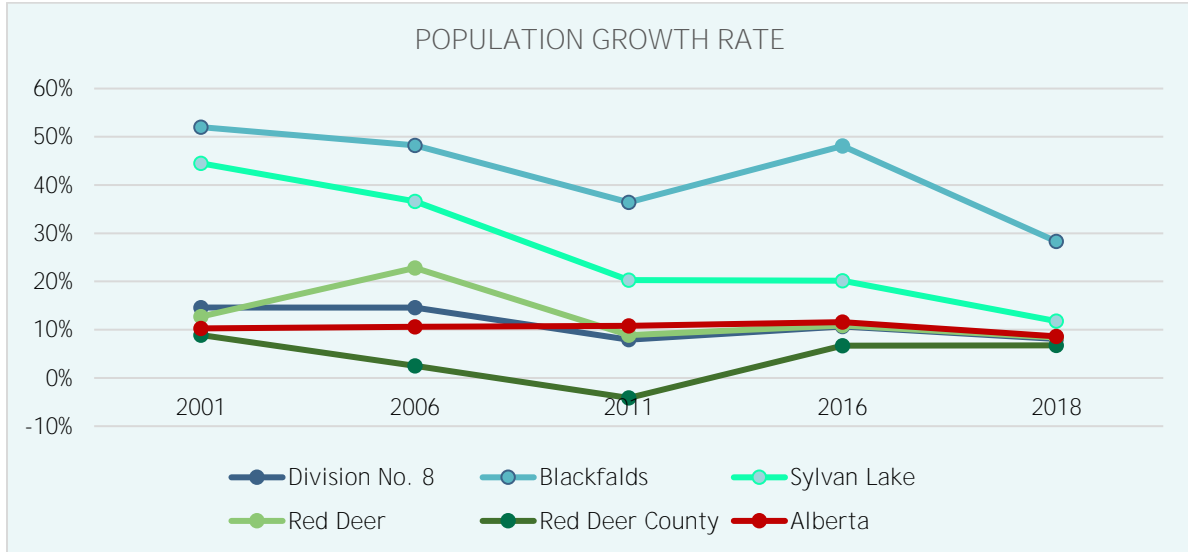
Population	2001	2006	2011	2016	2018
Division No. 8	153,049	175,337	189,243	209,395	226,396
% Change	14.6%	14.6%	7.9%	10.6%	8.1%
Blackfalds	3,116	4,618	6,300	9,328	11,968
% Change	52.0%	48.2%	36.4%	48.1%	28.3%
Sylvan Lake	7,503	10,250	12,327	14,816	16,562
% Change	44.5%	36.6%	20.3%	20.2%	11.8%
Red Deer	67,707	83,154	90,561	100,418	108,833
% Change	12.7%	22.8%	8.9%	10.9%	8.4%
Red Deer County	18,639	19,108	18,316	19,541	20,856
% Change	8.9%	2.5%	-4.1%	6.7%	6.7%
Alberta	2,974,807	3,290,350	3,645,257	4,067,175	4,417,879
% Change	10.3%	10.6%	10.8%	11.6%	8.6%

Source: Statistics Canada Census data, 2001, 2006, 2011, 2016, and Manifold 2018. Note that Manifold 2018 data is the total estimated population versus Statistics Canada's census populations. These two are not directly comparable.

CENTRAL ALBERTA LABOUR FORCE PROFILE

Figure 3 illustrates the trajectory of population growth/decline from 2001 to 2018. After a dip in population growth between 2001 and 2011, the regional trend seems to be positive growth as also seen in the provincial trendline.

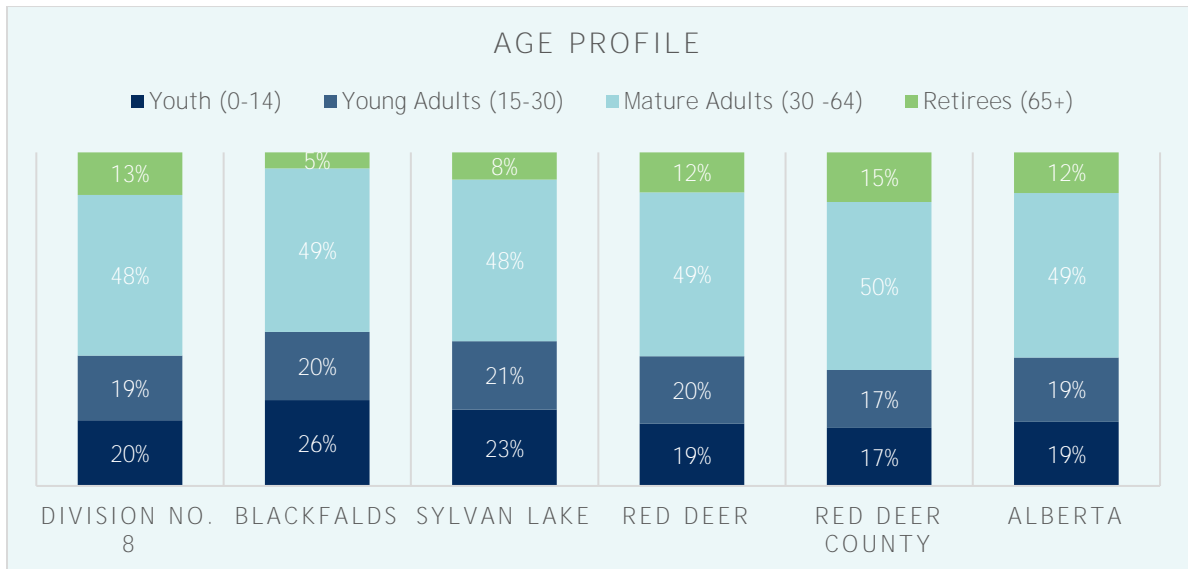
Figure 3: Percent Population Change, 2001-2018



Source: McSweeney & Associates from Statistics Canada Census data 2006, 2011 and 2016, and Manifold SuperDemographics 2018

Figure 4 illustrates the age profile of the population of the region and the partners, compared to Alberta. Mature adults (ages 30-64) make up the largest age group in Central Alberta, same as in Alberta.

Figure 4: Percentage of the Population by Age Group

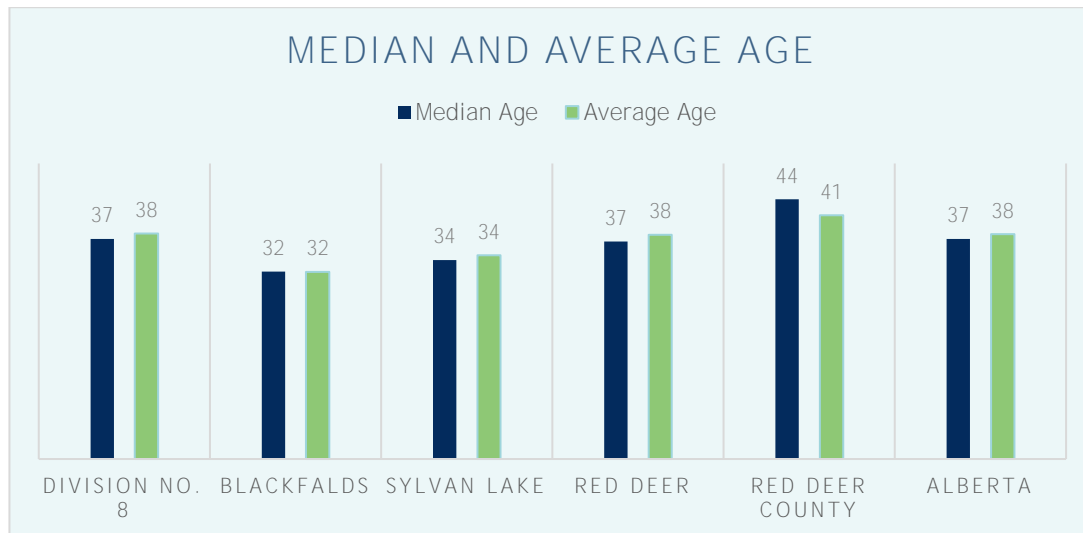


Source: Manifold SuperDemographics 2018

CENTRAL ALBERTA LABOUR FORCE PROFILE

The region's population has a very similar demographic profile to the Province, with approximately 68% of residents being within the age to participate in the labour force (ages 15-65). The region has the same average and median age as the Province (Figure 5).

Figure 5: Comparison of Median and Average Age within the Region, 2018



Source: Manifold SuperDemographics 2018

68% of residents in Central Alberta are within the age to participate in the labour force.

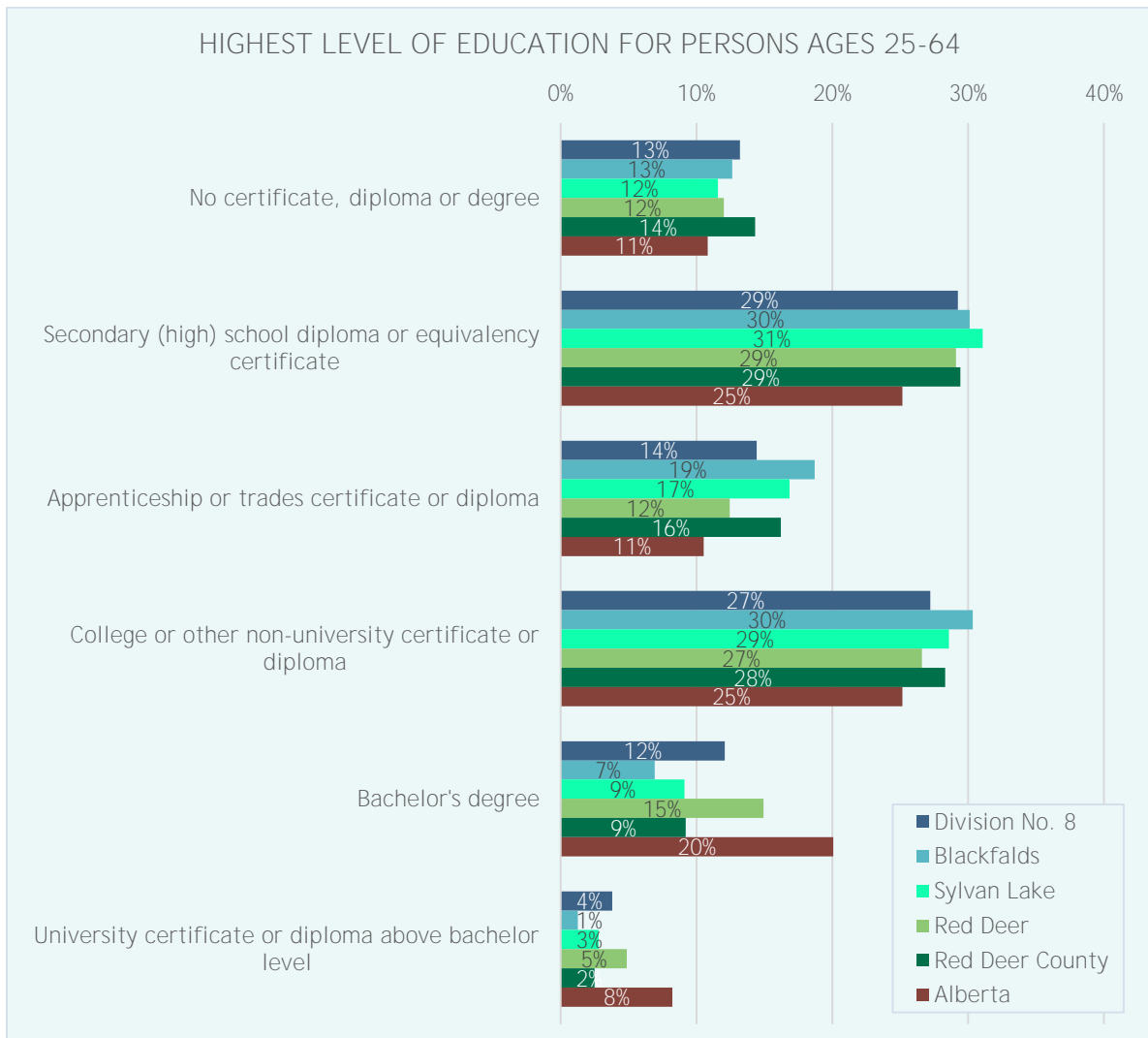
CENTRAL ALBERTA LABOUR FORCE PROFILE

4.2 Education, Skills and Talent

In order to better understand the level of education, skills and talent in the region, this section of the report investigates educational attainment, and major fields of study by gender. Figure 6 below and Table 19 (in the appendix) illustrate the educational attainment levels for the region of study, and the province. The following can be said about the education level for residents of the region aged 25 to 64:

- 58% of residents attained post secondary education.
- College certificates or diplomas are the most common type of post secondary education.
- More residents have an apprenticeships or trades certificates (18,043 residents) than **bachelor's degrees** (15,114 residents).

Figure 6: Educational Attainment, Residents Ages 25 to 64, 2018



Source: Manifold SuperDemographics 2018

CENTRAL ALBERTA LABOUR FORCE PROFILE



Understanding the level of education in a community is an important measure of the **workforce's capacity to support new and emerging industries**. For **Division No. 8**, the data shows a region with access to over 71,938 persons who completed some form of post secondary education.

The region has a large supply of low skilled labour; approximately 53,034 residents with high school education or less. Moreover, there is also a concentration of the skills associated to college, apprenticeship and trades certificates/diplomas (48,500 residents).

In terms of post secondary education, men and women living in the region complete very different programs of study. Common fields of study for men include mechanic/repair, engineering technologies and precision production and related technologies. Business, management, marketing and related services is also a top field of study. Meanwhile, women's **fields of study** are concentrated in health; business, management, marketing and related services; and education.

Table 2 illustrates the largest fields of study by gender, for persons ages 25-64, who have completed post secondary studies.

Table 2: Top 5 Fields of Study by Gender, Division No. 8., Persons 24-65 2018

Males		Females	
Fields of Study		Fields of Study	
Mechanic and repair technologies/technicians	5,988	Health professions and related programs	10,636
Business, management, marketing and related support services	3,317	Business, management, marketing and related support services	8,872
Engineering technologies and engineering-related fields	3,271	Education	4,233
Precision production	2,830	Personal and culinary services	2,286
Health professions and related programs	1,738	Family and consumer sciences/human sciences	1,380
Engineering	1,583	Legal professions and studies	914
Agriculture, agriculture operations and related sciences	1,476	Public administration and social service professions	904

Source: McSweeney & Associates from Manifold SuperDemographics 2018.

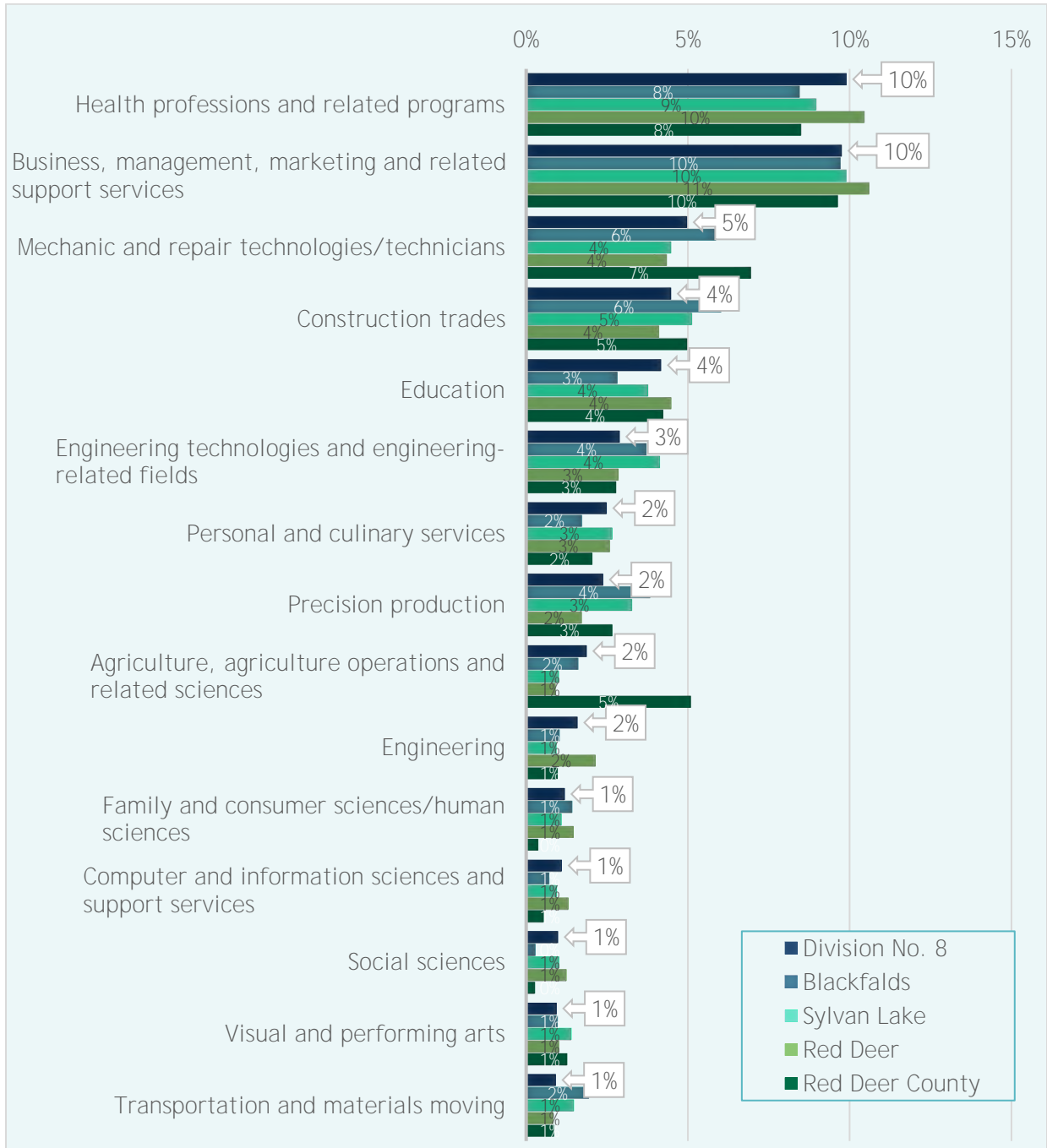
Notes: Major field of study has been broken down to the 2-digit Classification of Instructional Programs (CIP) Canada 2016.¹

¹ Classification of Instructional Programs (CIP) Canada 2016:
<https://www.statcan.gc.ca/eng/subjects/standard/cip/2016/introduction>

CENTRAL ALBERTA LABOUR FORCE PROFILE

Figure 7 (following page) and Table 20 (in the appendix) illustrate the most common fields of study in the region. The region has a large portion of graduates in fields related of health and business, as well as a large supply of residents with skilled trades related to machine repair, construction, education, engineering technologies and precision production.

Figure 7: Major Fields of Study of Residents Aged 25-64, 2018



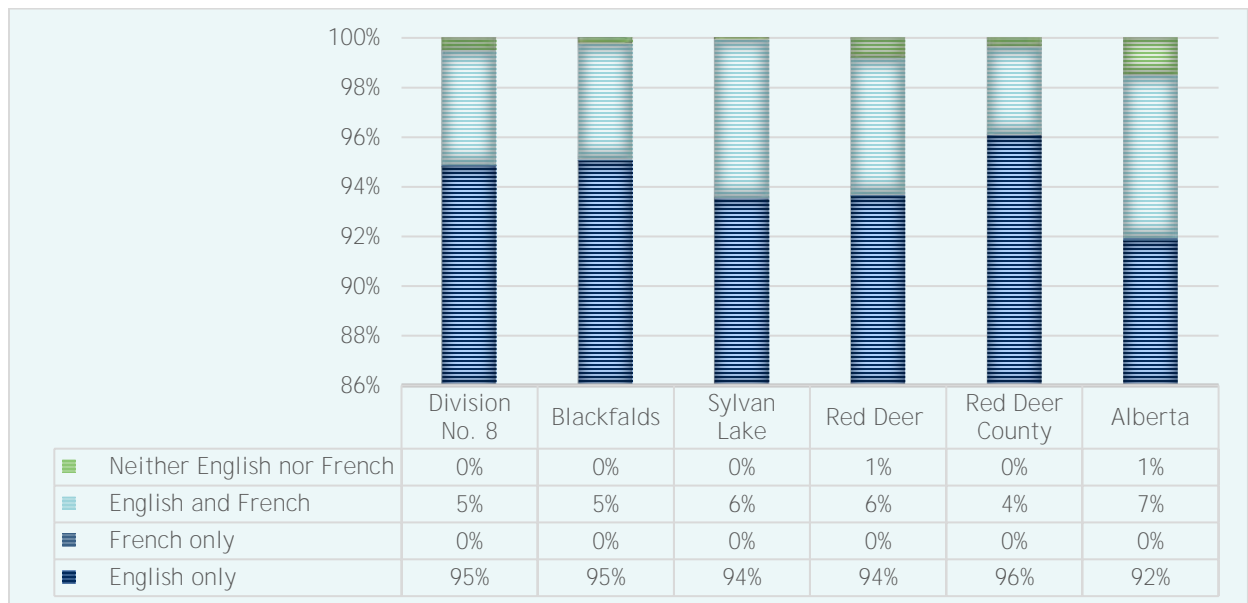
Source: McSweeney & Associates from Manifold SuperDemographics 2018. Notes: The number ahead of the field of study indicates the 2-digit Classification of Instructional Programs (CIP) 2016. The exact number of people by completion can be found in Table 17 (in the appendix).

CENTRAL ALBERTA LABOUR FORCE PROFILE

4.3 Knowledge of Official Languages

The resident population primarily has knowledge of English. Nevertheless, approximately 5% of the population is bilingual, a figure slightly lower than that of the Province (7%).

Figure 8: Residents' Knowledge of Official Languages, 2018



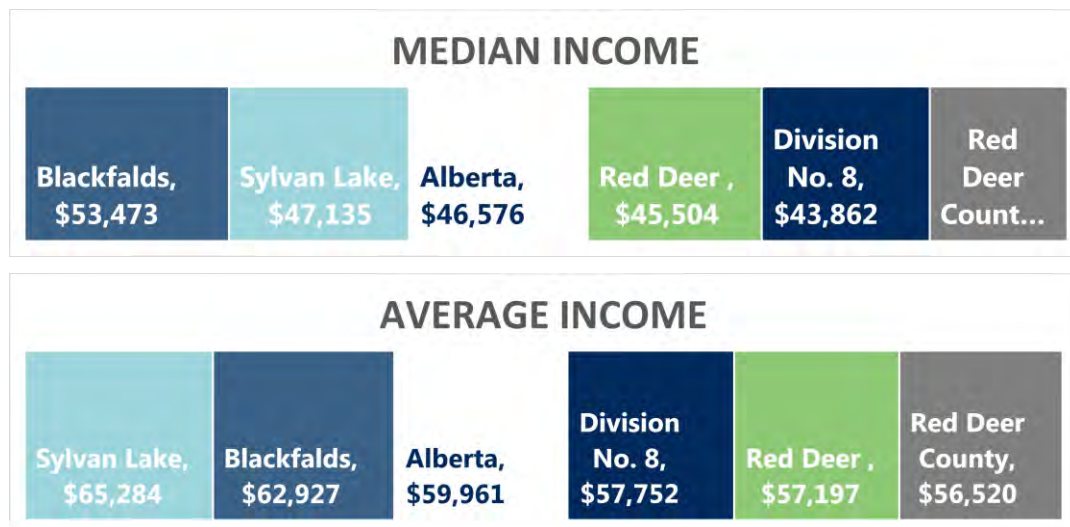
Source: McSweeney & Associates from Manifold SuperDemographics 2018.

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4.4 Employment Income

The region has a slightly lower median and average employment income than the Province as can be seen in the figure below (Figure 9), where the employment incomes are shown from largest to smallest (from left to right).

Figure 9: Median and Average Employment Incomes, 2018 (using 2017 data)



Source: McSweeney & Associates from Manifold SuperDemographics 2018.

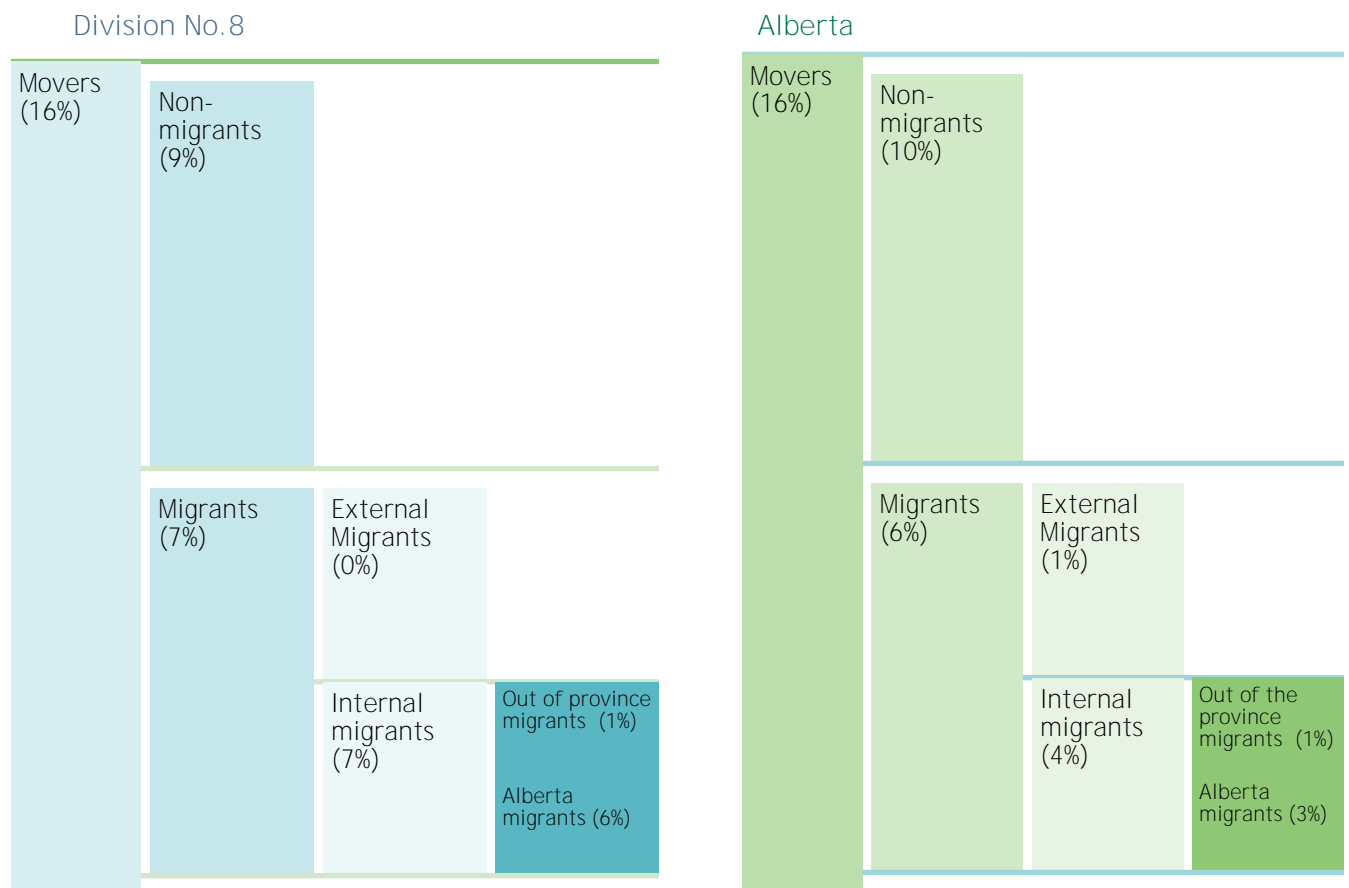
The region has a slightly lower median and average employment income than the Province.

CENTRAL ALBERTA LABOUR FORCE PROFILE

4.5 Migration

The mobility status refers to whether or not people lived in the same dwelling unit either one year or five years ago. Figure 10 and Figure 11 provide a visual breakdown of mobility status one and five years ago in the region compared to Alberta. Definitions may be found in the footnotes. Overall, mobility in the region is low, similar to the rest of Alberta.

Figure 10: Mobility Status Breakdown, Division No. 8 vs. Alberta, 1 Year Ago²



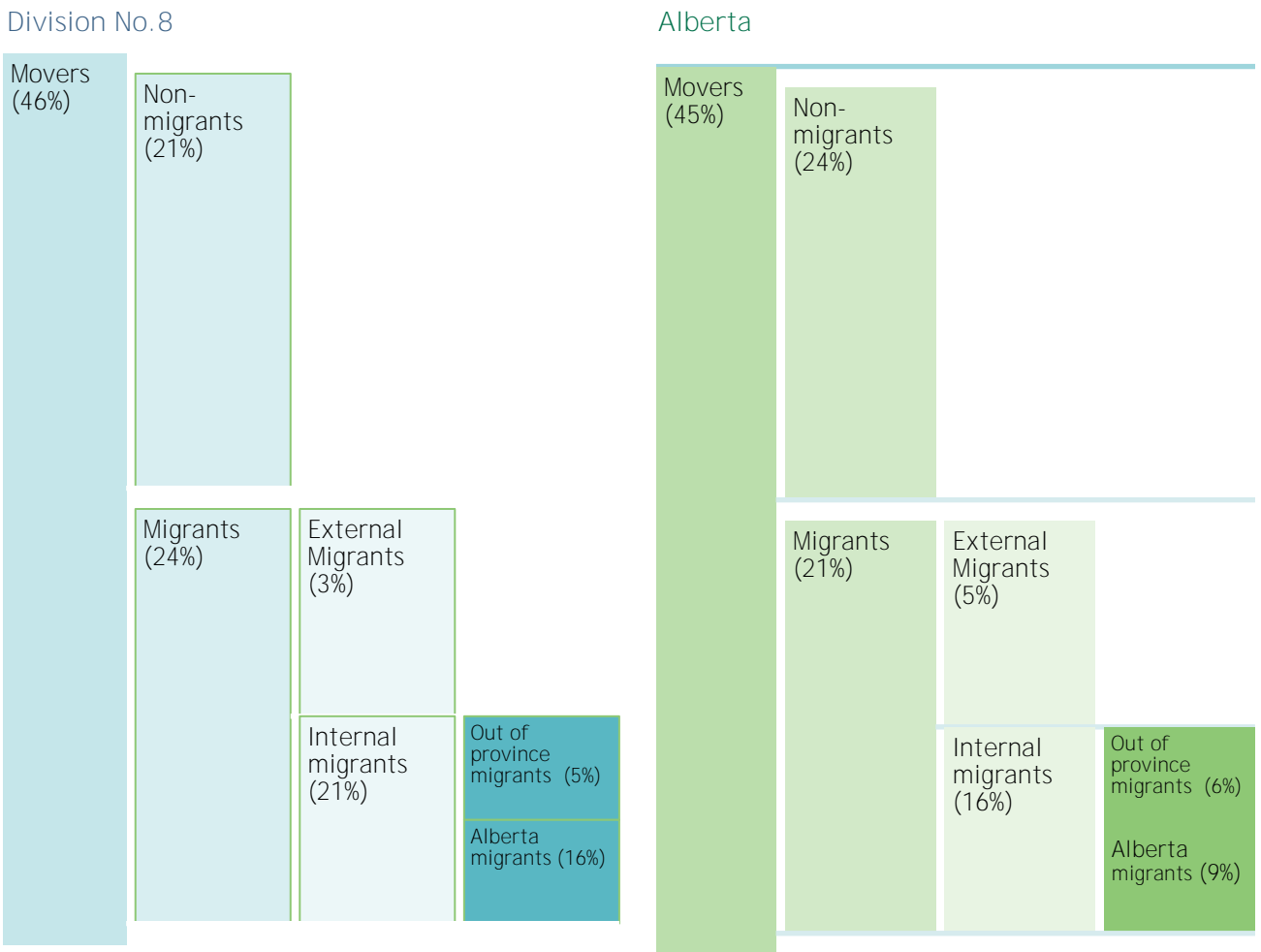
Source: McSweeney & Associates from Manifold SuperDemographics 2018.

² Non-movers are persons who were living at the same address as the one at which they resided one year earlier. Movers are persons who were living at a different address from the one at which they resided one year earlier. Non-migrants are movers who were living at a different address, but in the same census subdivision (CSD) as the one they lived in one year earlier. Migrants are movers who were residing in a different CSD one year earlier (internal migrants) or who were living outside Canada one year earlier (external migrants). Intra-provincial migrants are movers who were living in a different CSD from the one at which they resided one year earlier, in the same province. Interprovincial migrants are movers who were living in a different CSD from the one at which they resided one year earlier, in a different province.

CENTRAL ALBERTA LABOUR FORCE PROFILE

According to mobility figures from one year ago, the percentage of residents that migrated to Division No. 8 from a different area of the province within the previous year (7%; 15,887 total) was higher than **the percentage of “migrant - movers”** to Alberta (6%). People moving to Division No. 8 were more likely to be relocating from within Alberta as opposed to moving from outside of the province or country.

Figure 11: Mobility Status Breakdown, Division No. 8 vs. Alberta, 5 Years Ago



Source: McSweeney & Associates from Manifold SuperDemographics 2018.

The percentage of residents that had moved within the past five years (46%; 96,699 total) was higher **than the percentage of “movers”** in the province (45%). The region also had a larger percentage of migrant movers relative to the province. Approximately 24% (51,421 total) of the population are migrants that moved to the region in the past 5 years, compared to 21% migrant movers in the province. In other words, the Central Alberta Region, as defined by Division No.8, has been more successful, over the past 5 years, with regards to residential attraction, compared to the province.

CENTRAL ALBERTA LABOUR FORCE PROFILE

5 CURRENT LABOUR FORCE PROFILE

5.1 Key Indicators

The regional labour force consists of approximately 130,819 persons, of which 120,745 are employed. Table 3 has key labour force statistics for the region compared to Alberta. In 2018, the region had an unemployment rate slightly higher than Alberta, however, participation and employment rates are on par with Alberta.



Table 3: Labour Force Overview, 2018

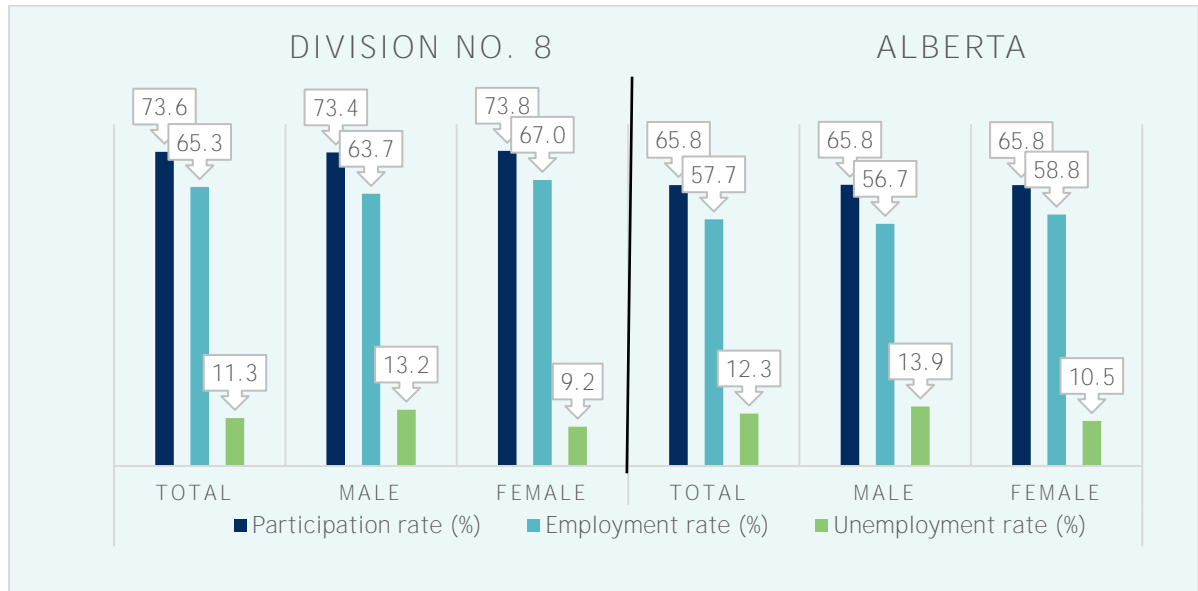
Labour Force Activity	Division No. 8	Blackfalds	Sylvan Lake	Red Deer	Red Deer County	Alberta
Total population 15 years and over	181,798	8,884	12,781	88,567	17,232	3,568,242
In the labour force	130,819	7,160	9,667	64,824	12,545	2,559,960
Employed	120,745	6,532	8,686	60,018	11,777	2,378,095
Unemployed	10,074	628	982	4,805	767	181,865
Participation rate %	71.9	80.5	75.6	73.1	72.8	71.7
Employment rate %	66.4	73.5	67.9	67.7	68.3	66.6
Unemployment rate %	7.7	8.78	10.15	7.4	6.1	7.1

Source: McSweeney & Associates from Manifold SuperDemographics- based on job numbers from September 2018

CENTRAL ALBERTA LABOUR FORCE PROFILE

Figure 12 shows that unemployment for females aged 15-24 in Division No.8 is lower compared to Alberta. However, Division No. 8 males aged 15 to 24 have the highest unemployment, compared to both same age females, as well as to males and females aged 25-64 (Figure 13).

Figure 12: Labour Force Aged 15-24 by Gender, 2018

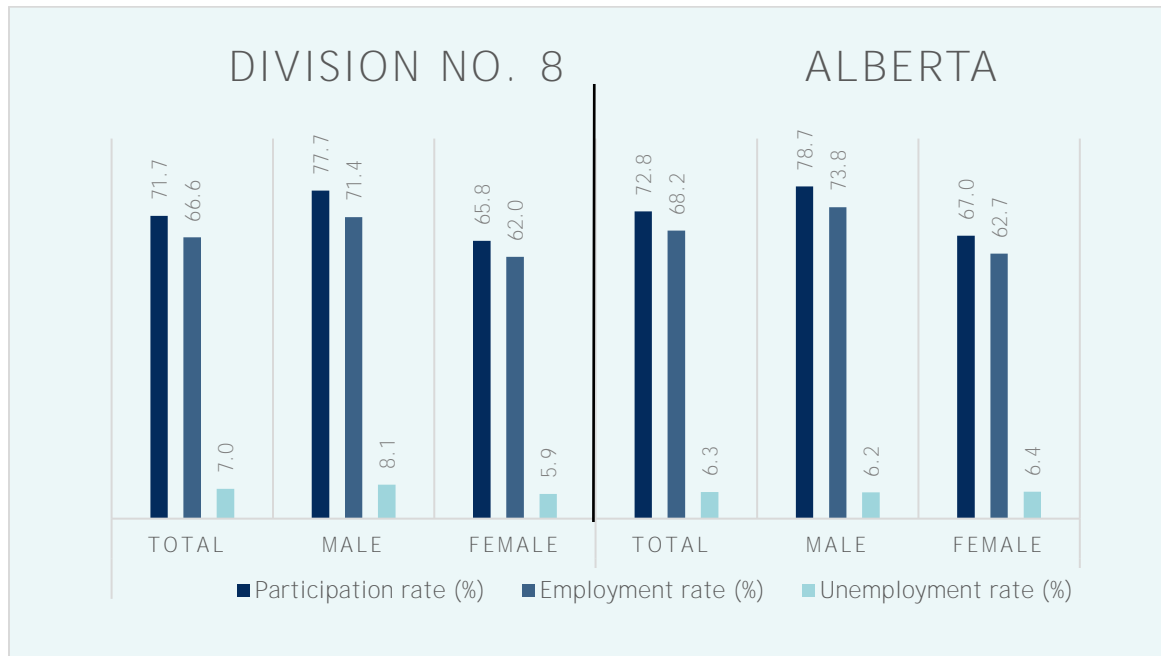


Source: McSweeney & Associates from Manifold SuperDemographics 2018

CENTRAL ALBERTA LABOUR FORCE PROFILE

Figure 13 shows that women aged **25 and over in the region's labour force have a lower** participation rate compared to women in the same age group in Alberta. Moreover, women aged 25 and over in Division No. 8 have a lower participation rate than in Alberta, potentially representing an opportunity to expand the available workforce.

Figure 13: Labour Force Aged 25 and Over by Gender, Division No. 8, 2018



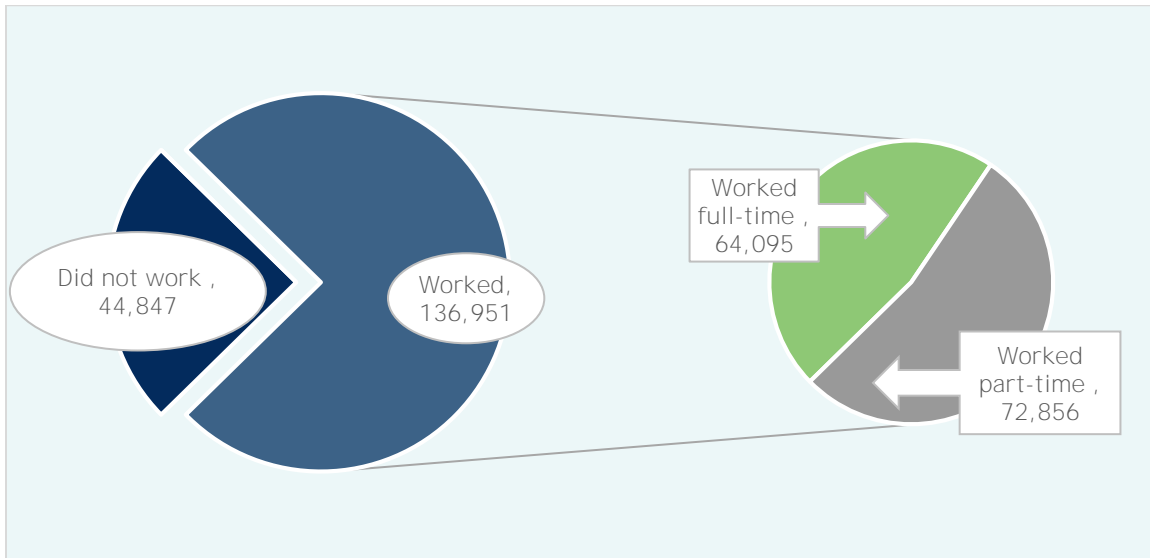
Source: McSweeney & Associates from Manifold SuperDemographics 2018

Women aged 25 and older in Division No. 8 have a lower participation rate than in Alberta: **potentially representing an opportunity to expand the available workforce.**

CENTRAL ALBERTA LABOUR FORCE PROFILE

Figure 14 illustrates the population aged 15 years and over who had any work activity during the reference year of 2017, be it full time or part-time work. Over 44, 000 residents of the Central Alberta Region did not work in the previous year. This is a large chunk of the population, within the working age (15-to 65), which represents an opportunity to expand the workforce.

Figure 14: Work Activity in the past 52 Weeks, 2018



Source: McSweeney & Associates from Manifold SuperDemographics 2018.

CENTRAL ALBERTA LABOUR FORCE PROFILE

5.2 Highest Paying Occupations

The following table illustrates the highest paying occupations in Division No. 8. This table also highlights those occupations that are growing the fastest (by percentage growth in jobs). The top three fast growing high paying occupations in the region are:

- Computer and information systems managers
- Engineering managers
- Administrators - post-secondary education and vocational training

Table 4: Highest Paying Occupations in Division No.8, 2018

Highest Paying Occupations	2017 Avg. Hourly Wages	2017 Median Hourly Wages	2018 Jobs	2023 Jobs	2018 - 2023 Change	2018 - 2023 % Change
Fire chiefs and senior firefighting officers	\$66.36	\$63.12	19	21	2	11%
Advertising, marketing and public relations managers	\$57.89	\$54.51	90	81	(9)	(10%)
Commissioned police officers	\$57.82	\$55.56	25	27	2	8%
Utilities managers	\$57.61	\$57.30	93	102	9	10%
Insurance, real estate and financial brokerage managers	\$57.47	\$52.67	63	66	3	5%
Computer and information systems managers	\$55.99	\$55.72	111	134	23	21%
Managers in natural resources production and fishing	\$55.34	\$50.05	265	257	(8)	(3%)
Engineering managers	\$55.18	\$50.72	97	109	12	12%
Air traffic controllers and related occupations	\$54.92	\$54.16	30	31	1	3%
Architecture and science managers	\$54.35	\$52.07	38	42	4	11%
Administrators - post-secondary education and vocational training	\$54.18	\$52.76	114	132	18	16%
Petroleum engineers	\$54.12	\$51.39	155	165	10	6%
Mining engineers	\$54.11	\$48.55	17	16	(1)	(6%)
Other business services managers	\$53.99	\$57.78	58	63	5	9%
Financial managers	\$53.63	\$53.23	259	278	19	7%

Source: EMSI 2018. Q4, Employed workers.

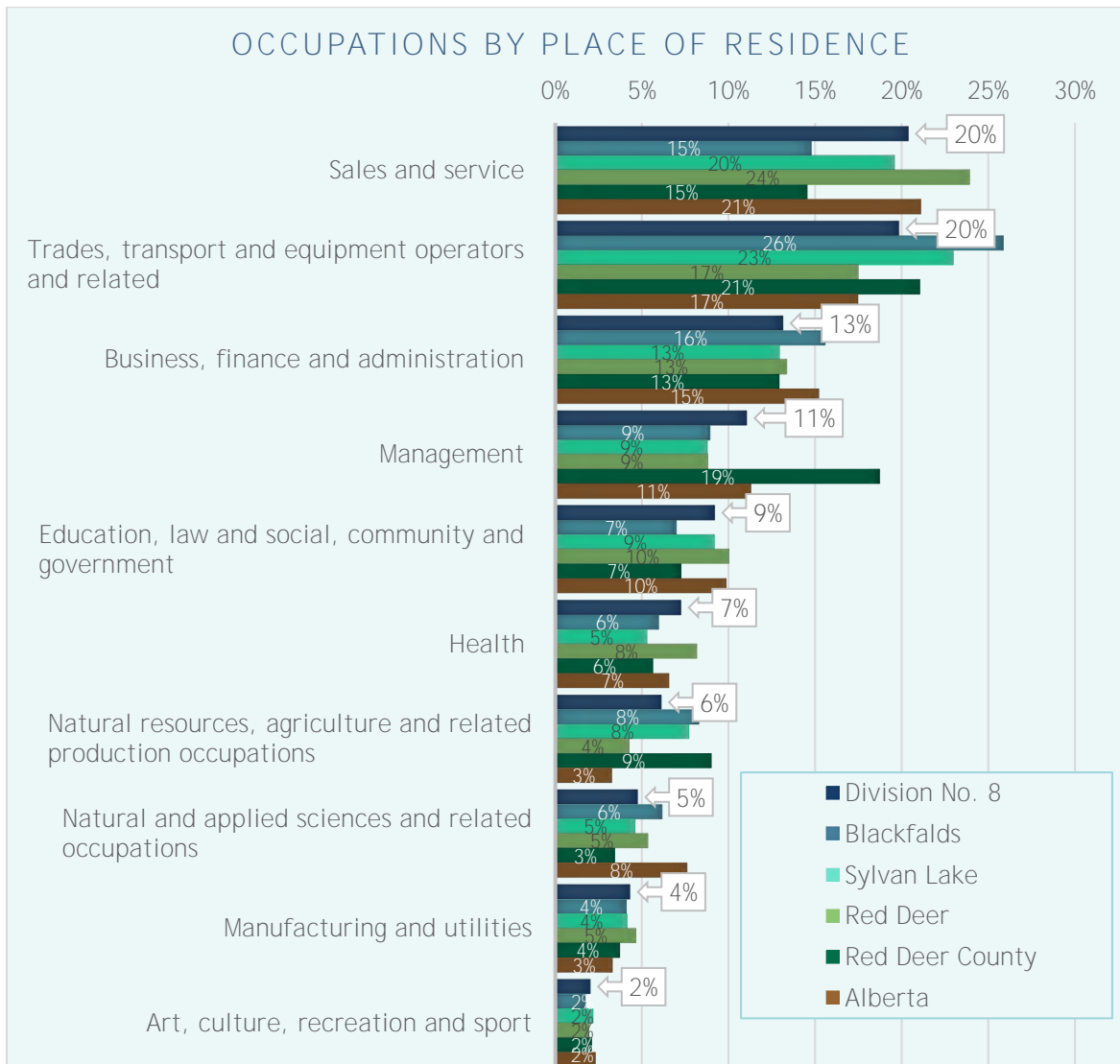
CENTRAL ALBERTA LABOUR FORCE PROFILE

5.3 Labour Force by Occupation

Figure 15 (and Table 21 in the appendix) illustrate the occupations of residents of the region by National Occupation Classification³. In comparison to the province, Division No. 8 has a larger percentage of its resident labour force working in:

- Sales and service
- Trades, transport and equipment operators and related
- Health
- Natural resources, agriculture and related production occupations
- Manufacturing and utilities

Figure 15: Resident Labour Force by Occupation (by 1-digit NOC code), 2018



Source: McSweeney & Associates from Manifold SuperDemographics 2018. Total numbers of resident labour force by occupation can be found in Table 18 in the appendix.

³ Statistics Canada has the National Occupational Classification (NOC) 2017 documentation here: <http://noc.esdc.gc.ca/English/noc/welcome.aspx?ver=16>

CENTRAL ALBERTA LABOUR FORCE PROFILE

5.3.1 Labour Market Gap/Surplus by Occupation

Labour market gaps and surpluses examine how well local labour supply meets local demand. As such, the local labour market gap/surplus can be approximated by measuring the difference between the number of jobs in the region and the number of workers living in the region that are working in that occupation (i.e. local supply). Currently, there are more workers than jobs in the region, making the region a net exporter of labour.

Division No.8 has a net surplus of approximately 11,666 workers.

Only one occupation group appears to have a gap where local labour supply does not meet local job demand - natural resources, agriculture and related production occupations (Table 5). Conversely, the region exports a large number of workers with skills in Trades, transport and equipment operators and related occupations to work in jobs outside of the region.

Table 5: Labour Market Gaps/Surpluses by Occupation, 2018

Labour Market Gaps in Occupations	Live in the region	Jobs in the region	Gap (-)/ Surplus	Gap (-) / Surplus as a % of Jobs in the Region
Total labour force 15 years and over	130,819	119,153	11,666	10%
Trades, transport and equipment operators and related occupations	25,941	22,860	3,081	13%
Management occupations	14,471	11,847	2,624	22%
Occupations in education, law and social, community and government services	12,045	10,835	1,210	11%
Occupations in manufacturing and utilities	5,660	4,495	1,165	26%
Sales and service occupations	26,655	25,573	1,082	4%
Business, finance and administration occupations	17,197	16,190	1,007	6%
Unclassified	2,464	1,598	866	54%
Occupations in art, culture, recreation and sport	2,652	2,050	602	29%
Health occupations	9,501	9,251	250	3%
Natural and applied sciences and related occupations	6,227	6,178	49	1%
Natural resources, agriculture and related production occupations	8,007	8,276	(269)	(3) %

Source: McSweeney & Associates from Manifold SuperDemographics 2018 and EMSI 2018

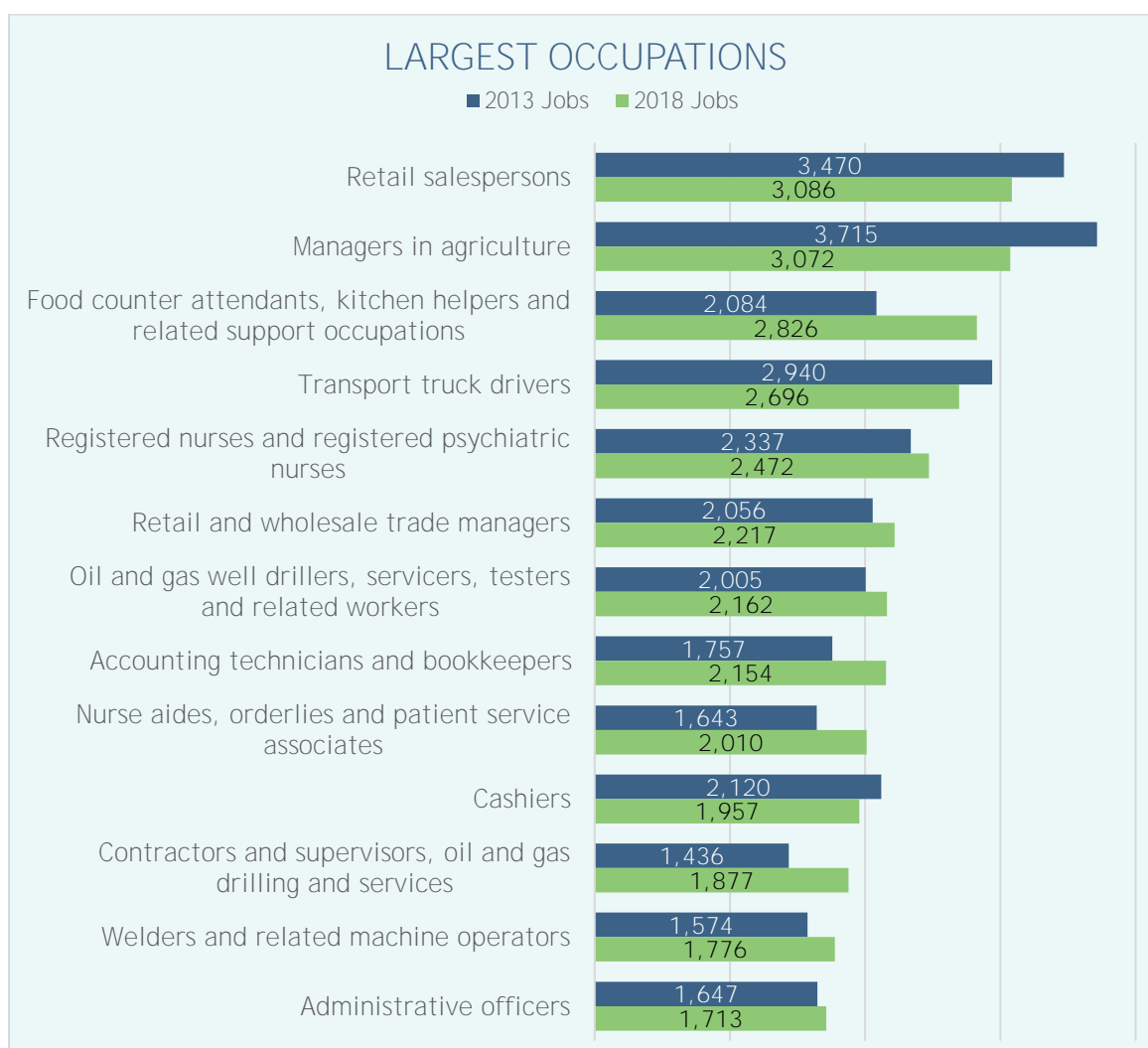
CENTRAL ALBERTA LABOUR FORCE PROFILE

5.3.2 Employment by Occupation

The National Occupation Classification system (NOCs) can be broken down to a more granular level by exploring jobs data available to the region. The previous pages in section 4 showed the occupation of sin the region at the 1-digit NOCs. The following figures/tables dig deeper by looking at the jobs in the region (regardless of where the labour force filling those jobs resides) by occupation type at the 4-digit NOCs code.

Figure 16 Illustrates the largest occupations employed in Division No. 8, regardless of where the employee lives. Managers in agriculture experienced the largest decline in jobs between 2013 and 2018. Meanwhile. Food counter attendants, kitchen helpers and related support occupations saw the largest rise in number of jobs in the same time period.

Figure 16: Largest Occupations Employed in Division No.8, 2013-2018



Source: EMSI 2018. Q4, Employed and Self-employed

CENTRAL ALBERTA LABOUR FORCE PROFILE

OCCUPATIONS WITH GROWING JOB NUMBERS IN THE REGION

Table 6 illustrates the occupations (at the 4-digit NOCs) that had the largest total growth in jobs in Division No. 8 between 2013 and 2018. These growing occupations can be grouped into 4 broader categories (3-digit NOCS):

- Service support and other service occupations
- Technical occupations related to natural and applied sciences
- Professional occupations in law, community and government services
- Industrial, electrical and construction trades

Table 6: Occupations with the Largest Absolute Growth (4-digit NOCS), 2013-2018

Occupations	2018 Jobs	2013 - 2018 Change
Food counter attendants, kitchen helpers and related support occupations	2,084	2,826
Home building and renovation managers	471	916
Contractors and supervisors, oil and gas drilling and services	1,436	1,877
Accounting technicians and bookkeepers	1,757	2,154
Nurse aides, orderlies and patient service associates	1,643	2,010
Other financial officers	376	656
Elementary school and kindergarten teachers	987	1,249
Professional occupations in religion	199	441
Light duty cleaners	979	1,220
Food counter attendants, kitchen helpers and related support occupations	1,044	1,277
Contractors and supervisors, heavy equipment operator crews	473	695
Welders and related machine operators	1,574	1,776
Unclassified	1,413	1,598
Program leaders and instructors in recreation, sport and fitness	435	619
Cleaning supervisors	200	365
Retail and wholesale trade managers	2,056	2,217
Supervisors, motor transport and other ground transit operators	312	472
Oil and gas well drillers, servicers, testers and related workers	2,005	2,162
Automotive service technicians, truck and bus mechanics and mechanical repairers	764	918
Maîtres d'hôtel and hosts/hostesses	250	398
Social workers	262	406
Food counter attendants, kitchen helpers and related support occupations	2,084	2,826

Source: EMSI 2018. Q4, Employed and Self-employed

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The fastest growing occupations were also examined by looking at those that had the largest percentage growth between 2013-2018, as noted in Table 7.

Table 7: Largest Percentage Growth Occupations (4-digit NOCS), 2013-2018

Occupations	2018 Jobs	2013 - 2018 Change	2013 - 2018 % Change
Underground production and development miners	142	114	407%
Nursing co-ordinators and supervisors	197	116	143%
Professional occupations in religion	441	242	122%
Massage therapists	214	116	118%
Home building and renovation managers	916	445	94%
Cleaning supervisors	365	165	83%
Managers in social, community and correctional services	258	111	76%
Other financial officers	656	280	74%
Construction inspectors	264	106	67%
Maîtres d'hôtel and hosts/hostesses	398	148	59%
Social workers	406	144	55%
Supervisors, motor transport and other ground transit operators	472	160	51%
Human resources professionals	320	106	50%
Contractors and supervisors, heavy equipment operator crews	695	222	47%
Program leaders and instructors in recreation, sport and fitness	619	184	42%
Food counter attendants, kitchen helpers and related support occupations	2,826	742	36%
Contractors and supervisors, oil and gas drilling and services	1,877	441	31%
Elementary school and kindergarten teachers	1,249	262	27%
Insurance agents and brokers	520	105	25%
Contractors and supervisors, other construction trades, installers, repairers and servicers	685	138	25%

Source: EMSI 2018. Q4, Employed and Self-employed

CENTRAL ALBERTA LABOUR FORCE PROFILE

OCCUPATIONS THAT ARE CONCENTRATED AND COMPETITIVE IN THE REGION

In order to understand where the region has an occupational specialization, Table 8 examines larger, growing occupations (100+ jobs at 4-digit NOCS) with the highest location quotients (LQ). The LQ is a measure of relative concentration of an occupation, that compares the percentage of jobs an occupation represents in Division No. 8, relative to the total percentage of jobs in the same occupation in Canada. A location quotient above 2 means the region employs twice as many jobs in that occupation than is typical in the nation. Such a high concentration shows that there is some momentum in growing or attracting these jobs that is unique to the region.

Table 8: Larger Concentrated Occupations (4-digit NOCS) with Positive Growth

Occupations	2018 Jobs	2013 - 2018 Change	2013 - 2018 % Change	2018 Location Quotient
Contractors and supervisors, oil and gas drilling and services	1,877	441	31%	13.66
Oil and gas well drillers, servicers, testers	2,162	157	8%	11.99
Non-destructive testers and inspection technicians	263	83	46%	5.18
Industrial instrument technicians and mechanics	308	64	26%	4.43
Contractors and supervisors, pipefitting trades	262	89	51%	3.63
Underground mine service and support workers	96	68	243%	3.52
Steamfitters, pipefitters and sprinkler system installers	540	83	18%	3.33
Heavy-duty equipment mechanics	1,179	31	3%	2.93
Welders and related machine operators	1,776	202	13%	2.87
Contractors and supervisors, machining, metal forming, shaping and erecting trades	304	52	21%	2.73
Geological and mineral technologists and technicians	196	21	12%	2.68
Contractors and supervisors, heavy equipment operator crews	695	222	47%	2.67
Agricultural service contractors, farm supervisors and specialized livestock workers	185	59	47%	2.47
Insulators	174	54	45%	2.39
Power engineers and power systems operators	406	60	17%	2.28
General farm workers	1,013	4	0%	2.21
Inspectors in public and environmental health and occupational health and safety	483	24	5%	2.17
Accounting technicians and bookkeepers	2,154	397	23%	2.17

Source: EMSI 2018. Q4, Employed and Self-employed

CENTRAL ALBERTA LABOUR FORCE PROFILE

In order to analyze what occupations/jobs make the region competitive, shift share analysis is used to provide context for job growth. This analysis splits up job growth into three components: growth attributable to national economic growth, growth of a specific occupation nationally, and lastly, growth attributable to the local effects of the region. The last column in the table below indicates the local effect of occupation growth (regionally driven) that cannot be attributed to either national economic growth or to occupation-specific trends.

Table 9: Occupation (4-digit NOCS) Growth driven by High Local Effects, 2013-2018

Description	2018 Jobs	Occupation Effect	Nat'l Growth Effect	Local Effect
Food counter attendants, kitchen helpers and related support occupations	2,084	31	136	576
Contractors and supervisors, oil and gas drilling and services	1,436	(98)	94	446
Home building and renovation managers	471	15	31	400
Retail and wholesale trade managers	2,056	(330)	134	358
Accounting and related clerks	1,051	(182)	69	240
Professional occupations in religion	199	0	13	228
Other financial officers	376	34	25	221
Elementary school and kindergarten teachers	987	(22)	64	220
Welders and related machine operators	1,574	(68)	103	166
Automotive service technicians, truck and bus mechanics and mechanical repairers	764	(56)	50	160
Contractors and supervisors, heavy equipment operator crews	473	3	31	156
Nurse aides, orderlies and patient service associates	1,643	105	107	156
Restaurant and food service managers	678	(72)	44	148
Cleaning supervisors	200	8	13	144
Accounting technicians and bookkeepers	1,757	138	115	144
Program leaders and instructors in recreation, sport and fitness	435	23	28	133
Electronic service technicians (household and business equipment)	303	(51)	20	122
Social workers	262	9	17	118
Underground production and development miners	28	4	2	109

Source: EMSI 2018. Q4, Employed and Self-employed

CENTRAL ALBERTA LABOUR FORCE PROFILE

KEY OCCUPATIONS FOR INVESTMENT ATTRACTION

As part of the research undertaken for this section, jobs in the region were examined by occupation at the 1 to 4 digits NOCs, however only partial results are illustrated in this report. After examining occupations that are large, rapidly growing in numbers and percentage, concentrated compared to Canada, and driven by a local (regional) growth effect, the following occupational groups (at 3-digit NOCs) are considered to be key in the development of the region:

Table 10: Key Occupations (3-digit NOCS) for Labour-based Investment Attraction

Key Occupations	High Demand	Significant Growth	Fast Growth	Concentrated	Local Effect Job Growth
Machining, metal forming, shaping and erecting trades	✓	✓	✓	✓	✓
Finance, insurance and related business administrative occupations	✓	✓	✓	✓	
Contractors and supervisors, mining, oil and gas	✓	✓	✓	✓	✓
Contractors and supervisors, maintenance trades and heavy equipment and transport operators	✓	✓	✓	✓	✓
Contractors and supervisors, industrial, electrical and construction trades and related workers	✓	✓	✓	✓	✓
Heavy equipment operators	✓			✓	
Other technical occupations in health care	✓	✓	✓	✓	✓
Other technical inspectors and regulatory officers	✓	✓	✓	✓	✓
Utilities equipment operators and controllers	✓		✓	✓	✓
Technical occupations in life sciences	✓		✓	✓	
Managers in transportation		✓	✓	✓	✓

Note: High demand identifies occupations that make up at least 0.005% (595) of jobs in the region. Significant growth indicates that the occupation grew by at least 0.001% (100 jobs) between 2013-2018 in the region. Fast Growth means that the occupation grew faster than the rest of the economy (i.e. above 5%) between 2013 and 2018. Concentrated means the occupation had a Location Quotient higher than 1.25. Local effect (regionally driven) Job Growth means positive regional jobs growth that cannot be explained by either national economic growth or occupation-specific trends. Lastly, note that categories have only been checked off if the occupation lands within top 10 in their respective category (since the top 15 or more may be illustrated in the previous charts).

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The above occupations form a group of what can be referred to as “**key occupations**”, which are widely employed and increasingly in demand within the region. They represent the best opportunity in terms of attracting industry to the region based on labour availability. In what follows, the industries that most commonly hire these key occupations are revealed using inverse staffing patterns.

Table 11 shows which industries employ (by largest number of jobs) the identified key occupations in Division No.8. **The last column shows the percentage of the industry’s jobs found within the key occupations.**

Table 11: Key Occupation Staffing Patterns, 2018-2023

Industries that most commonly hire the Key Occupations	Occupation Group Jobs in Industry (2018)	Occupation Group Jobs in Industry (2023)	Projected Change (2018 - 2023)	% Change (2018 - 2023)	% of Total Jobs in Industry (2018)
Support activities for mining, and oil and gas extraction	1,216	1,279	63	5%	30.1%
Utility system construction	594	679	85	14%	34.1%
Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance	447	433	(14)	(3%)	46.0%
General medical and surgical hospitals	397	461	64	16%	7.9%
Other specialty trade contractors	384	414	30	8%	36.3%
Building equipment contractors	375	432	57	15%	17.7%
Highway, street and bridge construction	249	277	28	11%	43.2%
Foundation, structure, and building exterior contractors	242	256	14	6%	21.6%
Non-residential building construction	225	259	34	15%	22.2%
Local, municipal and regional public administration	220	259	39	18%	7.7%
Oil and gas extraction	220	228	8	4%	35.2%
Accounting, tax preparation, bookkeeping and payroll services	205	219	14	7%	25.3%
Agricultural, construction and mining machinery manufacturing	175	139	(36)	(21%)	31.9%
Meat product manufacturing	160	188	28	18%	8.3%
Building finishing contractors	149	168	19	13%	16.7%
Services to buildings and dwellings	142	168	26	18%	11.8%
Basic chemical manufacturing	131	129	(2)	(2%)	15.5%

Source: EMSI 2018. Q4, Employed and Self-employed (not considering publicly funded admin or education)

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Table 11 also highlights those industries that are growing the fastest (by percentage growth in jobs). The following can be concluded from Table 11:

1. The industries that most commonly hire the key occupations fall within the following industry sectors:
 - Mining, quarrying, and oil and gas extraction
 - Utilities
 - Agriculture, forestry, fishing and hunting
 - Finance and insurance
 - Manufacturing
2. Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance hires the largest percentage of the key occupations.
3. The top three fast growing industries (by % job growth), which most commonly hire the key occupations in the region are:
 - Meat product manufacturing
 - Services to buildings and dwellings
 - General medical and surgical hospitals

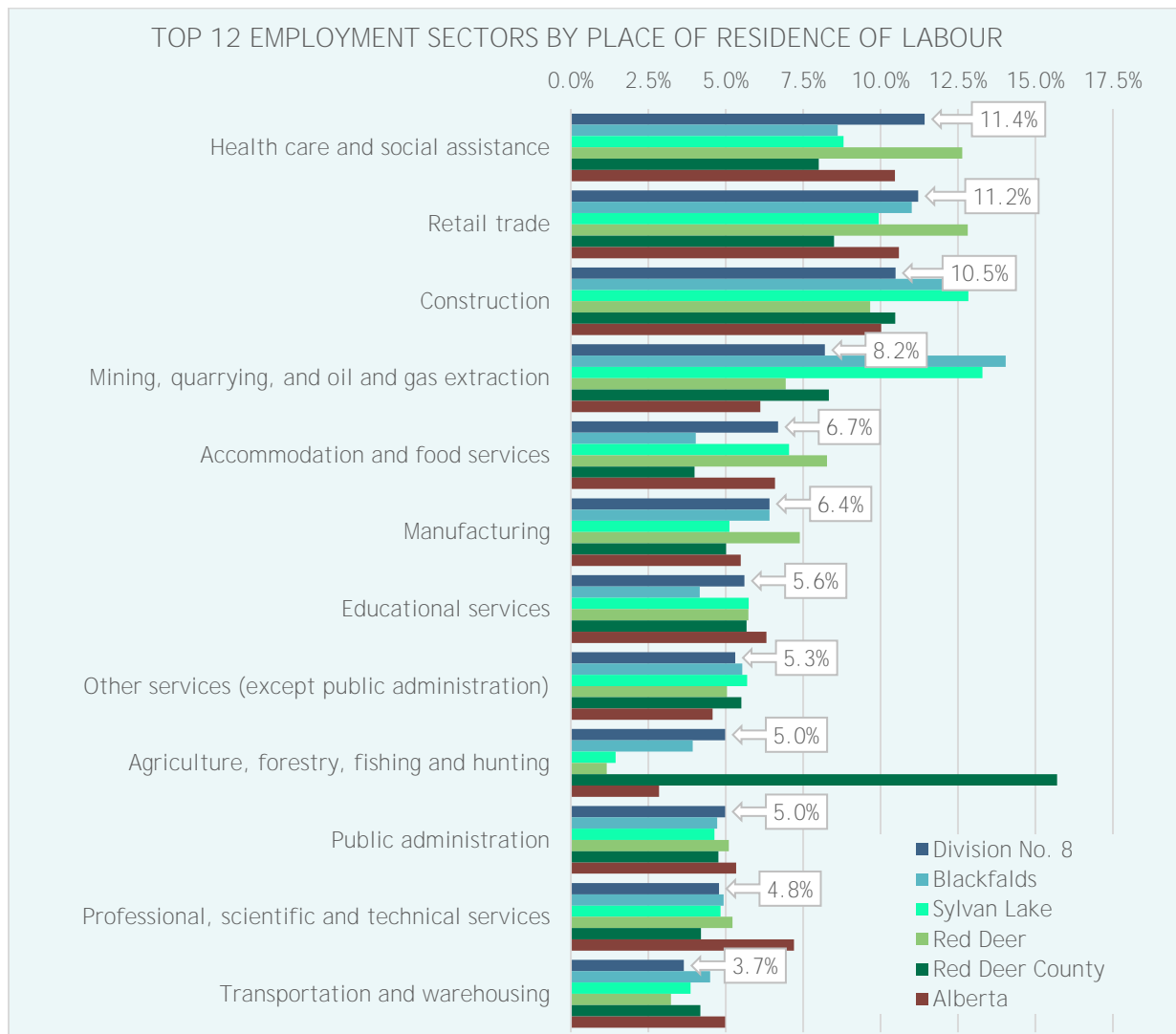
CENTRAL ALBERTA LABOUR FORCE PROFILE

5.4 Labour Force by Industry Sectors

The following figure shows that the resident labour force in the region most commonly work in *Healthcare/Social Assistance*, *Retail Trade* or *Construction* sectors (regardless of job location, which may be outside of the region). However, more importantly, the region has the strongest employment concentrations, relative to the Province, in the following sectors:

- Mining, quarrying, and oil and gas extraction
- Agriculture, forestry, fishing and hunting

Figure 17: Resident Labour Force by Sector (NAICS)⁴, 2018



Source: Manifold SuperDemographics 2018

⁴ North American Industry Classification System 2017:
<http://www23.statcan.gc.ca/imdb/p3VD.pl?Function=getVD&TVD=307532>

CENTRAL ALBERTA LABOUR FORCE PROFILE

5.4.1 Labour Market Gaps/Surpluses by Industry Sectors

As shown previously in the labour gap analysis by occupation, Division No.8 has a net surplus of approximately 11,666 workers. In terms of gaps/surpluses by sector, the region appears to have the largest gaps being filled by non-residents in the wholesale trade sector. Conversely, the region has surpluses, and exports a large number of workers to the two following sectors: Retail trade; and Mining, quarrying, and oil and gas extraction.

Table 12: Labour Market Gaps/Surpluses in Industries in Division No. 8, 2018

Sectors (NAICS)	Live in the region	Employed in the region	Gap (-) / Surplus	Gap (-)/Surplus as a percentage of Jobs in the Region
Total labour force 15 years +	130,819	119,153	11,666	10%
44-45 Retail trade	14,664	4,004	10,660	266%
21 Mining, quarrying, and oil and gas extraction	10,728	6,755	3,973	59%
11 Agriculture, forestry, fishing and hunting	6,518	4,380	2,138	49%
31-33 Manufacturing	8,384	7,239	1,145	16%
91 Public administration	6,518	5,599	919	16%
52 Finance and insurance	3,379	2,481	898	36%
Industry - not applicable	2,464	1,598	866	54%
61 Educational services	7,331	6,575	756	11%
48-49 Transportation and warehousing	4,775	4,096	679	17%
51 Information and cultural industries	1,402	839	563	67%
22 Utilities	824	325	499	153%
71 Arts, entertainment and recreation	2,374	2,150	224	10%
54 Professional, scientific and technical services	6,251	6,038	213	4%
23 Construction	13,707	13,693	14	0%
55 Management of companies and enterprises	161	202	-41	-20%
81 Other services (except public administration)	6,944	7,066	-122	-2%
53 Real estate and rental and leasing	2,330	2,727	-397	-15%
72 Accommodation and food services	8,750	9,219	-469	-5%
62 Health care and social assistance	14,944	15,457	-513	-3%
56 Administrative and support, waste management and remediation services	4,122	4,718	-596	-13%
41 Wholesale trade	4,251	13,990	-9,739	-70%

Source: Manifold SuperDemographics 2018 and EMSI 2018.Q4

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5.4.2 Employment by Industry

The North American Industry Classification system (NAICS) can be broken down to a more granular level by exploring data about jobs in the region. Figure 17 showed the top 12 industries employing residents of the region at the 2-digit NAICS code.

The following tables dig deeper to identifying growing industries by looking at jobs (regardless of where the individual resides) in the region. The aim of this approach is to understand what industries are driving employment demand. The following table illustrates the largest growth sectors measured by the number of jobs added in the past five years in Division No. 8:

Table 13: Sectors with Largest Employment Growth in Division No. 8, 2013-2018

Sector (2 Digit NAICS)	2013 Jobs	2018 Jobs	2013 - 2018 Change	2013 - 2018 % Change
Health care and social assistance	11,468	15,457	3,989	35%
Construction	11,720	13,693	1,973	17%
Administrative and support, waste management and remediation services	3,261	4,718	1,457	45%
Accommodation and food services	8,255	9,219	964	12%
Educational services	6,146	6,575	429	7%
Arts, entertainment and recreation	1,819	2,150	331	18%

Source: Manifold SuperDemographics 2018 and EMSI 2018.04

The sector (2-digit) classification can be broken down to sub-sectors.

The largest employment sub-sectors (3-digit NAICS) in Division No. 8 include:

- Specialty trade contractors
- Food services and drinking places
- Administrative and support services
- Repair and maintenance

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The following table breaks down employment growth in Division No. 8 to the sub-sector level (not including publicly funded subsectors or retail).

Table 14: Sub-sectors with Largest Employment Growth in Division No. 8, 2013-2018

Sub Sector (3-Digit NAICS)	2013 Jobs	2018 Jobs	2013 - 2018 Change
Administrative and support services	2,931	4,428	1,497
Food services and drinking places	6,457	7,566	1,109
Nursing and residential care facilities	1,608	2,630	1,022
Specialty trade contractors	6,850	7,811	961
Construction of buildings	2,407	3,062	655
Heavy and civil engineering construction	2,463	2,820	357
Amusement, gambling and recreation industries	1,221	1,544	323
Food manufacturing	2,077	2,381	304
Building material and garden equipment and supplies dealers	796	980	184
Rail transportation	121	305	184
Non-metallic mineral product manufacturing	317	461	144
Truck transportation	2,077	2,220	143
Mining and quarrying (except oil and gas)	68	192	124
Beverage and tobacco product manufacturing	23	145	122
Repair and maintenance	3,831	3,934	103

Source: Manifold SuperDemographics 2018 and EMSI 2018.Q4

The sub-sector classification can be broken down into Industries.

The largest industries (4-digit NAICS) by employment in Division No. 8 (excluding publicly supported industries) include:

- Full-service restaurants and limited-service eating places
- Support activities for mining, and oil and gas extraction
- Building equipment contractors
- Services to buildings and dwellings

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The following table breaks down employment growth in Division No.8 even further to the industry level (4-digit NAICS).

Table 15: Industries with Largest Employment Growth in Division No. 8, 2013-2018

Industries	2013 Jobs	2018 Jobs	2013 - 2018 Change
Services to buildings and dwellings	1,408	2,390	982
Offices of other health practitioners	581	1,549	968
Full-service rest. & limited-service eating places	5,785	6,740	955
General medical and surgical hospitals	4,344	5,023	679
Residential building construction	1,427	1,942	515
Building equipment contractors	2,434	2,915	481
Individual and family services	1,028	1,508	480
Community care facilities for the elderly	269	726	457
Residential developmental handicap, mental health and substance abuse facilities	620	1,009	389
Child day-care services	758	1,120	362
Building finishing contractors	1,550	1,862	312
General freight trucking	612	922	310
Investigation and security services	233	540	307
Local, municipal and regional public administration	2,459	2,766	307
Offices of physicians	1,238	1,518	280
Grocery stores	2,062	2,337	275
Meat product manufacturing	1,658	1,921	263
Drinking places (alcoholic beverages)	269	524	255
Utility system construction	1,843	2,096	253

Source: EMSI 2018.Q4

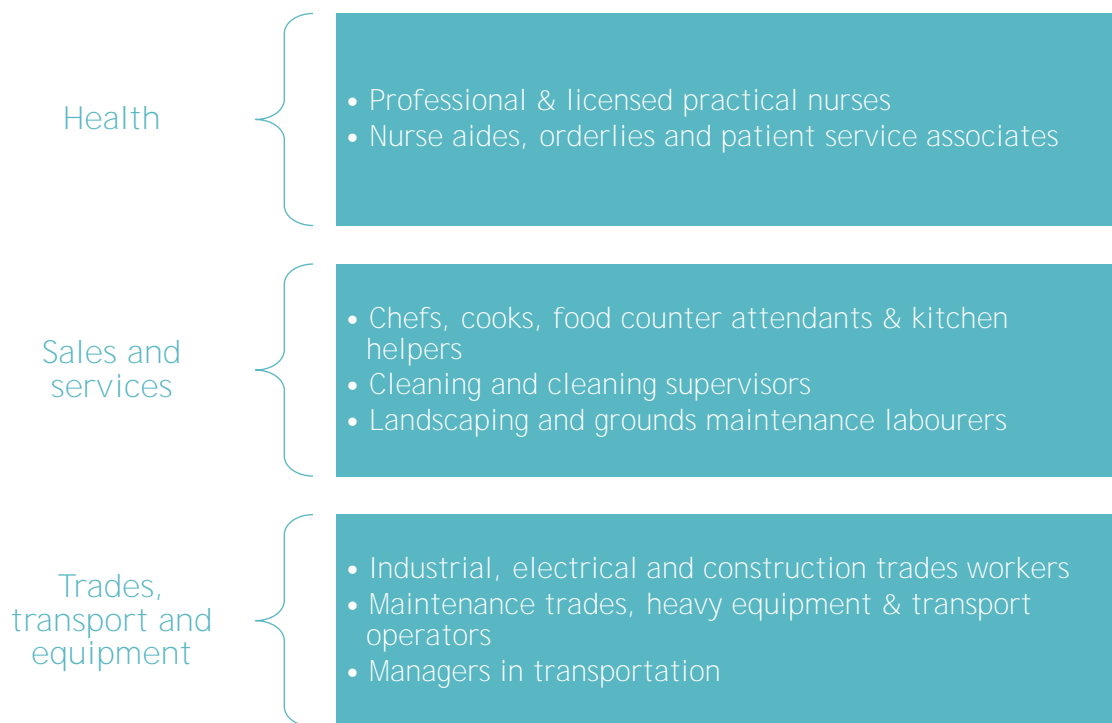
6 THE FUTURE WORKFORCE

The future workforce defined in this profile indicates where there will be demand for employment in the next 8 years. In order to understand where demand will come from, both occupations having a large projected employment growth, and industries having a large projected employment growth will be examined. Subsequently, the consultation with stakeholders (Section 8) from the post secondary education sector will uncover which programs / fields have experienced increasing and/or projected growth in demand.

6.1 Projected Employment Demand by Occupations

In terms of occupations, the largest projected demand is estimated to occur in health-related occupations; sales and services; and trades, transport and equipment operators and related occupations. This is partly due to the fact that these are already large and growing occupations in the region. The diagram below illustrates these in more detail.

Figure 18: Occupations with the largest projected growth, 2018-2026



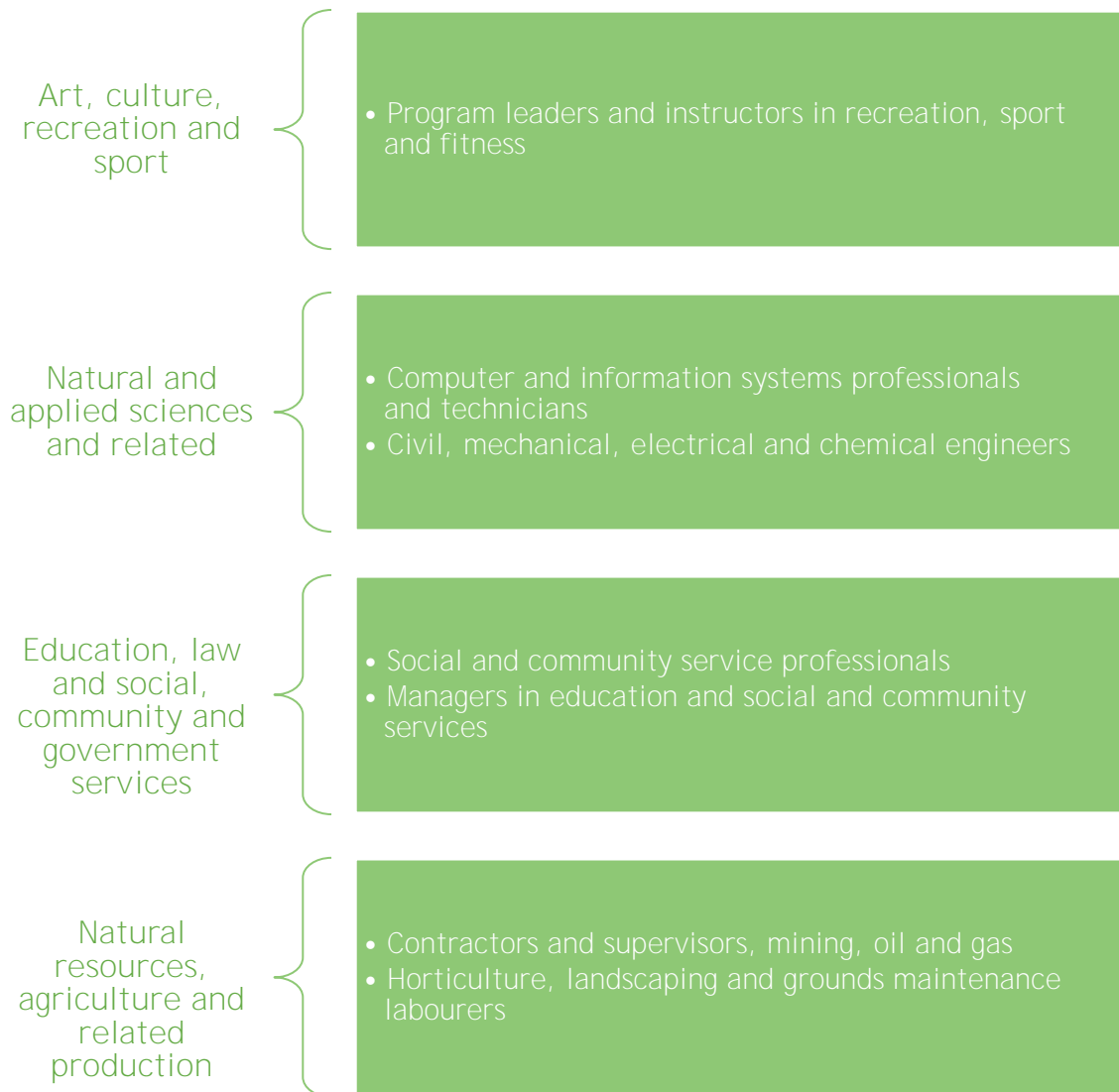
Source: EMSI 2018. Q4, Employed and Self-employed

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Beyond these, one can look at which occupational groups and specific occupations are expected to grow faster (based on percentage growth) than other occupations, and the rest of the jobs market as a whole (which is projected to grow by 6% over the next eight years).

The following major occupational groups and specific occupation types will have the strongest percentage job growth over the next eight years:

Figure 19: Occupations with Fastest Projected Growth, Division No. 8, 2018-2026

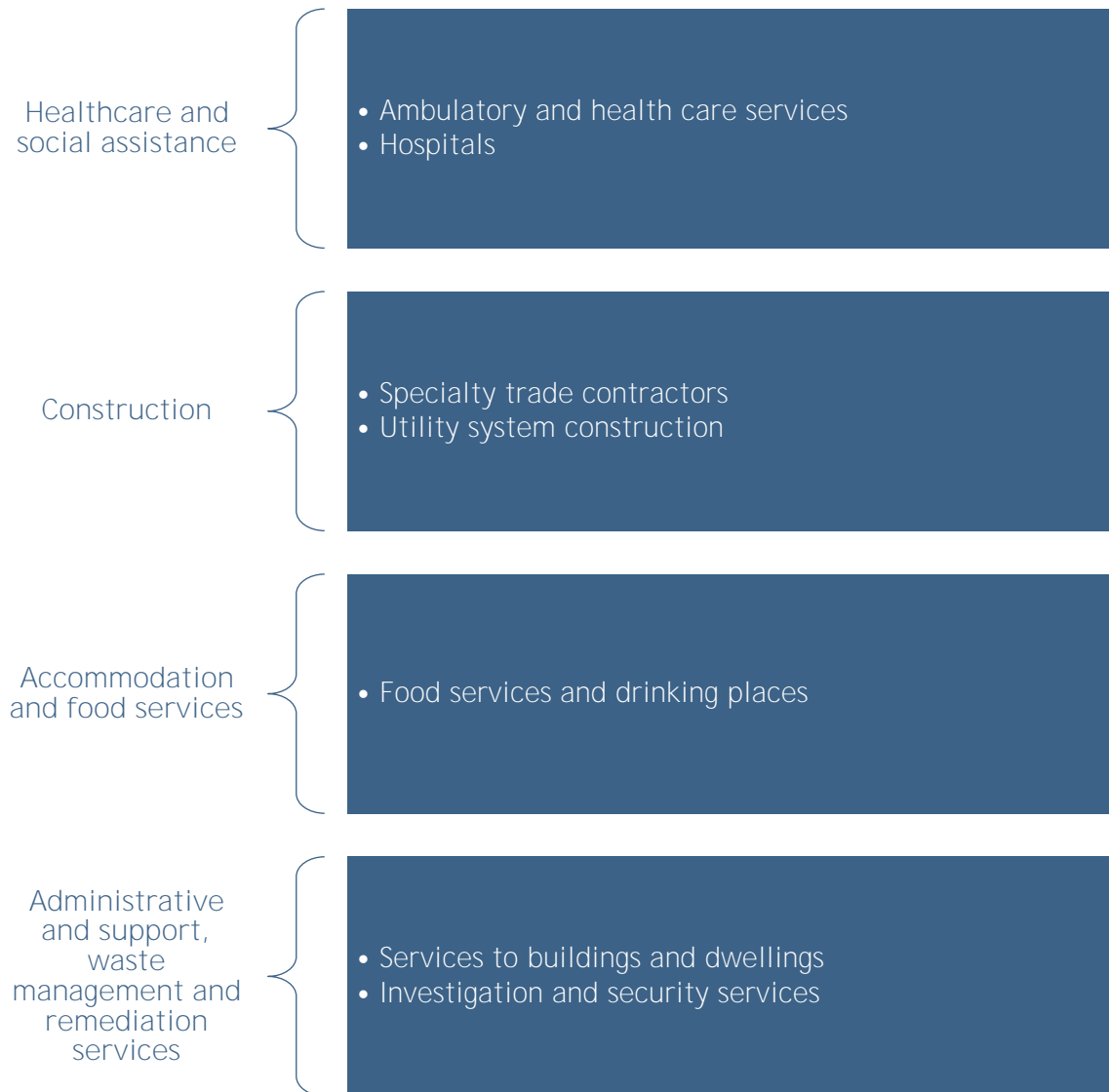


Source: EMSI 2018. Q4, Employed and Self-employed

6.2 Projected Employment Demand by Industry Sectors

In terms of industries, the largest projected employment growth over the next eight years is expected to occur within the healthcare and social assistance; construction; and, accommodation and food services sectors. This is partly due to the fact that these are already large and growing sectors in the region. The diagram below illustrates these in more detail.

Figure 20: Sectors and Sub-sectors with the Largest Projected Job Growth, 2018-2026

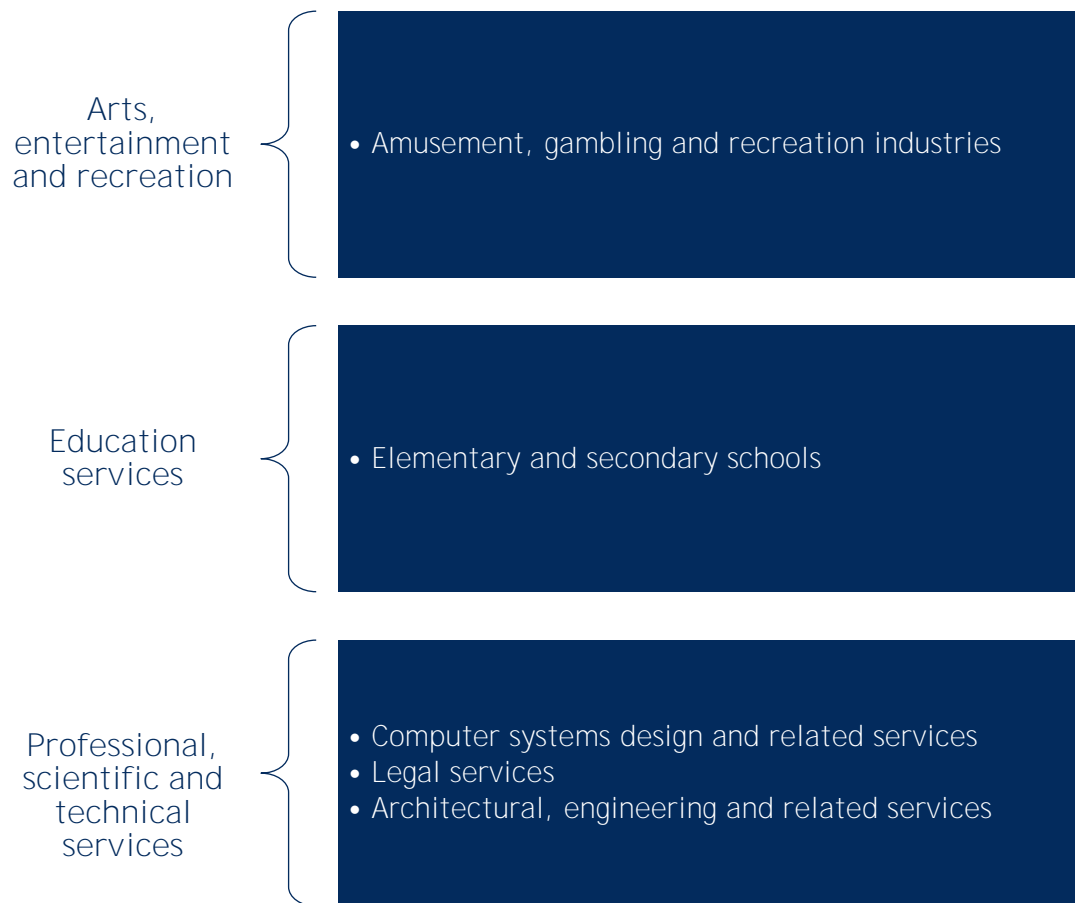


Source: EMSI 2018. Q4, Employed and Self-employed

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Moreover, one can look at which sub-sectors are expected to grow faster (based on percentage growth) than others, and the rest of the jobs market as a whole (projected to grow by 6% over the next eight years). The following major industry sectors will have the strongest percentage growth:

Figure 21: Industry Sectors/Industries with Largest % Projected Growth, Division No.8, 2018-2026



Source: EMSI 2018. Q4, Employed and Self-employed

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In terms of hard/soft skills and specific qualifications, Table 16 to 18 show the top in-demand skills and qualifications in the Central Alberta Region, Division No. 8. The top industries demanding these include; offices of physicians; employment agencies; all other support services; restaurants and grocery stores; site preparations contractors; management consulting services, and commercial banking.

Table 16: Top Hard Skills, by Number of Unique Postings, November 2017 and January 2019

Skill	Postings with Skill
Valid Driver's License	3,164
Merchandising	1,070
Active Directory (Microsoft)	827
Oil And Gas	612
Warehousing Logistics	599
Secondary Education	599
Accounting	540
Microsoft Access	504
Purchasing	503
Restaurant Operation	489
Good Driving Record	456
Customer Experience	444
Nursing	444
Disabilities	397
Service Delivery	338
Social Work	324
Business Development	318
Personal Protective Equipment Management	313
Continuous Improvement Process	310
Sales Management	292
Mental Health	291
Forklift Truck	275
Auditing	260
Financial Statements	253
Mechanical Aptitude	235
Cash Register	232
Packaging And Labeling	229

Source: EMSI 2019.Q1

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Table 17: Top Soft Skills, by Number of Unique Postings, November 2017 and January 2019

Skill	Postings with Skill
Management	4,130
Sales	3,371
Communications	3,213
Customer Service	3,046
Leadership	1,834
Problem Solving	1,522
Innovation	1,213
Time Management	1,096
Decision Making	782
Mentorship	563
Presentations	548
Critical Thinking	511
Coordinating	503
Prioritization	377
Clerical Works	351
Verbal Communication Skills	336
Negotiation	296
Sanitation	293
Trust	244
Creativity	240
Cleanliness	201
Service-Orientation	193
Cooperation	150
Listening Skills	149

Source: EMSI 2019.Q1

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Table 18: Top qualifications, by Number of Unique Postings, November 2017 and January 2019

Qualification	Postings with Qualification
Licensed Practical Nurse	207
Product Certification	66
Professional Engineer	48
Certified Social Workers Credential	43
Certified Accounting Technician	42
Registered Dental Assistant	34
Certificate In English Language Teaching To Adults (CELTA)	32
Certified Nursing assistant (CNA)	31
Certified Residential Specialist	31
Certified Financial Planner	29
Registered Practical Nurse	28
Certified Diversity Recruiter (CDR)	22
Certified Sales Associate	21
Nurse Practitioner	21
Online Certificate Status Protocol	21
Commercial Driver's License (CDL)	17
Certified Health Physicist	16
CompTIA Security+	16
Certified Compensation Professional	15
Certified Safety Auditor	15
Certified Public Accountant	13
Microsoft Certified Professional	12
Certified First Responder	9
Emergency Medical Responder	9
Project Management Professional Certification	9
Certified Engineering Technologist	8

Source: EMSI 2019.Q1

8 CONSULTATION WITH STAKEHOLDERS

The labour force profile completed for the Central Alberta Region was complemented with consultation of the Post-Secondary institutions (PSIs) in the region, in order to accomplish two things:

- 1) Confirm the information uncovered with regards to supply of skills and labour in the region, while at the same time uncover any other major skills groups where the institutions will be creating supply now and, in the future, based on their **understanding of the regional economy's needs.**
- 2) Uncover any programs or fields of study where the region is currently facing limits in capacity/ higher than expected demand for programming/and opportunities to develop new programming give the needs of the regional business community.

The consultation process entailed at-length conversations with representatives from Red Deer College, Olds College, and Burman University in order to understand how programming is developed. The institutions draw information about which current and future skills are required by businesses in the region from three main sources:

1. Alberta Ministry of Labour demand projections by occupations (using the NOCS).
2. Consultation with businesses advisory committees or industry liaisons; and
3. Internal research: Employer and prospective student surveys, and other market research.

The institutions are currently experiencing the highest demand within the following fields of study:

- Business: accounting, marketing, and human resources
- Health sciences; nursing/personal aid, pre-health science
- Agriculture & technology; horticulture, animal sciences, and smart/advanced agriculture.

These major fields of study represent the skills groups that will be increasingly available for businesses in the region. Meanwhile, the post-secondary institutions are continuously looking for innovative methods to deliver programming (i.e. online courses, co-op programs, innovation centers and research labs).

In terms of gaps in training/skills development, the institutions have identified areas targeted for increased capacity:

1. Creating opportunities in applied research for smart agriculture, and smart food production through partnership with the public and private sector.
2. Creating opportunities for applied research to meet industry needs in clean energy production, engineering and advanced manufacturing working with the public and private sector.
3. Creating opportunities to **“learn by doing”** such as co-op, volunteering, apprenticeship, industry-recognized class projects, and mentorship.
4. Creating business support and entrepreneurship incubation spaces in partnership with the public and private sector.

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9 RECOMMENDATIONS

The following recommendations arise out of the analysis of the demographics, labour force profile, future workforce assessment (based on projections), job postings analytics and consultation with the educational institutions.

Goal	Recommended Action
Increase % of females in STEM streams & occupations	Develop initiatives to encourage more females to pursue computer sciences and other STEM (science, technology, engineering, and mathematics) education paths, as these will be indispensable in emerging and future industries.
Reduce male youth unemployment rates	Target local retraining and skills upgrading programs to males (aged 15 - 24, and 25 and over), who currently have the highest unemployment rates.
Increase female labour force participation	Support/create a “women in business network”. Provide opportunities for women to share their experiences about returning to work, entrepreneurship and professional development. Facilitate “for women by women” workshops in digital marketing, e-commerce, and supporting women to become entrepreneurs and business owners.
Increase the number of post-graduates in STEM streams	The area has a lower than average number of residents with masters or PhD level education which will be required to support future innovation in local industry (through the use of artificial intelligence and disruptive technologies). Create and promote opportunities for students to solve local industry issues creatively through applied research, connecting Alberta graduate level students to local businesses.
Increase opportunities for applied research in the region	Foster idea creation and application to solve regional challenges through cooperative/applied research with industry while leveraging spaces such as Alternative Energy Lab (Red Deer College), and the W.J. Elliott Agricultural Mechanics Building (Olds College)
Increase business involvement in talent creation	Encourage businesses to partner with post secondary institutions to develop skills upgrading and job specific training programs for difficult to fill positions. Businesses need to increase their level of investment (both human and financial) in the education system in order to affect the evolution of the skills market and to prevent talent shortage constraints.
Youth retention and prevention of brain drain	Encourage businesses to partner with local governments to promote the regional economy and retain youth by sharing knowledge about local industries, jobs available, and skills for the future with soon-to-be high school and college graduates. Youth need to see career opportunities within their communities to help inform their educational choices.

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Goal	Recommended Action
<p>Increase information and knowledge sharing on skills, jobs and programs gaps</p>	<p>Build a system (or ecosystem) where knowledge and data can be shared regularly between government and education systems so as to better understand the skills being created, and where there may be opportunities to:</p> <ul style="list-style-type: none"> ■ increase programming to meet demand; ■ partner with industry in talent creation (and technology development). <p>Share this knowledge and data with employment and education services to better prepare students for the workforce. Students, adults transitioning within the workforce, and guidance counsellors need:</p> <ul style="list-style-type: none"> ■ information on job availability and where these jobs are located ■ required education and training for the jobs posted ■ tasks associated with particular jobs and ■ salary/wage information
<p>Augment experiential learning and mentorship to the unemployed and those not in the labour force.</p>	<p>Promote educational systems where all programs have a job component (linking students to local industries), and especially to connect vulnerable job seekers with practical employment opportunities.</p> <p>Support the creation of an in-house business incubator for student entrepreneurs to provide opportunities for funding, mentorship and collaboration (such as being proposed by Burman University - School of Business initiative).</p>
<p>Target resources in workforce development to better serve emerging industries that will drive economic growth.</p>	<p>Undertake a target industry study to:</p> <ul style="list-style-type: none"> ■ understand key regional growth sectors; ■ review the most prominent industry assets and ■ assess how to focus on the emerging and future industries that will drive regional economic growth.

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10 APPENDIX: DATA TABLES

Table 19 corresponds with Figure 6 (page 9), which compares the data using percentages.

Table 19: Educational Attainment of Residents Ages 25 to 64, 2018

Education Level	Division No. 8	Blackfalds	Sylvan Lake	Red Deer	Red Deer County
Total population 25 to 64 years	124,972	6,932	9,304	61,998	11,583
No certificate, diploma or degree	16,494	876	1,077	7,449	1,660
Secondary (high) school diploma or equivalency certificate	36,540	2,088	2,891	18,044	3,409
Postsecondary certificate, diploma or degree	71,938	3,967	5,336	36,505	6,513
Apprenticeship or trades certificate or diploma	18,043	1,296	1,568	7,725	1,879
Trades certificate or diploma	4,421	288	359	2,032	318
Certificate of Apprenticeship or Qualification	13,622	1,008	1,209	5,694	1,561
College or other non-university certificate or diploma	30,457	1,827	2,437	14,680	3,005
University certificate or diploma below bachelor level	3,570	277	222	1,810	275
University certificate, diploma or degree at bachelor level or above	19,867	568	1,109	12,289	1,354
Bachelor's degree	15,114	480	849	9,265	1,066
University certificate or diploma above bachelor level	1,021	30	67	651	67
Degree in medicine, dentistry, veterinary medicine or optometry	781	12	11	541	52
Master's degree	2,749	45	172	1,732	139
Earned doctorate	201	-	10	100	31

Source: Manifold SuperDemographics 2018

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Table 20 corresponds with Figure 7 (page 11), which compares the data using percentages.

Table 20: Major field of study, Residents ages 25 to 64, 2018

Classification of Instructional Programs (CIP) 2016	Division No. 8	Red Deer County	Red Deer	Sylvan Lake	Blackfalds
Total population aged 25 to 64 years in private households	124972	11583	61998	9304	6932
No postsecondary certificate, diploma or degree	52940	4897	25554	3942	2938
51. Health professions and related programs	12374	984	6475	834	586
52. Business, management, marketing and related support services	12190	1115	6569	921	673
47. Mechanic and repair technologies/technicians	6212	805	2696	417	407
46. Construction trades	5595	576	2549	477	418
13. Education	5217	491	2785	351	196
15. Engineering technologies and engineering-related fields	3611	322	1774	385	258
12. Personal and culinary services	3108	237	1608	248	120
48. Precision production	2974	309	1065	305	266
01. Agriculture, agriculture operations and related sciences	2336	590	563	94	112
14. Engineering	1987	113	1334	87	72
19. Family and consumer sciences/human sciences	1489	44	910	102	99
11. Computer and information sciences and support services	1381	63	811	89	50
45. Social sciences	1231	32	777	95	20
50. Visual and performing arts	1175	147	630	131	68
49. Transportation and materials moving	1146	100	516	138	135
22. Legal professions and studies	1118	150	501	69	93
44. Public administration and social service professions	1091	69	594	90	57
43. Security and protective services	864	43	366	85	55
42. Psychology	850	44	520	106	24
31. Parks, recreation, leisure and fitness studies	736	53	455	40	36
03. Natural resources and conservation	650	69	256	56	11

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Classification of Instructional Programs (CIP) 2016	Division No. 8	Red Deer County	Red Deer	Sylvan Lake	Blackfalds
39. Theology and religious vocations	570	42	276	20	29
09. Communication, journalism and related programs	499	21	386	2	12
26. Biological and biomedical sciences	481	35	303	22	11
24. Liberal arts and sciences, general studies and humanities	439	28	224	32	32
23. English language and literature/letters	382	34	241	10	29
04. Architecture and related services	303	22	141	42	29
30.01 Biological and physical sciences	293	33	139	2	0
41. Science technologies/technicians	259	41	129	7	29
54. History	255	20	187	6	5
40. Physical sciences	236	7	159	3	5
10. Communications technologies/technicians and support services	216	7	166	28	12

Source: Manifold SuperDemographics 2018

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Table 21 corresponds with Figure 15 (page 21), which compares the data using percentages.

Table 21: Occupations of Resident Labour Force, 2018

Occupations of Labour Force by Place of Residence	Division No. 8	Black-falds	Sylvan Lake	Red Deer	Red Deer County	Alberta
Total labour force 15 years and over	130,819	7,160	9,667	64,824	130,819	7,160
All occupations	128,355	7,058	9,426	63,589	128,355	7,058
Sales and service	26,655	1,060	1,893	15,503	26,655	1,060
Trades, transport and equipment operators and related	25,941	1,853	2,223	11,339	25,941	1,853
Business, finance and administration	17,197	1,116	1,252	8,660	17,197	1,116
Management	14,471	640	849	5,715	14,471	640
Education, law and social, community and government	12,045	502	889	6,512	12,045	502
Health	9,501	429	514	5,310	9,501	429
Natural resources, agriculture and related production occupations	8,007	595	747	2,774	8,007	595
Natural and applied sciences and related occupations	6,227	442	447	3,475	6,227	442
Manufacturing and utilities	5,660	295	402	3,028	5,660	295
Art, culture, recreation and sport	2,652	126	211	1,272	2,652	126
Occupation - Not applicable	2,464	102	241	1,235	2,464	102

Source: Manifold SuperDemographics 2018