Southern Alberta: Growth of Import and Export Opportunities for West Coast Ports

Southern Alberta is a natural transportation and agriculture hub. This research highlights opportunity to grow and develop exports and key segments of the supply chain required to enable goods movement.

The Calgary Region as A Distribution Hub

THE VAN HORNE INSTITUTE

In Collaboration With:

TRISKELE LOGISTICS

JRSB LOGISTICS CONSULTING LTD.

Contents

List of Figures

Introduction

The Calgary region has naturally become a transportation hub due to its strategic location in western Canada. Phase 2 of this study will provide an overview of the Calgary Region distribution and warehousing capacity and capability.

The following key items were examined to determine growth possibilities:

- An overview of current market conditions in the Calgary Region
- A summary of existing DCs and future industrial park development plans
- An assessment of Port selection by DC managers
- A comparison of West Coast Ports on inland transportation versus the Chicago distribution model
- An analysis of shipping volumes into DCs in the Calgary region
- A competitive assessment of Port to Inland Port capabilities

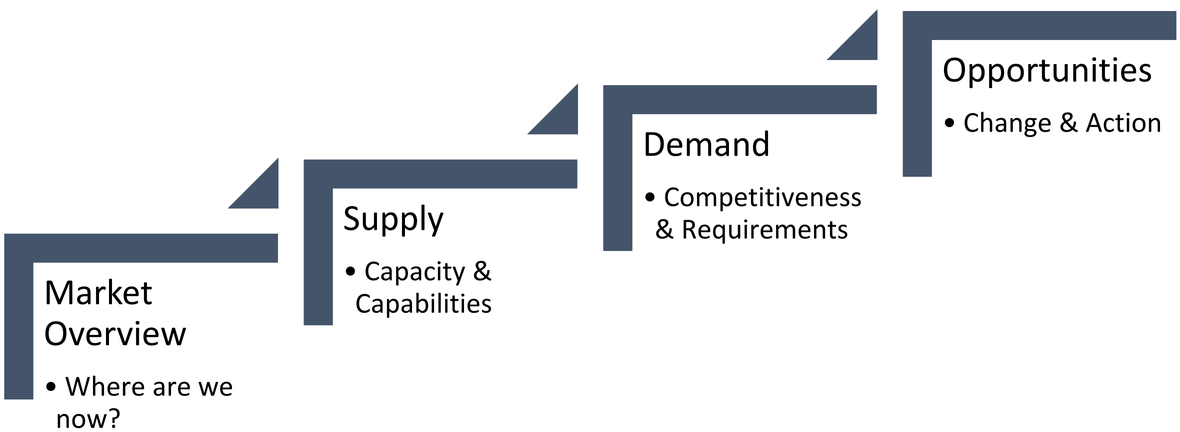


Figure 1 - Outline of Phase 2: Understanding of Calgary Regional Distribution Centres

What is an Inland Port?

Inland ports have gained increasing prominence as a way to improve supply chain efficiencies. Jones Lang LaSalle, a professional services and investment management firm specializing in real estate describes inland ports as "a hub designed to move international shipments more efficiently and effectively from maritime ports inland for distribution. Think of the logistics of inbound freight as a barbell. At one end, inbound containers flood into a seaport, spreading across local storage facilities as they are unloaded. If they aren't moved quickly enough from the port, they create a bottleneck that bogs down the entire distribution cycle as containers wait longer to get off ships, to get into warehouses, and to get back out and onto trucks and trains for final shipment." As a result of technological improvements in the supply chain industry, processes that traditionally were carried out at ports, can now be done at inland locations.[1]

[1] http://www.joc.com/sites/default/files/u45421/Whitepapers/JOC_Edit/WesternCanadaRapidlyExpand.pdf

Industrial Real Estate Market Overview – Calgary Region

The industrial real estate market in the Calgary region is dominated by the warehouse and distribution sector. Of a total inventory of 151,294,594 sq. ft. (Q2, 2016), 106,537,218 sq. ft. (70%) is warehousing and distribution, with the remainder primarily dedicated to manufacturing[2].

Although Calgary's overall industrial real estate market has seen declining demand, the distribution and warehouse sector has shown relative strength. A total of 1,577,807 sq. ft. has been developed in the Calgary region in the first two quarters of 2016 as a number of A-class distribution facilities have been completed.

The most notable development (Q2 2016) has been a 503,057 sq. ft. warehouse built by Hillwood Development in the Balzac region. Smucker's has preleased 78.6% of the building prior to completion.[3] There are currently no other big box spec buildings under construction as developers look to absorb some of their large vacancies in the region. Looking ahead, there is an additional 2.1 million sq. ft. currently planned for future construction. Below are some smaller notable projects under construction[4]:

PROPERTY	LOCATION	SIZE (SF)	TYPE	DUE DATE
PANTERRA PARK	Calgary SE	20,968	Speculative	Completed
FAIRMORE BUSINESS PARK	Calgary SE	57,426	Speculative	Completed
HOPEWELL AIRPORT PARK- BUILDING F	Calgary SE	96,200	Speculative	Completed
999 57 AVENUE NE	Calgary SE	150,000	Speculative	Q3 2016
7455 64 STREET NE	Calgary SE	110,000	Speculative	Q3 2016
GLENMORE JUNCTION- BUILDING A	Calgary SE	46,300	Speculative	Q3 2016
BALZAC INDUSTRIAL CONDO'S	Balzac	27,000	Speculative	Q3 2016

Figure 2 - Industrial Projects Under Construction, Calgary Region, Q2, 2016

Calgary North East & Balzac

The total inventory for this area was 43,317,556 SF (Q2, 2016). As a result of excellent access to Calgary's road network and close proximity to the Calgary International Airport, developers have continued to choose this area for large scale projects in recent years. In Q2, 2016, 47 lease transactions were made totalling 450,000 SF[5].

Feedback from industrial real estate developers suggests that this area is the biggest opportunity for industrial real estate development. AIMCo (Alberta Investment Management Corporation) and Oxford are offering a number of available warehouses which are expected to take 2 to 4 years to fill.

Further east, in Conrich, AB, Princess Auto is located adjacent to the CN intermodal yard along with other CN customers. There are 5,000 acres of land similarly located adjacent to the CN intermodal yard,

[2] http://www.jll.ca/canada/en-ca/research/478/can-calgary-industrial-insight-q2-2016-jll
[3] http://www.jll.ca/canada/en-ca/research/485/can-big-box-outlook-sept-2016-jll
[4] http://www.cbre.ca/EN/o/calgary/Pages/market-reports.aspx
[5] http://www.jll.ca/canada/en-ca/research/478/can-calgary-industrial-insight-q2-2016-jll

which are 5 to 8 years away from being developed as the required infrastructure is not yet in place. Developments in East Balzac are expected to be completed first before development moves to Conrich.

Calgary South East

The total inventory for South East Calgary was 64,756,446 SF in Q2, 2016. This area has the highest concentration of manufacturing (dedicated to the oil & gas industry) making real estate market conditions relatively dependent on the recovery of the oil & gas sector.

A total of 47 transactions have been done in Q2, 2016. Smucker's has relocated out of a 250,000 SF warehouse in the south east to Balzac. 144,000 SF of the former Smucker's warehouse has been leased by Hopewell Logistics.

Also in South East Calgary, there is still land available close to the CP intermodal yard. CP customers are expected to take the land in future developments.

Calgary South West

The Calgary south west region currently has no industrial developments. With the anticipated completion of the ring road, plans have been developed by the Tsuu T'ina Nation in partnership with developer Canderel for a large commercial development in the area[6]. As a result of good access, the area may in future, also be considered for potential industrial real estate developments.

Calgary Region Inland Port: Capacity & Capabilities

The Calgary Region Inland Port has been introduced as a way to promote growth in the transportation and logistics sector for the region. The Calgary Region Inland Port is not a single point of entry, but a collective of transportation & logistics capabilities found in the region. These include: intermodal facilities, transload facilities, distribution centres, warehouses, trucking yards, and other logistics related activities. This section of the study aims to answer the following questions:

- What are the existing DCs and Industrial Parks in southern Alberta?
- What is the outlook for industrial real estate and DC development?
- How can the Calgary Region Inland Port help to attract increased volumes through the west coast ports?

Key stakeholders including industrial real estate developers, Economic Developments Officers and DC Managers were contacted to gain insights on market conditions and future plans. Surveys were conducted for each stakeholder group.

[6] http://calgaryherald.com/news/local-news/tsuutina-neighbours-open-to-giving-ambitious-development-plan-a-chance

Existing DCs and Industrial Real Estate Parks

Distribution of Industrial Real Estate Development & DCs in Southern Alberta

The City of Calgary and Rocky View County are the major locations in southern Alberta where the survey respondents are currently developing industrial real estate. The Calgary region is perceived as being the main location with significant demand for development as it is a large population centre and is strategically positioned as a transportation hub to serve other markets in North America.

COMPANY	DEVELOPMENT LOCATION
WAM	City of Calgary
BENTALL KENNEDY	Rocky View County
SUN LIFE	City of Calgary
GWL	City of Calgary
OXFORD	City of Calgary
BLACK WATCH PROPERTY	Rocky View County
ENRIGHT CAPITAL LTD	City of Calgary
HOPEWELL	City of Calgary, Rocky View County

Figure 3 - Locations of Development by Industrial Real Estate Developer

Although developers' primary focus is on Calgary and Rocky View County, there are many Industrial Parks across Southern Alberta with development opportunities. The parks vary greatly in size and encompass all forms of industrial use.

Below is a count of Industrial Parks across Southern Alberta by region/municipality:

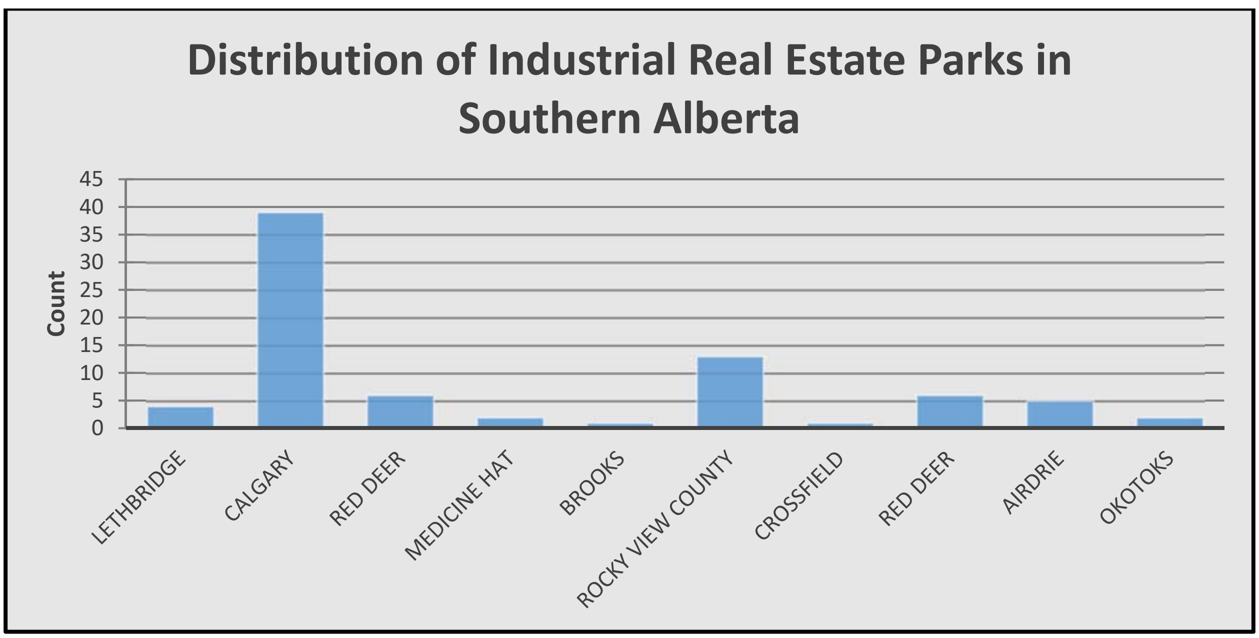


Figure 4 - Distribution of Industrial Real Estate Parks in Southern Alberta

The following list highlights the major distribution centres in the Calgary Region. These distribution centres are primarily used by major retailers (or logistics arms of major retailers), 3PLs and distributors.

COMPANY NAME	ADDRESS	TYPE	SIZE	INDUSTRY
AVALAN LOGISTICS INC	7139 44 St SE #116, Calgary, AB	Distribution Centre	140,000 sq. ft.	Logistics
CANADIAN TIRE (GENCO)	5650 R Dufferin Blvd SE Calgary, AB	Distribution Centre	935,000 sq. ft.	Major Retail
CO-OP	3333 52 St SE, Calgary, AB	Distribution Centre	400,000 sq. ft.	Major Retail
COSTCO WHOLESALE CANADA	1300 RGE Road 293 NE, Airdrie, AB	Distribution Centre	296,000 sq. ft.	Major Retail
DHL EXPRESS CALGARY (AIRPORT)	2100 78 Ave NE, Calgary, AB	Distribution Centre	120,000 sq. ft.	Logistics
DIRECT DISTRIBUTION CENTRES	5555 69 Ave SE, Calgary, AB	Distribution Centre	260,000 sq. ft.	Logistics
FEDEX (FREIGHT)	285250 Wrangler Rd, Rocky View County, AB	Distribution Centre	40,000 sq. ft.	Logistics
FGL SPORTS (FORZANI GROUP)	824 41 Ave NE, Calgary, AB	Distribution Centre	115,000 sq. ft.	Distribution
FMI LOGISTICS CALGARY	7151 44 St SE #111, Calgary, AB	Distribution Centre	160,000 sq. ft.	Logistics
GFS	290212 Township Rd 261 Rocky View, AB	Distribution Centre	290,000 sq. ft.	Distribution
HOME DEPOT CANADA, RDC (CERT LOGISTICS)	6324 106 Ave SE Calgary, AB	Rapid Deployment Centre	425,000 sq. ft.	Major Retail
HOME DEPOT CANADA, SDC (CERT LOGISTICS)	6325 106 Ave SE Calgary, AB	Stocking Distribution Centre	640,000 sq. ft.	Major Retail
LOBLAWS	55 Freeport Blvd NE Calgary, AB	Distribution Centre	500,000 sq. ft.	Major Retail
RONA INC. (OWNED BY LOWES)	2015 60 Street SE Calgary, AB	Distribution Centre	350,000 sq. ft.	Major Retail
SAFEWAY	5715 56 Ave SE, Calgary, AB	Distribution Centre	280,000 sq. ft.	Major Retail
SAFEWAY	30 42 Ave SE, Calgary AB	Distribution Centre	285,000 sq. ft.	Major Retail
SEARS (SCI LOGISTICS)	5500 Dufferin Blvd SE Calgary, AB	Distribution Centre	610,000 sq. ft.	Major Retail
SOBEYS	7704 30 St SE Calgary, AB	Distribution Centre	220,000 sq. ft.	Major Retail
SOBEYS	260199 High Plains Blvd, Range Rd 291, Balzac, AB	Distribution Centre	1,300,000 sq. ft.	Major Retail
SYSCO CANADA	4639 72 Ave SE Calgary, AB	Distribution Centre	240,000 sq. ft.	Distribution
THE BRICK	5500 22nd Street SE Calgary, AB	Distribution Centre	280,000 sq. ft.	Major Retail
VERSACOLD GROUP	5600 76 Ave SE, Calgary, AB	Refrigerated DC	180,000 sq. ft.	Refrigerated Warehousing
WALMART CANADA, DC	3400 39th Ave. NE Calgary, AB	Distribution Centre	1,200,000 sq. ft.	Major Retail
WALMART CANADA, HVD	261043, Range Rd 292, Rocky View No. 44, AB	High Velocity Distribution Facility	500,000 sq. ft.	Major Retail
WALMART CANADA, RDC	261039 Wagon Wheel Cres, Rocky View No. 44, AB	Refrigerated DC	400,000 sq. ft.	Major Retail
WESTCO MULTITEMP DISTRIBUTION CENTRES INC.	5500 72 Ave SE, Calgary, AB	Refrigerated DC	140,000 sq. ft.	Refrigerated Warehousing

Figure 5 - Major Distribution Centres in the Calgary Region

Summary of DCs and Warehouses in Southern Alberta

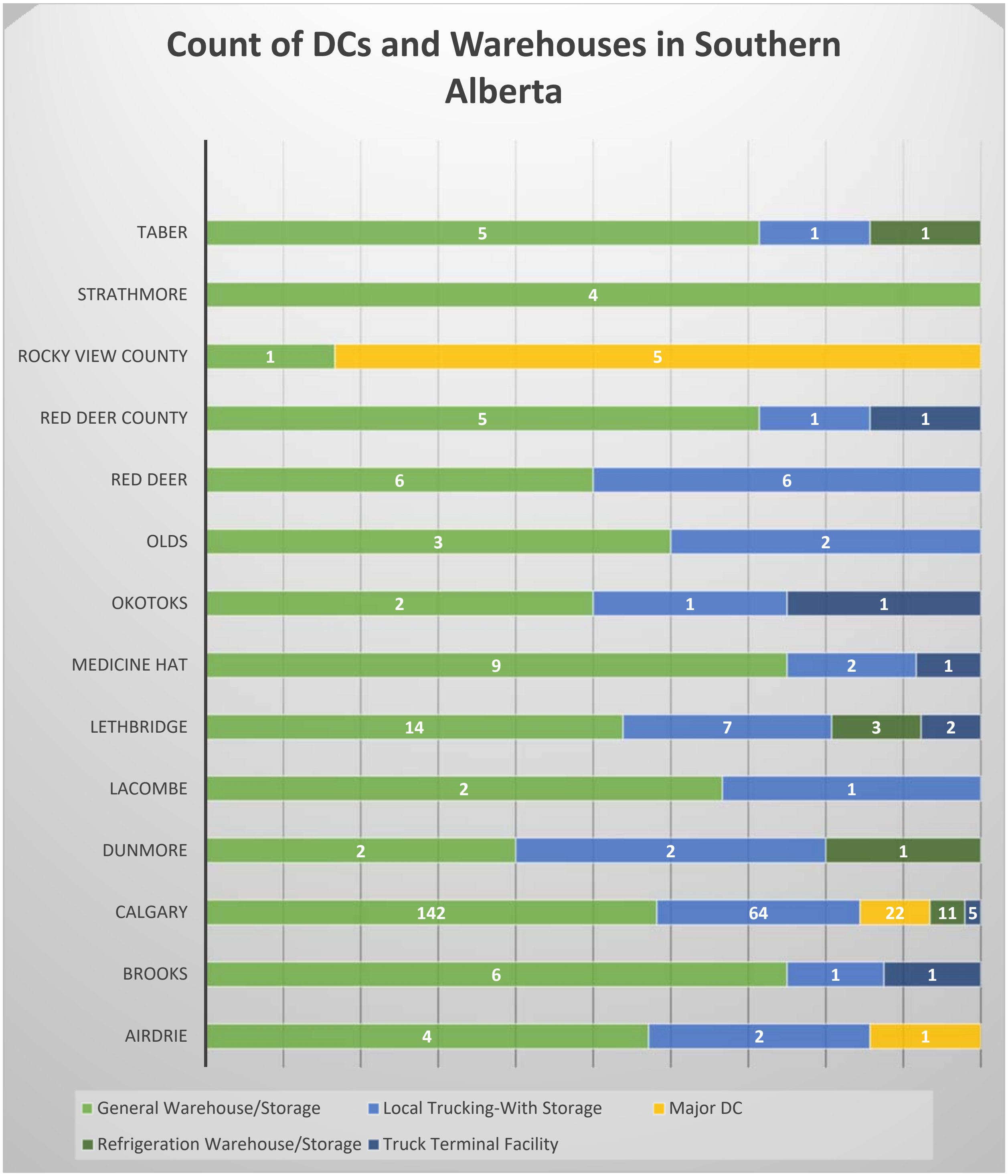


Figure 6 - Distribution of DCs & Warehouses in Southern Alberta

Map of Industrial Parks in Calgary

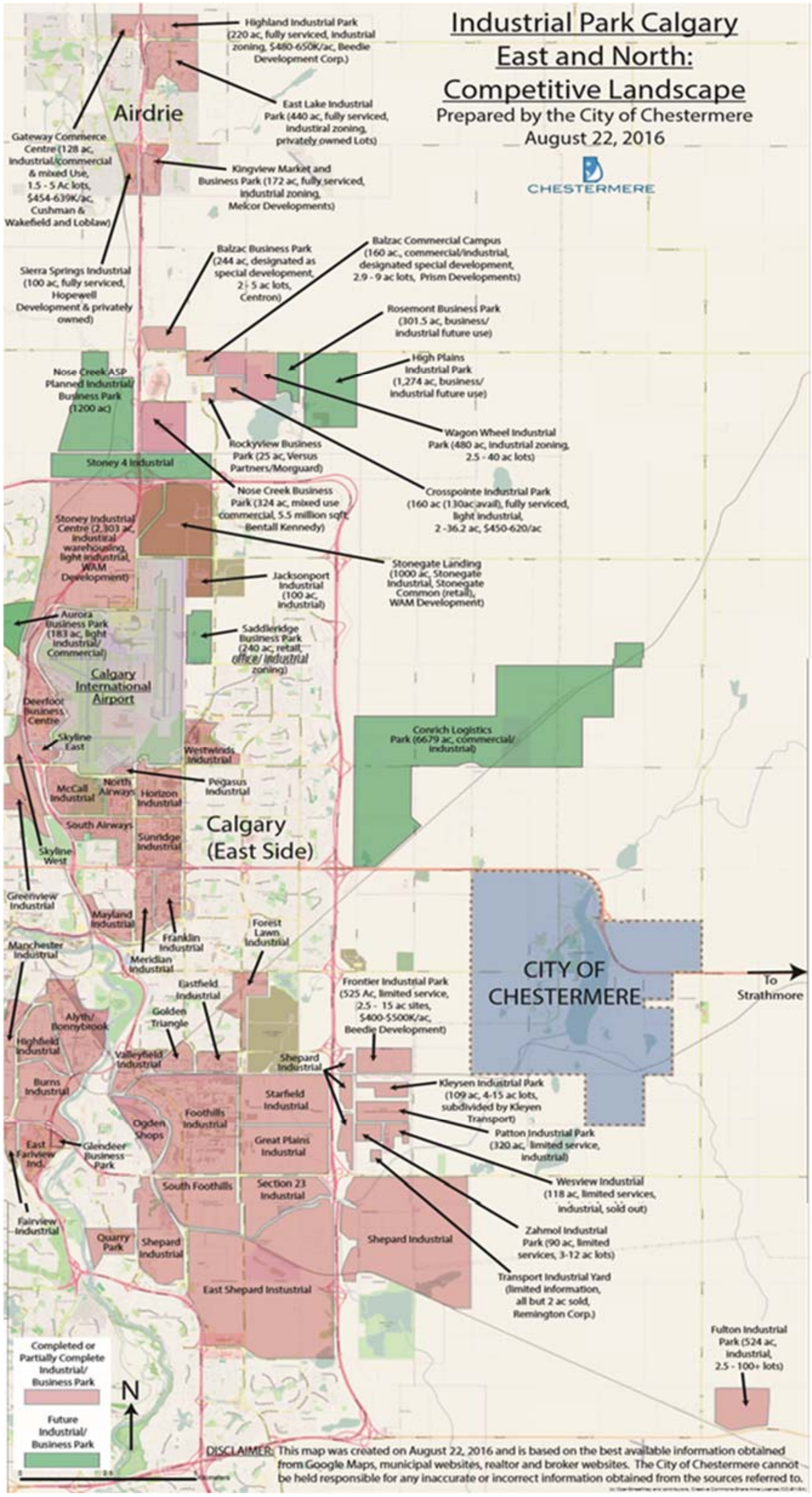


Figure 7 - Map of Industrial Parks in Calgary

Reproduction Authorized by the City of Chestermere

Industrial Real Estate Parks in the Calgary Region

Industrial Park Name	Location	City	Status	Size	Permitted Uses
Gateway Commerce Centre Industrial - Inducor	Located on the north west intersection of Highway 567 and Highway 2)	Airdrie	Fully Serviced	80 acres total, lots ranging in size from 1.087 - 2.721 acres	IB-1, IB-2, DC27-1
Highland Park Industrial	Hamilton Boulevard & Veterans Boulevard NE	Airdrie	Fully Serviced	220 acres	IB-1, DC27-1, DC27-2
Kingsview Industrial Park	NE Airdrie	Airdrie	Fully Serviced	172 acres	IB-1
East Lake	NE Airdrie	Airdrie	Fully Serviced, privately owned lots	440 acres	Industrial
Sierra Springs	SW Airdrie	Airdrie	Fully Serviced	26 acres	IB-2, IB-3
Balzac Business Park	Along QE II	Balzac		244 acres, 2-5 acres lots	Special Development
Aurora Business Park	Bordered by Harvest Hills Boulevard to the west and 6 Street N.E. on the east and sits immediately north of West Nose Creek Park	Calgary	Raw land for future projects	240 gross acres	Light Industrial/Commercial
Dufferin Intermodal Park	South of Glenmore Trail S.E. and west of 68th Street S.E.	Calgary	Home Depot	220 net developable acres	Industrial General (I-G)
Forest Lawn Creek Industrial Park	Calgary South East	Calgary	Raw land for future projects	950 gross acres	NA

Industrial Park Name	Location	City	Status	Size	Permitted Uses
Lincoln Park Business Park	50 Avenue SW and Crowchild Trail interchange.	Calgary	Under constructi on	100 acres	Light industrial
Point Trotter Industrial Park - Phase 2	South of Glenmore Trail on 68 Street and 106 Avenue SE	Calgary	NA	18 lots; 40 acres	NA
Point Trotter Industrial Park Phase 1	South of Glenmore Trail on 68 Street and 106 Avenue SE	Calgary	Selling lots	71 net developable acres	Light industrial (I-G) and retail business uses (I-B). Industrial General (I-G) – 26 lots Industrial Business (I-B) – 2 lots
Royal Vista Business Park	South of 112 Avenue NW and east of 85 Street NW	Calgary	4 lots for sale	134 gross acres (93 net acres) divided into 30 fully serviced lots	Office, commercial, and light industrial (DC Direct Control District and I-B Industrial Business)
Starfield Industrial	61st Ave SE & 52 St	Calgary	1 lot for sale	7 lots - 2.02 acres to 2.63 acres 1 lot - 9.89 acres	I-G land ideal for light manufacturing and service industries.
WAMs StoneGate Industrial Park	NE corner of Deerfoot Trail and Country Hills Blvd	Calgary	306,000 sq. ft. available. 800 acres' land for future developm ents	Building A: 413,000 square feet Building E: 77,000 square feet	Distribution and logistics, light manufacturing and service commercial users
Jacksonport Industrial	Northeast corner of International Airport	Calgary	When complete,	100 acres	Industrial

Industrial Park Name	Location	City	Status	Size	Permitted Uses
			will house 1 million sq. ft.		
Alyth/Bonny Brook	South Central	Calgary	N/A	N/A	N/A
Burns Industrial	South Central	Calgary	N/A	N/A	N/A
Eastfield Industrial	South East	Calgary	N/A	N/A	N/A
East Fairview Industrial	South Central	Calgary	N/A	N/A	N/A
East Shepard Industrial	South East	Calgary	N/A	N/A	N/A
Foothills Industrial	South East	Calgary	N/A	N/A	N/A
Franklin Industrial	North East	Calgary	N/A	N/A	N/A
Fairview Industrial	South Central	Calgary	N/A	N/A	N/A
Great Plains Industrial	South East	Calgary	N/A	N/A	N/A
Greenview Industrial Park	North East	Calgary	N/A	N/A	N/A
Highfield Industrial	South Central	Calgary	N/A	N/A	N/A
Horizon Industrial	North East	Calgary	N/A	N/A	N/A
McCall Industrial	North East	Calgary	N/A	N/A	N/A
Meridian Industrial	North East	Calgary	N/A	N/A	N/A
Mayland Industrial	North East	Calgary	N/A	N/A	N/A
Manchester Industrial	South Central	Calgary	N/A	N/A	N/A
Ogden Shops	South East	Calgary	N/A	N/A	N/A
Pegasus Industrial	North East	Calgary	N/A	N/A	N/A
Section 23 Industrial	South East	Calgary	N/A	N/A	N/A
Saddle Ridge Industrial	North East	Calgary	N/A	N/A	N/A
Stony 1 Industrial	North East	Calgary	N/A	N/A	N/A
Stony 2 Industrial	North East	Calgary	N/A	N/A	N/A
Stony 3 Industrial	North East	Calgary	N/A	N/A	N/A
Stoney 4 Industrial	North East	Calgary	N/A	N/A	N/A
Sunridge Industrial	North East	Calgary	N/A	N/A	N/A
Valleyfield Industrial	South East	Calgary	N/A	N/A	N/A

Industrial Park Name	Location	City	Status	Size	Permitted Uses
Westwinds Industrial	North East	Calgary	N/A	N/A	N/A
East Chestermere	East Chestermere	Chestermere	Fully Serviced, Un-serviced	380 acres *total of all commercial/ industrial parks in Chestermere	BP LI - Business Park Light Industrial
Rainbow Falls	Central Chestermere	Chestermere	Fully Serviced	380 acres *total of all commercial/ industrial parks in Chestermere	BP LI - Business Park Light Industrial
South Chestermere	South Chestermere	Chestermere	Fully Serviced, Un-serviced	380 acres *total of all commercial/ industrial parks in Chestermere	BP LI - Business Park Light Industrial
Town of Cochrane	Central Cochrane	Cochrane	Un-serviced, Partially Serviced	45 acres	M-1, Light Industrial Park
Okotoks Business Park	32nd Street and McAlpine Crossing	Okotoks	Fully Serviced	300 acres * total of parks in Okotoks, Lots - 0.73 acres to 1.64 acres	I-3 zoned industrial
Southbank Industrial	South East Okotoks	Okotoks	Fully Serviced	300 acres * total of parks in Okotoks	I-1S - South Business Industrial

Industrial Park Name	Location	City	Status	Size	Permitted Uses
Cross Pointe Industrial Park	Located near CrossIron Mills	Rocky View County	Fully Serviced	160 acres, ,85 acres available, 2-36.2 acre lots	Light industrial
Fulton Industrial	10 mins east of SE Calgary	Rocky View County	Active - Land Available for future stages	525 Acres	Industrial Development
High Plains Industrial Park	68 Avenue between 57 Street and 64 Street SE	Rocky View County	Active	1,100 acres, 150 acres currently available	General warehousing, distribution and light manufacturing
CN Logistics Park	2 miles to Stoney Trail, Conrich	Rocky View County	Limited Service	170 acres, 6679 acres developable	Zoned warehouse distribution
Wesview	84 Street Industrial Area	Rocky View County	Limited Service	118-acre	limited-service industrial business park
Wagon Wheel Industrial Park	Balzac	Rocky View County	Limited Service	480 acres, 2.5-40 acre lots	Industrial zoning
Nose Creek Business Park	North of Calgary, along QE II	Rocky View County	Limited Service	324 acres, 5.5 million sf	Mixed use Commercial
Black Watch Properties	Dwight McLellan Trail & Metis Trail & Cross Iron Drive	Rocky View County	Limited Service	105,000 sq	Industrial
Frontier Industrial Park	Shepard Area Structure Plan	Rocky View County	Limited Service	525 acres, 2.5-15 acre lots	Industrial
Kleysen Industrial Park	84th Street SE & CN Main Line	Rocky View County	Limited Service	109 acres, 4-15 acre lots	Industrial
Patton Industrial Park	Range Road 285 and 84th Street SE	Rocky View County	Limited Service	320 acres	Industrial

Industrial Park Name	Location	City	Status	Size	Permitted Uses
Canal Crossing	Highway 1 and Highway 817	Strathmore	Fully Serviced, Un-serviced	1.36 acres	M-1 - Light Industrial Park, M-2 - General Industrial
Canal Gardens	Highway 1 and Highway 817	Strathmore	Fully Serviced, Un-serviced	2.0 acres	M-1 - Light Industrial Park, M-2 - General Industrial
Legacy Creek	South of TransCanada Highway	Strathmore	Un-serviced	NA	M-1 - Light Industrial Park, M-2 - General Industrial
Pivot Fields	South of TransCanada Highway	Strathmore	Un-serviced	580 acres	M-1 - Light Industrial Park, M-2 - General Industrial
Spruce Park	South of TransCanada Highway	Strathmore	Un-serviced	NA	M-1 - Light Industrial Park

Industrial Real Estate Parks in the South Alberta Region

Industrial Park Name	Location	City	Status	Size	Permitted Uses
Town of Black Diamond		Black Diamond	Fully Serviced		SC - Service Commercial
Highway Industrial Park		High River	Fully Serviced	350 acres *total of all parks in High River	I-2 - General Industrial District
High River Industrial Park		High River	Fully Serviced	350 acres *total of all parks in High River	I-2 - General Industrial District
South West Central High River		High River	Fully Serviced	350 acres *total of all parks in High River	I-1 - Light Industrial, I-3 - Railway Industrial, CM - Special Commercial/Industrial
Anderson Industrial Park	East Lethbridge	Lethbridge	N/A	N/A	Industrial
Churchill Industrial Park	North-East Lethbridge	Lethbridge	N/A	N/A	Industrial
Shackleford Industrial Park	East Lethbridge	Lethbridge	N/A	N/A	Industrial
Sherring Industrial Park	Northeast corner of Lethbridge, along 26ave and between 28st and 43st	Lethbridge	Developed - Lots available	350 acres	General / Heavy Industrial
East Nanton	East Nanton	Nanton	Fully, Partially, Un-serviced	N/A	IN - Industrial

Industrial Real Estate Parks in the Medicine Hat Region

Industrial Park Name	Location	City	Status	Size	Permitted Uses
Brooks Industrial Park	Close to Highway 1	Brooks	Growing logistics and transportation hub. Centre for agricultural goods processing	160 acres	Light Industrial
Box Springs Business Park	Adjacent to Highway 1	Medicine Hat	Developed - Lots available	1030 acres	Retail, Light Industrial
Brier Industrial Estates	Adjacent to Highway 1	Medicine Hat	N/A	N/A	Industrial
Red Cliff Industrial Park	Adjacent to Highway 1	Red Cliff	22 acre site for sale	N/A	Industrial

Industrial Real Estate Parks in the Red Deer Region

Industrial Park Name	Location	City	Status	Size	Permitted Uses
Crossfield Industrial	located on Highway #2, 20 minutes North of Calgary	Crossfield	Few lots available for immediate sale, lease or a design-build facility	5.4 acres	Light Industrial
Irricana Industrial Parks	North and SouthWest Irricana	Irricana	Un-serviced	270 acres	M-2, LID
Blindman Industrial Park	North of Red Deer, Off Highway 2A	Red Deer	Require on-site servicing	120 acres	Light and Medium Industrial
Clearview Industrial Park	South of Delburne Road on 40th Avenue	Red Deer	Fully serviced, undeveloped sites available	N/A	Industrial and Commercial
Gasoline Alley Business Park	Located on the east and west side of the QE II, north of Mackenzie Road	Red Deer	Fully serviced	N/A	Highway commercial, light industrial
Kuusomo Industrial Park	West of the Town of Sylvan Lake off Highway 11	Red Deer	Require on-site servicing	N/A	Light Industrial
McKenzie Industrial Business Park	1.5 miles south of Red Deer, truck access via McKenzie Road to the south and 40th Avenue (RR 273) to the west.	Red Deer	Fully serviced, bays available for lease	Total leaseable area, 66,300 sq. ft.	Zoning: MI-medium
Petrolia Industrial Park	East side of QE II (Highway #2) south of The City of Red Deer boundary	Red Deer	Fully serviced, developed	N/A	General commercial and light industrial

Outlook for Industrial Real Estate and DC Development

Developer Target Market

Industrial developments are generally not focused towards any particular industry. Warehouses and distribution centres are built generically on a speculative basis for all potential clients. Examples could include goods manufacturing and food and beverage production. While developers target the transportation and logistics industry as consumers of warehouse space, it is generally only a segment of their focus.

Development Outlook in Southern Alberta

As a result of the economy slowing down in Calgary, some developers are seeing shrinking demand. Two developers, WAM and Bentall Kennedy, have a large capacity for growth with no new projects until 2020, within Stonegate Industrial Park and Nose Creek Park (see table below). Both parks are located in close proximity to the CN intermodal yard in Conrich. In the south east of Calgary, Hopewell also has a large development with up to 1,000,000 sq. ft. of capacity. The feedback from survey respondents suggests that Calgary is well suited to accommodate increased intermodal container volumes from west coast ports.

COMPANY	PLANNED DEVELOPMENT UNTIL 2020 IN THE CALGARY REGION
WAM	800 acres in Stonegate Industrial Park. Looking for land in SE once current development is fully leased.
BENTALL KENNEDY	Roughly 5,000,000 sq. ft. at Nose Creek Park. 1.5 million sq. ft. done by 2020. 750,000 sq. ft. capacity in SE for distribution.
SUN LIFE	200,000 sq. ft. at Airport Crossing – light industrial.
GWL	None
OXFORD	850,000 sq. ft. available in Oxford Airport Business Park
BLACK WATCH PROPERTY	None
ENRIGHT CAPITAL LTD.	Just completing 300,000 sf north of Calgary Airport and starting another 250,000 sf in 2017.
HOPEWELL	Development in Great Plains with capacity of up to 1,000,000 sq. ft. for multi tenant use. Total acreage is 160 with 80 remaining.

Figure 8 - Planned Industrial Real Estate Development in the Calgary Region until 2020

Southern Alberta Economic Development Officers Outlook for Industrial Development

All Alberta Economic Development Officers (EDOs) in the region felt that the logistics sector, including, warehousing, distribution and transportation, offer enhanced growth possibilities for their area. Rocky View County has arguably been one of the larger benefactors of the growth created by the logistics sector with large developments in Balzac, 84th St area and the introduction of the CN Conrich Intermodal Park in Rocky View County. Calgary is also placing a large emphasis on the transportation and logistics sector as it diversifies its economic base.

Outside of the Calgary region, municipalities are also targeting the sector as a way to promote growth for their area. Medicine Hat specifically, is targeting the logistics sector because of it's strategic location. It has access to highways 1, 3 (East / West) and 41, 36 (North / South), is in close proximity to the Wild Horse Border Crossing and has access to the CP mainline.

Transportation Factors Affecting Volumes for Two-Way Trade in Southern Alberta

Infrastructure & Access

All industrial real estate respondents stated that the required major infrastructure can be found in the Calgary Region. All land is either serviced or serviceable with some developments requiring local access roads. One developer mentioned that the presence of rail crossings in South East Calgary were a concern. However, steps are currently being taken to upgrade the infrastructure including the development of a new bridge over the CP rail line on Glenmore Trail.

EDOs across the municipalities/regions view the logistics sector as highly beneficial for economic growth and with a high potential to facilitate new opportunities. Market accessibility, land availability, and opportunities for growth have made municipalities/regions receptive to supporting and increasing both exports and imports with the Ports of Prince Rupert and Vancouver. Some concerns regarding regional connectivity were expressed by EDOs.. The table below summarizes these concerns.

MUNICIPALITY/ REGION	INFRASTRUCTURE REQUIREMENTS
CED	- Important for any type of development. Roads, utilities, long term planning.
CRP	- CRP about to undertake transportation/roads prioritization study, including a goods movement component. - Current issues to be addressed: o Highway 36 high load corridor. Manufacturing loads from Calgary to Fort McMurray. There is a bridge over the Red Deer River that has capacity constraints. Have been advocating as regional priority for dimensional load. o Road solutions in SE Calgary for congestion problems east of city boundary. o Providing adequate long term access solutions to CN Conrich Intermodal terminal. Access from Highway 1 and west to Highway 2.
ROCKY VIEW COUNTY	- Alberta Transportation unable to develop a direct connection to Stoney and Glenmore from 84th street. - Planning a second ring road either to Airdrie or Strathmore. - Bridges in high load corridor, Red Deer River. - Exiting the City North or East may require future attention.

MUNICIPALITY/ REGION	INFRASTRUCTURE REQUIREMENTS
AIRDRIE	- More shovel ready land, 1,000 acres expected, bringing more for options for T&L. - Pressure on access to highway QE2 to and from highway.
OKOTOKS	- Completion of Ring Road.
CHESTERMERE	- Road, bridge, water and waste water servicing, fiber optics.
LETHBRIDGE & REGION	- Most product trucked to Vancouver or to Seattle, rail connection is not great. - Highway 36 (high load corridor) goes through the region and would be good to have twined as well as highway 3. - Would be good to bring back intermodal as industry feel it would help get goods to market at lower cost. - Expanding Regional Airport for improved service.
EAST ALBERTA TRADE CORRIDOR	- Wild Horse border crossing has limited service and operating hours and no electronic data transfer. - Highway 41 south Saskatoon River bridge with cap on it which prevents large loads crossing. - Highway 36 south Saskatoon river bridge is wide but does not have sufficient load capacity - Highway 36 to Medicine Hat should be designated as a high load corridor - On highway 36 additional pull outs required - Some areas of highway 41 have narrow shoulders with steep grades on either side
RED DEER	- We have extended the runway at airport to allow access to 737 planes. We need more serviced land, please see 5 year growth plan for details.

Figure 9 - Infrastructure Requirements by Municipality/Region

MUNICIPALITY/ REGION	CHOKE POINTS FOR GROWTH OPPORTUNITIES
CED	- Regional cooperation required to more effectively attract foreign direct investment/new businesses. Focus on Calgary as a region instead individual municipalities.
CRP	- No specifics.
ROCKY VIEW COUNTY	- Glenmore from Macleod 84th street. - Highway 2 will need continued interchange planning.
AIRDRIE	- Access as city has doubled in size in the last 10 years. (30% of workforce goes to Calgary.)

	- Rush hour experiencing increased delays. In talks with AT for improved interchanges.
CHESTERMERE	- Current access is bad but will be remedied in 2018 with a 2 lane paved industrial standard road. - Controlled access to the TransCanada highway (or interchange). The municipality does not have the financial means to upfront the costs.
LETHBRIDGE & REGION	- No intermodal, has not been here for 20 years. All intermodal needs go through Calgary. - Biggest bottleneck is road infrastructure.
EAST ALBERTA TRADE CORRIDOR	- Wild Horse Border Crossing. - Moving north you hit Cypress hills which have steep gradients for trucks. Trucks either go around or over depending on load.
RED DEER	- Main challenge is to bring the Transportation industry to the region, as still very small. We have excellent access to Calgary and Edmonton.

Figure 10 - Major Choke Points for Growth by Municipality/Region

Access to Prince Rupert Gateway

In addition to access to the Port of Vancouver, all new developments in the Calgary region have access to the Port of Prince Rupert either by road or rail. There are relatively few warehouses serviced by rail spurs while the majority of developments tend to focus on access to intermodal yards by road. Calgary has a higher emphasis on the distribution of manufactured goods versus manufacturing, making the demand for good intermodal access higher.

Developers noted that there is demand for good access to intermodal yards in Calgary. The port chosen for imports/exports does not materially change their decision making. Developers did recognize the importance of the Port of Prince Rupert as it contributes to the Calgary region as a transportation hub.

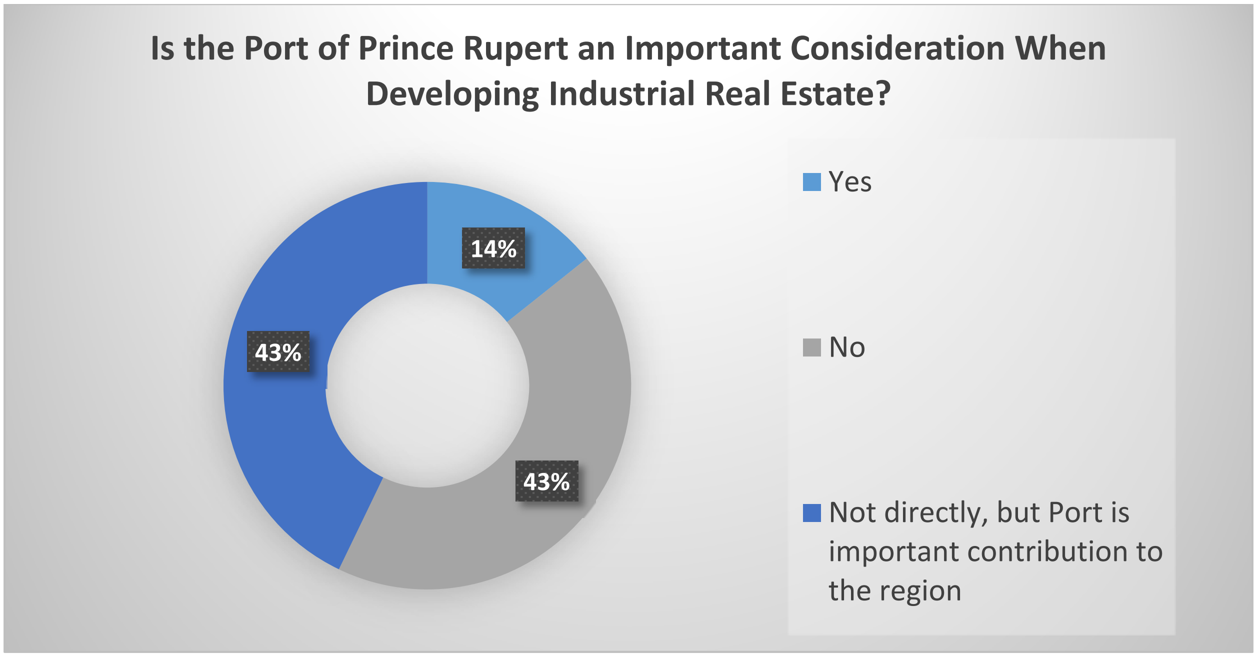


Figure 11 - Importance of Prince Rupert as Factor for Industrial Real Estate Development

EDO's suggest that current access to the CN Conrich Intermodal facility is meeting their expected needs. However, with the projected growth of economic activity detailed in this study, most EDO's believe improving/expanding the accessibility to Conrich would be necessary. Chestermere's EDO noted consistent congestion to facility as well as safety concerns with access from Highway 1; concluding that an additional access point off Highway 791 would relieve both issues. Representatives of Lethbridge Region and Eastern Alberta Trade Corridor mentioned distance as a key factor with Lethbridge Region finding benefits of utilizing intermodal out of Shelby, Montana instead of Conrich as an additional option. Chart below details anticipated access issues:

MUNICIPALITY/REGION	ANTICIPATED ACCESS ISSUES TO CN CONRICH FACILITY
CED	- No expected issues.
CRP	- Immediate access issues as outlined in infrastructure/chokepoints. Strategic issues: Southern Alberta Agriculture producers, availability of empty containers and then back to Conrich.
ROCKY VIEW COUNTY	- CN has area plan. Main entry point from Calgary on McKnight. - CN has invested $10 million in upgrading access.
AIRDRIE	- No complaints or concerns, would be nice to get secondary access to Conrich. Would help efficiency to separate cars and trucks and mitigate risks of dangerous goods. - Weigh scales concern south of Airdrie. Mayor has been vocal in past to mitigate challenges.

MUNICIPALITY/REGION	ANTICIPATED ACCESS ISSUES TO CN CONRICH FACILITY
CHESTERMERE	- Current access point from McKnight Boulevard is congested, and will remain that way for decades. The transportation has not been fully thought through. Alternative access would be wise, in case of an emergency. - Access points from the TransCanada Highway are currently dangerous. The completion of Highway 791, north of the Trans-Canada Highway with the link going West to Conrich would be another good option. We believe this access point to CN Conrich Intermodal facility is key to the development of its full potential.
OKOTOKS	- N/A
LETHBRIDGE & REGION	- If Calgary keeps growing outwards, congestion into terminal may become a problem. Pepsico mainly transported by truck with some product being exported to international markets. - No expected issues, however CP has dominant access in southern Alberta as they own the market. BNSF has heavily targeted the area to promote intermodal access through Shelby, Montana. Distances to intermodal are comparable between Calgary and Shelby.
EAST ALBERTA TRADE CORRIDOR	- Have not heard any specific issues. When building business case for export, distance is a factor, and there may be an appeal to find faster ways to get to Prince Rupert. - Intermodal by truck good access.
RED DEER	- No issues, good access.

Figure 12 - Anticipated Access Issues to CN Conrich Facility in Rocky View by Municipality/Region

Subject to the infrastructure limitations identified below, highway 16 provides the only viable option in western Canada to move over-dimensional freight to the Port of Prince Rupert. Highways 1 and 3, are unsuitable for over-dimensional freight due to grade and space restrictions. Current infrastructure limitations on highway 16, include the need for twinning as well as clearance issues at specific points. Economic Development Officers are supportive of Highway 16 improvements. Some respondents felt that improvements to highway 16 would have little impact on their region/municipality but would be beneficial for Alberta and compliment the CN Conrich Logistics Park. Respondents indicated there would be benefits of improved access to Prince Rupert to “diversify economic base and increase customer base”.

MUNICIPALITY/REGION	PERSPECTIVES ON HIGHWAY 16 IMPROVEMENTS
CED	- N/A
CRP	- Yes, could support.
ROCKY VIEW COUNTY	- Support through unified voice. Would compliment CN Park.

MUNICIPALITY/REGION	PERSPECTIVES ON HIGHWAY 16 IMPROVEMENTS
AIRDRIE	- Airdrie active in advocating accessibility. CLC and the Van Horne Institute actively participating. Will support Van Horne initiatives.
CHESTERMERE	- In principle, yes. Financially, no.
OKOTOKS	- N/A
LETHBRIDGE & REGION	- No direct impact to our region (SW Alberta). But would support for greater good of Alberta. - Conditional yes depending on cost advantage of Prince Rupert vs. Vancouver and other US ports. However, good to have access to additional ports to provide multiple options in the region.
EAST ALBERTA TRADE CORRIDOR	- Our focus is primarily moving north/south, however improved access to Prince Rupert would be beneficial. Also backhaul container shipments could help our local producers.
RED DEER	- In principal yes, however it would need to go through council.

Figure 13 - EDO Perspective on Highway 16 Improvements

Pricing & Service

Pricing and service offerings by ocean ports are two important factors considered when companies import and export products. To gain insights into their port selection process, we interviewed freight forwarders and DC managers in the Calgary Region.

The majority of companies contacted are currently using the Port of Prince Rupert to receive their goods into the Calgary region, however volumes are very low. On average, imports from Asia represented approximately 80-90% of total imports. Two organizations reported receiving only 30% of imports from Asia due to their greater focus on European imports.

Although companies use the Port of Prince Rupert to import their goods from Asia, a far greater proportion of goods comes through the port of Vancouver. The table below shows percentage of total imports coming through the Port of Prince Rupert or the Port of Vancouver:

	IMPORTS THROUGH PORTS OF PRINCE RUPERT	IMPORTS THROUGH PORT OF VANCOUVER
FREIGHT FORWARDER 1	Less than 5% maybe 3%.	40%.
FREIGHT FORWARDER 2	5%	15%
FREIGHT FORWARDER 3	70%	30%
FREIGHT FORWARDER 4	Rarely used	Around 25% of volume
FREIGHT FORWARDER 5	0%	90%
FREIGHT FORWARDER 6	10%	80 to 90%
DC MANAGER 1	less than 2%	Everything else
DC MANAGER 2	Zero	100%

Figure 14 - Comparison of Volumes by Port of Entry for Imports to Calgary

Figure 13 demonstrates that the proportion of imports coming through the Port of Prince Rupert into the Calgary region is very low (approximately 5%).

Respondents indicated that the Port of Vancouver was used predominantly due to the following factors:

1. Cost & Shipping Line

Generally, companies rely on rates provided by shipping lines to base their decision for the port of entry, as cost is prioritized in the decision making process.

Rates shared by a freight forwarder indicated that shipping through the Port of Prince Rupert into Calgary is more expensive when compared to the Port of Vancouver.

- Shanghai > Port of Prince Rupert > Calgary: 20ft - 2,550 USD / 40ft - 2,830 USD
- Shanghai > Port of Vancouver > Calgary: 20ft - 2,350 USD / 40ft - 2,580 USD

2. Service & Capabilities

The Port of Prince Rupert provides a speed advantage for shipments coming into Calgary over the Port of Vancouver. Shipments coming from Shanghai via Prince Rupert could be up to 5 to 7 days faster into Calgary. Another respondent stated that the Port of Prince Rupert is “used when quicker shipping time is required.” This feedback suggests the Port of Prince Rupert may be perceived only as a secondary option for time sensitive freight.

Other respondents noted that schedule limitations were a reason for not using the Port of Prince Rupert as there are less carriers servicing the port.

Volume Estimate by Port

An estimate of total imports (Total Equivalent Units (TEUs)) into Calgary by Port can be made using the following assumptions:

ASSUMPTION	VALUE	SOURCE
TOTAL TEU PICKS IN CALGARY, 2013	809,400 TEUs	Calgary Region Economic Partnership, Calgary's 2013 annual terminal unit picks confirmed by CN and CPR, November 2014. 1.9 unit to TEU conversion confirmed by CN, November 2014.
% OF TOTAL SHIPMENTS ORIGINATING IN ASIA	80%	Estimates calculated from DC manager Survey conducted for this study
% OF TOTAL SHIPMENTS ORIGINATED FROM OTHER REGIONS	20%	
% OF ASIAN SHIPMENTS COMING INTO CALGARY THROUGH THE PORT OF PRINCE RUPERT	5%	
% OF ASIAN SHIPMENTS COMING INTO CALGARY THROUGH THE PORT OF VANCOUVER	75%	

Figure 15 - Assumptions for Estimate of Imports (TEUs) into the Calgary Region by Port of Entry

Based on these assumptions, approximately 32,376 TEUs are imported into Calgary through the Port of Prince Rupert, while 485,640 TEUs entered Calgary through the Port of Vancouver.

As demand for containerized goods continues to increase in southern Alberta, there is clearly room for growth for shipments moving through both west coast ports.

Cost of Inventory Estimate

Cost of inventory can be a significant factor for the supply chains of many organizations. Given the speed advantage of the Port of Prince Rupert over the Port of Vancouver, the cost savings per container are estimated below:

	RETAIL VALUE (USD)		ESTIMATED INVENTORY COST (USD)		ESTIMATED CAPITAL TIED UP/ HUNDRED CONTAINERS (USD)	
PRODUCTS	Low	High	Low	High	Low	High
CLOTHING (LOW VALUE)	225,000	520,000	112,500	260,000	11,250,000	26,000,000
CLOTHING (MID RANGE)	500,000	3,600,000	250,000	1,800,000	25,000,000	180,000,000
CONSUMER ELECTRONICS (SMALL)	170,000	430,000	85,000	215,000	8,500,000	21,500,000

CONSUMER ELECTRONICS (LARGE)	70,000	140,000	35,000	70,000	3,500,000	7,000,000
AUTOMOBILE PARTS	50,000	375,000	25,000	187,500	2,500,000	18,750,000

Figure 16 - Inventory Costing Estimate Summary [7]

The table above, developed by Dr. Jean-Paul Rodrigue of Hofstra University (Van Horne Institute Researcher in Transportation and Logistics) contains an estimate of the value of goods in containers by product category and the cost of an additional week of inventory. In organizations which have large container volumes, the impact can be very significant. The cost per hundred containers can add to millions of dollars tied up capital in extra inventory, while also creating increased forecasting challenges as lead times are higher.

[7] https://people.hofstra.edu/geotrans/eng/ch3en/conc3en/table_containershippingcosts.html

Regional Competitiveness & Requirements

This section benchmarks key characteristics of inland ports by comparing Calgary to other major transportation hubs in the region. Location (figure 17) and land availability (p.31) are assessed to determine competitiveness as well as capabilities provided locally. Accessibility to ports (p.31) provides an overview of transit times and capacity, while the economic comparison (p.33) helps to determine organic growth.

Location

	CALGARY	EDMONTON	WINNIPEG
RAIL ACCESS	CP, CN	CP, CN	BNSF, CP, CN
INTERMODAL ACCESS & HOURS OF OPERATIONS[8][9]	CP: Sun 0:600 to Fri 22:00; Sat: 0:600 to 22:00 CN: Mon - Sun: 24 hours daily	CP: Sun 22:00 through Fri 22:00, Sat 08:00 to 16:00, Sun 08:00 to 16:00 CN: Mon - Sun: 24 hours daily	CP: Mon 00:01- Fri 23:30; Sat & Sun 08:00-15:30 CN: Mon - Fri: 05:00 - 22:00 Sat - Sun: 06:00 to 20:00
HIGHWAY ACCESS	Highway 1 (East/West), Highway 2 (North/South)	Highway 2 (North/South), Highway 16 (East West)	Highway 1 (East/West), Access south to Minneapolis, Chicago.
MARKET ACCESS WITHIN 1000 KM RADIUS (POPULATION)[10]	 20,288,530	 15,676,870	 16,511,150

Figure 17 - Comparison of Inland Port Characteristics in Western Canada

---

[8] https://www.cn.ca/en/our-business/our-network/Intermodal-terminals
[9] http://www.cpr.ca/en/choose-rail/network-and-facilities
[10] https://www.freemaptools.com/find-population.htm

Land Availability [11]

Calgary has over 29,600 acres supply of industrial use land within the city divided between three major industrial regions. The regions include an integrated network of industrial parks, intermodal facilities and the logistics sector of the Calgary International Airport. This enables the city access to ample rail, road, and air services. Increase of industrial space is supported by the municipal government having invested $3.5 billion (2009 – 2018) in transportation infrastructure. Industrial land is currently not restricted in Calgary and there is room to expand to accommodate new opportunities.

A comparison of industrial real estate markets of Canadian inland ports (Calgary, Edmonton, Winnipeg) displays significant supply increases in both Edmonton and Calgary as well as significant construction to meet demand growth. Winnipeg is a smaller and more saturated market with less availability than the other municipalities. Calgary has the lowest net rental rate of the cities however Winnipeg is competitively priced in line with Calgary.

CITY	TOTAL SUPPLY ACRES	INVENTORY (SF)	AVAILABILITY RATE (%)	NEW SUPPLY (SF/YTD)	UNDER CONSTRUCTION (SF)	NET RENTAL RATE ($/SF)
CALGARY	29,653	131,258,392	9.0	1,123,187	333,300	7.20
EDMONTON	15,597[12]	114,454,984	8.42	1,454,872	802,013	10.58
WINNIPEG	20,000[13]	77,301,348	4.9	0 (Q2)	65,360	7.62

Figure 18 - Key Indicator on Industrial land by City

Access to Ports

Shipment Times

CN international import intermodal service schedule[14]

CITY / PORT	PORT OF VANCOUVER (DELTAPORT)	PORT OF VANCOUVER (VANTERM)	PORT OF VANCOUVER (CENTERM)	PORT OF VANCOUVER (FRASER SURREY)	PORT OF PRINCE RUPERT
CALGARY	2 days	4 days	4 days	4 days	3 days
EDMONTON	1-2 days	4 days	4 days	3 days	2 days
WINNIPEG	5 days	7 days	7 days	7 days	N/A
CHICAGO	4 days	7 days	7 days	N/A	5-6 days

Figure 19 - CN International Import Intermodal Service Schedule

Note: The transit time discrepancy found between Deltaport and other ports in Vancouver is due to the service provided by the stevedoring and port operation efficiencies.

[11] http://www.calgaryeconomicdevelopment.com/industries/focus-areas/transportation/
[12] https://www.edmonton.ca/business_economy/documents/VILI%20Report%202015.pdf
[13] http://www.centreportcanada.ca/available-properties
[14] http://www.cn.ca/-/media/Files/Customer%20Centre/Intermodal-Transit-Times/Overseas-Import-Port-to-Inland-Terminal.pdf

Transit Times by Ship

ORIGIN / DESTINATION	PORT OF PRINCE RUPERT	PORT OF VANCOUVER
SHANGHAI	11 days	12 days
SINGAPORE	20 days	25 days
BUSAN	9 days	10 days

Figure 20 - Ship Transit Times from Asia to Western Canada Ports

Capacity[15]

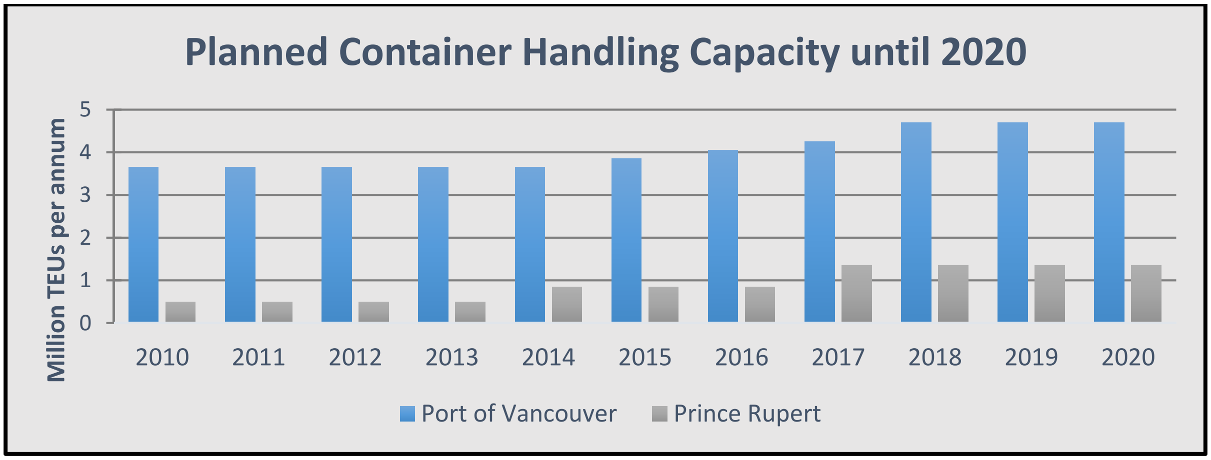


Figure 21 - Planned Container Capacity until 2020

PORT	PROJECT DESCRIPTION	CURRENT CAPACITY (M TEU/ANNUM)	PROJECTED ADDITIONAL CAPACITY (M TEU/ANNUM)	YEAR
PORT OF PRINCE RUPERT	Container terminal expansion - in stages	0.85	0.5	2017
			1.35	2017-2021*
	Full build-out anticipated		2.45	2025*
PORT OF VANCOUVER	Roberts Bank - Deltaport reconfiguration (DTRRIP)	4.05	0.60	2016 - 2018
	Roberts Bank - Terminal II development		2.40	By end of 2023
	Centerm development		0.60	By end of 2017
	Fraser port obsolete for containers		-0.15	By end of 2017

Figure 22 - Planned Expansion for Container Capacity

**Estimated*

[15] http://porttalk.ca/centermexpansion/documents/3846/download

Economic Factors

Transportation & Warehousing Sector

The Transportation and Warehousing sector employs more than 117,400 people in Alberta. The transportation industry contributes $11.2 billion annually to the Alberta economy. The major aspects of transportation and logistics are Rail, Truck, Warehouse, and Transload facilities. All of these areas have sub categories. Both Rail and Truck include carload (automotive, agri-products, coal, grain, scrap metal, gravel), tanker (whiskey, fertilizer, ethanol, oil, gasoline), intermodal / container (finished goods including food, clothing, electronics, automotive parts, machinery), and oversize and dimensional (steel pipe, windmills, and equipment).

About 87% of all Alberta products are shipped to the United States and over 60% of freight moved within the province is moved by trucks. Trucks are responsible for $7 billion or 29% of Alberta's non-pipeline exports. Alberta represents 21% of the total heavy truck population of Canada. The trucking industry in Canada generates approximately $40 billion in annual revenue. Alberta is world renowned for its expertise in heavy haul. Alberta has emerged as the western North America warehouse and distribution hub for Canada and the Pacific Northwest region of the United States. 77% of trucking revenue is derived from transport within Canada, 12% from goods transported into Canada and 11% from goods outside of Canada.

Calgary Economic Region (CER) Economic Profile[16]

The CER saw a contraction in economic activity during 2015/2016 primarily due to the decline in oil prices but it is projected by Calgary Economic Development to sustain economic growth through 2021. All sectors of the economy are adversely affected by the slowing of the oil and gas industry. However, the transport industry has remained strong benefiting from lower gas prices and CER's growing prominence as an inland port. Economic factors that will influence shipping imports and exports in CER include:

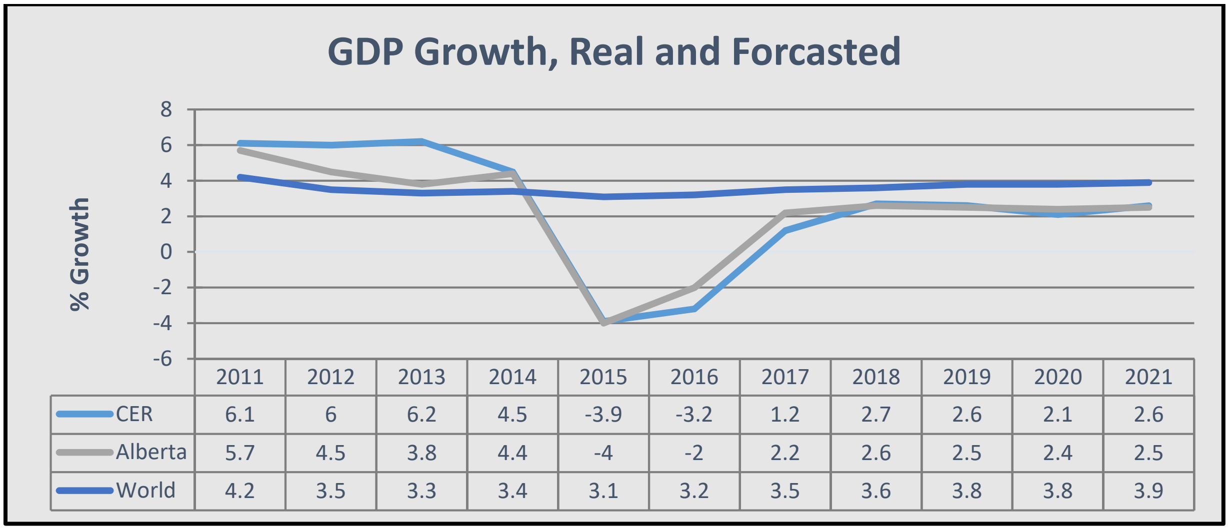
- <u>GDP and Consumer Expenditures</u>[17]
    - Reduction of capital expenditures and employment levels due to dropping oil prices led economic contractions with The City of Calgary forecasting a slow recovery extending from 2017-2019. Consumer expenditures contribute to approximately 60% of the CER's economic activity. Expenditure growth has seen a contraction; with accompanying slow recovery towards 2020.

    - CER represents a prominent portion of Alberta's economy. In comparison to the Worlds GDP growth, Alberta and CER will return to sustainable growth just behind the Global

[16] http://www.calgaryeconomicdevelopment.com/research-and-reports/economic-indicators/more-economic-indicators/

[17] http://www.calgary.ca/CA/fs/Documents/Corporate-Economics/Calgary-and-Region-Economic-Outlook/Calgary-and-Region-Economic-Outlook-2016-Fall.pdf

growth. The graph below compares GDP growth in CER, Alberta, and the World between 2011-2021:



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
CER	6.1	6	6.2	4.5	-3.9	-3.2	1.2	2.7	2.6	2.1	2.6
Alberta	5.7	4.5	3.8	4.4	-4	-2	2.2	2.6	2.5	2.4	2.5
World	4.2	3.5	3.3	3.4	3.1	3.2	3.5	3.6	3.8	3.8	3.9

Figure 23 - GDP Growth Comparison (Real and Forecasted)

- Real Estate[18]
  - Non Residential building has been heavily influenced by changes in commodity price and the Canadian dollar. Outside of oil and gas, increases in unemployment have been the largest in the construction industry. These factors have led to growing uncertainty in the industry despite increases in warehousing/distribution real estate.

- Population[19]
  - While economic growth has slowed, it is anticipated that an economic recovery is occurring with net migration increasing through 2020.
  - The increase in population will drive demand for housing and consumer goods which in turn will drive demand upward for warehousing, trucking, transloading, and rail.

[18] http://www.calgary.ca/CA/fs/Documents/Corporate-Economics/Calgary-and-Region-Economic-Outlook/Calgary-and-Region-Economic-Outlook-2016-Fall.pdf
[19] http://www.calgary.ca/CA/fs/Documents/Corporate-Economics/Calgary-and-Region-Economic-Outlook/Calgary-and-Region-Economic-Outlook-2016-Fall.pdf

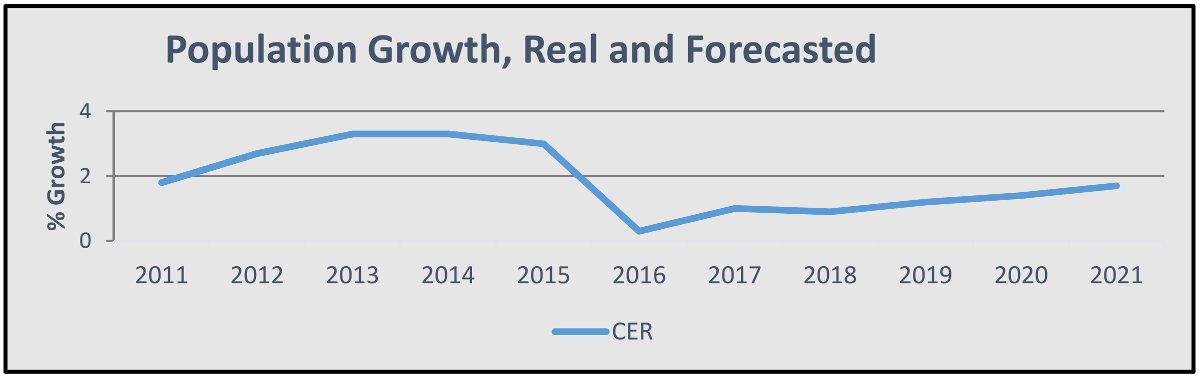


Figure 24 - Population Growth, Real and Forecasted for the Calgary Economic Region

Inland Port Economic Comparison

Calgary, Edmonton, and Winnipeg are all strong markets within Canada and each centre is forecasted to have continued growth starting late 2016.

MUNICIPALITY	GDP (2015)	GDP GROWTH (2015)	POPULATION	POPULATION GROWTH (2015)
CALGARY[20 21]	$115.7B	-2.5%	1,235,171 (2016)	2.4%
EDMONTON[22 23]	$88.1B	0.8%	899,447 (2016)	1.9%
WINNIPEG[24]	$35.9B	2.3%	794,000 (2015)	1.4%

Figure 25 - GDP & Population Comparison by City

[20] http://www.calgaryeconomicdevelopment.com/research-and-reports/economic-indicators/more-economic-indicators/
[21] http://www.calgary.ca/CA/city-clerks/Documents/Election-and-information-services/Census2016/2016-Census-Results-Book.pdf
[22] http://enterpriseedmonton.com/why-edmonton/
[23] https://www.edmonton.ca/city_government/facts_figures/municipal-census-results.aspx
[24]http://www.economicdevelopmentwinnipeg.com/uploads/document_file/2015_winnipeg_economic_highlights_annual_review.pdf?t=1466712601

SWOT Analysis

City Comparison

CITY	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
CALGARY	- Large availability of land for industrial real estate expansion. - Access to population of 20,288,530 within a 1,000km radius	- Calgary ring road not completed, reducing efficiency for trucking	- CN intermodal facility to provide large capacity for volume growth - Capacity for growth at the CP intermodal facility	-Market volatility due to Oil & Gas sector.
EDMONTON	-Close to Port of Prince Rupert and the Northern Alberta Oilsands	-Takes longer to get to Port of Vancouver	-Bulk Liquid Petrochemical due to proximity to production	-Market volatility due to Oil & Gas sector.
WINNIPEG	- Access to BNSF, CP, CN lines - Proximity to large population centres south of US border	-Far from any ocean ports, crossing the country to reach Western port is cost prohibitive	-Goods distribution via Thunder Bay and Montreal	-Low domestic inbound volume

Figure 26 - City Comparison

Port Comparison

PORT	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
PORT OF PRINCE RUPERT	- Uncongested rail access - Shorter shipping times from Asia - Support from local community	- Remote location and small local economy - Fewer shipping lines going to Prince Rupert, limiting service options - Served by only one railway	- Have available land to build more capacity if required - Congestion found in north western sea ports may drive increased traffic through Prince Rupert	- Labour availability for port operation in phase of rapid expansion - Expansion of Panama Canal may result decreased volumes - Dependent on few steamship lines
PORT OF VANCOUVER	- More cross dock capability - Higher schedule availability as more shipping lines service the port	- Space restriction to build new capacity - Older infrastructure - Congestion for goods moving through port	- Opportunity to increase market share for both Canadian & US markets	- Disruptions to port operations due to strikes - Failure to deliver required port capacity could increase congestion

Figure 27 - Port Comparison

Opportunities

As the economy of southern Alberta grows, in value and volume, both west coast ports will benefit. The opportunities to grow the imports and exports through the Ports of Prince Rupert and Vancouver from southern Alberta will result from increasing total volume of production in the region. Ultimately the shipper of products produced in Southern Alberta will decide, based on their appreciation of the market, which combination of transportation mode and route will be chosen for export.

The table below is illustrative of scenarios to increase volumes through the either west coast port. Each scenario (**A1** – **D1**) will be assessed below to determine feasibility and growth potential.

<table>
<tr><th>Opportunity Type</th><th>Imports</th><th>Exports</th></tr>
<tr><td rowspan="2">Total Volume</td><td>A1. Increased demand through domestic population growth</td><td rowspan="2">B1. Increased export output from southern Alberta to Asian markets</td></tr>
<tr><td>A2. Increased traffic through the Calgary Region as a hub to other final destinations</td></tr>
<tr><td>Proportion of volume through Port of Prince Rupert vs other ports</td><td>C1. Increased capacity and reliability</td><td>D1. Increased service to cost advantage</td></tr>
</table>

Figure 28 - Opportunity Matrix

A1. Increased demand through domestic population growth

Imports to the Calgary region will organically increase as the economy grows. In 2017, growth in the region is expected to return to positive numbers (1.2%, 2017), with sustained growth predicted until 2021. As population grows, domestic demand for containerized freight from China should follow a similar pattern.

A2. Increased traffic through the Calgary Region as a hub to other final destinations

The transportation and logistics sector has gained increased prominence in the region due to its strategic location and a collective effort to diversify the economy. The Calgary region, an already established transportation hub, is currently in the process of formalizing the governance structure of the Calgary Region Inland Port. The Calgary region has access to a combined market of 20,288,530 people within a 1,000 km radius, which highlights its potential for continued growth as a transportation hub.

B1. Increased export output from southern Alberta to Asian markets

Outside of the Calgary region, all major population centres in Southern Alberta (Red Deer, Lethbridge and Medicine Hat), are targeting the transportation and logistics sector as a way to create growth and support the local agriculture and manufacturing industry. By increasing access to markets using the tools of the transportation and logistics sector, enhanced access to ports will allow exporters to become more competitive in Asia.

C1. Increased capacity and reliability
Several large retailers have identified the importance of diversifying the port of entry for their imports. For example, the Port of Prince Rupert offers a risk mitigation strategy as well as competitive lead times from Asia. It is possible, depending on the market, that a greater number of importers in southern Alberta will increase the proportion of shipments coming through the Port of Prince Rupert compared to other North West sea ports. With the under utilized rail connection to Prince Rupert and the planned expansion for intermodal capacity, Prince Rupert is in a favourable position to maintain/expand this advantage.

The CN Conrich intermodal yard is the primary access point to Prince Rupert for southern Alberta. Adequate infrastructure will be required to ensure the fluidity of goods movement is maintained as volumes increase. Major DC developments are taking place in the Calgary region, in proximity to the CN intermodal yard, thereby increasing the potential for shipments to move through the Port of Prince Rupert.

CP also has some large intermodal customers located close to their intermodal yard in South East Calgary. The overall availability of intermodal services in the region provides shippers and receivers of goods multiple opportunities in their supply chain.

D1. Increased service to cost advantage
Improvements to connectivity between southern Alberta and the west coast ports through transportation infrastructure is essential. The lack of capacity on Highway 16 for over-dimensional loads greatly limits the manufacturing industry in Alberta to access world markets through a Canadian Port. Currently shipments have to move through US ports and require a border crossing, which increases freight costs and reduces the competitiveness of Alberta over-dimensional manufacturers.

Additionally, increased capacity (twinning, tunnel width/height expansion) of the TransCanada Highway would encourage additional opportunities for over-dimensional freight to be transported to the West Coast.

Recommendations

Several actions may be taken to accelerate opportunities derived from trade growth in southern Alberta:

Cost of Inventory Business Case
Highlighting the potential additional cost of inventory due to slower lead times would help companies to assess a larger range of costs when selecting the port of entry. Building on the overview of inventory costs, costing scenarios could be made for different commodities and volumes.

Schedule & Capacity Comparison
Feedback from industry suggests that schedules from shipping lines are more limited for the Port of Prince Rupert when compared to other western ports. Creating a resource that easily compares service levels would help industry to quickly be informed on service availability including schedules and capacity.

Access and Connectivity Information Package
Several industrial real estate developers in the Calgary region were found to not factor access to the west coast ports as a major consideration in the development of their projects. Creating an information package highlighting connectivity between southern Alberta and the west coast ports may aid help to raise awareness on transportation advantages, including reduced lead times and risk mitigation.

Summary

Phase 2 of the study aimed to create a better understanding of regional distribution centres, and how the expansion of the economic activity in southern Alberta could help to attract increased volumes through the Canadian west coast ports.

The research, identified all major industrial parks, distribution centres and warehouses in the southern Alberta region, to get an overview of the concentration of transportation and logistics related activities by area.

The Calgary region is where most of the transportation and logistics activities occur in southern Alberta. The majority of all intermodal imports and exports are serviced by the Calgary Region's Intermodal terminals.

The outlook for growth in the region is positive despite the current weakness in demand due to the oil and gas sector. By 2017, GDP is expected to return to growth with population steadily increasing. The Calgary Region Inland Port is expected to be formalized in the short term. Both factors will contribute towards organic trade growth.

Feedback from industry found that there are clear opportunities for increased volumes to be routed through both west coast ports. Importers are currently looking for ways to mitigate the risk of using one port of entry as well as trying to reduce lead times. The market will ultimately determine the chosen transportation corridor for export.

To take advantage of potential opportunities, several infrastructure requirements were highlighted to ensure goods move effectively and efficiently through the region.

Van Horne Institute

The Van Horne Institute is recognized within Canada and internationally as a leading institute of public policy, education, and research in transportation, supply chain and logistics, regulated industries and Information and Communication. The Institute is incorporated federally as a not-for-profit organization, and is proud to be affiliated with the University of Calgary, The University of Alberta, SAIT Polytechnic, and with Athabasca University. Its Board of Directors bring together the experience and knowledge of a broad group of individuals representing all facets of the transportation industry, government, and the academic community that have an interest in transportation, logistics, and related regulatory issues. For additional research studies, events, courses and education please visit www.vanhorneinstitute.com.

Triskele Logistics Ltd.

Triskele Logistics is a supply chain consulting company that enables its customers to achieve cost reduction and efficiency in their supply chain. In addition, we manage projects and complete supply chain research using our industry knowledge, connections and expertise. Founded in 2013 by Corrie Banks, Triskele applies simple, efficient change methodologies to work with you to achieve your vision and execute your projects. From strategy to project execution to sustainment, Triskele Logistics brings it all together.

For more information on Triskele Logistics please visit www.triskelogi.com

JRSB Logistics Consulting Ltd.

Jim Brown is a private Logistics Consultant. Born and educated in Montreal, Quebec he began his transportation career with C P Rail in Montreal 1969 and transferred to Calgary in 1977 with C P Ships. Joined DB Schenker of Canada Ltd (International Freight Forwarder & Customs Broker) Calgary in 1984 and retired in 2012. An extensive background in Projects for the Oil & Gas Industry, as well as an understanding of the current Geographic constraints of ports and the proposed Port Gateways being considered for future development.