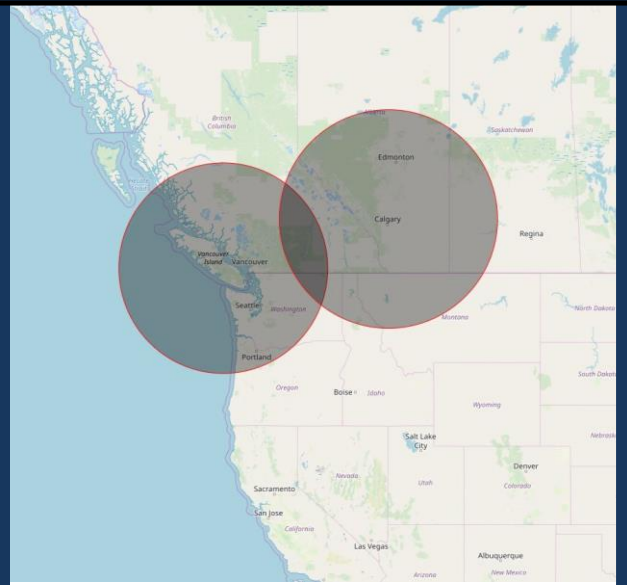
Container Traffic – Pacific North West

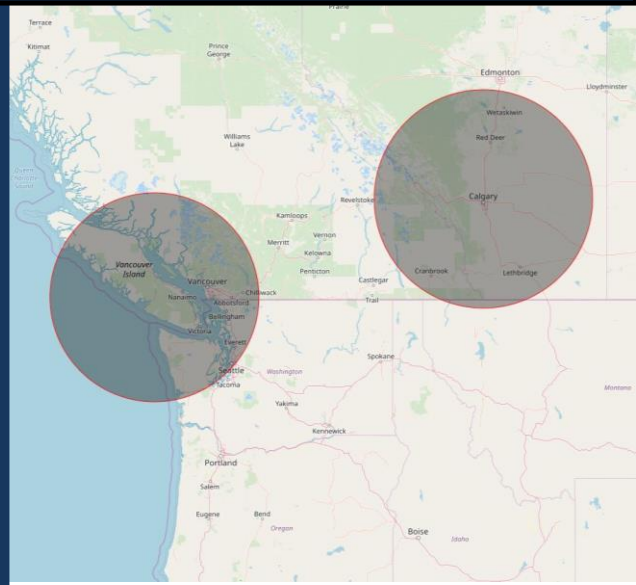
Port	2013	2014	2015	2016	2017
Port of Vancouver	2,825,475	2,912,900	3,054,467	2,929,585	3,252,223
Seattle / Tacoma	3,456,161	3,427,561	3,529,441	3,615,752	3,665,329
Totals	6,281,636	6,340,461	6,583,908	6,545,337	6,917,552

PATH v. CALGARY HINTERLAND

Radius Center	Population
PATH/Port Alberni	20,974,964
Calgary	22,665,237
Overlap	19,479,296



Radius Center	Population
PATH/Port Alberni	12,764,593
Calgary	5,593,339
Overlap	582,363

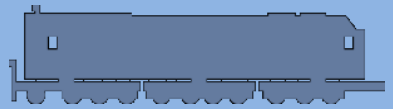


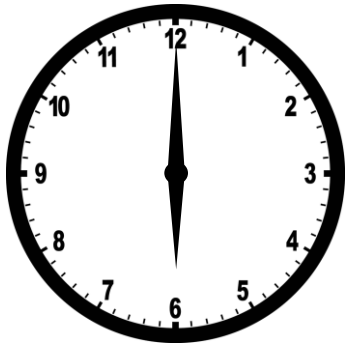
Radius Center	Population
PATH/Port Alberni	5,970,563
Calgary	2,010,175
Overlap	N/A

Benefits

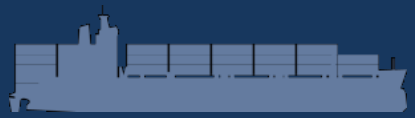
1. Reduces CO2 Emissions & millions of truck kilometers
2. up to 7 Days saved Sailing Time
3. Location @ Gateway to Hinterland of 22 million people within 1000km radius
4. Access to multiple railways and terminal operators
5. Increased Gateway Capacity & Fluidity
6. Land for development and growth

The current rail system is already overburdened





Studies predict 1.7% increase in container traffic each year



RESOURCES

Vancouver Island Manufacturing

PATH Build Costs

EBITDA

Vancouver Rail Map

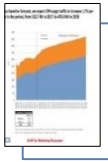
Vancouver Distribution Centers

PATH v. Status Quo Costs

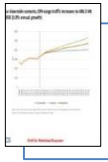
Vancouver Island Containers

PATH Locations

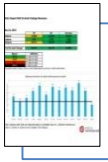
Environmental Benefits



CPCS Cargo Traffic Projection



CPCS Downside Scenario



POV Gateway Rail Dwell Times

Inland Distro Logistics

PATH Logistics

PATH Design

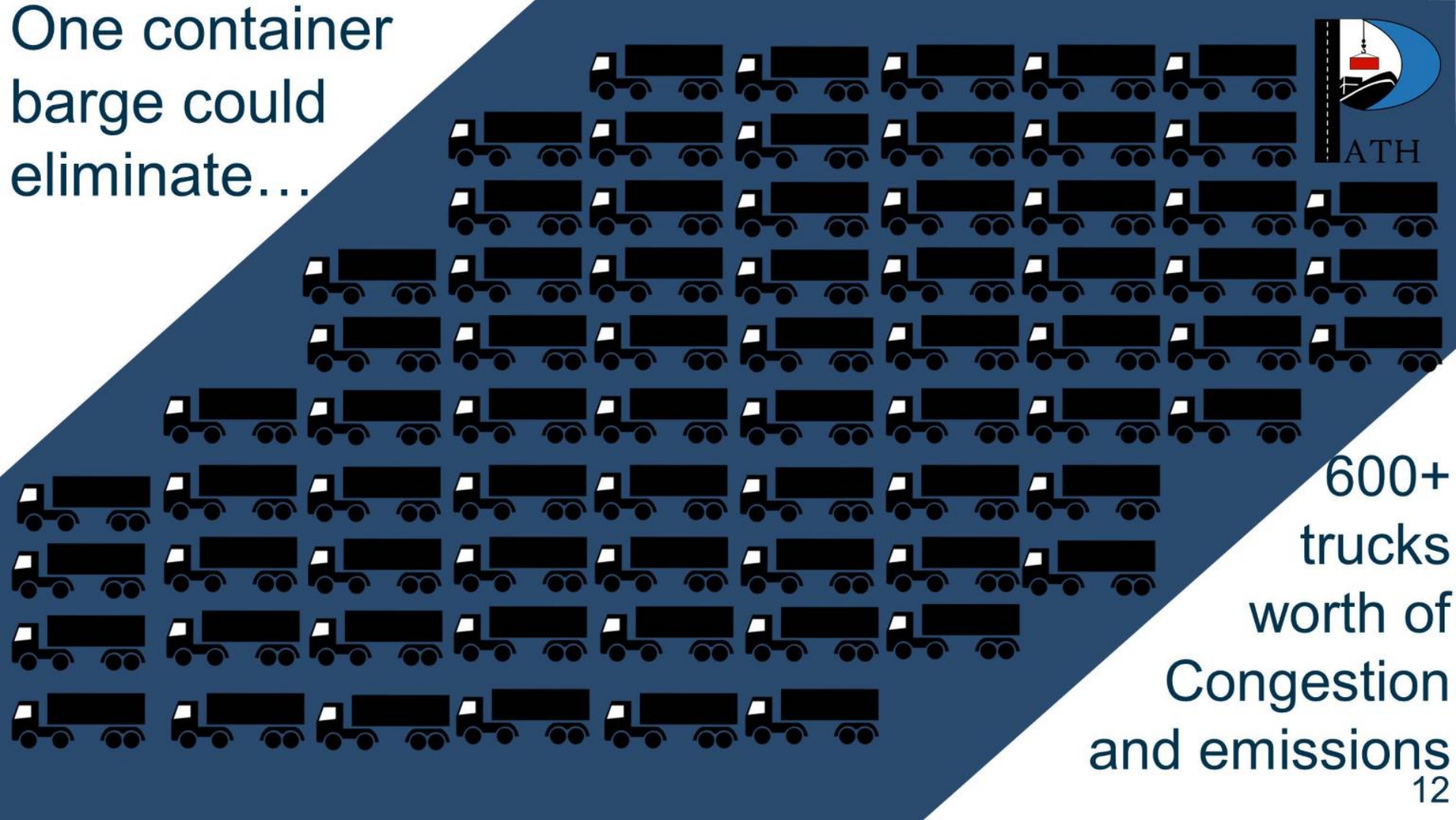
POV Cargo Summary

Rail Logistics

Recourses Files:

Slides 7 - 51

One container barge could eliminate…



600+ trucks worth of Congestion and emissions

Benefits

1. Reduces CO2 Emissions & 14.5milion Truck kilometers
2. Automated Terminal with ILWU Support
3. up to 7 Days saved Sailing Time
4. Location @ Gateway to Hinterland of 8 million people
5. Access to multiple railways and terminal operators
6. Economical – GDP $ 21 billion
7. Increased Gateway Capacity & Fluidity
8. Land for development and growth
9. Safety & Security
10. Supported by the union – ILWU, First Nations, Environmental Groups, Communities, Industry, Trading organizations …..

Cruise Ships

- 3 in 2019
- Growth opportunity
- Shore-excursion development

Marine Cluster

- Floating Dry Dock
- Commercial Fishing Hub
- Seafood & Aquaculture Processing

China Creek Marina

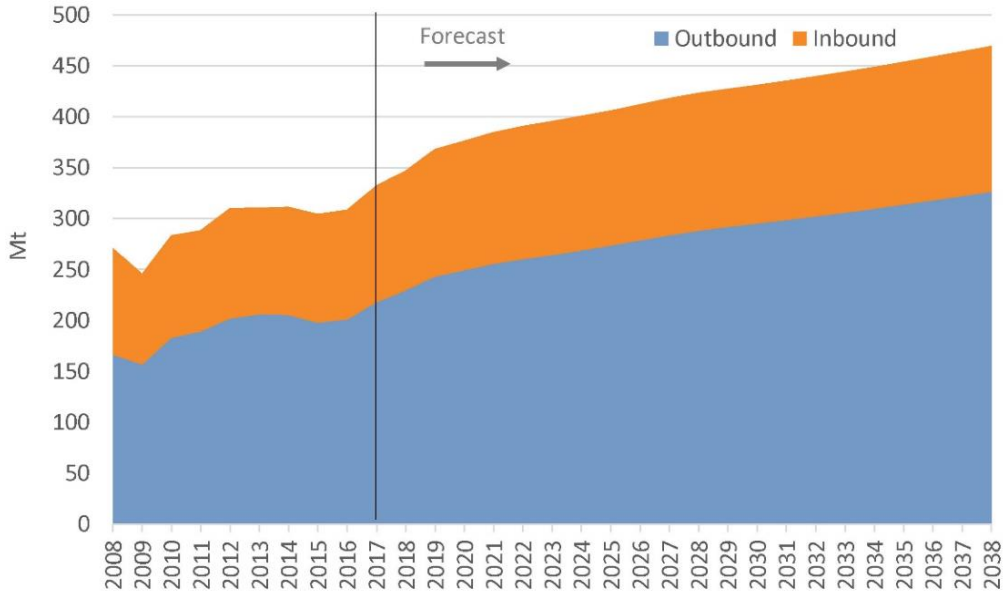
- Kiteboarding opportunity
- Water sports & hiking

Business Development

Canada

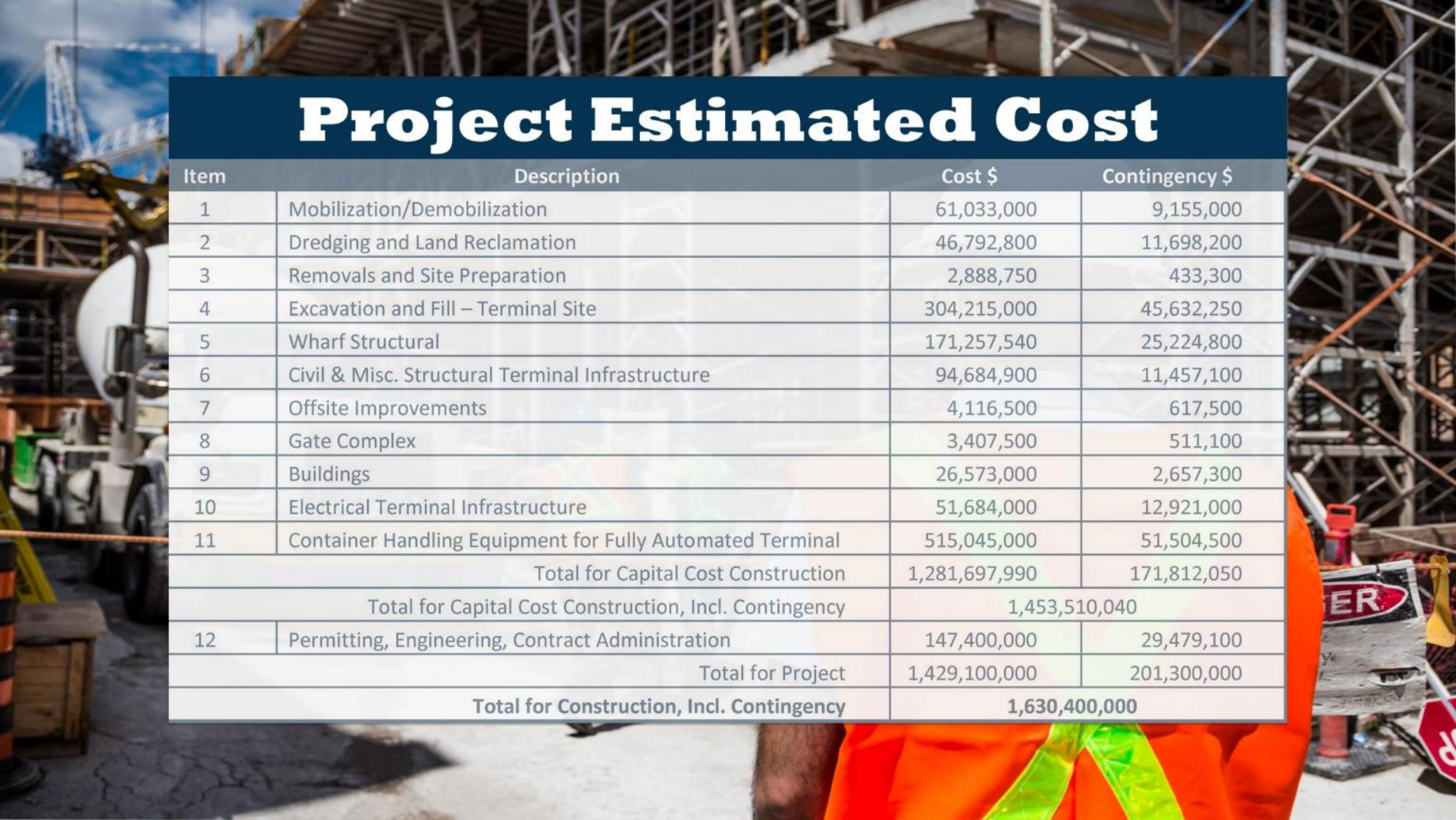
PORT ALBERNI PORT AUTHORITY

In our baseline forecast, we expect CPA cargo traffic to increase 1.7% per year in the period, from 332.7 Mt in 2017 to 470.0 Mt in 2038



Direction	2017-2038 (CAGR, %)
Outbound	1.9%
Inbound	1.1%
Total	**1.7%**

Notes: Time series shows actual cargo traffic up to 2017 and three-year moving average forecasts thereafter.
Source: CPCS calculations based on Transport Canada and OE data.



Project Estimated Cost

Item	Description	Cost $	Contingency $
1	Mobilization/Demobilization	61,033,000	9,155,000
2	Dredging and Land Reclamation	46,792,800	11,698,200
3	Removals and Site Preparation	2,888,750	433,300
4	Excavation and Fill – Terminal Site	304,215,000	45,632,250
5	Wharf Structural	171,257,540	25,224,800
6	Civil & Misc. Structural Terminal Infrastructure	94,684,900	11,457,100
7	Offsite Improvements	4,116,500	617,500
8	Gate Complex	3,407,500	511,100
9	Buildings	26,573,000	2,657,300
10	Electrical Terminal Infrastructure	51,684,000	12,921,000
11	Container Handling Equipment for Fully Automated Terminal	515,045,000	51,504,500
	Total for Capital Cost Construction	1,281,697,990	171,812,050
	Total for Capital Cost Construction, Incl. Contingency	1,453,510,040	
12	Permitting, Engineering, Contract Administration	147,400,000	29,479,100
	Total for Project	1,429,100,000	201,300,000
	Total for Construction, Incl. Contingency	**1,630,400,000**	

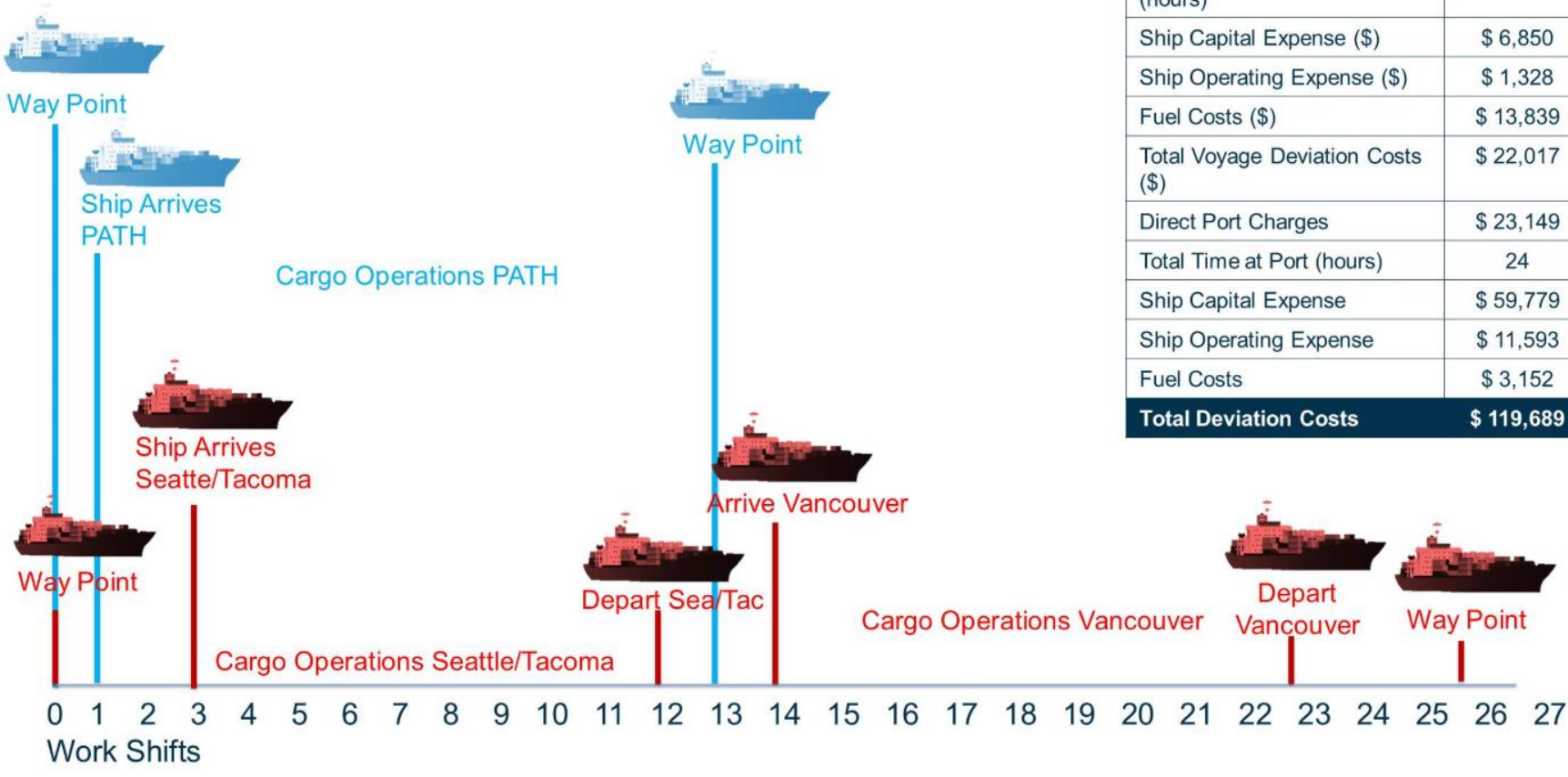
Current model

ATH

Week or more in Salish Sea area

Estimated Savings PNW – 14,000 TEU Ship

Operating under assumption: SEA/TAC: 26 moves/hour - 5 Cranes deployed throughout
PATH: 32 moves/ hour – 7 cranes deployed throughout= 4 days savings



Costs from the point of Deviation	PATH	STATUS QUO
Deviation (nm)	44	480
Ship Speed (knots)	16	16
Time used for deviation (hours)	2.8	30
Ship Capital Expense ($)	$ 6,850	$ 74,724
Ship Operating Expense ($)	$ 1,328	$ 14,491
Fuel Costs ($)	$ 13,839	$ 179,274
Total Voyage Deviation Costs ($)	$ 22,017	$ 268,489
Direct Port Charges	$ 23,149	$186,980
Total Time at Port (hours)	24	66
Ship Capital Expense	$ 59,779	$ 164,392
Ship Operating Expense	$ 11,593	$ 31,881
Fuel Costs	$ 3,152	$ 8,667
Total Deviation Costs	**$ 119,689**	**$ 660,409**

ATH

Environmental Benefits

- PATH will reduce emissions by 22,000 metric tonnes of CO_2
- Reduced commuting time equates to savings for commuters
- Reduced truck traffic
- Reduced number of large ships
- Less expansions needed for the transportation infrastructure

will
allow for
direct delivery
to distributers and
warehouses along the Fraser River

Gateway Resiliency

- Natural disasters
- Strikes & Lockouts
- Derailments
- Winter
- Diversity

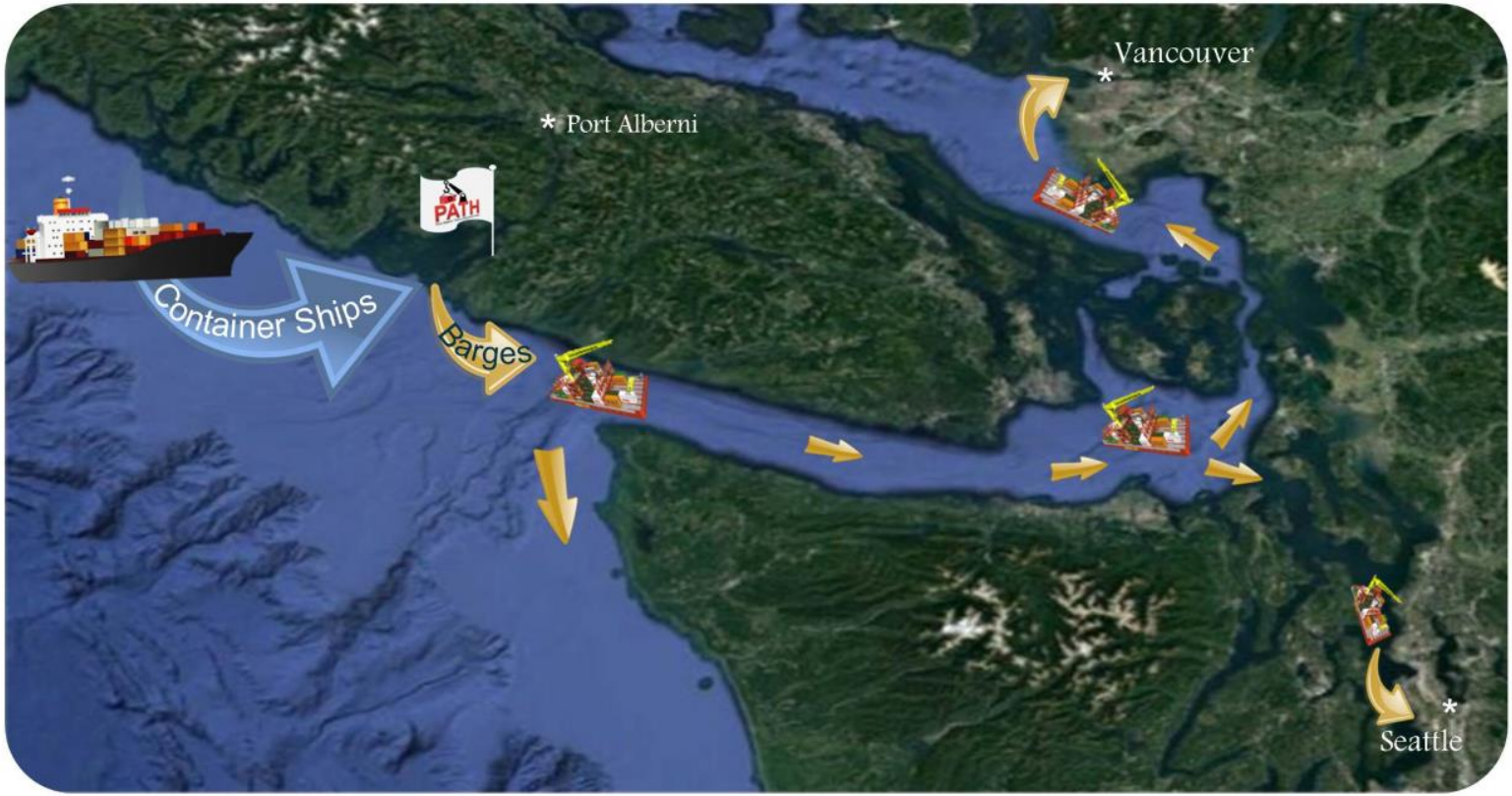

PATH will increase GDP by $21.3 Billion
ATH

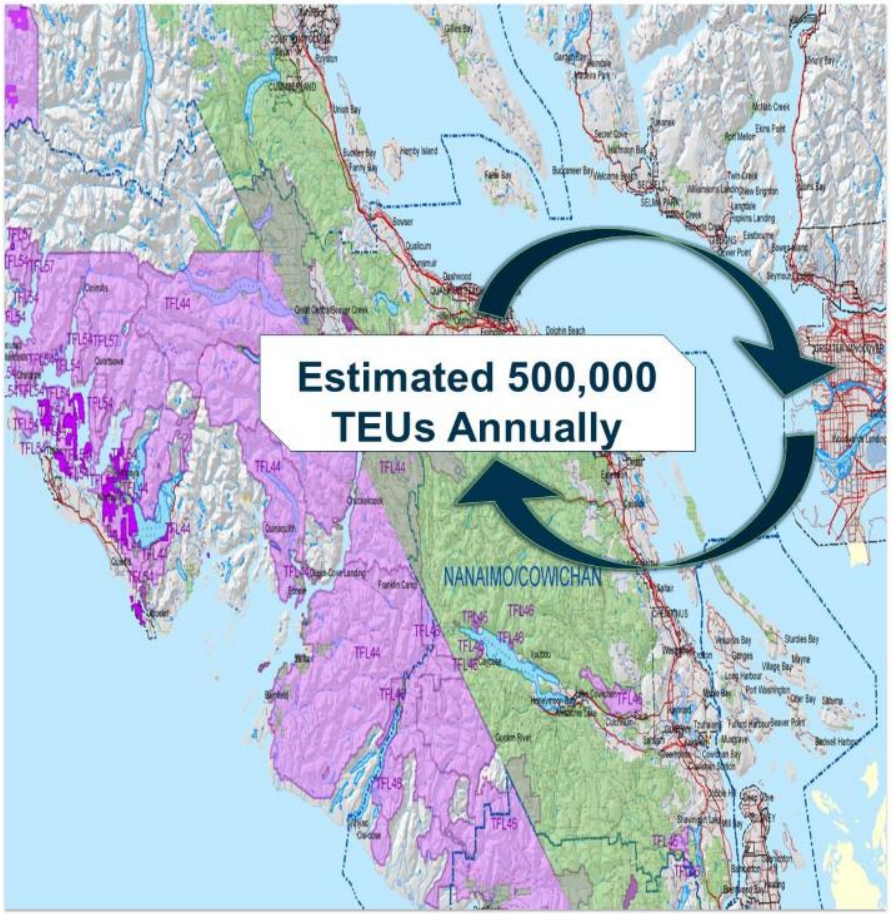
Location

The Port Alberni Port Authority has a Memorandum of Understanding with the Huu ay aht First Nations.

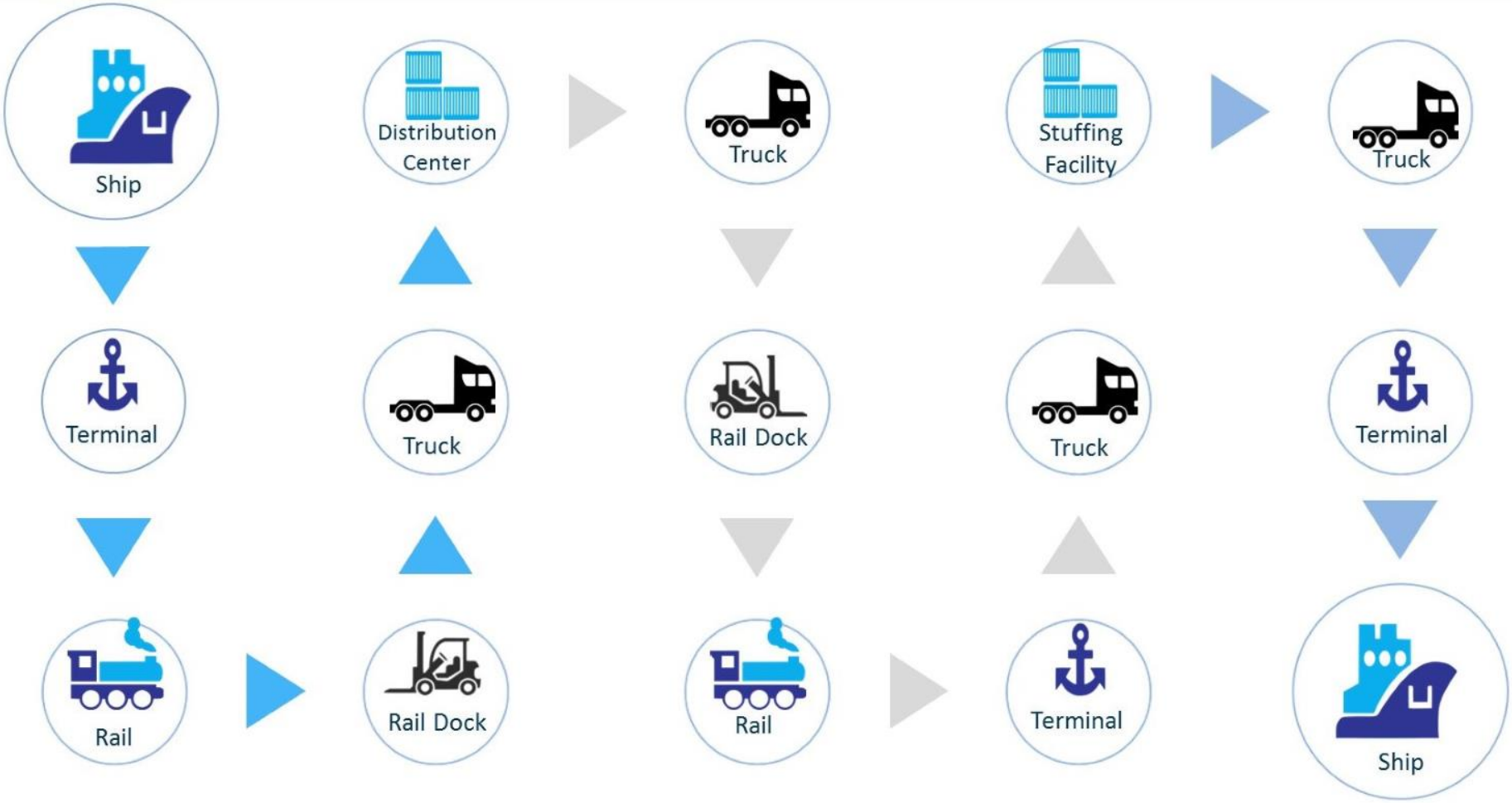
Hub and Spoke Model

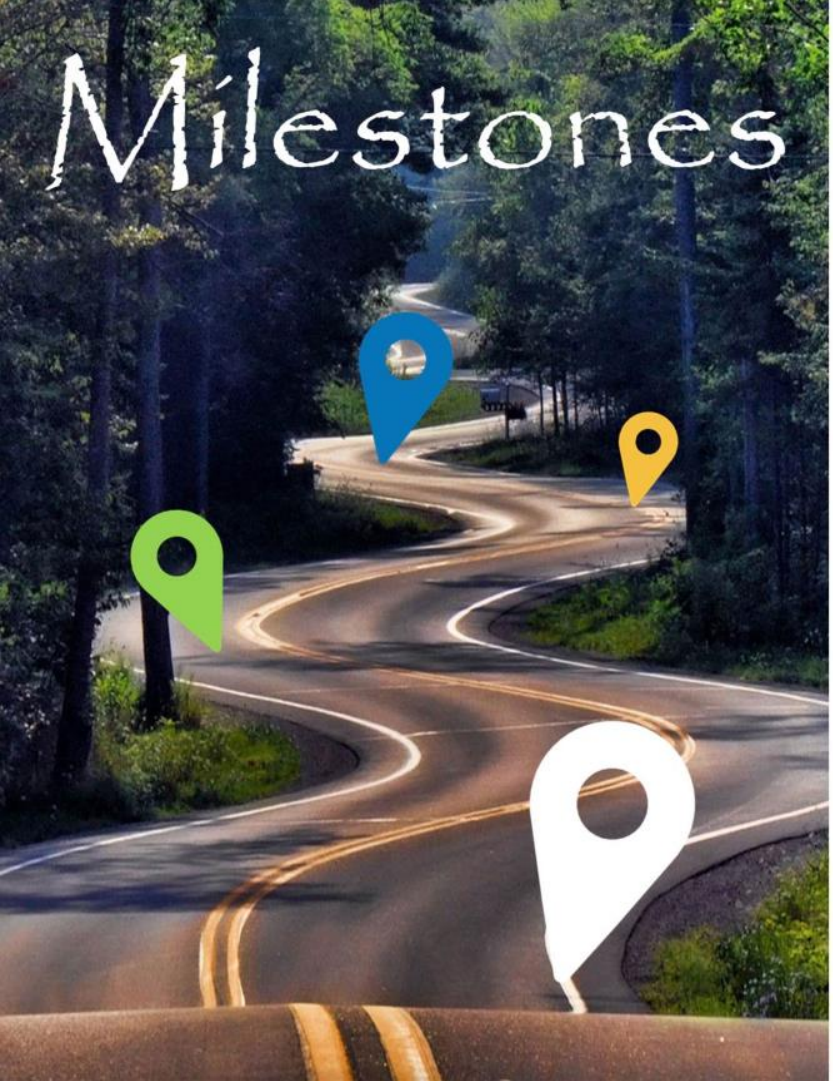
Will enable use of existing infrastructure and open up new hinterland.





Hub and Spoke


Ship
Distribution Center
Truck
Stuffing Facility
Truck
Terminal
Truck
Rail Dock
Truck
Terminal
Rail
Rail Dock
Rail
Terminal
Ship



- Pre-Feasibility Study Partially Funded by Federal Government
- Memorandum of Understanding with Korean Consortium
- Protocol Agreement with Huu ay aht First Nations
- Land Reserved – Provincial Government
- Letter of Support from ILWU Canada
- Memorandum of Understanding with ZPMC

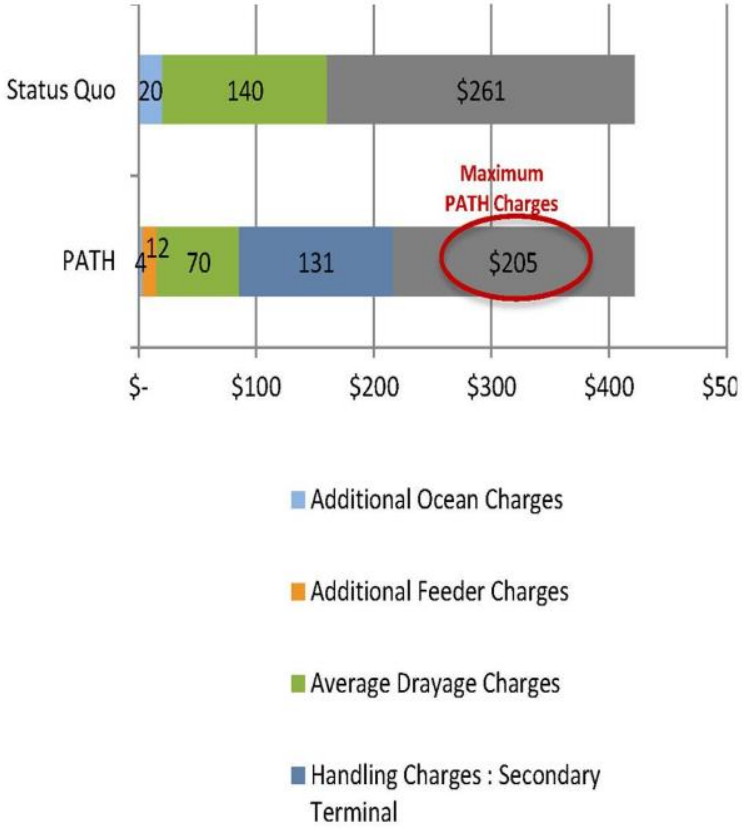
Next Steps


• Key Stakeholder
• Impact Assessment
• In-depth Feasibility Study
• Secure Anchor Shipping Line

Economic Community Impacts

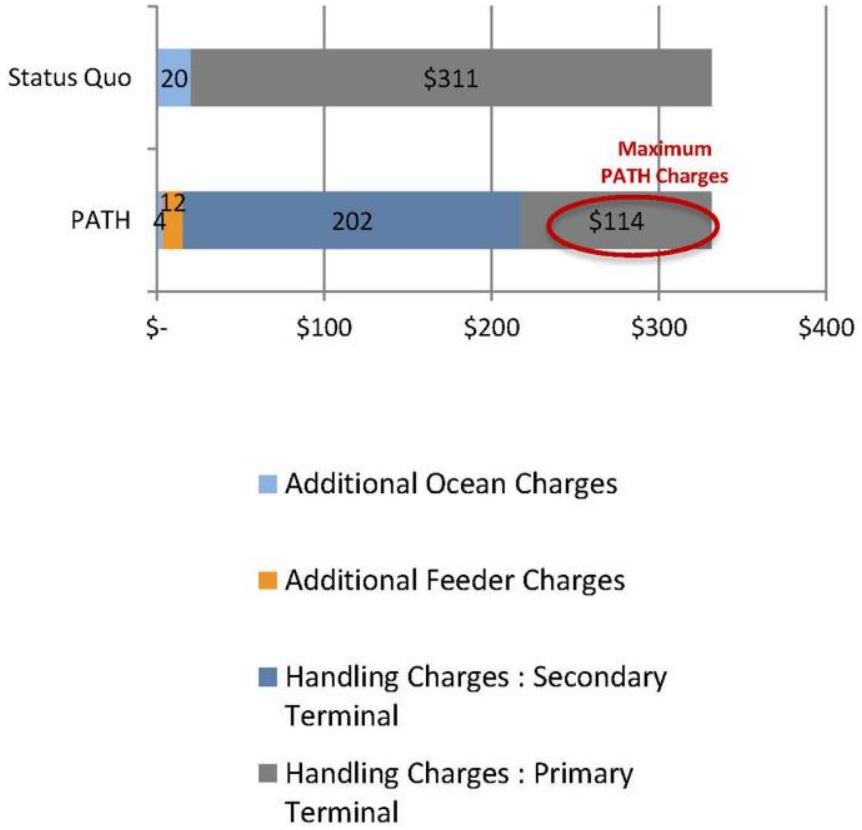
- ✓ Total direct, indirect & induced jobs: 2878 = almost $191 Million total income
- ✓ 353 of these jobs are directly related to port property, operations and those operating within Port holdings
- ✓ $13.5 Million in taxes to Governments of Canada, BC & City (almost $5.5 Million to City)
- ✓ Direct GDP generated by the Port was $135.5 Million
- ✓ Fishing – Raw Spirit – jobs
- ✓ Cantimber - jobs
- ✓ WCMRC - jobs
- ✓ Tyee Landing / Centennial pier

Figure 6-9: Supply Chain Price Differential (from Deviation Point): Truck-Served Customersin Local Market



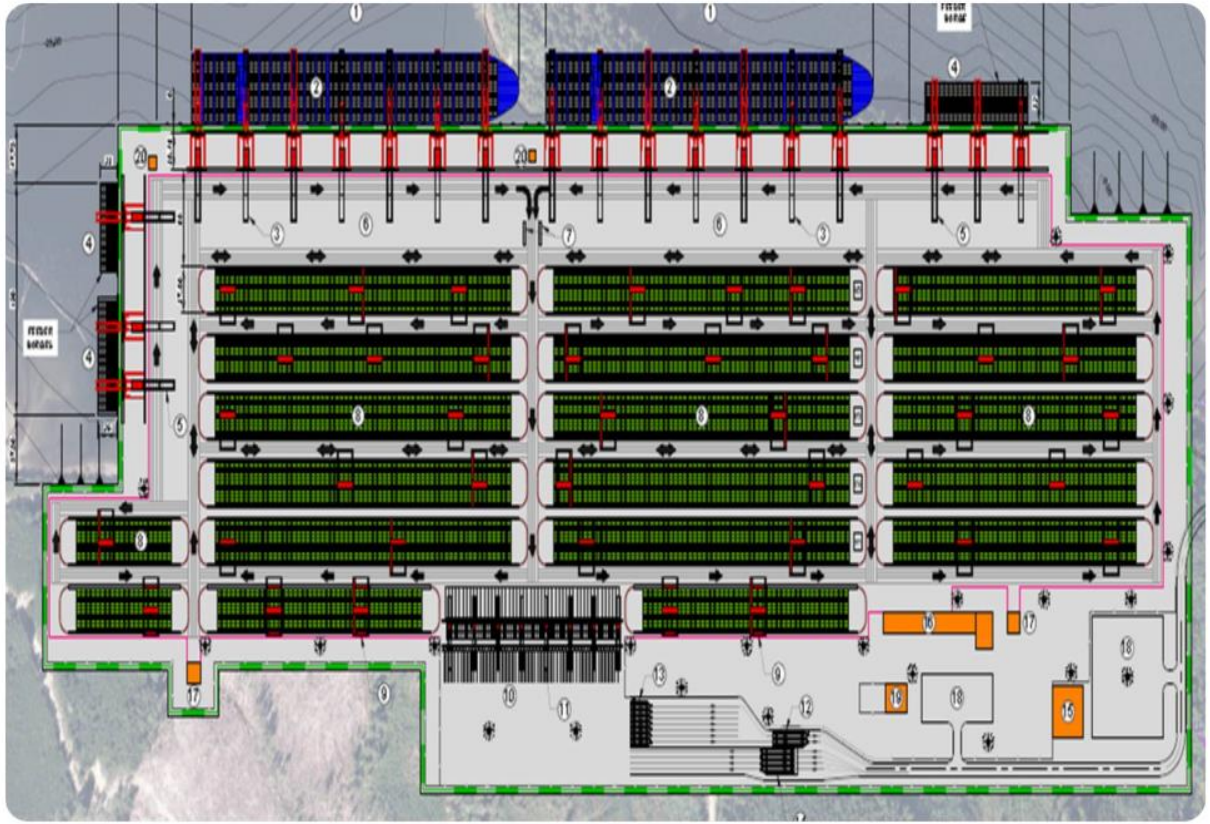
Drayage


PATH
4 Pronged Savings


Status Quo
20
$311
Maximum
PATH Charges
PATH
4
12
202
$114
$-
$100
$200
$300
$400
Additional Ocean Charges
Additional Feeder Charges
Handling Charges : Secondary Terminal
Handling Charges : Primary Terminal

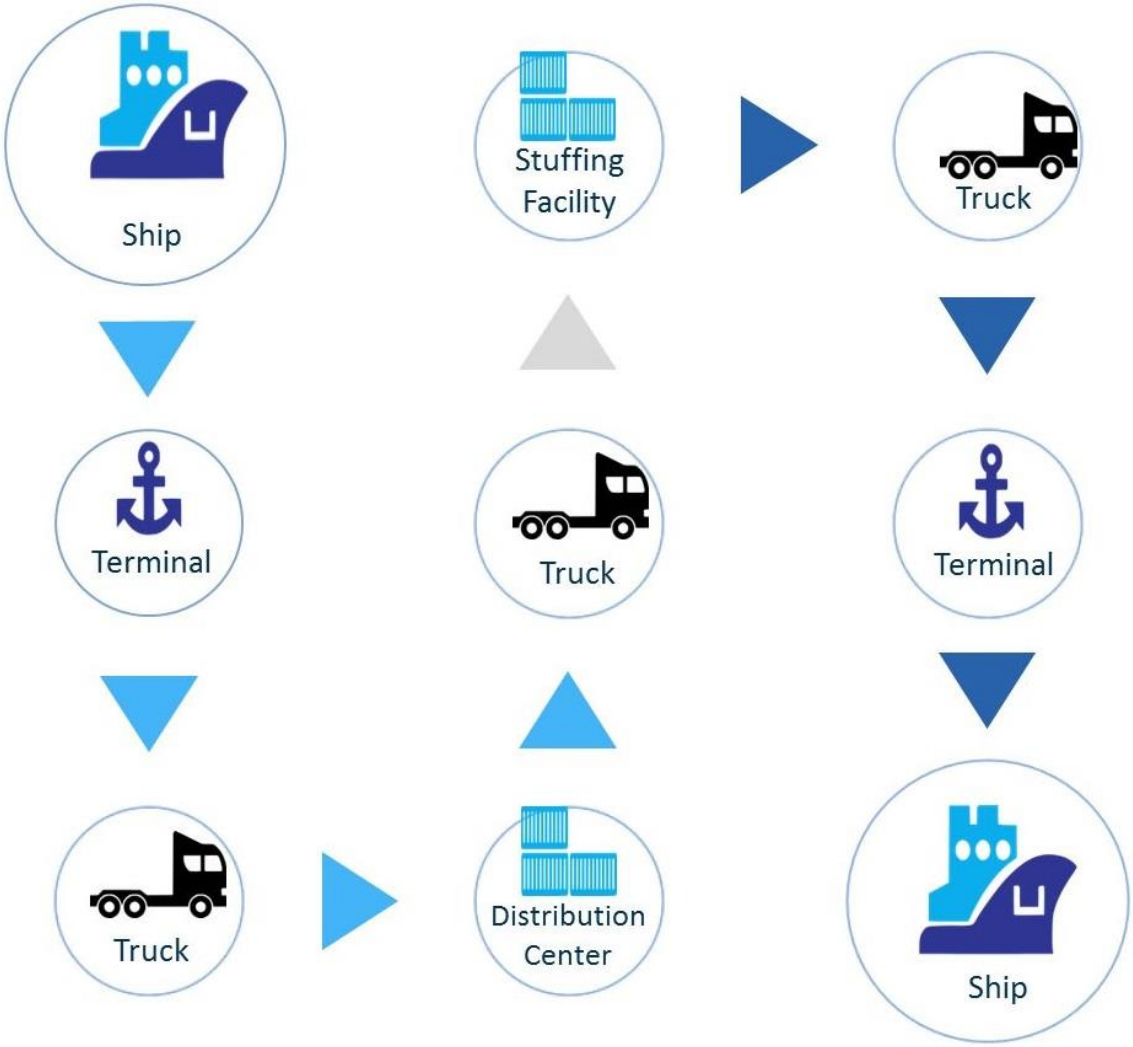
Handling

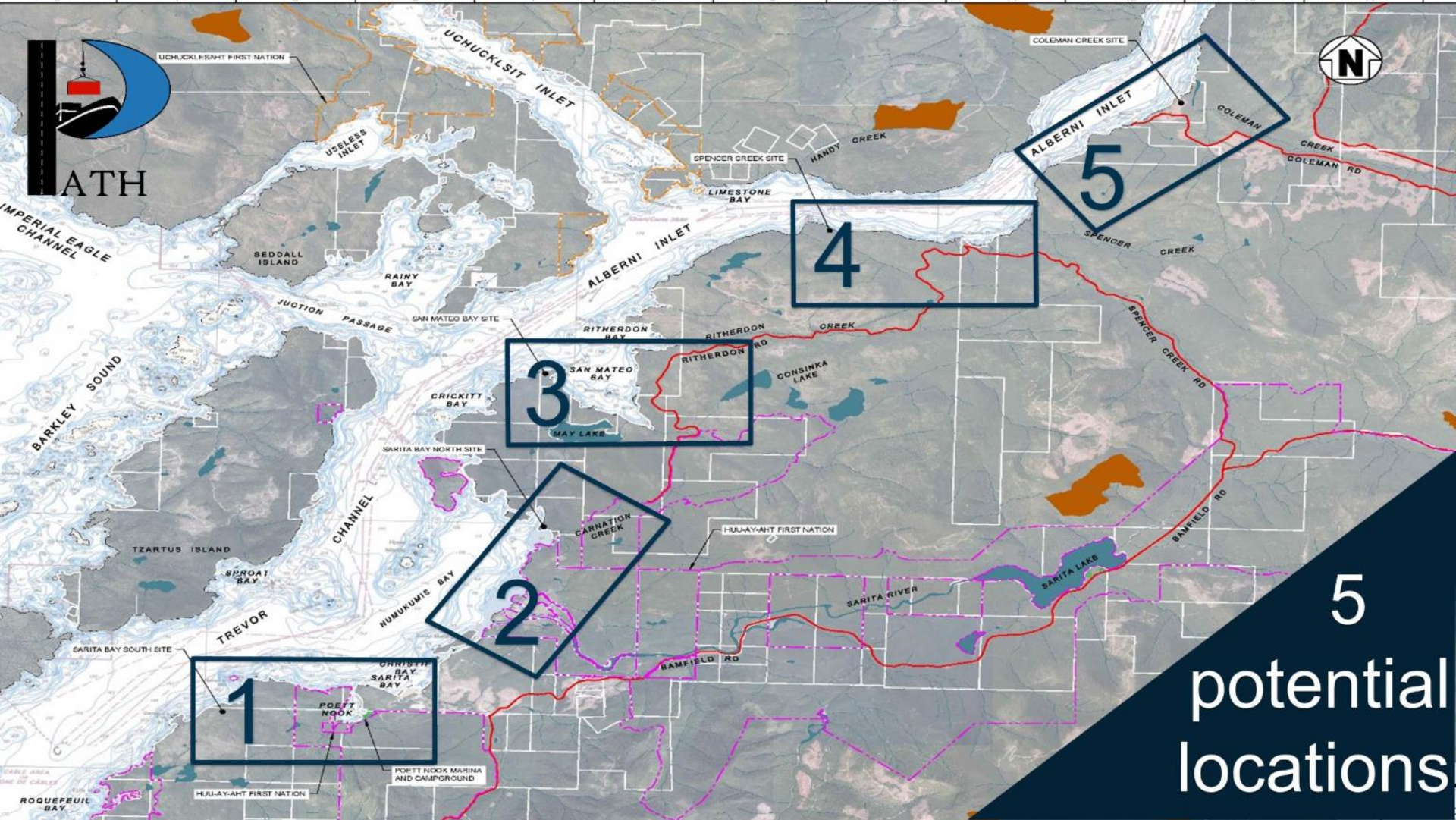
Port Alberni Trans-Shipment Hub



Fully Automated Container Terminal

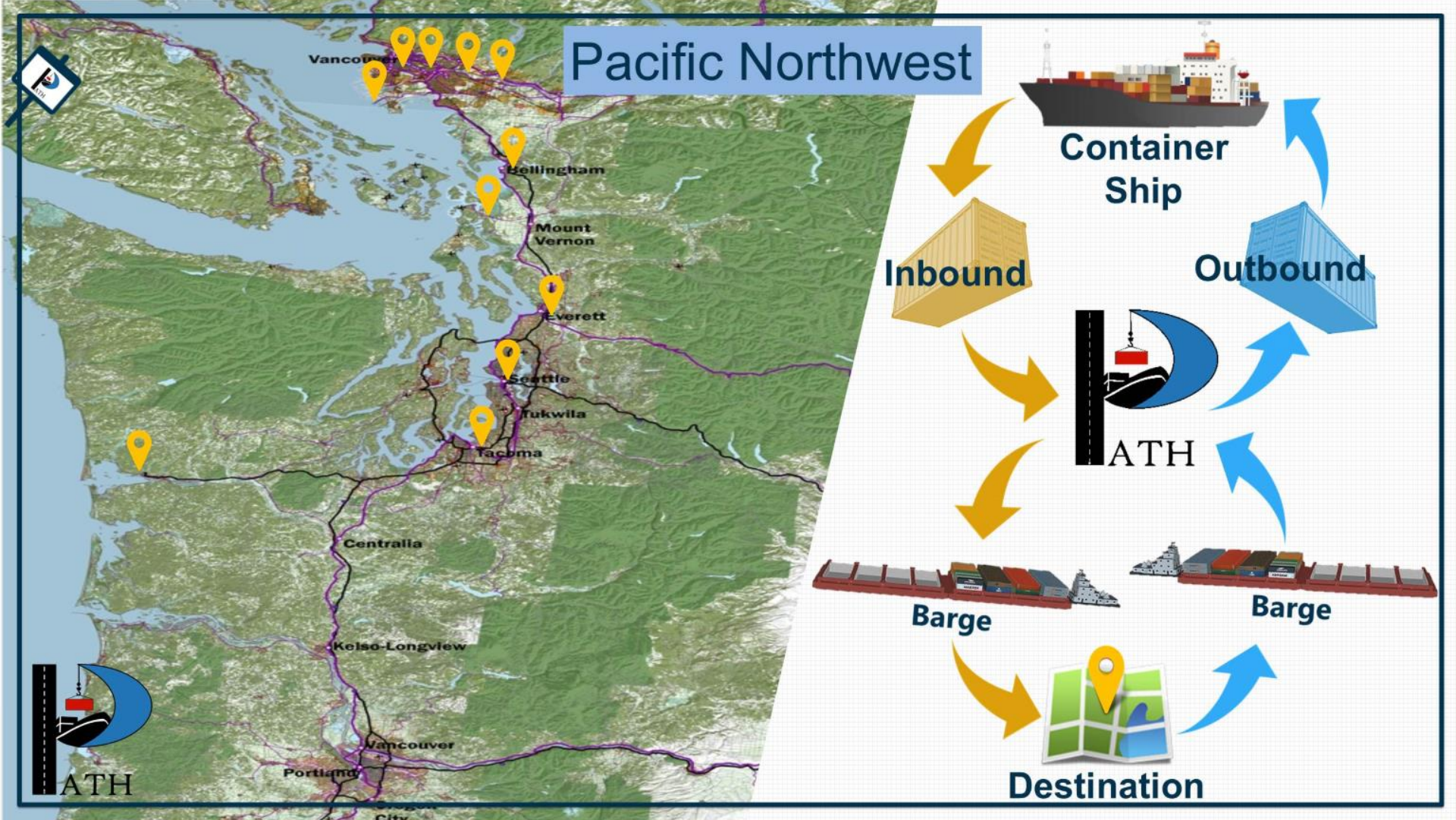
22,000 TEU + Ships


Ship
Stuffing Facility
Truck
Terminal
Truck
Terminal
Truck
Distribution Center
Ship

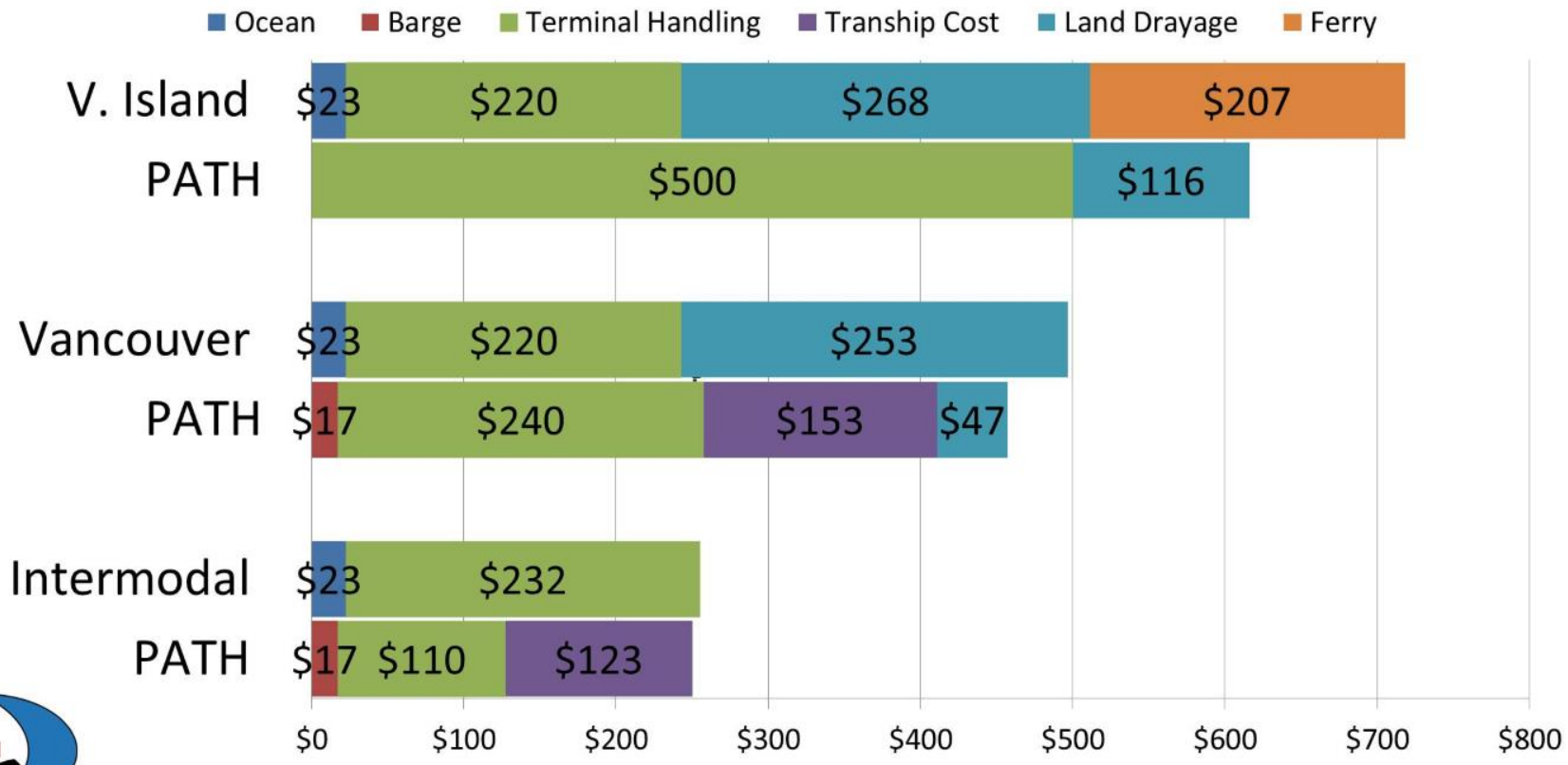


5 potential locations

Item	PATH	Status Quo: Vancouver/ Seattle
Voyage Deviation Estimation		
Deviation (nm)	44	480
Ship Speed (knots)	16	12
Time used for deviation (hours)	2.8	30
Ship Capital Expenses ($)	$ 6,850	$ 99,632
Ship Operating Expense ($)	$ 1,328	$ 19,321
Fuel Costs ($)	$ 13,839	$ 239,032
Total Voyage Deviation Costs ($)	$ 22,017	$ 357,985
Port Deviation Estimation		
Direct Port Charges ($)	$ 23,149	$ 186,980
Total Time at Port (hours)	24	66
Ship Capital Expenses ($)	$ 59,779	$ 164,392
Ship Operating Expense ($)	$ 11,593	$ 31,881
Fuel Costs ($)	$ 3,152	$ 8,667
Total Port Deviation Costs ($)	$ 97,673	$ 391,920
Total Deviation Costs ($)	$ 119,689	$ 749,905
Results		
Savings in Basic Scenario (two-way)	$ 630,216	


Pacific Northwest
Vancouver
Bellingham
Mount Vernon
Everett
Seattle
Tukwila
Tacoma
Centralia
Kelso-Longview
Vancouver
Portland
ATH
Container Ship
Inbound
Outbound
ATH
Barge
Barge
Destination

Cost @TEU Comparison - PATH vs Status Quo



ATH

PORT ALBERNI HAS:

- Highest unemployment rate
- Highest serious crime rates
- Highest serious drug offences
- Highest alcohol consumption and alcohol related deaths
- Highest number of young mothers
- Highest poverty rate
- Highest occurrences of mood and anxiety disorders
- Lowest rate of infrastructure and development investment

PORT ALBERNI PORT AUTHORITY

Container Traffic – Pacific North West

Port	2013	2014	2015	2016	2017
Port of Vancouver	2,825,475	2,912,900	3,054,467	2,929,585	3,252,223
Seattle / Tacoma	3,456,161	3,427,561	3,529,441	3,615,752	3,665,329
Totals	6,281,636	6,340,461	6,583,908	6,545,337	6,917,552

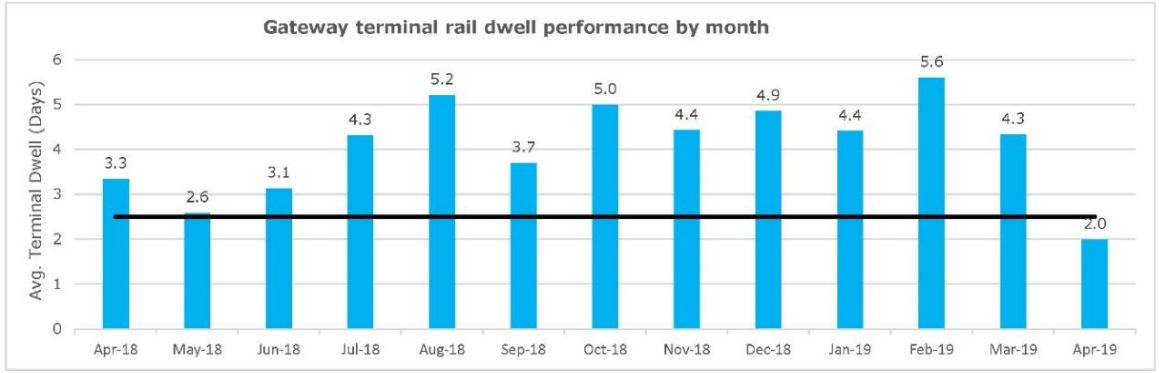
Daily Import Rail On-dock Footage Summary

May 24, 2019

	CP	CN	Terminal
Vanterm	10,890	13,629	24,519
Centerm	429	7,079	7,508
Deltaport	38,412	24,470	62,882
Total On-dock Footage*	49,731	45,178	94,909

Status*	Definition
GREEN	0-3 days on dock
AMBER	3-5 days on dock
RED	5-7 days on dock
BLACK	>7 days on dock

**Estimated number of days to clear on dock footage based on previous 2 weeks' performance.*



Note: Gateway dwell times are measured based on completed trips only. Containers remaining on dock or currently in transit are not included in this measure.

PORT of vancouver

Port Overview

- One of 18 Canadian Port Authorities
- Agent of the Federal Crown
- Over 87 leases
- 47 km long inlet
- 4 marinas & 1 campground
- 3 berth terminal

Canada

Cargo summary by sector

Metric Tonnes	2015	2016	2017	% Change
Foreign	**109,275,892**	**106,465,923**	**112,357,918**	**6%**
Inbound	**16,887,264**	**16,521,883**	**17,284,894**	**5%**
Auto	371,370	379,402	415,713	10%
Break Bulk	1,271,335	1,053,604	1,038,342	-1%
Bulk	4,167,360	4,325,306	3,970,907	-8%
Container	11,077,199	10,763,570	11,859,932	10%
Outbound	**92,388,627**	**89,944,040**	**95,073,024**	**6%**
Auto	169	270	411	52%
Break Bulk	2,294,052	1,785,347	1,909,360	7%
Bulk	76,134,280	73,864,769	78,994,865	7%
Container	13,960,126	14,293,655	14,168,388	-1%
Domestic	**28,808,184**	**29,071,491**	**29,720,441**	**2%**
Inbound	**11,329,827**	**11,092,114**	**11,373,942**	**3%**
Auto	12,935	13,608	13,751	1%
Break Bulk	4,996,345	4,898,400	5,000,830	2%
Bulk	6,320,548	6,180,106	6,359,139	3%
Container	-	-	222	N/A
Outbound	**17,478,357**	**17,979,377**	**18,346,499**	**2%**
Break Bulk	7,910,268	8,502,684	8,678,326	2%
Bulk	9,568,089	9,476,693	9,667,077	2%
Container	-	-	1,096	N/A
Overall	**138,084,076**	**135,537,413**	**142,078,359**	**5%**
Inbound	**28,217,092**	**27,613,997**	**28,658,835**	**4%**
Auto	384,305	393,010	429,464	9%
Break Bulk	6,267,680	5,952,004	6,039,171	1%
Bulk	10,487,908	10,505,412	10,330,046	-2%
Container	11,077,199	10,763,570	11,860,154	10%
Outbound	**109,866,984**	**107,923,417**	**113,419,524**	**5%**
Auto	169	270	411	52%
Break Bulk	10,204,320	10,288,030	10,587,686	3%
Bulk	85,702,369	83,341,461	88,661,943	6%
Container	13,960,126	14,293,655	14,169,484	-1%

Mt of cargo traffic		
Area	**2017**	**2038**
Canada	332.7	470
Port of Vancouver	142.1	200.7

Overview

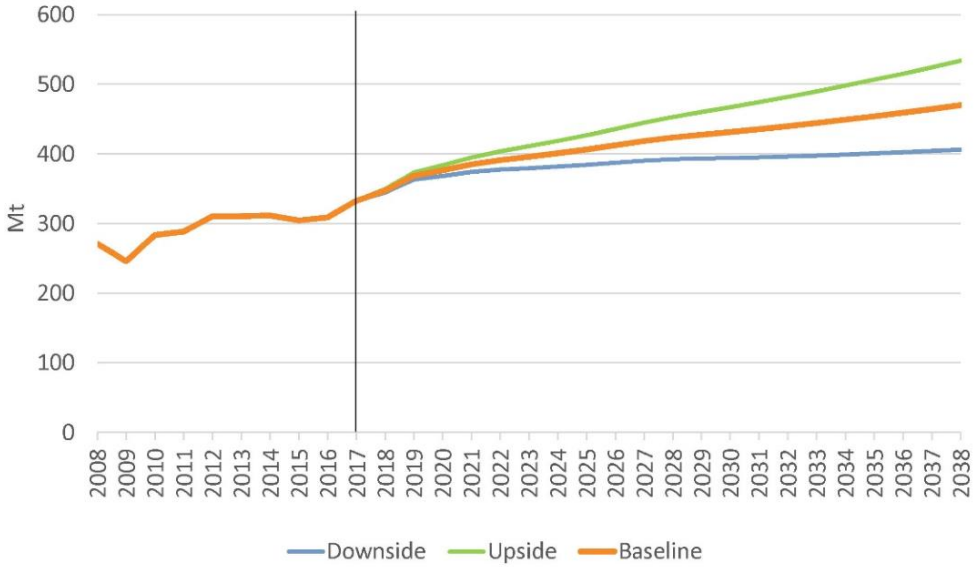
Port of Vancouver handled 142 million tonnes of cargo in 2017, up 5% from the previous year's 136 million tonnes. The 2017 Statistics Overview tabulates the volume of cargo shipped through Port of Vancouver over the past three years (2015 - 2017). Various breakdowns are provided, including: imports, exports, major commodities, containerized cargo, principal trading economies, vessel arrivals, and cruise volumes.

Metric Tonnes	2015	2016	2017	% change*
Auto **	384,474	393,280	429,875	9%
Breakbulk	16,471,999	16,240,034	16,626,857	2%
Bulk	96,190,277	93,846,874	98,991,989	5%
Containerized	25,037,326	25,057,225	26,029,638	4%
Total Tonnage	**138,084,076**	**135,537,413**	**142,078,359**	**5%**
Auto (Units)**	384,474	393,280	429,875	9%
Containers (TEUs)	3,054,467	2,929,585	3,252,223	11%
Cruise Passengers	805,435	826,820	842,928	2%
Foreign Vessel Arrivals	3,126	3,105	3,219	4%

* For the remainder of this report, "% change" refers to change between 2016 and 2017 figures

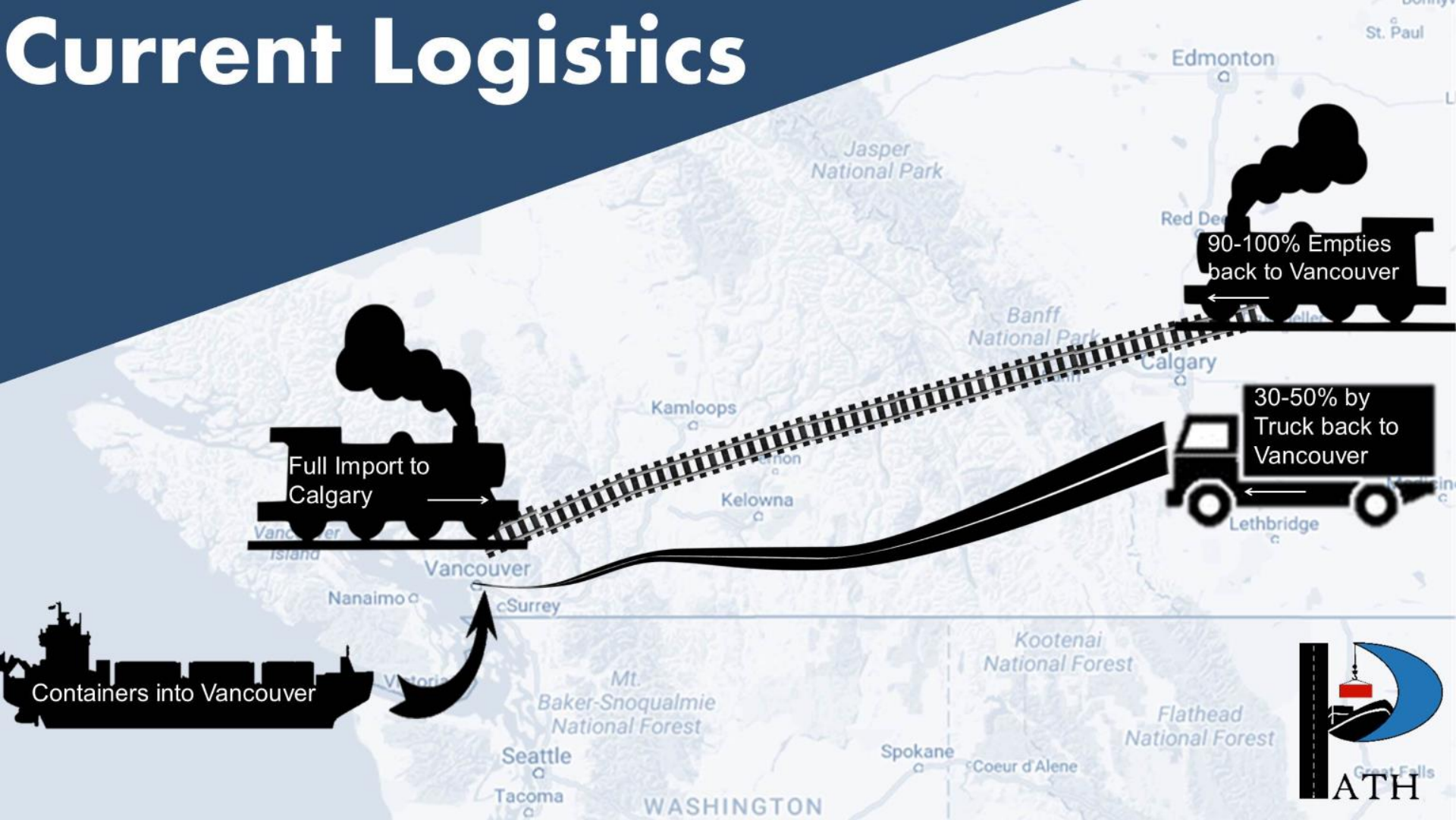
** 1 Vehicle Unit = 1 Metric Tonne

In our downside scenario, CPA cargo traffic increases to 406.3 Mt in 2038 (1.0% annual growth)



Notes: Time series shows actual cargo traffic up to 2017 and three-year moving average forecasts thereafter.
Source: CPCS calculations based on Transport Canada and OE data.

Current Logistics



Huangpu River - Shanghai

Trucked via BC Ferries

Jan – Jun
2015 – 2016
101,143 - 108,319

Seaspan Barges to Victoria and Nanaimo

2016
250 - 53’ Trailers per day

Barged to Nanaimo

2015
35,336 TEU

2016
43,500 TEU

ATH

Vancouver Island Cargo

Goods Producing & Manufacturing Companies

Agriculture, Forestry, Fishing, Hunting - **1,204**

Mining, Oil & Gas Extraction - **71**

Manufacturing - **954**

Vancouver Island has a growing number of goods and manufacturing companies

Vancouver Island

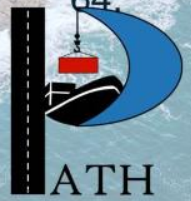
Population

799,400
2016

765,307
2015

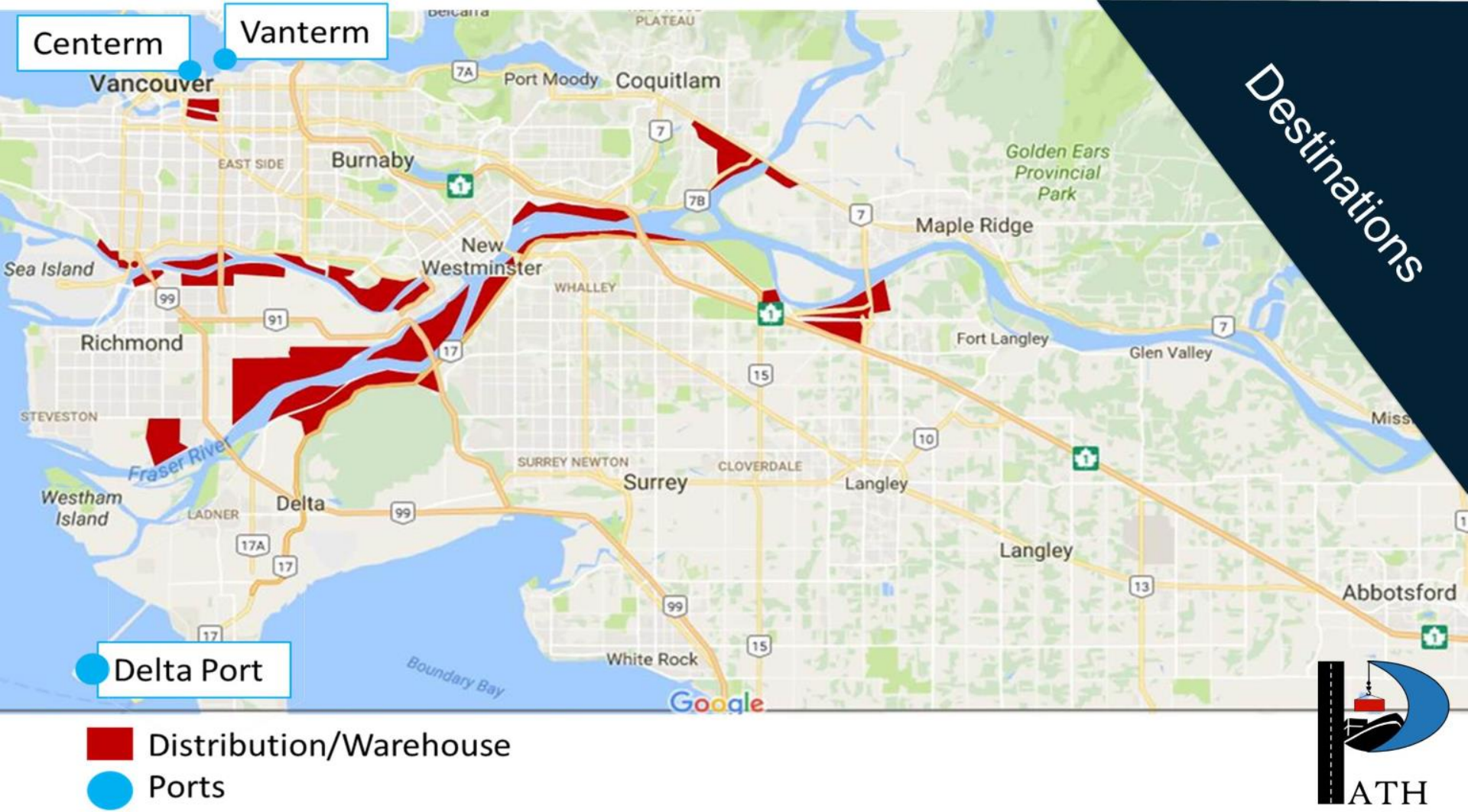
760,466
2014

Almost 70% of the population on Vancouver Island is between the ages of 15 and 64.



The region's geographic separation from the mainland means that sea travel and air travel are the only options for businesses to move goods and workers and for visitors to come to the region. As a result increases in transportation costs can have a significant effect on overall business costs. - State of the Island Economic Report 2015

The average cost of a single family home on Vancouver Island is $388,800. – Vancouver Island Real Estate Board


Centerm
Vanterm
Vancouver
Delta Port
Destinations
Distribution/Warehouse
Ports
Port Moody
Coquitlam
Burnaby
EAST SIDE
Golden Ears Provincial Park
Maple Ridge
New Westminster
WHALLEY
Sea Island
Richmond
Fort Langley
Glen Valley
STEVESTON
Fraser River
SURREY NEWTON
Surrey
CLOVERDALE
Langley
Westham Island
LADNER
Delta
Langley
Abbotsford
White Rock
Boundary Bay
Google
ATH

Port Congestion

Congestion issues at the Port of Vancouver may lead to delivery delays. - Milgram.com

"…congestion at the port is costing the industry millions of dollars" - Werner Knittle, vice-president of the B.C. division for Canadian Manufacturers. and Exporters

The Canadian International Freight Forwarders Association noted in its daily bulletin that dwell times for containers at Port Metro Vancouver, before they are loaded to rail, are at least 5-7 days. - Canadian Shipper

ATH

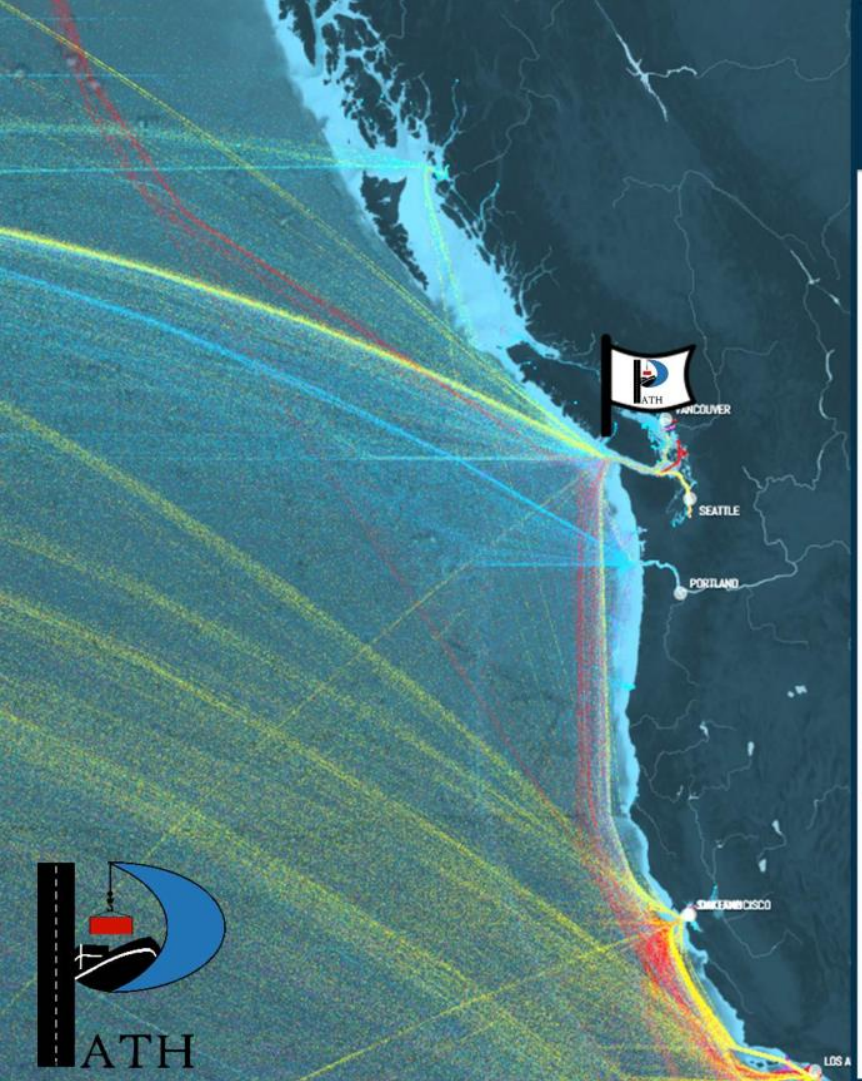
Vancouver Rail Lines

Viability

Path has a total build cost of $1.63 Billion

Including all handling cost, trainload, barge and port fees

No	Description	# Berths	Berth Utilization
1	One 14,000 TEU vessel calling weekly at PATH EBITDA = $214 Million	1	21%
2	Two 14,000 TEU vessels calling weekly at PATH EBITDA = $440 Million	2	43%
3	One weekly 14,000 TEU vessel with 44% PNW and 56% PSW cargo EBITDA= $79 million	1	11%
4	Combination of Scenarios 1 and 3 above EBITDA = $518 Million	2	32%



Container Traffic – West Coast of North America

Port	2013	2014	2015	2016	2017
Prince Rupert	536,439	618,167	776,410	736,663	926,540
Port of Vancouver	2,825,475	2,912,900	3,054,467	2,929,585	3,252,223
Seattle/Tacoma	3,456,161	3,427,561	3,529,441	3,615,752	3,665,329
Port of Long Beach	6,730,573	6,820,806	7,192,066	6,775,171	7,544,507
Port of Los Angeles	7,868,582	8,340,066	8,160,458	8,856,783	9,343,193
Port of Oakland	2,346,564	2,394,069	2,277,521	2,369,631	2,420,837
Totals	23,763,794	24,513,569	24,990,363	25,283,858	27,152,629

Shanghai – LA or
Shanghai – LA via Port Alberni –
19 hours deviation

ATH

Gateway Resiliency

- Natural disasters
- Strikes & Lockouts
- Derailments
- Winter
- Diversity