Cargo movement in focus
**Near-dock railyard:** Carriers using the facility. Not all marine terminals have Marine terminals operate on-dock railyards for the benefit of cargo from marine vessels and from trains arriving with exports. Railyards located within marine terminals that receive imported container vessels.

**Marine Terminal:** Marine terminals are the facilities within ports designed for loading and unloading cargo from marine vessels. The terminal also offers space for the short-term storage of cargo, and terminal operators assist with processing the pickup and delivery of cargo. The Port of Long Beach leases terminal space to private companies. These companies are usually global terminal operators or the terminal operating division of global shipping companies. Ocean vessels, or marine vessels, calling at the Port are owned or leased by global shipping companies. Container vessels operate on regularly scheduled services that call at a predetermined group of ports, normally on a weekly basis. The carrier operating the vessel contracts with terminal operators for the use of their facilities and services for unloading, loading or temporary storage of goods.

**On-dock railyard:** Railyards located within marine terminals that receive imported cargo from marine vessels and from trains arriving with exports. Marine terminals operate on-dock railyards for the benefit of carriers using the facility. Not all marine terminals have on-dock railyard capabilities.

**Near-dock railyard:** Railyards located near the Port that are dedicated to handling Port cargo. Unlike on-dock railyards, they serve more than one marine terminal and therefore tend to be much larger than their on-dock counterparts. Trucks are needed to move containers from the terminals to the near-dock railyards. The close proximity to Port operations usually eliminates the need to move containers by truck on regional highways. These yards are operated by railroad companies for use by their customers, marine terminals and logistics companies.

**Off-dock railyard:** Railyards located within the region served by the Port that handle Port cargo as well as domestic cargo from other sources. Cargo must be trucked from marine terminals or local transload facilities to these off-dock yards, which are operated by the transcontinental railroad companies serving the local area. In Southern California the major off-dock railyards are located near downtown Los Angeles and east of Los Angeles (to San Bernardino). Port cargo is moved by truck to these facilities, where it is sorted and grouped by final destination. At a transload facility the contents of a marine container are unloaded and transferred to one or more domestic containers or trailers for delivery to local stores and factories, or to an off-dock railyard. Transload facilities are operated by various companies, including trucking companies, warehouse operators, logistics firms and large retailers. Cargo is generally stored only for a short time at a transload facility.

**Warehouse:** Considerably larger than transload facilities, warehouses offer longer storage for cargo as well as additional processing and distribution services. Warehouses are scattered throughout the Los Angeles area, although clusters of warehouses are located near the Port and major freeways. Warehouses, which can be 1 million square feet or more in size, are owned independently or by larger trucking and logistics companies.

**Local Destination:** Stores and factories within a local region typically served by trucks. For Southern California ports, these destinations are generally stores and factories west of the Rocky Mountains. Cargo headed for local destinations can be routed directly or through a transload facility and/or warehouse.

**Non-local destination:** Any destination — such as a railyard, warehouse, retail outlet or manufacturer — located east of the Rocky Mountains. Non-local cargo may require additional handling at a transload facility and/or warehouse before leaving the area by rail. Only a small portion of cargo destined for Eastern states is moved by truck directly from the Port’s terminals.

**Non-local origin:** Manufacturers or producers east of the Rocky Mountains that supply goods for export. Generally these shipments do not involve intermediate handling or consolidation.

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**In today’s global economy,**

the effort involved in transporting goods between manufacturers, retailers and consumers across the planet is remarkable in its scale and sophistication. The enormous quantities and economic value of cargo being transported through seaports, such as the Port of Long Beach, demands a flexible, efficient and well-organized supply chain.

Today’s system is made possible through the use of metal cargo containers, which revolutionized the maritime industry soon after they were introduced in the late 1950s. Cargo containers act as individual storage units that can be switched quickly between ships, trucks and trains. Cargo containers may hold just about any consumer item – shoes, computers, auto parts or frozen seafood.

The diagrams on the following pages show the movement of cargo containers as they are used to transport goods in the global supply chain.
Overseas Container Transport

The journey across the Pacific Ocean and into the U.S.

Imported cargo generally starts at an overseas manufacturer, supplier or consolidation facility, where items are boxed and placed inside a metal shipping container. The U.S. buyers may contact an industry professional known as a “freight forwarder,” or logistics company, to coordinate transportation of the cargo. The container will then be transported to a foreign port, assessed for security, and loaded aboard a giant container ship that will deliver it to the Port of Long Beach.

1 Product ordered
A typical import transaction starts when a U.S. wholesaler, retailer or other buyer orders products from an overseas manufacturer. These products may be packaged into a container at the manufacturer and shipped directly to port, or sent to a warehouse or consolidation facility where they are packaged with other products destined for the same overseas port.

2 To port
Once the product has been ordered and packaged, the buyer or freight forwarder will arrange for a local trucking company to move the container to the port, and then for a ship to transport the container overseas.

3 Security checks
A U.S. Customs official based at the port receives information from a U.S.-based command center about which containers may be a security risk. If a container is flagged as high-risk, U.S. Customs officials and local port security will conduct physical inspections.

4 Coast Guard review
The U.S. Coast Guard reviews crew and cargo manifest information, which must be delivered at least three days before any ship arrives at U.S. shores. Coast Guard “boarding teams,” with bomb-sniffing dogs, are authorized to board any ship at sea for any reason, even if the captain or crew objects.

5 All aboard
When the container is cleared by security it will be placed on a ship along with as many as 8,000 TEU (twenty-foot equivalent) containers. It takes a container ship about two weeks to cross the Pacific Ocean.

6 Vessel docked
As the ship nears the harbor it will be bounded by a port pilot, maritime specialists with expert knowledge of the harbor waters. The port pilot will work with tugboat operators and the ship’s crew to steer the ship into the marine terminal.

7 Unloading the ship
As the ship is arriving, the terminal operator will contact the local union hall and arrange for unionized longshore workers to unload the container (using a giant, electric gantry crane) and place it onto a truck, a rail car or temporary storage area on the terminal property. Unloading an 8,000 TEU ship takes about three days.

8 Radiation detection
As a final security safeguard, containers pass through large portals that detect radiation. The slightest level of radiation will trigger an alarm and appropriate security procedures.

9 Security Checks
U.S. Customs officials conduct further analysis and determine which containers warrant further inspection. If no additional inspections are warranted, the container is cleared to leave the Port.

Cargo Security

Manifest submitted
Customs agents may container information to a centralized U.S. government command center in Northern Virginia, where authorities use security intelligence and computer databases to assign a risk level to all containers bound for the U.S.

Inspections
U.S. Customs agents work with overseas port security officials to inspect any containers deemed suspicious or high-risk. Fult with radiation detectors and X-ray machines. If necessary they will open the container for further inspections.

Coast Guard review
The U.S. Coast Guard reviews crew and cargo manifest information, which must be delivered at least three days before any ship arrives at U.S. shores. Coast Guard “boarding teams,” with bomb-sniffing dogs, are authorized to board any ship at sea for any reason, even if the captain or crew objects.

Upon arrival
Once the ship has arrived at U.S. shores, U.S. Customs conducts further analysis and physical container inspection, if necessary. Before any crew members can leave a ship, they must be cleared by U.S. immigration authorities.

Multi-layered security
Multiple agencies, including the U.S. Customs & Border Protection, U.S. Coast Guard, federal and state Homeland Security offices, Long Beach Police and the Port Harbor Patrol work together to secure all inbound and outbound cargo as well as port facilities.

Manifest submitted
All shippers must submit a manifest to U.S. Customs authorities, at least 24 hours before any cargo leaves a foreign port, with detailed information on a container’s contents and everyone who has been involved in its packaging and transport.
Imports by train
Nearly half of all imported containers at the Port of Long Beach are transported directly to non-local destinations by train. Half of that train cargo begins on dock railyards, requiring no local truck trips. The remaining half of train cargo is first moved by truck to near-dock or off-dock rail facilities.

Freight forwarder
A container’s movements are determined by the cargo’s owner, or an industry professional known as a freight forwarder or “logistics provider.” The freight forwarder will provide directions to the marine terminal operator and contact a trucking company or train operator to move the container out of the Port.

Unloading the ship
When a ship arrives at the Port, the marine terminal operator will arrange for unionized longshore workers to unload the vessel. The terminal operator directs the longshore workers to place the cargo containers where they belong: on trains, trucks, or on terminal property for temporary storage.

From the Port of Long Beach, containers are either transported by train or by truck to their final destination, or to one of several intermediate destinations such as a railyard, warehouse, distribution center, or “transload” facility (a sorting, routing, and short-term storage building). A container’s final destination will determine exactly what path it will take once it leaves the dock.

Near-dock railyards
Cargo is often transported by truck to larger “near-dock” railyards close to the Port. This requires a shorter local truck trip than “off-dock” railyards or long-distance truck trips. Near-dock railyards serve multiple marine terminals.

Transload or storage yard
Shipping containers are often moved initially to a “transload” facility where workers unload the cargo from the marine container, sort it, and repackage it into larger-sized truck trailers. The larger trailers are used to transport the cargo from the transload facility to regional distribution centers, local stores, or off-dock railyards.

Off-dock railyards
Off-dock railyards are used to coordinate rail deliveries to non-local destinations. Containers are delivered here by truck, then sorted and grouped by final destination. These railyards handle Port cargo as well as domestic cargo from other sources.

Direct delivery
In the simplest transportation plan, a single container imported by a company for its own use would be delivered by truck directly from the marine terminal to a local store or factory.

Imports by truck
Slightly more than half of all imported containers at the Port of Long Beach are transported by truck to a local warehouse, transload facility, or importer. The majority of this locally-delivered cargo is consumed locally. The remainder is delivered by truck, sorted and delivered to non-local destinations.
Containers arriving at on-dock railyards represent nearly 20 percent of all exported containers. Nearly 50 percent of all export containers arrive to the region by train and are trucked to the Port’s terminals from near-dock and off-dock railyards. Slightly more than 30 percent of exported container cargo originates from local producers or manufacturers.

As with imported goods, exported cargo may require several intermediate steps between the producer or manufacturer of the cargo and the Port.

### Destinations from point of origin
- Off-dock railyards from non-local
- Marine terminal from warehouse/local
- On-dock railyards from non-local
- Near-dock railyards from non-local

### CARGO MOVEMENT
- **RAIL CAR WITH MARINE CONTAINER**
- **RAIL CAR WITH MARINE CONTAINER**
- **MARINE VESSEL**
- **DOMESTIC TRAILER**
- **MARINE CONTAINER**

### Exports by train
Slightly more than 30 percent of exported container cargo originates from local producers or manufacturers (a small portion includes non-local cargo that is consolidated at local warehouse facilities).

### Exports by truck
Slightly more than 30 percent of exported container cargo originates from local producers or manufacturers (a small portion includes non-local cargo that is consolidated at local warehouse facilities).

### Vessel loading
Outlet cargo is loaded onto an ocean vessel headed for an overseas port.

### Direct Delivery
In the most straightforward route, a single container from a local exporting company, produce grower or manufacturer would be delivered by truck directly to the marine terminal.

### Warehouse/consolidator
Cargo delivered from local or non-local destinations may be stored temporarily at a warehouse or consolidated with other cargo bound for export. Cargo may also be transferred from domestic truck trailers to marine shipping containers at this facility.

### Off-dock railyards
Some export cargo containers are delivered by train to off-dock railyards, where they are placed onto trucks for final delivery to marine terminals.

### Near-dock railyards
Export deliveries are also made to near-dock railyards, where the cargo is picked up by truck for a short trip to the marine terminal.

### On-dock railyards
Cargo bound for export can be delivered by train directly to on-dock railyards, where it is loaded onto an ocean vessel. On-dock delivery requires no local truck trips.
The Port is actively promoting the use of a computerized management technique for empty containers known as the “virtual container yard.” The virtual container yard links local importers and exporters through an online clearing house. This effort increases the direct exchange of empty containers outside of the Port, and reduces the need for additional truck trips to and from storage yards and marine terminals.

**Virtual Container Yard**

**Delivery to local exporter**
A local exporter who needs to fill empty containers may arrange to receive them by truck directly from a marine terminal, from an empty container storage yard or from a local importer. Direct delivery between importers and exporters is encouraged because it eliminates an additional truck trip to a storage yard or marine terminal.

**Empty container storage yard**
Empty containers are often trans-ported by truck from a transload facility or local importer to an empty container storage yard. From the storage yard, the empty containers can be transported to a marine terminal for export, or to a local exporter to be filled with cargo. Empty containers are also transported from marine terminals to storage yards, usually when the terminal needs more space for full, incoming containers.

**Direct Delivery**
The simplest route for an empty cargo container would be a return trip to the Port from a transload facility or local importer after its imported goods had been unloaded.

**Ocean Vessel**
Empty containers are loaded onto an ocean vessel, along with containers filled with export goods, bound for an overseas port.

**Because the United States**
imports more goods than it exports, many empty containers are sent overseas to be refilled with goods. Typically, about a third of the containers loaded onto a ship at the Port of Long Beach will be filled with cargo, while about two-thirds will be empty.

This diagram shows the movement of empty containers after the delivery of full, imported containers to local businesses and/or transload facilities. Intermodal containers returning to the local area empty are not depicted; they would enter the system at the marine terminal or empty container storage yard.