



Regional Target Sector Study

City of Grande Prairie | County of Grande Prairie | MD of Greenview





Thank you to Alberta Labour and Immigration for your participation on the Steering Committee and in target sector/cluster selection.

Regional Target Sector Study

MAY 2021



McSweeney & Associates
201-900 Greenbank Road
Ottawa, ON K2J 1A8
T: 1-855-300-8548
E: consult@mcsweeney.ca
W: www.mcsweeney.ca



Table of Contents

Executive Summary.....	1
1. Economic Base Analysis.....	3
1.1. Employment Statistics Analysis	4
1.2. Location Quotient (LQ) Analysis.....	7
1.3. Shift Share Analysis.....	13
1.4. Business Patterns	15
1.5. Exporting Activity.....	16
2. Regional Labour Force Analysis.....	18
2.1. Workforce Assessment	18
2.2. Mapping Occupational Growth to Future Industries of Growth.....	20
3. Conclusions on Target Sectors & Clusters.....	24
3.1. Criteria for Selection.....	25
3.2. Target Sector Clusters.....	27
Appendix: Data Sources	36



List of Tables & Figures

Table 1: Employment Growth by Sector, the Region vs Alberta and Canada, 2015-2019	4
Table 2: Concentrated Subsectors in the Region Relative to Canada and Alberta, 2019.....	10
Table 3: Concentrated Industries in the Region, relative to Alberta and Canada, 2019.....	11
Table 4: Shift-Share Analysis: Competitive Industries, The Region, 2015-2019.....	13
Table 5: Export Dollars Flowing into the Region by Industry	17
Table 6: Largest Growing Employment Occupational Groups (2-digit NOCs), 2019.....	21
Table 7: Largest Growing Detailed Occupations (4-digit NOCs), 2015-2019	21
Table 8: Key Economic Clusters in the Region, 2019	26
Table 9: Key Metrics for the Renewable and Clean Technologies Cluster, 2019.....	28
Table 10: Key Metrics for the Forestry and Wood Product Manufacturing Cluster, 2019.....	29
Table 11: Key Metrics for the Health Care Services and Life Sciences Cluster, 2019	31
Table 12: Key Metrics for the Chemical Product Manufacturing Cluster, 2019	32
Table 13: Key Metrics for the Agriculture and Food Processing Cluster, 2019.....	34
Table 14: Key Metrics for the Transportation, Logistics & Warehousing Cluster, 2019.....	35
Figure 1: Top 15 Largest Subsectors by Number of Jobs, 2019	5
Figure 2: Concentrated Sectors in the Region relative to Canada and Alberta, 2019	8
Figure 3: Concentrated Industries with the Fastest (%) Projected Growth, 2019-2028	12
Figure 4: Employment by Major Occupational Groups, 2019.....	18
Figure 5: Avg. Hourly Wages, Highest and Lowest Earning Occupational Groups, 2019	19
Figure 6: Employment and Median Hourly Wage by Detailed Occupation, 2019.....	20
Figure 7: Fastest Growing Employment Occupations & Their Median Annual Wages, 2019-2028	22

EXECUTIVE SUMMARY

Every regional economy consists of a mix of industries that play a greater or lesser role in the overall number of jobs that exist and in the overall value of goods and services produced. This is important because operating within a sector strategy framework requires us to identify those industry sectors that are most crucial to growing the regional economy and that will provide the optimum mix of employment opportunities for career seekers.

Identifying and selecting target sectors typically includes gathering a combination of quantitative trend data (e.g. labour market data, industry growth patterns) and on-the-ground qualitative intelligence. At its most basic, it involves asking the following questions:

- What is happening at the macro-provincial level?
- Is the industry concentrated regionally?
- Is the industry sizable and growing?
- Does the industry meet the region's outcome expectations (skills development, diversification, earnings creation, wage levels, etc.)?
- Are there untapped assets in the region that could allow an industry to grow or emerge?

Understanding national and provincial development goals and clearly articulating how this jurisdiction's objectives align with those goals is an essential first step. Developing a clear strategy that summarizes the relationship between the Region¹, its development goals and provincial development priorities quite literally ensures that these are all on the same page. This alignment provides the necessary focus that will ensure the sector-specific strategies will find support and funding with higher levels of government.

Pertinent to this Region, the National Innovation Superclusters Initiative² has identified four specific areas of intense business activity:

- Digital technologies (big data, augmented reality, cloud computing, etc.)
- Plant proteins (plant-based meat alternatives and new food products)
- Advanced manufacturing (advanced robotics and 3D printing)
- Enhancing the use of artificial intelligence in supply chains

The Region includes City of Grande Prairie, County of Grande Prairie No.1, MD of Greenview No.16, Town of Beaverlodge, Town of Fox Creek, Town of Valleyview, Town of Sexsmith, Town of Wembley, Village of Hythe*, Horse Lake First Nation, and Sturgeon Lake Cree Nation

*In 2021, Hythe will become a hamlet in the County of Grande Prairie.

² Innovation Superclusters Initiative: <https://www.ic.gc.ca/eic/site/093.nsf/eng/home>

In Alberta, the provincial government has released a Recovery Plan³ focusing on key sectors to diversify and grow the economy, several of which align well with the Region's economy, namely:

- Energy (renewable, cleantech and value-added natural gas and petrochemicals)
- Agriculture and forestry value-added processing; and biotech and medical devices
- Technology (AI, big data, geonomics, and interactive media)
- Culture and Tourism
- Financial and Fintech

Currently, the Region has the following large, growing and concentrated employment sectors:

- ✓ Agriculture, forestry, fishing and hunting
- ✓ Transportation and warehousing
- ✓ Wholesale trade
- ✓ Real estate and rental and leasing

The Region is expected to see the fastest (%) growth in employment within the following sectors over the next eight years:

- ✓ Health care and social assistance
- ✓ Professional, scientific and technical services
- ✓ Arts, entertainment and recreation
- ✓ Real estate and rental and leasing
- ✓ Information and cultural industries

There are several fast-growing industries with competitive advantages in the Region, as identified by industry employment concentrations. For example, the analysis demonstrated the continued growth around agriculture and forestry value-added processing in the Region. Moreover, the analysis also showed fast growth and concentration of jobs in industries such as telecommunications; petrochemical, gas and chemical manufacturing; gambling; and other amusement industries⁴, which appear to be emerging with smaller absolute employment levels and gains.

³ Alberta's Recovery Plan 2020: <https://www.alberta.ca/recovery-plan.aspx>

⁴ Other amusement and recreation industries include golf courses, skiing facilities, marinas, recreational, sports and fitness centres, and bowling centres.

The following sector clusters are being suggested as targets for the Region, based on existing specializations, employment capacity, competitiveness, and growth trends:

1. Renewable energy and clean technologies
2. Forestry and wood product manufacturing
3. Health care and life sciences
4. Upstream and downstream chemical product manufacturing
5. Agriculture and food processing
6. Transportation, logistics and warehousing

1. ECONOMIC BASE ANALYSIS

This section investigates the local economy pertinent for the Region; that is, the jobs and businesses that drive the local economy. As such, the central focus of this section **will be the Region, benchmarked to Alberta and Canada.**

This section reports industry statistics related to exports, employment, and business growth for the economy with the aim of uncovering key industries that either exist or are emerging in the Region today.

The Statistics Canada “North American Industry Classification System” (NAICS) of classifying industries is used for this report. The largest groupings or aggregations of industries categories are called sectors, which are broken down into subsectors, which are then further broken down into industries. An example of this breakdown follows:



1.1. Employment Statistics Analysis

Between 2015 and 2019, the local economy of the Region shrank by **1,232 jobs (-2%) to a total of 66,118**. The Region's employment level decreased slightly more than the provincial change (0.8%); while the nation grew by 7.5%. Table 1 indicates the percentage of job growth, between 2015 and 2019, by sector for each of these economies. Note that negative numbers are indicated by red text.

In the Region, health care and agriculture-related industries added the most jobs in absolute terms, while arts, entertainment and recreation were the fastest growing (by % change). The fastest (%) growth sectors nationally and provincially were health care and social assistance; and educational services. These were followed by professional, scientific and technical services for the nation, and arts, entertainment and recreation for the province.

Table 1: Employment Growth by Sector, the Region vs Alberta and Canada, 2015-2019

NAIC	Description	Jobs in the Region 2019	The Region % Change	Alberta % Jobs Change	Canada % Jobs Change
11	Agriculture, forestry, fishing and hunting	2,558	17.3%	6.1%	(3.9%)
21	Mining, quarrying, and oil and gas extraction	5,592	(15.1%)	(14.4%)	(5.4%)
22	Utilities	299	(5.4%)	(4.4%)	10.6%
23	Construction	7,079	(12.1%)	(15.5%)	6.4%
31-33	Manufacturing	2,564	(14.6%)	(5.9%)	5.5%
41	Wholesale trade	3,574	8.6%	(6.8%)	4.7%
44-45	Retail trade	7,760	(0.1%)	1.7%	3.3%
48-49	Transportation and warehousing	4,437	1.5%	4.8%	8.3%
51	Information and cultural industries	459	(20.0%)	(5.0%)	1.2%
52	Finance and insurance	1,562	12.8%	2.6%	5.4%
53	Real estate and rental and leasing	2,060	2.4%	(0.1%)	2.9%
54	Professional, scientific and technical services	3,216	1.3%	(5.1%)	14.0%
55	Management of companies	192	(12.7%)	6.7%	6.0%
56	Administrative and support, waste management and remediation services	2,712	7.4%	(3.3%)	7.4%
61	Educational services	3,459	7.6%	11.1%	10.0%
62	Health care and social assistance	4,978	9.6%	16.1%	12.0%
71	Arts, entertainment and recreation	1,103	38.6%	15.4%	17.7%
72	Accommodation and food services	4,999	(8.7%)	(3.4%)	8.7%
81	Other services (except public administration)	4,188	(5.2%)	(6.5%)	1.8%
91	Public administration	2,530	(6.6%)	3.8%	9.9%
X0	Unclassified	798	7.4%	10.7%	13.4%
All	Total	66,118	(1.8%)	(0.8%)	7.5%

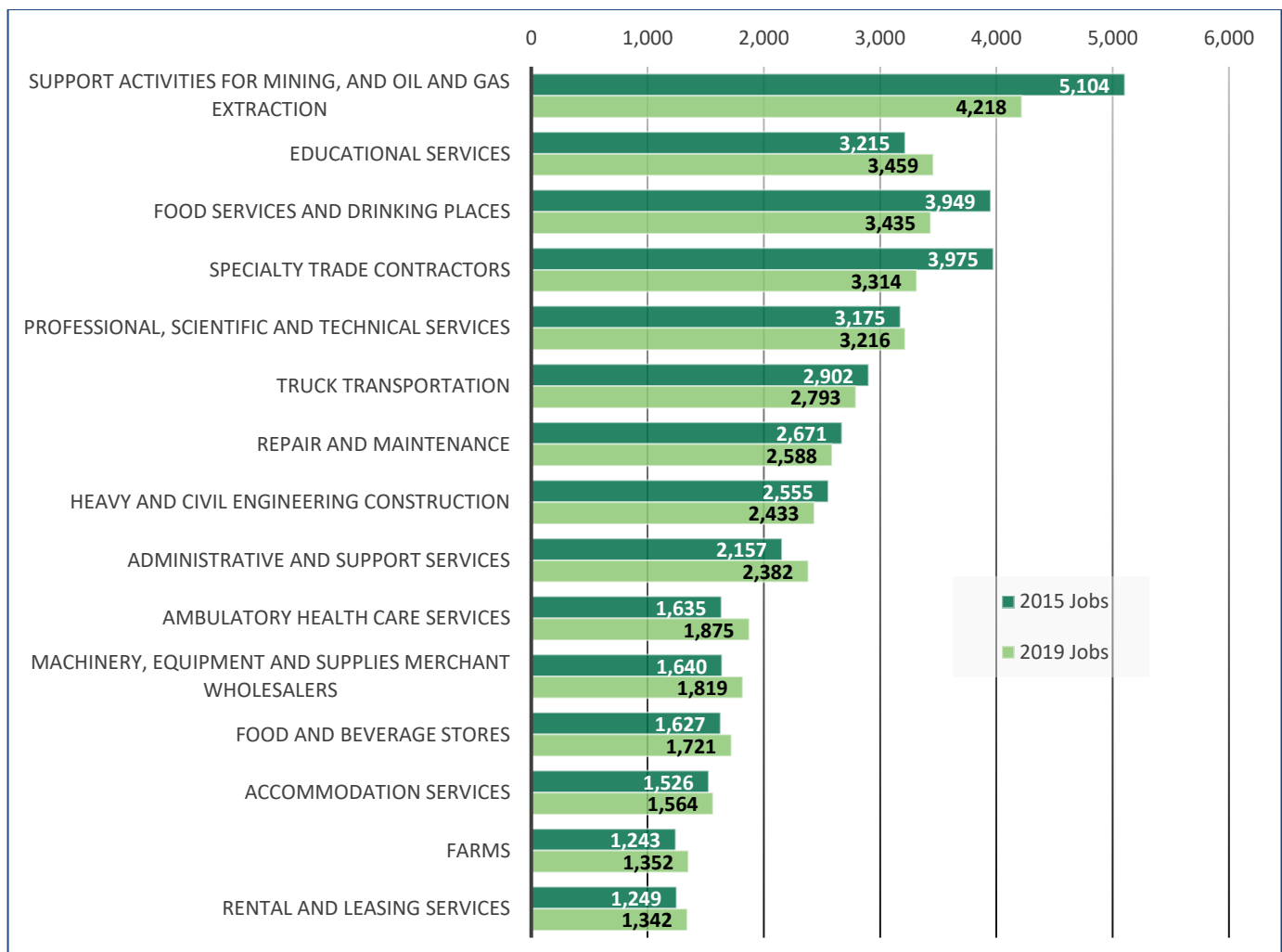
Source: EMSI Analyst 2020.Q1 and Statistics Canada. Table 14-10-0202-01 Employment by industry, annual. DOI: <https://doi.org/10.25318/1410020201-eng>



To better understand how each sector supports jobs, Figure 1 shows the **largest subsectors in the Region** by number of jobs in 2019. Jobs in 2015 are also shown to illustrate employment change. The subsectors with the largest employment growth are somewhat different from the largest subsector (as shown below) The largest growing subsectors include:

- Educational services
- Ambulatory health care services
- Administrative and support services
- Amusement, gambling and recreation industries
- Machinery, equipment and supplies merchant wholesalers
- Transportation equipment manufacturing
- Forestry and logging

Figure 1: Top 15 Largest Subsectors by Number of Jobs, 2019



Source: EMSI Analyst, 2020.1 – Employees and Self-Employed

Based on EMSI Analyst data on employment by industry, the following can be concluded about employment at the industry level for the economy of the Region.

Largest Growth Industries by Total Employment	Recent Fast-Growing Industries by Employment Growth (%)	Industries with Largest Projected Employment Growth
<ol style="list-style-type: none"> 1. Other amusement and recreation industries 2. Construction, forestry, mining, and industrial machinery, equipment and supplies wholesalers 3. Logging 4. Agencies, brokerages and other insurance-related activities 5. Investigation and security services 6. Local messengers and local delivery 7. Services to buildings and dwellings 8. Offices of physicians 9. Computer systems design and related services 10. Farms 11. Automotive repair and maintenance 12. Other professional, scientific and technical services 	<ol style="list-style-type: none"> 1. Other heavy and civil engineering construction 2. Local messengers and local delivery 3. Computer systems design and related services 4. Support activities for farms 5. Investigation and security services 6. Other amusement and recreation industries 7. Agencies, brokerages and other insurance-related activities 8. Other professional, scientific and technical services 9. Logging 10. Offices of physicians & other health practitioners 11. Depository credit intermediation 12. Construction, forestry, mining, and industrial machinery, equipment and supplies merchant wholesalers 	<ol style="list-style-type: none"> 1. Construction, forestry, mining, and industrial machinery, equipment and supplies wholesalers 2. Commercial and industrial machinery and equipment rental and leasing, repair and maintenance 3. Other amusement and recreation industries 4. Automotive repair and maintenance 5. Hospitals 6. Investigation and security services 7. Specialized freight trucking 8. Local messengers and local delivery 9. Offices of physicians and health practitioners 10. Services to buildings and dwellings 11. Agencies, brokerages and other insurance-related activities 12. Traveller accommodations

Notes: **Largest Growth Industries by Total Employment** is defined as the top largest industries by number of jobs, not including industries that are solely funded by the government such as primary/secondary education. **Recent Fast-Growing Industries by Employment Growth (%)** is defined as industries that had the largest percentage job growth in the economy, including only industries that grew jobs by 0.01 % of total jobs in 2019 (66 new jobs) between 2015 and 2019. Industries indicated here that are not included in the first category can signal emerging industries. **Industries with Largest Projected⁵ Growth Employment** is defined as the industries projected to have the largest absolute job growth over the next eight years.

⁵ Projections are calculated using robust industry data. First, simple short-, mid-, and long-term trend lines are made for every industry and municipality based on the historical data. Those lines are then averaged and dampened to prevent extreme change. EMSI then incorporates national industry projections (COPS national employment projections) as well as provincial and regional projections provided by province labour market organizations to adjust these numbers again.

1.2. Location Quotient (LQ) Analysis

The economic base analysis helps determine which economic activities bring money in, and where money might be leaving the economy. While the actual flow of money moving in and out of the community would be the most accurate means of describing the economic base of the area, data or statistics for this form of cash flow analysis are not readily available. As such, a proxy for cash flow is required, and the most common substitute is employment which uses an economic base analysis tool called “Location Quotient Analysis”. This method compares the level of employment concentration (or specialization) in a relevant localized economy (i.e. the Region) to the level of employment concentration in one or more benchmark areas. In other words, does the local economy have proportionately more or fewer employees in specific industries than the benchmark area?

“Benchmarking” employment in the Region to Alberta provides information on:

- The extent to which the Region is producing all of the goods or services required for consumption locally (this potentially identifies opportunities to replace the imports with locally provided goods and services).
- Whether the economy of the Region is producing goods or services in excess of quantities required for local consumption, indicating a high degree of development and specialization (or industry concentration) that results from the goods or services being consumed by non-residents.

A location quotient of between 0.75 and 1.25 generally indicates the local economy is self-sufficient in that industry. A 1.0 would indicate the exact same proportion of that industry’s jobs to all local jobs as to that of the benchmark, in this case, Alberta and Canada. A location quotient of less than 0.75 usually indicates a lack of self-sufficiency, requiring the importation of goods or services, as there is insufficient local employment to produce the required goods/services. A location quotient of greater than 1.25 usually indicates the industry has more local employment than is required to sustain the needs of the community. Therefore, it will export its goods or services and bring money into the community.

1.2.1. Location Quotient Analysis by Sector

Location Quotients (LQ) at the sectoral level help to identify overarching strengths of the Region. Scores above 1.25 indicate a high concentration relative to the benchmark. Figure 2 illustrates the level of concentration of all sectors in the Region relative to the rest of Canada and the province.

Figure 2: Concentrated Sectors in the Region relative to Canada and Alberta, 2019



Source: Total number of jobs 2019 per sector are estimated by EMSI Analyst. Location quotients are calculated by McSweeney & Associates.

The location quotient at the highest level (sectors) indicates that the Region has the strongest specializations relative to the nation and the province in the following areas:

- Mining, quarrying, and oil and gas extraction
- Agriculture, forestry, fishing and hunting
- Real estate and rental and leasing
- Other services (except public administration)
- Transportation and warehousing

The smallest location quotients indicate areas where the Region lacks self-sufficiency, requiring the importation of goods or services, as there is insufficient local employment to produce the required goods/services. The following sectors represent the largest opportunities for import substitution:

- Manufacturing
- Professional, scientific and technical services
- Information and cultural industries
- Management of companies and enterprises

It is also important to note here that Region has relatively lower levels of employment in public administration, health care and utilities compared to national employment levels. This may indicate gaps in services and infrastructure.

1.2.2. Location Quotient Analysis by Subsectors

Table 2 illustrates the **subsector** (3-digit NAICS) concentrations in the Region's economy relative to Canada and Alberta. Subsectors are an important lens as they help to uncover a lower level of specialization and potential clusters. Within the context of Alberta, the employment concentrations illustrate that the Region is a hub for paper and wood product manufacturing. This cluster (forestry, wood, paper, logging) also strongly supports employment concentrations in truck transport.

The Region also has specializations related to machinery equipment and parts wholesale trade that support various industries in the area (i.e. mining, agriculture, construction, etc.). Machinery wholesale is complemented by repair and maintenance, as well as rental and leasing.

Furthermore, the data also illustrates that the Region has employment concentrations in support services for oils and gas extraction as well as heavy and civil engineering construction. However, pipeline transportation, oil and gas extraction, and petroleum product wholesalers are not fully specialized relative to the rest of Alberta. On the other hand, forestry and agriculture; and their related services and value-added processing represent a significant number of jobs and a specialization both nationally and provincially.

Table 2: Concentrated Subsectors in the Region Relative to Canada and Alberta, 2019

Description	# Jobs in Region	% of Jobs in Region	LQ Canada	LQ Alberta
Forestry and logging	809	1.2%	7.9	9.6
Paper manufacturing	231	0.3%	1.3	4.5
Support activities for agriculture and forestry	387	0.6%	4.5	3.9
Wood product manufacturing	784	1.2%	2.5	3.2
Transportation equipment manufacturing	194	0.3%	0.3	2.9
Rental and leasing services	1,342	2.0%	5.5	2.7
Support activities for mining, and oil and gas extraction	4,218	6.4%	14.4	2.5
Truck transportation	2,793	4.2%	2.7	2.1
Heavy and civil engineering construction	2,433	3.7%	4.2	2.0
Repair and maintenance	2,588	3.9%	2.8	1.8
Machinery, equipment and supplies merchant wholesalers	1,819	2.8%	2.3	1.8
Motor vehicle and motor vehicle parts and accessories wholesalers	429	0.6%	1.9	1.7
Accommodation services	1,564	2.4%	2.2	1.7
Non-store retailers	256	0.4%	1.2	1.5
Gasoline stations	551	0.8%	1.9	1.5
Aboriginal public administration	261	0.4%	1.3	1.5
Couriers and messengers	316	0.5%	1.2	1.4
Waste management and remediation services	329	0.5%	1.8	1.3
Electronics and appliance stores	246	0.4%	1.2	1.3
Motor vehicle and parts dealers	1,108	1.7%	1.4	1.2
Pipeline transportation	183	0.3%	9.1	1.2
Petroleum and petroleum products merchant wholesalers	167	0.3%	3.1	1.0
Farms	1,352	2.0%	1.4	1.0
Oil and gas extraction	1,313	2.0%	6.9	0.9

Source: 2019 jobs per sub-sector by EMSI Analyst 2020.Q1. Location quotients are calculated by McSweeney & Associates.

1.2.3. Location Quotient Analysis by Industry

This sub-section investigates employment concentrations at a more granular level – the industry groups. The following table highlights industries that are most concentrated in the Region's economy relative to the rest of Alberta and that account for a minimum of 0.1% of jobs in the economy. After removing retail (population serving) industries, the table below shows the remaining industries that are of interest in terms of specialization, diversification, and furthering workforce and economic development.

Table 3: Concentrated Industries in the Region, relative to Alberta and Canada, 2019

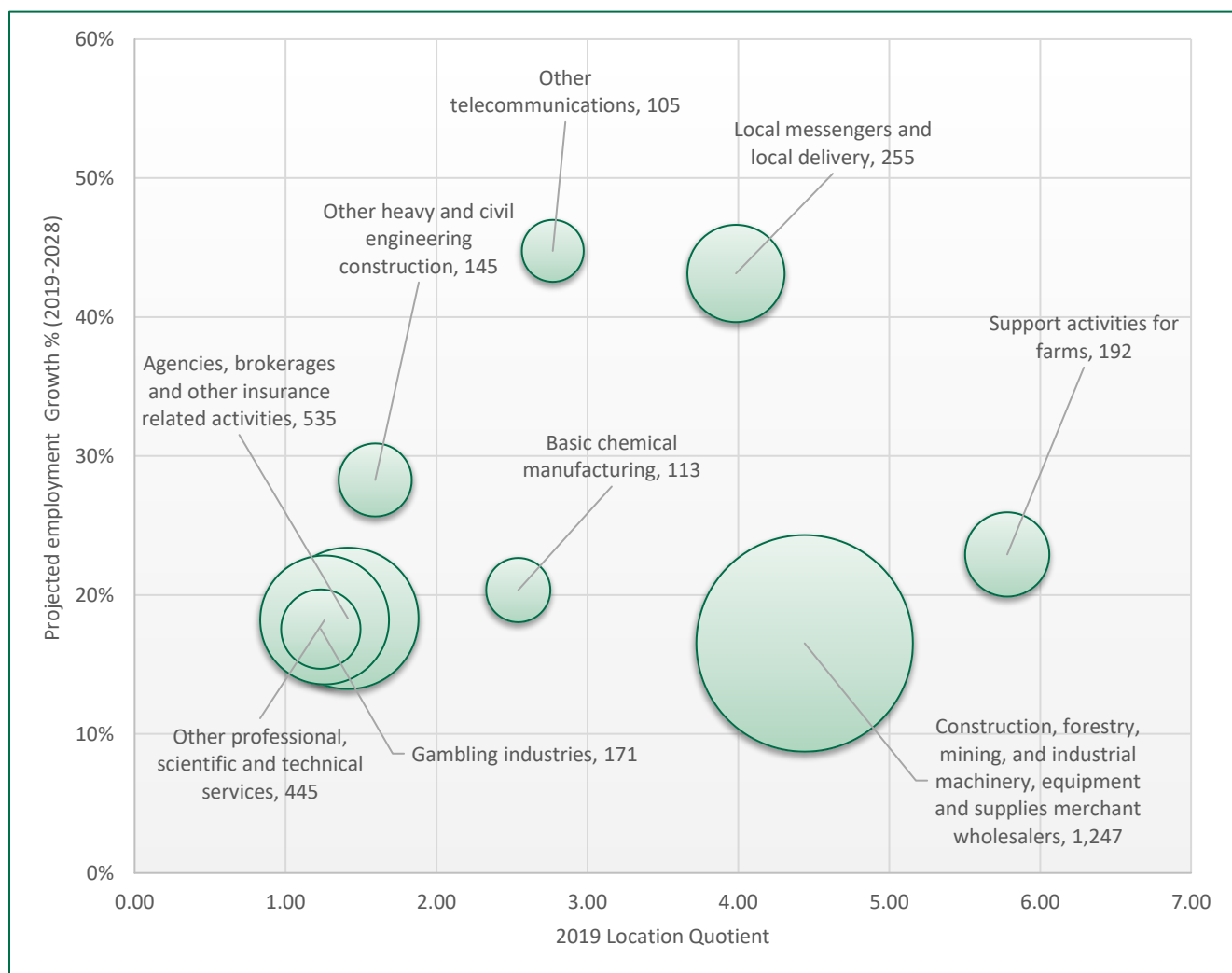
Description	# Jobs in Region	% of Jobs in Region	LQ Canada	LQ Alberta
Logging	793	1.2%	8.2	9.7
Pulp, paper and paperboard mills	231	0.3%	3.0	6.6
Support activities for forestry	195	0.3%	3.7	5.0
Sawmills and wood preservation	483	0.7%	4.1	4.9
Veneer, plywood and engineered wood product manufacturing	234	0.4%	3.8	4.4
Local messengers and local delivery	255	0.4%	4.0	3.9
Support activities for farms	192	0.3%	5.8	3.2
Commercial and industrial machinery and equipment rental and leasing	1,143	1.7%	9.7	3.2
Consumer goods rental	102	0.2%	2.4	3.1
Specialized freight trucking	2,144	3.2%	6.1	2.8
Other telecommunications	105	0.2%	2.8	2.7
Recreational vehicle (RV) parks and recreational camps	106	0.2%	1.6	2.6
Support activities for mining, and oil and gas extraction	4,218	6.4%	14.4	2.5
Highway, street and bridge construction	594	0.9%	3.1	2.3
Construction, forestry, mining, and industrial machinery, equipment and supplies wholesalers	1,247	1.9%	4.4	2.2
Other motor vehicle dealers	216	0.3%	2.6	2.1
Commercial and industrial machinery and equipment repair and maintenance	1,355	2.0%	5.7	2.1
Utility system construction	1,654	2.5%	6.8	2.0
Rooming and boarding houses	178	0.3%	7.0	2.0
Electronic and precision equipment repair and maintenance	140	0.2%	2.3	1.8
New motor vehicle parts and accessories merchant wholesalers	257	0.4%	2.0	1.8
Remediation and other waste management services	161	0.2%	2.5	1.8
Motor vehicle merchant wholesalers	172	0.3%	2.0	1.8
Automotive repair and maintenance	1,031	1.6%	2.0	1.7
Support activities for road transportation	111	0.2%	1.0	1.7
Agencies, brokerages and other insurance related activities	535	0.8%	1.4	1.7
Traveller accommodation	1,279	1.9%	2.1	1.6
Pipeline transportation of crude oil	125	0.2%	11.8	1.5
Other heavy and civil engineering construction	145	0.2%	1.6	1.4
Basic chemical manufacturing	113	0.2%	2.5	1.3
Specialty (except psychiatric and substance abuse) hospitals	178	0.3%	1.2	1.3
Community colleges and C.E.G.E.P.s	341	0.5%	0.8	1.3
Office supplies, stationery and gift stores	136	0.2%	1.4	1.2
Child day-care services	639	1.0%	0.9	1.2
Other professional, scientific and technical services	445	0.7%	1.3	1.2
Waste treatment and disposal	120	0.2%	2.3	1.2

Source: 2019 jobs per industry by EMSI Analyst 2020 Q1. Location quotients are calculated by McSweeney & Associates.

From this table, not all industries are growing or expected to continue growing over the next eight years. Figure 3 highlights those industries that are currently specialized/concentrated and projected to have the fastest growth, as measured by the percentage change in employment, over the next eight years. The size of the bubble represents the current employment level.

Figure 3 indicates that important existing strengths such as other heavy and civil engineering construction; agencies, brokerages and other insurance-related activities; other professional, scientific and technical services; and support activities for farms will continue on their current growth path. Moreover, the data also indicates that industries such as other telecommunications; basic chemical manufacturing; and gambling industries are emerging with smaller absolute employment gains.

Figure 3: Concentrated Industries with the Fastest (%) Projected Growth, 2019-2028



Source: EMSI Analyst 2020 Q1. Employees and Self-employed.

1.3. Shift Share Analysis

Shift-share analysis compares the local employment growth/decline of regional jobs by industry to the employment growth/decline of that industry within Canada, as well as the job growth overall for Canada. More specifically, this analytical tool examines the job growth/decline by attributing growth, stability, or decline in particular industries over time due to three distinct forces:

- Canadian economic growth: regional job growth/decline that is attributable to the growth, stability, or decline of the entire Canadian economy.
- Industry growth: regional job growth/decline that is attributable to the growth, stability, or decline of that particular economic activity in the Canadian economy (with the economic growth component removed).
- Local economic growth: local job growth/decline that is attributable to the local economy because it is growing/declining more or less quickly than jobs in the larger economy (with the Canadian economic and industry growth components removed).

This tool, when correctly interpreted, provides greater descriptive power than the location quotient method. It has been applied to NAICS Industries using place of work statistics. Shift-share analysis allows the examination of changes through time versus the static snapshot of location quotients.

Table 4 allocates employment changes of these industries to national, industry and regional/local effects. An example of how to interpret the data follows the table. Farms and Logging appear to be the most competitive industries in the Region based on employment growth.

Table 4: Shift-Share Analysis: Competitive Industries, The Region, 2015-2019

Industry	Jobs Change	Ind Mix Effect	Nat Growth Effect	Competitive Effect
Logging	159	(101)	45	215
Farms	109	(162)	88	184
Construction, forestry, mining, and industrial machinery, equipment and supplies merchant wholesalers	171	(81)	76	176
Other amusement and recreation industries	194	41	32	121
Agencies, brokerages and other insurance-related activities	158	13	27	118
Support activities for farms	86	(17)	8	95
Oil and gas extraction	(38)	(227)	95	93
Investigation and security services	143	29	21	93

Industry	Jobs Change	Ind Mix Effect	Nat Growth Effect	Competitive Effect
Computer systems design and related services	114	28	10	76
Other professional, scientific and technical services	91	(9)	25	75
Other heavy and civil engineering construction	90	16	4	71
Depository credit intermediation	77	(24)	34	67
Elementary and secondary schools	260	28	165	67
Grocery stores	76	(75)	91	60
Other miscellaneous store retailers	90	24	9	57
Local messengers and local delivery	128	64	9	55
Urban transit systems	62	(1)	8	54
Chemical (except agricultural) and allied product merchant wholesalers	49	(13)	10	53

Source: EMSI Analyst 2020.Q1 – Employees and self-employed

An example of how to interpret the table follows:

Computer systems design and related services
industry grew by
114 jobs between 2015 and 2019. This may be
attributed to the following:

National Economy	Industry Overall	Competitive Effects
10 jobs can be attributed to overall growth in the national economy.	28 jobs in this industry can be attributed to employment decline in the industry nationally.	Thus, 76 jobs in the industry in the Region economy can be attributed to a “local growth effect”, since 10 new jobs can be attributed to the growth of the national economy, and 28 jobs gained due to industry growth nationally (i.e. $10+28+76 = 114$)



1.4. Business Patterns

This sub-section illustrates the number and size of employers by industry in the Region. The data in this section comes from Statistics Canada's Canadian Business Patterns dataset. Employers in this dataset include businesses in the Business Register, which are all Canadian businesses that meet at least one of the three following criteria:

- Have an employee workforce for which they submit payroll remittances to Canada Revenue Agency; or
- Have a minimum of \$30,000 in annual revenue; or
- Are incorporated under a federal or provincial act and have filed a federal corporate income tax form within the past three years.

As of June 2019, the Region had 16,055 businesses, which can be divided into those with employees (6,281 businesses, or 39%) and contractors or owner-operated businesses (9,774 business, or 61%). This would indicate that there are many small contractors/start-up/home-based businesses with an indeterminate level of employment in the Region. The following sectors capture most businesses (with and without employees) in the Region; together they account for 70% of all businesses:

1. Real estate and rental and leasing
2. Construction
3. Agriculture, forestry, fishing and hunting
4. Professional, scientific and technical services
5. Other services (i.e. repair and maintenance; personal, household, and laundry; religious, grant making and civic organizations)
6. Transportation and warehousing
7. Mining, quarrying, and oil and gas extraction

The industries that had the largest total number of businesses were:

- Lessors of real estate
- Farms (primarily beef cattle ranching and feedlots; and oilseed grain farming)
- Support activities for mining, and oil and gas extraction
- Management, scientific and technical consulting services
- Commercial and industrial machinery and equipment repair and maintenance
- Specialized freight trucking
- Other financial investment activities

The industries that had the largest total number of businesses, **with employees** were:

- Support activities for mining, and oil and gas extraction
- Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance
- Building equipment contractors
- Specialized freight trucking
- Management, scientific and technical consulting services
- Full-service restaurants and limited-service eating places
- General freight trucking

1.5. Exporting Activity

This sub-section investigates export sales by industry. Exports show the amount of money that is spent by industries located outside the Region (domestically and internationally) in exchange for goods or services produced by an industry located in the Region.

Listed below are the largest drivers of external revenues into the Region. The Region's first and second-largest generators of export dollars flowing into the Region are oil and gas extraction and its support activities. After that, specialized freight trucking, paper product manufacturing, and commercial/industrial machinery and equipment rental and leasing follow.

Table 5: Export Dollars Flowing into the Region by Industry

NAICS	Industry	Exports Dollars	% of Total
2111	Oil and gas extraction	\$1,417,878,125	15.04%
2131	Support activities for mining, and oil and gas extraction	\$788,697,009	8.37%
4842	Specialized freight trucking	\$653,495,545	6.93%
3221	Pulp, paper and paperboard mills	\$386,385,020	4.10%
5324	Commercial and industrial machinery and equipment rental and leasing	\$342,233,987	3.63%
2371	Utility system construction	\$316,766,430	3.36%
3241	Petroleum and coal product manufacturing	\$280,227,826	2.97%
3211	Sawmills and wood preservation	\$238,281,230	2.53%
1110	Farms	\$195,941,311	2.08%
3251	Basic chemical manufacturing	\$181,877,814	1.93%
3212	Veneer, plywood and engineered wood product manufacturing	\$166,398,509	1.76%
8113	Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance	\$165,612,393	1.76%
1133	Logging	\$131,248,152	1.39%
4172	Construction, forestry, mining, and industrial machinery, equipment and supplies merchant wholesalers	\$130,094,583	1.38%
2382	Building equipment contractors	\$119,569,367	1.27%

Source: 2020.Q1 EMSI Analyst, based on 2015 National Input-Output Tables by StatsCan

Similarly, in Alberta, according to the most recently available data to the Region⁶, the industries generating the largest amount of export revenues are:

- Oil and gas extraction (\$86,040,485,078)
- Petroleum and coal product manufacturing (\$26,040,373,642)
- Utility system construction (\$8,383,405,185)
- Support activities for mining, and oil and gas extraction (\$6,180,455,151)
- Farms (\$6,875,780,707)
- Specialized freight trucking (\$6,013,951,630)

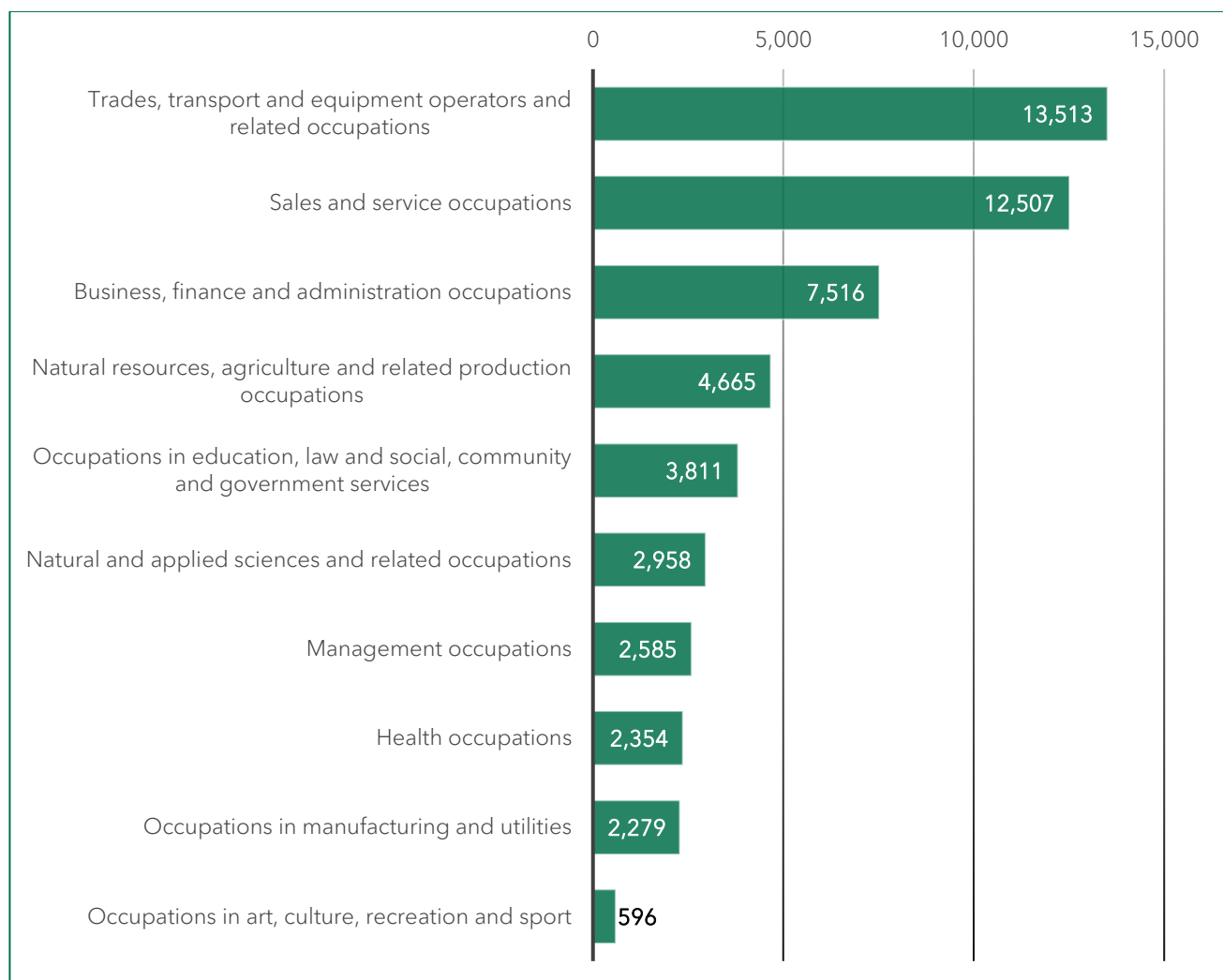
⁶ 2020.Q1 EMSI Analyst, based on 2015 National Input-Output Tables by Statistics Canada.

2. REGIONAL LABOUR FORCE ANALYSIS

2.1. Workforce Assessment

The following table illustrates the distribution of the Region's workforce by major occupational group (1-digit NOC⁷ code). **Trades, transport and equipment operators and related occupations continued to be the largest occupational group in the Region as of 2019, accounting for over 25% percent of all employment.** Employment for the largest and smallest occupational groups is shown in Figure 4.

Figure 4: Employment by Major Occupational Groups, 2019



Source: 2020.Q1 EMSI Analyst - Employees only

⁷ National Occupational Classification: <https://www.canada.ca/en/employment-social-development/services/noc.html>

Figure 5 illustrates the Region's average hourly wages by occupational group. Average hourly earnings are estimated to be \$30.29 in the Region. **Among the top 5 occupational groups, which represent 80% of employment, only three occupational groups earned below the average hourly wage: sales and service occupations; occupations in art, culture, recreation and sport; and business, finance and administration.**

The management occupational group earned an average of more than 1.5 times the Region's average hourly wages. Managers in natural resources production and fishing; utilities managers; and senior managers in financial, communications and other business services were the highest-paid managers in this group.

Health care practitioners and technical occupations include some of the highest-paid occupations in the Region, but **many technicians also have an hourly wage below the average, such as licensed practical nurses; medical laboratory technicians and pathologists' assistants; and nurse aides, orderlies, and patient service associates.**

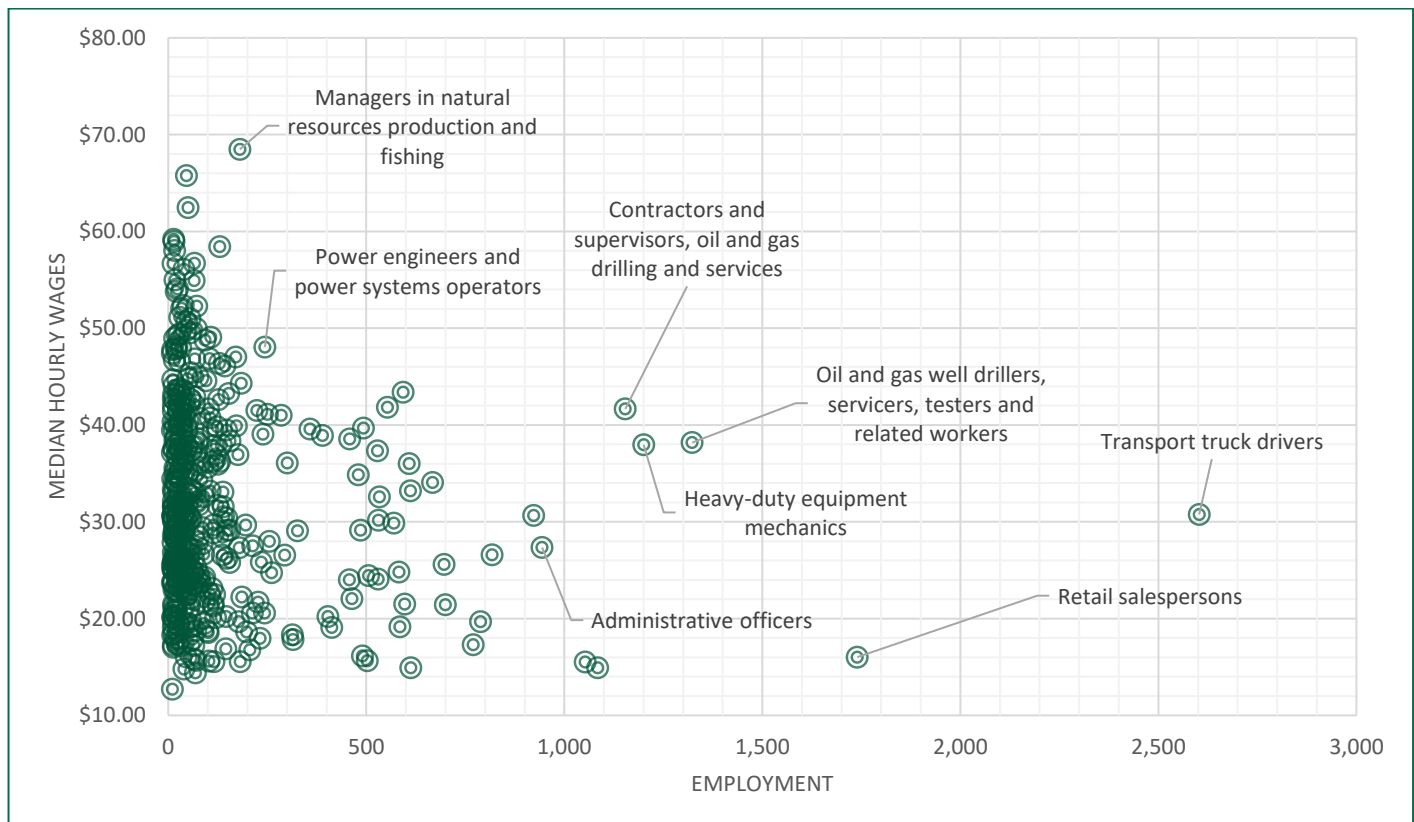
Figure 5: Avg. Hourly Wages, Highest and Lowest Earning Occupational Groups, 2019



Source: 2020.Q1 EMSI Analyst - Employees only

There were 32 detailed occupations in the Region with at least 500 employees in each in 2019 (based on the 4-digit National Occupations Classification). Combined, they account for over 47% of jobs in the region. There are 132 occupations which have median annual wages above \$75,000. Combined, they account for just over 29% of employment. The following scatter chart, Figure 6, illustrates that most of the detailed occupations have relatively modest employment and hourly wages but highlights the outliers on each scale.

Figure 6: Employment and Median Hourly Wage by Detailed Occupation, 2019



Source: 2020.Q1 EMSI Analyst - Employees only

2.2. Mapping Occupational Growth to Future Industries of Growth

The following minor occupational groupings (2 digit- NOCS) represent the largest growing occupational demand in the Region over the past five years. Table 6 illustrates that at least two of the largest growing occupational groups are directly related to manufacturing.

Of the largest growing occupational groups, professional occupations related to natural and applied sciences, and health (except nursing) have the highest median annual wages.

Table 6: Largest Growing Employment Occupational Groups (2-digit NOCs), 2019

Description	2019 Jobs	% of Total	2015 - 2019 Change	2015 - 2019 % Change	2019 Median Wages
Transport and heavy equipment operation and maintenance	4,404	8.22%	283	7%	\$61,655
Administration and financial supervisors	2,421	4.52%	233	11%	\$57,356
Processing, manufacturing and utilities supervisors and central control operators	1,337	2.49%	177	15%	\$89,948
Supervisors and technical occupations in natural resources, agriculture and related production	3,021	5.64%	117	4%	\$80,639
Occupations in front-line public protection services	355	0.66%	92	35%	\$85,855
Professional occupations in education services	1,301	2.43%	70	6%	\$76,527
Maintenance and equipment operation trades	3,753	7.00%	67	2%	\$76,439
Processing and manufacturing machine operators	578	1.08%	43	8%	\$60,396
Professionals in natural and applied sciences	908	1.69%	39	4%	\$100,434
Professionals in health (except nursing)	254	0.47%	37	17%	\$90,325
Paraprofessional occupations in legal, social, community and education services	751	1.40%	33	5%	\$46,604

Source: 2020.Q1 EMSI Analyst - Employees only

The following table illustrates the detailed occupations (4-digit NOCs) with the largest absolute growth in the Region, as well as the relative concentration of these occupations as compared to the nation (LQ Canada). **The occupations with the largest growth are related to oil and gas well servicing and testing; transportation; industrial machinery and equipment repair and maintenance; and petrochemical processing.**

Table 7: Largest Growing Detailed Occupations (4-digit NOCs), 2015-2019

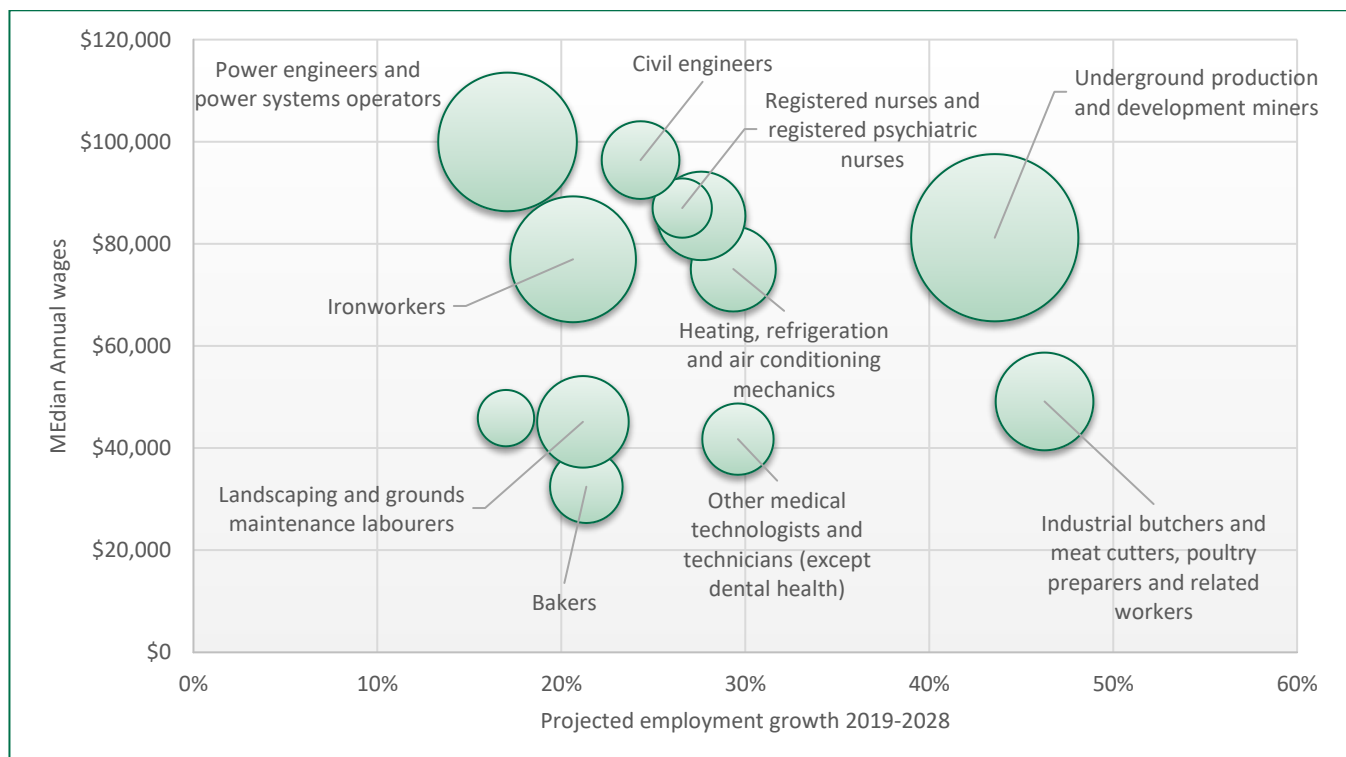
Description	2019 Jobs	2015 - 2019 Change	2015 - 2019 % Change	2019 LQ Canada
Administrative assistants	712	360	102%	1.03
Oil and gas well drillers, servicers, testers and related	2,160	304	16%	21.31
Transport truck drivers	3,042	263	9%	2.86
Heavy-duty equipment mechanics	1,414	260	23%	6.13
Central control and process operators, petroleum, gas and chemical processing	607	142	31%	11.42
Contractors and supervisors, mechanic trades	622	111	22%	2.81
Underground production and development miners	264	108	69%	3.18
Early childhood educators and assistants	661	108	20%	0.79

Description	2019 Jobs	2015 - 2019 Change	2015 - 2019 % Change	2019 LQ Canada
Police officers (except commissioned)	250	82	49%	0.94
Elementary school and kindergarten teachers	480	73	18%	0.71
Landscaping and grounds maintenance labourers	307	71	30%	1.14
Insurance agents and brokers	321	67	26%	1.24
Cleaning supervisors	204	61	43%	1.52
General farm workers	244	59	32%	0.94
Accounting technicians and bookkeepers	1,451	55	4%	2.43
Financial sales representatives	237	54	30%	1.22
Power engineers and power systems operators	246	48	24%	2.49
Civil engineers	144	46	47%	0.77
Heating, refrigeration and air conditioning mechanics	92	45	96%	0.88

Source: 2020.Q1 EMSI Analyst - Employees and Self-Employed

The following figure illustrates detailed occupations (4-digit NOCS) with the fastest (%) projected employment growth and their respective earning capacity. The size of the bubble represents the concentration level relative to Canada for that occupation; in other words, a larger bubble indicates a stronger presence in the Region as compared to that same occupation's presence at the national level.

Figure 7: Fastest Growing Employment Occupations & Their Median Annual Wages, 2019-2028



Source: 2020.Q1 EMSI Analyst - Employees only

The highest-earning (by median annual wages) detailed occupations that are also growing and expected to continue growing over the next eight years in the Region, are listed below. Those that are underrepresented (LQ Canada>1) are highlighted in bold.

- **Computer and information systems managers**
- Power engineers and power systems operators
- Supervisors, petroleum, gas and chemical processing and utilities
- **Civil engineers**
- Contractors and supervisors, electrical trades and telecommunications occupations
- Central control and process operators, petroleum, gas and chemical processing
- Contractors and supervisors, pipefitting trades
- **Occupational therapists**
- **Registered nurses and registered psychiatric nurses**

These occupations are closely related to production technologies/advanced manufacturing, energy, utility systems, and health care services.

3. CONCLUSIONS ON TARGET SECTORS & CLUSTERS

The economic base analysis of the local economy conducted identified four major trends in the Region:

1. Over the past five years, there has been a growing trend of knowledge-based industries in the Region, as measured by the number of businesses and jobs. Knowledge-based industries include professional, scientific, and technical services; financial services; and education services.
2. Within the context of Alberta, the employment concentrations illustrate that the Region is a hub for paper and wood product manufacturing. This cluster (forestry, wood, paper, logging, etc.) strongly supports employment concentrations in truck transport and generates a substantial amount of external revenues.
3. Over the past five years, agriculture and forest product processing have had the largest job growth that can be attributed to local competitiveness effects based on shift share analysis.
4. Oil and gas extraction and its support activities remain omnipresent as the largest employment industries and represent the largest total value in terms of external revenue generated by exports. However, many of these industries have experiencing a sustained decline in employment over the past five years.

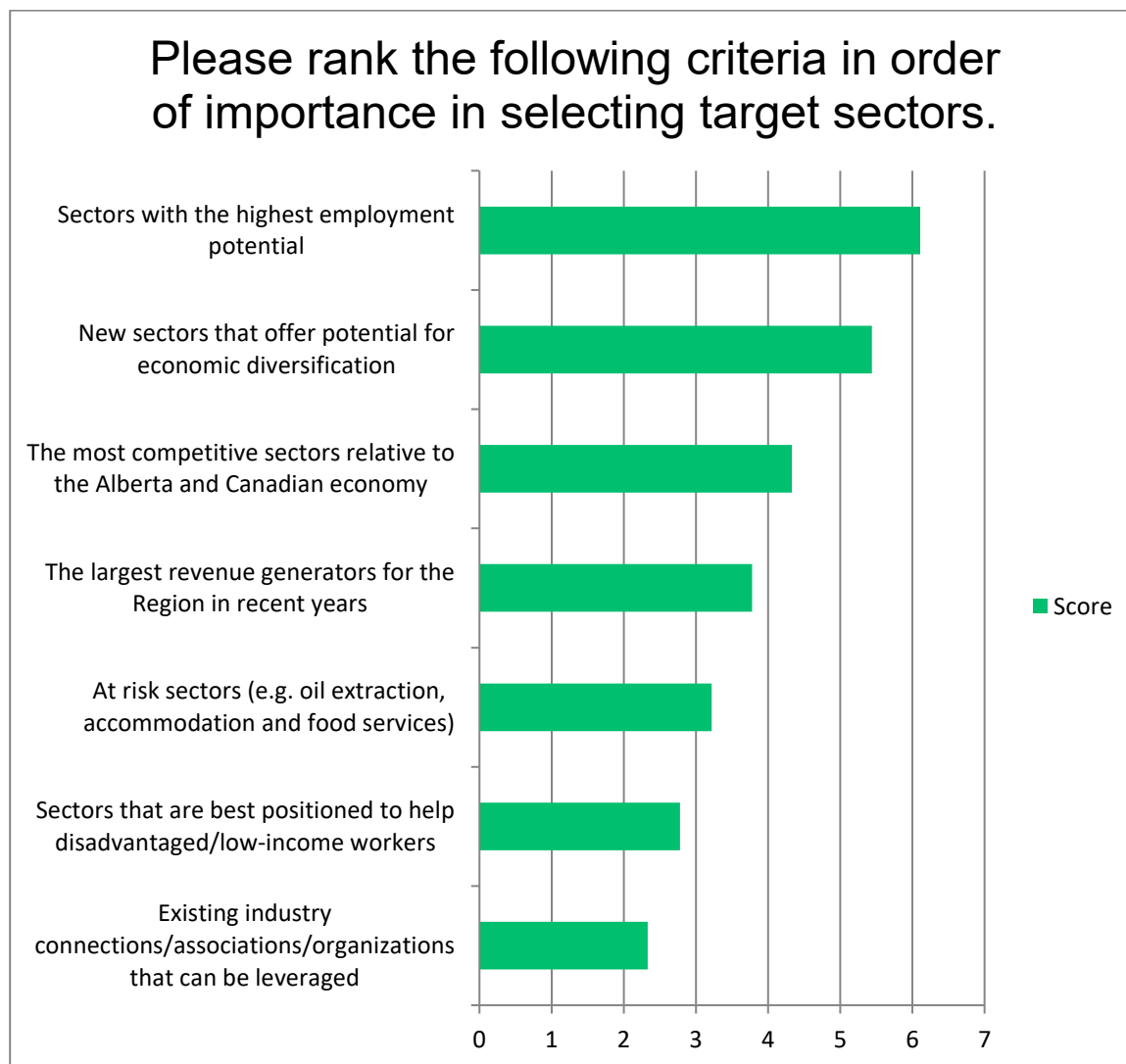
Within the local labour force Trades, transport and equipment operators and related occupations continued to be the largest occupational group in the Region as of 2019, accounting for over 25% percent of all employment. After that, the Region has a strong uptake in occupation-related in sales, business, finance, natural resource processing and agricultural production. Occupations associated to sales and services; art, culture, recreation and sport; and business, finance, and administration represent low wage earners in the Region.

Regional trends in employment point to a gap in information communication technology as shown by the low concentrations of computer systems design telecommunications and wireless technologies. At the same time, there is a growing demand for these, as they will be crucial in the evolution of traditional industries. The analysis demonstrated the continued growth around agriculture, forestry, and transportation related industries in the Region. These are industries that are increasingly technology-driven across Canada, which means their labour forces are in a transitory period. Lastly, the analysis also showed fast growth and concentration of jobs for industries such as petrochemical, gas and chemical manufacturing; industrial machine wholesale, and repair and maintenance; and gambling and other amusement industries, all of which appear to be growing or emerging with smaller absolute employment levels and gains.

3.1. Criteria for Selection

Developing criteria for sector selection was a collaborative effort between the Project Partners. Municipal economic development officers, GPRC staff, Provincial Staff, and Chamber of Commerce staff were asked to rank their various criteria in order of importance and to provide any other criteria deemed important for this exercise.

The following figure illustrates the criteria for sector development in order of importance, according to Project Partners. Sectors with the highest employment potential were ranked as the most important criteria by 67% of respondents. After that, sectors with potential for economic diversification were ranked second most important criteria.



There are nine economic sector clusters that stand out, based on the analysis above. The following table summarizes their economic impact on the Region (Table 8).

Table 8: Key Economic Clusters in the Region, 2019

Description	Jobs	% of Total	Businesses	% of Total	Exports	% of Total
Renewable energy and clean technologies	8,618	13.0%	2,167	13.5%	\$1,435,651,454	15.2%
Forestry and wood product manufacturing	2,305	3.5%	164	1.0%	\$973,189,239	10.3%
Health care and life sciences	2,818	4.3%	210	1.3%	\$210,302,980	2.2%
Upstream and downstream chemical product manufacturing	685	1.1%	51	0.3%	\$588,480,567	6.2%
Agriculture and food processing	1,660	2.5%	1,398	8.7%	\$224,839,600	2.4%
Transportation, logistics and warehousing	3,763	5.8%	939	5.8%	\$852,065,903	9.0%
Production technologies/ advanced manufacturing	1,105	1.6%	173	1.1%	\$215,308,526	2.3%
Financial services	2,152	3.3%	867	5.4%	\$77,056,102	0.8%
Recreation, accommodation and food services	6,178	9.3%	456	2.8%	\$285,416,861	3.0%
Total	29,283	44.3%	6,425	40.0%	\$4,862,311,232	51.6%

Source: McSweeney and Associates using from EMSI Analyst - 2020.Q1

Together these sector clusters capture 51% of export revenues, nearly 45% of jobs, and 40% of businesses in the Region. **Furthermore, the repair and maintenance subsector, which was not captured in any one cluster but supports many of the clusters of interest, has a significant footprint in the local economy as well (i.e. 825 businesses, 2,588 jobs, 2.76% of total exports).**

Although the nine sector clusters selected represent the most important economic drivers in the region, not all can or should be targeted at the same time. Using the criteria described above, those with the largest capacity to drive employment, the strongest potential for economic diversification, and the most competitive in the Alberta and Canadian economy will be considered the priority target sector clusters. The following sections will discuss why the following were chosen as the target sectors:

1. Renewable energy and clean technologies
2. Forestry and wood product manufacturing
3. Health care and life sciences
4. Upstream and downstream chemical product manufacturing
5. Agriculture and food processing
6. Transportation, logistics and warehousing

3.2. Target Sector Clusters

Renewable Energy and Clean Technologies

The oil and gas extraction industry in Canada has experienced significant volatility over the five years to 2020. Industry revenue grew significantly in the years leading up to the reporting period before falling prices caused a decline in 2015. Over the past decade, improved technology and extraction techniques enabled industry operators to tap into previously inaccessible and uneconomical resources. As a result, industry operators rapidly shifted production to take advantage of these new opportunities. The industry has benefited from substantial investment from international oil companies into domestic oil sand regions during the period. Despite increasing production volumes, a global supply glut caused the prices of natural gas and crude oil to fall significantly between 2015 and 2016, causing industry revenue to plummet. The industry then recovered between 2017 and 2019, before a forecast decline of 38.3% in revenue in 2020 alone. The drop in 2020 resulted from the spread of COVID-19 (coronavirus), which lowered consumer spending activity and demand for industry products, resulting in falling industry prices. Overall, industry revenue is expected to have declined an annualized 5.8% between 2015 - 2020.

Lower industry prices alongside heightened capital requirements are expected to result in the number of establishments declining at an annualized 6.5% over the next five years. In response to fewer industry establishments and in an attempt to lower operating costs, employment in the oil and gas extraction industry is forecast to decline an annualized 7.8% over the next five years.

On the other hand, the renewable power industry in Canada exhibited moderate growth over the five years to 2020. Meanwhile, increased demand for renewable energy sources, such as geothermal, wind, and solar, has prompted increased industry participation. The number of industry operators has increased at an annualized rate of 2.2% over the five years to 2020, while the number of establishments grew at a similar rate in response to increased demand for geothermal, wind and solar power. However, most new entrants are small companies that provide power to local markets. Barriers to entry are high because renewable power plant construction requires extensive capital investment and government licensing.

The Government of Alberta has indicated that electrification and clean energies such as geothermal and blue hydrogen production (low emissions hydrogen made with renewable power) represent a real opportunity to diversify Alberta's and the Region's energy sector. **At the same time, remediation and environmental cleanup services are an existing and expanding industry in the Region.**

The following table illustrates the size of the renewable and clean technologies sector in the Region's economy.

Table 9: Key Metrics for the Renewable and Clean Technologies Cluster, 2019

Industries	Jobs	% of Total	Businesses	% of Total	Exports	% of Total
Electronic and precision equipment repair and maintenance	140	0.2%	73	0%	\$ 27,419,837	0.3%
Support activities for mining, and oil and gas extraction	4,218	6.4%	825	5%	\$ 788,697,009	8.4%
Utility system construction	1654	2.5%	225	1%	\$316,766,430	3.4%
Remediation and other waste management services	161	0.2%	24	0%	\$-	0.0%
Other professional, scientific and technical services	445	0.7%	191	1%	\$ 47,913,753	0.5%
Waste treatment and disposal	120	0.2%	23	0%	\$ 67,231,606	0.7%
Architectural, engineering and related services	1,128	1.7%	242	2%	\$ 94,953,401	1.0%
Management, scientific and technical consulting services	312	0.5%	524	3%	\$ 34,597,526	0.4%
Electric power generation, transmission and distribution	209	0.3%	6	0%	\$ 42,915,622	0.5%
Other heavy and civil engineering construction	145	0.2%	23	0%	\$ 2,504,585	0.0%
Water, sewage and other systems	35	0.1%	6	0%	\$1,541,498	0.0%
Electrical equipment manufacturing	32	0.0%	1	0%	\$ 11,110,185	0.1%
Other electrical equipment and component manufacturing	10	0.0%	3	0%	\$ -	0.0%
Engine, turbine and power transmission equipment manufacturing	10	0.0%	1	0%	\$ -	0.0%
Total	8,618	13.0%	2,167	13.5%	\$1,435,651,454	15.2%

Source: McSweeney and Associates using from EMSI Analyst - 2020.Q1

Forestry and wood product manufacturing

This cluster represents a group of industries that are the most concentrated in the Region relative to Alberta and Canada when compared to all other industries. The cluster represents a sizeable chunk of employment and export revenues.

Over the past five years, construction markets in North America have rebounded from decade lows, increasing demand for lumber and thereby putting upward pressure on wood prices. Growing construction activity in China over the past five years has also significantly increased North American exports to that country, contributing to price growth. This growth in construction activity in China and other Asian regions has helped expand Canadian exports of timber. According to data from Natural Resources Canada, an estimated 20% of forest product exports are from softwood lumber, which is necessary for new construction.

Due to the relative scale of construction markets in countries such as the United States, China and Japan when compared with domestic markets, exports have historically generated the majority of industry revenue. Furthermore, a decline in demand from key construction markets at the end of the period, particularly amid the COVID-19 pandemic in 2020, led to a decline in price. Between 2016 and 2021, the price of wood products is expected to grow at an annualized rate of 2.6%.

Over the next five years to 2025, domestic housing starts are expected to grow, and low interest rates are expected to contribute to this growth. Demand from certain downstream markets, including sanitary paper manufacturing and certain other disposable paper products, has also grown as a result of the COVID-19 pandemic.

The following table illustrates the industries that make up this cluster and their existing impact on the Region's economy.

Table 10: Key Metrics for the Forestry and Wood Product Manufacturing Cluster, 2019

Industries	Jobs	% of Total	Businesses	% of Total	Exports \$	% of Total
Logging	793	1.2%	62	0.4%	\$131,248,152	1.4%
Pulp, paper and paperboard mills	231	0.3%	1	0.0%	\$386,385,019	4.1%
Sawmills and wood preservation	483	0.7%	6	0.0%	\$238,281,230	2.5%
Veneer, plywood and engineered wood product manufacturing	234	0.4%	1	0.0%	\$166,398,508	1.8%
Support activities for forestry	195	0.3%	39	0.2%	\$18,477,294	0.2%
Other wood product manufacturing	67	0.1%	7	0.0%	\$14,122,255	0.1%

Industries	Jobs	% of Total	Businesses	% of Total	Exports \$	% of Total
Lumber, millwork, hardware and other building supplies merchant wholesalers	235	0.4%	30	0.2%	\$11,411,455	0.1%
Household and institutional furniture and kitchen cabinet manufacturing	26	0.0%	11	0.1%	\$3,718,165	0.0%
Timber tract operations	17	0.0%	3	0.0%	\$3,147,156	0.0%
Forest nurseries and gathering of forest products	25	0.0%	4	0.0%	\$-	0.0%
Total	2305	3.5%	164	1.0%	\$973,189,238	10.3%

Source: McSweeney and Associates using from EMSI Analyst - 2020.Q1

Health Care Services and Life Sciences

The ambulatory health care service subsector is projected to have the largest employment growth in Alberta over the next five years. In the Region, many of the industries in this cluster have been growing in employment over the past five years and are projected to continue on this trend. Furthermore, the Region has shortages of several types of health care workers making this an ideal cluster of industries to target for workforce development.

With the completion of the new hospital in Grande Prairie and increasing demand for health services caused by the pandemic, the Region is well-positioned to increase the supply of health care services and become a health services hub in northwestern Alberta.

Over the next five years to 2025, strong demand for health care in the domestic and overseas markets, in addition to increased research and development (R&D) funding availability, is expected to bolster revenue growth for the medical instrument and supply manufacturing industry in Canada. Being strategically located within/adjacent to a college/university, the Region is in a strategic position to develop expertise in biotechnologies and medical equipment and supplies manufacturing. Meanwhile, demographic trends are also expected to drive industry expansion. The number of adults aged 65 and older, the demographic most likely to spend on health care, is expected to continue to grow more rapidly than the Canadian population, driving industry demand.

Moreover, numerous patent expirations sent a shock across the global pharmaceutical sector as numerous high-profile drugs lost their patent protection over the five years to 2020, opening manufacturers up to competition from industry producers of generic

bioequivalents. In particular, some key drugs are expected to lose their patent exclusivity in the upcoming years, including Lucentis, Herceptin, Avastin, Crestor and Viagra, paving the way for the generics manufactured by the domestic industry.

The following table illustrates the industries that make up this cluster and their existing impact on the Region's economy.

Table 11: Key Metrics for the Health Care Services and Life Sciences Cluster, 2019

Industries	Jobs	% of Total	Businesses	% of Total	Exports	% of Total
Specialty (except psychiatric and substance abuse) hospitals	178	0.3%	1	0.0%	\$12,277,885	0.1%
General medical and surgical hospitals	980	1.5%	5	0.0%	\$93,087,241	1.0%
Individual and family services	526	0.8%	33	0.2%	\$32,692,305	0.3%
Offices of dentists	403	0.6%	87	0.5%	\$33,430,810	0.4%
Out-patient care centres	164	0.2%	38	0.2%	\$ 3,973,546	0.0%
Residential developmental handicap, mental health and substance abuse facilities	157	0.2%	15	0.1%	\$ 6,666,653	0.1%
Nursing care facilities	285	0.4%	2	0.0%	\$17,317,698	0.2%
Medical and diagnostic laboratories	57	0.1%	5	0.0%	\$4,198,559	0.0%
Pharmaceutical and medicine manufacturing	0	0.0%	0	0.0%	\$295,997	0.0%
Medical equipment and supplies manufacturing	20	0.0%	2	0.0%	\$2,668,585	0.0%
Other ambulatory health care services	47	0.1%	22	0.1%	\$3,693,701	0.0%
Total	2,818	4.3%	210	1.3%	\$210,302,980	2.2%

Source: McSweeney and Associates using from EMSI Analyst - 2020.Q1

Upstream and Downstream Chemical Product Manufacturing Cluster

Value-added processing not only increases the profit derived from our natural resources but also creates more permanent jobs than straight extraction and provides some cushioning from the wild fluctuations in world prices. As the world begins its eventual transition away from fossil fuels it is more important than ever that Alberta derives as much value and long-term benefits as possible from the natural resources extracted.

The provincial government and the Region are committed to developing these value chains. For example, Greenview Industrial Gateway was established by the M.D. of Greenview in conjunction and with the support of the Alberta Government through extensive consultation and collaboration to develop a world class heavy industrial

development focused on value added petrochemical development linked to the Montney's abundant natural gas deposit. Furthermore, the continuation of the Petrochemicals Diversification Program will provide strong incentives and supports for further investment in and growth of a value-added petrochemical industry in Alberta.

The upstream chemical products industry produces organics and inorganic chemicals, agricultural chemicals, and industrial gases. The downstream chemical manufacturing industry produces personal care and cleaning products; dyes, pigments and coating; lubricating oils and greases; processed chemical products; and explosives.

Basic chemical manufacturing is already concentrated/specialized in the Region relative to Alberta and Canada, and the industry is projected to expand the number of jobs in the Region over the next five years. Revenue growth for the Pesticide Manufacturing industry in Canada is estimated to stay on a similar growth trajectory over the near future due to operators being labelled as essential businesses. Demand for industry products is still very prevalent since end consumers always need to eat and farmers are still needed to produce food. The COVID-19 (coronavirus) pandemic is not expected to put a big strain on the Pesticide Manufacturing industry. Downstream, revenue for the Soap and Cleaning Compound Manufacturing industry in Canada is expected to increase in 2021 amid the ongoing COVID-19 (coronavirus) pandemic due to continued demand for cleaning products.

The following table illustrates the industries that make up this cluster and their existing impact on the Region's economy.

Table 12: Key Metrics for the Chemical Product Manufacturing Cluster, 2019

Industries	Jobs	% of Total	Businesses	% of Total	Exports	% of Total
Basic chemical manufacturing	113	0.2%	3	0.0%	\$181,877,814	1.9%
Other chemical product manufacturing	42	0.1%	2	0.0%	\$29,147,695	0.3%
Chemical (except agricultural) and allied product merchant wholesalers	188	0.3%	16	0.1%	\$29,053,105	0.3%
Paint, coating and adhesive manufacturing	15	0.0%	1	0.0%	\$5,146,419	0.1%
Soap, cleaning compound and toilet preparation manufacturing	11	0.0%	0	0.0%	\$17,603,557	0.2%
Plastic product manufacturing	20	0.0%	4	0.0%	\$12,788,153	0.1%
Petroleum and petroleum products merchant wholesalers	167	0.3%	13	0.1%	\$19,259,897	0.2%
Petroleum and coal product manufacturing	73	0.1%	7	0.0%	\$280,227,826	3.0%

Industries	Jobs	% of Total	Businesses	% of Total	Exports	% of Total
Pesticide, fertilizer and other agricultural chemical manufacturing	10	0.0%	0	0	\$4,023,959	0.0%
Pharmaceuticals, toiletries, cosmetics and sundries merchant wholesalers	35	0.1%	4	0.0%	\$2,668,585	0.0%
Rubber product manufacturing	12	0.1%	1	0.0%	\$6,683,557	0.1%
Total	685	1.1%	51	0.3%	\$588,480,567	6.2%

Source: McSweeney and Associates using from EMSI Analyst - 2020.Q1

Agriculture and Food Processing

This sector boasts a huge opportunity for economic diversification in the Region. Farms and support services to farms industries have been within the 12 largest and fastest (%) growing over the past five years. Beef cattle farming, including feedlots, is one of the most common types of agriculture found in the Region (after hay and oilseed farming). The meat, beef and poultry processing industry in Canada is the largest industry in the domestic food manufacturing sector.

This farming industry is concentrated/specialized in the Region relative to the rest of Canada. Demand for meat, beef, and poultry processing in Canada is expected to increase due to operators being classified as an essential business and meeting high weekly production capacity. Furthermore, according to EMSI's job growth projections between 2020 and 2028, industrial butcher is projected to be one of the fastest-growing occupations in the Region (as shown in the figures 7, pg.22).

Meanwhile, fish, seafood and plant-based protein sources have gained popularity across Canada, as operators are expected to invest in offering this option to remain competitive due to changing perception around red meat. For instance, Maple Leaf Foods Inc. acquired Lightlife Foods Inc., which specializes in plant-based proteins, for \$140 million in 2017. Although the operation is based in the United States, the operation's strong growth and success may lead the business to expand operations to Canada over the next five years. The Canadian government has also indicated that plant-based proteins represent an area for innovation, diversification and employment growth in Canada.

The following table illustrates the industries that make up this cluster and their existing impact on the Region's economy.

Table 13: Key Metrics for the Agriculture and Food Processing Cluster, 2019

Industries	Jobs	% of Total	Businesses	% of Total	Exports	% of Total
Support activities for farms	192	0%	35	0.2%	\$11,420,382	0.1%
Farms	1,352	2%	1,348	8.4%	\$195,941,310	2.1%
Beverage manufacturing	63	0%	4	0.0%	\$10,421,489	0.1%
Meat product manufacturing	23	0%	4	0.0%	\$3,965,404	0.0%
Bakeries and tortilla manufacturing	19	0%	4	0.0%	\$2,154,570	0.0%
Other food manufacturing	5	0%	2	0.0%	\$936,442	0.0%
Dairy Product Manufacturing	5	0%	1	0.0%	\$-	0.0%
Total	1,660	2.5%	1,398	8.7%	\$224,839,599	2.4%

Source: McSweeney and Associates using from EMSI Analyst - 2020.Q1

Transportation, logistics and warehousing

The transportation and warehousing sector is concentrated and growing in the Region. At the same time, this industry is at the forefront of technology and the cusp of evolution. Enhancing the use of artificial intelligence in supply chains and the use of electric vehicles represent opportunities to expand the capacity and potential of the transportation, logistics and warehousing cluster. For example, introducing a series of training and upskilling programs in an effort to bolster the level of AI/digital skills could develop, industrialize and commercialize AI-powered products and services applied to advanced supply chains management.

Over the five years to 2025, the Rail Transportation industry in Canada is expected to continue expanding, fuelled by forecast growth in total trade value, total retail sales and consumer spending. Rail carriers depend heavily on expensive infrastructure. The success of the industry depends on whether operators continue investing in additional infrastructure, including railways, modern locomotives and cars. Moreover, rail carriers are expected to expand relationships with other transportation providers, such as freight trucking companies, which will enable operators to provide more door-to-door solutions for customers. Consequently, the number of industry employees is expected to increase at an annualized rate of 3.2% over the next five years to 2025.

The following table illustrates the industries that make up this cluster and their existing impact on the Region's economy.

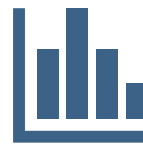
Table 14: Key Metrics for the Transportation, Logistics & Warehousing Cluster, 2019

Industries	Jobs	% of Total	Businesses	% of Total	Exports	% of Total
Specialized freight trucking	2144	3.2%	458	2.9%	\$653,495,545	6.9%
Support activities for road transportation	111	0.2%	45	0.3%	\$16,886,920	0.2%
General freight trucking	649	1.0%	337	2.1%	\$115,268,980	1.2%
Urban transit systems	178	0.3%	1	0.0%	\$ 2,424,589	0.0%
School and employee bus transportation	128	0.2%	4	0.0%	\$ 3,917,131	0.0%
Scheduled air transportation	93	0.1%	4	0.0%	\$10,006,214	0.1%
Business-to-business electronic markets, and agents and brokers	87	0.1%	14	0.1%	\$3,437,990	0.0%
Support activities for air transportation	75	0.1%	14	0.1%	\$ 14,013,551	0.1%
Warehousing and storage	72	0.1%	17	0.1%	\$ 3,279,450	0.0%
Natural gas distribution	55	0.1%	5	0.0%	\$8,846,542	0.1%
Rail transportation	40	0.1%	0	0.0%	\$11,757,751	0.1%
Non-scheduled air transportation	35	0.1%	17	0.1%	\$1,787,661	0.0%
Other support activities for transportation	30	0.1%	12	0.1%	\$-	0.0%
Freight transportation arrangement	37	0.1%	8	0.0%	\$3,932,593	0.0%
Support activities for rail transportation	30	0.1%	3	0.0%	\$3,010,986	0.0%
Total	3763	5.8%	939	5.8%	\$852,065,903	9.0%

Source: McSweeney and Associates using from EMSI Analyst - 2020.Q1

APPENDIX: 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:



- Canadian Business Registry (CBR) – Dec 2015 and Dec 2019
- EMSI Analyst 2020.Q1

Canadian Business Registry (CBR)

The major sources of information for the business registry are updated from the Statistics Canada survey program and from Canada Revenue Agency's (CRA) Business Number account files. This CRA administrative data source allows for the creation of a complete set of all business entities.

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 MD of Greenview of 2001 is the same as the MD of Greenview of 2020. This results in geographically detailed data (down to the Census Subdivision level) that applies 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)

2001, 2006, 2011, and 2016 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