



The Port of Seattle... A working waterfront

The Port of Seattle is the 6th largest port in the United States, and the Pacific Northwest is the third largest load center in North America. Our four container terminals cover over 500 acres. Our container line customers operate services to/from Asia, Europe, Latin America, Oceania, Africa, the Caribbean, Hawaii and Alaska.

To see container operations, several port parks offer excellent viewpoints. Before you go, please note the access hours for each park. Hours may vary due to weather or maintenance. You can reference the ship schedule on our website at www.portseattle.org/Cargo/SeaCargo to determine if a vessel is due in port the day of your visit.

Why a working waterfront is important

A strong working port is vital to the economic health of King County and Washington state; one in three jobs in Washington state are tied to international trade. The Port of Seattle Seaport is instrumental in producing family-wage jobs that are a key driver of job growth and economic prosperity. The port does this by creating 21,695 direct jobs with \$1.6 billion of personal income, as well as 7,845 indirect jobs and 26,716 induced jobs resulting in \$2.5 billion of business revenue and \$457.5 million state and local taxes.

Washington state is the largest U.S. export state on a per capita basis. With 8,000 Washington companies currently exporting, the Port of Seattle is an important link for global commerce.

The Port of Seattle, the Green Gateway to Asia

Seattle is the closest U.S. port to Asia. We are fast to key markets, and have the lowest carbon footprint for cargo shipped by sea from Asia to major markets in the Midwest and East Coast. Learn more at www.portseattle.org/GreenGateway.

We continue to raise the bar of environmental sustainability with our Green Gateway Partners and other programs aimed at making our harbor environmentally friendly. Through our At-Berth Clean (ABC) Fuels program, we have reduced sulfur dioxide emissions by more than 262 metric tons during 2011.

We work with marine terminal operators to reduce emissions from cargo-handling equipment through use of cleaner fuels, exhaust controls and new equipment. In 2011, 58 percent of all cargo-handling equipment had been replaced or retrofitted emission controls and 100 percent used ultra-low-sulfur diesel fuel and/or biodiesel blends.



Best viewpoints for container terminals:

Jack Perry Memorial Park

1700 East Marginal Way S.
Seattle, WA 98134

- View of Terminals 18, 30 and 46
- 1.1-acre park
- 120 feet of shoreline access
- View of U.S. Coast Guard station
- Benches and parking
- Hours: 6:00 a.m. to 11:00 p.m.



Jack Block Park

2130 Harbor Ave SW
Seattle, WA 98126

- 15-acre park
- Walking pier
- Children's play area
- 45-foot high observation tower
- Views of Terminal 5 operations, downtown Seattle skyline and Mt. Rainier
- Benches, restroom and parking
- Hours: 6:00 a.m. to 9:00 p.m.



From our parks, you can view a world-class port in action.

What is happening on the terminal?

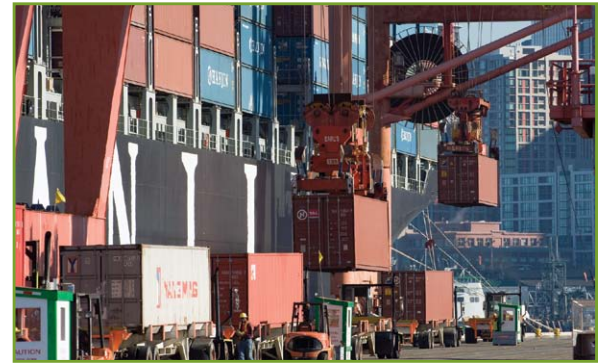
- **Container Ships** from around the world are being loaded and unloaded by ILWU local 19.
 - The largest ships calling the West Coast carry up to 9,000-10,000 TEUs*. Seattle sees ships from 1,600-8,600 TEUs* right now, and can handle ships 12,000 TEUs and larger.
 - The amount of time a ship is in port depends on how much cargo is being loaded/off-loaded. Most ships in Seattle stay for 24-48 hours.
 - In 2012, 727 container vessels called at the port, and we handled 1.9 million TEUs.

- **Trucks** are picking up and dropping off containers.
 - Hundreds of trucks transit port facilities every day to pick up or drop off containers.
 - Drivers go through automated-gate systems. They receive instructions about where to go on the terminal to either pick up or drop off their container.
 - Containers are moved to/from Eastern Washington, nearby warehouse and distribution centers, and rail yards near the container terminals.
 - Most import containers carry consumer items like clothing, electronics, toys and auto parts.
 - Export containers are filled with agricultural commodities like meat, fruits, hay & grains, and other raw materials like wastepaper, scrap metal, lumber and forest products.

- **Terminal operations** are complex.
 - Orange and white gantry cranes load and unload containers from ships.
 - Yard equipment including top picks, rubber-tired gantry cranes and yard hostlers are operated by longshoremen to move containers between ship and around the terminal.
 - Local import containers are either mounted on chassis (wheels) when they come off the ship, or put in a stack to wait for delivery to local warehouses.
 - Export containers are stacked to wait for loading to a specific vessel.
 - Many containers move from vessel to on-dock or near-dock rail, then speed quickly to consumer markets in the Midwest or East Coast.

- **Customs & Border Protection (CBP)** has offices at each terminal and inspects containers.
 - All containers pass through Radiation Portal Monitors (RPMs) before leaving the terminal.
 - Targeted containers are also inspected by x-ray Vehicle and Cargo Inspection System (VACIS) machines on the terminal.
 - CBP also performs some “tailgate” exams at the terminal; intensive exams are performed off site.

*TEU = 20' equivalent unit (one 20' container).



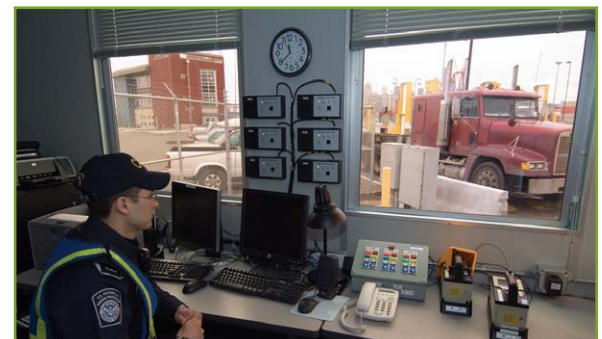
Containers being loaded from a ship onto yard equipment.



Trucks delivering containers to rail yards, distribution centers or to Eastern Washington.



A longshoreman supervises the terminal operations.



A Customs and Border Patrol agent examines containers going through Radiation Portal Monitors.

Views from Jack Block Park

From Jack Block Park, you will get stunning views of the Seattle skyline, Mount Rainier and the working waterfront on Terminal 5. The 15-acre park is located west of the terminal. The park has a walking path, observation tower, 120 feet of shoreline access and a play area for children.

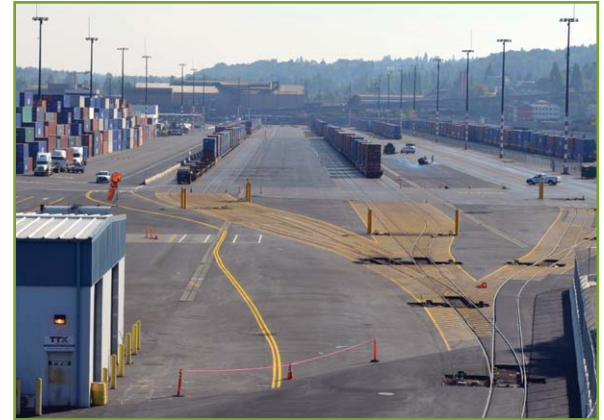
Enter the park at SW Florida Street and park in the first lot. From there, follow the walking path. The first area with a good view of the terminal operations is where the path crosses over an old rail pier. From there, you will have a good view of the on-dock rail operations. Continuing on the trail you will reach the raised viewing platform, which will give you an excellent view of the operations of the terminal. From this vantage point, facing Terminal 5 you will see:

- On the far right (west side of the terminal) are on-dock rail operations. Containers move from ship to rail and vice versa. These trains are moving on to the Midwest and East Coast.
- 70% of all cargo through the Port of Seattle moves by rail to inland markets like Chicago.
- Moving east (to the left) you will see stacks of containers. Most of these are empty containers waiting to be filled with local exports or to be repositioned back to Asia for import loads.
- You can also see the “flip” line, where heavy export containers are transferred from “super” chassis owned by the trucker to yard equipment. Top pick drivers perform the transfer.
- Moving east, you will see that most of the containers are on chassis. Terminal 5 is a “wheeled” operation, meaning that most truckers do not have to wait to have their container loaded from a stack.
- If there is a vessel at berth, you may see a container vessel being worked.
- From the raised viewing platform, if you look across Elliot Bay, you will be able to see the activities at Terminals 46 and 18.

Jack Block Park

2130 Harbor Ave SW
Seattle, WA 98126

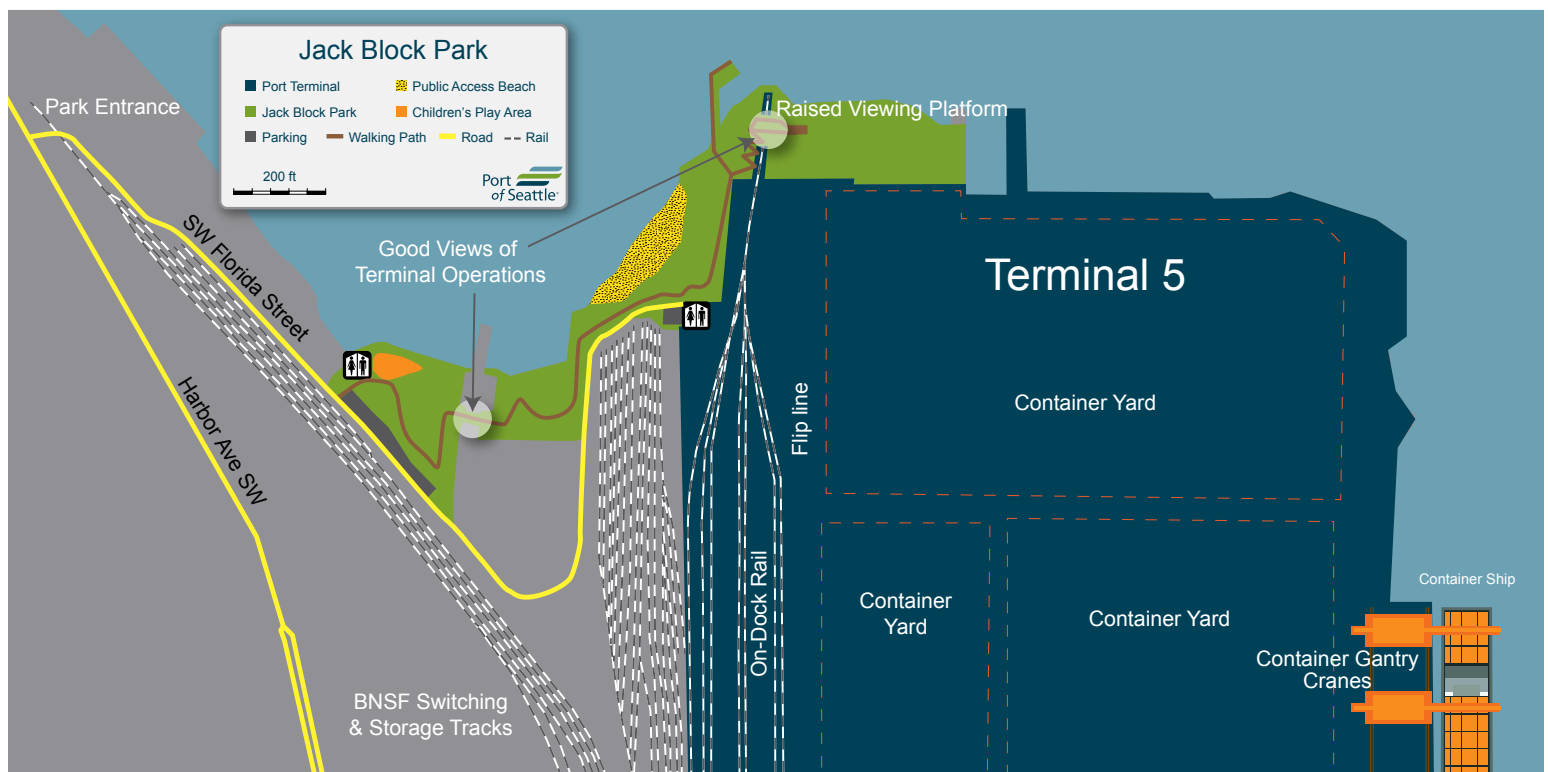
- 15-acre park
- Walking pier
- Children’s play area
- 45-foot high observation tower
- View of Terminal 5 operations, downtown Seattle skyline and Mt. Rainier
- Benches, restroom and parking
- Hours: 6:00 a.m. to 9:00 p.m.



Trains being loaded on Terminal 5 from Jack Block Park.



View of T-5 from Jack Block Park.



Views from Jack Perry Memorial Park

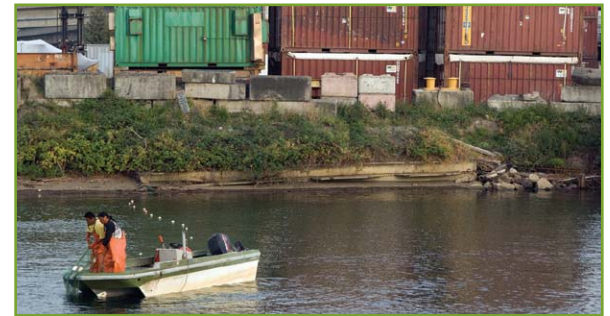
This one-acre park is located east of Terminal 18. The park offers 120 feet of shoreline access, provides great views of the operations on Terminal 18. To your right will be able to see cranes on Terminal 46 to your left you will be able to see the yard activity on Terminal 30.

- If there is a vessel at berth, you are in a prime location to see a vessel being worked.
- The white cranes at the end of Terminal 18 are the largest cranes in our harbor. They are capable of reaching across a ship 24 containers wide – the largest ships in the world.
- Depending on the time of your visit, you may see a vessel being led to berth by a tug boat.
- Seattle's largest ships, those carrying 8600 TEUs, call Terminal 18.
- The East and West waterways around Harbor Island are active salmon fisheries for Native American tribes. If it is salmon season, you may see some Native Fishermen netting salmon. The port and tribes work together to coordinate net placements and vessel activity during fishing season.
- This location gives you a good view of the crane operator's cab moving along the beam of the crane.
- Many of the ships you see are burning alternative low sulfur fuels, reducing emissions by over 80%.
- To your right you may see one of the U.S. Coast Guard vessels that are based in Seattle.
- To your left you may see stacked containers from Terminal 30.
- Depending on the time of your visit, if you look to your right, you are in a good location to see ships being worked at Terminal 46.
- As you exit Jack Perry Memorial Park, look straight ahead across Alaskan Way S. and Highway 99, and you will see the BNSF Railway Seattle International Gateway Yard. This is one of the rail yards (along with the Union Pacific's Argo Yard) where much of the cargo that flows in and out of the Port of Seattle is loaded/unloaded from/to destinations across the United States.

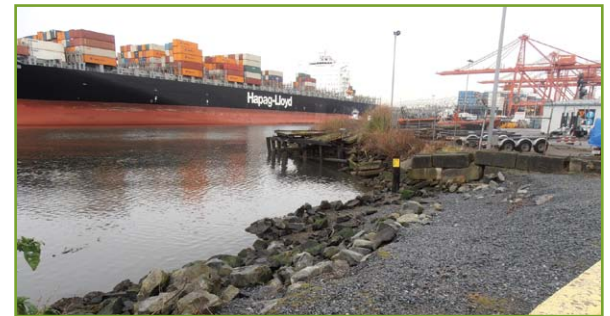
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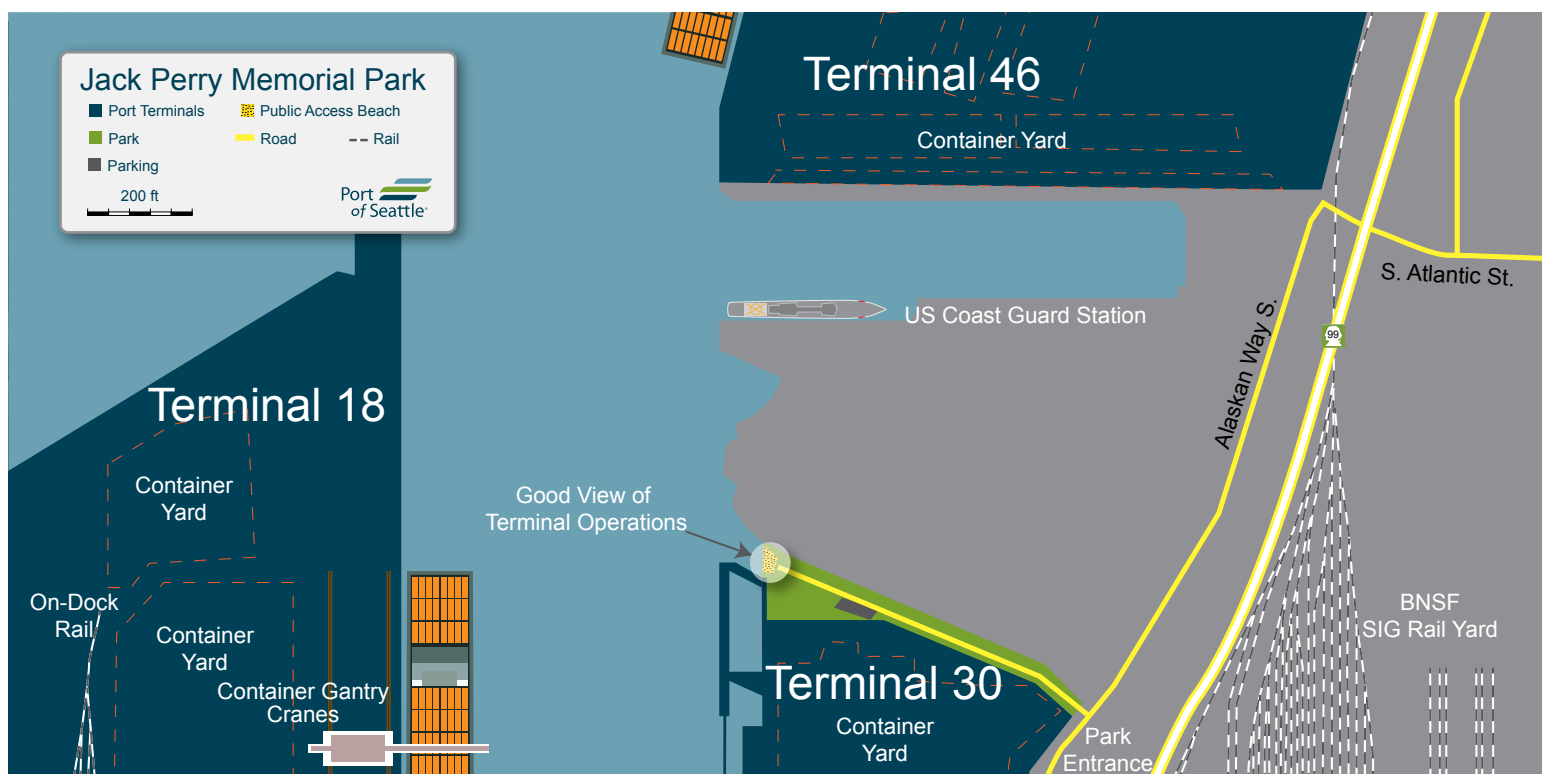
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Native American fishermen fish for salmon in the Duwamish river near Terminal 18.



Container ship arrives at T-18. Cranes from T-46 in the distance. View from Jack Perry Memorial Park.

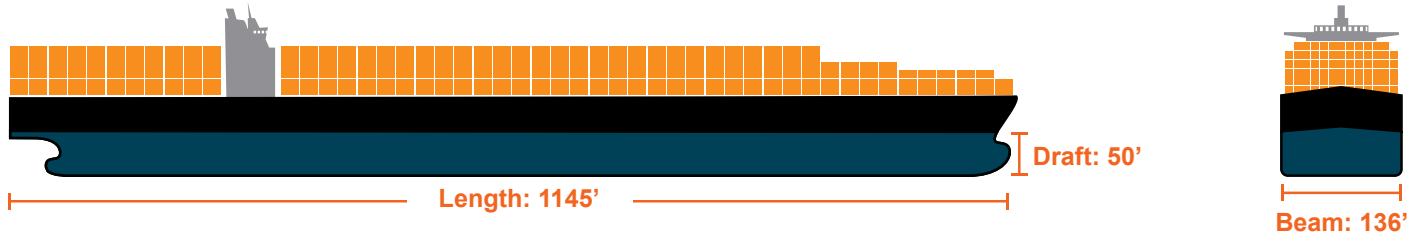


Container ship classifications

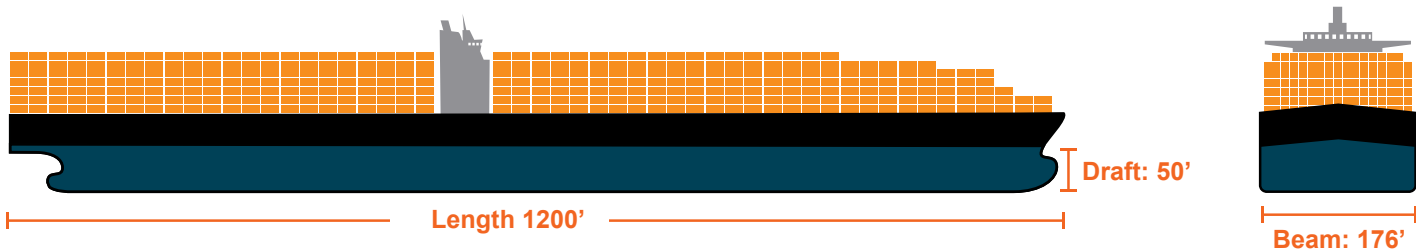
Panamax – (Capacity: up to 4,500 TEUs) ships that can fit through the Panama Canal



Post-Panamax – (Capacity: between 5,000-11,000 TEUs) ships too large to fit through the current Panama Canal



Super Post-Panamax – (Capacity: over 13,000 TEUs) ships too large to fit through a widened Panama Canal (opening in 2015)



Equipment you might see on our container terminals

Bomb Cart



A special chassis used only on a terminal to move containers around the yard.

Chassis



A wheeled trailer used to transport a container.

Radiation Portal Monitor



A specialized scanner which detects radiation. All containers pass through an RPM before leaving the terminal by rail or truck.

Yard Hostlers (Semi's)



Specialized semi-trucks for moving containers around the terminal yard.

Container or TEU



A container (also TEU) is a standardized, reusable steel box used for the safe, efficient and secure movement of freight worldwide. "Intermodal" means that the container can be moved from ship to rail to truck without unloading and reloading the contents. Containers come in several lengths including 20', 40' and 45'. Some containers are refrigerated to carry commodities like seafood, meat, fruits and vegetables.

Container Gantry Crane



The large orange and white cranes are operated by a specialized crane driver and used to lift containers to/from the ship. The crane spreader locks into the corner castings of a container to lift it. These cranes are mounted on rails and move up and down the dock.

Rubber-Tired Gantry Crane



These cranes are mounted on wheels and are used to move containers from a stack to a chassis or to a rail car. They are operated by a crane driver.

VACIS Machine



"Vehicle and cargo inspection system" is a special machine that uses gamma rays to examine the interior of containers to detect explosives, weapons, drugs -- even people -- and whether the cargo matches a manifest.

OCR



Optical Character Reader: A special machine used for entering information about the truck and cargo into a computer automatically.

Top Pick

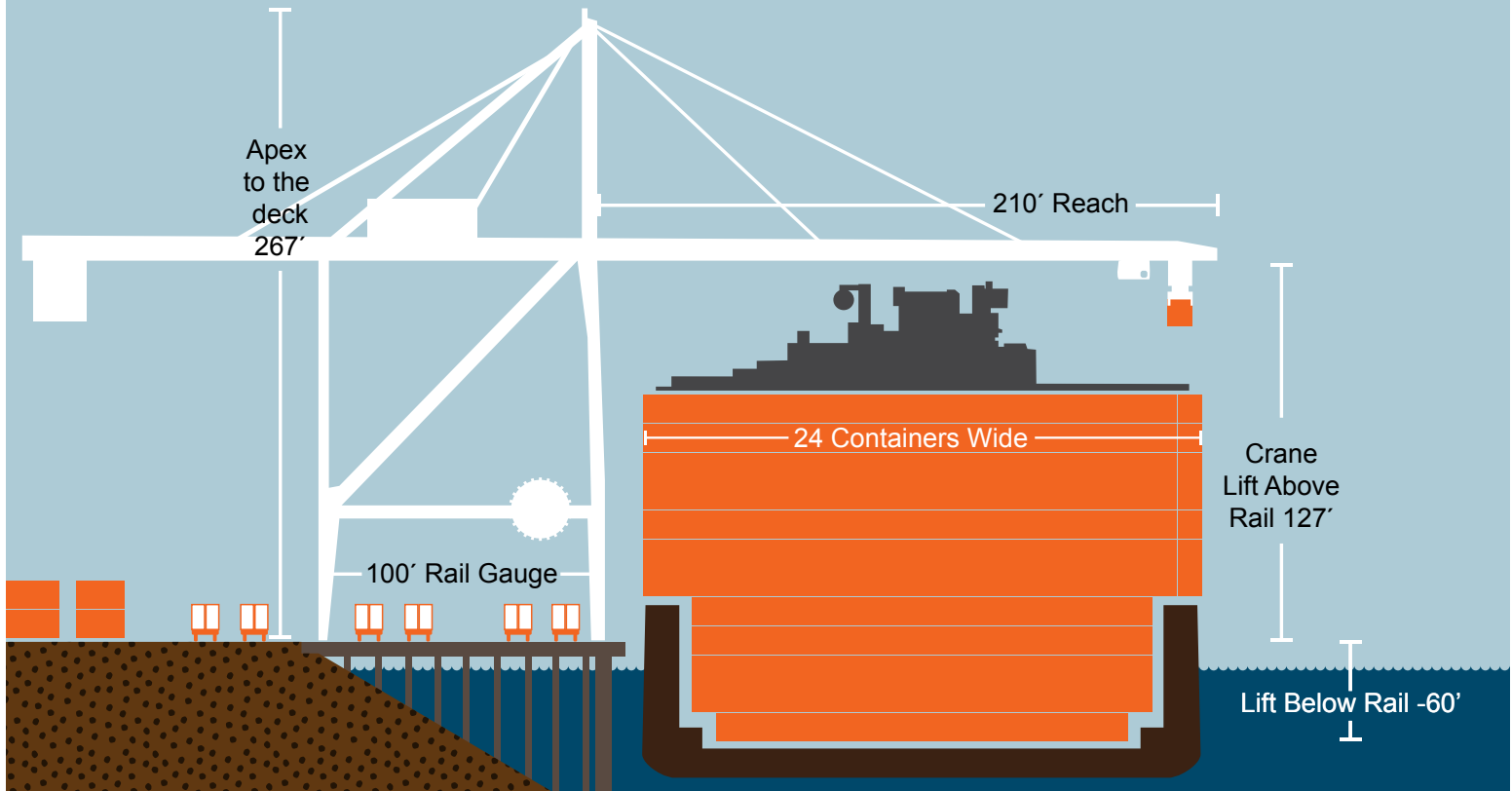


Equipment capable of lifting a container by means of a spreader locking the corner castings of a container.

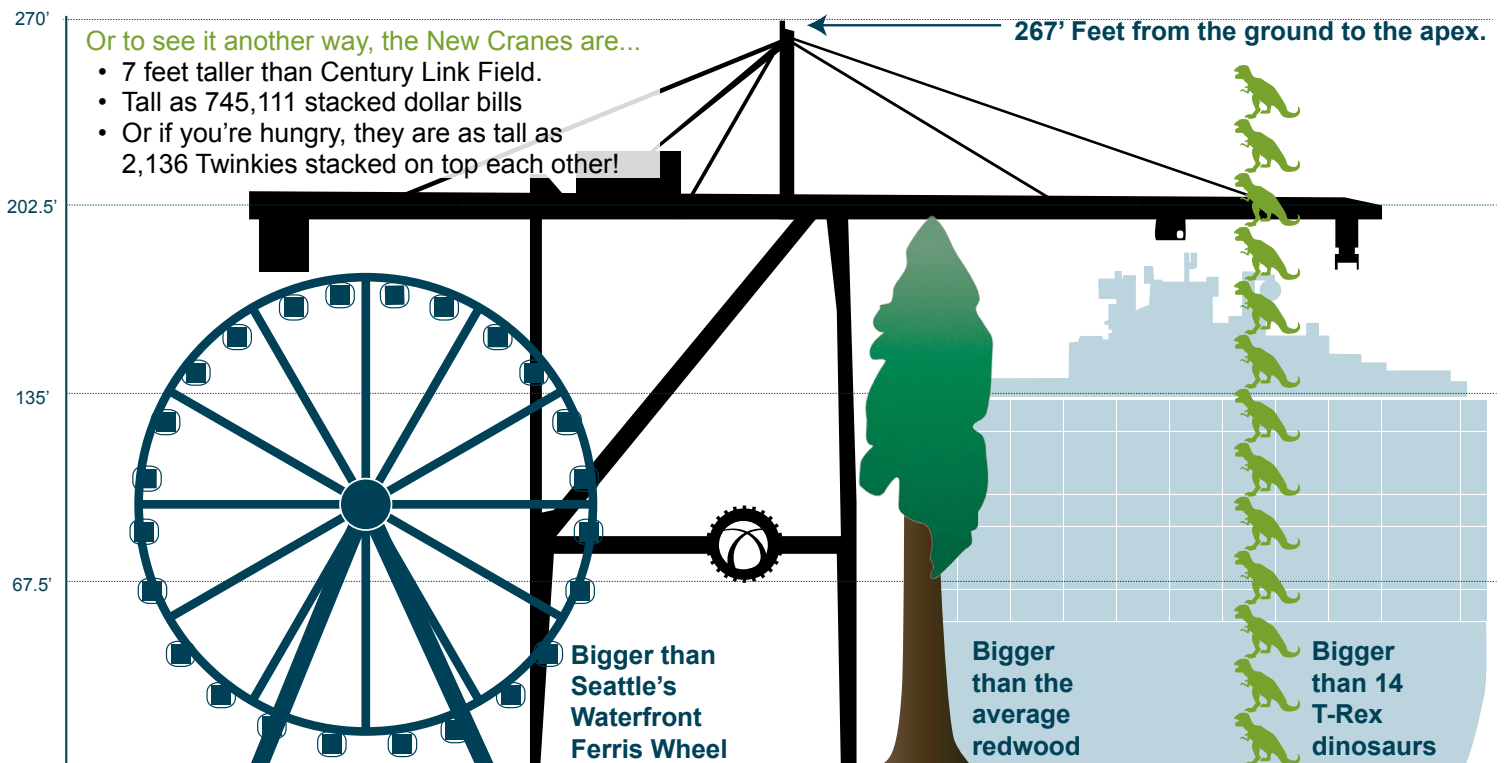
About our Cranes

The Port of Seattle is ready for the big ships that are sailing today and will sail in the future. Along with our naturally deep harbor, we have the infrastructure to meet the needs of the larger ships. In addition to our 11 Post-Panamax cranes, we have 13 giant Super-Post Panamax cranes dotting our harbor. This is the largest concentration of these giants in the U.S. Pacific Northwest.

A view of our newest cranes on Terminal 18



Big Ships need Big Cranes, but how big is a Super-Post Panamax Crane?





40%

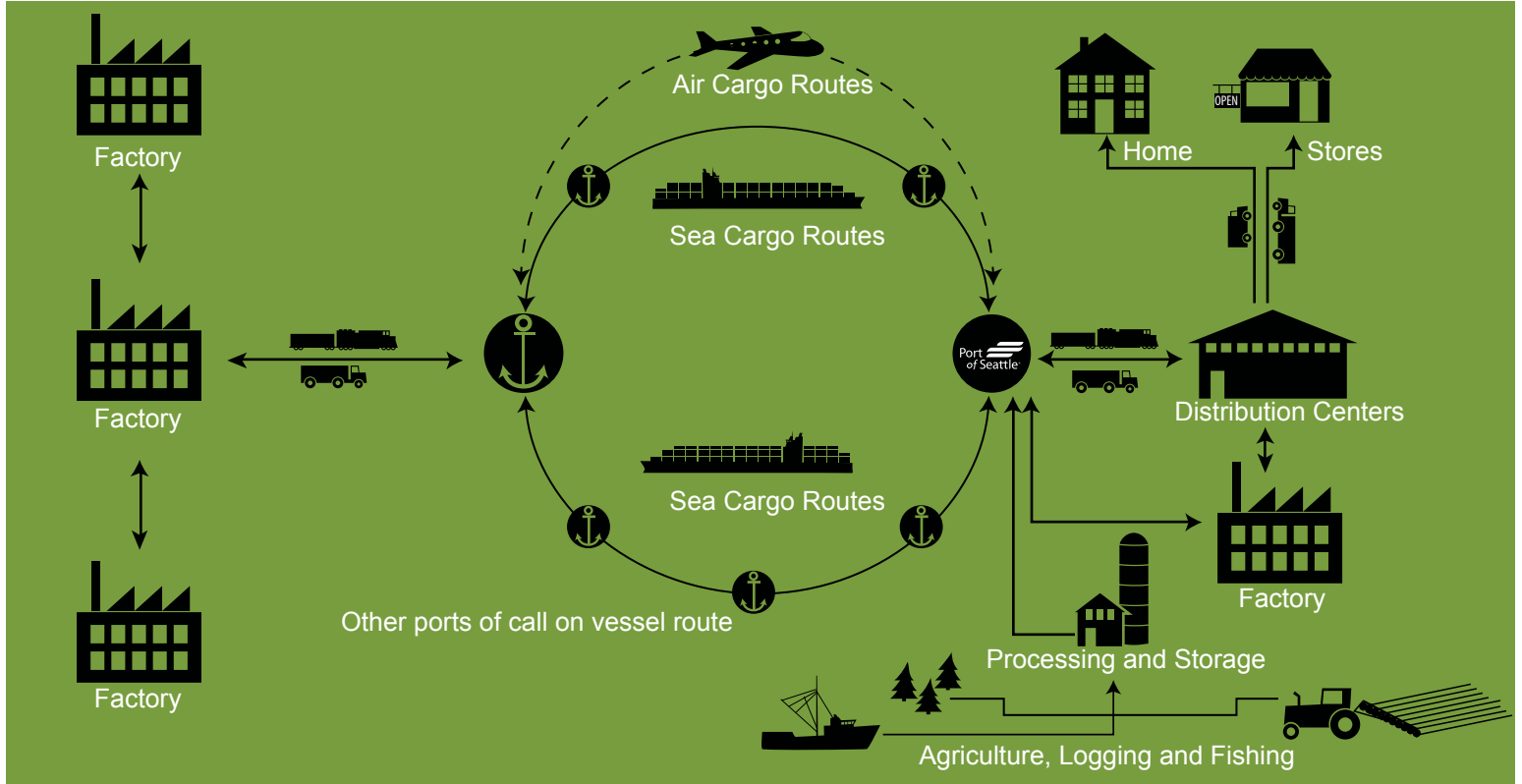
of Washington State Jobs are tied to International Trade

Washington Depends on World Markets

Washington State exports the most on a per capita basis, with shipments totaling \$64.6 billion in 2011. Exports are a key driver of job growth and economic prosperity, with 8,000 Washington companies in the export business. The Port of Seattle is Washington's export gateway to the world.

Basic logistics of global trade

The Port of Seattle is an economic engine for economic growth for Washington state. The port is an important link in the chain of global commerce that underlies modern civilization. This graphic gives you a good overview of the basic logistics of how goods and food stuffs are shipped around the world and the critical role that ocean cargo and ports play.



Washington's non-agricultural exports

More than \$7.6 billion of non-agricultural products are exported through the Port of Seattle each year. The leading products include forest products, seafood and paper related products. Washington state exports more seafood than any other state in the nation.

Top 10 Washington state non-agricultural exports via Port of Seattle Seaport

	Commodity Description	Metric Tons
1	Paper; Carbon, Crepe, Stationery	728,475
2	Logs, Lumber, Wood	242,130
3	Pulps; Cellulose, Chem Wood, Sulfite	142,564
4	Fiber; Hemp, Ramie, Raw, Tow, Waste	67,411
5	Metal; Concentrates, Residue, Scrap	64,045
6	Frozen Fish	58,350
7	Newsprint, Newsprint Paper	48,611
8	Iron, Steel; Waste, Scrap	44,306
9	Miscellaneous	43,013
10	Bentonite; Clay	40,158

Washington's agricultural exports

Nearly \$5.4 billion in agricultural products are exported through the Port of Seattle annually. Washington state ranks first in the nation for the production of 10 different commodities. This includes apples, sweet cherries, pears, red raspberries, hay, and hops. 300 agricultural commodities are produced commercially overall.

Top 10 Washington state agricultural exports via Port of Seattle Seaport

	Commodity Description	Metric Tons
1	Animal Feed, Hay, Brewer Grain	620,274
2	Vegetables	413,270
3	Fruit	201,203
4	Meat	92,937
5	Foodstuffs, Pastes, Sauces, Soups	79,789
6	Milk, Eggs, Dairy Products	68,785
7	Bulk Barley, Corn, Oat, Wheat, Sorghum	58,241
8	Soybean; Corn Soya Milk, Isolates	52,403
9	Bread, Cereal, Grain, Malt, Flour	39,995
10	Fowl, Poultry	29,608

Terminal 5

Operated by Eagle Marine Services

Acres: 172
Berths: 3
Berth length: 2,900 feet
Cranes: 6 post-Panamax
Carriers: APL, Hamburg Süd, Hyundai, MOL, Westwood
Depth: -45 feet to -50 feet
Rail: On-dock



Terminal 30

Operated by SSA Terminals

Acres: 70
Berths: 2
Berth length: 2,700 feet
Cranes: 3 super post-Panamax, 3 Panamax
Carrier: China Shipping
Depth: -50 feet
Rail: Near-dock



Terminal 18

Operated by SSA Terminals

Acres: 196
Berths: 4
Berth length: 4,440 feet
Cranes: 7 super post-Panamax, 6 post-Panamax
Carriers: ANL-US Lines, CMA CGM, Maersk Line, Matson Navigation, Safmarine
Depth: -50 feet
Rail: On-dock



Terminal 46

Operated by Total Terminals International

Acres: 88
Berths: 2
Berth length: 2,300 feet
Cranes: 3 super post-panamax, 2 post-panamax
Carriers: COSCO, Hanjin, "K"-Line, MSC, Yang Ming
Depth: -50 feet
Rail: Near-dock



For more information:

Economic impact:

To learn about the economic impact of the Port of Seattle on King County and Washington state: www.portseattle.org/Supporting-Our-Community/Economic-Development/Pages/default.aspx

Environment:

To learn more about the important role the port plays in being a good steward for our environment, see our environmental page: www.portseattle.org/Environmental/Pages/default.aspx

The history of containerization, ports and global trade:

To learn more about the development of containerization and intermodal trade, check out these two great books: [The Box - How the Shipping Container Made the World Smaller and the World Economy Bigger](#) by Mark Levinson. [The Box That Changed the World - Fifty Years of Container Shipping - An Illustrated History](#) by Arthur Donovan and Joseph Bonney.

History of the Port of Seattle:

To learn about the history of the Port of Seattle, check out our Centennial Map and Timeline: www.portseattle100.org



Where a sustainable world is headed.™
www.portseattle.org