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COLUMBIA

MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

ISLAND RAIL CORRIDOR FREIGHT ANALYSIS

DECEMBER 5, 2022



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Executive Summary

The Island Rail Corridor, previously known as the Esquimalt and Nanaimo Railway (E&N), is the primary existing rail infrastructure asset on Vancouver Island. This asset has largely fallen into disuse over the past 20 years. The Island Rail Corridor is currently owned by the Island Corridor Foundation (ICF), a non-profit agency responsible for management of the real property associated with the rail assets divested by Canadian Pacific Railway (CP) and short line railroad holding company RailAmerica in 2006.

The British Columbia Ministry of Transportation and Infrastructure (MoTI) engaged HDR Corporation (HDR) to conduct a detailed analysis of existing freight rail transportation services and facilities, freight rail demand, potential benefits of shifting freight onto rail (such as supply chain resiliency and emissions reduction), and potential future opportunities for businesses to utilize rail for freight movement along the Island Rail Corridor network so that it may continue to function as a component of the overall multimodal transportation system on Vancouver Island.

HDR conducted stakeholder engagement with a range of organizations and firms to better understand existing and potential future freight transportation demand on Vancouver Island and opportunities for the future use of rail transportation to support freight movement. HDR reached out to 28 different entities and individuals and conducted 21 interviews in total. Interview participants included shippers, transportation service providers, industry organizations, port authorities, and other interested parties.

This report includes HDR's assessment of how likely each of the commodities and associated volumes identified by stakeholders are to materialize within the next five years. However, it is important to note that the potential volumes presented are not a future forecast, and instead are considered reasonable values that could be achieved with minimal improvements. This report also describes some of the primary considerations and factors that are likely to influence the success of the Island Rail Corridor as a trade corridor.

Primary Study Findings

- There are many opportunities for freight rail traffic on Vancouver Island that could be realized with significantly less investment than previous studies have identified.
- These opportunities would shift many truck trips to rail, both on Vancouver Island and in the Lower Mainland, providing a range of benefits.
- Developing a rail connection to Duke Point would provide synergetic benefits for the area and the Island Rail Corridor.
- Stakeholders agreed that maintaining the Island Rail Corridor is important to the overall resiliency of the Island, given its limited highway network.

If all of the most-likely opportunities were realized, HDR estimates that a volume range of between 4,500 and 11,400 annual carloads on the Island Rail Corridor could be achieved in the near to medium term, provided that rail shipping and handling fees are competitive with other modes. These rail opportunities could enable between 10,400 and 25,570 annual truckloads on Vancouver Island to be taken off the roads, which is equivalent to an estimated 2 to 4 million truck kilometers per year. This shift would result in an annual greenhouse gas emissions savings estimated to be between 1,741 and 3,636 metric tonnes of greenhouse gas emissions per year.

Contents

1.0	Introduction.....	1
1.1	Background.....	1
1.2	Vancouver Island Freight Transportation Overview	3
1.2.1	The Role of Freight Rail on Vancouver Island.....	6
1.3	Potential Advantages of Freight Rail	8
2.0	Literature Review	9
2.1	Evaluation of the E & N Railway Corridor: Foundation Report (2010).....	9
2.2	Evaluation of the E & N Railway Corridor: Freight Analysis (2010)	10
2.3	E & N Railway Corridor: Development Strategies for the Island Corridor Foundation (2010).....	11
2.4	Island Rail Corridor Condition Assessment Summary Report (2020).....	12
2.5	Vancouver Island Rail – Initial Business Case (2022).....	13
2.5.1	Anticipated Freight Rail Operations and Revenues	13
3.0	Existing Island Rail Corridor Freight Infrastructure.....	14
3.1	Rail.....	14
3.1.1	Main Line Rail.....	14
3.1.2	Yards and Terminals	14
3.1.3	Spurs.....	17
3.1.4	Industrial Railways	17
3.2	Ports.....	19
3.2.1	Port of Nanaimo	19
3.2.2	Port of Port Alberni	21
4.0	Vancouver Island Industry Profile	21
4.1	Forest Products.....	21
4.1.1	Forestry and Logging.....	22
4.1.2	Wood Product Manufacturing	22
4.1.3	Pulp and Paper Manufacturing.....	24
4.2	Agriculture.....	24
4.3	Construction.....	25
4.4	Mining.....	25

- 4.5 Retail and Wholesale Trade 25
- 5.0 Stakeholder Engagement..... 25
 - 5.1 Current Service & Conditions 26
 - 5.2 Improvement Ideas..... 30
 - 5.3 Potential Future Opportunities 30
 - 5.4 Summary 30
- 6.0 Existing Freight Rail Volumes..... 31
- 7.0 Rail Service Improvements and Other Considerations Needed to Attract and Sustain Freight Volumes 32
- 8.0 Future Potential Freight Rail Volumes..... 34
 - 8.1 Freight Rail Volume Opportunities 34
 - 8.2 Truck Volumes Potentially Replaced by Rail 36
 - 8.2.1 Greenhouse Gas Emissions Comparison Between Rail and Truck Modes 38
- 9.0 Summary of Findings..... 39
 - 9.1 Rail Carload Opportunities 39
 - 9.2 Truck to Rail Mode Shift Benefits 40
 - 9.3 Duke Point Opportunities 40
 - 9.4 Impacts off Island..... 40
 - 9.5 Network Resiliency 41

Figures

- Figure 1: Island Rail Corridor Network..... 2
- Figure 2: Vancouver Island Freight Transportation Network 4
- Figure 3: Wellcox Yard 15
- Figure 4: Rail to Truck Transloading at Wellcox Yard 16
- Figure 5: Rail Barge Slip at Wellcox Yard..... 16
- Figure 6: Harmac Industrial Railway..... 18
- Figure 7: Crofton Industrial Railway 19
- Figure 8: Extent of Existing Rail Operations in the Nanaimo Area 27
- Figure 9: SRY Train at Annacis Rail Marine Terminal 28
- Figure 10: Seaspan Rail Barge..... 29

Tables

Table 1: Daily Truck Volumes on Key Corridors (2021)	3
Table 2: Vancouver Island Population Growth by Regional District.....	5
Table 3: Vancouver Island Commercial Ferry Operations.....	6
Table 4: ICF Projected Island Rail Corridor Freight Revenue per Initial Business Case	13
Table 5: Rail Spur Sites	17
Table 6: Vancouver Island Lumber Mills and Estimated Annual Production Capacity	23
Table 7: Vancouver Island Veneer Mills and Estimated Annual Production Capacity	23
Table 8: Vancouver Island Pulp and Paper Mills	24
Table 9: Stakeholder Engagement Record	26
Table 10: Existing Island Rail Corridor Freight Rail Volumes (Estimated).....	31
Table 11: Existing Harmac Freight Rail Volumes (Estimated)	31
Table 12: Existing Crofton Freight Rail Volumes (Estimated).....	32
Table 13: Freight Rail Volume Opportunities.....	35
Table 14: Truck Volumes Potentially Replaced by Rail Opportunity Volumes.....	37
Table 15: Annual Emissions by Mode (Rail and Truck).....	38

1.0 Introduction

1.1 Background

The Island Rail Corridor, previously known as the Esquimalt and Nanaimo Railway (E&N), is the primary existing rail infrastructure asset on Vancouver Island. This asset has largely fallen into disuse over the past 20 years. The Island Rail Corridor is currently owned by the Island Corridor Foundation (ICF), a non-profit agency responsible for management of the real property associated with the rail assets divested by Canadian Pacific Railway (CP) and short line railroad holding company RailAmerica in 2006.

Figure 1 shows the extent of the Island Rail Corridor network including rail barge connections to the mainland.

ICF contracts with third-party entities for operation and maintenance of the railway. Since 2006, operations and maintenance have been performed by the Southern Railway of British Columbia (SRY) – branded as SRY Rail Link – doing business as the Southern Railway of Vancouver Island (SVI). SRY is owned by The Washington Companies.

The Island Rail Corridor is connected to the mainland North American rail network by rail barge. Rail barge service connecting SVI's Wellcox Yard in Nanaimo with the Lower Mainland of British Columbia is operated by Seaspan, also owned by The Washington Companies. The Seaspan rail barge service connects with SRY's Lower Mainland network at SRY's Annacis Rail Marine Terminal along the Fraser River. SRY interchanges directly with three North American Class I railways, including BNSF Railway (BNSF), Canadian National Railway (CN), and Canadian Pacific Railway (CP). SRY also interchanges with Union Pacific Railroad (UP) via a haulage agreement with BNSF.

VIA Rail Canada (VIA), a crown corporation responsible for operation of intercity passenger rail service throughout Canada, continued to provide daily passenger service over the Island Rail Corridor between Victoria and Courtenay until service was suspended in 2011.

The British Columbia Ministry of Transportation and Infrastructure (MoTI) engaged HDR Corporation (HDR) to conduct a detailed analysis of existing freight rail transportation services and facilities, freight rail demand, potential benefits of shifting freight onto rail (such as supply chain resiliency and emissions reduction), and potential future opportunities for businesses to utilize rail for freight movement along the Island Rail Corridor network so that it may continue to function as a component of the overall multimodal transportation system on Vancouver Island.

Figure 1: Island Rail Corridor Network



1.2 Vancouver Island Freight Transportation Overview

Freight transportation and goods movement is essential for all residents and businesses on Vancouver Island. Vancouver Island produces many different types of commodities for local consumption and export to the mainland and overseas. The modes used to transport freight on, and to/from Vancouver Island include truck, rail, marine, and air.

The vast majority of cargo on Vancouver Island is transported via truck, with previous estimates indicating that less than 1 percent of the total volume of freight on Vancouver Island is moved by rail.¹

The highway network on the island is shown in Figure 2. Highway 1 (part of the Trans-Canada Highway) runs north-south on the east side of Vancouver Island, and connects major population centres including Victoria, Langford, Duncan, and Nanaimo. Highway 19 (Island Highway) extends north from Nanaimo to Parksville, Courtenay, Campbell River, and to the north end of the island at Port Hardy. Highway 4 (Alberni Highway) and Highway 17 (Patricia Bay Highway) are also important routes for freight transportation on Vancouver Island.

Vehicle volumes on these routes are recorded by MoTI’s permanent count stations, some of which are able to identify vehicle length. This classification serves as a proxy for estimating truck volumes on the highways, with vehicles longer than 6 metres considered to be a truck. Truck volumes on select corridors are summarized in Table 1. Two-way truck volumes can be as high as 5,000 trucks per day, with trucks representing up to 25 percent of the traffic flow on the busier routes, such as on Highway 1 near Nanaimo.

Table 1: Daily Truck Volumes on Key Corridors (2021)

Highway	Location	Daily Truck Volumes	Truck Percentage	Total Vehicle Volume
Highway 1	North of Duncan, P-12-4NS - NY	5,474	25%	22,164
Highway 1	South of Nanaimo, P-12-3NS - NY	3,613	13%	27,789
Highway 14	East of Sooke, P-11-3EW-NY	1,800	10%	17,212
Highway 17	South of Sidney, P-11-8NS - NY	2,078	6%	34,068
Highway 19	South of Courtney, P-14-5NS - NY	1,509	15%	9,826

Source: BC MoTI Traffic Data Program, 2021 Counts ²

¹ BC Ministry of Transportation and Infrastructure, Evaluation of the E & N Railway Corridor: Freight Analysis, 2010

² BC Ministry of Transportation and Infrastructure, Traffic Data Program GIS Application. Retrieved from: <https://prdoas6.pub-apps.th.gov.bc.ca/tsg/>

Figure 2: Vancouver Island Freight Transportation Network



The population on Vancouver Island grew from 799,400 in 2016 to 864,864 in 2021, equivalent to a compound annual growth rate of 1.59 percent. This is higher than the provincial average annual growth rate of 1.47 percent over the same period.³ Future population growth forecasts for each of the island’s regional districts are shown in Table 2 below. The overall compound annual population growth rates range between 0.3 percent for the Alberni-Clayoquot Regional District to 1.3 percent for the Capital Regional District.⁴ Population growth will not only increase passenger traffic on the highway network, but also increase the demand for consumer goods. This increase in demand will in turn result in greater volumes of truck traffic on the highway network.

Table 2: Vancouver Island Population Growth by Regional District

Year	Regional District					
	Alberni-Clayoquot	Capital	Comox Valley	Cowichan Valley	Nanaimo	Strathcona
2016	32,305	403,012	69,484	87,551	162,617	46,658
2020	33,885	425,504	73,663	90,775	171,977	49,302
2041	35,723	556,667	93,600	106,826	218,151	58,600
Projected Compound Annual Growth Rate	0.3%	1.3%	1.1%	0.8%	1.1%	0.8%

Source: Statistics Canada, BC Stats

The vast majority of cargo (by weight) that is transported between Vancouver Island and the mainland is handled by marine vessels, ferries, and barges. The primary port facilities on Vancouver Island are described in **Section 3.2**. Most truck cargo to and from Vancouver Island is forwarded on the freight-only commercial drop trailer ferry services operated by Seaspan Ferries, linking Duke Point Terminal near Nanaimo and Swartz Bay Terminal near Victoria to Seaspan’s mainland terminals at Surrey and Tilbury. In addition to the Seaspan service, some trucks are also accommodated on the commercial passenger ferry services operated by BC Ferries from Swartz Bay Terminal, Duke Point Terminal, Departure Bay Terminal, and Little River Terminal. For U.S. traffic, Black Ball Ferry Line operates a ferry between Belleville Terminal in Victoria and Port Angeles, Washington.

Table 3 lists the existing commercial ferry operations to and from Vancouver Island.

³ Census Data, Statistics Canada, 2016/2021

⁴ BC Stats Population Estimates & Projections for British Columbia. Retrieved November 15, 2022.

Table 3: Vancouver Island Commercial Ferry Operations

Operator	Vancouver Island Terminal	Mainland Terminal	Sailing Frequency (per Day)
BC Ferries	Swartz Bay	Tsawwassen	8 – 10
BC Ferries	Duke Point	Tsawwassen	6 – 8
BC Ferries	Departure Bay	Horseshoe Bay	7 – 8
BC Ferries	Little River	Powell River	3 – 4
Black Ball Ferry Line	Belleville (Victoria)	Port Angeles	2 – 4
Seaspan Ferries	Swartz Bay	Tilbury	1 – 3
Seaspan Ferries	Duke Point	Surrey	1 – 3
Seaspan Ferries	Duke Point	Tilbury	3 – 5

Source: BC Ferries, Black Ball Ferry Line, Seaspan Ferries

The Nanaimo region is the focal point of most freight trips on Vancouver Island due to Nanaimo having a significant concentration of freight-dependent industry, as well as more available developable land, and by acting as a connection point for freight moving to and from the mainland via the Duke Point Terminal. The Duke Point Terminal has greater existing freight capacity and greater future expansion potential than the other ferry terminals on Vancouver Island, such as Swartz Bay Terminal, which is constrained due to limited land availability and likely cannot accommodate any significant future growth. As a result, there is a higher proportion of truck trips originating from and destined to the Nanaimo region (relative to its population) when compared to the other major population centres on Vancouver Island, namely the Greater Victoria area.⁵ Most Victoria-bound freight traffic is handled through Swartz Bay, but a significant portion of Victoria-bound traffic is now handled through Duke Point as well and these volumes will continue to grow due to the limited space for expansion at Swartz Bay Terminal.

1.2.1 The Role of Freight Rail on Vancouver Island

Around the world and particularly in North America, freight rail plays a distinct role in the overall multimodal transportation system. Rail is often the preferred mode for high-volume, low-value shipments moving over longer distances. Most freight handled by rail is not time-sensitive. As a result, freight trains can effectively and efficiently operate at a range of speeds as conditions require.

By the 1960s, the largest user of freight rail on Vancouver Island was the Pacifica Paper mill in Port Alberni. CP operated daily freight trains between Nanaimo and Port Alberni

⁵ BC Ministry of Transportation and Infrastructure, Evaluation of the E & N Railway Corridor: Freight Analysis, 2010

and between Nanaimo and Victoria. The paper mill received pulp and other inputs by rail from other coastal pulp mills and shipped out nearly all of its finished products by rail.

When short line operator RailAmerica took over operations on the Island Rail Corridor from CP in 1998, freight trains continued to operate five days per week between Nanaimo and Port Alberni. RailAmerica also continued to operate freight service a few days per week between Nanaimo and Victoria. The railcar ferry between Nanaimo and the mainland had six sailings per week, providing competitive cycle times and allowing for minimal railcar dwell.

At this time, the Island Rail Corridor handled over 8,000 carloads annually. However, freight rail service on Vancouver Island continued to be marketed by CP, as all railcars continued to be handled by CP once on the mainland. This meant that CP controlled the carload shipping and handling rates for all Vancouver Island carloads, which disincentivized the interchange of these carloads to and from other North American Class I railways, particularly for locations on competing rail networks.

In 2001, Norske Skog acquired Pacifica Paper and reduced the Port Alberni mill's use of freight rail by nearly 80 percent. This was driven by the desire to circumvent carload handling rates imposed by CP (particularly for U.S.-bound shipments). To accomplish this, Norske Skog began trucking outbound paper products from Port Alberni to its mainland distribution warehouse in Surrey. Because the Surrey warehouse is served by short line carrier SRY with neutral access to four North American Class I railways, trucking paper products from Port Alberni to Surrey provided Norske Skog the ability to ship these products by rail throughout North America with a more competitive and favorable rate structure than could be had by shipping directly on rail from Port Alberni.

Due to the loss of revenue as a result of this shift by a single customer, it was no longer economically feasible for RailAmerica to continue to maintain the Island Rail Corridor track infrastructure for the remaining freight rail volumes (now less than 1,000 carloads per year). As a result, rail service on the Port Alberni Subdivision between Parksville and Port Alberni was discontinued, while a temporary stop-gap agreement was made between stakeholders to keep VIA passenger trains and reduced freight service operating on the Victoria Subdivision between Victoria, Nanaimo, and Courtenay until a longer-term solution could be found. With the reduced carload volume and curtailed freight service, RailAmerica was still able to sustain ongoing operations on a break-even basis. This led to the creation of the ICF and the operating arrangement that exists today, with contract operator SVI assuming operations from RailAmerica in 2006.

Under SVI, freight service continued to operate between Nanaimo and Duncan and between Nanaimo, Parksville, and Courtenay until 2014, when service was truncated to operate only in the immediate Nanaimo area due to needed infrastructure maintenance

and upgrades along the remainder of the corridor. With the exception of one customer receiving direct deliveries by rail, all other railcars handled by SVI are transloaded to truck in the Wellcox Yard in Nanaimo.

Use of freight rail services on Vancouver Island today is largely driven by the corresponding mainland origin or destination of the cargo. If the product is loaded onto rail on the mainland North American freight rail network, those carloads are more likely to remain on rail until they arrive on Vancouver Island to be transloaded onto trucks for final delivery. Conversely, much of the mainland-bound freight that originates on Vancouver Island today (primarily forest products) is loaded onto trucks or barges at the origin. Some of those truck or barge freight volumes are then transloaded or reloaded onto railcars once on the mainland for North American distribution.

1.3 Potential Advantages of Freight Rail

Freight rail is the principal alternative to trucking for goods movement over land. Despite the advantages that trucking can offer in terms of flexibility, truck transportation also has a number of negative impacts and externalities that must be considered. Trucking tends to be more costly – especially for longer trips, has greater fuel consumption and greenhouse gas emissions per tonne-kilometer than rail, contributes to road congestion and highway vehicle collisions, and increases the cost of highway maintenance.

For freight shipments originating or terminating on Vancouver Island that are presently transloaded from truck to rail or from rail to truck in the Lower Mainland, relocating these transloading activities to locations along the Island Rail Corridor would serve to reduce truck traffic not only on Vancouver Island, but also in the Lower Mainland.

The Vancouver Island supply chain itself is particularly vulnerable to disruption from weather related events and service interruptions due to labor availability and other logistical issues. Rail can provide a viable alternative to highways for both freight and passenger movements. Many options exist to leverage the rail corridor from a resiliency perspective, including diversion of freight shipments to rail, either immediately at origin, or at a locally served transload facility depending on circumstances. In some cases, rail can even serve as a vehicle ferry for trucks and/or passenger vehicles. Based on equipment availability, this type of service can be done on a temporary basis, especially during unplanned outages and planned maintenance. Often referred to as motorail, rolling road, or auto train service, drivers can have the ability to travel with their vehicle on the train in a passenger car while their vehicle is loaded on a flatcar.⁶

⁶ Rail Cargo Operator – Austria GmbH, ROLA Service, Retrieved from: <https://rola.railcargo.com/en/dam/jcr:ffff705b-b522-4085-92cb-83b9053d0ef3/2022-frachtpreisheft.pdf>

In the longer term, scheduled container-on-flatcar (COFC) and trailer-on-flatcar (TOFC) train services could be developed to reduce truck traffic on the Island's highways. Such a service could be used to forward trailers and containers from key marine terminals, such as Duke Point, to other locations on the Island Rail Corridor network, such as Victoria, Courtenay, or Port Alberni. Similar services have operated in Canada in the past, such as CP's Expressway drop-trailer service that forwarded trailers between Toronto and Montreal.⁷ An Expressway-style service would require minimal capital investment when compared to other typical rail intermodal solutions, as trailers could be driven onto and off of the train using ramps rather than lift-on/lift-off with cranes. As a drop-trailer service, it could be operated as an extension of the drop-trailer ferry service currently provided by Seaspan between Vancouver Island and the mainland.

There is also an ongoing societal shift towards more sustainable modes of transportation and use of alternative fuels and zero-emission vehicles (including hydrogen-powered and electric-powered vehicles, etc.), both in British Columbia (guided by CleanBC) and in other jurisdictions around the world. Placed in this context, leveraging existing and underutilized freight rail capacity can provide policymakers an opportunity to reduce the carbon footprint of freight transportation in the near term without significant investment in new vehicle fleets or the infrastructure required to support them (such as vehicle charging stations). Rail is proven technology, while zero-emission heavy duty trucks are still largely under research and development. Shifting freight from truck to rail would help reduce congestion on highways in the short term and over the long term as the population continues to grow.

2.0 Literature Review

Previous studies and planning documents have addressed freight rail needs and opportunities on the Island Rail Corridor network. The findings of these documents are summarized in this section.

2.1 Evaluation of the E & N Railway Corridor: Foundation Report (2010)

In 2009, the Province of British Columbia committed to examine the viability of the E&N Railway Corridor on Vancouver Island. The purpose of this foundation report was to

⁷ Railway Age, CP Shutting Down Expressway. March 05, 2018. Retrieved from: <https://www.railwayage.com/intermodal/cp-shutting-expressway/#:~:text=Canadian%20Pacific%20Railway%27s%20Expressway%20service,Intermodal%20in%20the%20early%201990s>.

provide a summary of technical work performed that included an analysis of several business markets including freight, intercity passenger, tourist excursion, and commuter.

The foundation report noted that existing freight volumes at the time were about 900 railcars per year, and that market growth could be achieved as a result of related investments such as more frequent rail barge service to the Lower Mainland.

At the time the report was published, Compliance Energy was proposing to develop the Raven Underground Coal Mine Project, to be located near Fanny Bay. Rail was under consideration as a potential way to transport the coal, allowing shipment to Port Alberni for overseas export by deep sea vessel. Market estimates indicated that 16,500 railcars per year of coal could be possible if this opportunity were to materialize. As of 2022, this proposed mine is no longer under development.

The foundation report also investigated opportunities for more efficient movement of forest products to North American markets as well as markets for construction aggregates moving intra-island.

The foundation report noted that the principal challenge facing the E&N Corridor is a lack of re-investment. As of 2010, the Island Rail Corridor had the lowest annual traffic (and lowest per km freight volume) of any Canadian short line railway. In simple terms, rail traffic needs to increase substantially to sustain the ongoing operation and maintenance of the Island Rail Corridor, but this cannot happen without prior capital investment.

The foundation report concluded that without increasing volumes of freight and passenger service on Vancouver Island, continued reinvestment in rail infrastructure is not sustainable. Given that there are a variety of business opportunities that could emerge in this corridor, MoTI recommended that a corridor strategy be developed in partnership with ICF as a next step. The objective of the corridor strategy would be to determine what conditions and economic circumstances need to be in place to preserve the corridor for future use and encourage and enhance the potential opportunities for growth. This corridor strategy was published in 2010 as “E & N Railway Corridor: Development Strategies for the Island Corridor Foundation” and is discussed in **Section 2.3**.

2.2 Evaluation of the E & N Railway Corridor: Freight Analysis (2010)

This working paper presents the freight demand analysis undertaken as part of the Evaluation of the E&N Railway Corridor on Vancouver Island, and also includes analysis of the potential freight revenues versus the costs needed to preserve and expand the existing freight rail service at the time.

The working paper noted that demand for inbound freight services is linked to population growth on Vancouver Island, whereas outbound demand is related to the competitiveness of locally produced materials and goods in North American and offshore markets.

The dominance of trucking had left rail with remarkably low market share on Vancouver Island, with only 900 carloads handled by SVI in 2009. Compared to parallel truck movements on the Island Highway, rail accounted for less than one percent of freight traffic. Rail traffic in 2009 was concentrated between Duncan, Nanaimo, and Parksville – and included grain, propane, and fertilizer from Alberta, silicates from Quebec, and outbound poles destined for Ontario.

2.3 E & N Railway Corridor: Development Strategies for the Island Corridor Foundation (2010)

This study built upon previous evaluations of the Island Rail Corridor and was sponsored and managed by MoTI on behalf of the ICF. The purpose of the study was to assist the ICF in identifying potential approaches to build towards the longer-term vision for the railway. This included strategies for passenger and commuter rail service, tourist train operations, freight rail development, and land use – all placed in the context of the estimated capital cost of rehabilitating the existing rail infrastructure.

Specific to freight, the study identified the key market segments of mining, pulp and paper, concrete, and asphalt that may be conducive to rail transportation. The study noted that any freight rail growth is dependent on the restoration of the rail corridor between Victoria and Courtenay, as well as between Parksville and Port Alberni.

The study came to the following preliminary conclusions regarding freight rail:

- The greatest potential for freight rail volume growth is from industries located in the central portion of the corridor (between Duncan and Parksville), and possibly from industries located in Port Alberni.
- More freight volumes could be attracted from other modes if rail service was faster, frequent, and cost-competitive with trucking (provided that capital was invested to make these improvements to sections of the corridor where the new traffic would be carried). If the cost of fuel were to increase for trucking without having as great an impact on freight rail, then the cost comparison could improve in favour of rail at some point in the future.
- The existing freight market is fairly small and the cost of the needed track infrastructure improvements per ton of freight would be high.
- Notwithstanding the costs to achieve it, enhancing the freight and passenger rail services would reduce transportation-related greenhouse gas emissions and improve energy efficiency on Vancouver Island.

2.4 Island Rail Corridor Condition Assessment Summary Report (2020)

MoTI engaged WSP Canada Group Ltd. (WSP) to conduct a detailed evaluation of the base asset condition of the Island Rail Corridor on Vancouver Island. The assessment scope covered the entire length of the rail corridor, including Victoria to Courtenay, Parksville to Port Alberni, the Wellcox Spur, and the Wellcox Yard.

Site investigations were undertaken to assess the condition of the Island Rail Corridor. During the site investigation, a good/fair/poor rating was applied at each inspection element to grade the overall condition of each component of the railway. The condition assessment found that the railway corridor is in poor to fair condition, with the Victoria Subdivision in a poor to fair condition and the Port Alberni Subdivision in a poor condition.

Conceptual cost estimates were developed to support three Improvement Phases evaluated based on use case: Initial, Intermediate, and Ultimate.

- **Initial Phase** – Track rehabilitated to Class 2 Track Standard (25 mph freight, 30 mph passenger) to accommodate up to four freight trains per day and up to four passenger trains per day.⁸
- **Intermediate Phase** – Track rehabilitated to Class 3 Track Standard (40 mph freight, 60 mph passenger) and upgraded to support a maximum allowable gross weight capacity per carload of 286,000-lbs, to accommodate up to four freight trains per day and up to eight passenger trains per day.⁹
- **Ultimate Phase** – Track rehabilitated to Class 3 Track Standard (40 mph freight, 60 mph passenger) and upgraded to support a maximum allowable gross weight capacity per carload of 286,000-lbs., plus additional improvements to the roadbed to improve ride quality, to accommodate up to four freight trains per day and at least eight passenger trains per day.¹⁰

The estimated total cumulative costs to achieve each phase of restoration of the entire Island Rail Corridor network range from \$326,448,991 for the Initial Phase, \$552,023,932 to achieve the Intermediate Phase, and up to \$720,778,304 to achieve the Ultimate Phase.

The condition assessment did not consider a low-density **freight-only** scenario reflective of past operations in its proposed phasing. There are many comparable low-density short line freight railways that continue to operate successfully today with speeds as low as 10 mph. The total cost to rehabilitate all or a portion of the Island Rail Corridor network to

⁸ Transport Canada, Rules Respecting Track Safety, Part II – Track Safety Rules, Subpart A – Classes of Track.

⁹ Ibid.

¹⁰ Ibid.

accommodate renewed freight operations with 10 mph operations would certainly be less than the estimated total cost for the Initial Phase as outlined in the condition assessment.

2.5 Vancouver Island Rail – Initial Business Case (2022)

In 2022, the ICF published a document that presents the business case for restoring freight and passenger rail service on the existing Island Rail Corridor. The initial business case draws on the Island Rail Corridor Condition Assessment that was commissioned by the British Columbia provincial government in 2020 as the basis for the proposal. The initial business case is intended to be a decision-making tool to assess the strategic and economic rationale for restoring freight and passenger rail service to Vancouver Island. The initial business case provides for a robust commuter system operating within the Capital Regional District (CRD), intercity passenger trains, as well as freight operations.

2.5.1 Anticipated Freight Rail Operations and Revenues

The initial business case assumes that the existing volume of 1,200 carloads per year handled by SVI in the Nanaimo area would continue once rail service is restored.

Historically, the Island Rail Corridor network handled an average of 8,000 carloads per year. Most of those cars were handled to and from Port Alberni. The initial business case claims that most of that volume is still being shipped today in one form or another and could be shifted back to rail provided there was daily freight train service on the Island Rail Corridor network that was competitive on price and service.

Freight revenues in the initial business case were calculated based on the assumption that a flat handling fee would apply for each railcar originating or terminating on the Island Rail Corridor, regardless of origin or destination, through a haulage agreement with SRY. The exact terms of this haulage agreement would be subject to future negotiations. For the purposes of the business case, a per car handling rate of \$1,100 was assumed.

For the purposes of determining the anticipated revenue that could be realized from freight, a target of 50 percent of the previous 8,000 carloads per year volume was used, resulting in a projected annual revenue of \$4,400,000 from freight operations.

Conservative and optimistic scenarios were also calculated. The projected Island Rail Corridor freight revenue in each volume scenario is listed in Table 4.

Table 4: ICF Projected Island Rail Corridor Freight Revenue per Initial Business Case

Scenario	Annual Carloads	Revenue per Car	Total
Conservative	2,500	\$1,100	\$2,750,000
Anticipated	4,000	\$1,100	\$4,400,000
Optimistic	8,000	\$1,000	\$8,800,000

3.0 Existing Island Rail Corridor Freight Infrastructure

3.1 Rail

3.1.1 Main Line Rail

The Island Rail Corridor network, shown in Figure 1, is composed of two main line track segments: the Victoria Subdivision and the Port Alberni Subdivision. These two segments are described in further detail below.

3.1.1.1 VICTORIA SUBDIVISION

The Victoria Subdivision spans 139 miles from Victoria to Courtenay. The rail corridor begins in Victoria West, near Victoria's Inner Harbor and the former E&N Esquimalt rail yard. The rail corridor circles the Esquimalt Harbor and passes through the suburban communities of Esquimalt, View Royal, Langford, and Goldstream. The route then roughly parallels Malahat Drive – a portion of Trans-Canada Highway 1 – along the west side of the Saanich Inlet until Malahat, then along Shawnigan Lake before descending into the Cowichan Valley to reach Duncan. North of Duncan, the route passes Crofton and then rejoins the coast and passes through the communities of Chemainus and Ladysmith.

Two miles south of Nanaimo, the Wellcox Spur diverges from the Victoria Subdivision on a wye junction at Stockett to access the Wellcox Yard and barge slip along the Nanaimo waterfront, adjacent to the Nanaimo Assembly Wharf.

The Victoria Subdivision main track continues through urban Nanaimo on a more inland alignment, then continues along the coast until reaching Parksville. At Parksville, the Port Alberni Subdivision diverges to the west on a wye junction. The Victoria Subdivision continues along the coast through Qualicum Beach until finally terminating in Courtenay.

3.1.1.2 PORT ALBERNI SUBDIVISION

The Port Alberni Subdivision spans 39 miles from Parksville to Port Alberni. The line diverges from the Victoria Subdivision on a wye junction, climbing over Vancouver Island's mountain divide before descending into Port Alberni. The route enters Port Alberni from the north, terminating at a small rail yard along the waterfront.

3.1.2 Yards and Terminals

3.1.2.1 WELLCOX YARD (NANAIMO)

Wellcox Yard in Nanaimo is in active use as the base of operations for SVI on Vancouver Island. The main portion of the yard has nine storage tracks, each approximately 1,000 feet in length, where inbound railcars can be sorted and blocked by destination, and outbound railcars can be held awaiting the next rail barge sailing. There are several additional tracks where railcars are placed for transloading activities (Figure 4).

Multiple commodities arrive by rail at Wellcox Yard to be transferred into trucks for final delivery, including grain, fly ash, calcium carbonate, and latex. There is also a small outdoor locomotive servicing area where SVI typically performs fueling and light maintenance of its locomotives assigned to the Island.

At the north end of Wellcox Yard is the barge slip where railcars are exchanged between the Island Rail Corridor network and the mainland North American rail network by rail barge (Figure 5). This is the only means by which locomotives, railcars, and other rail equipment may enter and exit the Island Rail Corridor network. Rail barge service is currently provided by Seaspan, linking the Island Rail Corridor to the Annacis Rail Marine Terminal in the Lower Mainland.

Figure 3 shows a diagram of the Wellcox Yard facilities.

Figure 3: Wellcox Yard



Image Source: Google Earth

Figure 4: Rail to Truck Transloading at Wellcox Yard

Image Source: HDR

Figure 5: Rail Barge Slip at Wellcox Yard

Image Source: Island Corridor Foundation

3.1.2.2 PORT ALBERNI

There is a small rail yard in Port Alberni. The yard is currently used by the Alberni Pacific Railway for heritage rail equipment storage but is not in use by SVI for freight rail operations. There are five storage tracks, which vary between approximately 500 feet and 1,000 feet in length.

3.1.3 Spurs

A number of existing rail spur locations exist along the Island Rail Corridor network, many of which provide direct rail network access for existing and former freight rail shippers.

Table 5 below lists locations of sites with rail spurs on the Island Rail Corridor network.

Table 5: Rail Spur Sites

Location	Subdivision	Mile Post	Status	User/Site Owner
Esquimalt	Victoria	1.4	Removed	Wholesale Club
Langford	Victoria	8.9	Inactive	Jacklin Centre (Warehouse)
Duncan	Victoria	38.3	Inactive	Top Shelf Feeds
Duncan	Victoria	38.8	Inactive	Buckerfield's
Somenos	Victoria	42.6	Inactive	Unknown
Crofton	Victoria	47.5	Inactive	Paper Excellence
Chemainus	Victoria	50.7	Inactive	Unknown
Cassidy	Victoria	66.1	Inactive	Quarry
Nanaimo	Victoria	70.9	Inactive	Regional Recycling
Nanaimo	Victoria	75.8	Active	Superior Propane
Nanaimo	Victoria	76.5	Inactive	Unknown
Parksville	Victoria	92.1	Removed	Unknown
Parksville	Victoria	92.3	Removed	National Silicates
Parksville	Victoria	95.2	Inactive	Unknown
Courtenay	Victoria	137.0	Inactive	Unknown
Courtenay	Victoria	137.4	Inactive	Chinook Forest Products
Courtenay	Victoria	139.3	Removed	Coastal Mountain Fuels
Port Alberni	Port Alberni	38.2	Inactive	Paper Excellence
Port Alberni	Port Alberni	38.5	Inactive	Western Forest Products

3.1.4 Industrial Railways

While not designated as part of the Island Rail Corridor and not under ICF ownership, there are two privately-owned industrial railways that also facilitate freight rail service for shippers on Vancouver Island.

Like the Island Rail Corridor, these isolated industrial railways exchange railcars with the North American freight rail network via rail barge. The eventual need to renew or replace aging infrastructure (particularly the rail barge slips) at these industrial facilities and at Wellcox Yard could yield an opportunity for potential operational synergies in the future through a consolidated terminal. A consolidated rail barge operation may make possible benefits such as more frequent barge sailings, railcar fleet consolidation, and reduced operating expenses – each of which would help to make rail a more attractive option for shippers on Vancouver Island.

3.1.4.1 HARMAC

The Harmac Pacific pulp mill located in Harmac, near Duke Point, has an isolated intra-plant industrial rail operation that is not physically connected to the Island Rail Corridor network. The Harmac mill has a dedicated rail barge slip to receive railcars from the mainland.

Figure 6 shows a diagram of the Harmac industrial rail facilities.

Figure 6: Harmac Industrial Railway

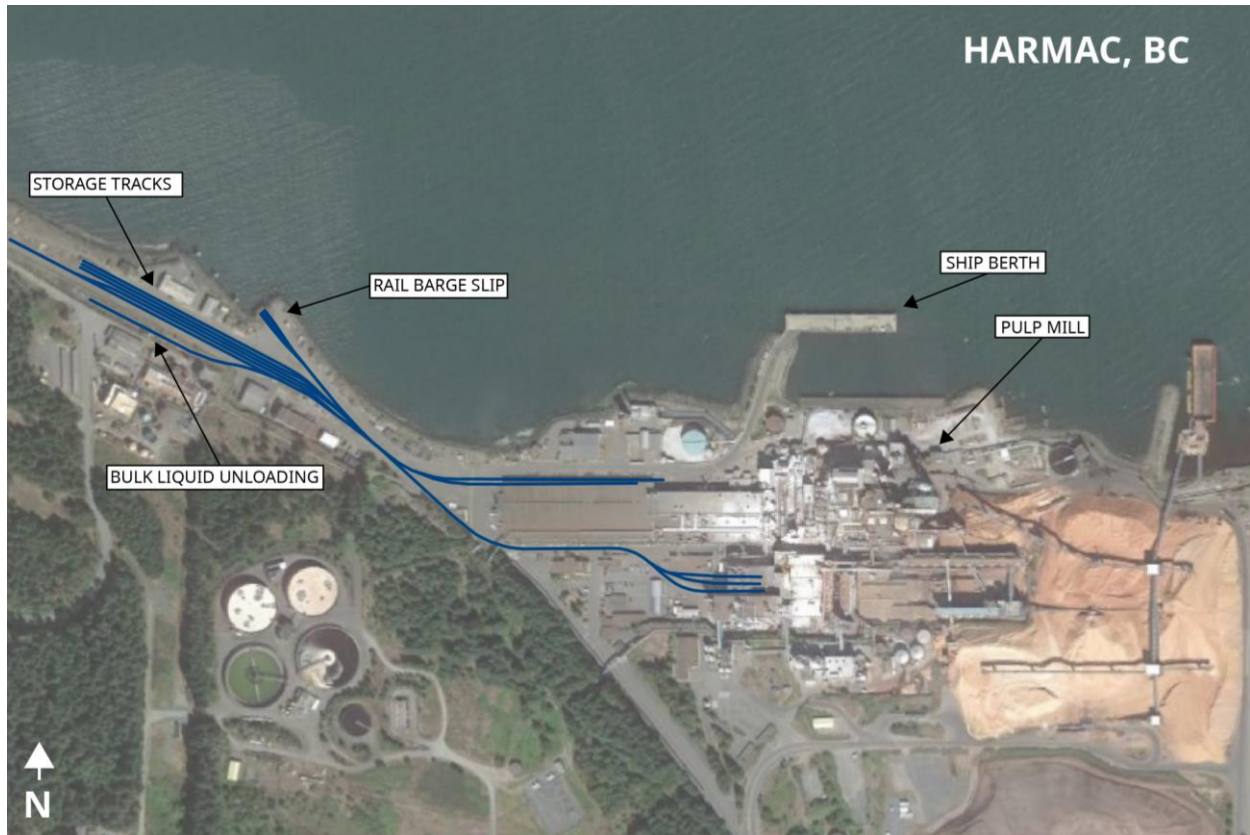


Image Source: Google Earth

Orca Joint Venture

Orca is a joint venture between Harmac Pacific and Texon Distributing L.P. Orca receives propane by rail using the Harmac rail barge slip. A truck terminal on site allows trucks to be loaded with propane for distribution across Vancouver Island.

3.1.4.2 CROFTON

The Paper Excellence pulp and paper mill located in Crofton has an isolated intra-plant industrial rail operation that is not physically connected to the Island Rail Corridor network. A spur connecting the facility to the Island Rail Corridor exists and was in service previously, but this track has since been disconnected and abandoned. The Crofton mill has a dedicated rail barge slip to receive railcars from the mainland.

Figure 7 shows a diagram of the Crofton industrial rail facilities.

Figure 7: Crofton Industrial Railway



Image Source: Google Earth

3.2 Ports

3.2.1 Port of Nanaimo

The Nanaimo Port Authority administers, controls, and manages the harbour, waters, and foreshore adjacent to Nanaimo.¹¹ The Port of Nanaimo features two wharves: the Nanaimo Assembly Wharf and the Duke Point Terminal. These facilities are described below.

3.2.1.1 NANAIMO ASSEMBLY WHARF

The Nanaimo Assembly Wharf, located along the Nanaimo waterfront and adjacent to the Wellcox Yard, occupies the site of a decommissioned former lumber mill. The Nanaimo

¹¹ Nanaimo Port Authority, About the Port. Retrieved from: <https://npa.ca/about-the-port/>

Assembly Wharf features a cruise ship terminal, a vehicle processing centre, and two deep sea berths for cargo vessels.¹² The Nanaimo Assembly Wharf previously had direct access to the Island Rail Corridor via Wellcox Yard and it would be relatively easy to construct new trackage into the wharf area depending on opportunity and need.

3.2.1.2 DUKE POINT TERMINAL

The Duke Point Terminal is located on the Duke Point peninsula along the eastern edge of the Nanaimo estuary. Duke Point Terminal is equipped with a barge berth for short sea shipping, roll-on/roll-off ramp, one deep sea berth for cargo vessels, a 40 megaton gantry crane, and a 100 megaton mobile harbour crane.¹³ Duke Point does not currently have an existing rail connection to the Island Rail Corridor and is located approximately 6 kilometers away by road. The Island Rail Corridor is located on the west side of the highway interchange between Trans-Canada Highway 1 and British Columbia Highway 19 (Duke Point Highway) on the south side of Nanaimo.

Port tenants at Duke Point include BC Ferries, Seaspan, DP World, Duke Point Transload, ABC Recycling, Imerys, and Western Forest Products.

Duke Point is presently the only terminal on Vancouver Island that handles containerized freight. The container terminal is operated by DP World. Containers are currently handled by barge domestically to and from the Lower Mainland container terminals because Duke Point does not have a Canada Border Services Agency (CBSA) customs and inspection checkpoint facility. The Nanaimo Port Authority is currently working to establish the needed CBSA facilities at Duke Point to enable DP World to receive containers directly from overseas by vessels calling at the port.

DP World will begin a major expansion project in 2023 to triple its container handling capacity at Duke Point from 50,000 twenty-foot equivalent units (TEU) to 150,000 TEU. The project is partially funded through the National Trade Corridors Fund (NTCF), a federal program administered through Transport Canada to help fund trade-related infrastructure projects across the country.¹⁴ The DP World expansion will further increase truck volumes on the highways between Duke Point and major population centres unless these containers can be shifted to rail for movement on the island. An example could see the conversion of truck movements that currently move through Swartz Bay on their way to/from the Capital Regional District potentially being converted to container movements

¹² Nanaimo Port Authority, Shipping Facilities. Retrieved from: <https://npa.ca/shipping-facilities/>

¹³ Ibid.

¹⁴ Transport Canada, National Trade Corridors Fund. Retrieved from: <https://tc.canada.ca/en/programs/funding-programs/national-trade-corridors-fund>

through Duke Point. This would increase truck trips on Highway 1 in the absence of an option to move containers by rail on the island.

3.2.2 Port of Port Alberni

Port Alberni is a deep sea port that is North America's closest port to the Pacific Rim. Vessels up to and including panamax size are able to navigate the Alberni Inlet from the Pacific Ocean.

The Port Alberni Port Authority is responsible for both the day-to-day operations of the harbour, and the long term development and improvement of the waterfront facilities in Port Alberni.¹⁵

The port features three deep sea berths for cargo vessels. The port has four warehouses, totaling 4,645 square metres (50,000 sq. ft) located on the shipping berths, with storage space for up to 9,000 tonnes of product.

The port's primary exports are forest products including raw logs and lumber destined for foreign markets. The Port Alberni Port Authority is also actively working with a variety of shippers to consolidate imports and exports to create sufficient demand to facilitate container shipping and/or container barge loading at the port.

4.0 Vancouver Island Industry Profile

The Vancouver Island Economic Alliance (VIEA) produces an annual State of the Island Economic Report that discusses industry and employment trends on Vancouver Island.¹⁶ The 2020 report revealed that the majority (82.9 percent) of Vancouver Island's employment is composed of service sector activities, while only 17.1 percent of employment is tied to goods-producing activities. Major freight-dependent industries are discussed below.

4.1 Forest Products

Forestry is an important driving force in the Vancouver Island economy, particularly in rural communities. According to the VIEA, total employment in the forestry sector in 2019 was 7,700, with 56 percent of these employees working in forestry and logging, 25 percent working in wood product manufacturing, and 19 percent working in pulp and paper manufacturing.

¹⁵ Port Alberni Port Authority, Overview. Retrieved from: <https://papa-appa.ca/administration/overview/>

¹⁶ Vancouver Island Economic Alliance, State of the Island Economic Report, 2020. Retrieved from: <http://viea.ca/wp-content/uploads/2020/11/2020SOTI-Report-WEB-New.pdf>

4.1.1 Forestry and Logging

Forestry and logging on Vancouver Island is conducted by private enterprises with large landholdings. These enterprises engage solely in logging and forest management, and do not operate their own processing facilities.

Nearly half of Vancouver Island's log output is exported to international markets, while the remainder is floated by water to be processed at lumber mills, pulp mills, and paper mills in British Columbia, including several mills in the Lower Mainland. Logs are mainly delivered to these mills by water; very few logs are delivered by truck.

While rail was used extensively to move logs on Vancouver Island in the past, including several private industrial railway operations that were almost exclusively constructed and operated for use in transporting logs, the forestry industry today finds rail transportation undesirable for log movement, due to the need to cut logs to size to fit onto railcars. Purpose-built railcars that could minimize the impact of cutting logs to shorter sizes would be an important consideration if the Island Rail Corridor were to be utilized for moving raw logs.

4.1.2 Wood Product Manufacturing

Major wood products manufacturing companies on Vancouver Island include Western Forest Products, San Group Global Forestry Products, and Coastland Wood Industries. Raw logs are processed in sawmills to produce dimensional lumber as well as wood veneer and plywood. In addition to sawmills, there are additional workshops on Vancouver Island that specialize in value-added woodworking and processing to create specialty products.

Species processed on Vancouver Island include:

- Western Red Cedar
- Yellow Cedar
- Douglas Fir
- Hemlock
- Spruce

According to the VIEA, there are 23 lumber mills on Vancouver Island, as of 2020. Lumber mills near or adjacent to the Island Rail Corridor network are listed in Table 6 below.

Estimates of production capacity are collected by the British Columbia Ministry of Forests through its annual major timber processing facilities survey.

Table 6: Vancouver Island Lumber Mills and Estimated Annual Production Capacity

Owner	Location	Estimated Annual Production Capacity, 2020 (mmbf) ¹⁷	Existing Rail Access
Western Forest Products	Saltair	184	Adjacent
Western Forest Products	Port Alberni	134	Adjacent
Western Forest Products	Cowichan Bay	129	No
Western Forest Products	Duke Point	97	No
Western Forest Products	Ladysmith	88	Adjacent
Western Forest Products	Chemainus	66	Adjacent
San Group Global Forestry Products	Port Alberni	31.2	No
Long Hoh Enterprises Canada Ltd	Qualicum Beach	29.8	No

Mmbf: Million Board Feet

There is one major producer of wood veneer on Vancouver Island, listed in Table 7 below.

Table 7: Vancouver Island Veneer Mills and Estimated Annual Production Capacity

Owner	Location	Estimated Annual Production Capacity, 2020 (million sq. ft, 3/8" basis) ¹⁸	Existing Rail Access
Coastland Wood Industries	Nanaimo	213	Adjacent

While a significant amount of lumber produced on Vancouver Island is exported overseas by deep sea break-bulk vessels and in containers, rail is used extensively for the North American distribution of lumber products. However, most lumber produced on Vancouver Island that is destined for North American distribution is first transported to the mainland by truck or barge and is then reloaded onto rail at intermediate locations in the Lower Mainland. Thus, there is a significant opportunity for lumber to instead be loaded onto rail along the Island Rail Corridor network, whether directly at the sawmills or at one or more reload facilities.

There is also a potential opportunity for rail to be used for the intra-island movement of woodchips from sawmills to pulp and paper mills, discussed in **Section 4.1.3**.

Approximately half of the woodchips utilized by the island’s pulp and paper mills are currently delivered by truck from island sawmills, representing a large opportunity for modal conversion if a suitable rail transportation alternative was available.

¹⁷ British Columbia Ministry of Forests, 2020 Major Timber Processing Facilities in British Columbia. Retrieved from: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/fibre-mills/mill_list_report_2020.pdf

¹⁸ Ibid.

4.1.3 Pulp and Paper Manufacturing

Pulp and paper manufacturers process wood fibers (primarily woodchips sourced by truck and barge) into pulp and paper through both chemical and mechanical processes. Major pulp and paper manufacturing companies on Vancouver Island include Paper Excellence (formerly Catalyst Paper) and Harmac Pacific.

There are three pulp and paper mills on Vancouver Island, as of 2020. Estimated production capacity for these mills is listed in Table 8. Estimates of production capacity are collected by the British Columbia Ministry of Forests through its annual major timber processing facilities survey.

The pulp and paper mills have historically been the largest driver of inbound and outbound freight rail volumes on Vancouver Island. This industry presents a significant growth opportunity for further mode shift to rail and potential synergies resulting from consolidation of shipments through a single rail barge terminal, versus the three rail barge slips that exist on the island today (located at Wellcox Yard, Harmac, and Crofton).

Table 8: Vancouver Island Pulp and Paper Mills

Owner	Location	Type	Annual Pulp Production Capacity, 2020 (Tonnes) ¹⁹	Annual Paper Production Capacity, 2020 (Tonnes) ²⁰	Existing Rail Access
Harmac Pacific	Harmac	Pulp	356,000	0	Yes – Rail Barge
Paper Excellence	Crofton	Pulp	690,000	314,000	Yes – Rail Barge
Paper Excellence	Port Alberni	Paper	173,000	258,000	Yes – Inactive

Note: Estimated annual capacity is based on a standardized operation of 345 operating days per year, 24 hours per day. For integrated mills, pulp capacity includes both pulp that is used internally to produce paper, and pulp that is shipped from the mill site as market pulp.

4.2 Agriculture

Agricultural production on Vancouver Island is varied and includes both livestock as well as crop production. Due to its temperate climate, Vancouver Island has a long growing season, which makes it an ideal location for many agricultural endeavors, including growing fruits, berries, and vegetables.

Livestock depends on the availability of feed grain. Grain is not produced in sufficient quantities on Vancouver Island, so grain and feed products are imported from the mainland.

¹⁹ Ibid.

²⁰ Ibid.

4.3 Construction

The construction industry encompasses residential, commercial, and industrial development, as well as infrastructure. Many building materials, such as lumber and stone, are readily available on Vancouver Island. However, other materials such as asphalt, cement, and steel must be imported from the mainland.

4.4 Mining

Mining on Vancouver Island is currently limited. Historically, coal mining drove much of the Island's initial economic and industrial development. The last operating coal mine on Vancouver Island, the Quinsam mine near Campbell River, closed in 2016.²¹

Materials mined on Vancouver Island today include zinc, copper, gold, and silver, as well as various grades of aggregates from quarries and gravel pits.²²

4.5 Retail and Wholesale Trade

Retail and wholesale trade represents one of the largest industry sectors on Vancouver Island. The consumer economy is almost entirely dependent on continuous supply from regional distribution centres on the mainland. All consumer goods are delivered by truck, arriving on Vancouver Island via BC Ferries or Seaspam ferry services.

Consumer demand on Vancouver Island will continue to increase along with anticipated population growth on the island. This not only drives an increase in retail and wholesale trade on the island for local use and consumption, but also offers opportunities for future warehousing and distribution facilities to complement the expansion of the DP World container terminal at Duke Point and further drive the requirement for efficient transportation and logistics options on the island itself.

5.0 Stakeholder Engagement

HDR conducted stakeholder engagement with a range of organizations and firms to better understand existing and potential future freight transportation demand on Vancouver Island and opportunities for the future use of rail transportation to support freight movement. HDR reached out to 28 different organizations and individuals and conducted 21 interviews in total. Table 9 provides a summary of the different stakeholder types that were interviewed.

²¹ CBC News, Last working coal mine on Vancouver Island shuts down, marking end of era, January 17, 2016. Retrieved from: <https://www.cbc.ca/news/canada/british-columbia/last-working-coal-mine-on-vancouver-island-shuts-down-marking-end-of-era-1.3407339>

²² Vancouver Island Economic Alliance, Economic Sectors – Mining. Retrieved from: <https://viea.ca/economic-sector/mining-including-oil-gas/>

Table 9: Stakeholder Engagement Record

Stakeholder Type	Number of Stakeholders Interviewed
Port Authorities	2
Transportation Providers	4
Shippers	10
Other Organizations	5

The stakeholder engagement was confidential, and stakeholder identities and responses have been consolidated and only shared in aggregate. This section provides a summary of the feedback that we received through the consultation.

5.1 Current Service & Conditions

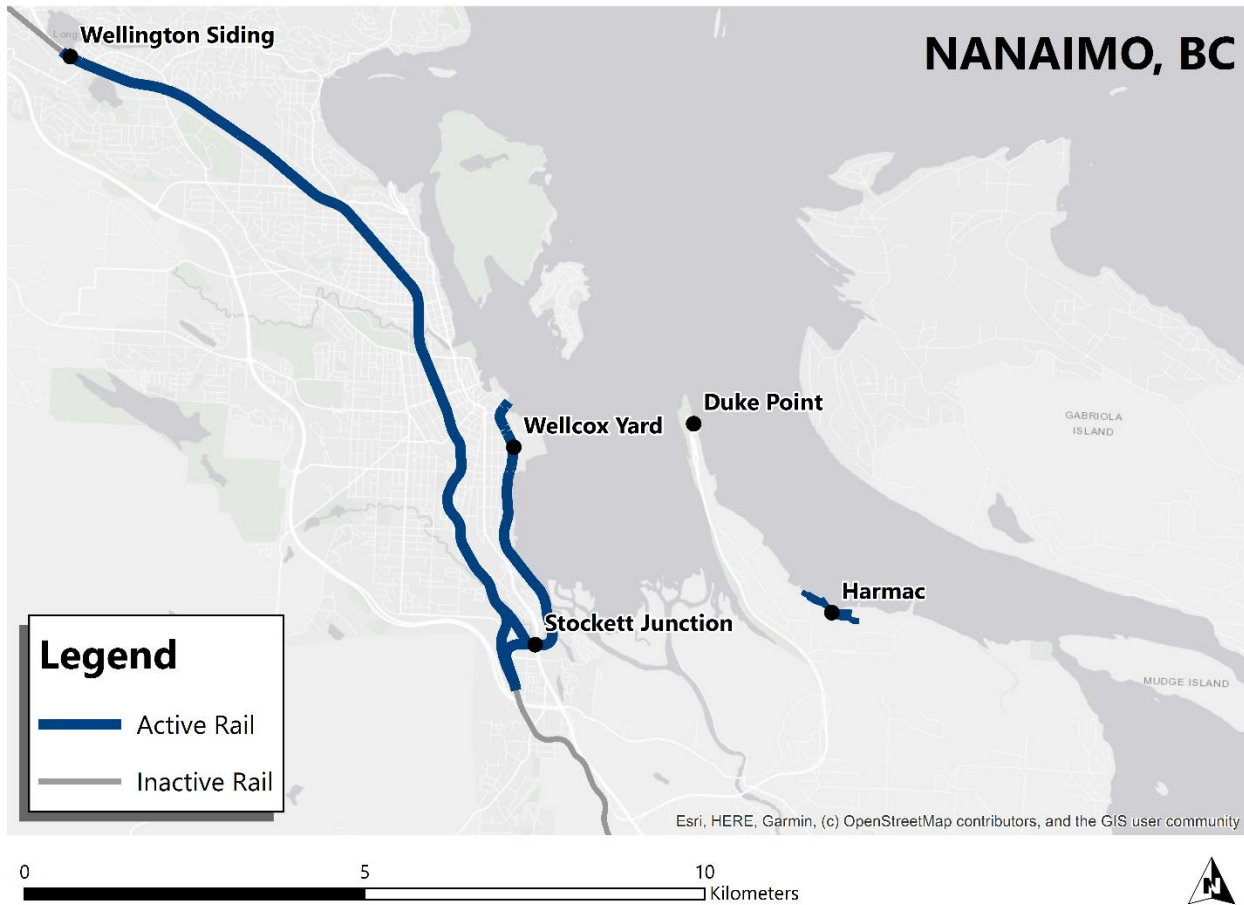
All stakeholders were asked to comment on the current state of the Island Rail Corridor and use of freight rail services in general. Stakeholders provided insight on a range of different topics:

Ownership History – Many stakeholders were aware of the recent history and performance of the Island Rail Corridor, beginning with the sale and lease of portions of the railway line from CP to subsequent owner/operator RailAmerica, and the most recent structure with the ICF owning the corridor. Some stakeholders noted that the corridor was in a poor state of repair when it was received by the ICF from CP and RailAmerica.

Track Conditions – Almost all stakeholders noted that the railway is presently in poor condition, and low freight volumes have made it difficult for owners and operators of the Island Rail Corridor to justify the needed investment to maintain the infrastructure in a state of good repair.

Rail Service – SRY (dba SVI) operates the Island Rail Corridor under contract with ICF and is available to provide rail service on the Island Rail Corridor daily. Current track and bridge conditions on portions of the Island Rail Corridor preclude access to portions of the line, with existing operations limited to the Nanaimo area (Figure 8).

Figure 8: Extent of Existing Rail Operations in the Nanaimo Area



Under CP and later RailAmerica operation, railcars originating on the Island Rail Corridor were effectively captive to CP pricing and service on the mainland. This is because railcars moving by ferry or barge to and from Vancouver Island were handled through a facility located at Tilbury in the Lower Mainland, which was served by CP. Use of Tilbury and the resultant CP handling continued until 2010, when SRY commenced operations at the newly-constructed Annacis Rail Marine Terminal on Annacis Island in the Lower Mainland (Figure 9). From Annacis Rail Marine Terminal, SRY provides interchange connections to four North American Class I railways, allowing shippers on Vancouver Island competitive access to the entire mainland North American freight rail network.

As a result, Vancouver Island shippers now have extended market reach throughout North America and expanded commercial and rail service opportunities that were not available previously.

Figure 9: SRY Train at Annacis Rail Marine Terminal

Image Source: SRY Rail Link

Rail Barge Service – Seaspan is the only operator of rail barge service in British Columbia (Figure 10). Seaspan currently owns a fleet of two rail barges; only one of the two barges is able to dock at the Wellcox Yard barge slip; the other barge can only dock at the barge slips of several coastal industrial railways, both on Vancouver Island and on the mainland, that have isolated intra-plant trackage and are not physically connected to either the Island Rail Corridor or to the mainland North American rail network.

Seaspan presently provides two or three sailings per week from the Annacis Rail Marine Terminal to the SVI barge slip at Wellcox Yard in Nanaimo, with a capacity of approximately 18 railcars per sailing. Seaspan has indicated that daily sailings to SVI are possible if sufficient volumes were present to justify it. Additionally, two pulp mills on Vancouver Island, located at Harmac and Crofton, each typically receive at least one Seaspan rail barge sailing per week from the Annacis Rail Marine Terminal.

Figure 10: Seaspam Rail Barge

Image Source: Seaspam

Gross Weight Capacity – The maximum allowable gross weight capacity of the Island Rail Corridor infrastructure is 263,000-lbs, short of the current 286,000-lb North American rail industry standard. This may limit some potential shippers' ability to maximize carloadings for optimal railcar utilization, depending on the density of the commodity being shipped. The Island Rail Corridor may have the ability to accommodate low volumes of 286,000-lb carload shipments on select routes with minimal upgrades and/or minimal frequency.

Railcar Availability – The availability of empty railcars for loading can have a negative impact on operations and cycle times for originating outbound freight movements, as shippers are reliant on mainland rail carriers to provide railcars for loading on Vancouver Island. If SVI or shippers could acquire more of their own railcars, this may make shipping outbound products by rail more feasible. Having a dedicated fleet for Island Rail Corridor freight movement would minimize the impact to mainland fleets (particularly for box cars and centerbeam flatcars needed to load outbound shipments of forest products).

Dedicated railcar fleets would almost certainly be a necessity for any potential intra-island freight movements, with railcars cycling between origins and destinations on the Island.

5.2 Improvement Ideas

Stakeholders provided a number of ideas to improve the viability of the Island Rail Corridor, and the main ideas that were raised are described in brief below:

Track Repair and Upgrades – Almost all stakeholders stated that track repairs and upgrades were necessary to improve the railway’s reliability, speed, and gross weight capacity. Many shippers would prefer 286,000-lb gross weight capacity to optimize railcar utilization.

Track repair and upgrades could be phased to be implemented as-needed to allow shipment of specific commodities and volumes to commence.

Service & Cost Improvements – The primary source of rail traffic on the Island Rail Corridor historically was freight going to and from Port Alberni, but these goods have been hauled by truck since 2002. This trade flow could potentially be recaptured by the Island Rail Corridor, but most of the stakeholders interviewed indicated that this would require rail rates competitive with trucking above all other factors.

5.3 Potential Future Opportunities

Stakeholders identified a number of different types of commodities that could travel over the Island Rail Corridor. Some stakeholders simply identified potential commodities that might leverage the Island Rail Corridor, while others identified certain conditions that may need to be present (or be considered) prior to specific opportunities materializing.

Section 8.0 includes more detail on the trade potential and considerations for each commodity.

5.4 Summary

The stakeholders that were engaged as part of this study were hopeful as to whether the Island Rail Corridor would have utility for present-day and future-state freight transportation needs, irrespective of economic viability, but there is some skepticism around the practicality and competitiveness of freight rail service as it exists today.

The redundancy and resiliency benefits of maintaining the Island Rail Corridor were mentioned by many, especially given the impact that recent disruption events such as landslides and the COVID-19 pandemic have had on supply chains and the overall transportation network. Stakeholders agreed that maintaining the trade function of the Island Rail Corridor has value from a strategic perspective, especially when placed in the context of proposed alternative carbon pricing schemes to be potentially implemented in coming years and the effect that this may have on the cost of trucking, even if the comparative value that rail can provide may not yet be realized in the near-term.

6.0 Existing Freight Rail Volumes

This analysis assumes that all existing freight rail volumes handled on the Island Rail Corridor network today, estimated to be approximately 1,200 carloads per year, would continue in any future scenario. In some cases, existing carloads may be able to be hauled a greater distance on the Island Rail Corridor contingent on the reactivation of certain portions of the corridor and rehabilitation of existing customer spurs and transload facilities or construction of new customer spurs and transload facilities.

Table 10 lists an estimated range of carload volumes for each of the existing commodities that move on the Island Rail Corridor network through the Wellcox rail yard.

Table 10: Existing Island Rail Corridor Freight Rail Volumes (Estimated)

Commodity	Direction	Carloads per Year (Low Estimate)	Carloads per Year (High Estimate)
Propane (Liquefied Petroleum Gas)	Inbound	300	400
Grain	Inbound	250	300
Fly Ash	Inbound	50	150
Calcium Carbonate (Slurry)	Inbound	250	350
Latex	Inbound	150	250
Ammonium Nitrate Fertilizer	Inbound	0	25
Urea	Inbound	0	25
TOTAL		1,000	1,500

Rail volumes currently handled at Harmac and Crofton could potentially be consolidated with Island Rail Corridor volumes through a single rail barge connection if future build-ins to link these industrial railways to the Island Rail Corridor network were to occur.

Table 11 and Table 12 list estimated ranges of volumes by commodity handled through Harmac and Crofton respectively.

Table 11: Existing Harmac Freight Rail Volumes (Estimated)

Commodity	Direction	Carloads per Year (Low Estimate)	Carloads per Year (High Estimate)
Propane (Liquefied Petroleum Gas)	Inbound	300	400
Hydrogen Peroxide	Inbound	150	200
Sulfuric Acid	Inbound	100	200
Sodium Chlorate	Inbound	50	150
Pulp	Outbound	100	150
TOTAL		700	1,100

Table 12: Existing Crofton Freight Rail Volumes (Estimated)

Commodity	Direction	Carloads per Year (Low Estimate)	Carloads per Year (High Estimate)
Calcium Carbonate (Slurry)	Inbound	250	350
Hydrogen Peroxide	Inbound	100	200
Sulfuric Acid	Inbound	100	200
Sodium Chlorate	Inbound	50	150
Starch	Inbound	50	150
Pulp	Outbound	150	250
TOTAL		700	1,300

7.0 Rail Service Improvements and Other Considerations Needed to Attract and Sustain Freight Volumes

Building from the feedback received through the stakeholder engagement, there are a number of improvements and considerations that are either critical for the trade corridor’s success or would greatly increase its chances of success. A number of these critical success factors need to be implemented in order for the Island Rail Corridor to realize the opportunities identified in **Section 8.0**. These include:

Railway Quality – In order to attract and sustain freight volumes, the operator of the Island Rail Corridor needs to be able to provide competitive service from a cost, convenience, reliability, and transit time perspective. Unreliability and deferred maintenance have hindered the railway in the past, and these challenges will need to be overcome if the Island Rail Corridor is to recover past volumes and build confidence among shippers to help attract new volumes as well.

Interline Rail Movements and Competitive Fees – In order for trade flows such as forest products to be shipped via the Island Rail Corridor, the transportation fees (freight rates) and interline (multi-railway) service to facilitate the movement of product between the Island Rail Corridor and one of four connecting North American Class I rail carriers on the mainland would need to be perceived by shippers to be competitive and reasonable.

As an example, the forest products industry primarily relies on break-bulk maritime shipping as an affordable and low-carbon way to move lumber to the Lower Mainland, where it can then be transloaded onto railcars for further distribution across North America. For railcars to be loaded directly on Vancouver Island, both the empty and loaded railcars must be moved to and from the Island by rail barge in a timely and consistent manner. Rail volume growth on the Island Rail Corridor will drive more

frequent barge sailings and faster cycle times, increasing the attractiveness of loading railcars on Vancouver Island for interline moves across North America.

Direct Rail Access – Many existing and potential shippers may be reluctant to utilize rail on the Island in lieu of trucking and maritime shipping because their sites are not directly connected to the Island Rail Corridor and these shippers do not wish to short-haul freight by truck to an intermediate transload site due to added cost and complexity. For some shippers, it may be feasible to construct new spurs from the Island Rail Corridor into existing facilities, and these would require additional investment.

Third Party Transloads – Many existing and potential shippers on the Island are not in a position to make the necessary capital investment to develop suitable facilities for loading or unloading a particular commodity. While a number of existing shippers utilize space in SVI's Wellcox Yard for transloading, this is often because there are no other suitable destinations for their railcars on the Island Rail Corridor, and the product being transloaded is being delivered to sites that cannot feasibly be served with a direct rail connection. There is an opportunity for third party transloading sites to be built along the rail corridor, enabling many shippers to use the same location, and reducing the need to develop more expensive dedicated facilities. This is also an opportunity to extend the haul of railcars further on Vancouver Island and relocate some of the existing transloading activities closer to customer facilities, thus further reducing truck haul distances.

Railcar Availability – Concerns regarding the availability of railway-owned railcars is often a potential limitation or reason for why utilizing rail service for freight originating on the Island Rail Corridor may be avoided. This is especially important for forest products which typically are shipped in railway-owned boxcars and on centerbeam flatcars.

For intra-island freight movement, such as for the shipment of construction aggregates and riprap, a captive fleet of railcars would need to be procured and maintained either by the operator or by shippers. Other originating shippers may also procure their own dedicated, private fleets of railcars to ensure railcar availability. Short line railways and shippers often procure their own railcars to supplement the fleets owned by the larger Class I railways. This allows them to secure guaranteed car supply for their shipments by controlling or supplementing the fleet. Pre-owned railcars can be purchased secondhand or leased on the open market for a fraction of the price of procuring new railcars.

8.0 Future Potential Freight Rail Volumes

8.1 Freight Rail Volume Opportunities

As discussed in **Section 5.3**, stakeholders identified a number of different types of commodities that could potentially be shipped on the Island Rail Corridor if a limited number of conditions were to be met.

HDR built on this list of commodities for use in this section. Table 13 lists potential future volumes, which are estimates of realistic trade flows based on stakeholder feedback. The table also includes HDR's assessment of how likely each commodity and associated volume is to materialize in the next five years. This is also based on feedback from stakeholders. For most commodities, each railcar is assumed to hold approximately 100 short tons of product; though some products are lighter in density and reach volume capacity before reaching weight capacity.

It is important to note that the potential volumes are not a future forecast, and instead are considered reasonable values that could potentially be achieved with minimal improvements. **Section 7.0** describes some of the primary considerations / factors that are likely to influence the success of the Island Rail Corridor as a trade corridor.

The table also includes "why" each commodity would potentially flow through the Island Rail Corridor, and specific "considerations", or conditions that would need to occur before each commodity could be attracted to the Island Rail Corridor.

If all of the 'high' likelihood opportunities were realized, HDR estimates that a volume range of between 4,500 and 11,400 annual carloads on the Island Rail Corridor could be achieved in the near to medium term. This estimate does not include the consolidation of existing Harmac and Crofton rail volumes. If Harmac and Crofton were connected to the Island Rail Corridor with the necessary build-ins and the rail volumes from these industries were consolidated with the other potential Island Rail Corridor volumes through a single rail barge terminal, the total number of carloads handled on the Island Rail Corridor could increase to as many as 13,800 annually.

Stakeholders also identified other commodities that may be conducive to transportation by freight rail, but for which potential volumes are not known or quantified at this time. Should any of these additional commodity opportunities also be realized, the range of railcar loads that could potentially be handled on the Island Rail Corridor would increase.

Table 13: Freight Rail Volume Opportunities

Commodity	Origin/Destination Station	Direction	Carloads per Year (Low)	Carloads per Year (High)	Likelihood	Why Rail	Additional Considerations
Propane	Nanaimo	Inbound	300	400	High	Existing direct rail service customer on Island Rail Corridor.	Volumes vary seasonally, with demand being higher in the winter.
Grain	Duncan	Inbound	300	400	High	Currently transloaded at Wellcox Yard. Receiver has direct rail access. At least 90% of grain inputs to the feed mill on the Island can come by rail (6-8 cars per week). The efficiencies of transloading at the Wellcox Yard transload do not compare with unloading directly at the mill.	There are times when the competing mainland feed companies cannot get their trucks to the island and the feed mill on the island has taken on new business to ensure survival of the livestock. The feed mill on the island is a critical resiliency component to manage emergency livestock feed requirements during outages for the entire island. The feed mill has indicated that they may not be able to sustain their operations long-term without the return of direct rail service. Without the feed mill on the island, many small farms would struggle to remain in business due to the logistics of sourcing small lots of feed from mainland suppliers at competitive prices.
Fly Ash	Wellcox	Inbound	50	150	High	Currently transloaded at Wellcox Yard.	Will likely continue to be transloaded at Wellcox Yard unless new shipper facilities are constructed elsewhere to receive the railcars.
Ammonium Nitrate Fertilizer	Wellcox	Inbound	0	25	High	Currently transloaded at Wellcox Yard.	Will likely continue to be transloaded at Wellcox Yard unless new shipper facilities are constructed elsewhere to receive the railcars.
Urea	Wellcox	Inbound	0	25	High	Currently transloaded at Wellcox Yard.	Will likely continue to be transloaded at Wellcox Yard unless new shipper facilities are constructed elsewhere to receive the railcars.
Calcium Carbonate (Slurry)	Port Alberni	Inbound	250	350	High	Currently transloaded at Wellcox Yard. Receiver has direct rail access.	Intra-plant trackage would need to be rehabilitated and some fixtures within the facility would need to be reconfigured to ship/receive by rail.
Latex	Port Alberni	Inbound	150	250	High	Currently transloaded at Wellcox Yard. Receiver has direct rail access.	
Kaolin Clay (Slurry)	Port Alberni	Inbound	100	200	High	Receiver has direct rail access. Currently trucked from Duke Point.	
Hydrogen Peroxide	Port Alberni	Inbound	100	200	High	Receiver has direct rail access.	
Sulfuric Acid	Port Alberni	Inbound	100	200	High	Receiver has direct rail access.	
Sodium Chlorate	Port Alberni	Inbound	100	200	High	Receiver has direct rail access.	
Starch	Port Alberni	Inbound	50	150	High	Receiver has direct rail access	
Paper	Port Alberni	Outbound	3,000	4,000	High	Shipper has direct rail access. A significant amount of paper produced on Vancouver Island is currently trucked or shipped by covered barge to distribution centres in the Lower Mainland where it is then transloaded to rail for shipment throughout North America. Paper could be shipped by rail directly from mills to customers or shipped by rail from the mills to the existing distribution centres in the Lower Mainland.	
Lumber	Various	Outbound	0	4,800	High	Is feasible from SRY's perspective. Lumber is occasionally transloaded onto rail at Wellcox Yard.	Will require new transload/reload facilities nearer to lumber mills or direct rail access to lumber mills.
Methanol	Parksville	Inbound	0	25	High	Currently trucked from rail transloads in the Lower Mainland.	May require third-party transload facilities.
Aluminum Sulfate	Parksville	Inbound	0	25	High	Currently trucked from rail transloads in the Lower Mainland.	May require third-party transload facilities.
Aggregates (incl. riprap)	Various	Intra-Island	Unknown	Unknown	Medium	Is feasible from SRY's perspective. Aggregates and riprap were transported by rail on the Island Rail Corridor in the past.	May require third-party transload facilities.
Woodchips	Various	Intra-Island	Unknown	Unknown	Medium	Currently trucked from sawmills to pulp and paper mills.	Will require new direct rail access to lumber mills and pulp and paper mills.
Petroleum Products	Various	Inbound	Unknown	Unknown	Medium	Currently trucked from rail transloads in the Lower Mainland.	Will require new shipper facilities.
Asphalt	Various	Inbound	Unknown	Unknown	Medium	Currently trucked from rail transloads in the Lower Mainland.	Will require new shipper facilities.
Ethanol	Various	Inbound	Unknown	Unknown	Medium	Is feasible from SRY's perspective.	Will require new shipper facilities.
Biodiesel	Various	Inbound	Unknown	Unknown	Medium	Is feasible from SRY's perspective.	Will require new shipper facilities.
Cement	Various	Inbound	Unknown	Unknown	Medium	Is feasible from SRY's perspective.	May require third-party transload facilities or new shipper facilities.
Scrap Metal	Various	Inbound	Unknown	Unknown	Medium	Is feasible from SRY's perspective.	May require new shipper facilities.
Containers	Duke Point – Port Alberni	Intra-Island	Unknown	Unknown	Low	Container on flatcar service can provide a land bridge between ports.	Will require new intermodal facilities.
Trailers	Duke Point – Victoria	Intra-Island	Unknown	Unknown	Low	Trailer on flatcar service can help to alleviate highway congestion.	Will require new intermodal facilities.
TOTAL	-	-	4,500	11,400	-	-	-

8.2 Truck Volumes Potentially Replaced by Rail

The commodities shown in the previous section are currently being transported on Vancouver Island, predominantly by truck. This section shows the associated reduction in truck traffic that could be expected to occur if each rail volume opportunity were to materialize. Table 14 shows the truck volumes by commodity that would be replaced by the rail opportunities shown in Table 13.

Estimated truck capacities were based on assumed truck types by commodity (33 short tons per truck semi-trailer / 44 short tons per B-Train trailer set), which was informed by stakeholder discussions. Truck trip distances were estimated based on the truck route length between commodity origin and destination only on Vancouver Island, and the overall truck kilometers include both loaded and empty trips.

If all 'high' likelihood opportunities were realized, between 10,400 and 25,570 truckloads could be replaced each year by rail, which is equivalent to an estimated 2 to 4 million truck kilometers.

Table 14: Truck Volumes Potentially Replaced by Rail Opportunity Volumes

Commodity	Origin	Destination	Truck Loads per Year (Low)	Truck Loads per Year (High)	Truck Trip Distance (km)	Truck Distance (km) per Year (Low)	Truck Distance (km) per Year (High)
Propane	Wellcox	Nanaimo	0	0	15	0	0
Grain	Wellcox	Duncan	400	600	52	41,600	62,400
Fly Ash	Wellcox	Various	152	455	50	15,152	45,455
Ammonium Nitrate Fertilizer	Wellcox	Various	0	76	50	0	7,576
Urea	Wellcox	Various	0	76	50	0	7,576
Calcium Carbonate (Slurry)	Wellcox	Port Alberni	758	1,061	100	151,515	212,121
Latex	Wellcox	Port Alberni	455	758	100	90,909	151,515
Kaolin Clay (Slurry)	Duke Point	Port Alberni	303	606	100	60,606	121,212
Hydrogen Peroxide	Duke Point	Port Alberni	303	606	100	60,606	121,212
Sulfuric Acid	Duke Point	Port Alberni	303	606	100	60,606	121,212
Sodium Chlorate	Duke Point	Port Alberni	303	606	100	60,606	121,212
Starch	Duke Point	Port Alberni	152	455	100	30,303	90,909
Paper	Port Alberni	Duke Point	7,273	9,697	100	1,454,545	1,939,394
Lumber	Various	Duke Point	0	9,818	Varies	0	931,705
Methanol	Duke Point	Parksville	0	76	53	0	8,030
Aluminum Sulfate	Duke Point	Parksville	0	76	53	0	8,030
Aggregates (incl. riprap)	Various	Various	Unknown	Unknown	90	Unknown	Unknown
Woodchips	Various	Various	Unknown	Unknown	50	Unknown	Unknown
Petroleum Products	Duke Point	Various	Unknown	Unknown	50	Unknown	Unknown
Asphalt	Duke Point	Parksville	Unknown	Unknown	53	Unknown	Unknown
Ethanol	Duke Point	Various	Unknown	Unknown	50	Unknown	Unknown
Biodiesel	Duke Point	Various	Unknown	Unknown	50	Unknown	Unknown
Cement	Duke Point	Parksville	Unknown	Unknown	53	Unknown	Unknown
Scrap Metal	Various	Duke Point	Unknown	Unknown	Varies	Unknown	Unknown
Containers	Duke Point	Victoria	Unknown	Unknown	113	Unknown	Unknown
Trailers	Duke Point	Victoria	Unknown	Unknown	113	Unknown	Unknown
TOTAL	-	-	10,400	25,570	-	2,026,448	3,949,559

8.2.1 Greenhouse Gas Emissions Comparison Between Rail and Truck Modes

Freight rail transportation is typically more efficient than truck transportation from a fuel consumption and greenhouse gas (GHG) emissions perspective. The annual GHG emissions to move the opportunity volume for each commodity were estimated for both truck and rail transportation, using the trip distances and emissions profiles of each mode of transportation on Vancouver Island (Table 15). If all 'high' likelihood rail opportunities were achieved (with commodity flows shifted from truck to rail) the annual GHG emissions savings is estimated to be between 1,741 and 3,636 metric tonnes of GHG emissions per year, depending on the amount of rail volumes realized.

Table 15: Annual Emissions by Mode (Rail and Truck)

Commodity	Tonnes of GHG (Rail - Low)	Tonnes of GHG (Rail - High)	Tonnes of GHG (Truck - Low)	Tonnes of GHG (Truck - High)
Propane	3	4	22	29
Grain	14	19	85	113
Fly Ash	0	0	15	45
Ammonium Nitrate Fertilizer	0	0	0	8
Urea	0	0	0	8
Calcium Carbonate (Slurry)	25	35	151	211
Latex	15	25	91	151
Kaolin Clay (Slurry)	10	20	60	121
Hydrogen Peroxide	10	20	60	121
Sulfuric Acid	10	20	60	121
Sodium Chlorate	10	20	60	121
Starch	5	15	30	91
Paper	241	321	1,450	1,933
Lumber	0	190	0	1,238
Methanol	0	1	0	8
Aluminum Sulfate	0	1	0	8
Aggregates (incl. riprap)	Unknown	Unknown	Unknown	Unknown
Woodchips	Unknown	Unknown	Unknown	Unknown
Petroleum Products	Unknown	Unknown	Unknown	Unknown
Asphalt	Unknown	Unknown	Unknown	Unknown
Ethanol	Unknown	Unknown	Unknown	Unknown
Biodiesel	Unknown	Unknown	Unknown	Unknown
Cement	Unknown	Unknown	Unknown	Unknown
Scrap Metal	Unknown	Unknown	Unknown	Unknown
Containers	Unknown	Unknown	Unknown	Unknown
Trailers	Unknown	Unknown	Unknown	Unknown
TOTAL	343	691	2,084	4,327
TRUCK TO RAIL SAVINGS (LOW HIGH)			1,741	3,636

Note: This analysis was conducted using 2030 emission factors assuming diesel powered locomotives and trucks. The results would change if alternative fuel sources or higher efficiency power units were used.

9.0 Summary of Findings

The British Columbia Ministry of Transportation and Infrastructure (MoTI) engaged HDR to conduct a detailed analysis of existing freight rail transportation services and facilities, freight rail demand, potential benefits of shifting freight to rail, and potential future opportunities for businesses to utilize rail for freight movement on the Island Rail Corridor network.

This report summarizes HDR's assessment of the railcar opportunities for the Island Rail Corridor and the potential for each opportunity to materialize within the next five years based on stakeholder feedback – assuming the corridor were to be restored to operation. The report also describes some of the primary considerations and factors that are likely to influence the success of the Island Rail Corridor as a trade corridor.

It is noted that the potential volumes presented are not a future forecast, and instead are considered reasonable values that could be achieved with limited infrastructure improvements on the corridor.

9.1 Rail Carload Opportunities

The stakeholders that HDR engaged with through the project identified numerous opportunities to attract freight traffic onto the Island Rail Corridor if specific portions of the network were brought back into service. Between 4,500 and 11,400 annual railcar loads were identified in the near to medium term, provided that rail shipping and handling fees are competitive with other modes. Opportunities are available through a range of industries, including Forestry, Agriculture, Construction, Energy, Mining, and Retail and Wholesale Trade. It should be noted that additional carload opportunities above and beyond the volumes mentioned above were identified as realistic short term opportunities by stakeholders. These additional opportunities have been noted but scope requirements constrained assessment and these opportunities likely require more specific analysis into the required facilities, equipment, and service parameters that would allow volumes to materialize or be developed.

The study also identified additional carload opportunities for the Island Rail Corridor network if the three rail barge slips currently located at Wellcox, Harmac, and Crofton were consolidated into one. This would not only minimize the longer term capital requirements for the three rail barge slips as they age, but also provide increased rail barge sailings between the Lower Mainland and the Island, resulting in reduced cycle times for rail shipments and additional service opportunities driven by the scale and volume density created by the consolidation.

9.2 Truck to Rail Mode Shift Benefits

If the identified rail carload opportunities were realized, they would reduce truck volumes on Vancouver Island highways by an estimated 10,400 to 25,570 truck trips annually, representing an estimated 2 to 4 million truck kilometers per year. This shift would result in greenhouse gas emission savings between 1,741 to 3,636 metric tonnes per year. Replacing truck trips with rail trips would also be expected to provide a wide range of additional public benefits, including reduced road congestion, reduced labour requirements to move the same freight volume, improved livability, safety benefits, and lower road maintenance costs.

9.3 Duke Point Opportunities

The rapidly developing Duke Point area at the Port of Nanaimo is a significant economic hub and generator of freight activity on the Island. Freight volumes and development in the area are expected to increase, in part due to population growth on the Island and the associated growth in demand for consumer goods, which will be predominantly directed to Duke Point (both containers and trailers) due to capacity constraints at Swartz Bay near Victoria. These capacity constraints at Swartz Bay have already increased Duke Point traffic. These capacity constraints at Swartz Bay have already increased Duke Point traffic.

Duke Point is not currently connected to the Island Rail Corridor but could potentially be connected in the future with the development of a rail spur into the area. If this rail connection were provided with the re-introduction of service on the Island Rail Corridor, it would provide synergetic benefits for island trade and economic development. Businesses in the Duke Point area would likely generate significant carload volumes for the rail corridor and in turn the re-introduction of rail service is expected to stimulate growth at Duke Point itself, including opportunities for prominent businesses such as Harmac Pacific, the DP World Terminal, and for future warehousing and distribution facilities that are being considered for the area.

There may be an opportunity to consolidate rail barge slips to Duke Point or Harmac in the long term, which would facilitate the potential redevelopment of shorefront real estate currently occupied by the Wellcox Yard in Nanaimo.

9.4 Impacts Off Island

The re-introduction of rail service on Vancouver Island is expected to provide benefits off the island as well, primarily within the Lower Mainland. As an example, forest products are currently barged from the island to the Lower Mainland, where they are often drayed by truck to a local transload facility and then re-loaded onto railcars for furtherance inland (50 percent of BC's forest products are destined to the U.S. marketplace). The re-introduction of rail service on Vancouver Island would enable more forest products to be

directly loaded onto railcars on the island, shipped by rail barge to the Lower Mainland, and then transported via the Class I railways for furtherance across North America. This would eliminate the current truck drayage trips in the Lower Mainland and potentially reduce transloading and handling of goods as well.

9.5 Network Resiliency

Maintaining the Island Rail Corridor and re-introducing rail service would provide resiliency benefits for Vancouver Island businesses, the supply chain, and the economy as a whole. The island currently relies on a limited number of physically constrained and busy highways, such as the Malahat portion of the Trans-Canada (Highway 1), and Highway 4 to Port Alberni, which includes challenging gradients (up to 7% over “the Hump”) as well as constraints through MacMillan Provincial Park and along Cameron Lake.

Incidents, disruptions, or even routine maintenance and upgrades on these routes can effectively halt travel and trade, as there are often no adjacent connections (road or other). Nearly every stakeholder that we spoke with underlined the importance of retaining the Island Rail Corridor from a strategic perspective, especially given the impact that recent events (such as the Malahat washout on November 15th, 2021) have had on Vancouver Island supply chains.