

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

Development and Growth of Reefer Business



THE VAN HORNE INSTITUTE

In Collaboration
With:



JRSB
LOGISTICS CONSULTING LTD.

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Introduction

The focus of Phase 3 is to identify opportunities for the growth of temperature controlled container exports through Canada's west-coast ports from Southern Alberta. Key elements of this analysis include:

- Interviews with Southern Alberta shippers of refrigerated agricultural commodities
 - Current and potential future shipping patterns
- Interview with CN to determine what their capacity is to ship current volumes and the current availability of reefers in southern Alberta
- Assess the perishable warehouse and distribution network in the Calgary region
 - Identify competitive advantages in the region
- Review and include elements from the Van Horne Study. "Reefers in North American Cold Chain Logistics: Evidence from Western Canadian Supply Chains Market Summary – Reefers and Cold Chain Distribution in Southern Alberta".¹

Market Overview

Despite a decrease in worldwide global container shipping across all commodities in 2016, global shipments of reefers increased dramatically. In the first half of 2016, global reefer cargo is up by 163,000 TEU's (twenty-foot equivalent unit) compared to the first six months of 2015 (7% for chilled products and 4% for frozen products).² This is largely due to population growth, as well as an increased globalization of markets and food distribution. For example, China and Hong Kong recently reported a 20% increase in frozen food imports from all sources. Canada, and particularly, Alberta, has a highly respected international reputation for the quality of their meat. Canadian pork products were the fastest growing commodity shipped in the refrigerated agricultural sector. Canada is well positioned to expand meat exports over time. Due to reputational excellence and an increasing Asian market preference for meat products, there are opportunities to grow the reefer business from Southern Alberta to west-coast ports.

The implementation of the Trans Pacific Partnership (TPP) would decrease tariffs for meat products, in some cases down to zero, and would allow Canada to ship more beef and pork to emerging markets in Asia.³ The US administration has withdrawn its support for the TPP. However, agreements mirroring the reduction in tariffs contemplated by the TPP should be entered into by Canada and other Asian countries on a bi-lateral basis.

¹ <http://www.vanhorneinstitute.com/wp-content/uploads/2015/12/Reefers-in-North-American-Cold-Chain-Logistics-Evidence-from-Western-Canadian-Supply-Chains.pdf>

² <http://www.canadiansailings.ca/?p=12025>

³ <http://www.vanhorneinstitute.com/wp-content/uploads/2016/06/Trans-Pacific-Partnership-CLC-Presentation-in-Montreal-Feb-17-2016.pdf>

Projected Volumes of Alberta Refrigerated Exports

Beef

Canadian beef exports have grown from around 100,000 tonnes in 1990 to well over 300,000 in 2015⁴, some 4.5% annually (on average). The increases have been steady over the years with decreases in some markets due to the imposition of export restrictions resulting from Mad Cow Disease. The projected growth in Asia in population and personal wealth will continue to drive up the demand for Canadian beef. In 2011, Alberta producers accounted for 44% of all of the beef in Canada thereby ranking as the largest supplier of processed beef in the country.⁵ Additionally, in 2011 Alberta processed 85% of all beef produced by the Western Canadian Provinces. This volume of production in Alberta creates a large supply chain for these products to be moved in reefers.

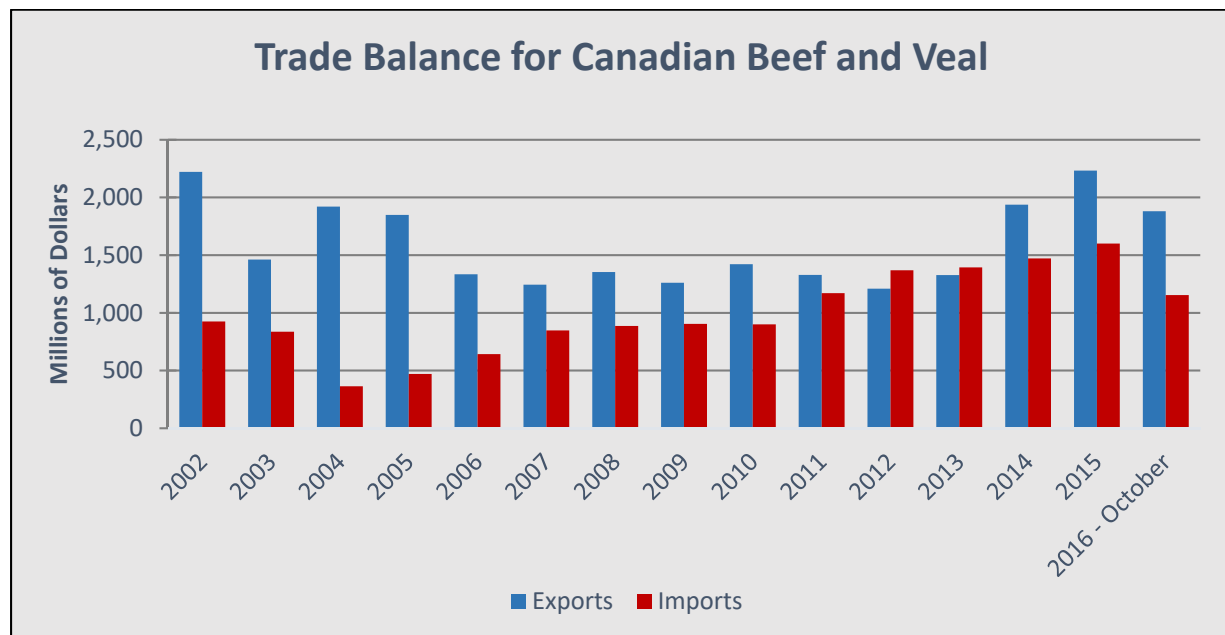


FIGURE 1: TRADE BALANCE FOR CANADIAN BEEF AND VEAL

Since 2013, beef and veal exports have been steadily rising (Figure 1). As of 2014, over 70% of Canada's beef exports have been destined to the U.S. with the bulk travelling as live animals by truck. Approximately 10% of the remaining export market from Canada is to Hong Kong, 8% to Mexico and 5% to Japan with the remaining 7% to the rest of the world.⁶ As a result of the factors set out above, exports to Japan, Hong Kong, China and other Asian markets are expected to increase in greater volumes than to the U.S. This will lead to a greater demand volume of Alberta beef to be shipped from the west coast ports of Canada.

⁴ <http://www.cmc-cvc.com/en/international-trade>

⁵ <http://www.albertabeef.org/page/about-industry>

⁶ <http://cafta.org/pages/agri-food-exports/beef/>

Pork

From 1990 to 2015, Canadian pork exports have grown from about 200,000 tonnes to over 1.150,000 tonnes. Thirty-two percent of these exports are destined to the United States, with Asian market shares as follows: Japan (16%), China (10%), South Korea (3.2%), and the Philippines (2.3%). Canadian pork exports in 2015 amounted to \$3.4 Billion which was a slight decrease from 2014 (Figure 2). This decrease can be attributed to the decline in the price of pork since 2014, meaning that volumes by weight have continued to grow. Taiwan, Hong Kong and Singapore also receive Canadian pork exports and are projected to continue to grow their pork consumption.

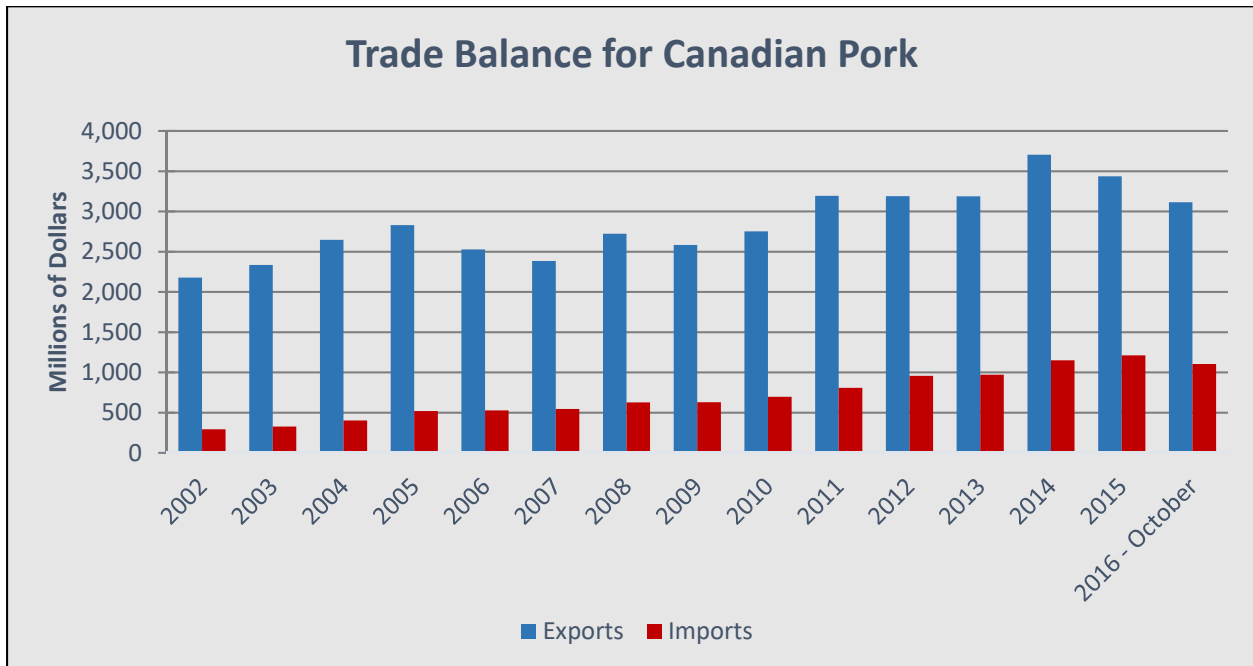


FIGURE 2: TRADE BALANCE FOR CANADIAN PORK

Compared to beef, Alberta only produces between 10 – 15% of the slaughtered hogs in federally inspected locations in Canada.⁷ Manitoba and Ontario both maintained shares around 20% with Quebec holding the largest market share of around 40%. Exports from Manitoba, Ontario and Quebec are shipped from east coast ports to world markets. The bulk of pork exports from Alberta are destined either to the United States or to overseas markets through the west coast ports.

⁷ <http://www.canadapork.com/en/industry-information/canadian-hog-processing-industry>

Additional Factors Impacting Reefer Movement

Trans Pacific Partnership (TPP)

The Trans Pacific Partnership is an agreement by twelve nations to lower tariffs and stimulate trade throughout the Pacific region. It has anticipated that the beef and pork exports from Canada would increase significantly between Canada and particularly, Japan, Vietnam and Malaysia, due to the reduction of significantly high tariffs on those products currently in place.

As referenced above, the U.S. administration has withdrawn its support of this agreement. Without the ratification by the United States, Canada and Japan, the agreement cannot come into force. Canada should consider entering into bi-lateral or multi-lateral agreements with some of the members of the failed TPP for an exchange of trade that would capture some of the advantages of the TPP, including the import into those Asian countries of refrigerated containers of pork and beef from Canada at a lower tariff than is currently in effect.

Canada does have other trade agreements that should allow more trade of pork and beef products, such as the Canada-Korea Free Trade Agreement (CKFTA) that was enacted in 2015.

Refrigerated Container Imbalances

Imports through Western Canadian Ports come from Asia, Central and South America and include produce (vegetables and tropical fruits), fish and other meats. Inbound reefers tend to carry product destined to the larger population markets of Vancouver, Calgary, Toronto and Montreal. Canada exports more tonnage in reefers than is imported creating an imbalance in the supply and demand of refrigerated TEU's. Canada, and specifically Western Canada, exports beef, pork and poultry through the west coast ports. Roughly 95% of all refrigerated beef, pork and poultry are exported to world markets⁸ through Vancouver.

Containerization

Marine reefers with product destined for Alberta (and Saskatchewan) tend to be offloaded from the vessel and then transloaded into domestic reefer trailers in the vicinity of the port. They are then trucked from the port to destinations in Alberta markets. Product destined to Manitoba and further east is more likely to be moved in marine reefers by rail to the city or region. Toronto receives the larger volume in Canada of containerized refrigerated products. Once these reefers are unloaded, they can be repositioned for loading in their local markets.

The current logistics for reefers within Canada has led to a shortage of marine reefers available in Alberta and Saskatchewan, for the numerous products available for export requiring reefers. Export products from Alberta tend to be trucked in domestic reefer trailers to the DC's in the Vancouver region, where they are transloaded into the inventory of marine reefers maintained near the port. From a Vancouver based DC, they are trucked to the port for loading onto the outbound vessel.

⁸ <http://www.vanhorneinstitute.com/wp-content/uploads/2015/12/Reefers-in-North-American-Cold-Chain-Logistics-Evidence-from-Western-Canadian-Supply-Chains.pdf>

A truck can move product from southern Alberta to the Port Metro Vancouver in one day with a maximum of two days of travel time. Rail tends to move the reefer with a minimum of twenty-four hours of transportation time plus the time required for the reefer to be delivered to the intermodal terminal in order to meet the cut-off time. In addition to the extended cycle time, there can be delays occurring at the intermodal facility due to, missing the cut-off time, congestion and availability of space on the train. The trucking of refrigerated containers also allows the shipper to have more flexibility to move the product to port.

Interviews with Southern Alberta Shippers

Interviews were conducted over the phone and through a survey with agriculture, food, and animal products producers. A survey was sent to contacts in the Agriculture industry in Alberta. Most of the contacts are shippers across southern and northern Alberta that are understood to have a requirement for reefers or temperature controlled containers for shipping their products. The survey was conducted through Survey Monkey with emails being sent three times over a period of two weeks to each company in order to ensure that they have an opportunity to review the email. Overall, there were few companies that responded and the feedback provided was not very extensive. Only two of the six companies that responded currently export products to Asian markets (and one of the remaining four is developing a plan for exports). One of the barriers to exports for beef and other food products was the policy of some countries, not to accept products containing beef offal.

Interviews with 13 companies, either based in or shipping from southern Alberta to Asian markets, indicated that virtually all of their products currently move through Port of Vancouver, for the following reasons:

- Product is trucked and Vancouver is a shorter distance by truck than Prince Rupert. This shorter distance:
 - a) Minimizes their trucking costs and keeping the truck on the road for only one day
 - b) Ensures that their perishable products only take one day to get to port to maximize the shelf life of the product
- The port of export is not chosen by the shipper and they normally follow instructions from their Head Office
- The shipper either has their own warehouse in Vancouver region or use a temperature controlled cross dock in the lower mainland to reload the product from trailers into maritime reefers

There were several companies interviewed that currently do not export product at this time. Two of the companies indicated that they could potentially consider the Port of Prince Rupert as an option if they received information on railway versus trucking rates. The responses from all the interviewed companies that export product to Asian markets indicated that trucking is the primary, or in some cases the only mode that is used from southern Alberta to the west coast.

The perception derived from the interviews is that trucking is more reliable than rail to get the product to the port. Every day in transit is very valuable in the supply chain of perishable goods. Trucks can

move the container from Alberta to Port of Vancouver in less than a day. Once the truck arrives at the port, the product can be unloaded from the truck into a marine container, which is subsequently loaded onto the vessel. Rail can make this same move in a little more than a day if everything moves perfectly. Generally, the transit time by rail is three to four days when all components are considered. The average cut-off time for rail to the Port of Prince Rupert is 124 hours from Calgary. The time required for a reefer to be positioned at the intermodal yard in Conrich is longer than the trucking time to get the reefer to either Canadian west coast port.

The Reefer Supply Chain

Rail Overview

Cut-off times are provided by the railroads whereby the containers have to be in-gated (arrive for shipment at the intermodal facility with proper billing) for shipment to the port. It is essentially the required time and date to ensure that the container will be able to move by rail to arrive on time to the port for loading onto the scheduled ocean vessel. The averages are calculated based on the data from CN and CP websites in mid-August 2016:

AVERAGE IN-GATE TO VESSEL DEPARTURE TIMES – CALGARY TO WEST-COAST PORTS (HOURS)

| | CN | | CN - VANCOUVER | | CP - VANCOUVER | | |
|-------------------------|----------------------|----------------|----------------|---------------------|----------------|----------------|---------------------|
| | <i>Prince Rupert</i> | <i>Vanterm</i> | <i>Centerm</i> | <i>Roberts Bank</i> | <i>Vanterm</i> | <i>Centerm</i> | <i>Roberts Bank</i> |
| CALGARY | 124 | 170 | 191.2 | 104.2 | 119.1 | 124.5 | 104.7 |
| EDMONTON | 84 | 130 | 130.6 | 71.5 | 135.1 | 149 | 130.7 |
| WINNIPEG | 119 | 119 | 119 | 94 | 148 | 136.2 | 137.3 |
| SASKATOON/REGINA | 133 | 147 | N/A | 127.2 | 151 | 138.6 | 140.3 |

*Saskatoon for CN and Regina for CP

| | AVERAGE | AVERAGE (NOT INCLUDING P.R) | PRINCE RUPERT VARIANCE (HOURS) |
|-------------------------|----------------|------------------------------------|---------------------------------------|
| CALGARY | 134 | 135.6 | -11.6 |
| EDMONTON | 118.7 | 124.5 | -40.5 |
| WINNIPEG | 124.6 | 125.6 | -6.6 |
| SASKATOON/REGINA | 139.5 | 140.8 | -7.8 |

FIGURE 3: AVERAGE IN-GATE TO VESSEL DEPARTURE TIMES^{9 10}

⁹ <http://www.cn.ca/en/repository/popups/tools/ports-cut-offs>

¹⁰ <http://www.cpr.ca/en/customer-resources-site/Documents/port-of-vancouver.pdf>

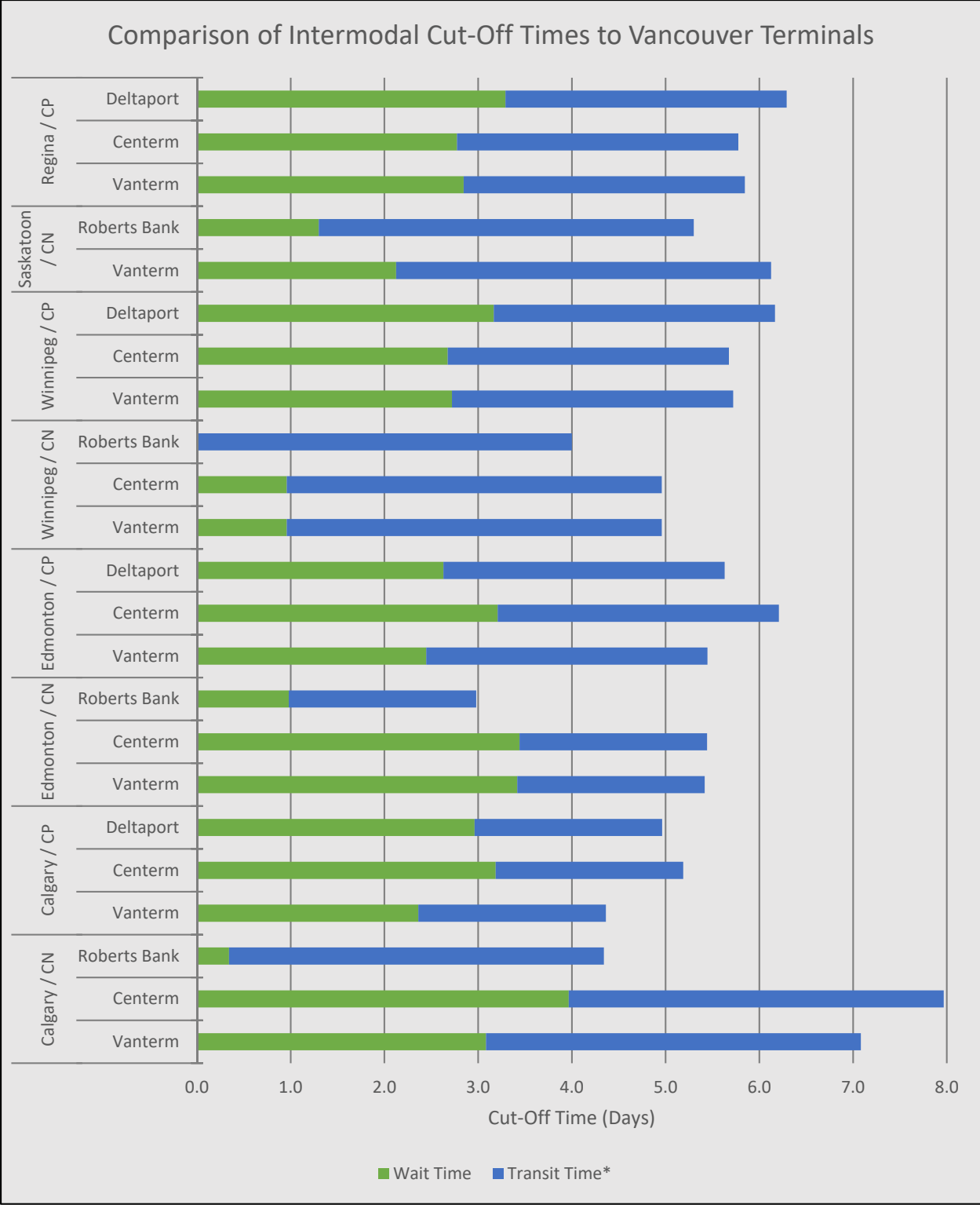


FIGURE 4: COMPARISON OF INTERMODAL CUT-OFF TIMES TO VANCOUVER TERMINALS

*Transit Times are estimated to the nearest day. The wait time for Winnipeg to Roberts Bank via CN is less than a full day based on published averages, therefore is not included in this graph.

Vancouver is still likely to retain the bulk of the reefer market from southern Alberta based on distance and accessibility. Bearing in mind the shelf life of the product in the targeted offshore market, Prince Rupert could access some of the growth of this market as long as the port can provide comparable rates, shipping times (overall with either truck/vessel or rail/vessel) to that offered by the Port of Vancouver. There may be more opportunities to export potatoes and other products requiring temperature controls through Prince Rupert, which have a longer shelf life than meat products.

Truck Overview

Figure 5 (below) demonstrates that the trucking of refrigerated product from Calgary is more likely to occur through Vancouver than Prince Rupert. This chart demonstrates that transportation by truck from Calgary to Vancouver with one trucks day drive, is possible.

| Origin | Destination | Via | Distance (km) | Hours |
|---------|---------------|--------------------|---------------|-------|
| Calgary | Prince Rupert | Hinton | 1698 | 17.75 |
| Calgary | Prince Rupert | Lake Louise/Jasper | 1502 | 16.50 |
| Calgary | Prince Rupert | Kamloops | 1858 | 20.10 |
| Calgary | Vancouver | Kamloops (Hwy #1) | 974 | 10.25 |
| Calgary | Vancouver | Cranbrook (Hwy #3) | 1247 | 14.20 |

FIGURE 5: TRUCKING DISTANCE AND TIMES FOR CALGARY TO WEST-COAST TERMINALS

*These are current drive times under ideal conditions for car traffic

The Port of Prince Rupert is currently at a disadvantage compared to Vancouver for the movement of reefer products to the coast based on time and cost of such a movement.

The shortest route from Calgary to Prince Rupert is through the Icefields Parkway (Lake Louise/Jasper above). However, this will not be a viable truck route for export shipments of reefer business from southern Alberta, due to the weight limitation currently imposed on these roads.

Comparison of Rates for Reefers from Calgary Region

Rates shown are from the Calgary region to export through Vancouver and Prince Rupert with a final destination of Shanghai, China. In general, rate data was sourced from Mediterranean Shipping Company (MSC), as well as World Freight Rates. The World Freight Rates are significantly lower than those provided by MSC, which does not currently offer any service to Port of Prince Rupert.

The vessel rates provided are listed below:

Steamship Line Pricing (Reefer) to Shanghai from West-Coast Ports

| Container | Pricing Provider | Vancouver | | Prince Rupert | |
|-----------|---------------------|--------------------|--------------|--------------------|--------------|
| | | <i>Travel Time</i> | <i>Cost</i> | <i>Travel Time</i> | <i>Cost</i> |
| 20ft | World Freight Rates | 26 days | \$ 657.03 | 26 days | \$ 696.43 |
| 40ft | World Freight Rates | 26 days | \$ 980.65 | 26 days | \$ 1, 039.45 |
| 20ft | MSC | 24 days | \$ 1, 790.00 | N/A | N/A |
| 40ft | MSC | 24 days | \$ 2, 160.00 | N/A | N/A |

FIGURE 6: STEAMSHIP LINE PRICING (REEFER) TO SHANGHAI FROM WEST-COST PORTS

Some refrigerated product customers would not choose the Port of Prince Rupert for export for product destined to Asia, because the ships serving Prince Rupert do not depart directly for Asia, but continue their voyage to other ports on the west coast of North America before returning to Asia. This routing would shorten the shelf-life of the refrigerated product through an extended time on the ocean. If it can be demonstrated that Prince Rupert is the last North American port-of-call, then this opens the possibility of more refrigerated shipments being trucked or railed through the Port of Prince Rupert.

Rail shipment rates provided by MSC are listed below¹¹:

Rail Pricing (Reefer) from Calgary to West-Coast Ports

| Container | Railroad | Vancouver | | Prince Rupert | |
|-----------|----------|--------------|--------------|---------------|--------------|
| | | <i>Miles</i> | <i>Cost</i> | <i>Miles</i> | <i>Cost</i> |
| 20ft | CN | 986 | \$ 1, 611.00 | 1175 | *Unavailable |
| 40ft | CN | 986 | \$ 1, 929.00 | 1175 | *Unavailable |
| 20ft | CP | 646 | *Unavailable | N/A | N/A |
| 40 ft | CP | 646 | *Unavailable | N/A | N/A |

FIGURE 7: RAIL PRICING (REEFER) FROM CALGARY TO WEST-COAST PORTS

*Information currently unavailable

¹¹ Rail rates provided are feasibility rates provided by MSC. These rates are for the railroad portion only and have been provided by MSC.

Additionally, research was conducted on trucking rates in order to compare such rates with the rail rates. These are industry rates collected through a variety of truck carriers¹²:

Truck Pricing (Reefer) from Calgary to West Coast Ports

| Container/ Trailer | Rate Per Mile | Vancouver | | | | Prince Rupert | | | |
|-----------------------|------------------|--------------------|------|-------|-------------|-----------------|------|-------|-------------|
| | | Hwy Route | Km | Miles | Cost | Hwy Route | Km | Miles | Cost |
| 20ft | \$ 2.25 | #1, #5, #1 | 974 | 605 | \$ 1,361.25 | #2, #20, #16 | 1698 | 1055 | \$ 2,373.75 |
| 20ft | \$ 2.25 | #2, #22, #3, #1 | 1247 | 775 | \$ 1,743.75 | #1, #97, #16 | 1858 | 1155 | \$ 2,598.75 |
| 40ft | \$ 2.05 | #1, #5, #1 | 974 | 605 | \$ 1,240.25 | #2, #20, #16 | 1698 | 1055 | \$ 2,162.75 |
| 40ft | \$ 2.05 | #2, #22, #3, #1 | 1247 | 775 | \$ 1,588.75 | #1, #97, #16 | 1858 | 1155 | \$ 2,367.75 |
| 53ft | \$ 2.05 | #1, #5, #1 | 974 | 605 | \$ 1,240.25 | #2, #20, #16 | 1698 | 1055 | \$ 2,162.75 |
| 53ft | \$ 2.05 | #2, #22, #3, #1 | 1247 | 775 | \$ 1,588.75 | #1, #97, #16 | 1858 | 1155 | \$ 2,367.75 |

FIGURE 8: TRUCK PRICING (REEFER) FROM CALGARY TO WEST-COAST PORTS

Trucking rates to Prince Rupert are more expensive than to Vancouver as the overall distance from Calgary to Prince Rupert is longer. Rates for a 53-foot trailer are included since the bulk of the products are currently moving in domestic reefer trailers and transloaded into marine reefers at or near the ports. On average, trucking is faster than rail, which is reflected in the higher rates as well.

Trucking rates to the Port of Prince Rupert would likely be double, as most carriers would expect to be paid a backhaul out of Prince Rupert to cover their costs. If Prince Rupert could ensure that round trip rates were offered to customers, it would improve the feasibility of reefer truck movements.

Availability of Reefers in Southern Alberta

Due to the relatively low population base of the prairie provinces as well as the close proximity to the west coast, both Alberta and Saskatchewan do not receive many inbound marine reefers from Vancouver and Prince Rupert. When refrigerated product destined to Alberta or Saskatchewan markets

¹² Hwy Route km's were estimated using Google Maps

arrives at the port in Vancouver, it is typically transloaded into domestic 53-foot reefers for transportation to warehouses in both provinces. This leaves Alberta with a shortage of marine reefers for export shipments.

Product being exported out of Alberta also tends to follow the same pattern. It is loaded into domestic reefers and transported to the west coast, primarily by truck. There it is transloaded either at a cold storage warehouse or at the port, into marine reefers. Any product loaded into marine reefers is still trucked to the port due to the higher reliability of trucking versus rail. Trucks can move a refrigerated product on average in less than a day where rail averages, for the same movement, between two to five days (depending on the service required and availability of equipment).

In contrast to Alberta and Saskatchewan, the Vancouver and Toronto regions are large urban population centres that warrant high volumes of marine reefers. The Winnipeg region is well positioned to load the imported marine reefers with exports and like the Toronto region, is considered to be at a near net-even import/export ratio. While, the Vancouver region has a large supply of marine reefers, Alberta does not have any single large exporter of refrigerated product that would warrant the positioning of dedicated marine reefers from Vancouver. This consequently results in a shortage of availability of marine reefers to service the numerous smaller exporters of refrigerated product.¹³

When product is loaded directly into marine reefers it is referred to as “source loading”. Source loading provides a longer shelf-life to the product because the product is not compromised due to transloading, handling or potential temperature degradation. Source loading can lengthen the normal shelf-life by up to twenty-five days when the product is loaded and kept in the same temperature environment for the entire transportation cycle.¹⁴ Source loading for meat products requires the temperature be kept between 0 and -2 Celsius and is considered ‘chilled’ instead of frozen. This maintains the quality of the product for the duration of the transportation and does not allow the product to lose quality caused by freezing.

Since most of the product from Alberta is loaded into domestic reefers and then transloaded at or near the port into marine reefers, the shelf-life is not extended out to the maximum of fifty-five to sixty days that can be attained by source loading. The shelf-life of meat products loaded into domestic reefers and then transloaded into marine reefers tends to be around thirty to thirty-five days due to the additional handling. Every day the meat product is being transported is important to optimize its shelf-life. Trucking is utilized to guarantee that the product can be delivered to the port in one to two days. The sailing time from west coast ports to Asian markets ranges from ten to eighteen days depending on the final destination and the routing of the vessel either directly to the Asian ports or via stops at additional North American ports.

¹³ <http://www.vanhorneinstitute.com/wp-content/uploads/2015/12/Reefers-in-North-American-Cold-Chain-Logistics-Evidence-from-Western-Canadian-Supply-Chains.pdf>

¹⁴ <http://www.vanhorneinstitute.com/wp-content/uploads/2015/12/Reefers-in-North-American-Cold-Chain-Logistics-Evidence-from-Western-Canadian-Supply-Chains.pdf>

Cold and Refrigerated Warehouse Space in Southern Alberta

There are two types of cold/refrigerated warehouse space. Large organizations such as Walmart, Loblaws and Sobeys dedicate space in their warehouses and distribution centres for their own storage and distribution. Other cold/refrigerated warehouse space is offered by companies specializing in providing refrigerated space as a service to other companies. These companies include Brookfield Cold Storage, VersaCold, Westco (Congebec) Multi Temp Distribution Centres Inc., Atlas Cold Storage and Frozen Solid, all located in Calgary. The space in such centres can range in size from 5,000 square feet to 250,000 square feet.

Third-Party cold storage warehouses in Southern Alberta include:

| CITY | COLD STORAGE FACILITY IN SOUTHERN ALBERTA | SIZE (SF) | ADDRESS |
|------------|---|-----------|--------------------|
| TABER | Amlog Canada, Inc | | Hwy 3 |
| CALGARY | Calgary Cold Storage | 25,000 | 10559 46 St SE |
| CALGARY | Clauson-Cold and Cooler Ltd | 250,000 | 2423 2 Ave SE |
| CALGARY | CDC Grocery Liquidators | | 2423 2 Ave SE |
| COALDALE | Coaldale Lo-Cost Storage | | 1611 23 Ave SE |
| CALGARY | Conestoga Cold Storage (Quebec) Limited | 37,500 | 4767 27 St SE |
| DRUMHELLER | Lee's Stor-Away Storage Ltd | | 5 Garden Way S 5 |
| CALGARY | Saputo Inc | | 5434 44 St NE |
| CALGARY | Atlas Cold Storage | 40,000 | 5555 78 Ave SE |
| CALGARY | Blue Star Cold Storage Inc | | 5555 78 Ave SE |
| CALGARY | VersaCold Group | 180,000 | 5600 76 Ave SE |
| CALGARY | Westco Multi Temp Distribution Centres Inc. | 140,000 | 5500 72 Ave SE |
| CALGARY | Collega Warehouse West | | 4718 14 St NE |
| CALGARY | TRI-TEMP WAREHOUSE & DISTR INC | | 7310 5 St SE |
| CALGARY | Tas Refrigeration | 35,000 | 4060 78 Ave SE |
| CALGARY | Brookfield Cold Storage | 180,000 | 10401 46 St SE |
| CALGARY | Hilton Stone Disribution | <40,000 | 5251 48 Ave SE |
| CALGARY | Calgary Refrigerated Warehouse (Safeway) | 46,500 | 3440 56 Ave SE |
| CALGARY | Frozen Solid | 6,800 | #20 6280 76 Ave SE |

FIGURE 9: THIRD PARTY COLD STORAGE WAREHOUSES

The primary business for these cold/refrigerated warehouses and distribution warehouses is to provide a service for the supply chain network for small to medium sized producers and distributors of products requiring temperature controlled environments. This service ranges from storage, crossdocking, consolidation of shipments and distribution of product. The Calgary region currently offers

approximately one million square feet of space available for this purpose with other smaller DC's outside the city also providing such a service. With the Calgary Region as a major distribution hub, it is logical that the bulk of these facilities are located here. The current supply of cold and refrigerated warehouses in southern Alberta are busy and fully used throughout the year. These facilities are used for both imported and exported products, and with an increase in exports it is predicted there will be a need for additional space of this nature to be built by small and large operators as they locate their DC's into the Calgary Region.

Opportunities

| Opportunity Type | Exports | Imports |
|----------------------|--|--|
| Market Growth | A1. Strong growth potential in animal product exports | A2. Moderate growth in produce imports |
| Market Access | B1. Source loading from southern Alberta | B2. Consolidation of reefer imports to Calgary region |
| Value Added Services | C1. Refrigerated storage / cross dock capacity | |

A1. Strong Growth Potential in Animal Product Exports

Growth for Canadian Beef and pork exports are expected to remain strong in the coming years. The Port of Vancouver currently services all of the reefer traffic from Southern Alberta. As demand for exports requiring refrigeration containers with corresponding increase demand for port capacity for reefer services, opportunities to establish new transport routes may arise.

A2. Moderate Growth in Produce Imports

The total volume on an annual basis of reefer cargo will continue to be significant. Attracting additional imports through west coast ports would ease access to the ports through more competitive rates by creating a more balanced import / export ratio. The cost of exporting a marine reefer currently includes the return cost as no revenue is generated by repositioning empty containers. As the proportion of empty containers decreases, rates have the potential to become more competitive as return costs are recovered with freight in reefers.

B1. Source Loading from Southern Alberta

Source loading of refrigerated product in Southern Alberta extends the shelf life at the foreign destination. Due to the supply constraints for marine refrigerated containers in the Calgary region, trucking has become the predominant method for transporting goods to a port in domestic reefers for transloading onto marine reefers. Creating strategies that increase the availability of marine reefer containers in the Calgary region will enable more shippers to source load and access west coast ports via rail or road and at the same time adding to the shelf life of the refrigerated commodity.

B2. Consolidation of Reefer Imports to Calgary Region

Creating a centralized distribution point in the Calgary region for refrigerated goods imported into western Canada would increase the total number of marine refrigerated containers available for source loading for export from the region, as well as potentially reducing costs.

C1. Refrigerated Storage / Cross Dock Capacity

Increased product in Southern Alberta requiring refrigerated transportation to world markets will lead to an increased demand for transportation services utilizing rail or road and increased port facilities. For marine containers additional access to power would be required while refrigerated storage/cross dock facility would be needed for product transported by truck.

Summary

In order to ensure a more readily available supply of marine reefers into the Alberta marketplace, the traditional pattern of transloading product destined for Alberta from marine reefers into domestic refrigerated containers near the port for onward shipment and distribution in the Alberta marketplace, requires a change. That change can occur when the balance is tipped in favour of source loading. This will occur when larger volumes of product requiring refrigeration transportation are produced in Alberta. Increased volumes of product will demand the source loading of refrigerated or chilled products directly at the facilities in Alberta. This will ensure that the quality of the product will not be subject to deterioration, caused by a combination of transloading from domestic reefers into marine reefers near or at the marine ports. Source loading leads to longer shelf life, which in turn, leads to a better reputation in world marketplaces for Alberta beef and pork products.

As trucking is considered more reliable than rail to move refrigerated product to port, the current flow of traffic is projected to continue.

With the growing demand for reefer products to be shipped and the continued growth of reefer shipments worldwide, increases in Southern Alberta of products requiring refrigerated transportation will grow. Some of the interviewed customers would like to know more about their shipping options to west-coast ports (locations as well as trucking versus rail). Beef and pork shipments are expected to grow from Alberta as Canadian products are highly valued in the world markets. Future bi-lateral and multi-lateral trade agreements, would increase the potential for even more exports. Other products that are exported from Alberta requiring reefers also have the potential to grow, especially if the demand drives up the availability of reefers in the Alberta region.

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