

Dear Honourable Ministers and Premier,

I am writing today to pass along an analysis I have compiled regarding the Island Corridor Foundation Initial Business Case for Island Rail which they released in May 2022. A resident of Vancouver Island, I believe that the Island Rail Corridor is one of our most valuable assets and hope it can be utilized in some productive manner in the very near future. Watching its deterioration is frustrating and disappointing, to say the least.

I believe that, as the people tasked with making decisions for funding of this proposal, you are entitled to know as much as possible about the project – not just what the proponent is promoting. Portions of the ICF proposal seem very reasonable (e.g. their “hybrid” approach to track upgrades); however, there are key elements and costs that have been excluded and even some information that has been presented in a misleading manner. Overall, I would categorize the business case as promotional without much underlying substance.

I have written many of you before and you likely know I love both train travel and cycling. I have no strong will for a railroad not to be reinstated on the Island. I am performing this research to help form my own independent opinion and am hopeful the results may also assist others in understanding the complexities of the Island Corridor issue to better realize our future opportunities, and our limitations.

As a brief background, I am a retired professional engineer with over 30 years experience in diverse operations and project management totalling hundreds of millions of dollars of investment. I am also a “serial” entrepreneur, having been directly involved in the start-up of three successful businesses. My proudest “business” accomplishment though, was leading a group of fellow volunteers to resurrect our nearly insolvent community-operated recreation facility (a charitable organization with a million dollar annual budget so I do understand many of ICF’s challenges).

I apologize for the length of the attachment but I felt it necessary to provide comprehensive and transparent back up to the conclusions that are being presented. It is a lot to digest so I have summarized some of the more significant findings at the bottom of this email.

I hope that this can assist you in your review of the business case and funding commitments requested by ICF. Thank you in advance for your consideration, and please do contact me at your convenience if you have any comments or questions.

Sincerely,

Mike Keohane
Courtenay, BC

ICF Business Case Review – Summary of Conclusions

Although the ICF have provided an interesting capital construction scenario, it appears that there are numerous unanswered questions regarding key elements of the business case including costs, benefits, ridership, risks and, most importantly, how to handle the reconciliation issue at the core of the business case.

- No mention of reconciliation costs with First Nations
- No mention of land reversion or other material risk factors
- Capital costs used in the business case are reasonable for the included items
- Key costs have been excluded completely – over \$400M in total
- Commuter rail within CRD may have merit, but the business case eliminates over 80% of the capital costs shown in the 2020 MoTI IRCCA report so may not be a realistic model.
- Ridership for the Intercity passenger rail has been overestimated by at least a factor of four
- Freight service as proposed could alleviate back ups at port of Vancouver but adds little real value for movement of goods on Vancouver Island.
- GHG emissions will not be reduced significantly by rail and are higher than other alternatives.
- Malahat commuter congestion is only reduced by approximately 1% by adding rail
- No diversion of truck traffic on Malahat in this business proposal
- No mentions of cost or timing for active transportation trails in the corridor. Costs for trails will be at least an order of magnitude (10x) greater if they cannot be constructed on the rail bed.
- Funding requirements for the Regional Districts is not mentioned – both for the rail rehabilitation and for future cost of active transportation trails

With the real risk of land reversion less than a year away, negotiations for “Rail Banking” should be initiated immediately by ICF

Review of ICF Business Case

This discussion provides a review of the May 2022 Island Corridor Foundation Business Case (“ICFBC”). It is understood that the ICF document represents an initial business case designed to lead to more in-depth analyses; however, there are some significant errors and omissions that need to be reconciled before proceeding further. It is commendable that ICF have produced a long-awaited public business case, but it also raises some serious questions. Like any business case that is written by a proponent of the project, it does contain both worthwhile information but also includes what others may consider biased analyses. This discussion will attempt to bring those portions to the forefront so they may be further addressed.

Executive Summary

- No funds whatsoever have been allocated in the business case for **reconciliation discussions regarding First Nations land interests on the corridor**
- The **field construction cost estimate of \$368M** utilized in the ICFBC is **reasonable** and includes amounts for inflation (15%) and contingencies (50%). The construction costs are based directly on the 2020 Island Rail Capital Cost Assessment (“IRCCA”) report with a “hybrid” assumption as to where heavier 115# rail will be required (which again, seems reasonable).
- There are **significant items missing** from the business case **totalling over \$400 million**. These items were all identified in the IRCCA.
 - No allocation for **First Nations consultation and accommodation (\$32M)**
 - Greatly reduced **allowance for engineering design, supervision and project management/administration (\$62M – \$113M)**
 - Reduced amounts for **train stations (\$81M)**
 - No allowance on **Victoria-Langford Commuter line for a maintenance/storage facility, lands for a transit hub or improved level crossing signals (\$241M)**
- The **commuter rail service** business case from Victoria to Langford is **missing large costs** that were detailed in the IRCCA (**\$241M**) – **these additional costs drive the commuter rail portion to almost six times the value used in the business case (\$50M)**. Transportation within the Capital Region District (“CRD”) is a very complex issue and it is felt to be best left to that jurisdiction to decide if commuter rail is a worthwhile pursuit. The 2020 South Island Transportation Study only listed “exploring the potential of commuter rail” as a possible long-term item. Short term items identified in SITS (such as electric buses and increased charging stations) reflect lower emissions and more efficient capital expenditures than commuter rail.
- The **passenger volume predictions for the Intercity (Duncan-Victoria) rail options are based upon a simplistic and unreasonably high mode shift percentage**. A Malahat Travel Demand Study for MoTI by Halcrow Consulting in 2006 used detailed commuter and traffic surveys and a mathematical model to **forecast a 2026 potential ridership of only 260-360 per day** while ICFBC is postulating 1200-2500 people will choose the train each day.

- The **Regional rail forecasts** also do not have any rationale for back up – all three ICFBC cases assume 300 riders per day between Duncan and Courtenay. **The IRCCA performed a detailed technical ridership analysis and forecasted only 10-13 per day boarding in Courtenay.**
- Although the ICFBC touts increased freight movement throughout the island, the **primary opportunity presented is to relocate cargo ship unloading from Vancouver to Port Alberni**, from where goods will then travel by rail to Nanaimo and by barge to the lower mainland (all via Washington Group owned assets). Although this is an interesting alternative, it is likely to be a fix to a very short-term port congestion issue in Vancouver and may not be competitive thereafter?
- GHG – the **business case proposed for passenger rail does not reduce emissions unless the train cars are running at high capacity** relative to the number of seats. Based on realistic forecasts of ridership, this **does not appear to be the case** for the Intercity or Regional rail proposals and the train will actually increase emissions compared to personal vehicle use.
- Malahat – there is **no freight proposed to move over the Malahat so the business case does not reduce truck transportation in that corridor.** Other efforts to have shipping freight unloaded in Victoria rather than Nanaimo could directly alleviate Malahat truck traffic. Passenger service is only **forecast to reduce daily commuter Malahat traffic by 1% according to the MoTI Halcrow Report.** Electric buses, HOV lanes or non-ZEV tolls would be far cheaper and more successful methods of reducing passenger vehicle traffic (and emissions).
- As identified in the IRCCA, electrification of the rail system would be prohibitive from a cost perspective. Trains may eventually be fuelled by hydrogen; however, **the era of hydrogen and electric powered transport trucks and buses is already upon us** and does not require near as large an expenditure to take advantage of the opportunity.
- The **largest monetary benefactor of the ICF Business Case is the Washington Group of Companies.** In this proposal, SVI is paid over \$200M for installation costs during construction and over \$10M per year in operating costs. The Washington Group's Seaspan and SRY divisions are also positively affected by additional rail car barge traffic through Nanaimo. All **with zero monetary commitment by this U.S. based private company.**
- The ICF business case **does not contain the customary discussion on risk assessment**, especially with respect to two issues that have been around since the railway's origin in the 19th Century – land ownership and track geometry issues. These issues will not go away on their own.
- The ICF are proposing to manage and administer a project valued at half a billion dollars or more. They have not indicated any past history of project experience, nor how they would propose to administer this particular effort – which is enormous in both scope and cost.

Business Case Overview

The capital costs for rail rehabilitation used in the ICFBC are taken directly from the IRCCA that was prepared by WSP Consultants. Costs have been inflated to 2023 (15.1% total over 3 years) and a contingency fund of 50% has been allocated to all estimates. This seems reasonable at face value, as does their hybrid case development assumption of utilizing heavier rail only on the highest travelled sections (freight and commuter portions).

The ICFBC investigated three proposed rail services:

- two commuter trains working the Victoria to Langford section
- two intercity/regional passenger trains north of Langford to Courtenay
- a freight-only service between Nanaimo and Port Alberni.

These three proposed developments serve quite different user needs and this document will review the costs and revenue presented for each proposal, as well as investigate more general questions on the overall business model.

Capital Construction Cost Estimate

The capital costs, including inflation and contingency amounts, are shown in the tables below. The first table separates costs by rail segment (similar to the IRCCA) while the second table breaks them down according to the three services being proposed. Phase 2 costs include the installation of 115# rail on the higher travelled freight and commuter sections. Based on the ICF total of \$431M, the commuter service represents 12% of the capital costs while passenger rail is 50% and freight is 38%.

ICF Capital Costs Estimates - Inflated to 2023 and Contingency Included

Segment	Service	Phase 1	Phase 2	Stations,		Total	
				Supervision - Eng - Mgmt *	Rolling Stock & Sidings**		
Victoria-Langford	Commuter	\$11,069,502	\$10,673,081	\$295,380	\$28,200,000	\$50,237,962	11.7%
Langford-Duncan	Passenger	\$41,180,815		\$559,455	\$14,650,000	\$56,390,270	13.1%
Duncan-Nanaimo	Passenger	\$52,992,476		\$719,920	\$250,000	\$53,962,395	12.5%
Nanaimo-Parksville	Pssgr/Freight	\$30,272,820	\$35,519,063	\$893,804	\$250,000	\$66,935,687	15.5%
Parksville-Courtenay	Passenger	\$58,936,880		\$800,676	\$14,650,000	\$74,387,557	17.3%
Parksville-Port Alberni	Freight	\$85,962,091	\$41,437,549	\$1,730,765		\$129,130,406	30.0%
		\$280,414,583	\$87,629,693	\$5,000,000	\$58,000,000	\$431,044,277	

* \$5M total assigned to each segment based on proportion of total construction costs

** 6 stations on commuter line and 6 on passenger line (\$250K each).

** 2 Trains on commuter, 2 on passenger (\$12.5M each)

<u>Service</u>	<u>Service</u>	<u>Phase 1</u>	<u>Phase 2</u>	<u>Supervision - Eng - Mgmt *</u>	<u>Stations,</u>	<u>Total</u>	
					<u>Rolling Stock & Sidings**</u>		
CRD Commuter	Commuter	\$11,069,502	\$10,673,081	\$295,380	\$28,200,000	\$50,237,962	11.7%
Passenger	Passenger	\$183,382,991		\$2,526,953	\$29,800,000	\$215,709,944	50.0%
Freight	Freight	\$85,962,091	\$76,956,613	\$2,177,667		\$165,096,371	38.3%
		\$280,414,583	\$87,629,693	\$5,000,000	\$58,000,000	\$431,044,277	

Capital Costs - Discrepancies and Excluded Items

The base construction costs for Phases 1 and 2 match the costs shown in the IRCCA and are inflated to 2023 with a 50% contingency added to cover unforeseen events. However, there are some significant other costs relating to project execution that have been excluded from the ICFBC analysis. These are outlined below:

First Nations Reconciliation

Reconciliation and with First Nations is an absolute necessity prior to any project moving forward on the Island Rail Corridor. The IRCCA allocated \$42M for First Nations Consultation and Accommodation – estimated at 15% of the base construction costs. An equivalent 15% amount for the ICFBC case would be **\$32M**; however, there are **no funds whatsoever allocated in the ICFBC for either consulting with First Nations or paying reparations** for the land appropriations along the corridor.

By quick count, there are 8 reserves transected between Esquimalt and Nanoose, representing **over 50 acres of reserve lands that were appropriated without proper consultation or remuneration** (confirmed by recent BC Supreme Court case). This 50-acre estimate is a starting point and does not include any non-reserve territorial lands, nor any lands along the corridor that may be granted to First Nations in the future as part of treaty or other discussions.

This is a glaring exclusion of a major element which will be crucial in the success of this, or any, business proposal for the Corridor.

Commuter Line Costs – (Victoria to Langford/Westhills)

The 2020 IRCCA included several commuter costs that have not been included in this proposal. Costs for a commuter train **maintenance facility** (\$75.5M), land appropriation for a **transit hub at the Victoria terminus** (\$44.2M) and level-crossing **signal upgrades** along the route (\$26M) were **not included in the ICF business case**. These three items appear to be quite necessary for the commuter service and reflect **\$240.7M** of costs (once inflation and contingency are included). Notably, upgraded signal crossings for the E&N Trail developments within the Capital Region were all paid for by CRD in the past, perhaps ICF are assuming the same concept for the commuter rail?

The **total commuter capital cost presented in the ICFBC is only \$50M, which would grow to \$290M** with the inclusion of these key items (almost 6 times the ICF estimate).

Station Costs

The ICFBC allocated \$3M for 12 new station platforms while the IRCCA included \$51.1M (**total of \$84.5M** after inflation and contingency) for 13 station upgrades. This represents a **discrepancy of \$6M per station**. Obviously, differing standards have been used to come up with the two designs as they are more than 10 times as expensive in IRCCA. Station requirements need to be reconciled to define the most appropriate cost assumption going forward.

Project Supervision, Engineering and Management

In addition to the detailed estimates of field construction costs, the 2020 IRCCA also included project overhead costs at 10% for construction supervision, 12% for engineering and 10% for management and administration (32% total). Applying the same percentages to the ICF construction cost of \$368M would result in **total overhead expenses of \$118M (\$113M higher than in the proposed business case)**. The IRCCA percentages are based upon the consultant's experience, and it is certainly common practice to utilize this methodology to account for overhead costs in project estimates.

In the ICFBC, it has been assumed that the vast majority of these overhead costs are not needed and a **flat amount of \$5M has been assigned to handle "soft" costs**. The ICF discussion states that the work is **considered maintenance activity** and we assume it will be **single-sourced to Southern Rail of Vancouver Island** ("SVI" is the historical ICF rail operations contractor). ICF obviously feel that little to no supervision, engineering or outside management/cost auditing are required despite the scope of the rail rehabilitation.

One may agree that engineering is not a large component of replacing ties or shoulder plates; however, a full **60% of the ICFBC capital construction costs are allocated to bridge repair, rockfall remediation and crossing upgrades**. All three of these have much larger public risks associated with them which require detailed and knowledgeable assessments prior to being put into service. Even if one assumed similar overhead rates to IRCCA on only 60% of the ICF capital case, it still results in \$67.4M of costs – **more than \$62M higher is recognized in the ICFBC**.

Another concern is the assumption of single source contracting. One would believe that with hundreds of millions in government funding, the recipient would be expected to use **standard government bid/tender rules** as well as include sufficient funds to **properly track all spending and job progress**.

Who are the Winners?

Any business case will usually outline who the tangible/intangible winners are and the underlying reasoning. The ICFBC does show some benefits to the residents of Vancouver Island with respect to possible increased public transportation services, specifically with respect to the commuter rail portion. Passenger rail options are quite limited, and the freight expansion serves the primary purpose of taking advantage of the current delays in offloading at the port of Vancouver with some benefits to increased employment in Port Alberni.

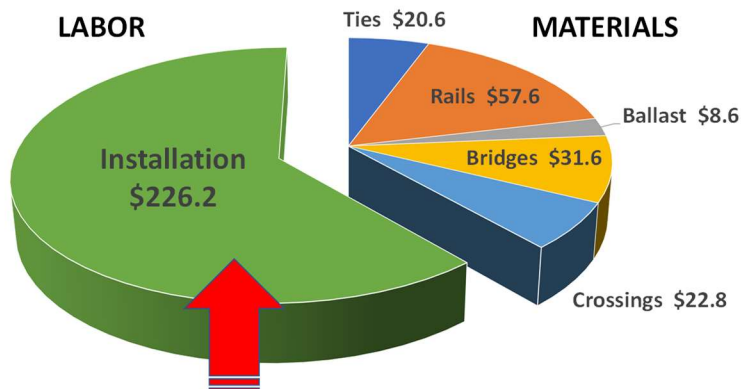
There will undoubtedly be some economic spin-off to the local communities while the work is being conducted. If one digs deeper; however, it becomes clear that the biggest benefactor is the Washington

Group of Companies through their ownership of SVI, Seaspan and SRY. They would be the recipients of over \$200M in construction labor work, manage an ongoing operations budget of more than \$10M per year and their Seaspan/SRY rail barge network would see increased traffic – all with minimal to no monetary risk. That fact will not likely sit well with the taxpaying Canadian public who would be asked to support this project – Washington Group is a U.S. based private company.

The ICFBC identifies a total of \$368M in rail remediation costs – estimated to be split into \$142M of materials and \$226M for installation and labor. Note that these splits are based on the detailed IRCCA cost estimate plus a “25% material - 75% labor” split for major items such as bridge repair, crossing upgrades and rockfall remediation where a materials component was not specifically identified.

It is assumed that there would be a competitive bidding process to garner supply of the various materials; however, the business case states that the installation portion would be paid to a qualified rail construction contractor. ICF currently have an operations contract with Southern Rail of Vancouver Island (“SVI”) and it is fair to believe that SVI would be the recipient of \$226M of the construction funds (installation portion). One can assume SVI would need to hire employees and third parties to assist in the work; however, to have several hundred million dollars paid to an American, privately owned company does not seem to be in the best interest of the people of BC and Canada who will be providing the funds for the project? ICFBC should be more forthcoming about this situation.

Capital Cost Spending Allocation – ICF Business Case



Installation to be performed by qualified rail contractor (ICF currently have an operations contract with Southern Rail of Vancouver Island - SVI)

In addition to the \$368M in capital construction costs, annual operating costs are estimated at over \$12M per year going forward in the Business Case. Again, it is anticipated that the majority of these expenses will be paid to SVI as the rail operator.

In 2020, ICF paid Vann Struth Consulting to provide a report on the economic impact of Island Rail construction. The Vann Struth Report states *“Based on an ICF analysis, an estimated 85% of construction expenditures for the project are expected to be sourced from British Columbia companies.”*

ICF may consider SVI is a BC-registered company and the construction workers employed may be Canadian; however, the fact remains that SVI is entirely owned by The Washington Group of Companies – a U.S. private entity controlled by billionaire Dennis Washington. Over 60% of the construction costs will be paid to SVI so it is unclear how the report can state, without qualification, that 85% of expenditures are in British Columbia, let alone Canada? The conclusions of both the cost-benefit analysis within the ICFBC, and the Economic Impact report developed for ICF by Vann Struth are certainly called into question by the lack of transparency on this very significant item.

Commuter Rail – Victoria to Langford (Westhills)

Transportation issues within the Capital Region is extremely complex and it is reasonable to include commuter rail as an option when evaluating possible solutions. As mentioned above, the ICFBC does exclude some of the highest capital cost commuter rail items from the IRCCA so that needs to be reconciled in any future analyses. Whether the capital cost turns out to be the \$50M used in the ICFBC, or the \$290M forecast by IRCCA, it will remain the decision of the Capital Region District whether to pursue commuter rail as part of their transportation network. In considering a commuter rail option, the 2020 South Island Transportation Study (“SITS”) included it only as a possible long-term item and recommended “exploring the potential of commuter rail.”. Prioritized items identified in SITS include lower emission and efficient capital expenditures such as electric buses and an increased EV charging network.

Passenger Service – Intercity and Regional

The ICFBC includes proposals for an Intercity service between Duncan and Victoria as well as a Regional service from Victoria to Courtenay. The two trains involved in these proposals are used jointly so the two services will be discussed together here as passenger service opportunities.

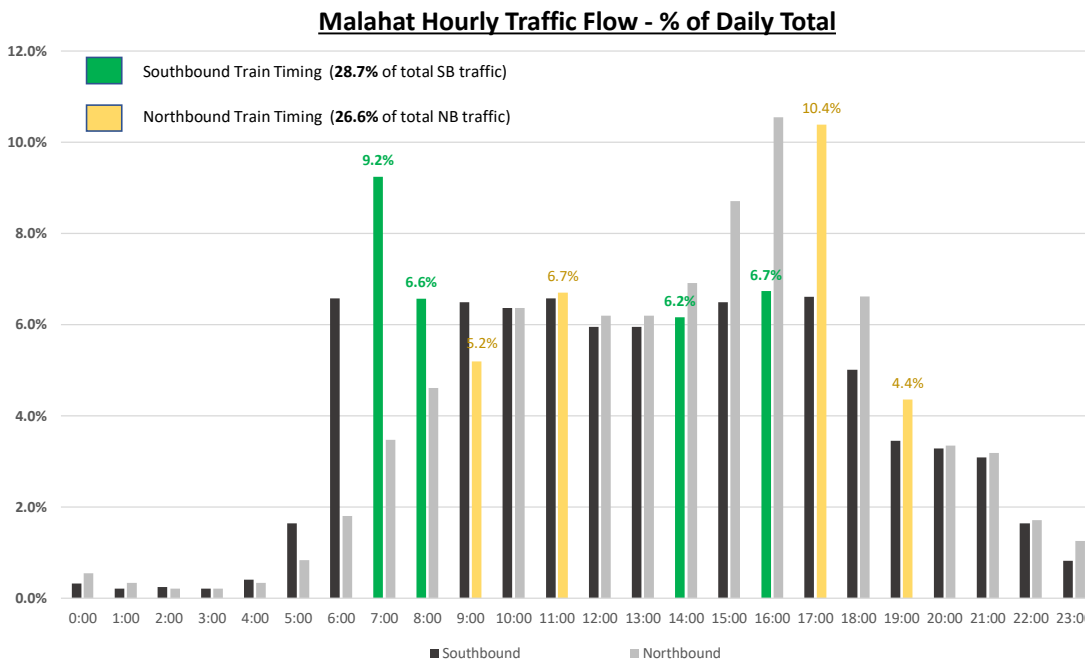
The capital costs for rail rehabilitation from Langford to Courtenay have been estimated by ICF at \$216M, including \$183M for construction with the remainder covering rolling stock, sidings, signals, and overhead. As discussed above, the ICF overhead (“soft cost”) component is much lower than the IRCCA estimate. This is despite the fact there are numerous design and technical obstacles on this portion of the corridor, not the least of which is the **40 bridges/trestles along the route**. There is an average of **one bridge every 5 km, averaging 180 ft span with the longest over 1000 feet**. As well, the **vast majority of First Nations reserve land transected by the rail corridor is along this route**, including the Snaw-Naw-As lands that were referenced in the BC Supreme Court decision of 2021 – reconciliation negotiations will be a key to success and no such costs regarding First Nations are included.

Expected Intercity (Duncan-Victoria) rail passenger numbers in the ICFBC have been based on an assumed 4-8% modal shift of all Malahat vehicle passengers (24,600 vehicles per day carrying 30,000 people as per the 2020 South Island Transportation Study). The 30,000 per day count was inflated by 1.5% per year to 2023 which, at 4-8% mode shift, results in an ICF forecast range of 1,287 to 2,573 daily commuters using the passenger service from Duncan. However, if one delves into historical Malahat traffic patterns, deducts the trucks (who cannot shift modes to rail), and allocates passenger vehicle traffic for the **times the trains are actually operating**, it quickly becomes apparent that **the ICF ridership estimates are far too optimistic (even the conservative case appears to be 4 times what is realistic)**.

A 2006 study of Malahat travel demand conducted by MoTI and BC Transit illustrates the hourly flow in both SB and NB directions (see graph below). **There are only two trains planned in each direction in the morning and afternoon** (total of 4 SB and 4 NB trains per day at times, indicated by the green and yellow bars on the graph).

If we assume that each train can capture a full hour of travellers, the proposal only has access to 27%-29% of the daily commuters due to the limited number of trains (4 per day each direction).

The 2020 SITS study indicated 24,600 vehicles per day of which 12% were large trucks, leaving 21,648 passenger vehicles carrying 27,048 people to target as commuters. Inflating that number 1.5% per year to 2023 and dividing it equally between SB and NB directions, there are expected to be **14,142 daily passenger vehicle commuters travelling each direction on the Malahat per day in 2023**.



Combining the daily forecast of commuters with expected hourly patterns shows that the four SB and four NB trains have a total mode shift **target (100%) commuter pool of 7,823 people per day** (approximately one quarter of the 32,000 shown on page 47 of the ICFBC).

2020 Malahat - South Island Transportation Study

Vehicles	24,600	per day			
People	30,000	per day			
Trucks	12%	=		2,952	per day
Pssgr Vehicles	21,648	per day			
Pssgr Count	27,048	per day			
Pssgr Count	13,524	per day	Each Direction		
2023 Pssgr Count	14,142	per day	Forecast Total Passengers	Each Direction	
Traffic During SB Train Hours	28.69%	=	4,058	target SB passengers	per day
Traffic During NB Train Hours	26.62%	=	3,765	target NB passengers	per day
			7,823	total Malahat target commuters	each day

The tables below show the ICFBC Intercity train ridership estimates compared to a more rigorous hourly flow analysis.

Intercity Ridership Calculations

	<u>ICF Business Case</u>			<u>Corrected for Hourly Flows</u>			
	Mode	Riders	Revenue	Mode	Riders	Revenue	Difference
	Shift	Per Day	(\$M/yr)	Shift	Per Day	(\$M/yr)	(\$M/yr)
Conservative	4%	1,287	\$3.3	4%	313	\$0.8	\$2.5
Anticipated	6%	1,930	\$5.0	6%	469	\$1.2	\$3.8
Optimistic	8%	2,537	\$6.6	8%	626	\$1.6	\$5.0

The real hourly mode shift required to reach the ICF ridership ranges with 8 trains is 16% to 32% and is completely beyond any historic reality. This is especially true given the fact that there is already a similarly priced, 1.5 hour long, commuter bus option (BC Transit) that only captures 300 riders per day over the Malahat (2020 SITS report).

In 2006, MoTI commissioned a detailed Malahat traffic report (**Halcrow Report**) which thoroughly surveyed hourly traffic patterns, persons per vehicle and, most importantly, **directly surveyed commuter preferences for switching to rail. This allowed a rigorous calculation of realistic numbers of commuters who would mode shift from vehicle to rail.** Relevant summary points from the Halcrow report are below. It is notable that the Halcrow forecast for 2026 is 260-340 riders per day and is very similar to the 4% hourly mode shift analysis done just above. **There is almost no likelihood that the 1,300 – 2,500 riders per day forecast for the Intercity trains in the ICFBC will actually materialize.** Also notable is that the Halcrow estimate of 260-360 for 2026 daily transit bus users for this route matches the 2020 SITS actual value of 300 bus riders per day – this definitely supports the reliability of the Halcrow modeling.

6.1.9 *In 2026, the express bus routes could generate between 260 and 360 daily trips and the **commuter rail could generate 260 to 340 daily trips.***

6.1.13 In summary, the key conclusions drawn from this study are:

- The *express bus and commuter rail service options tested do not appear to divert significant demand from the Malahat Highway (approximately 1 percent of daily demand and 4 percent of PM peak period demand).*

The section of track north of **Duncan to Courtenay is estimated to cost \$160M** to be upgraded for use as a **Regional rail line**. Again, the ICFBC ridership forecasts for Regional rail are not data-driven and have been arbitrarily estimated at an average of 300 riders per day for all three cases. The 2020 IRCCA performed a detailed commuter assessment utilizing Streetlight Analytic Software that tracks commuter movements in the rail corridor using anonymous cell phone location data. This **detailed scientific methodology identified only 10-13 riders per day boarding at Courtenay under various scenarios** – certainly not sufficient to support an investment of this magnitude for Regional rail.

Freight Service

The ICFBC proposes rehabilitation of the line from Nanaimo to Port Alberni for a total capital cost of \$165M. This includes upgrading all track to 115# standard for freight (the proposal does not include any passenger rail services). There is no longer any demand to transport timber, coal or other island resources via rail, and ICF are proposing that the majority of freight business will include shipments of propane, agricultural feed and container goods traffic.

ICFBC proposes to provide freight service from Port Alberni to Nanaimo, specifically to allow ships to unload cargo onto rail cars in Port Alberni that will then make their way to Nanaimo via the rehabilitated rail and on to the mainland rail systems via the Seaspan rail dock and rail barge system at Nanaimo. This is seen to provide an alternative for cargo ships queueing to unload directly into the port of Vancouver facilities (currently very congested due to pandemic supply chain issues).

Shipping goods by water is typically the lowest cost method and the additional handling of goods on rail and barge to get them from Port Alberni to the mainland is only competitive if one assumes that the congestion currently being experienced in the port of Vancouver continues to be a factor. The shipping congestion and supply chain interruptions seen during the pandemic are expected to eventually be sorted out. **It is not good business practice to premise a very large investment based primarily on the assumption of continued inefficiency on the part of others.**

The proposed \$165M investment mentioned above is solely to handle freight and the conservative ensuing revenue estimate of \$2.2M per year results in an **undesirably long payout of 75 years**, which is even longer if one accounts for annual operating costs.

As mentioned earlier, the entity with the most benefit in the ICF freight proposal is the Washington Group of Companies who will have all rail freight shipments on Vancouver Island travel through their Seaspan rail barge/dock facility at Nanaimo. Freight cars moving to/from the mainland would also travel through the Seaspan facility at Annacis and their SRY rail lines. Essentially, **ICF are asking for a \$165M**

investment of public dollars so that a private American company can increase utilization of its own existing rail port and barge facilities. The port decongestion concept proposed is interesting, but it freight rail opportunities are compelling on Vancouver Island, then perhaps the Washington Group can propose how they might invest their own money into upgrading the rail system in a partnership?

The ICFBC identifies the fact that freight movement is almost entirely by truck on the island (quote below). The most congested area for freight and general traffic concerns is between Nanaimo and Victoria and their business case has no proposed utilization of that portion of the rail corridor for freight purposes. It would likely be more reasonable to reduce freight traffic across the Malahat by increasing the shipping capacity directly into Victoria so that goods did not come onto the island at Nanaimo where they are forced to be trucked to their destination in Victoria. This is certainly true for the fuel supplies (gasoline and diesel) which all arrive on the island north of the Malahat (and were thrown into great disarray following storm damage to that road connection in late 2021). Rail was touted as a resolution to this interruption, but a less complex or costly method would be to have critical goods arrive via ship directly to the Victoria area.

Freight transportation on the Island is limited almost entirely to truck and trailer operations or a combination of rail movements that are transloaded to truck and trailers. Trucks are reliant on the single highway system on the Island and are susceptible to travel time variation and reduced travel time reliability as all other highway traffic.

Funding Required From Regional Districts?

The ICFBC proposes \$431M of funding is required to rehabilitate the island rail system. With the various excluded and underestimated items (identified above), that cost estimate could readily climb to \$700M, or more. It was not stated whether ICF will look to the five Regional Districts on Vancouver Island to support this proposal with a portion of the funding coming directly from local ratepayers?

In 2013, the five Regional Districts members of ICF pledged over \$3M of funds in order to show support of the BC and Federal governments providing federal funds of \$20M toward rail upgrades (which did not materialize due to the Snaw-Naw-As legal action). If one assumes the same ratio will requested from the Regional Districts with this proposal, **the required pledge from the Regional Districts would be in the range of \$60M - \$100M.**

There are five regional districts who are members of ICF and they should be very clear with their ratepayers/electors as to what any future obligations may be as a result of moving forward with this project. The 2013 Schlenker decision and the follow up BC Conflict of Interest Exceptions Regulation in 2016 have resulted in some confusing relationships between ICF director responsibilities and their duties as Regional District directors. A methodology to allow full review and public approval of any ICF proposal at a Regional District level should be initiated. A plebiscite could be one methodology to understand the feelings of the RD's rather than make decisions which may not be the will of the general public on Vancouver Island.

As mentioned above all the new signal crossings required for the E&N Rail Trail in the Capital RD were paid for by the Regional District, as were all the trail development costs. The Regional Districts must be very clear, and share with their ratepayers, the potential costs to local jurisdictions if rail rehabilitation is pressed forward.

Active Transportation Trails – Regional District Cost and Timing

Despite the ICF having a mandate to create trails and greenways within the rail corridor, there is no mention whatsoever of active transportation (“AT”) trails in the ICFBC.

A number of trails have already been built or are planned beside the rail bed, including approximately 17km between Victoria and Langley which will cost a total of \$35M when complete. The high trail cost (over \$2M per km) is because the trail does not use the existing rail bed and must build new trail structure including new bridges and earthwork required around slopes or barriers that are beside the rail. The trails must also cross back and forth to either side of the rail, resulting in extra signals and safety parameters. Chain link fence must also be installed along the pathway to separate it from the rail. **The ICFBC report should make it clear that, if rail is reinstated, similar high-cost design estimates for active transportation routing on the remainder of the corridor will have to be accounted for – and paid for by the Regional Districts.**

Assuming similar costs to run almost 200 km of trails north from Langford to Courtenay, it is expected to **cost the Regional Districts (Cowichan Valley, Nanaimo and Comox Valley) over \$400M to construct the planned active transportation network that has been promised by ICF.** The Regional Districts have been the primary source for trail construction funds to date. As a matter of comparison, costs per km to construct AT trails directly on a rail bed have ranged from \$30,000 (Cowichan Valley) to \$150,000 (Okanagan). The true trail construction costs for both cases (either beside rail or on the existing rail bed) need to be better defined and a tangible value presented to allow knowledgeable decisions to be made.

With a strong government mandate to move people to Active Transportation modes, and all the ensuing known benefits (improved health, reduced emissions, increased tourism), **it would be a disgrace for the Regional Districts not to be able to fund the AT network in a timely manner due to the prohibitive costs.**

GHG Emissions

The ICFBC presents a discussion as to the high percentage of GHG emissions in BC that are a result of transportation. The discussion is all reasonable until page 14 where a **misleading** graph is presented along with the statement **“Automobile travel produces 1.5 times the CO2 per passenger kilometre of a bus and 3 times that of a commuter train.”**

The graph and statement are based upon a 2010 report from the USDOT on 18 existing American commuter rail systems and does not translate into this specific business case. The emission values stated in the ICFBC for trains is an average of these 18 systems which, together, carry over 468 million passengers per year (average 26 million passengers per year per system). **Comparing a large and efficient passenger system with the much smaller proposed services in ICFBC, without proper context, is very misleading.**

The smallest commuter rail system identified in the USDOT report in Nashville, TN had 167,000 passengers per year and is the only system in the USDOT comparable to the volume of service proposed for Intercity/Regional rail in the ICFBC. The next smallest system in the USDOT study saw 800,000 passengers per year and the remaining 16 systems ranged from 1 million to 100 million passengers per year. Actual emissions for the comparable Nashville commuter system were 0.433 kilograms per passenger kilometer, almost five times higher than the “commuter train average” shown in ICFBC and a startling 60% higher than the option to drive a single occupant internal combustion engine (“ICE”) vehicle. **The ICFBC proposed regional and intercity rail passenger service would be expected to actually produce higher emissions than if people drove themselves in a car, especially at the more realistic ridership levels shown in this review.**

Trains can certainly move people using lower emissions than ICE vehicles, but the biggest determining factor is the number of passengers riding the train. Even on a full train in the ICF proposal, the weight of the passengers is only 10% of the total weight being transported. A half full train still weighs 95% of a train full of people and creates 1.9 times the emissions per passenger than the full train. If the train seats are only 25% full, it will have 3.7 times the emissions per person than if it was full. Ridership is the key to lower GHG emissions.

With the more dispersed population base north of Langford, it would be incredibly difficult to attract enough commuters to the proposed passenger services to make them more efficient even than a single occupant ICE vehicle. The fact that low/zero emission vehicles are gaining in popularity (13% of 2021 light duty sales in BC were EVs) and the government goal to wean off ICE vehicles in the coming years means that, over time, even a relatively full diesel-electric train will have higher emissions per capita than average driving options.

Page 60 of the ICFBC makes the statement shown below:

Rail service will promote environmental sustainability by:

- *Reducing overall transportation-related emissions*
- *providing an inter-city and commuter passenger service effecting modal shift from our current auto-centric transportation network*
- *reducing the number of trucks used in freight service on our island highways*

As shown in the analysis above, the ICFBC proposal will likely increase GHG emissions based on the expected ridership for the intercity and regional rail lines

It is unclear how the ICFBC proposal will reduce the number of trucks required for freight service on the island? The only significant freight capacity being added is to move shipments from Port Alberni to Annacis via rail through Nanaimo. These shipments would otherwise have remained on a boat and been delivered directly into Vancouver harbour – possibly using lower emissions to do so.

Malahat Travel Times

Although the ICFBC touts to help improve travel times across the Malahat, the Intercity rail service from Duncan to Victoria is still forecast to be a 1.5 hour journey, which is very similar travel times to the existing bus routes. The business case also uses a misleading quote from the 2020 SITS report regarding travel times and growth. They have excluded two important qualifying statements that limit the travel time analysis to **“before the McKenzie Interchange was complete”** and that **“no further changes to the system are assumed”** . These are important qualifiers as many changes are already planned or in progress and they have used the analysis completely out of context for their benefit.

Original Version from 2020 SITS

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*Figure 10₁ below highlights the typical and higher ranges of travel time between key inter-regional travel patterns today and 2038 **with planned growth and no changes to the transportation system**. For example, a typical trip from Mill Bay to Victoria today would take approximately 43 minutes during the AM peak and as long as 66 minutes on some days. With expected growth, this same trip would take up to 87 minutes on a typical day and up to 144 minutes with variability of conditions.*

1 All references in this section are to conditions prior to the McKenzie Interchange opening

Reconciliation & Reversion Issues – First Nations and Provincial/Federal Lands

As per the Supreme Court of BC decision in 2021, there is a very real and likely scenario that lands currently within the Island Rail Corridor may revert ownership should they not be required for a viable railway operation. Whether these lands revert specifically to First Nations, the federal Crown, the Province of BC or some combination of those entities may not be entirely clear in some instances.

It is imperative that the land reversion issues be agreed to between all landowners and ICF prior to any material funds being directed toward rail rehabilitation or any other planned use of the corridor. As shown in the quotation below, the ICFBC passes full responsibility of the negotiations and resolution of this most serious question onto the “government” – including financial responsibilities associated with the issue. Frankly, the ICF should be the driving force of these negotiations as they are the party most affected by the outcome. Typically, a business case will also outline the challenges and risks associated with completing its objectives – this is glaringly lacking in the ICFBC. **The land ownership and reversion issue represents the largest direct risk associated with the proposal and it has been passed off as the “responsibility of government.”**

ICFBC Quotation

*Given the history and nature of these issues, and the role government must play in their settlement, the business case **does not address the necessary consultation, accommodation, and reconciliation process that need to be undertaken or the potential costs associated with that process as they are the***

responsibility of government and must be resolved regardless of this project. ICF strongly encourages governments to resolve these historical grievances.

The possibility of “**rail banking**” has been suggested to ICF as an alternative. This would require ICF negotiating with First Nations and the BC Government to create an agreement whereby the corridor lands can be used for other purposes (such as active transportation) until such time as they are required for railway use. This would allow the corridor to be maintained while the feasibility of rail is re-evaluated. It is possible that, over time, there are material changes to available technology, transportation needs or other relevant matters that help move rail toward fruition.

Conclusions

Although the ICF have provided an interesting capital construction scenario, it appears that there are numerous unanswered questions regarding key elements of the business case including costs, benefits, ridership, risks and, most importantly, how to handle the reconciliation issue at the core of the business case.

- No mention of reconciliation costs with First Nations
- No mention of land reversion or other material risk factors
- Capital costs used in the business case are reasonable for the included items
- Key costs have been excluded completely – over \$400M in total
- Commuter rail within CRD may have merit, but the business case eliminates over 80% of the capital costs shown in the 2020 MoTI IRCCA report so may not be a realistic model.
- Ridership for the Intercity passenger rail has been overestimated by at least a factor of four
- Freight service as proposed could alleviate back ups at port of Vancouver but adds little real value for movement of goods on Vancouver Island.
- GHG emissions will not be reduced significantly by rail, and are higher than other alternatives.
- Malahat commuter congestion is only reduced by approximately 1% by adding rail
- No diversion of truck traffic on Malahat in this business proposal
- No mentions of cost or timing for active transportation trails in the corridor. Costs for trails will be at least an order of magnitude (10x) greater if they cannot be constructed on the rail bed.
- Funding requirements for the Regional Districts is not mentioned – both for the rail rehabilitation and for future cost of active transportation trails
- With the real risk of land reversion less than a year away, negotiations for “Rail Banking” should be initiated immediately by ICF.

References

Island Corridor Foundation – Initial Business Case

<https://www.islandrail.ca/wp-content/uploads/2022/05/Initial-Business-Case-FINAL.pdf>

IRCCA – Island Rail Capital Cost Assessment – Ministry of Transportation

<https://www2.gov.bc.ca/gov/content/transportation/transportation-reports-and-reference/reports-studies/vancouver-island/island-rail>

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Trans-Canada Highway 1 - Malahat Corridor Study (Stantec) - Ministry of Transportation – July 2007

https://www2.gov.bc.ca/assets/gov/driving-and-transportation/reports-and-reference/reports-and-studies/vancouver-island-south-coast/malahat-study-2007/malahat_corridor_study.pdf

Trans-Canada Highway 1 - Malahat Corridor Study Ministry of Transportation – November 2006

Appendix K - Malahat Travel Demand Study – Assessment of Inter-Regional Transit Options (Halcrow Consulting)

https://www2.gov.bc.ca/assets/gov/driving-and-transportation/reports-and-reference/reports-and-studies/vancouver-island-south-coast/malahat-study-2007/app_k.pdf

Public Transportation's Role in Responding to Climate Change – U.S. Department of Transportation – January 2010

<https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/PublicTransportationsRoleInRespondingToClimateChange2010.pdf>

Snaw-Naw-As Reversion Notes

[4] The historical background begins in 1871 when British Columbia joined Canada. One of the terms of union provided that Canada was to “secure the completion” of a rail line across the province. In 1877, the lands at issue in this appeal were set aside as reserve lands, known then as the Nanoose Indian Reserve (the SFN Reserve). The lands comprised approximately 209 acres.

[5] The railway commitment in the terms of union required years of negotiation between Canada and British Columbia. The matter was resolved in 1883 in a Settlement Agreement, which was ratified and embodied in both federal and provincial legislation. Pursuant to *An Act relating to the Island Railway, the Graving Dock, and Railway Lands of the Province*, S.B.C. 1884, c. 14 [the *Settlement Act*], British Columbia granted to Canada the land necessary to construct the railway on Vancouver Island, exempting Indian reserves from the grant. It also incorporated the E&N Railway Company (E&N), whose purpose was to build the railway between Esquimalt and Nanaimo (the E&N Railway).

[6] In April 1887, Canada conveyed the lands to E&N for the construction of the railway, but by operation of the *Settlement Act*, this grant did not include the SFN Reserve.

[7] In 1905, Canadian Pacific Railway (CP) acquired E&N. At the time of this purchase, Canada declared the E&N Railway to be a “work for the general advantage of Canada” pursuant to s. 1 of the *Act respecting the Esquimalt and Nanaimo Railway Company*, S.C. 1905, c. 90. The railway was then subject to the *Railway Act*, R.S.C. 1906, c. 37 [the *Railway Act*]. Section 172 of the *Railway Act* dealt with the taking of Crown lands. Under s. 172(2), a company was permitted to

... take and appropriate, for the use of its railway and works, so much of the lands of the Crown lying on the route of the railway as have not been granted or sold, and as is necessary for such railway ...

Under s. 172(3), a railway company acquiring Crown lands was not permitted to “alienate any such lands so taken, used or occupied”.

[8] In 1907, to facilitate an extension of the E&N Railway from Nanaimo to Port Alberni, E&N sought the consent of the Governor in Council for a right of way across a strip of land in the SFN Reserve, comprising 10.78 acres. The taking of a right of way over reserve land was governed by both the *Railway Act* and the *Indian Act*, R.S.C. 1906, c. 81 [the *Indian Act*]. Section 46 of the *Indian Act* permitted the taking of reserve lands for “the purposes of any railway” with the consent of the Governor in Council.

[9] In 1908, the Department of Railways and Canals certified the right of way plans as lands “actually required for Railway purposes”.

[10] On July 30, 1912, a federal Order in Council granted consent to the E&N for the taking of the right of way over the SFN Reserve on the following terms:

On a memorandum dated 4th July, 1912, from the Acting Superintendent General of Indian Affairs, submitting that the Esquimalt & Nanaimo Railway Company has applied to the Department of Indian Affairs for right of way, to comprise an area of 10.78 acres, through the Nanoose Indian reserve, in the district of Nanoose, in the province of British Columbia, and a plan is of record in the said Department bearing a certificate of the Chief Engineer of the Department of Railways and Canals that the area applied for is actually required for railway purposes and as such ... the Company should be allowed to acquire under section 46 of the Indian Act;

That the land comprised within the right of way was valued by the Indian Agent in a manner that was satisfactory to the Indians and to the Department, the total sum being \$650.00, which has been duly paid.

The Minister recommends, as the railway company has deposited to the credit of the Receiver General full payment for the said 10.78 acres at the valuation of the Department of Indian Affairs, that, under section 46 of the *Indian Act*, authority be given for the sale thereof to the said railway Company, the patent to contain a proviso that the same is issued and accepted without recourse against the Dominion Government in the event of the establishment of any claim on the part of, or under, the province of British Columbia in the land contained in the said right of way or any interest therein.

[11] On September 12, 1912, Canada issued a grant of Letters Patent for the right of way to E&N on payment of \$650.00. The Grant stated that the Grant was to “all that Parcel or Track of Land situate lying and being in the Nanoose Indian Reserve”. Despite this wording and in light of the July 30, 2012 Order in Council, there is no dispute that the Grant did not convey the

entire fee simple and the land was subject to a condition that the lands were “actually required for railway purposes”.