



ARCHITECTURE, CONSTRUCTION, AND ENGINEERING

The Canadian Scene

Architecture in Canada involves developing comprehensive solutions that focus on creating innovative living and working environments. Architects present design proposals, secure regulatory approvals and protect client investment. In addition to residential, commercial, institutional and industrial architectural services, Canadian architects focus on facility management, building programming, restoration and renovation planning and environmentally green architecture.

Construction encompasses establishments that are primarily engaged in constructing, repairing and renovating buildings and engineering works, and in subdividing and developing land. In 2005, there were 115,367 employers in this sector, excluding the 149,477 organizations that are in effect owner operated and do not pay wages or salaries to themselves as an employee of the company. About 65 percent of the employers in Canada are micro (1 to 4 employees); 33.6 percent are small (5 to 99 employees); and the remainder have greater than 100 employees.

Engineering includes occupations such as civil, municipal and structural engineering; geological and geo-technical engineering; mechanical, electrical and process engineering; transportation and environmental engineering; petroleum and reservoir engineering, software and biosystems engineering, and chemical engineering, among others. In 2002, it was estimated that there were 172,000 members of the Canadian engineering profession. According to the Canadian Council of Professional Engineers, engineers in Canada are employed in the following major industries: professional, scientific and technical services (24%), manufacturing (22%), resources (12%), utilities (9%) and construction (9%).

Alberta's robust economy has and will continue to result in strong prospects for the architecture, construction and engineering sector. Commercial and residential growth will be augmented by investment in food processing, alternative energy, and bio industry production facilities, resulting in diverse opportunities for this sector. Required support for these developments includes investment in infrastructure such as highways and public facilities including education and health facilities, further fueling growth in the sector.

Designing and Building Alberta

There are over 23,000 firms in the province's architecture, construction and engineering sector, generating annual revenues of more than \$28 billion (2005). Alberta's strong economy and growing infrastructure and resource development activity builds this sector, with resulting benefits to firms that are involved in equipment, materials, and subcontract services. This sector accounts for about 16% of Alberta's gross domestic product. The industry is:

- **Diversified** – There are numerous areas of specialization within the sector, as characterized by the following key examples:
 - Coal Extraction and Processing
 - Construction Management
 - Environmental Architecture, Engineering and Construction
 - Infrastructure and Transportation
 - Mining
 - Oil and Gas Exploration (Development and Processing)
 - Oil Sands Development
 - Pipeline Design and Construction
 - Telecommunications
 - Winter Construction Technology and Techniques
- **Knowledge-Based** – There are more than 230,600 Albertans employed in the sector, characterized by diverse and strong skills; and extensive education, training and experience.
- **Export Oriented** – Exports are valued at \$492 million with over 80% attributed to consulting engineering and geo science services.
- **Lucrative** – The indirect and induced employment as a result of the architecture, construction and engineering projects is equal to the direct employment.
- **Clustered** – The per capita ratio of engineers and geo science professionals in the province is the highest in Canada and one of the highest in North America. The Canadian Council of Professional Engineers estimates that Alberta has the third highest proportion of engineers in Canada.
- **Growing** – Major projects in Alberta are increasing in all sectors, led by the Oil Sands.



Cost of Doing Business in SouthGrow

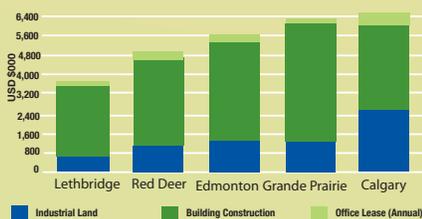
According to the 2008 KPMG Competitive Alternatives Guide to International Business Costs, Lethbridge, part of the SouthGrow region, has an overall cost advantage of 3.8 percent relative to the United States:

Lethbridge, AB	96.2
Edmonton, AB	99.9
Calgary, AB	102.0
Saskatoon, SK	96.7
Kelowna, BC	99.0
Brandon, MB	93.8
Boise, ID	100.5
Dallas, TX	97.3
Chicago, IL	106.5
Minneapolis, MN	103.9

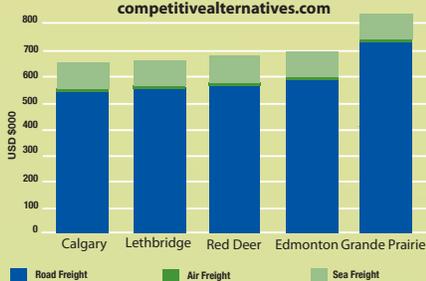
NOTE: US=100

In comparing key cities within the Province of Alberta, Lethbridge is again shown to be competitive and providing overall cost advantages in various key factors of doing business:

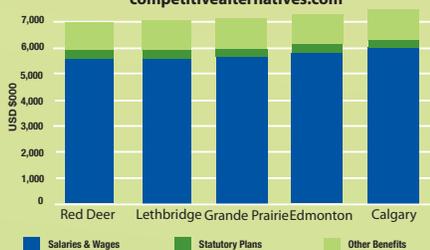
Facility Costs
Industry: Overall Result:
Operation: Average of 12 operations
competitivealternatives.com



Average Annual Transportation Costs
10 Year Average: Industry: Overall Result:
Operation: Average of 12 operations
competitivealternatives.com



Annual Labour Costs
10 Year Average
Industry: Overall Result:
Operation: Average of 12 operations
competitivealternatives.com



SouthGrow Region

Architecture, engineering and construction in the SouthGrow region are characterized by growth in the residential, commercial, industrial, and institutional activity in most communities. In fact, a number of large construction firms are responding to bids for development in excess of \$20 million. Additional opportunities will result from the provincial governments' focus on capital spending on infrastructure.

Many communities in the SouthGrow region are proactively developing water and infrastructure programs to support growth. In and around the City of Lethbridge, there are a number of sites that have land available for commercial, industrial and residential development, some already with infrastructure services and therefore ready for development.

The growth in the region has resulted in and continues to result in many opportunities for mechanical engineers, structural engineers, and project managers. In fact, Statistics Canada Census 2006 shows that there are 588 firms in the SouthGrow region that are active in the construction sector and another 444 firms providing professional, scientific and technical services, which includes those people in the architecture and engineering sector.

The development of renewable energy systems (i.e. wind turbines) and structures that incorporate environmental designs and products are increasing, contributing to diverse growth in the sector. Emerging opportunities are related to the growth of green building and renewable systems, further development of the bio fuels sector, interest in new waste management facilities and continued growth in the wind energy sector.

Inventory of Major Alberta Construction Projects Summary, December 2007

Sector	# Total Projects	Value of Projects (\$millions)
Agriculture & Related	8	\$ 89.0
Biofuels	17	\$ 2,342.5
Chemicals & Petrochemicals	4	\$ 372.0
Commercial/Retail	113	\$ 8,597.9
Commercial/Retail and Residential	14	\$ 3,663.5
Forestry & Related	5	\$ 420.0
Infrastructure	312	\$ 17,309.5
Institutional	190	\$ 12,514.6
Manufacturing	3	\$ 46.0
Mining	7	\$ 1,985.4
Oil & Gas	1	\$ 4,195.0
Oil Sands	52	\$155,596.0
Other Industrial	13	\$ 168.8
Pipelines	35	\$ 11,713.1
Power	40	\$ 10,245.0
Residential	141	\$ 6,179.4
Tourism/Recreation	110	\$ 9,337.7
Total	1079	\$244,775.4

Footnotes:

1. This Inventory lists projects in Alberta, valued at \$5 million or greater, that have recently been completed, are currently under construction, or are proposed to start construction within two years. Not all projects over this threshold are listed, due to reasons of confidentiality and/or due to information not being available at the time of printing.
2. Project data is obtained from public information sources. Although, where possible, this data has been verified with the project proponent/developer, users of the Inventory may wish to confirm project data with the proponent/developer.
3. The Inventory does not break down project expenditures by any given year. The cost of a project is the value of expenditures expected over all phases of project construction, which may span two or more years.
4. The cost of projects listed in the Inventory are estimated values only.

SouthGrowN Successes

SouthGrow has many successful companies in this sector:

- Alvin Reinhard Fritz Architect Inc.
- Ferrari Westwood Architects
- Goss Architectural Design Group
- Hirano & Heaton Architects Ltd.
- Savill Group Architecture
- Associated Engineering
- MPE Engineering Ltd
- Trimark Engineering Ltd.
- UMA
- EBA Engineering Consultants Ltd.
- Cox G W Construction
- Wesbridge Construction – Lethbridge
- Ward Brothers Construction – Lethbridge

Average Wages

Average wages for selected positions in the sector are:

NOC	Occupational Title	Average Wage/Hour
0911	Manufacturing and Operations Manager	\$27.36
1441	Administrative Clerks	\$ 17.50
2251	Architectural Technologists & Technicians	\$ 23.37
2131	Civil Engineers	\$ 38.74
2353	Drafting Technologists & Technicians	\$ 16.98
0211	Engineering Managers	\$ 49.15
7271	Carpenters	\$ 14.70
0711	Construction Manager	\$ 35.08
7611	Construction Trades Helpers & Labourers	\$ 14.76
7612	Other Trades Helpers & Labourers	\$ 12.17
7215	Plumbers	\$ 16.90

Source: 2007 Alberta Wage & Salary Survey –
Lethbridge-Medicine Hat Region

Opportunities

There are many opportunities in the SouthGrow region:

- Municipal developments, residential and commercial
- Infrastructure, including highways, water and sewer
- Industrial facilities (with increased automation)
- Biofuel, bioindustry, energy, conservation and waste reduction facility related work

The SouthGrowN Advantage

- **Logistics** - SouthGrow is located on the major Canadian transportation routes for both east/west and north/south highway routes. It is located on the CANAMEX corridor with close proximity to the United States border, allowing for easy connection to the interstate system to all major US cities.
- **Critical Mass** – There are numerous companies in the SouthGrow region offering a broad spectrum of architecture, engineering and construction services, capable of leading and implementing projects in the industrial, commercial, institutional, infrastructure and residential areas.
- **Abundance of Inputs and Supports** – Due to lower costs, many building product companies and contractors as well as those offering professional services are located throughout the region to fully support this sector and enhance its capabilities.
- **Synergy** – The region has a large and diverse supply of building products, ranging from rock products to trusses, resulting in synergy with businesses in other sectors, including building products and environmental products and services.
- **Supports** – Located in the region are Lethbridge College and the University of Lethbridge, both of which provide various aspects of training and development to support the sector.
- **Established Market** – The region has an established market that is growing in all areas: residential, commercial, industrial and institutional.
- **Low Cost** – Real estate costs in the region are less than those in major centres in Western Canada, and other costs of doing business such as facility, labour and taxation are competitive, fueling growth not only in the sector but in the region. Furthermore, there are no capital or payroll taxes, and no provincial sales tax. Albertans also benefit from the lowest overall taxes in Canada.
- **Experience** – Due to the variety of projects taking place, there is an abundance of experience in a variety of areas throughout the region: environmental, energy efficient, restoration, structural, mechanical, geomatic, water, etc.
- **Population** – There is an increasing population growth with a young and ready supply of trained labour (over 50% have some level of post-secondary education). In addition, growth due to in migration from both domestic and international sources is expected to continue.

Industry Supports

Architecture Associations

- Alberta Association of Architects (AAA) www.aaa.ab.ca
- Association of Science and Engineering Technology Professionals of Alberta (ASET) www.aset.ab.ca

Engineering Associations

- Association of Professional engineers, Geologists and Geophysicists of Alberta (APEGGA) www.apegga.org
- Association of Science and Engineering Technology Professionals of Alberta (ASET) www.aset.ab.ca
- Consulting Engineers of Alberta (CEA) www.cea.ca/index.cfm

Construction Associations

- Canadian Homebuilders Association – Lethbridge
- Lethbridge Construction Association www.telusplanet.net/public/lethcon/
- Alberta Construction Association (ACA) www.abconst.org
- Construction Labour Association of Canada (CLAC) www.clra.org
- Construction Owners Association of Alberta (COAA) www.coaa.ab.ca
- Alberta Roadbuilders & Heavy Construction Association (ARHCA) www.arhca.ab.ca/home



SouthGrow

Regional Initiative

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SouthGrow is Success

SouthGrow Regional Initiative is about creating opportunities ... for and with the twenty-seven member communities in south-central Alberta. The region includes the City of Lethbridge, a regional hub and a key centre on the north/south corridor with air, rail and highway service. In addition to three major highways (3, 4 and 5) that run through the region, the Alberta portion of the CANAMEX corridor which is a twinned highway system that starts in Mexico City and will eventually end in Anchorage, Alaska also runs through the region. Most communities are within an hour of the U.S. border and major 24 hour port of entry Sweetgrass/Coutts, allowing access to all markets. Calgary and Edmonton are 235 km and 514 km, respectively from the centre of the SouthGrow region.

SouthGrow Regional Initiative has unique characteristics that provide the people that live, work and do business in the region with many advantages. We have:

- A strong education and research cluster.
- An entrepreneurial orientation with many successful established companies.
- A varied landscape providing opportunities in traditional industries such as agriculture, manufacturing, and tourism as well as in emerging industries such as biotechnology, energy and distribution/logistics.
- A strong economic base that allows businesses, employees, residents and investors to grow and flourish in the region.
- Varied cultural assets providing a quality of life and opportunity to be enriched through diversity second to none.
- A young population and high quality of life creating opportunities for investors in a variety of industries.
- Trust, respect, and a spirit of collaboration and partnership amongst our members that contributes to the success and sustainability in the region.

SouthGrow Specifics

- **Population:** 148,411 in 2007 (an increase of about 9 percent over 2005)
- **Time Zone:** Mountain Standard Time Zone
- **Climate:** Mild winters and warm summers, with close to 2,400 hours of sunshine per year; 140 crop days annually.
- **Commercial Airport:** Lethbridge County Airport
- **U.S. Border Crossings:** Coutts/SweetGrass (24 hour, 7-day, commercial), Carway/Peigan, Del Bonita, Chief Mountain.
- **Rail Access:** Canadian Pacific Railway with main line and trackage in all four directions at Lethbridge.
- **Major Highways:** #'s 2, 3, 4, and 5
- **Major Source of Water:** Oldman River Sub Basin
- **Air Quality:** Air Quality Index was rated "Good" over 94.7% of the time (2008).
- **Waste Management:** five waste management commissions/authorities in the region.
- **Primary/Secondary Education:** Numerous school divisions providing public, private, and separate (francophone, catholic and alternative) education.
- **Post-Secondary Education:** Lethbridge College and University of Lethbridge.
- **Health Care:** Chinook Health and Calgary Health Region oversee the health care needs of the region's residents.



We Are

City of Lethbridge	Village of Coutts
Town of Cardston	Village of Champion
Town of Clareholm	Village of Lomond
Town of Coaldale	Village of Milo
Town of Coalhurst	Village of Nobleford
Town of Magrath	Village of Stirling
Town of Milk River	Village of Warner
Town of Picture Butte	Cardston County
Town of Raymond	County of Lethbridge
Town of Taber	MD of Taber
Town of Vauxhall	Vulcan County
Town of Vulcan	County of Warner
Village of Barons	Blood Tribe
Village of Carmangay	

SouthGrowN
 People, Products, Pride

