ROBERTS BANK TERMINAL 2 PROJECT

Pre-Design Consultation | Discussion Guide and Feedback Form

OCTOBER 7 – NOVEMBER 12, 2013

A part of the CONTAINER CAPACITY IMPROVEMENT PROGRAM
WHAT IS THE ROBERTS BANK TERMINAL 2 PROJECT?

The Roberts Bank Terminal 2 Project is a proposed new three-berth marine terminal at Roberts Bank in Delta, B.C., that could provide 2.4 million TEUs (twenty-foot equivalent unit containers) of additional container capacity.

The project is part of Port Metro Vancouver’s Container Capacity Improvement Program, a long-term strategy to deliver projects to meet anticipated growth in demand for container capacity to 2030.

HAVE YOUR SAY

From October 7 to November 12, 2013, Port Metro Vancouver is conducting Pre-Design Consultation for the proposed Roberts Bank Terminal 2 Project with communities, stakeholders and the public.

You can provide feedback and learn more by:

- Attending a small group meeting or open house
- Providing feedback online: www.portmetrovancouver.com/RBT2
- Writing a submission to: container.improvement@portmetrovancouver.com
- Joining the PortTalk conversation online: www.porttalk.ca/RBT2
- Calling 604.665.9337

Please provide your feedback by November 12, 2013.

PRE-DESIGN CONSULTATION – MEETING SCHEDULE

<table>
<thead>
<tr>
<th>AREA</th>
<th>EVENT</th>
<th>DATE</th>
<th>TIME</th>
<th>LOCATION</th>
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</thead>
<tbody>
<tr>
<td>Delta</td>
<td>Small Group Meeting</td>
<td>Tuesday, October 8</td>
<td>5:00pm–7:00pm</td>
<td>Coast Tsawwassen Inn 1665 56th Street, Delta</td>
</tr>
<tr>
<td>Langley</td>
<td>Small Group Meeting</td>
<td>Wednesday, October 9</td>
<td>5:00pm–7:00pm</td>
<td>Coast Hotel &amp; Convention Centre 20393 Fraser Highway, Langley</td>
</tr>
<tr>
<td>Delta</td>
<td>Small Group Meeting</td>
<td>Thursday, October 10</td>
<td>1:00pm–3:00pm</td>
<td>Delta Town &amp; Country Inn 6005 Highway 17, Delta</td>
</tr>
<tr>
<td>Surrey</td>
<td>Small Group Meeting</td>
<td>Tuesday, October 15</td>
<td>1:00pm–3:00pm</td>
<td>Surrey Arts Centre 13750 88th Avenue, Surrey</td>
</tr>
<tr>
<td>Richmond</td>
<td>Small Group Meeting</td>
<td>Tuesday, October 15</td>
<td>5:00pm–7:00pm</td>
<td>UBC Boathouse 7277 River Road, Richmond</td>
</tr>
<tr>
<td>Vancouver</td>
<td>Small Group Meeting</td>
<td>Wednesday, October 16</td>
<td>9:00am–11:00am</td>
<td>Morris J. Wosk Centre for Dialogue 580 West Hastings Street, Vancouver</td>
</tr>
<tr>
<td>Richmond</td>
<td>Open House</td>
<td>Wednesday, October 16</td>
<td>5:00pm–8:00pm</td>
<td>UBC Boathouse 7277 River Road, Richmond</td>
</tr>
<tr>
<td>Surrey</td>
<td>Open House</td>
<td>Thursday, October 17</td>
<td>5:00pm–8:00pm</td>
<td>Surrey Arts Centre 13750 88th Avenue, Surrey</td>
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<tr>
<td>Langley</td>
<td>Open House</td>
<td>Tuesday, October 22</td>
<td>5:00pm–8:00pm</td>
<td>Coast Hotel &amp; Convention Centre 20393 Fraser Highway, Langley</td>
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<tr>
<td>Delta</td>
<td>Open House</td>
<td>Thursday, October 24</td>
<td>5:00pm–8:00pm</td>
<td>Delta Town &amp; Country Inn 6005 Highway 17, Delta</td>
</tr>
<tr>
<td>Delta</td>
<td>Open House</td>
<td>Saturday, October 26</td>
<td>10:00am–1:00pm</td>
<td>Coast Tsawwassen Inn 1665 56th Street, Delta</td>
</tr>
</tbody>
</table>

To register for a small group meeting, please email container.improvement@portmetrovancouver.com or call 604.665.9337. Registration is not required for open house events.

Please visit www.portmetrovancouver.com/RBT2 for any potential changes to this schedule.
Public consultation for the proposed Roberts Bank Terminal 2 Project began in June 2011, and has included two previous rounds:

- **Pre-Consultation** (June 2011) asked the community, stakeholders and the public about how they wanted to participate in consultation and about what topics they wanted to discuss.

- **Project Definition Consultation** (October–November 2012) presented a conceptual design for the project and sought input from the community, stakeholders and the public about key impacts, benefits and features of the proposed Roberts Bank Terminal 2 Project.

**Pre-Design Consultation** (October 7–November 12, 2013) is the third round of Port Metro Vancouver-led public consultation regarding the proposed Roberts Bank Terminal 2 Project. Building on community and stakeholder input from previous rounds of consultation, Port Metro Vancouver is providing additional details about the conceptual design and is presenting the Roberts Bank Terminal 2 Project as it was submitted to provincial and federal regulators in September 2013 to initiate an environmental assessment process.

Pre-Design Consultation also looks many years out, at areas of potential impact and relevance to the community, and asks for your feedback on: habitat mitigation, truck traffic considerations and community legacy benefits.

A separate, but parallel, First Nations consultation process for the proposed Roberts Bank Terminal 2 Project is being undertaken by Port Metro Vancouver.

The intent of this discussion guide is to:

- Provide information about the importance and complexity of container trade through Port Metro Vancouver and the reasons why Roberts Bank is well suited to accommodate future growth.

- Describe the conceptual design for the proposed Roberts Bank Terminal 2 Project as it was defined for the environmental assessment process.

- Present you with enough information to provide feedback on some potential effects of the project and possible mitigation opportunities.
WHAT IS PORT METRO VANCOUVER?

Port Metro Vancouver is a port authority created pursuant to the Canada Marine Act. The purpose of the Canada Marine Act is to, among other things: promote the success of Canadian ports to contribute to the competitiveness, growth and prosperity of the Canadian economy; ensure that marine transportation services satisfy the needs of users at a reasonable cost; provide for a high level of safety and environmental protection; and manage marine infrastructure in a commercial manner, taking into account input from users and the community. Port authorities are accountable to the federal Minister of Transport.

Most lands managed by Port Metro Vancouver are federally owned. These include Burrard Inlet to Port Moody including Indian Arm, and the main arm of the Fraser River from Gravesend Reach (approximately 6 kilometres east of the George Massey Tunnel) to Pitt Lake and Langley, as well as the Roberts Bank terminals in Delta. These lands border 16 municipalities, one treaty First Nation and the traditional territories of numerous other First Nations.

As the most diversified port in North America, Port Metro Vancouver operates across five business sectors: automobiles, breakbulk (forest products, steel products and large machinery), bulk (grain, sulphur, potash and coal), container (household goods, food and construction materials) and the cruise sector. The Port facilitates trade with more than 160 world economies, and handles $172 billion of cargo each year, approximately $475 million each day. This figure represents about 19% of Canada’s total trade in goods by value.

SUSTAINABLE DEVELOPMENT

Port Metro Vancouver operates in a natural environment that is rich in biodiversity and home to many species of wildlife, birds, marine mammals and fish. Given the nature of its operations, the Port is mindful of impacts on the quality of air, land, water, and fish and wildlife habitat in its jurisdiction. The Port also recognizes the role it plays in collaborating on a regional, national and global scale to help promote more sustainable operations for port industries and services.

Some of Port Metro Vancouver’s recent sustainability highlights include:

• The Marine Mammal Observation Program (which began in 2008) continues to ensure that dredging activities in the Fraser River do not impact at-risk southern resident killer whales.

• The EcoAction Program was improved, exceeding the newly designated North American Emission Control Area requirements to reduce vessel emissions.

• Participation in, and provision of funding for, Metro Vancouver’s air quality station in Delta, part of the Lower Fraser Valley Air Quality Monitoring Network. Data from 2012 showed that air contaminant levels were significantly lower than regional air quality objectives.

## WHY IS TRADE IMPORTANT TO BRITISH COLUMBIANS?

Canada’s Asia-Pacific Gateway is an integrated network of airports, seaports, railways, roads and border crossings connecting Canada with major trading partners. The Gateway provides a means for Canadian farmers, mill workers, fishers, manufacturers and miners to export their goods to other markets, and a means for Canadians to access global goods on our local store shelves.

Port Metro Vancouver is a critical hub for Canadian trade, providing a reliable link to global trade partners. Vancouver’s strategic location and infrastructure enables Port Metro Vancouver to play a vital role in Canada’s trade, particularly with Asian economies.

Trade is one of the primary drivers of economic growth in the nation. The economic benefits of trade are created not just in the Asia-Pacific Gateway itself, but also across the region, the province and the country. One of the primary benefits of international trade is in the jobs that it creates for Canadians.

The location and nature of these jobs varies greatly, from logistics to manufacturing to agricultural, and all rely on the movement of goods in and out of the Asia-Pacific Gateway. Other benefits to Canadians include increased revenue to government, community amenities, and higher purchasing power for consumers and businesses.

Port Metro Vancouver has been working with all levels of government in planning and developing initiatives that will accommodate future growth, improve cargo handling and increase the Asia-Pacific Gateway’s competitive advantage. Port Metro Vancouver is also working to ensure that the benefits of trade are realized locally and impacts are addressed.

For example, Port Metro Vancouver, together with various partners, is improving the capacity and efficiency of port operations on the North Shore of Burrard Inlet. Investments will increase rail corridor capacity by up to 80%, help reduce noise from train whistling in local communities, and improve safety and reliability along roadways that port traffic shares with local residents and businesses. In addition, as part of the Low Level Road Project, Port Metro Vancouver agreed to complete the Spirit Trail at the east and west ends of the project, tying it into the existing trail system.

## CONTAINER TRADE IN THE ASIA-PACIFIC GATEWAY

Port Metro Vancouver handles a wide variety of cargo across four business sectors through the Asia-Pacific Gateway, including automobiles, breakbulk, bulk and containers. Containers are one of the most significant business sectors by tonnage, second only to bulk cargo.

Container trade benefits both Canadian consumers and producers, as evidenced by the almost equal volume of import and export containers that travel through Port Metro Vancouver.

- Import containers often contain electronics, food items, household goods, clothing, shoes, health and medical products, sporting equipment, construction materials, and manufacturing inputs such as car parts.
- Export containers often contain lumber, pulp, plywood, specialty grain and local agricultural products including blueberries, tomatoes and mushrooms.

<table>
<thead>
<tr>
<th>Import Containers</th>
<th>Export Containers</th>
</tr>
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<tbody>
<tr>
<td>Electronics, food items, household goods, clothing, shoes, health and medical products, sporting equipment, construction materials, and manufacturing inputs such as car parts.</td>
<td>Lumber, pulp, plywood, specialty grain and local agricultural products including blueberries, tomatoes and mushrooms.</td>
</tr>
</tbody>
</table>

**Container Statistics (2012)**

- **1,451,309 TEUs** (Television Equivalent Units) of imports.
- **1,261,852 TEUs** of exports.
WHO IS PART OF THE CONTAINER SUPPLY CHAIN?

The container supply chain is made up of a highly integrated web of suppliers, shippers, intermediaries, and service providers. Each supply chain participant makes independent decisions that reflect the dynamic and constantly shifting business environment in which they operate.

• **Cargo Owners** Cargo owners are the importers (e.g., retailers and wholesalers) and exporters (e.g., pulp and lumber producers, crop and agri-food producers), whose primary concerns are transport time, cost, service levels and reliability.

• **Shipping Lines** Container ships have enabled the efficient cross-ocean movement of an increasing volume of goods. Shipping lines operate the physical container ships, and provide transportation from one marine terminal to another, usually on a fixed weekly schedule. Shipping lines own their own shipping containers and form alliances with other shipping lines to transport other companies’ containers on their vessels. For this reason, you may see several different brands of containers on a particular brand of ship.

• **Marine Terminals** Terminal operators load and unload container ships that call on that terminal, provide temporary storage for import and export containers, and act as an interface between the trucks and trains that transport containers to and from the marine terminal.

• **Railways** Rail companies provide the most efficient land-based mode of container transportation over long distances, such as Vancouver to Montreal. Most container trains are between 8,000 and 12,000 feet in length, and can accommodate double-stacked containers up to 53 feet in length.

• **Trucking Companies** Truck operators provide the most efficient form of container transportation over short distances and are used to move containers between various points within the Lower Mainland, including to off-dock facilities. Currently, approximately 2,000 trucks are approved through Port Metro Vancouver’s Truck Licensing System to service the marine terminals in Vancouver. More information about the Truck Licensing System can be found on page 25.

• **Off-Dock Facilities** Off-dock facilities in Metro Vancouver offer a range of value-added services that enhance the efficiency of the supply chain. These facilities will usually offer some combination of transloading (unpacking marine containers and repacking goods into other marine containers or larger domestic containers), stuffing (loading empty containers for export), warehousing, and empty container storage.
WHY DO WE USE CONTAINERS?

Historically, goods being transported by ship were packed individually in non-standardized formats such as pallets, boxes and sacks. In the 1950s, shippers began to use uniform-sized boxes to store goods during transport, which greatly simplified the loading and unloading process. By 1964, universal container dimensions had been adopted, allowing greatly improved time and cost efficiencies through the use of standardized equipment.

Modern shipping containers are constructed of steel, which allows for repeated use and the safe transport of a diverse range of goods. Their standardized design means that they can be easily and quickly transferred between ship, train or truck.

WHAT IS A CONTAINER TRUCK?

A container truck in the Lower Mainland can be easily identified by the marine container it is carrying or, if empty, by the standardized trailer chassis that is used to hold varying lengths of containers. Of the 24,000 articulated trucks (trucks with a pivot joint, allowing it to turn more sharply while towing a trailer) registered in the Lower Mainland, there are currently 2,000 trucks licensed to access the Port’s container terminals through Port Metro Vancouver’s Truck Licensing System (see page 25).

The remaining 22,000 articulated trucks transport a multitude of different cargoes, including food stuffs, construction materials, cars and retail goods, and are not subject to the requirements of Port Metro Vancouver’s Truck Licensing System.

WHAT IS A TEU?

Although the width and height of most containers are uniform (8 feet x 8 feet), they come in many different lengths, with 20-foot and 40-foot containers being the most common. To account for this variation when looking at container volumes or determining the capacity of a container ship or terminal, twenty-foot equivalent container units or TEUs are used.

- A 20-foot container is referred to as 1 TEU
- A 40-foot container is referred to as 2 TEUs

HOW LONG DOES A TEU SIT ON THE TERMINAL?

The time between when a container lands on the terminal and when it is loaded onto a railcar or truck is called dwell time. The average dwell time for import containers coming through Port Metro Vancouver terminals is less than three days.
WHY DO WE NEED TRUCKS? CAN’T ALL CONTAINERS LEAVE THE TERMINAL ON TRAINS?

Port Metro Vancouver container terminals serve as a Canadian gateway for imported goods that are destined for markets across the country. The vast majority of the goods arriving at Vancouver terminals are destined for Eastern Canada, with roughly only 10% remaining in B.C., and a similar portion bound for the United States.

While approximately two-thirds of import containers are loaded directly onto trains and leave the container terminal within three days, the remaining one-third leave the terminal by truck, and are transported to a transload facility or warehouse in the Lower Mainland where goods are unloaded, sorted and reloaded for further transportation. Since the distance between the marine terminals and the transload facilities is usually less than 50 kilometres, trucks are the most efficient form of transportation to and from these facilities.

IMPORT TRANSLOADING

There are three primary reasons that import containers are transloaded at facilities in the Metro Vancouver region:

1. The goods are destined for consumption in the Metro Vancouver area. As Vancouver is the largest market in Western Canada, a portion of cargo from certain containers needs to be unloaded and warehoused for distribution in the Lower Mainland and surrounding areas.

2. The goods from different containers are combined and sent to multiple destinations. In many cases, containers from a variety of origins in Asia will need to be mixed and matched in Vancouver and sent to multiple destinations both locally and across the country.

Figure 1 illustrates how this process could unfold for three containers full of three different types of goods that are being sent to three different destinations.

3. The goods must be loaded into larger containers for cost-efficient, long distance rail transportation. While 40-foot marine containers are the most common type of containers used for marine transport, North American trains are equipped to carry 53-foot containers. By unloading the goods from 40-foot marine containers into 53-foot domestic containers, cargo owners can achieve significantly lower rail transportation costs by transporting the same number of goods in fewer containers.

Figure 2 illustrates a common transload scenario where the contents of three 40-foot marine containers are reloaded into two 53-foot domestic containers for transport by rail.

In practice, transloading of most import containers will often involve local delivery of a portion of the container’s contents, as well as reloading it in such a way that maximizes both transportation and cost efficiencies. Approximately 80% of containers that leave the terminal by truck will end up being transported out of Metro Vancouver on trains, typically within three days of arriving at the terminal.

With the majority of transload facilities co-located with local distribution warehouses in the Vancouver area, and with 53-foot domestic containers from across the country emptied in the same region, the Lower Mainland is the logical hub for import transloading activities in the Asia-Pacific Gateway.

FIGURE 1

![Figure 1](image1.png)

Local Delivery

5%

FIGURE 2

![Figure 2](image2.png)

Local Delivery

5%
**EXPORT TRANSLOADING**

The concept of transloading is not just limited to import cargo. Most of the goods that are exported from Vancouver in containers are transported here by train in railcars that are specifically designed to optimally hold that particular commodity. Export commodities tend to be very heavy, and container trains cannot be efficiently loaded with full containers of heavy export commodities. Once the export railcars arrive in the Lower Mainland, they are unloaded at specialized export stuffing facilities and put into marine containers. These containers are then trucked to the marine terminal for eventual loading onto a container ship destined for markets in Asia. Figure 3 provides an illustration of the types of commodities that undergo this process.

**EMPTY CONTAINERS**

The process of transloading creates a surplus of containers in some locations and a requirement for additional containers in others. The only solution to this imbalance is to truck them to where they are required.

Empty containers accumulate in the following locations:

- **Container terminals.** More than half of the containers on trains returning to the marine terminals from Eastern Canada are empty. These empty containers are then unloaded at the terminal, where they are stacked until they are needed for loading exports.

- **Transload facilities.** Some transload facilities, particularly those primarily handling imports, will generate an excess number of empty containers from the process of unloading goods from marine containers and reloading them into larger domestic containers.

These empty containers will then be trucked to one of the following facilities:

- **Export stuffing facilities.** Since the majority of export commodities arrive in the Lower Mainland on specialized railcars, a consistent supply of marine containers is required at export stuffing facilities, where exports are transferred into marine containers in preparation for ocean shipping.

- **Empty off-dock depots.** Empty containers are also stored at empty depots in the Lower Mainland.

The convergence of export commodities and empty containers in the Lower Mainland make the region the logical hub for export stuffing facilities.
Why Roberts Bank?

Roberts Bank port facilities are well positioned to accommodate future growth in trade activity. The area has several competitive advantages, including its proximity to major transportation corridors for both truck and rail movements, and one of the most efficient ship-to-rail designs of any port facility in North America.

Roberts Bank also offers direct access to numerous off-dock facilities that serve the container supply chain (see map on page 11). When the availability of vacant industrial land suitable for off-dock facilities is considered, the majority of growth in the off-dock business is anticipated to occur south of the Fraser River, which would mean shorter truck trips and less use of congestion-prone Fraser River crossings for container trucks accessing port facilities at Roberts Bank.

Trade through Roberts Bank will also benefit from two initiatives – the South Fraser Perimeter Road and the Roberts Bank Rail Corridor Program – that are currently underway to improve transportation for communities, commuters and commercial traffic. Both of these measures have been designed to not only mitigate existing traffic volumes, but also to handle and mitigate anticipated growth in rail and truck volumes.

South Fraser Perimeter Road $1.2 Billion Investment to Reduce Congestion

The Province of B.C.’s South Fraser Perimeter Road (SFPR) is a 40-kilometre-long four-lane route along the south side of the Fraser River from Deltaport Way in southwest Delta to 176th Street (Highway 15) in Surrey, with connections to Highways 1, 17A, 91, 99 and the Golden Ears Bridge. SFPR will offer an efficient trade corridor, connecting off-dock and port facilities, and will divert truck and other traffic off municipal roads in Delta and Surrey.

The SFPR will improve quality of life for residents and local businesses along the route, while also benefiting commuters, the trucking industry and tourists by connecting primary gateway facilities as well as facilitating access to borders, the Tsawwassen ferry terminal and the B.C. Interior.

When SFPR is completed at the end of 2013, container trucks departing from Deltaport will reroute from the old Highway 17 (now Highway 17A) and from Highway 10 west of Highway 91 onto the new highway.

Roberts Bank Rail Corridor Program $300 Million to Separate Road and Rail Traffic and to Improve Safety

The Roberts Bank Rail Corridor Program includes one road network improvement project and eight overpasses in Delta, Surrey, the City of Langley and the Township of Langley. These projects are being funded by an unprecedented collaboration of 12 funding partners, including local, regional, provincial and federal governments, as well as the Port and private industry. Port Metro Vancouver and its tenants and stakeholders are contributing $50 million.

The overpasses will separate road and rail traffic, improving safety, easing community connections and minimizing train whistling. Better access for emergency service vehicles will be provided as well as a reduction in vehicle idling at level crossings along the corridor. The overpasses will also improve the efficiency of rail operations and, in turn, the overall efficiency of the Port. These projects will be complemented by a rail Crossing Information System, a system of road signs that would notify drivers travelling on nearby routes of an incoming train, allowing them to reroute to the new overpasses.

Two of the nine projects are complete. The remaining seven projects are underway and will be complete in 2014. In addition to the Roberts Bank Rail Corridor projects, an overpass at 28th Avenue in Delta provides an east-west route across Highway 17 for local agricultural traffic and emergency vehicles, replacing an at-grade crossing at 57b Street in Delta.

A New Bridge to Replace the George Massey Tunnel

On September 20, 2013, Premier Christy Clark announced that the Government of British Columbia will move ahead to replace the George Massey Tunnel, with construction of a new bridge on the existing Highway 99 corridor to begin in 2017.

The George Massey Tunnel represents a primary north/south corridor linking the United States and Metro Vancouver, and the renewal of the crossing will support benefits to communities in the Lower Mainland by easing traffic congestion.

Port Metro Vancouver looks forward to working collaboratively with partners as this project progresses. Additional information about the George Massey Tunnel Replacement Project can be found at: www.engage.gov.bc.ca/masseytunnel.
MAP OF PORT-RELATED INFRASTRUCTURE IN THE LOWER MAINLAND

- Port Metro Vancouver Container Terminal
- Intermodal Yard
- Off-Dock Facilities
- Major Road Network
- Major Rail Network
- South Fraser Perimeter Road (SFPR)
- Roberts Bank Rail Corridor (RBRC)

- 41b St. Grade Separation
- 80th St. Rail Overpass
- Panorama Ridge Whistle Cessation
- 152nd St. Rail Overpass
- 192nd St. Grade Separation
- 196th St. Grade Separation
- 54th Ave. Grade Separation
- Mufford Cres./64th Ave. Realignment & Grade Separation
- 232nd St. Grade Separation
In 2012, almost 3.3 million TEUs moved through terminals on the Canadian west coast, of which 2.7 million TEUs moved through terminals within Port Metro Vancouver’s jurisdiction. Annual third-party forecasts (Ocean Shipping Consultants, July 2013) show that container traffic through Canada’s west coast is expected to grow to a high of 9.75 million TEUs by 2030, as shown in the graph below.

The stepped lines show projects, both underway and planned, that will accommodate these increases in demand. The dashed line demonstrating 85% of planned capacity indicates the operating capacity of the terminal. Container terminals start to lose efficiency when they attempt to operate at higher than 85% of capacity. Operating at slightly below capacity allows terminals to adapt to seasonal fluctuations in container volumes or disruptions in the supply chain that may impact the volume of imports and exports through the terminal.

Independent container traffic projections between 2011 and 2013 (WorleyParsons and Seaport Consultants Canada Inc., 2011; Ocean Shipping Consultants, May 2012; Ocean Shipping Consultants, July 2013) have all demonstrated that existing container capacity on the west coast of Canada, and in the Lower Mainland, will soon become constrained, requiring additional capacity as early as 2015.

Current TEU capacity at Roberts Bank is 1.8 million TEUs. Upon completion of the Deltaport Terminal, Road and Rail Improvement Project (DTRRIP) in 2016/17, this capacity will further increase to 2.4 million TEUs. Even with these improvements at Port Metro Vancouver’s terminals, as well as planned investments at the Fairview Terminal in Prince Rupert, current demand forecasts indicate that the Canadian west coast will still require additional container capacity by the early 2020s.

Port Metro Vancouver has committed to completing annual third-party container traffic forecasts as the proposed Roberts Bank Terminal 2 Project proceeds through design and development stages.

Based on the current project schedule, and subject to environmental certification, the Roberts Bank Terminal 2 Project could be operational by the early 2020s.
EXISTING CONTAINERIZED TRADE ON THE CANADIAN WEST COAST

PORT METRO VANCOUVER

Significant improvements were achieved in 2005 at Vanterm and Centerm, Port Metro Vancouver’s container terminals in Burrard Inlet, resulting in a combined increase of 600,000 TEUs of container capacity. At Roberts Bank, the Deltaport Third Berth Project, which opened in 2010, resulted in an additional 600,000 TEUs; the Deltaport Terminal, Road and Rail Improvement Project, scheduled for completion in 2016/17, will provide a further 600,000 TEUs of container capacity at Roberts Bank.

PORT OF PRINCE RUPERT

Additional container capacity on the Canadian west coast was also provided in 2007 when the Port of Prince Rupert converted its Fairview Terminal from a breakbulk terminal to a container terminal with a current capacity of 750,000 TEUs. Future expansions of the Fairview Terminal are expected to nearly triple the capacity of the terminal to a total of 2 million TEUs by about 2020.

However, based on forecasts, these recent improvements at Port Metro Vancouver terminals and proposed expansions at the Port of Prince Rupert will still not be enough to meet the additional container capacity that will be required on the west coast to 2030.
ARE THERE OTHER OPTIONS FOR CREATING CONTAINER CAPACITY?

Container terminals require sufficient water depth for deep-sea vessel access and the necessary road and rail connections to efficiently transport containers to and from the market.

Port Metro Vancouver’s 2010 Consolidated Land Use Plan requires that the use of existing terminals is maximized before any new facilities are built. In planning for future capacity within the guidelines of the Land Use Plan, Port Metro Vancouver’s Container Capacity Improvement Program considered the following opportunities for creating container capacity:

- **INCREASE THE CAPACITY AND EFFICIENCY OF EXISTING CONTAINER TERMINALS**
  
  The Inner Harbour terminals (Vanterm and Centerm) were expanded and upgraded in 2005 to increase container capacity. Significant expansion at these terminals is not currently possible in the near term, given the complexities related to the rail requirements that would be needed, and given that Port Metro Vancouver has existing lease agreements in place and does not own all of the adjacent land needed to further expand the terminals. The terminals continue to work on optimizing their current footprint by making site improvements.

  Deltaport was last expanded in 2010, with the Deltaport Third Berth Project. The Deltaport Terminal, Road and Rail Improvement Project, to be completed in 2016/17, will increase throughput at the Deltaport Terminal by undertaking improvements at the terminal, increasing the capacity of the intermodal yard, and improving the efficiency of the road and rail infrastructure leading to the terminal. The causeway overpass, the first component of the project to be built, is expected to be complete in late 2014, and additional container capacity at the Deltaport terminal is anticipated to come online in 2015.

  Fraser Surrey Docks has existing container facilities and land available for expansion; however, larger vessels, such as those currently visiting Deltaport, cannot be accommodated in the Fraser River due to their length, which prevents the turning required to proceed back downriver. Additionally, the water depth restrictions of the Fraser River – as a result of the George Massey Tunnel and the existing depth of the river on either side of the tunnel – limit access by deep-sea container ships, thus limiting the ability of the terminal to achieve additional container throughput.

- **CONVERT EXISTING UNDERUTILIZED TERMINALS TO HANDLE CONTAINERS**

  Lynnterm, an existing breakbulk container terminal in North Vancouver, was considered for conversion to container handling; however, the terminal’s adjacent road network has insufficient capacity to accommodate the number of container trucks required and therefore limits its ability as a container terminal.

- **BUILD A NEW TERMINAL**

  Given the constraints of the previous options, Port Metro Vancouver is exploring the potential for a new terminal. The proposed Roberts Bank Terminal 2 Project is the next viable option to provide the necessary container capacity on the west coast of Canada.

PORT METRO VANCOUVER’S LAND USE PLAN UPDATE

In 2012, Port Metro Vancouver began a two-year process of updating its Land Use Plan. Input to date includes 11 stakeholder workshops, six open houses and two online surveys, as well as two First Nations workshops and numerous stakeholder meetings. Key consultation themes included the need to intensify operations within Port Metro Vancouver’s existing footprint before expanding, being mindful of the impacts on communities and on existing municipal plans, and increasing transparency and collaboration.

In 2013, Port Metro Vancouver conducted stakeholder and First Nations consultation regarding draft designations within the Land Use Plan. In early 2014, the draft Plan will be released widely for public consultation. It is expected that the final Land Use Plan will be completed by the middle of 2014.

Port Metro Vancouver’s Land Use Plan indicates that Roberts Bank will be a primary focus for the Port’s Container Growth Strategy, including the development of a new container terminal. It is not anticipated that the intended use for this area will change as part of the new Land Use Plan.

For more information on Port Metro Vancouver’s Land Use Plan, please visit: www.portmetrovancouver.com/landuseplan.
The Proposed Roberts Bank Terminal 2 Project

An artist’s rendering of the proposed Roberts Bank Terminal 2 Project
The Roberts Bank Terminal 2 Project is a proposed new three-berth container terminal at Roberts Bank in Delta, B.C. that could provide additional capacity of 2.4 million TEUs per year to meet forecast demand until 2030.

Subject to environmental approvals, the project could be fully operational by the early 2020s.

The project is made up of two major components, which are described in further detail over the next few pages:

1. Marine Terminal
2. Road and Rail Infrastructure on the Roberts Bank Causeway

If constructed, the Roberts Bank Terminal 2 Project would drive economic growth and increase employment, benefiting the region, the province and the country. The economic benefits to Canada from the proposed project would include direct, indirect and induced employment growth, and gains in economic output, gross domestic product (GDP) and government revenues during construction and operations.

1 Indirect employment refers to employment in industries supported by port businesses. Induced employment refers to jobs generated by expenditures by those employed directly or indirectly.
ECONOMIC BENEFITS OF THE PROJECT

During the construction period, anticipated to be approximately six years, the project would generate the following benefits:

- Direct Employment: Estimated 2,500 jobs for six years, worth approximately $690 million in wages
- Indirect and Induced Employment: Estimated 2,000 jobs for six years, worth approximately $450 million in wages
- Total Direct, Indirect and Induced Employment: Estimated 4,500 jobs for six years, worth approximately $1.14 billion in wages
- Gross Domestic Product: Approximately $1.63 billion to the Canadian economy
- Total Economic Output: Approximately $4.1 billion

Once operating at capacity, the project would provide the following benefits:

- Direct Employment: Estimated 9,200 jobs, worth approximately $440 million in wages annually
- Indirect and Induced Employment: Estimated 9,000 jobs, worth approximately $180 million in wages annually
- Total Direct, Indirect and Induced Employment: Estimated 18,200 jobs, worth approximately $620 million in wages annually
- Gross Domestic Product: Approximately $1.66 billion to the Canadian economy annually
- Total Economic Output: Approximately $3.1 billion annually

Economic information will continue to be updated as the project proceeds through design and development.
1. MARINE TERMINAL

TERMINAL SIZE AND ORIENTATION

The proposed marine terminal would be located northwest of the existing Roberts Bank terminal facilities, approximately 8.5 kilometres offshore from the mainland. The terminal would be oriented parallel to the shoreline (perpendicular to the causeway) and would extend approximately 600 metres further offshore than the edge of the existing terminal at Roberts Bank. The new terminal would be rectangular in shape, with a berth length of 1,300 metres to accommodate the mooring of three ships, an average overall terminal length of 1,550 metres and a terminal width of 700 metres to support terminal components.

The terminal would be located as far offshore as practical to reduce the impact on sensitive marine habitat and to limit the amount of dredging required while still meeting seismic performance criteria.

LAND CREATION (DREDGING AND FILLING)

The land for the new terminal would be created primarily using a combination of fill material from dredging the future berth area and from the annual Fraser River maintenance dredging program. Site dredging at Roberts Bank would be limited to creating necessary depths for container ships to safely navigate and dock at the terminal, and for seismic ground improvements beneath the wharf structure.

The total usable space required on the terminal would be approximately 108 hectares. To accommodate this space requirement, the total terminal footprint, including submerged slope protection, would be 117 hectares. This would require approximately 17.9 million cubic metres of fill to create.

Dredging and filling work would require the installation of containment dikes to isolate the works from the surrounding marine environment. Rock dikes would be built initially to form the perimeter of the terminal footprint and would contain the general fill material. A layer of compacted sand would be placed on top of the site-dredged material and would be overlaid with pavement to provide the finished terminal surface.

The height of the terminal would be designed to accommodate both future rise in sea levels and long-term ground settlements while reducing the chances of waves overtopping the terminal during storm events.

CROSS-SECTION OF A CONTAINMENT DIKE

* Cross-section shown for east side is typical for the other sides with minor modifications.
1. MARINE TERMINAL continued

THREE-BERTH WHARF STRUCTURE

The purpose of the wharf structure is to allow berthing and mooring of vessels, to support ship-to-shore gantry cranes and to provide shore power for vessels. The gantry cranes are used to move containers between the terminal and the ships, and shore power allows ships to turn off their diesel engines and electrical generators and reduce air emissions by plugging into an electrical power source at the berth.

The 1,300-metre-long berth structure would be designed to safely accommodate the simultaneous mooring of three vessels, two of which would meet 2014 Post-Panamax criteria and have lengths up to 370 metres and a capacity of 12,000 TEUs, and one that would accommodate an ultra-large container ship, up to 400 metres long with a capacity of 18,000 TEUs. For comparison purposes, Deltaport Third Berth (430 metres long) was designed to accommodate vessels with a maximum capacity of 12,000 TEUs.

To provide adequate depths for safe navigation for container ships accessing the three-berth wharf, the berth pocket (an area of approximately 17.4 hectares) will be dredged to a level roughly 20 metres below the existing seabed, densified and then backfilled to a level 11.6 metres below the current seabed.

As currently conceived, the wharf would be constructed using concrete caissons. Caissons are prefabricated concrete boxes made up of hollow cells that would be used to form the berth face where container ships would dock. Each concrete caisson would be approximately 40 metres long, 20 metres wide and 30 metres high. The caissons likely would be fabricated off-site, transported to the site by water, and floated into position. They would then be sunk into position and the hollow internal cells of the caissons would be partially filled with rock to provide enough ballast weight to resist movement and impact when ships dock.
1. MARINE TERMINAL continued

TERMINAL LAYOUT

The rectangular terminal shape shown in this discussion guide was selected for its flexibility to accommodate various terminal operating systems. To establish the preliminary size and design of the terminal, various levels of terminal automation were considered. An assumption of semi-automation (combination of manual and automated equipment within the terminal) was used to establish the preliminary layout included in this discussion guide. The final terminal operating systems would be determined by the future terminal operator’s technical and operational requirements.

TERMINAL COMPONENTS AND EQUIPMENT

Terminal components for the Roberts Bank Terminal 2 Project would include the following:

- A container storage yard built on the terminal with electric, potentially automated stacking cranes (or similar equipment) for transferring and storing containers received by ship, rail or truck. In addition, mobile transfer equipment would be used to move containers between the berth face, the container storage yard and the rail intermodal yard. Refrigerated container plug-ins would also be located within the container yard.

- A rail intermodal yard built on the terminal. Electric rail-mounted gantry cranes (or similar equipment) would be used to transfer containers to and from railcars. Mobile transfer equipment would be used to move containers between the container yard and the intermodal yard. Rail tracks would be built to accommodate several strings of railcars.

- Ancillary systems and support facilities on the terminal would include:
  - A truck gate facility to control truck entry and exit for the terminal.
  - Systems to maintain site security, including perimeter fencing, closed circuit television, and vehicle and cargo inspection systems.
  - Civil utility systems for water, storm and sanitary discharge.

- Support facilities including administrative buildings and employee parking areas, and equipment maintenance facilities.

- Installation of underground electrical distribution and above-ground substations to provide electricity to the new terminal.

- Improvements to the Roberts Bank tug basin required to provide the additional tug capacity needed to berth and de-berth container ships using the new terminal. The existing tug basin at Deltaport has a footprint of 1.4 hectares and would be expanded by 2.5 hectares to a total of 4 hectares to meet functional requirements.
2. ROAD AND RAIL INFRASTRUCTURE ON THE ROBERTS BANK CAUSEWAY

CAUSEWAY WIDENING

To accommodate the road and rail infrastructure needed for the proposed Roberts Bank Terminal 2 Project, the causeway leading to the existing facilities at Roberts Bank would need to be widened to the northwest, requiring approximately 43.1 hectares of land development. To reduce potential impacts on sensitive marine habitat on the northwest side, the causeway would be widened to different widths along its length.

RAIL IMPROVEMENTS ON THE ROBERTS BANK CAUSEWAY

Rail improvements along the causeway would include the following:

- Addition of two lead rail tracks to connect to the intermodal yard on the terminal.
- Addition of seven support and switching rail tracks in a new on-causeway rail yard.
- Addition of a new set-out yard for locomotives and for bad-order cars (railcars that require more than routine service, due to a mechanical or operational problem).
- Localized realignment of existing coal tracks adjacent to Roberts Bank Way (north) to accommodate the proposed Roberts Bank Terminal 2 overpass and road access.
- Tie-in of two lead tracks to the existing rail network.

ROAD IMPROVEMENTS ON THE CAUSEWAY

The existing road on the causeway, Roberts Bank Way North, would continue to allow traffic to enter and exit both Westshore Terminals and Deltaport, and would also connect via a new overpass to a new three-lane access road to the Roberts Bank Terminal 2. Road improvements would include:

- Overpass Structure: A new overpass would separate Roberts Bank Terminal 2 road traffic and Westshore coal rail traffic on the causeway. The overpass would be built on the north side of the existing causeway near its western limit, and would extend onto the widened causeway.
- Access Road: The access road to Roberts Bank Terminal 2, north of the new overpass structure, would have two westbound lanes and one eastbound lane connecting the new terminal to the existing Roberts Bank Way North.

- Vehicle Access and Control System: A vehicle access and control system would be used to regulate access to Roberts Bank Terminal 2 to prevent unregistered container trucks from entering the terminal.

- Emergency Access Road: To allow for continued access to the Roberts Bank terminals in the unlikely event where the main causeway road is blocked, an emergency access road has been incorporated on the full length of the north side of the widened causeway. The emergency access road would allow for two-way traffic on a gravel surface.

COMPONENTS OF THE PROPOSED ROBERTS BANK TERMINAL 2 PROJECT
PORT METRO VANCOUVER’S HABITAT BANKING PROGRAM

Port Metro Vancouver’s Habitat Banking Program focuses on creating and improving fish and wildlife habitat in advance of potential port development projects.

Replacing habitat that may be affected by potential development projects is a proactive measure intended to provide balance between the overall health of the environment and ecosystem, and current or future development. Creating habitat ahead of potential development projects, such as the proposed Roberts Bank Terminal 2 Project, allows for the success of that habitat site to be verified by regulators prior to it being credited as an offset for habitat loss.

The Department of Fisheries and Oceans (DFO) is the primary regulator overseeing Port Metro Vancouver’s habitat banking through the Fisheries Act and through the DFO’s Policy for the Management of Fish Habitat. Offsetting impacts on fish habitat from development projects is a legal requirement under the Fisheries Act.

SALT MARSH RESTORATION AT ROBERTS BANK AND BOUNDARY BAY

Salt marsh restoration has begun at the Roberts Bank and Boundary Bay sites. The restoration includes the careful removal of logs and other woody debris of predominantly human origin, where accumulations have negatively impacted marsh vegetation and the compacting of marsh soils. The works also include the salvage of logs for cultural purposes, shoreline garbage cleanup and removal of contaminated materials such as creosoted logs. Project design and plans have been developed by professional biologists and have been reviewed by the DFO, the Ministry of Forests, Lands and Natural Resource Operations, the Nature Trust of BC, the Corporation of Delta staff, and Metro Vancouver.

ABOUT SALT MARSHES

Intertidal marshes, including salt marshes, are one of the most productive habitats on earth. They play a wide range of important ecological roles within estuarine and marine foreshore areas, including supporting critical fish and wildlife habitat functions and coastal physical processes. Intertidal marshes are also valuable for nutrient recycling, as well as in assisting with the absorption of carbon dioxide from the atmosphere, which helps reduce the greenhouse gases responsible for climate change.

Heavy accumulations of woody debris can impact intertidal marshes, smothering marsh vegetation and compacting marsh soils. The woody debris that has accumulated within the proposed salt marsh restoration sites consists mainly of sawcut logs, which primarily appear to be from water-based log storage and transport. Removal of dense accumulations of logs encourages the rapid recovery of salt marshes through the natural regrowth of native vegetation.

To learn more, please visit www.porttalk.ca/habitatbanking.
The proposed Roberts Bank Terminal 2 Project was designed to avoid sensitive habitat wherever possible. The current conceptual design requires approximately 180 hectares of development in the marine environment, of which approximately 160 hectares would be new land development. The 180-hectare area would be required for construction on the new marine terminal, widening of the causeway, improvements to the existing tug basin and associated dredging for the project.

Port Metro Vancouver is currently undertaking field studies to collect baseline information that will assist in determining potential impacts on fish and wildlife habitat. Although mitigation requirements will ultimately be determined by regulators through the environmental assessment process, Port Metro Vancouver has developed a number of possible mitigation approaches. While regulators may propose a mix of these categories, the Port would like feedback regarding which categories you would like to place the highest priority on.

The table below describes four categories that Port Metro Vancouver is contemplating to mitigate potential project impacts.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>DESCRIPTION</th>
<th>EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of multiple smaller, species-specific habitat areas</td>
<td>The restoration or enhancement of habitat for the benefit of fish, wildlife and/or birds. Each site would be approximately 1–2 hectares, allowing benefits to be realized quickly, given the small size.</td>
<td>• Converting land to an intertidal marsh  • Creating a subtidal reef</td>
</tr>
<tr>
<td>Restoration and/or protection of a large habitat area</td>
<td>The restoration of an area to protect productive fish, wildlife and/or bird habitat. Site could be larger than 20 hectares. A natural restoration process allows the ecosystem to balance over time; therefore, benefits may take longer to be realized.</td>
<td>• Establishing a marine conservation area or bird or wildlife sanctuary  • Maintaining ongoing removal of an invasive species and monitoring over a longer period of time</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>The construction or funding of an infrastructure project that benefits fish, wildlife and/or birds.</td>
<td>• Building a fish hatchery (Hatcheries harvest egg stock from fish indigenous to the area. When fish are large enough to survive in the ocean, they are released.)</td>
</tr>
<tr>
<td>Community resources</td>
<td>Providing funding to groups dedicated to protecting or supporting fish, wildlife and/or birds, allowing third-party involvement in the development of habitat mitigation.</td>
<td>• Partnering with community or governmental organizations to support projects that benefit fish, wildlife and/or birds</td>
</tr>
</tbody>
</table>

To answer questions regarding HABITAT MITIGATION, please see pages 31–33 in the feedback form.
ROAD AND RAIL TRAFFIC CONSIDERATIONS

Road traffic modelling was undertaken in 2011 and 2012, and again in 2013 to assess the impact of current and future port-related traffic on the local and regional road networks serving Roberts Bank.

Operating at 2.4 million TEUs, the proposed Roberts Bank Terminal 2 Project would result in approximately 3,700 total daily truck trips (1,850 trips in, and 1,850 trips out) to and from the terminal, assuming a five-day work week with daily eight-hour shifts. Rail projections show that the proposed Roberts Bank Terminal 2 Project would generate between eight and 10 container trains per day (four to five trains in, and four to five trains out).

Port Metro Vancouver continues to work with the trucking sector and related supply chain partners to find efficiencies and improvements that benefit not only the marine terminals, but also the communities in which the Port operates. These improvements could potentially reduce the total number of truck trips or help to spread them more evenly across the day or week.

Port Metro Vancouver is developing a Transportation Plan for the proposed Roberts Bank Terminal 2 Project, which will include traffic counts and an analysis of traffic distribution across the various routes leading to and from the Roberts Bank port facilities. Port Metro Vancouver intends to work with the supply chain partners, including provincial and local governments, to ensure that port-related traffic analysis identifies potential transportation impacts.

As part of the environmental assessment process, Port Metro Vancouver will assess the impacts of the project on road and rail traffic and, where required, will develop mitigation strategies, as necessary, to address potential impacts.


PORT METRO VANCOUVER’S SMART FLEET TRUCKING STRATEGY

In February 2013, Port Metro Vancouver introduced its Smart Fleet Trucking Strategy, a three-year action plan to improve the efficiency and reliability of the container truck sector, and to reinforce the Port’s ongoing cooperation with supply chain partners.

Smart Fleet is the result of a year-long collaboration and engagement with industry and stakeholders within the container transportation sector, and includes the following initiatives:

- The expanded use of GPS tracking to improve efficiency and productivity and reduce congestion.
- A review of the Truck Licensing System (TLS) that will lead to enhanced performance, safety and environmental standards for the trucks on our roads.
- The introduction of a Container Vessel On-Time Incentive Program to encourage container vessel operators to arrive on schedule, and to contribute to overall supply chain consistency, reliability and efficiency.
- Port Metro Vancouver, industry and government are jointly funding research, through the Clean Transportation Initiative, to identify technology-based solutions to improve the efficiency and environmental performance of marine terminals and trucks.
- The Container Drayage Leadership Team (CDLT) provides a forum for terminal operators and industry leaders to identify trucking challenges and recommend viable solutions.
As one of the identified Smart Fleet initiatives, Port Metro Vancouver announced an expansion to the current GPS pilot project. The new GPS program, funded by Transport Canada, the B.C. Ministry of Transportation and Infrastructure, and Port Metro Vancouver, increased the number of trucks equipped with GPS units from 300 to 1,000, approximately half of the TLS-licensed fleet.

In 2012, approximately 15% of the TLS truck fleet was outfitted with GPS transponder units to test the operational benefits of a GPS tracking system. The pilot project resulted in greater transparency of container truck movements, both within Port Metro Vancouver’s jurisdiction and in the region.

In support of this initiative, the 700 newest-model-year TLS-approved trucks (as of February 28, 2013) were required to have a GPS transponder unit installed by May 31, 2013. These GPS transponders were provided by Port Metro Vancouver at no cost to the truck owner/company.

The recent increase in the number of trucks with GPS transponder units provides a more accurate, real-time base of data, enabling greater insight into trucking operations, routing and congestion information. The real-time information also provides transparency, as well as improved reaction and response time to situations requiring immediate or emergency attention.

The information gathered will help Port Metro Vancouver work on issues and solutions with the trucking community, the Port community, governments and affected residents.

Real-time GPS data is available on Port Metro Vancouver’s website at: www1.portmetrovancouver.com/COGS_Chart/GPSTruck/prmvindex.
Traffic in and around Roberts Bank is affected by many different users, including commuter traffic, BC Ferries traffic, Deltaport container trucks, and other construction and commercial trucks not related to the Port. While the majority of vehicles on municipal roads in the area are not travelling to and from port facilities, Port Metro Vancouver recognizes the importance of efficiently managing container truck traffic in local communities and on local roads.

The transportation of containers through Port Metro Vancouver terminals is highly complex and involves multiple stakeholders. As part of its Smart Fleet Trucking Strategy (described on page 24), Port Metro Vancouver is looking at practices that other ports have successfully implemented to improve efficiency and reduce the impact of port-related truck traffic on local communities. The Port would like feedback on the following ways in which it proposes to more effectively manage port-related truck traffic.

1. **INFRASTRUCTURE IMPROVEMENTS TO EFFECTIVELY MANAGE PORT-RELATED TRUCK TRAFFIC**

Port Metro Vancouver partnered with local, provincial and federal government agencies as well as with port industry partners to deliver the South Fraser Perimeter Road Project and the Roberts Bank Rail Corridor Program, both of which are being built, in part, to accommodate and mitigate increases in road and rail traffic from future port developments.

As planning for the proposed Roberts Bank Terminal 2 Project proceeds, Port Metro Vancouver will continue to work with all levels of government for solutions to reduce the impacts of container traffic on local communities. Solutions could include development of new, or improvement of existing, transportation infrastructure in communities affected by port-related traffic.

Examples of infrastructure projects already underway include:

<table>
<thead>
<tr>
<th>INFRASTRUCTURE PROJECT</th>
<th>CAPITAL COST</th>
<th>COMPLETION</th>
<th>PORT METRO VANCOUVER’S ROLE</th>
</tr>
</thead>
</table>
| SOUTH FRASER PERIMETER ROAD (SFPR) | $1.2 billion (Funded by the Government of Canada and the Province of B.C.) | 2013 | PARTNER
Port Metro Vancouver collaborated with the Province of B.C. on the SFPR regarding land and access in the vicinity of port facilities along the Fraser River. The Port also worked with SFPR to develop the Agricultural Land Reserve road access network with Delta farmers, which resulted in development and Port funding of the 28th Avenue agricultural crossing over Highway 17/17A. When SFPR is completed in 2013, container trucks departing Deltaport will reroute from the old Highway 17 (now Highway 17A) and from Highway 10 west of Highway 91 onto the new highway.|
| ROBERTS BANK RAIL CORRIDOR (RBBC) PROGRAM | $307 million (Funded by 12 partners) | 2014 | FUNDING PARTNER
As one of 12 funding partners collaborating to deliver a comprehensive package of road and rail improvements, Port Metro Vancouver is contributing $50 million towards building nine rail overpasses and installing motorist advisory signs as part of this program. The RBBC Program will enhance the quality of life in communities through which rail traffic travels to and from Port Metro Vancouver terminals at Roberts Bank in Delta, by improving the efficiency and safety of both the road and rail networks in these communities.|

Other infrastructure currently contemplated includes truck staging areas – dedicated areas for trucks to wait, reducing queuing on local arterial roads.

The Province of B.C.’s recent announcement regarding the replacement of the George Massey Tunnel with a bridge will also ease traffic congestion on one of the key north/south corridors in the Lower Mainland.
2. **OPERATIONAL IMPROVEMENTS** TO EFFECTIVELY MANAGE PORT-RELATED TRUCK TRAFFIC

Port Metro Vancouver is currently working with supply chain partners to improve reliability and efficiency at terminals and in the container-trucking sector to reduce idling and congestion on major roadways. As Port Metro Vancouver plans for forecasted growth in the container sector, strategies are being researched to maximize efficiencies for port operations while addressing community concerns about impacts from port-related truck traffic.

Potential operational improvements could include:

<table>
<thead>
<tr>
<th>Operational Process</th>
<th>Potential Improvements</th>
</tr>
</thead>
</table>
| Extending hours of terminal operations | Standardizing night gates or off-hours gates would extend truck-related pickup, drop-off and general transportation of containerized cargo into evening hours and weekends. Current gate hours are from 8:00am to 4:00pm, Monday to Friday. Extended hours likely would include regular evening shifts, from 4:00pm to midnight. Extended hours could also include full shifts on Saturdays and/or Sundays from 8:00am to 8:00pm. The benefits of this would be:  
  - Trucking activity would be spread across more hours of the day, provided that supply chain partners adopted similar operating hours  
  - Fewer port-related trucks on local roads during peak traffic periods  
  - Improved operational and environmental performance by reducing day-shift congestion |
| Reducing the number of empty truck trips | Container trucks perform single-ended trips when they arrive at the marine terminal with a container and leave the terminal empty or they arrive at the terminal empty and leave the terminal with a container. They perform double-ended trips when they arrive at the marine terminal with a container and leave the terminal with a container. Coordinating double-ended trips would require collaboration between importers, shipping lines and exporters to increase the efficiency of port-related trucks by improving the utilization of double-ended trips. The benefits of this would be:  
  - Minimized number of truck trips  
  - Reduced environmental impact from fewer truck trips |

3. **TECHNOLOGICAL IMPROVEMENTS** TO EFFECTIVELY MANAGE PORT-RELATED TRUCK TRAFFIC

Port Metro Vancouver is currently exploring technological changes that could also help alleviate port-related truck traffic. Advances in technology would enable improved terminal and truck operations through better access to information and improved communication between cargo owners, shipping lines, terminals and trucking companies.

A potential technological improvement under consideration includes:

<table>
<thead>
<tr>
<th>Technological Improvement</th>
<th>Potential Improvement</th>
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</table>
| Common Data Interface (CDI) | The CDI would change the foundation of how supply chain partners work together. It would be intended as a real-time information exchange system for stakeholders involved in the delivery of containers to and from Port Metro Vancouver container terminals. A shared system would help improve coordination of trucking and terminal operations through improved accuracy, timeliness, completeness and accessibility of information. The CDI could provide: visibility on vessel schedules, availability and inventories of full and empty containers, truck appointment/reservation management, truck tracking through GPS data, and a single system administrator. CDI would enable:  
  - Improved efficiency and productivity at terminal gates  
  - Reduction of congestion at terminal gates  
  - Improved trip planning for truck drivers  
  - Improved coordination of double-ended trips |

To answer questions regarding PORT-RELATED TRAFFIC IMPROVEMENT SCENARIOS, please see pages 33 and 34 in the feedback form.
ENVIRONMENTAL ASSESSMENT PROCESS

The proposed Roberts Bank Terminal 2 Project will be subject to a thorough and independent environmental assessment. On September 12, 2013, Port Metro Vancouver filed a Project Description with the Canadian Environmental Assessment Agency and the British Columbia Environmental Assessment Office. A Project Description assists regulatory agencies in determining whether an environmental assessment is required for the project and, if so, it provides the information required to determine the scope and nature of the assessment.

For more information regarding the Canadian Environmental Assessment Agency, please visit www.ceaa-acee.gc.ca.

For more information regarding the British Columbia Environmental Assessment Office, please visit www.eao.gov.bc.ca.

ENVIRONMENTAL STUDIES

As part of ongoing environmental and technical work for the proposed Roberts Bank Terminal 2 Project, Port Metro Vancouver has undertaken, and continues to undertake, field studies at Roberts Bank and in the surrounding areas.

The studies are part of the early planning phase and are focused on collecting baseline inventory information to develop an understanding of current conditions in all of the study areas. Baseline information may also help identify environmental aspects that may be affected by the proposed project. Following completion of the baseline studies, Port Metro Vancouver will conduct an effects assessment to determine potential effects of the proposed Roberts Bank Terminal 2 Project.

The categories for environmental study include, but are not limited to the following:

- Air quality
- Archaeology
- Biofilm (a nutrient-rich film found in the intertidal zone)
- Coastal geomorphology (coastal formations and features)
- Coastal seabirds and waterfowl
- Marine fish
- Marine invertebrates
- Marine mammals
- Marine vegetation
- Noise
- Socio-community and socio-economic
- Terrestrial wildlife/vegetation (land-based animals and plants)
- Traditional use
- Transportation
- Water and sediment quality

Additional information regarding baseline field studies, including the field study design Terms of Reference, can be found on the Roberts Bank Terminal 2 Project website at: www.robertsbankterminal2.com/environment/field-studies.

A Cumulative Effects Assessment will be required as part of the environmental review of the project. The federal and provincial regulators will define the scope and nature of the Cumulative Effects Assessment and the public will have opportunities to review and comment on both the Terms of Reference of the assessment, as well as on the results.
Port Metro Vancouver has initiated discussions with local government and local communities regarding community legacy benefits that could be provided as part of the Container Capacity Improvement Program. These community legacy benefits will be over and above the economic benefits that would result from the project, and the mitigation measures that would be required through the environmental assessment process.

As part of Project Definition Consultation in fall 2012, Port Metro Vancouver sought feedback regarding the types of community legacy benefits that consultation participants would like to see provided as part of the Container Capacity Improvement Program.

Of those who responded, a large number of people agreed with Port Metro Vancouver pursuing benefits under the categories of environment, community well-being, and transportation. The arts, as a potential category for community legacy benefits, did not receive as much support from consultation participants.

Based on this input, Port Metro Vancouver has developed a list of potential community legacy benefits under the categories of environment, community well-being and recreation, and transportation, and would like your feedback regarding some of these ideas.

**POTENTIAL COMMUNITY LEGACY BENEFIT PROJECTS/CONTRIBUTIONS**

**Environment:**
- Contributions to local environmental programs (e.g., additional air quality monitoring stations, marine centre)
- Contributions to public amenities (e.g., bird viewing platform)
- Contributions to existing community projects benefiting fish, wildlife or birds through partnerships with community organizations

**Community Well-Being and Recreation:**
- Contributions to health care organizations (e.g., hospitals, hospital foundations, hospice societies)
- Contributions to recreation amenities (e.g., improvements to existing sports fields, donations of classroom/sports equipment to schools/community centres)
- Contributions to outdoor recreation amenities (e.g., new boat launch/dock facility, upgrades to Brunswick Point Trail or Great Blue Heron Way Trail)

**Transportation:**
- Contributions to local road infrastructure
- Contributions to cycling infrastructure or opportunities (e.g., bike-share program)
- Contributions to car-share or carpool infrastructure (e.g., car-share or carpool program)

To answer questions regarding COMMUNITY LEGACY BENEFITS, please see pages 35 and 36 in the feedback form.

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1Over and above any contributions that would be provided as part of habitat mitigation.
CONSULTATION TIMING

In addition to opportunities for public input that will be provided through the environmental assessment process, Port Metro Vancouver will lead several rounds of consultation regarding the proposed Roberts Bank Terminal 2 Project. The timeline below outlines previously completed and upcoming rounds of consultation, including the feedback we anticipate to be seeking in each round.

PORT METRO VANCOUVER-LED CONSULTATION

<table>
<thead>
<tr>
<th>Pre-Consultation (June 2011)</th>
<th>Project Definition Consultation (October 22 to November 30, 2012)</th>
<th>Pre-Design Consultation (October 7 to November 12, 2013)</th>
<th>Detailed Design Consultation (TBC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide opportunities for local communities, stakeholders and public to provide input into the design of the consultation program.</td>
<td>Identify potential issues and impacts for the environmental assessment, and consultation on features of the proposed Roberts Bank Terminal 2 Project.</td>
<td>Present information regarding the conceptual project design, and seek input regarding elements of the project and the development of environmental mitigation plans.</td>
<td>Consultation on fewer but more specific details of project design and construction management as project design is finalized.</td>
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COMPLETE

FIRST NATIONS CONSULTATION

A separate, but parallel, First Nations consultation process is being undertaken by Port Metro Vancouver in relation to the proposed Roberts Bank Terminal 2 Project. First Nations consultation during the Pre-Design Consultation phase will focus on exchanging project-related information with First Nations and developing a better understanding of the potential for impacts on their communities, rights and interests.

For more information about previous rounds of consultation, including consultation discussion guides, summary reports and consideration memos, please visit www.portmetrovancouver.com/RBT2.
1. Port Metro Vancouver is currently exploring ways to mitigate potential project impacts on fish and wildlife habitat at Roberts Bank. While mitigation of potential project impacts will be determined by regulators through the environmental assessment process, Port Metro Vancouver is looking for feedback regarding your level of agreement with each of the following categories of mitigation.

1a. Please rate your level of agreement with Port Metro Vancouver pursuing the following mitigation for potential impacts on fish and wildlife habitat at Roberts Bank:

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>DESCRIPTION</th>
<th>EXAMPLES</th>
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<td>The restoration or enhancement of habitat for the benefit of fish, wildlife and/or birds. Each site would be approximately 1–2 hectares, allowing benefits to be realized quickly, given the small size.</td>
<td>+ Converting land to an intertidal marsh + Creating a subtidal reef</td>
</tr>
</tbody>
</table>

Please provide your feedback by November 12, 2013.

1b. Please rate your level of agreement with Port Metro Vancouver pursuing the following mitigation for potential impacts on fish and wildlife habitat at Roberts Bank:

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<td>The restoration of an area to protect productive fish, wildlife and/or bird habitat. Site could be larger than 20 hectares. A natural restoration process allows the ecosystem to balance over time; therefore, benefits may take longer to be realized.</td>
<td>+ Establishing a marine conservation area or bird or wildlife sanctuary + Maintaining ongoing removal of an invasive species and monitoring over a longer period of time</td>
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<thead>
<tr>
<th>Strongly Agree</th>
<th>Somewhat Agree</th>
<th>Neither Agree nor Disagree</th>
<th>Somewhat Disagree</th>
<th>Strongly Disagree</th>
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COMMENTS

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### 1c. Please rate your level of agreement with Port Metro Vancouver pursuing the following mitigation for potential impacts on fish and wildlife habitat at Roberts Bank:

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>DESCRIPTION</th>
<th>EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure</td>
<td>The construction or funding of an infrastructure project that benefits fish, wildlife and/or birds.</td>
<td>• Building a fish hatchery (Hatcheries harvest egg stock from fish indigenous to the area. When fish are large enough to survive in the ocean, they are released.)</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Somewhat Agree</th>
<th>Neither Agree nor Disagree</th>
<th>Somewhat Disagree</th>
<th>Strongly Disagree</th>
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### 1d. Please rate your level of agreement with Port Metro Vancouver pursuing the following mitigation for potential impacts on fish and wildlife habitat at Roberts Bank:

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>DESCRIPTION</th>
<th>EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community resources</td>
<td>Providing funding to groups dedicated to protecting or supporting fish, wildlife and/or birds</td>
<td>• Partnering with community or governmental organizations to support projects that benefit fish and wildlife and/or birds</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Somewhat Agree</th>
<th>Neither Agree nor Disagree</th>
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<th>Strongly Disagree</th>
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2. Please provide any additional comments you may have regarding habitat mitigation for the proposed Roberts Bank Terminal 2 Project.

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HABITAT MITIGATION continued

PORT-RELATED TRUCK TRAFFIC IMPROVEMENT

3. Port Metro Vancouver recognizes the importance of reducing container traffic in local communities and is interested in hearing from communities, stakeholders and the public on several port-related truck traffic improvement strategies the Port is investigating.

3a. INFRASTRUCTURE IMPROVEMENTS, including the South Fraser Perimeter Road and the Roberts Bank Rail Corridor Program, as well as the replacement for the George Massey Tunnel, are being built, in part, to accommodate and mitigate increases in road and rail traffic from future port developments. In addition, other types of infrastructure (e.g., truck staging areas) could also help reduce the effects of traffic on local communities.

Please indicate any areas where additional infrastructure improvements could be made to effectively manage port-related truck traffic.

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Please provide any additional comments you may have regarding habitat mitigation for the proposed Roberts Bank Terminal 2 Project.

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HABITAT MITIGATION continued

PORT-RELATED TRUCK TRAFFIC IMPROVEMENT

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Please indicate any areas where additional infrastructure improvements could be made to effectively manage port-related truck traffic.

COMMENTS
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Please provide any additional comments you may have regarding habitat mitigation for the proposed Roberts Bank Terminal 2 Project.

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PORT-RELATED TRUCK TRAFFIC IMPROVEMENT continued

3b OPERATIONAL IMPROVEMENTS (extending hours of terminal operations, reducing the number of empty truck trips) would: spread port-related truck trips across more hours of the day, result in fewer trucks on local roads during peak traffic periods, and reduce environmental impact.

Please indicate any interests, issues or considerations you may have with operational improvements to effectively manage port-related truck traffic.

3c TECHNOLOGICAL IMPROVEMENTS (CDI information exchange system) would: improve efficiency and productivity and reduce congestion at terminal gates, improve trip planning for truck drivers, and improve the coordination of double-ended trips.

Please indicate any interests, issues or considerations you may have with technological improvements to effectively manage port-related truck traffic.
COMMUNITY LEGACY BENEFITS

4. Port Metro Vancouver has developed a list of potential community legacy benefits under the categories of environment, community well-being and recreation, and transportation, and would like your feedback regarding some of these ideas.

4a. ENVIRONMENT: Please rank the following potential community legacy benefit ideas in order from 1 to 3, with 1 being most preferred and 3 being least preferred.

<table>
<thead>
<tr>
<th>RANK (1–3)</th>
<th>CATEGORY: ENVIRONMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Contributions to local environmental programs (e.g., additional air quality monitoring stations, marine centre)</td>
</tr>
<tr>
<td></td>
<td>Contributions to public amenities (e.g., bird viewing platform)</td>
</tr>
<tr>
<td></td>
<td>Contributions to existing community projects benefiting fish, wildlife or birds through partnerships with community organizations¹</td>
</tr>
</tbody>
</table>

Please provide any comments or additional suggestions you may have for community legacy benefit ideas related to the ENVIRONMENT.

4b. COMMUNITY WELL-BEING AND RECREATION: Please rank the following potential community legacy benefit ideas in order from 1 to 3, with 1 being most preferred and 3 being least preferred.

<table>
<thead>
<tr>
<th>RANK (1–3)</th>
<th>CATEGORY: COMMUNITY WELL-BEING AND RECREATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Contributions to health care organizations (e.g., hospitals, hospital foundations, hospice societies)</td>
</tr>
<tr>
<td></td>
<td>Contributions to recreation amenities (e.g., improvements to existing sports fields, donations of classroom/sports equipment to community centres/schools)</td>
</tr>
<tr>
<td></td>
<td>Contributions to outdoor recreation amenities (e.g., new boat launch/dock facility, upgrades to Brunswick Point Trail or Great Blue Heron Way Trail)</td>
</tr>
</tbody>
</table>

Please provide any comments or additional suggestions you may have for community legacy benefit ideas related to COMMUNITY WELL-BEING AND RECREATION.

¹ Over and above any contributions that would be provided as part of habitat mitigation (see page 23)
4c. TRANSPORTATION: Please rank the following potential community legacy benefit ideas in order from 1 to 3, with 1 being most preferred and 3 being least preferred.

<table>
<thead>
<tr>
<th>RANK (1–3)</th>
<th>CATEGORY: TRANSPORTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Contributions to local road infrastructure</td>
</tr>
<tr>
<td></td>
<td>Contributions to cycling infrastructure or opportunities (e.g., bike-share program)</td>
</tr>
<tr>
<td></td>
<td>Contributions to car-share or carpool infrastructure (e.g., car-share or carpool program)</td>
</tr>
</tbody>
</table>

Please provide any comments or additional suggestions you may have for community legacy benefit ideas related to TRANSPORTATION.

4d. Please provide any additional comments you may have regarding Community Legacy Benefits:

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5. Please provide any additional comments you may have regarding any aspect of the proposed Roberts Bank Terminal 2 Project:
HOW INPUT WILL BE USED:

Input received during consultation will be considered, along with technical and financial information, in refining project designs or plans, including engineering and environmental mitigation plans.

The input received during this consultation will be summarized in a Consultation Summary Report, which will be made available online at www.portmetrovancouver.com/RBT2. A Consideration Memo will be produced, showing how input was considered in refining project designs or in mitigation and compensation measures.

PLEASE PROVIDE YOUR CONTACT INFORMATION (optional):

Name: ________________________________
Organization (if applicable): ________________________________
Address: ________________________________
Postal Code: ________________________________
Email: ________________________________
Phone: ________________________________

DEADLINE FOR FEEDBACK: NOVEMBER 12, 2013.

You can return completed feedback forms by:

Mail: Port Metro Vancouver
      Attention: Container Capacity Improvement Program
      100 The Pointe, 999 Canada Place
      Vancouver, BC V6C 3T4

Fax: 1.866.284.4271 Attention: Container Capacity Improvement Program

Email: container.improvement@portmetrovancouver.com

Web: www.portmetrovancouver.com/RBT2

Any personal contact information you provide to Port Metro Vancouver on this form is collected and protected in accordance with the Access to Information Act and the Privacy Act. If you have any questions regarding the Container Capacity Improvement Program or the Roberts Bank Terminal 2 Project, and/or the information collection undertaken on this form, please contact Port Metro Vancouver at container.improvement@portmetrovancouver.com.