



ECONOMIC IMPACT ANALYSIS

ISLAND RAIL CORRIDOR CONSTRUCTION



Economic Impact of Island Rail Corridor Construction

OCTOBER 2020

Prepared by:
VANN STRUTH CONSULTING GROUP INC.

For:
Island Corridor Foundation

Cover Photo: Island Corridor Foundation

TABLE OF CONTENTS

Executive Summary	<hr/> III
1 Introduction	<hr/> 1
2 Project Overview and Methodology	<hr/> 2
2.1 Detailed Project Description	<hr/> 2
2.2 Economic Impact Methodology	<hr/> 3
3 Economic Impact Results	<hr/> 5

EXECUTIVE SUMMARY

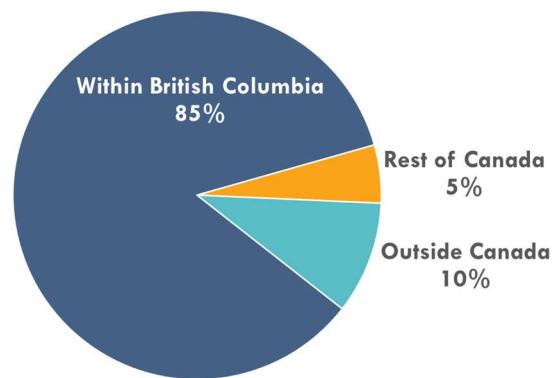
This report was commissioned by Island Corridor Foundation (ICF) to estimate the economic impact of restoring the Island Rail Corridor to operational condition. The analysis focuses only on the construction expenditures for rehabilitating the corridor.

Construction costs are based on an April 2020 assessment prepared for the B.C. Ministry of Transportation and Infrastructure (MOTI). The upgrades will achieve a modified Intermediate level of service, featuring passenger rail and lighter freight (263K loading) on the entire corridor and heavier freight service (286K loading) only on the Port Alberni to Nanaimo segments.

Based on an ICF analysis, an estimated 85% of construction expenditures for the project are expected to be sourced from British Columbia companies.

The total construction budget of \$304 million will support an estimated 2,200 person-years of employment in the B.C. economy, with total labour income of \$147 million. This is an average of \$67,000 per year for a full-time position.

Estimated Geographic Distribution of Island Rail Corridor Construction Expenditures



It is not possible to say exactly how much of the B.C. impacts are felt directly on Vancouver Island, but there will be many opportunities for construction positions for Island-based workers as well as related impacts in accommodation and food services, fuel and equipment suppliers, and possibly wood manufacturers, aggregate producers, and other suppliers of construction materials.

The investment represented by this project has the potential to support economic recovery from the COVID-19 pandemic while enabling the resumption of rail service on Vancouver Island for decades to come.

UPGRADE BUDGET	TOTAL ECONOMIC OUTPUT	EMPLOYMENT	LABOUR INCOME
 \$304 million	 \$470 million	 2,200 person-years	 \$147 million

1 INTRODUCTION

This report was commissioned by Island Corridor Foundation (ICF) to estimate the economic impact of restoring the Island Rail Corridor to operational condition.

The analysis focuses only on the construction expenditures for rehabilitating the corridor. It does not address the economic impacts of passenger or freight service once the line is operational.

Construction Budgets

Construction costs are outlined in an April 2020 assessment prepared for the B.C. Ministry of Transportation and Infrastructure (MOTI).¹ The assessment outlines three phases of improvement:

- Initial: Re-establishes minimum freight and passenger service
- Intermediate: Upgrades higher freight loading for increased freight and passenger volumes and speeds
- Ultimate: Supports higher freight and passenger volumes

This report is based on expenditures required to achieve the **Intermediate** service level, with one significant adjustment. The Province's report showed upgrades for the Intermediate level to accommodate a higher freight standard (known as 286K loading) on every segment of the corridor. ICF feels this additional investment in heavier rail is currently justified only on the Port Alberni to Nanaimo segment of the line, given the freight emphasis of this line and the need to link port facilities and industrial areas in those cities. The remainder of the line will accommodate lighter freight cars (known as 263K loading).

This adjustment allows for upgrades to the Intermediate service level to be achieved at lower cost than what is stated in the MOTI report. Construction budgets were adjusted by ICF's rail consultant, Mr. Don McGregor.

Economic Impact Framework

The economic impact analysis relies on a well-established methodology for translating the impacts of a project or event (in this case, construction upgrades to a rail corridor) into broad impacts on the economy.

This process is described in Section 2, along with a more detailed description of the project construction budget.

The final economic impact results are presented in Section 3.

¹ WSP Canada Group Limited, "Island Rail Corridor Condition Assessment," prepared for B.C. Ministry of Transportation and Infrastructure, April 2020.

2 PROJECT OVERVIEW AND METHODOLOGY

2.1 Detailed Project Description

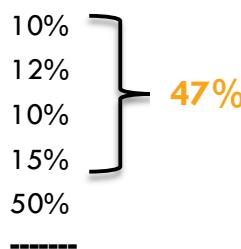
As described in the Introduction, the economic impact assessment is based on rehabilitating the Island Rail Corridor to achieve a modified **Intermediate** level of service, featuring passenger rail and lighter freight (263K standard) on the entire corridor and heavier freight service (286K) only on the Port Alberni to Nanaimo segments. This is summarized in Table 1 below.

TABLE 1. ISLAND RAIL CORRIDOR SEGMENTS AND UPGRADE STANDARD

SEGMENT	UPGRADE STANDARD	UPGRADE BUDGET (including 47% Contingency)*
Victoria Yard	Passenger rail and 263K freight	\$0.5 million
Victoria to Langford	Passenger rail and 263K freight	\$42.2 million
Langford to Duncan	Passenger rail and 263K freight	\$53.3 million
Duncan to Nanaimo	Passenger rail and 263K freight	\$45.1 million
Wellcox Yard (Nanaimo waterfront)	Passenger rail and 286K freight (as per MOTI report)	\$11.5 million
Nanaimo to Parksville	Passenger rail and 286K freight (as per MOTI report)	\$45.1 million
Parksville to Courtenay	Passenger rail and 263K freight	\$61.9 million
SUBTOTAL – Victoria Subdivision		\$213.8 million
Parksville to Port Alberni	Passenger rail and 286K freight (as per MOTI report)	\$72.3 million
Port Alberni Yard	Passenger rail and 286K freight (as per MOTI report)	\$6.0 million
SUBTOTAL – Port Alberni Subdivision		\$78.4 million
TOTAL – ISLAND RAIL CORRIDOR		\$304.2 million

*Contingencies

The total project budget as outlined in the MOTI 2020 study includes a series of contingencies on top of the estimated project cost:

• Construction Supervision	10%		47%
• Engineering	12%		
• Project Management & Supervision	10%		
• First Nations Consultation & Accommodation	15%		
• Contingency	50%		

• Total Contingency	97%		

The economic impact calculations include expenditures for the four named contingencies, which sum to 47% of the base project cost. The calculations do not include the general 50% contingency.

This approach balances the legitimate need to have contingencies built into the construction budget with the feeling of ICF that the total contingency of 97% may be unnecessarily high and thus artificially inflating the project budget.

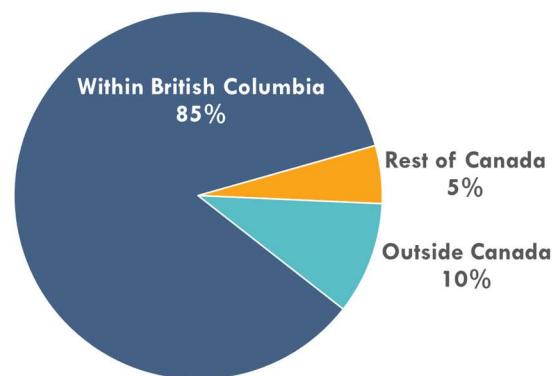
Geographic Impact

Each major line item in the project budget was analyzed by the ICF's rail consultant, Mr. Don McGregor, to identify the most likely source for the required material or service. In most cases, the items can be sourced from British Columbia (including Vancouver Island).

The only class of material that is certain to be sourced internationally is steel products, including rails and other components. These are assumed to be sourced through a British Columbia wholesaler, in which case the wholesale margin is the only part of the expenditure that is retained within B.C.² It is also possible that some of the specialized technical services that are required will come from the rest of Canada or the U.S.

In total, an estimated 85% of construction expenditures for the project are expected to be sourced from British Columbia companies.

Estimated Geographic Distribution of Island Rail Corridor Construction Expenditures



2.2 Economic Impact Methodology

The economic impact calculations rely on a well-established methodology for estimating how the expenditures from a particular project, industry or event into an estimate affect the overall economy, including employment, total output, value-added, and labour income.

The first step in this process is identifying the initial project expenditures, including the type of industry receiving additional revenue and its location. This is the data described in section 2.1 above.

² The latest Statistics Canada financial data on the wholesale sector shows an average gross margin of 19.1% for the "Metal Service Centres" industry.

The next step requires multipliers from Statistics Canada's input-output model.³ There are three types of economic impacts:

- The **direct effect** is the initial change in economic output caused by the Island Rail Corridor upgrade project. This was described in Section 2.1.
- The **indirect effect** is generated by the suppliers to the direct industries, and the suppliers to those suppliers, and on down the supply chain. As the direct industries increase production (such as sawmills increasing production of rail ties), they increase demand for inputs (logs, fuel for their machinery, chemicals for preserving the wood), which increases demand for inputs to those products, and so on.
- The **induced effect** is created by the increased household income generated by both the direct and indirect effects. For example, sawmill workers who get extra shifts manufacturing rail ties will spend their additional income on the typical range of household items. This creates another cascade of impacts among all the suppliers of household goods and services, such as grocery stores and all their suppliers, hair salons and all their suppliers, movie theatres and their suppliers, etc.

The indirect and induced effects together are often called the “spinoff” effects. The input-output model provides multipliers that show how an increase (or decrease) in revenue for one industry translates into indirect and induced effects elsewhere. The model is based on the average relationship between different industries in the B.C. economy.

The outputs of the model include various measures of economic activity, including:

- **Economic Output** is the total dollar increase in expenditures in the economy, including the direct, indirect, and Induced impacts. Note that it includes the purchase of intermediate inputs that are used to produce final goods and services.
- **GDP (Gross Domestic Product)** is the total "value-added" generated in the economy, meaning that the value of intermediate inputs is excluded.
- **Employment** may be expressed as "jobs" or as "person-years" depending on the duration of the activity. For a short-term construction project like the Island Rail Corridor project,
- **Labour Income** is the total wages earned by workers at all levels of the provincial supply chain.

³ The most recent multipliers published by Statistics Canada are for 2016. All multipliers have been adjusted to take account of general price inflation since that time.

3 ECONOMIC IMPACT RESULTS

The economic impact results are summarized in Table 2 below for each segment of the corridor and in total.

The construction budget of \$304 million will support an estimated 2,200 person-years of employment in the B.C. economy, with total labour income of \$147 million. This is an average of \$67,000 per year for a full-time position.

It is not possible to say exactly how much of the B.C. impacts are felt directly on Vancouver Island, but there will be many opportunities for construction positions for Island-based workers as well as related impacts in accommodation and food services, fuel and equipment suppliers, and possibly wood manufacturers, aggregate producers, and other suppliers of construction materials.

The investment represented by this project has the potential to support economic recovery from the COVID-19 pandemic while enabling the resumption of rail service on Vancouver Island for decades to come.

TABLE 2. ECONOMIC IMPACTS IN BRITISH COLUMBIA OF ISLAND RAIL CORRIDOR UPGRADES

SEGMENT	UPGRADE BUDGET	TOTAL ECONOMIC OUTPUT	EMPLOYMENT (PERSON-YEARS)	LABOUR INCOME
Victoria Yard	\$0.5 million	\$0.8 million	5	\$0.2 million
Victoria to Langford	\$42.2 million	\$19 million	90	\$6 million
Langford to Duncan	\$53.3 million	\$69 million	320	\$21 million
Duncan to Nanaimo	\$45.1 million	\$88 million	405	\$27 million
Wellcox Yard (Nanaimo waterfront)	\$11.5 million	\$14 million	70	\$4 million
Nanaimo to Parksville	\$45.1 million	\$65 million	310	\$20 million
Parksville to Courtenay	\$61.9 million	\$104 million	475	\$32 million
SUBTOTAL – Victoria Subdivision	\$213.8 million	\$359 million	1,670	\$112 million
Parksville to Port Alberni	\$72.3 million	\$103 million	495	\$33 million
Port Alberni Yard	\$6.0 million	\$7 million	35	\$2 million
SUBTOTAL – Port Alberni Subdivision	\$78.4 million	\$111 million	530	\$35 million
TOTAL – ISLAND RAIL CORRIDOR	\$304.2 million	\$470 million	2,200	\$147 million