

Cranbrook External Truck Activity Survey

2017



Photo credit: City of Cranbrook October 2016



MOUNTAINS OF OPPORTUNITY
CRANBROOK

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I. Executive Summary

On Wednesday October 26, 2016 the City of Cranbrook, in partnership with College of the Rockies and the Commercial Vehicle Safety Enforcement (CVSE) branch of the Ministry of Transportation & Infrastructure (MOTI) conducted a road side survey of long haul trucks on cordon lines for the trucks that enter into the City (i.e. traffic borne from within the City was excluded). The data was formatted extensively for readability, but kept as accurate as possible. The results are categorized into two: logistics/supply chain and truck/vehicles. To check the original questions from the survey, see the *Appendices* section.

The purpose of the survey was to understand commodity flows and the logistics/supply chain that have been established in and around the Cranbrook region for the development of growth and change strategies by the City and its regional stakeholders. It was intended to capture where to/from goods and services move, ownership of the freight and businesses, the needs of trucking industries/operators and traffic volume. Survey teams were set up at the Yahk and Sparwood inspection stations on Highway 3 and at the Cranbrook game check site on Highway 3/95 on the outskirts of the north side of the City.

Over the course of a 13 hour period (08:00 to 21:00), 347 trucks were stopped and drivers responded to a short seven question survey. The questions asked of the drivers included: city of origin; final destination; general cargo being hauled; owner of the freight and gross vehicle weight (GVW). Staff also asked where the drivers tended to stop along the route for fuel, food and/or rest; what types of services or amenities they look for when they do stop and asked them to identify what the City of Cranbrook could provide to make the community more truck friendly.

To quickly summarize:

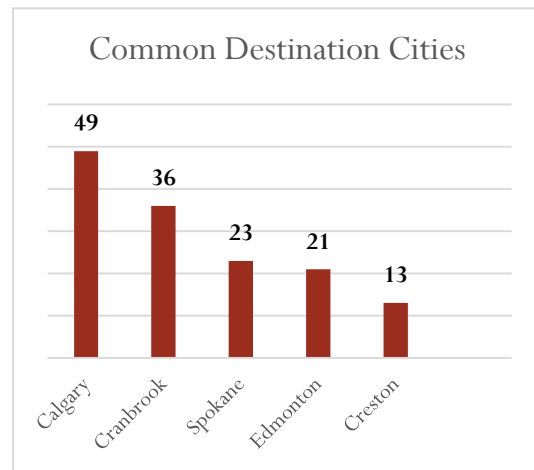
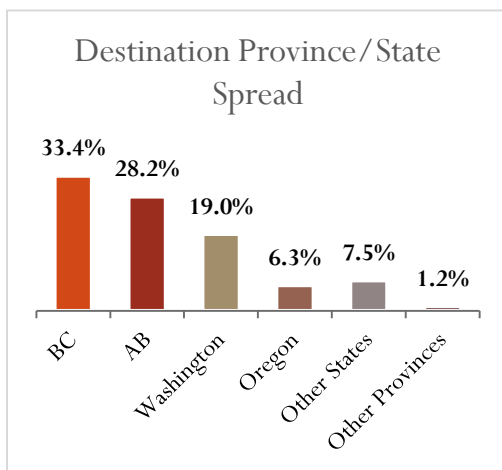
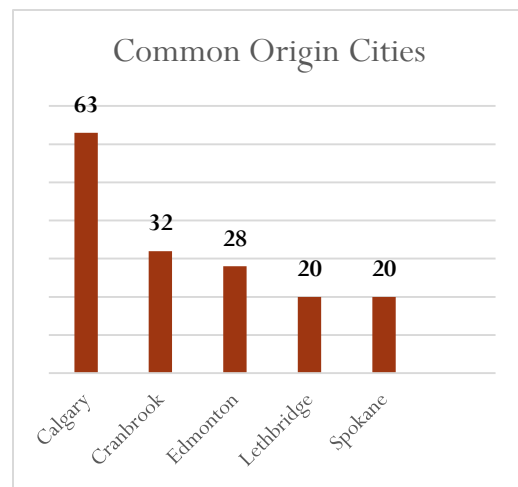
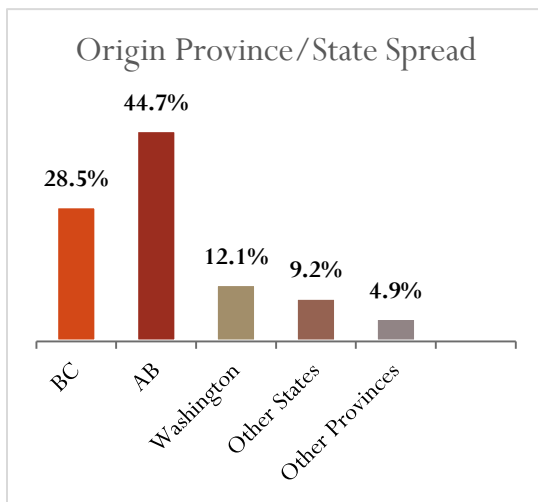
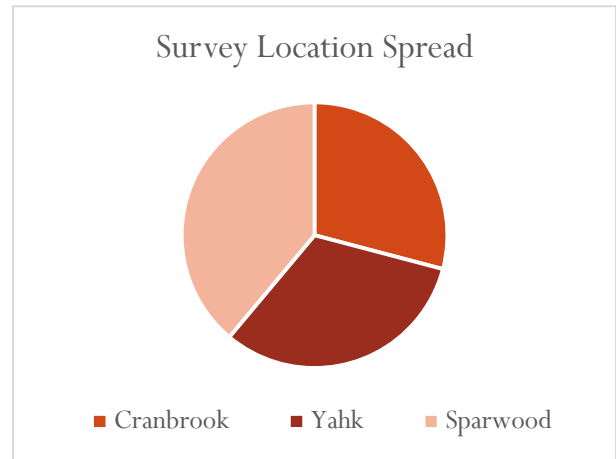
- Cranbrook is a central point between many origins and destinations. The majority of the cargo travels in a north – south orientation. The cargo carried in and out of and through Cranbrook is very diverse.
- The traffic using Highway 3/93/95 are considered captive riders/users (i.e. the route choice makes sense for their business). An opportunity exists to take advantage of cost effective and reliable CP Rail service to the Port of Vancouver and the ports and destinations. This could be for bulk cargo or containers.
- A large number of respondents were looking for a good place to park their trucks. Many indicated they would forgo clean washrooms and showers if they could just find an easy place to park their vehicles.
- Drivers wanted an easy place to pull in and out of to get fuel. Some also complained about constricted access to some of the other card lock sites and the amount of regular traffic both on Highway 3 at the south end of the City and on Theatre Road.

This report provides an overview of the findings, provides some preliminary cost analysis between the use of trucks and rail to transport goods and provides conclusions

II. Logistics/Supply Chain

1. Locations (Origin and Destination)

The 'Common Origin/Destination Cities' graph depicts the **most common** cities only, not all cities.



2. Origin/Destination Interaction

City Matrix

	Destination							
Origin	Calgary	Cranbrook	Spokane	Edmonton	Creston	Pasco	Portland	Sparwood
Calgary	6	6	6		5	3	3	2
Cranbrook	5	9	3		1			
Edmonton		2	3	3	4		2	2
Lethbridge		3				2	2	1
Spokane	9	1	2	3				
Invermere		3	2					
Creston	1				1			
Fort MacLeod			1					

Province/State Matrix

	Destination					
Origin	AB	BC	California	Idaho	Oregon	Washington
AB	11	64	8	3	17	43
BC	27	45	1	2		12
California	7					
Idaho	8	1				
Oregon	9				1	1
Washington	30	3			2	4

City-Province Matrix

	Destination Province/State					
Origin City	AB	BC	California	Idaho	Oregon	Washington
Calgary	6	22	4	1	9	19
Cranbrook	7	17	1			4
Edmonton	3	15	2		2	4
Lethbridge		13			2	4
Spokane	14	1			1	2
Creston	2	2				1

2. Origin/Destination Interaction (continued)

Survey Location Matrix

Survey Location	Destination Province/State					
	AB	BC	California	Idaho	Oregon	Washington
Cranbrook	3	49	5	1	8	31
Yahk	42	27	3	2	6	18
Sparwood	53	40	2	2	8	17

Survey Location	Origin Province/State							
	AB	BC	California	Idaho	Oregon	Washington	SK	ON
Cranbrook	55	32	1		1	4	2	3
Yahk	27	40	4	5	8	21	3	1
Sparwood	73	27	2	6	2	17	3	2

3. Insights on Logistics Pattern

- **32 (9%)** of surveyed trucks originated from Cranbrook, and **36 (10%)** had Cranbrook as their final destination
- Over **180** different companies (*not including transport companies*) moved cargo through Cranbrook, Yahk, or Sparwood in a single day
- **59 (24.8%)** of drivers said they tend to stop in Cranbrook for fuel, food, and rest
- The majority of truck drivers want Cranbrook to improve parking for trucks (**83%**) and to improve access for trucks (**58%**)
- The majority of trucks originating from the United States have their final destination in Alberta (**57 of 74**)
- Of the trucks stopped and surveyed in Cranbrook (**101**), only **3** had their destination in Alberta. Most of them were going to other locations in BC or Washington
- The majority of trucks that originated from the United States were stopped in Yahk or Sparwood (**68 of 74**), not Cranbrook:
 - Cranbrook: **6 of 101 (6%)** from USA
 - Yahk: **38 of 111 (34%)** from USA
 - Sparwood: **30 of 135 (22%)** from USA

3.1 Traffic Volume Heat Maps (Origins)



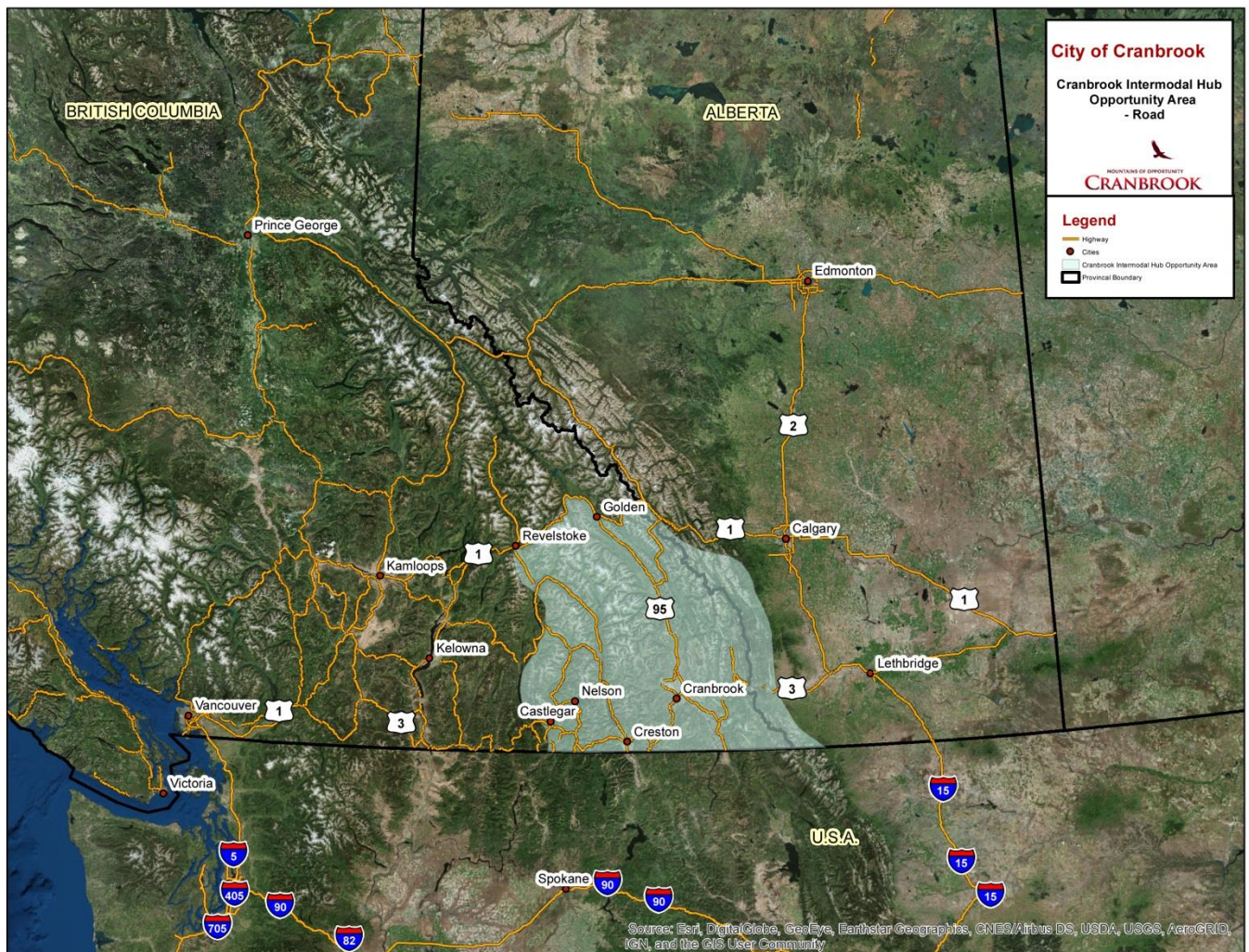
3.2 Traffic Volume Heat Maps (Destinations)

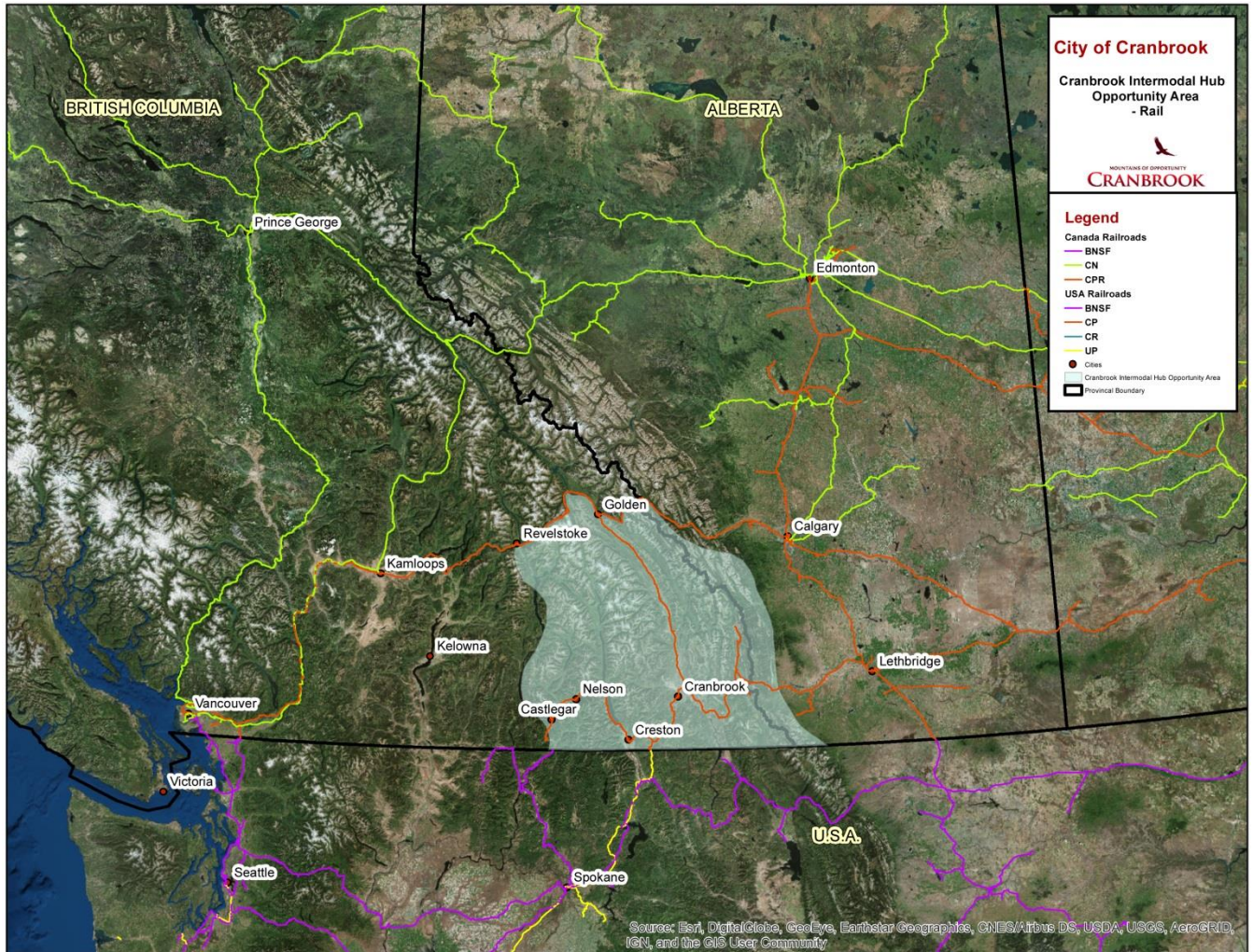


3.3 Geographic Location Review

The City of Cranbrook is fortunate to be located in a major transportation nodal point where a variety of transportation modes are available to allow cargos to move regionally, inter-provincially and internationally. This locational advantage and intermodal infrastructure –i.e. road, rail and airport– create an opportunity to make the City an attractive place for collection & distribution of goods and services of various industries –i.e. intermodal hub.

Based on the result of the survey and brief review of travel distance and transportation cost, a market catchment area has been identified where cargo could be transported to and from utilizing an intermodal in the City of Cranbrook as below:





The carriers and trucking companies interviewed as part of this report responded that they would consider the intermodal in Cranbrook as an option for their logistics.

As an example, one company that regularly transports produce from Spokane through Cranbrook to Calgary would consider using a local intermodal system provided that their cargo was intended to be shipped onward to eastern Canada. For this company shipping a load of produce from Spokane to Cranbrook to ship by rail back to Vancouver for transport offshore would not be a feasible option. It would be more cost-effective for the shipper to move the same cargo from Spokane to Portland or Seattle.

The most frequent location of origin determined in the survey is Calgary, Alberta, with the most frequent destination city identified as Spokane, Washington. Based on data provided by Google, the most direct route with the shortest travel time is identified in the map below, with a total travel time of 7 hours and 45 minutes at a distance of 688 km.

To review transportation cost, a number of carriers and trucking companies were contacted to inquire about:

- how shipping costs were calculated
- cost saving potential if Cranbrook had an intermodal system in place
- when transferring cargo from truck to rail is most cost effective

Of those that responded, it was determined that trucking costs are charged by the mile and can range between \$1 and \$2 per mile. As an example, one company captured in the survey was travelling through Cranbrook from Calgary to Spokane, WA with a load of waste paper. On that day, that load of waste paper would have cost \$800 USD; the same load moving to Yakima, Washington would cost \$1050 USD. (*Calgary to Spokane is 686km or approximately 426 miles, which translates to about \$1.80 USD per mile*).

The factors that affect the per mile rates are:

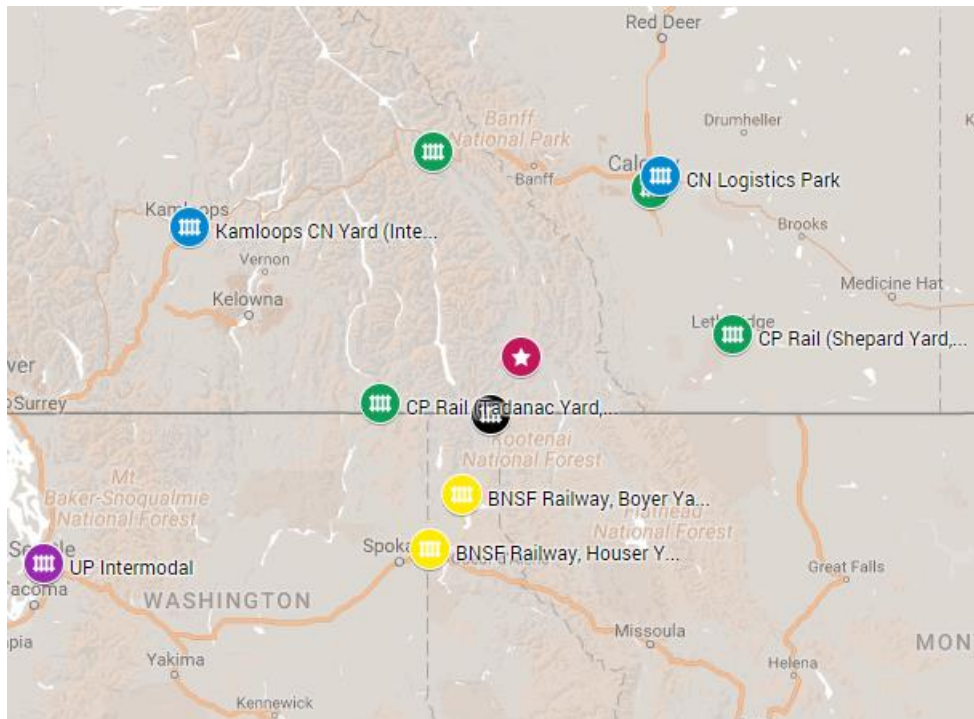
- the cargo being transported
- the overall weight
- whether or not the cargo requires a refrigerated trailer

In reviewing the market catchment area, travel distance and transportation cost, the following preliminary conclusions were made:

- Based on the catchment area identified, opportunities exist for a Cranbrook intermodal to provide service for cargo shipments originating from the catchment area by rail to eastern Canada, into the northwestern US or from Cranbrook through to Vancouver for shipments offshore
- Opportunity exists for cargo shipped from the northwestern US to Cranbrook intermodal for rail transport to eastern Canada
- Opportunity exists for Cranbrook intermodal as a location for a logistics centre where these empty trucks can reload before continuing on to other destinations

3.4 Existing Intermodal Locations

3.4.1 Railway Intermodal Locations (CP, CN, UP, and BNSF)



3.4.2 Other Intermodal/Transportation Facilities



Source: https://drive.google.com/open?id=1HuKKdColdMVduW_RYBtRLjAlk&usp=sharing

This information presented may not include all facilities not captured in the internet domain. Some facilities may not have an online presence.

3.5 Railway Infrastructure Maps

Canadian National



Canadian Pacific



Union Pacific



Burlington Northern

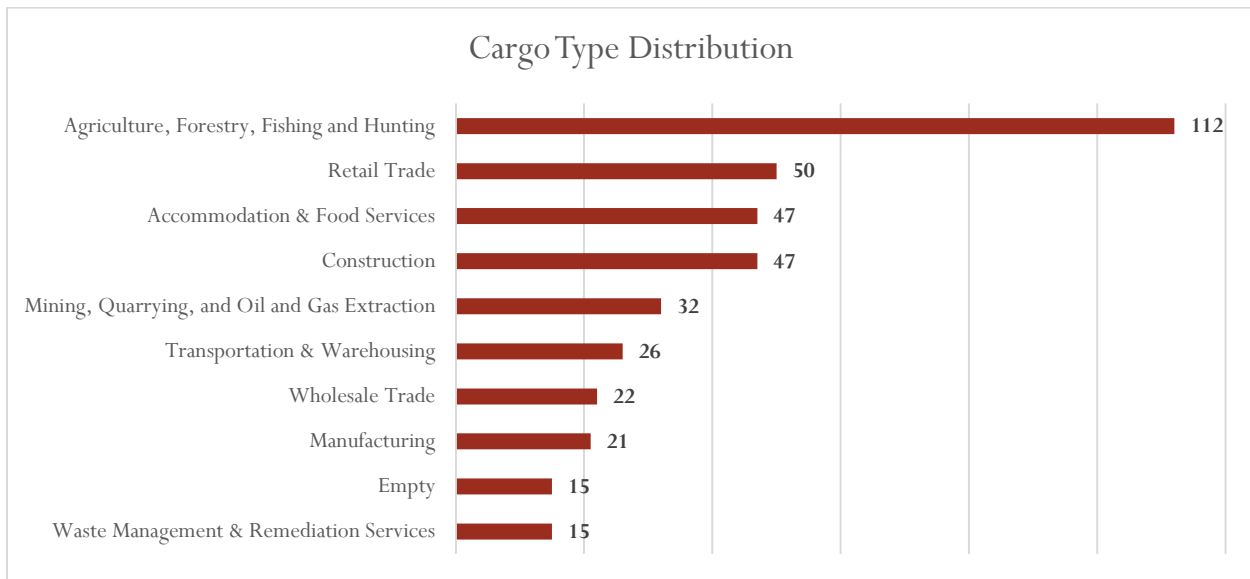


Source: Internet

3.6 Cargo Contents and Owners

Of the **347** trucks, **41 (11.8%)** of trucks were carrying multiple types of cargo and **275 (79.3%)** were carrying a single type. **31 (8.9%)** didn't answer.

The following graph depicts how many trucks were carrying these types of cargo. The answers came from a 'Check all that apply' survey question; so many trucks carried multiple types.



Example: 112 of 347 (32.3%) trucks were carrying cargo that fit under 'Agriculture, Forestry, Fishing and Hunting' category.

The cargo owner data was too varied to draw useful comparisons from. These are common companies and other stats. The major companies involved are as follows:

Cargo Owner/Distributor	
Swift Transport	7
Bison Transport	6
Canfor	5
Westcan Bulk Transport	5
Total Companies Listed:	231
Transport Companies Listed:	28

Who Are These Cargo Owners and Distributors?

Swift Transport <http://www.swifttrans.com/>

Swift Transport Canada provides cross border freight transportation solutions to and from all major cities in Canada, the United States and Mexico. Swift offers solo and expedited line haul services, dedicated – dry and refrigerated – and intermodal services. Over 500 active qualified Canadian drivers, 5 border terminals and 5 secured yards across Canada.

Bison Transport <http://www.bisontransport.com/>

Bison Transport is a Canadian transport company, based in Winnipeg Manitoba. Bison employs the latest technologies and operate one of the largest and most modern fleets in the industry. Bison has offices and facilities throughout Canada and provides a wide range of transportation, warehousing and logistics services throughout North America.

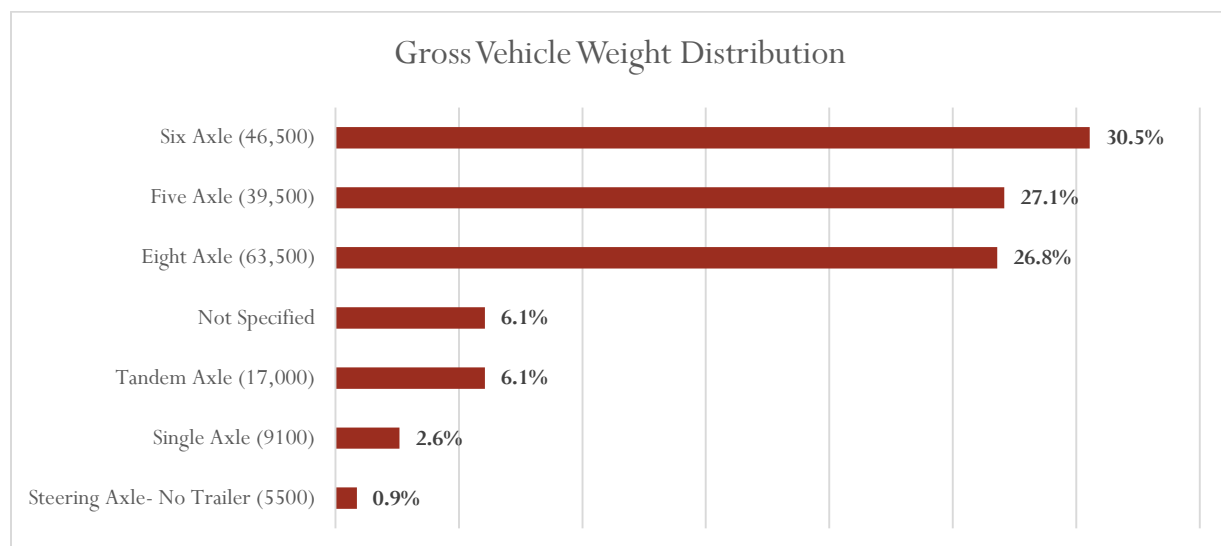
Canfor <http://www.canfor.com>

Canfor is one of the world's largest producers of sustainable lumber, pulp and paper, with facilities across North America including: Cranbrook, Elko and Radium Hot Springs in the East Kootenay with other facilities across BC, Alberta, Ontario and the US.

Westcan Bulk Transport <http://www.westcanbulk.ca>

Westcan is one of the largest niche bulk commodity haulers in Western Canada, offering bulk transportation, oilfield and flat deck freight services. Headquartered in Edmonton, Alberta, they service customers throughout Alberta, British Columbia, Saskatchewan, Ontario and the western Arctic, with locations in Trail, Coquitlam and Prince George, BC.

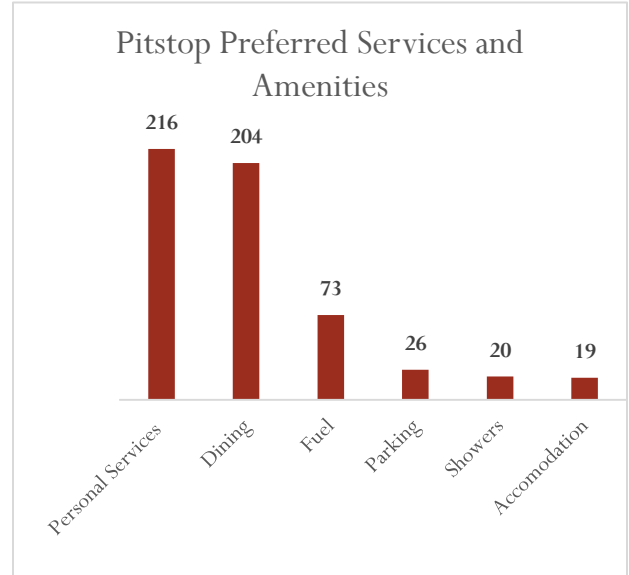
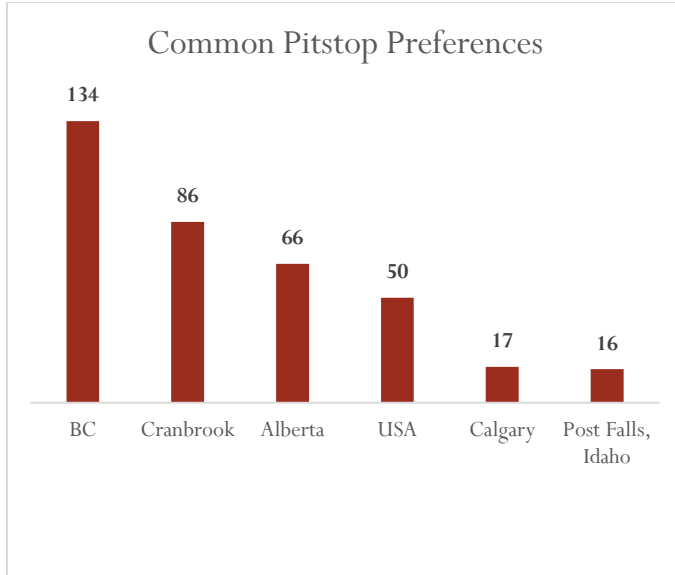
3.7 Gross Vehicle Weight (GVW)



III. Commercial Truck Operations

1. Driver Tendencies

The following graphs depict data from 'Check all that apply' survey questions



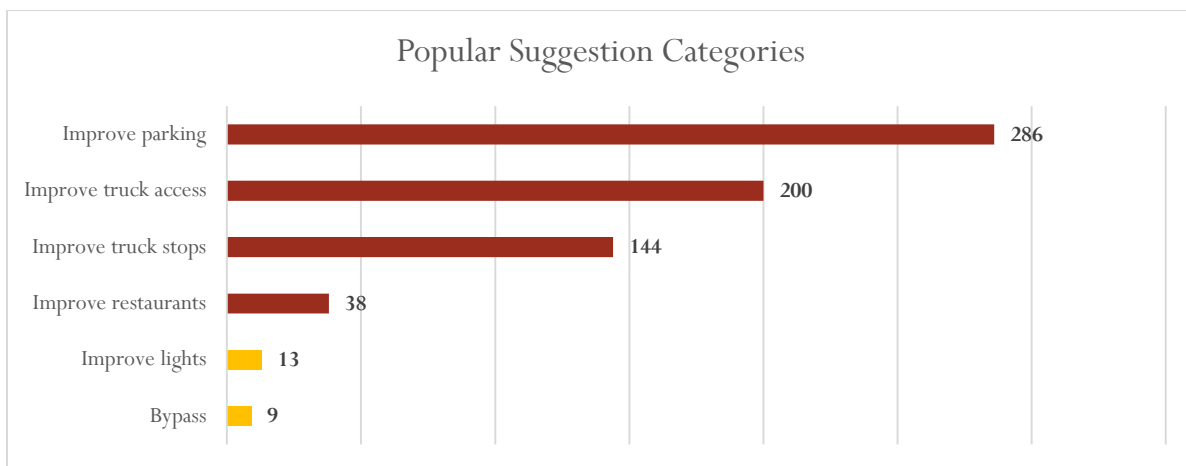
Example: 134 of 347 (24.8%) of drivers said they tend to stop in Cranbrook for fuel, food, and rest

Example: 204 of 347 (58.8%) of drivers look for dining availability when choosing where to stop

Specific cities are included in the overall province numbers. 82 respondents (20%) did not answer.

2. Driver Suggestions

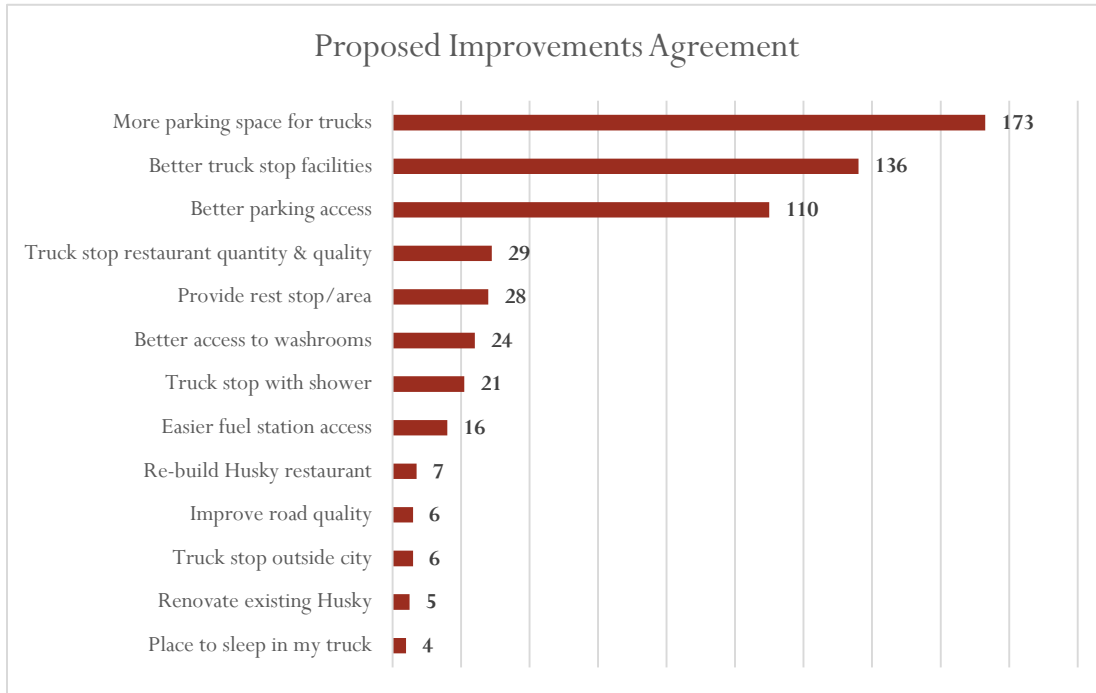
The following graph depicts data from a 'Check all that apply' survey question. Answers were grouped into related categories



'Improve lights and 'Bypass' categories were not provided options from the survey, meaning 13 and 9 drivers respectively wrote down these suggestions without prompting

These groups have some cross-over. For example, drivers who agreed with 'better access to parking', were placed under 'Improve parking' and 'improve truck access' categories

The following graph depicts data from a 'Check all that apply' survey question. Each of these statements was provided as an option by the survey.



IV. Conclusions

The overall survey data demonstrates (2) key conclusions:

- Cranbrook is geographically situated on a key transportation route for a huge number of diverse goods and services moving between Alberta and Oregon and Washington State. Cranbrook could reasonably be considered to be an ideal location for an intermodal and transportation hub for the southeast part of the province.
- Driver/ operator demand for better trucking industry services locally like parking, restaurants, fuel is significant.

Cranbrook sees a significant amount of cargo travelling through the City on a daily basis. Just as significant is both the variety of goods and variety of individual companies who own those goods. Over 180 different companies moved cargo through Cranbrook, Sparwood and Yahk in a single day with nearly 80 percent carrying a single type of cargo and just over 11 percent carrying multiple cargo types.

Of the 347 trucks surveyed, 112 (or 32.3%) were carrying products which fit in the agriculture, forestry, fishing and hunting cargo types, followed closely by retail trade (50); accommodation & food services and construction (47) each.

Nearly 60 percent of the truck traffic moving through the area is five (5) axle (27.1%) and six (6) (30.5%) axle transport vehicles. Eight (8) axle vehicles are a close third (26.8%). As the majority of vehicles surveyed are long-haul that require design configurations to accommodate their maneuverability.

Also significant is the demand from the trucking community for better transportation industry services locally – things like better and ample parking for larger vehicles, quality restaurants and other food services and ease of access to fueling sites. Nearly 25 percent of all drivers surveyed indicated they stop in Cranbrook for fuel, food and rest, with nearly 59 percent of total respondents specifically looking for dining options when they stop.

Next steps will include research into transportation costs (before and after potential intermodal) as well as exploring the existing supply chain and the potential of the Canadian Rockies International Airport.

V. Appendices

Original survey questions

Locations: *Where did you originate? What is your final destination?*

Cargo Contents: *What is the general cargo you are carrying? Check all that apply*

Cargo Variety: *Are you carrying single or multiple types of cargo?*

Cargo Owners: *Who is the owner of the freight you are carrying?*

Gross Vehicle Weight: *What is the Gross Vehicle Weight (GVW)?*

Driver Tendencies: *Where do you tend to stop along this route for fuel, food, rest? What types of services or amenities do you look for in places where you do stop? Check all that apply*

Driver Suggestions: *What can the City of Cranbrook provide to make it more truck friendly? Check all that apply*

Additional Comments: *Is there anything else you would like to add to help the City of Cranbrook become more truck friendly? If so please leave a comment in the space below. Thank you for your time.*



CRANBROOK

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