

CONTAINER MOVEMENT

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.

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



A 20-foot container (1 TEU)



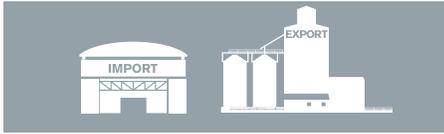
A 40-foot container (2 TEUs)

CONTAINERIZED GOODS

As global containerized trade continues to grow, so does the variety of goods that are commonly transported in these containers. Containers from Asia are often used to transport manufactured household goods, as well as electronics, construction materials, auto parts and machinery. Canada exports lumber, specialty crops, wood pulp and food products in containers.

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. For the supply chain to run smoothly, all of the participants must ensure that they maintain a strong level of service and focus on transport time, cost, service levels, capacity and reliability.



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).



SHIPPING LINES

Container ships provide efficient cross-ocean movement of goods. Generally container ships operate on a fixed weekly schedule. Shipping lines own their own shipping containers and form alliances to transport other companies' containers on their vessels.



MARINE CONTAINER TERMINALS

Terminal operators load and unload container ships that call on their 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 from Vancouver to Montreal. Most container trains are between 8,000 and 12,000 feet in length, and can accommodate double-stacked containers.



TRUCKING COMPANIES

Truck operators provide the most efficient form of container transportation over short distances particularly between various points within the supply chain.



OFF-DOCK FACILITIES

Off-dock facilities offer a 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. These services enhance the efficiency of the supply chain.

CONTAINER TRANSLOADING

One of the relatively unique characteristics of Port Metro Vancouver is the near-parity between the number of containers being imported and the number of containers being exported. This trade balance places an increased level of importance on the off-dock facilities in the Metro Vancouver region. These facilities, most of which are located within 50 kilometres of the marine terminals, specialise in unpacking, sorting, warehousing and reloading containers. This suite of activities, known as transloading, greatly enhances the overall efficiency of the Pacific Gateway.

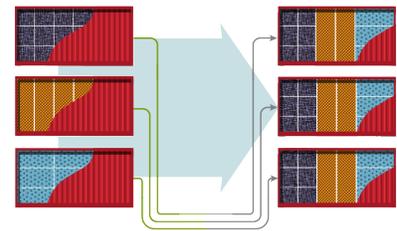
IMPORT TRANSLOADING

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.**
2. **The goods from different containers are combined and sent to multiple destinations.**

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.

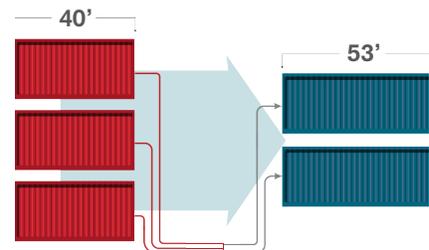
FIGURE 1 – *Mix and match goods*



3. **The goods from 40-foot marine containers must be loaded into larger, 53-foot railcar containers for cost-efficient, long distance rail transportation.**

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, significantly reducing rail transportation costs.

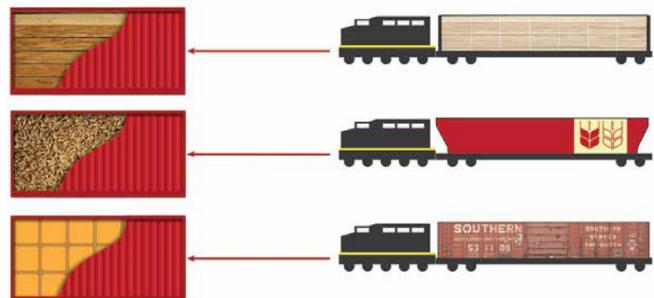
FIGURE 2 – *Transloading marine containers and longer railcar containers.*



EXPORT TRANSLOADING

Most of the Canadian goods that are exported in containers from Vancouver must be transloaded from specially-designed rail cars into marine containers. FIGURE 3 provides an illustration of the types of commodities that undergo this process.

FIGURE 3



EMPTY CONTAINERS

More than half of the containers transported by train from Eastern Canada to Port Metro Vancouver terminals are empty. These empty containers are discharged from trains at the Port Metro Vancouver terminals and are moved off the terminals for loading exports. Additionally the process of transloading containers creates a surplus of empty containers in some locations and a requirement for empty containers in others. These empty containers are trucked to where they are needed at export stuffing and off-dock facilities.

The convergence of export commodities and empty containers in Metro Vancouver make the region a logical hub for export stuffing facilities.

SMART FLEET TRUCKING STRATEGY

The trucks that transport containers between various terminals and off-dock facilities play a critically important role in the success of the Pacific Gateway. However, trucks also contribute to noise, emissions and congestion. Port Metro Vancouver's Smart Fleet Trucking Strategy is a three-year action plan to improve the performance, accountability and sustainability in the trucking sector by coordinating hours of work, establishing target transit times, and improving consistency in terminal gate operations. In addition to facilitating dialogue through a new terminal operator and industry stakeholder forum, Port Metro Vancouver is also updating the Truck Licensing System to improve the truck operator permitting process, implementing a common reservation system to better manage truck access to the port, and maintaining environmental standards to reduce air emissions.

About the 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., on Canada's west coast. The Project would provide 2.4 million twenty-foot equivalent units (TEUs) of container capacity. Port Metro Vancouver proposes to build the Project to meet increasing demand for containerized trade on the west coast of Canada.

The Project is undergoing a federal environmental assessment by an independent review panel, under the *Canadian Environmental Assessment Act, 2012*. The Project is also undergoing an assessment under the *British Columbia Environmental Assessment Act*, and requires other permits and authorizations before it can proceed.

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