



## IR2020-7 Economic benefits of RBT2

### Background

In his letter of August 24, 2020, the Minister of Environment and Climate Change (the minister) indicated updated analysis of the economic benefits of the Roberts Bank Terminal 2 (RBT2) Project could be provided along with the responses to the information request.<sup>1</sup>

The Vancouver Fraser Port Authority (the port authority) completed an economic impact assessment for the RBT2 environmental impact statement (EIS),<sup>2</sup> which was detailed in Appendix 20-A Economic Impact Roberts Bank Terminal 2 Technical Report of the EIS, and results included in Section 19.0 Labour Market, Section 20.0 Economic Development, and Section 21.0 Local Government Finances of the EIS. The economic impact assessment for the EIS estimated direct, indirect, and induced employment, labour income, gross domestic product (GDP), economic output, and local government revenues generated within Metro Vancouver and British Columbia (B.C.), from project construction, and on-terminal and off-terminal activities during operation.

The port authority has conducted an updated economic impact analysis of the project, reflecting forecasted container volumes for the west coast terminals, and refinements to the project construction and operational design, schedule, capital and operational expenditures, and labour requirements. The updated economic impact analysis takes into consideration the effect of the global COVID-19 pandemic on demand for container trade and associated infrastructure requirements, and the importance of the project in supporting supply chain resiliency and efficiency in post-pandemic economic recovery. The analysis of economic impacts also takes into consideration updated information on the construction and transportation labour force and other economic conditions nationally, and within B.C., Metro Vancouver, and local municipalities. In addition to supporting the minister's decision on the project, information generated from the updated economic impact analysis supports the port authority's commitments to, and ongoing engagement with, Indigenous groups on training, employment, and procurement opportunities pertaining to the project, and engagement with municipalities and other stakeholders on local and regional economic benefits and opportunities.

### Response

**Minister's request: "Additionally, if the VFPA would like to bring forward updated employment estimates or other relevant information prior to government decision making, it can also be provided along with the responses to the information request. This may include updated analysis of the economic benefits of the Project such as employment, labour income, gross domestic product, economic output, government revenue; and the volumes, origins and destinations of container traffic, taking into account the economic impacts of the global pandemic, the recent trend towards full employment in the construction and transportation sectors in Metro Vancouver and British Columbia, generally, and trends towards higher degrees of automation in port operations."**

---

<sup>1</sup> CIAR Document #2067 Letter from the Minister of Environment and Climate Change to the Vancouver Fraser Port Authority re: Information Request. <https://www.ceaa-acee.gc.ca/050/documents/p80054/135827E.pdf>

<sup>2</sup> CIAR Document #181 Roberts Bank Terminal 2 Project - Environmental Impact Statement. <https://iaac-aeic.gc.ca/050/evaluations/document/114311>

## Introduction

The port authority is pleased to provide updated economic benefits information related to RBT2. The proposed project, a three-berth marine container terminal in Delta, B.C., remains a critical part of its plans to serve Canadian importers and exporters by moving their goods in shipping containers to and from foreign economies through the Pacific gateway.

The unprecedented events of the pandemic have shown what congestion in the Pacific gateway could look like in the future without additional marine-side capacity. Despite the recession, containers moving through the Port of Vancouver in 2020 increased by 2% over 2019 and set a new annual volume record. The unanticipated ferocity and prolonged surge during the pandemic resulted in increased container dwell time, additional anchorage requirements due to terminal congestion, and a lack of empty containers available for exports. Similar constraints could become the new normal by the mid- to late-2020s without additional terminal capacity on Canada's west coast.

Without the capacity that RBT2 will bring, Canada's competitive position is at stake as increasing congestion at west coast terminals will undermine the port's reliability, impacting Canada's trade growth and forcing a reliance on foreign supply chains and U.S. ports for containerized imports and exports. If Canadian exporters are limited in their ability to move goods through the Pacific gateway efficiently and importers face rising costs that will be passed along to consumers, confidence in the west coast of Canada as a dependable trade gateway will erode. RBT2 is needed to ensure the economic benefits of trade across the supply chain can be realized for Canadians.

As a Canada Port Authority responsible for enabling trade through Canada's largest port, our role is to plan and provide port infrastructure to help meet Canada's trade objectives, ensuring goods are moved safely, while protecting the environment and considering local communities. The RBT2 Project will create additional trade-enabling land in the Port of Vancouver near federally funded infrastructure to support Canadian citizens, businesses, and communities by investing in sustainable growth and trade diversification. Through the consultation undertaken as part of the information request process, stakeholders have reinforced the need for the project and the importance of ensuring that Canada's ports have the capacity to get Canadian goods to global markets.

Each year, activities at the Port of Vancouver support 49,000 direct jobs and 115,300 total jobs (InterVISTAS 2017) and enable the trade of approximately \$240 billion in goods to and from Canada, including international and domestic cargo. This ensures items such as food, pharmaceuticals, and other essential household products get to communities across the country. It also means Canadian goods such as forest products, petroleum products, and agricultural products are accessible to markets around the world.

The efficient movement of goods is made possible through the dedicated efforts of marine carriers and pilots, longshore workers, terminal operators, railway workers, trucking companies, and drivers, along with many others who make up the port community. From each container loaded, to every ship that sets sail, these activities help support well-paying jobs, and Canadian households. This is more important than ever as Canada recovers from the economic impacts of the global pandemic.

For the past decade, we have been consulting with stakeholders, local governments, and Indigenous groups on developing RBT2 to ensure we can deliver an investment in trade infrastructure that supports the Canadian economy, benefits communities, and protects the environment. The port authority has been consulting with Indigenous groups since 2011 and will continue to consult and collaborate with Indigenous groups to ensure benefits of the project can support their communities and align with their aspirations as they relate to capacity building, training, employment, and procurement.

The following information addresses the topics raised in the minister's request and describes the following:

- The project rationale, including how the project supports Canadian trade policies, continued growth in container trade, and economic recovery post-pandemic
- The results of the updated economic impact analysis

- Additional economic benefits of the project, including lasting benefits to Indigenous and local communities

RBT2 would bring positive economic development and measurably support increased Canadian GDP to a degree that few projects can. This generational project is critical to ensuring Canada's success as a trading nation with economic benefits extending to all Canadians.

## Project rationale and benefits

### Canada's trade is key to prosperity

The Port of Vancouver is Canada's largest and most diversified port and plays an essential role in facilitating Canadian trade. Imports and exports of goods shipped in containers through the Port of Vancouver accounted for nearly 51% of total container volumes through Canada's top five ports and 75% of B.C.'s total containers in 2020 (Transport Canada 2021). Despite the challenges presented by the pandemic and global economic uncertainty, container trade through the Port of Vancouver increased by 2% in 2020 from 2019 to a record 3.5 million twenty-foot equivalent units (TEUs) with import increases for household goods, personal protective equipment and other medical supplies, and strong demand for Canadian wheat, specialty crops, and wood pulp exported in containers.

As Canadian trade policies continue to emphasize the importance of bringing our goods to international markets, additional container terminal capacity on Canada's west coast is needed to accommodate projected growth in container trade, and to continue to support future economic growth—a sentiment that is echoed by all levels of government across the country in their trade strategies and plans.

Ongoing access to foreign markets is also critical to small and medium-sized businesses. These businesses contribute more than half of the country's output and produce 41 per cent of the total value of exported goods (ISED 2020). This means that Canada Port Authorities, like the Vancouver Fraser Port Authority, must thoughtfully plan how to efficiently move these goods to ensure Canada is able to capitalize on the substantial potential of world trade in the future.

Planning for the future is needed now. As we look toward economic recovery, the Canadian government is actively pursuing new and growing markets that offer opportunities for Canadian businesses to diversify and expand their export opportunities and to access the consumer goods and inputs needed to produce a large range of products and services.

Similarly, provincial economic strategies rely on the increased ability to get goods and resources to market, creating more sustainable and diversified economies. British Columbia, Alberta, Saskatchewan, and Manitoba rely on the Port of Vancouver to help meet their trade and economic objectives.

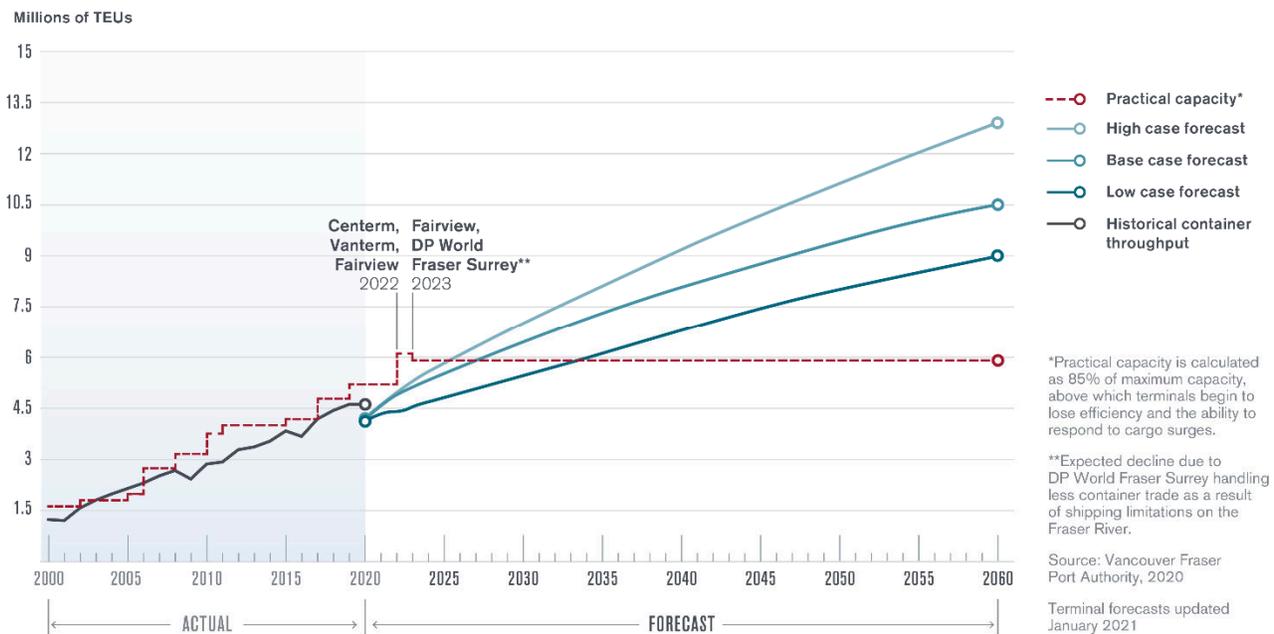
Overall, these trade strategies and plans reinforce Canada's continued intent to be a trading nation in which prosperity is linked to the global economy. The Port of Vancouver is the primary gateway to Asian markets and continues to experience substantial growth in cargo.

### Forecast predicts continued growth in container trade

Additional container terminal capacity on Canada's west coast is needed to accommodate projected growth in container trade as shown in **Figure IR2020-7-1**. Combined container demand for the ports of Vancouver and Prince Rupert is expected to increase from 4.6 million TEUs in 2020 to 6.5 million TEUs in 2030, growing to 8.1 million TEUs in 2040 (VFPA 2021). The capacity of west coast ports to serve long-term growth is quickly becoming constrained.

The port authority recently updated its container trade forecast using third-party expert analysis and its practical knowledge of the container sector to produce a long-term view of container trade on the west coast. This forecast re-confirms that Canada's west coast ports will run out of space to handle container traffic by the mid- to late-2020s, years before RBT2 could be operational. Once space runs out, Canadian farmers, producers, and businesses will face increasing difficulties sending and receiving their commodities and goods to and from overseas markets and costs to undertake these activities will climb as cargo is re-routed through U.S. ports.

**Figure IR2020-7-1: Container traffic for Canada's west coast**



The new port authority forecast and updated third party forecasts, are consistent with previous forecasts completed in 2014 and 2016 by Ocean Shipping Consultants,<sup>3</sup> showing continued growth. The 2021–2050 base case volumes in the port authority’s new forecast are only 0.8% lower than those in the Ocean Shipping Consultants 2016 forecast (OSC 2016). The new forecasts anticipate slowed growth of the Canadian economy in 2021 and 2022 as post-pandemic recovery unfolds. These forecasts, completed in mid-2020, conservatively estimated a slower rebound from the pandemic than we have seen since then, with 2020 volumes increasing compared to 2019 and further growth in 2021. This strong rebound in container traffic further reinforces the growing demand in container trade and the need for the project.

### Without capacity investments

Terminal capacity shortfalls would have significant negative implications for port users and local communities because of terminal congestion (including local truck and train backups), vessel scheduling challenges, cargo redirection and delays, increased truck traffic to and from the U.S. due to cargo diversion to other ports, increased transportation costs for Canadian goods due to redirection, and the loss of business for importers and exporters. Based on years of analyses and studies, the port authority is confident that RBT2 represents the best option to minimize adverse effects and accommodate projected growth in the containerized sector.<sup>4</sup>

Container terminals start to lose efficiency when they operate at higher than 85% of their capacity. Operating at slightly below this practical capacity allows terminals to adapt to seasonal fluctuations in container volumes or short-term disruptions in the supply chain that may impact the volume of imports and exports through the terminal. RBT2 will enable the Port of Vancouver to reliably respond to long-term growth as well as peak volumes and spikes in demand, such as experienced with COVID-19.

<sup>3</sup> CIAR Document #541 From the Review Panel Secretariat to the Review Panel re: Container Traffic Forecast Study. <https://iaac-aeic.gc.ca/050/documents/p80054/115553E.pdf>. CIAR Document #897 From the Vancouver Fraser Port Authority to the Review Panel re: Responses to Information Request Package 1 (See Reference Document #559). <https://iaac-aeic.gc.ca/050/documents/p80054/116555E.pdf>

<sup>4</sup> CEAR Document #1413 Information Session Transcript: January 30, 2019, Vancouver, British Columbia, at pp. 28-31. <https://iaac-aeic.gc.ca/050/documents/p80054/126674E.pdf>

Container trade has rebounded from the pandemic quicker than expected and has even surpassed pre-pandemic levels. During the first six months of 2021 (January to June), container volumes were 24% and 15% higher than the same period in 2020 and 2019 respectively. May 2021 was a new all-time high for monthly containers through the port. This surge has been driven in large part by increased demand in Canada for consumer goods like essential household products and food. Canadian container demand increasing during the pandemic demonstrates that additional capacity on Canada's west coast is needed to avoid future congestion from continued growth.

This unprecedented surge in import cargo shipped in containers is resulting in congestion due to lack of additional capacity at west coast ports. From June 2020 onward, container terminal dwell times (time that a container remains on the marine terminal dock after being unloaded from vessel before being moved to its next destination) have been high at the Port of Vancouver. Container vessels are also increasingly being required to use anchorages in response to this congestion at the port.

For example, the average capacity utilization at Port of Vancouver in the first half of 2021 has reached 85% and much higher than the average full-year utilization of 75% and 74% in 2020 and 2019, respectively.

As a result of utilization over the 85% sustainable capacity threshold during recent months, the Port of Vancouver experienced congestions across its supply chain, supported by the following data:

- The average monthly number of container vessels that used anchorage in the first half of 2021 has increased by 115% and 286% over the 2020 and 2019 full-year average, respectively.
- The average duration of container vessels staying at anchorage in the first half of 2021 has increased by 21% and 66% over the 2020 and 2019 full-year average, respectively.
- The average container dwell time at terminals in the first half of 2021 has increased by 5% and 31% over the 2020 and 2019 full-year average, respectively.

The growth in container trade during the pandemic demonstrates how limited marine-side capacity can result in congestion. Without investment in marine terminal capacity, this congestion would become a more regular occurrence as the gateway becomes increasingly constrained.

Without the ability to move goods efficiently and reliably through west coast ports, shippers will search for the next best alternative, with consequences to Canada's economic progress. A 2017 report by Ocean Shipping Consultants (OSC 2017) concluded that when the Port of Vancouver and the Port of Prince Rupert reach capacity, shippers will be forced to use ports on the west coast of the U.S. such as Seattle, Tacoma, Los Angeles, and Long Beach. If Canadian importers and exporters must move cargo through ports in the U.S., they would be forced to pay increased transportation costs and would be exposed to the risk of U.S.-imposed duties and tariffs or other restrictions on this cargo. These additional costs would be passed on to Canadian consumers and producers, which would impact affordability and Canada's trade competitiveness. Canada would also lose the jobs and economic benefits that would have otherwise occurred through handling Canadian trade in Canada, which for the RBT2 Project is estimated at \$3 billion in GDP every year.

Without RBT2 being operational, container demand on Canada's west coast will exceed practical capacity by 2027, and given that container trade already exceeds pre-pandemic levels and the post-pandemic economic recovery is poised to accelerate this demand, it is anticipated that port terminals will not be able to meet future demand resulting in cargo being diverted to competing terminals in North America. As the gap between available capacity and demand increases, container traffic will be diverted indefinitely along with the economic benefits it brings.

## **A solution to meet capacity constraints**

The port authority began studying how to best address the pending capacity shortfall in the late 1990s. Since then, guided by regularly updated third-party forecasts as mentioned above, the port authority has made a series of upgrades and expansions to existing terminals to address the shortfall. The Port of Prince Rupert has also invested in terminal capacity and will continue to do so. Forecasts show that, in addition to these investments,

Canada needs a new marine container terminal on the west coast to ensure long-term demand can be met. Unfortunately, there is no available land on which to build a new terminal, and therefore new land needs to be created, as was done at Roberts Bank over 50 years ago and at many other ports around the world.

Nearly a decade of planning, environmental research, and engineering study demonstrates that the best project to meet this forecasted demand is RBT2.

RBT2 holds tremendous generational opportunity for Canada. The project's annual design capacity of 2.4 million TEUs will add nearly 50% more container capacity to the Port of Vancouver, and 33% more capacity to the Canadian west coast. The capacity brought online by RBT2 would play a critical role in meeting consumer demand for importers, in supporting Canadian businesses shipping goods to and from global markets, and in ensuring that we can keep Canada open for trade with growing economies around the world, well into the future.

### Support for economic recovery post-pandemic

The COVID-19 pandemic has adversely affected the Canadian and B.C. economies with reductions in real GDP and declines in employment levels through 2020 and early 2021 (Conference Board of Canada 2021). Despite the challenges presented by the pandemic and global economic uncertainty, container trade through the Port of Vancouver has remained strong. Growth in most industry sectors, including the marine transportation sector, is projected to increase through the latter half of 2021 as vaccines are made widely available, which is predicted to bolster business and consumer confidence, investment, and trade as borders fully reopen.

As the global economy recovers from the pandemic, international trade and the global container shipping is expected to increase with demand for goods shipped in containers continuing to grow (The Loadstar 2021). In anticipation of this growth, the project would provide additional capacity necessary to meet growing demand for container trade, ensuring Canada is able to meet its trade objectives through to the late 2030s.

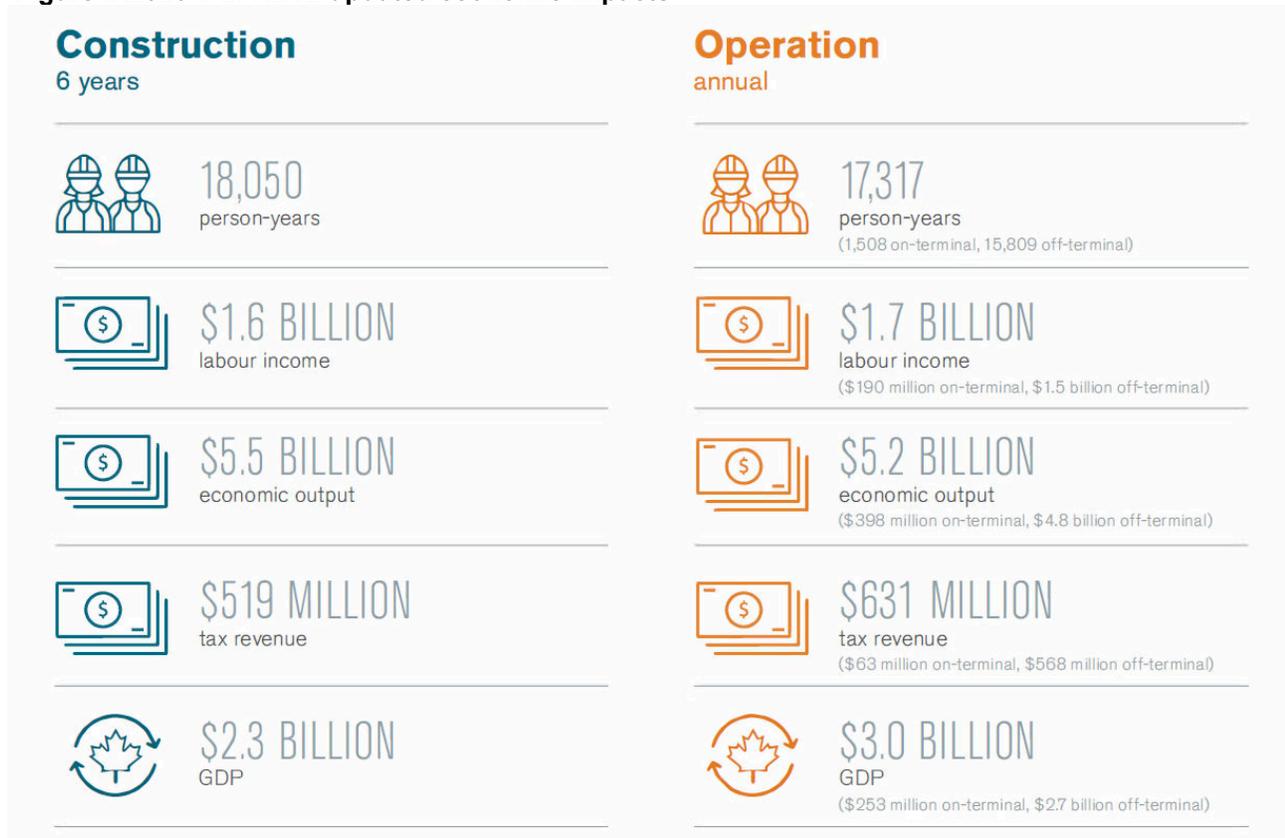
As summarized in **Figure IR2020-7-2**, project construction and operation will contribute to local, provincial, and national economic recovery.<sup>5</sup> With construction expenditures estimated at \$2.5 billion, the project will create over 18,050 person-years<sup>6</sup> of employment over six years, generating \$1.6 billion in labour income. An annual average of 17,317 person-years of direct, indirect, and induced employment would be generated from on-terminal and off-terminal activities during operation, generating an annual average of \$1.7 billion in direct, indirect, and induced labour income. Construction would generate \$5.5 billion in economic output and \$2.3 billion in GDP. An annual average of \$5.2 billion in economic output and \$3 billion in GDP would be generated from on-terminal and off-terminal activities during operation. Governments at all levels would benefit, with construction generating a total of \$519 million in combined federal, provincial, and municipal revenues, and on-terminal and off-terminal activities during operation generating an annual average of \$631 million.

---

<sup>5</sup> Each value in the figure shows estimated sum of direct, indirect, and induced impacts.

<sup>6</sup> Person-years reflects full-time equivalent employment (FTEs). These two terms are interchangeable in that a person year and FTE both reflect part-time and seasonal employment, using a measure of paid hours per year. One person-year is equivalent to the number of hours that an individual would work on a full-time basis for one year. Person-years and FTEs are calculated by dividing total hours worked by the average annual hours worked in full-time jobs. Employment reported in person-years was used as many industries are represented in the economic impact modelling and there is a range of full-time, part-time, and temporary employment arrangements. Person-years takes into account the number of hours worked in one year by full-time, part-time, and temporary employees, as well as self-employed persons, and accounts for overall averages of full-time hours worked in one year in the respective industry sectors. In this way, the use of person-years accounts for these differences across industries to provide a consistent approach to measuring employment activity and is a more accurate account of employment generated than jobs, since for example, in real terms, one person-year could be one person working for a full year (one job), or four people working for three months (four jobs).

**Figure IR2020-7-2: RBT2 updated economic impacts**



### The container supply chain supports Canadian economies

The Port of Vancouver’s vital role as an import transload and export stuffing hub supports efficient container trade, making it an economically attractive destination for exporters and importers alike, which benefits many sectors of the Canadian economy. For example, empty containers will be shipped from central and eastern North America (the main destinations for laden import containers) via Canadian National and Canadian Pacific railways to the Vancouver Lower Mainland region. The empty containers will be loaded onto trucks and drayed to Lower Mainland export stuffing facilities, where they will be loaded (with forest products and grains, for example). Empty marine containers will also be available for export stuffing of Canadian products when import cargo is transloaded from marine shipping containers into domestic containers at local transload facilities. This availability of empty containers at the Port of Vancouver enables Canadian goods to be loaded into containers at local export stuffing facilities for export. The stuffed containers will then be drayed back to the terminal for loading onto container vessels for transport to offshore markets. This availability of empty containers and export stuffing facilities results in an efficient export hub that allows Canadian producers to take advantage of international trade opportunities.

Recent projections of the origins and destination of imports and exports of containers at the Port of Vancouver for 2021 to 2060 (reflective of similar projections for RBT2) indicate the following for imports, on average:

- Approximately 90% of laden containers are expected to originate from Asia and 10% from other countries
- Approximately 80% of laden containers are expected to be destined for Canada and 20% for the U.S.

For exports, on average:

- Approximately 90% of laden containers are expected to be destined for Asia and 10% for other countries
- Approximately 90% of laden containers are expected to come from Canada and 10% from the U.S.

## Plans for semi-automation

Although there has been a trend towards greater levels of container terminal automation over the last two decades, particularly in developed countries where labour accounts for a high percentage of terminal operating costs, the level of automation predicted at RBT2 during operation is consistent with the levels of automation previously described in the EIS. Under the current project operating concept, there are three primary areas of automation: horizontal transport served by automated shuttle carriers, container yard served by automated stacking cranes, and gate operations served by an automated gate system. The rest of the terminal is expected to be operated manually, including the following:

- Quayside operations, including ship-to-shore cranes for the unloading and loading of vessels
- Intermodal yard operations, including rail mounted gantry cranes
- Empty container yard

The current project operating concept, using these semi-automated assumptions, was used to inform the on-terminal operation employment estimates for the updated economic impact analysis. As indicated in **Table 2020-7-2**, under this concept, a total of 45,512 person years over 30 years (or 850 person years annually) of direct on-terminal employment will be generated during operation. However, the terminal operator will have the flexibility to develop a terminal layout and operating concept that may have a somewhat greater or lesser degree of automation than what was assumed in the current operating concept. Additionally, the terminal operator may decide to implement higher than assumed levels of automation during later stages of project operation, if advanced technologies enable automation on the terminal where it is currently challenging.

## Economic impacts of the Roberts Bank Terminal 2 Project

The port authority has conducted an updated economic impact analysis of the project, reflecting refinements to the project construction and operational design, schedule, capital and operational expenditures (as described in **Appendix IR2020-7-A**), as well as estimated labour requirements and container volumes moving through RBT2. The updated analysis also takes into consideration updated information on the construction and transportation labour forces and other economic conditions nationally, and within B.C., Metro Vancouver, and local municipalities.

The updated economic impact analysis includes assessment of economic impacts from project construction, first 30 years of on-terminal operation, and off-terminal activities during operation<sup>7</sup> for the national, provincial, regional, and local economies. The economic indicators assessed for the updated economic impact analysis include employment, labour income, GDP, economic output, and government revenues. Methods used in the updated assessment are described in **Appendix IR2020-7-B**.

Consistent with the economic impact assessment completed for the EIS, economic impacts of the project at the provincial and Metro Vancouver (regional district) levels were estimated. Differences between the regional and provincial economic impacts estimated for the EIS and those estimated for the updated economic impact analysis are due to refinements to the project design and associated revisions to project construction and operation expenditures and labour requirements, as well as recent updates to the provincial input-output model used to generate results.<sup>8</sup> Direct person-years of employment within B.C. is estimated to be 57% more than previously estimated during construction and 5% less than previously estimated for on-terminal operation and off-terminal activities during operation combined. The updated economic impact analysis also estimates project economic

---

<sup>7</sup> The estimate of off-terminal activities during operation was presented separately from project construction and on-terminal economic impacts within Appendix 20-A of the EIS (CIAR Document #181). Given the significant economic impacts of project-related off-terminal activities during operation, the updated off-terminal economic impacts are included alongside the updated construction and on-terminal economic impact assessment results.

<sup>8</sup> As described in **Appendix IR2020-7-B**, changes in the input-output model were modest and based on updates with more current data to reflect current provincial and regional economic conditions. There were no fundamental changes to the provincial input-output model from the previous economic impact assessment conducted.

impacts to the national economy and to the municipalities of Delta, Richmond, Surrey, Vancouver, City of Langley, and Township of Langley. Impacts to these communities near the project were considered due to the communities' potential to experience construction and on-terminal direct, indirect, and induced economic impacts during operation. These communities are also expected to benefit from being locations for off-terminal activities during operation.

The estimates of the economic benefits to Canada tend to be understated because they only estimate how containers are moved to/from the port between their origin/destination (i.e., focus on the port supply chain only). As such, the economic impact estimates do not include the impacts to producers that ship their products via the Port of Vancouver. However, there are wider economic benefits that would be generated by the project across the country in a wide range of sectors. For example, grain producers and the agricultural sectors within western Canada prairie provinces rely on the Port of Vancouver for exporting agricultural commodities to international markets. With more import containers being handled at the Port of Vancouver with RBT2, a corresponding increase in empty containers will likely become available to enable exports such as grain. This will improve Canada's balance of trade and generate additional GDP and economic output in the export-dependent agricultural sectors of the prairie provinces.

Summaries of the updated estimates of economic impacts generated from construction, on-terminal operation, and off-terminal activities during operation are provided below. Detailed breakdown of direct, indirect, induced, and total economic impacts at the municipal, regional district, provincial, and national levels for employment, labour income, GDP, economic output, and government revenues are included in **Appendix IR2020-7-C**.

Construction and operation of RBT2 would create large positive economic benefits to the region, as well as provincially and nationally. Together, project construction, on-terminal and off-terminal activities during operation are expected to generate 538,000 person-years of employment across Canada, \$51 billion in labour income, \$92 billion in GDP, \$163 billion in economic output, and \$19.4 billion in government revenues.

As shown in **Table IR2020-7-1**, construction of RBT2 over six years would provide 18,050 person-years of employment, worth about \$1.6 billion in wages, with approximately 6,525 person-years consisting of direct construction jobs, of which \$642 million in wages would be generated through direct construction employment. Annual direct labour income (including benefits) will be comparable to compensation on a full-time equivalent basis for other major industrial construction projects in the province, in the range of \$98,340 per full time equivalent job.

Project employment effects on local labour market balance within Metro Vancouver will depend on the capacity of the local labour force to meet project labour demand for construction.<sup>9</sup> Metro Vancouver is a large metropolitan economy with numerous projects either under construction or proposed, that will draw upon the local labour force. In the coming years, and under a scenario of post-pandemic economic recovery, continued investment in major infrastructure projects in Metro Vancouver is expected. Non-residential construction investment (and associated construction employment) is expected to increase in 2021, remain at relatively high levels across the province to 2024, and decline in 2025, as most major projects (such as the Pattullo Bridge replacement project and highway works such as Highway 1 upgrades and expansion) are expected to complete construction (Buildforce Canada 2020).

Metro Vancouver's labour supply is expected to have capacity to accommodate the project's construction labour demand due to the relative size of project construction labour (annual average of 1,087 person-years) compared to Metro Vancouver's trades, transport, equipment operators, and other related occupations labour force size, which is currently comprised of 170,600 workers (Statistics Canada 2020), and approximately 41,640 job openings are expected in the region's construction industry from 2019 to 2029 (Government of British Columbia 2019), due to replacement of existing workers and economic growth. In addition, high worker re-allocation rates within Metro Vancouver's large construction labour force, as well as a large pool of part-time workers, is expected

---

<sup>9</sup> As indicated in Section 19.7.1 of the EIS (CIAR Document #181), a balanced labour market is determined by its ability to meet labour demands while sustaining its labour cost increases within prevailing inflation conditions. A 5% natural rate of unemployment is a measure used to help assess labour market balance.

to further support the availability of local labour for the project.<sup>10</sup> In the event that sourcing labour from Metro Vancouver is constrained, contractors would augment local labour supply through additional recruitment from labour pools outside Metro Vancouver.

The construction of RBT2 would also generate approximately \$2.3 billion in GDP and \$5.5 billion in economic output. Construction is expected to generate \$519 million in government tax revenues, of which \$217 million would be generated through direct construction expenditures and revenues.

**Table IR2020-7-1: Total construction economic impacts (6 years)<sup>11</sup>**

	<b>Employment (person- years)</b>	<b>Labour income (million \$)</b>	<b>GDP (million \$)</b>	<b>Economic output (million \$)</b>	<b>Government revenues (million \$)</b>
Direct	6,525	\$642	\$775	\$2,515	\$217
Indirect	7,716	\$698	\$1,101	\$2,036	\$174
Induced	3,810	\$258	\$446	\$921	\$128
<b>Construction total</b>	<b>18,050</b>	<b>\$1,597</b>	<b>\$2,322</b>	<b>\$5,472</b>	<b>\$519</b>

**Note:** The updated economic impact analysis was conducted for the updated six-year (73-month) project construction phase (CIAR Document #1210,<sup>12</sup> Table 2-5 Construction Duration Comparison), anticipated to commence in 2024 and conclude in 2030.

On-terminal operation activities would create well-paying jobs and economic opportunities. During the first 30 years of operation, on-terminal activities would generate a total of 45,256 person-years of employment across Canada, with 25,512 person-years being direct on-terminal jobs during operation (**Table IR2020-7-2**). This total employment represents approximately \$5.7 billion in total labour income, of which approximately \$4.1 billion would be generated through direct on-terminal employment. The majority of labour income would be earned by longshore workers, with annual salaries (including benefits) expected to average approximately \$168,000. Approximately \$7.6 billion in GDP, and \$12 billion in economic output would be generated during the 30-year period. On-terminal operation is expected to generate \$1.9 billion in government tax revenues over the 30-year period of which \$1.2 billion would be generated through direct operational expenditures and revenues.

<sup>10</sup> Higher worker re-allocation rates defined as the sum of worker hiring rates and separation rates, with separation rates based on workers quitting, being laid off, or retiring.

<sup>11</sup> Direct effects measures the effect of direct project construction and operation expenditures on employment, labour income, goods and service revenues, GDP, and government revenues. Indirect (supplier industry) effect measures the impact on local, regional, provincial, and national industries that are upstream in the supply chain. The induced effect measures the impact that spending by workers (i.e., those employed by the project or by direct and indirect supplier industries) have on the economy.

<sup>12</sup> CIAR Document #1210 From the Vancouver Fraser Port Authority to the Review Panel re: Project Construction Update (See Reference Document #995) (NOTE: Updated June 13, 2018). <https://iaac-aeic.gc.ca/050/documents/p80054/122934E.pdf>

**Table IR2020-7-2: Total on-terminal economic impacts (30 years)**

	<b>Employment (person- years)</b>	<b>Labour income (million \$)</b>	<b>GDP (million \$)</b>	<b>Economic output (million \$)</b>	<b>Government revenues (million \$)</b>
Direct	25,512	\$4,117	\$5,157	\$7,238	\$1,212
Indirect	10,823	\$918	\$1,350	\$2,388	\$304
Induced	8,921	\$669	\$1,074	\$2,315	\$385.
<b><i>On-terminal operation total</i></b>	<b>45,256</b>	<b>\$5,704</b>	<b>\$7,581</b>	<b>\$11,941</b>	<b>1,901</b>

**Note:** The updated economic impact analysis was conducted for a 30-year project operation phase (CIAR Document #1210, Table 2-5 Construction Duration Comparison), anticipated to occur from 2031 to 2060.

Off-terminal activities during operation would generate broad positive economic benefits as well. These activities include services provided by ship handlers, harbour pilots and tug operators, trucking, railways, transload and distribution facility operations, container storage yards, and support services, including Canada Customs, customs brokers, freight forwarders, shipping agents, and Transport Canada inspections. The main locales of the majority of these services would be in municipalities within Metro Vancouver and along highway and rail routes in B.C. During the first 30 years of project operation, off-terminal activities would generate a total of 474,282 person-years of employment across Canada, with 262,697 person-years being direct off-terminal jobs (**Table IR2020-7-3**). This off-terminal employment represents approximately \$44.2 billion in total labour income, of which \$27.1 billion would be generated through direct off-terminal employment. A total of about \$81.9 billion in GDP and \$145.1 billion in economic output would be generated from off-terminal activities during operation. A total of approximately \$17.0 billion in tax revenues is expected to be directed to all levels of government associated with off-terminal activities during operation. Of this amount, close to \$11.3 billion would be generated through direct off-terminal activity spending and revenues.

**Table IR2020-7-3: Total off-terminal economic impacts (30 years)**

	<b>Employment (person- years)</b>	<b>Labour income (million \$)</b>	<b>GDP (million \$)</b>	<b>Economic output (million \$)</b>	<b>Government revenues (million \$)</b>
Direct	262,697	\$27,105	\$53,461	\$90,809	\$11,280
Indirect	132,189	\$11,593	\$18,419	\$34,906	\$3,231
Induced	79,396	\$5,462	\$10,001	\$19,399	\$2,528
<b><i>Off-terminal activities during operation total</i></b>	<b>474,282</b>	<b>\$44,161</b>	<b>\$81,881</b>	<b>\$145,113</b>	<b>\$17,041</b>

**Note:** The updated economic impact analysis was conducted for a 30-year project operation phase (CIAR Document #1210, Table 2-5 Construction Duration Comparison), anticipated to occur from 2031 to 2060.

## **Additional benefits to Indigenous groups and local communities**

The port authority is committed to continued engagement on project benefits and consultation with Indigenous groups on plans and opportunities from RBT2, and engagement with municipalities on regional economic benefits. The port authority has and will continue to consult and collaborate with Indigenous groups regarding economic development opportunities, including training, capacity building, employment, and procurement with a key focus on alignment between local Indigenous group's economic objectives and aspirations and compatibility with the project. The port authority's approach to working with Indigenous groups and to ensuring strong and mutually respectful relationships, which includes collaborative planning on key priority areas of the project, supports progress in moving along the continuum of economic reconciliation.

## Benefits for Indigenous groups

Since the Federal Review Panel Report<sup>13</sup> was completed, the port authority has continued comprehensive project consultation with Indigenous groups, which began in 2011. The port authority is committed to consultation with Indigenous groups to identify key areas of interest, economic aspirations, and opportunities of interest and to work together to support the realization of benefits for their communities.

The project has finalized 10 additional mutual benefit agreements with Indigenous groups since 2019 for a total of 19 mutual benefit agreements, as of January 2021. The agreements provide benefits to Indigenous groups, including employment and contracting, training, and funding to support each Nation's priorities such as environmental stewardship, cultural programs, educational scholarships, and capacity development.

The port authority has mutual benefit agreements with the following:

- Beecher Bay First Nation
- Cowichan Tribes
- Halalt First Nation
- Stz'uminus First Nation
- Ditidaht First Nation
- Esquimalt Nation
- Lyackson First Nation
- Malahat Nation
- Métis Nation British Columbia
- Maa-nulth Treaty Society, representing five nations: Huu-ay-aht First Nations, Ka:'yu:l't'h'/Che:l'tles7et'h First Nations, Toquaht Nation, Uchucklesaht Tribe, Ucluelet First Nation
- Pauquachin First Nation
- Penelakut Tribe
- Tseycum First Nation
- T'Sou-ke Nation
- Ts'uubaa-asatx First Nation (Lake Cowichan First Nation)

Ongoing, positive discussions with other Indigenous groups continue regarding project benefits and agreements. Capacity funding continues to be provided to 46 Indigenous groups to support their participation in project consultation activities and the environmental assessment process through regular meetings, site visits, and workshops and have been supported virtually during the pandemic with fieldwork videos, virtual engagement, and development of the online RBT2 consultation portal. Key areas of ongoing consultation and engagement include fish and fish habitat offsetting, environmental management planning, environmental monitoring, and development of the Indigenous training, employment, and procurement plan.

Opportunities for Indigenous group training, employment, and contracting have been and will continue to be provided throughout the project planning phase, and will expand leading up to and during project construction and operation. Current examples of training, employment, and contracting include environmental field work training

---

<sup>13</sup> CIAR Document #2062 Report of the Review Panel, Vancouver Fraser Port Authority Roberts Bank Terminal 2 Project. <https://iaac-aeic.gc.ca/050/documents/p80054/134506E.pdf>

and employment for several Tsawwassen First Nation members and contracting of vessels from a Tsawwassen First Nation-owned business for marine-based field work.

The port authority is developing an Indigenous training, employment, and procurement plan for construction and operation to support opportunities and benefits from the project to Indigenous groups. In the ongoing development of the plan, the port authority has and will continue to consult with Indigenous groups regarding economic development opportunities, including training and procurement. The plan will describe the overarching objectives, actions, roles and responsibilities, and monitoring and reporting frameworks to support Indigenous employment, procurement, training, and skills development during construction and operation. The port authority will provide funding for training to facilitate Indigenous employment on the project.

The port authority will develop a monitoring process, including a requirement that the contractor regularly report on Indigenous employment and training. The port authority will review the results on a regular basis to determine the degree of compliance with their contract agreement with regards to Indigenous participation and identify and address any obstacles to implementation. This is also linked to the Indigenous monitors plan that the port authority committed to, which provides additional training and employment opportunities. The port authority has and will continue to consult with Indigenous groups on the development of the Indigenous monitors plan.

Work with Indigenous groups to further develop the Indigenous Legacy Benefit Fund, which is a \$5.5 million fund, will continue, with engagement on the terms of reference and administration of the fund as part of the port authority's ongoing consultative process with Indigenous groups.

## Benefits for local communities

The port authority has committed to a community investment program to be implemented during project construction that will benefit the Delta community through support for initiatives and projects from Delta-based organizations. The program will include a community fund, community grants, and an education fund.

The community fund will provide funding to local non-profit organizations through an application process that will be administered by the port authority. Funding criteria will focus on the port authorities current community investment pillars of thriving communities, healthy environment and education, as well as community-based sports and arts. The community grants program will aim to fund larger-scale projects in the community. The education fund will provide post-secondary education grants to high school students in Delta.

## Appendices

Appendix IR2020-7-A Refinements to the Roberts Bank Terminal 2 Project Design

Appendix IR2020-7-B Updated Economic Impact Analysis Methods

Appendix IR2020-7-C Detailed Updated Economic Impact Results

## References

Buildforce Canada. 2020. Construction and Maintenance: Looking Beyond COVID-19. Available at [https://www.buildforce.ca/system/files/forecast\\_summary\\_reports/2020%20BC%20Constr%20Maint%20Looking%20Forward.pdf](https://www.buildforce.ca/system/files/forecast_summary_reports/2020%20BC%20Constr%20Maint%20Looking%20Forward.pdf). Accessed January 2021.

Conference Board of Canada. 2021. The Conference Board of Canada Forecasts Economic Growth in 2021 and 2020. Available at <https://www.conferenceboard.ca/press/newsrelease/2021/01/12/the-conference-board-of-canada-forecasts-economic-growth-in-2021-and-2022>. Accessed February 2021.

Innovation, Science and Economic Development Canada (ISED). 2020. Key Small Business Statistics — 2020. Available at [https://www.ic.gc.ca/eic/site/061.nsf/vwapj/KSBS\\_2020-v2-ENG.pdf/\\$FILE/KSBS\\_2020-v2-ENG.pdf](https://www.ic.gc.ca/eic/site/061.nsf/vwapj/KSBS_2020-v2-ENG.pdf/$FILE/KSBS_2020-v2-ENG.pdf)

- InterVISTAS Consulting Inc. 2017. Port of Vancouver – 2016 Economic Impact Study. Available at <https://www.portvancouver.com/wp-content/uploads/2016/05/2016-Port-of-Vancouver-Economic-Impact-Study.pdf>
- Government of British Columbia. 2019. British Columbia Labour Market Outlook: 2019 Edition. Available at [https://www.workbc.ca/getmedia/18214b5d-b338-4bbd-80bf-b04e48a11386/BC\\_Labour\\_Market\\_Outlook\\_2019.pdf.aspx](https://www.workbc.ca/getmedia/18214b5d-b338-4bbd-80bf-b04e48a11386/BC_Labour_Market_Outlook_2019.pdf.aspx)
- Ocean Shipping Consultants (OSC). 2016. Container Traffic Forecast Study – Port of Vancouver, 2016. Available at <https://www.robertsbankterminal2.com/wp-content/uploads/2016-Ocean-Shipping-Consultants-Container-Forecast.pdf>
- OSC. 2017. Potential Impact of a Failure to Develop RBT2 at VFPA. November 2017. Prepared for VFPA by Ocean Shipping Consultants. Available at [https://www.robertsbankterminal2.com/wp-content/uploads/OSC\\_Potential-Impact-of-a-Failure-to-Develop-RBT2\\_final-report.pdf](https://www.robertsbankterminal2.com/wp-content/uploads/OSC_Potential-Impact-of-a-Failure-to-Develop-RBT2_final-report.pdf)
- Statistics Canada. 2020. Labour Force Characteristics by Census Metropolitan Areas and Occupation. Available at <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410031301&pickMembers%5B0%5D=2.42&cubeTimeFrame.startMonth=08&cubeTimeFrame.startYear=2020&cubeTimeFrame.endMonth=12&cubeTimeFrame.endYear=2020&referencePeriods=20200801%2C20201201>
- Transport Canada. 2021. Transportation in Canada 2020 Statistical Addendum. Available at [https://tc.canada.ca/sites/default/files//2021-06/transportation\\_in\\_canada\\_statistical\\_addendum.pdf](https://tc.canada.ca/sites/default/files//2021-06/transportation_in_canada_statistical_addendum.pdf)
- The Loadstar. 2021. Global container port capacity will struggle to catch up with rising demand. Available at <https://theloadstar.com/global-container-port-capacity-will-struggle-to-catch-up-with-rising-demand/>
- Vancouver Fraser Port Authority (VFPA). 2020. Container Statistics Report, 2008 – 2020. Port of Vancouver Reporting, Statistics and Resources. Available at <https://www.portvancouver.com/wp-content/uploads/2021/02/Container-Statistics-Monthly-2008-to-2020.pdf>
- VFPA. 2021. Vancouver Fraser Port Authority view on container forecast volumes: 2020-2060 Container forecasts. January 19, 2021. Available at <https://www.robertsbankterminal2.com/wp-content/uploads/2021-01-19-PDF-Vancouver-Fraser-Port-Authority-view-on-container-forecast-volumes.pdf>