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# Port of Portland's Marine Terminal 6 Contribution to Regional Economic Development

Lewison Lem  
*Port of Portland*

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# The Port of Portland's Marine Terminal 6 Contribution to Regional Economic Development

Lewison Lem, Ph.D., MPA

Presentation at Portland State University – September 30, 2022



# DISCLAIMER

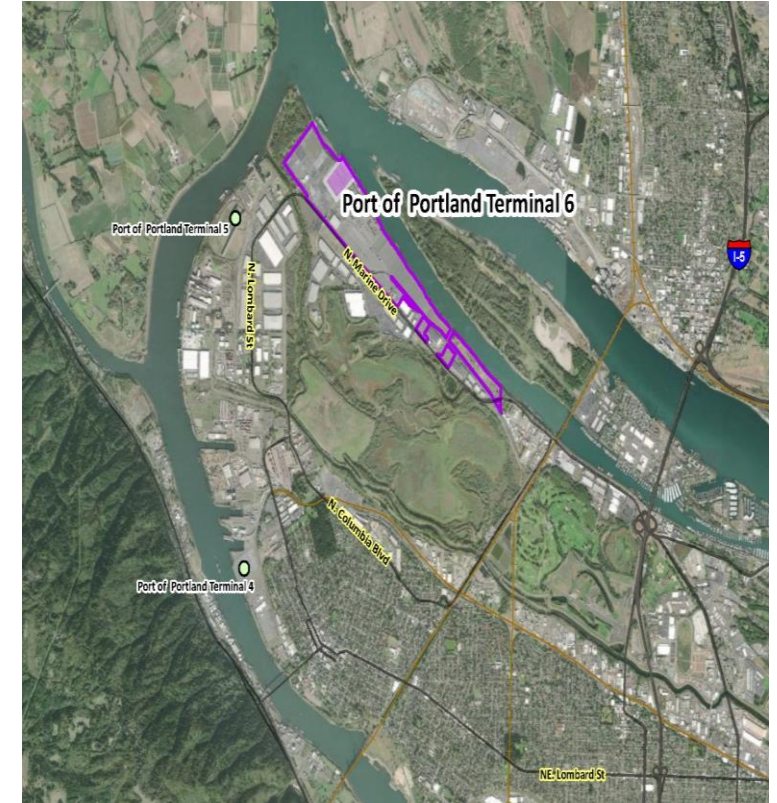
- Statements made do not represent official views of the Port of Portland.
- Information provided at Portland State University for educational and continuing education purposes.
- All errors of omission and commission the sole responsibility of the individual speaker.
- All statements are 'off-the-record'.



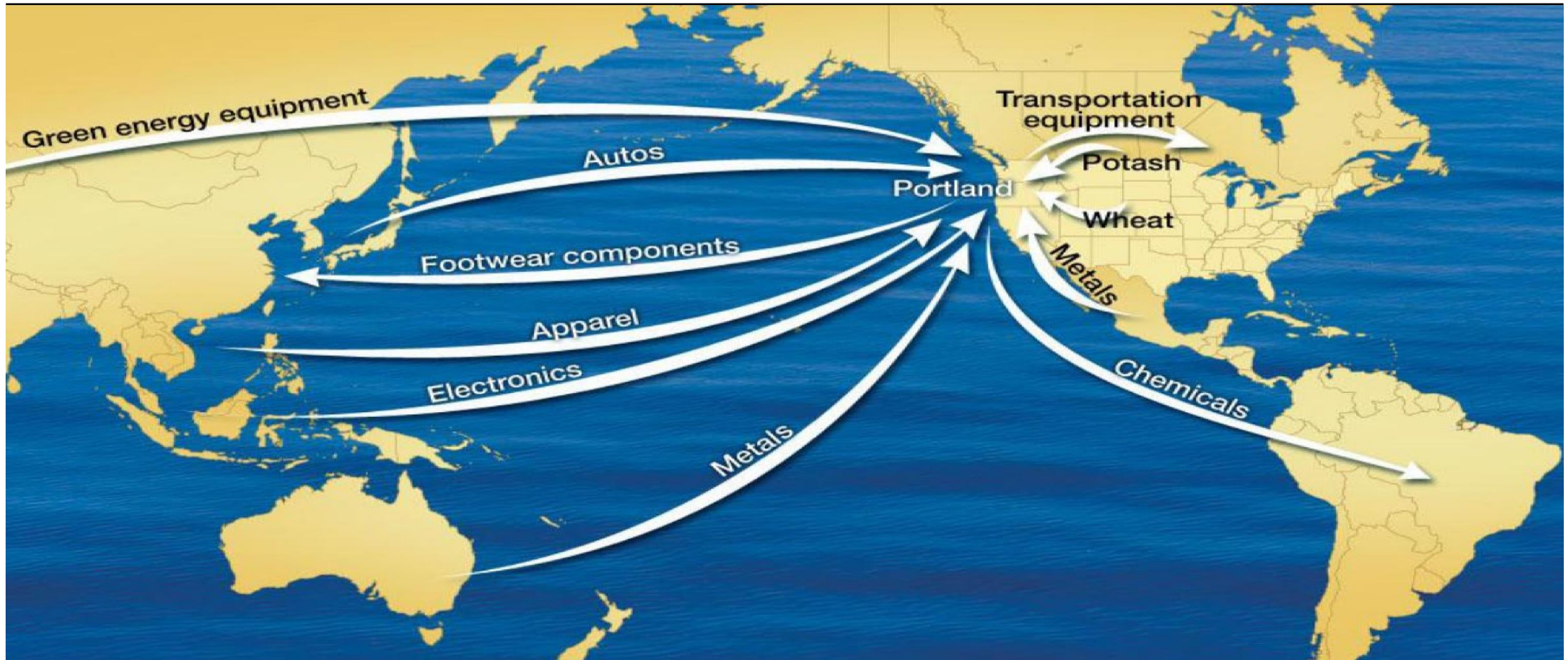
# Terminal 6 in the Pacific Northwest Regional Transportation System



- Port of Portland's Marine Terminal T6 is unique amongst United States seaport facilities:
  - Mobile Harbor Cranes
  - Container yard
  - Intermodal yard
  - Direct river-grade rail and highway access points
  - Less congested inland transportation connections



# Transpacific cargo service is key to understanding T6



# Overview of Terminal 6 in the Twenty-First Century





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# GATEWAY TO NORTH AMERICAN RAIL NETWORK





# On-Terminal Intermodal Yard facilitates Ship-Rail transfers





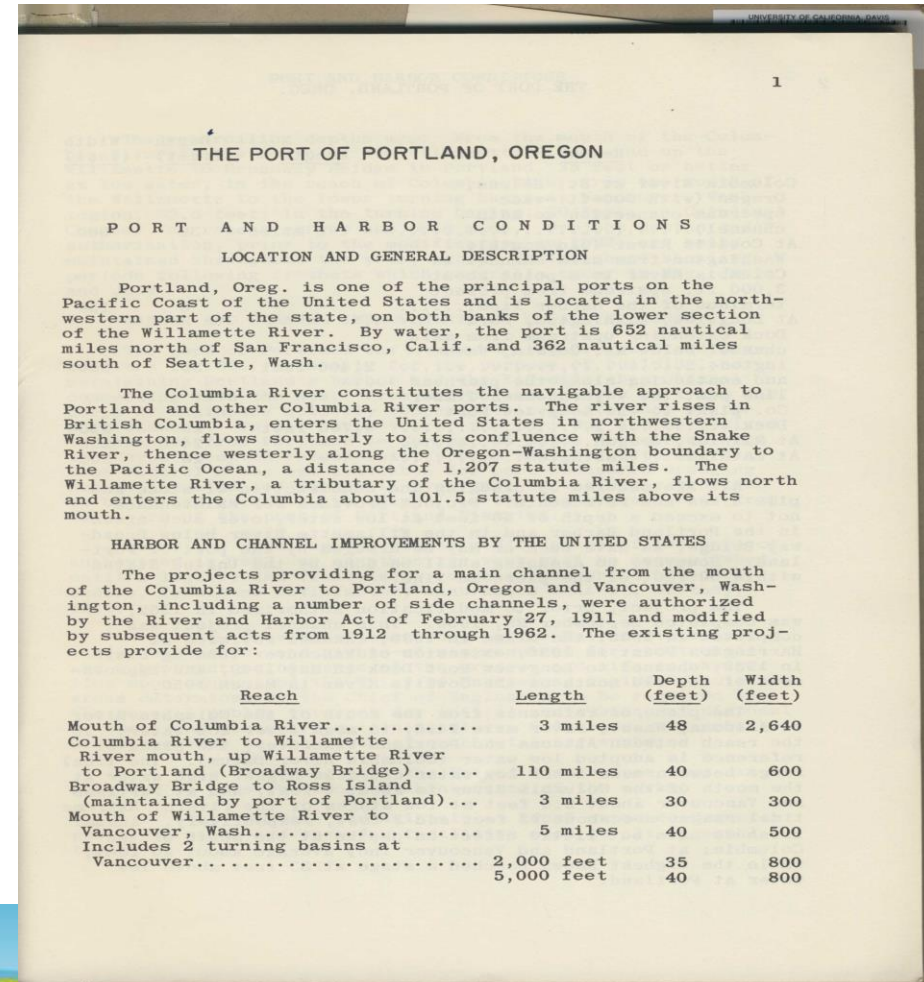
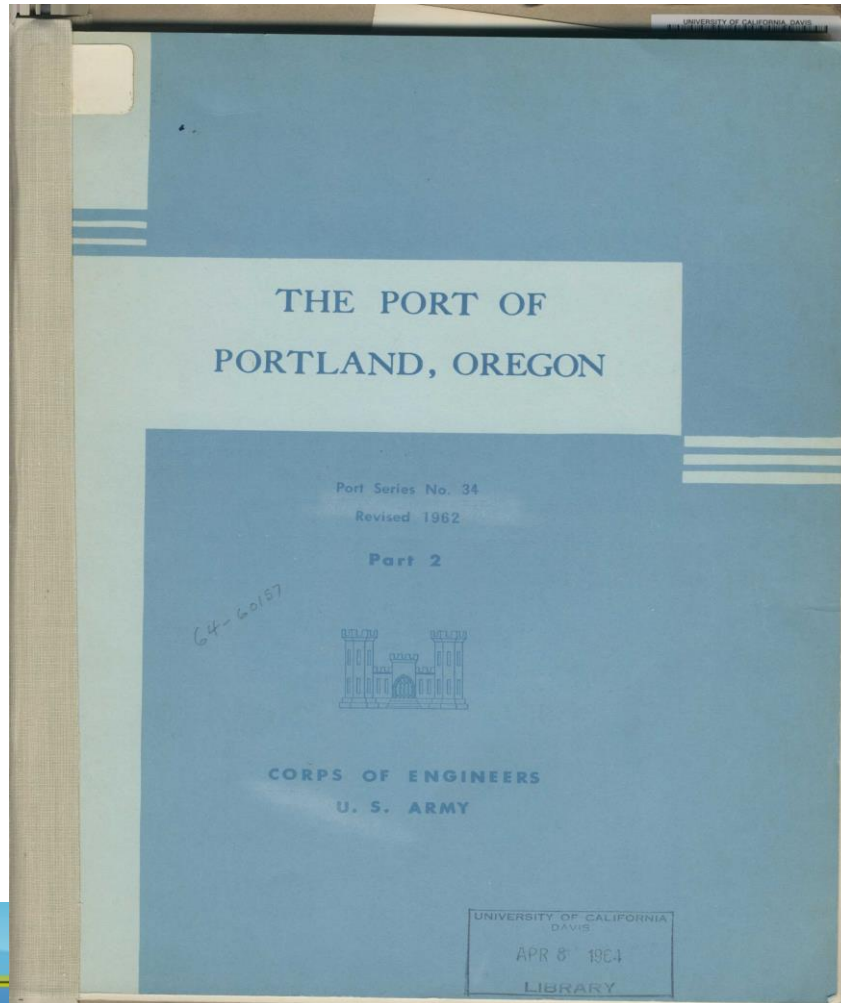
- Union Pacific Intermodal Cargo Service to Chicago
- Service Started to Kansas City and Memphis



The 600-ft wide, 43-ft deep navigation channel in the Columbia River follows the Oregon-Washington border and extends 106.5 miles from the mouth of the Columbia River at the Pacific Ocean to the Port of Portland and the Port of Vancouver, Washington



The deepening of the Columbia River channel was the most significant in 50 years – from 40' to 43' depth

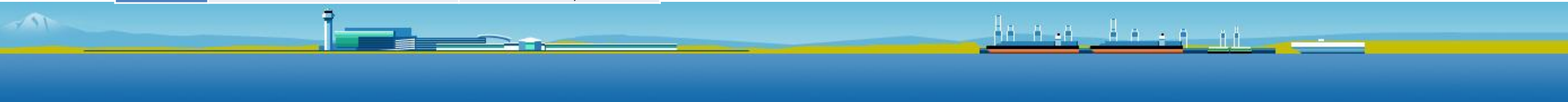


# MSC Mustang Service – Port of Portland First Call



- At 40-foot channel depths, T-6 routinely handled vessels in the range of 5,500 TEU.
- With 43' channel depth, MSC Navios Unite Unloads (March) Record-Breaking 8,200 TEUs

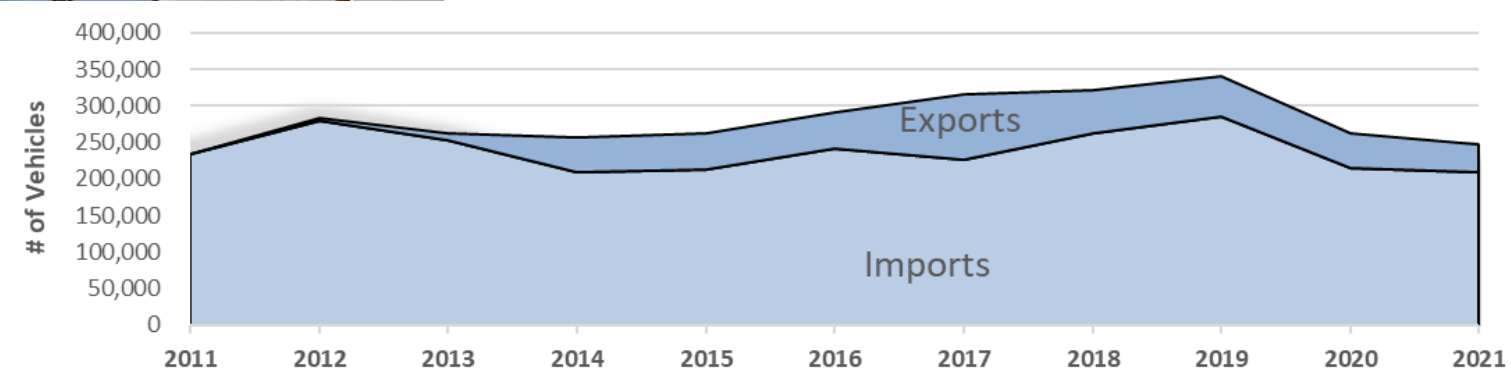
Date	Vessel	TEU Capacity
2/2/22	MSC NERISSA	5,059
3/9/22	NAVIOS UNITE	8,204
3/26/22	MSC BHAVYA	5,042
5/12/22	MSC LISA	5,059
5/31/22	MSC ELENI	5,059
6/26/22	MSC TAMPA	5,041
7/9/22	MSC SHAY	8,566
7/15/22	MSC ELENI	5,059
8/4/22	MSC MADELEINE	9,200
8/9/22	MSC DESIREE	9,400



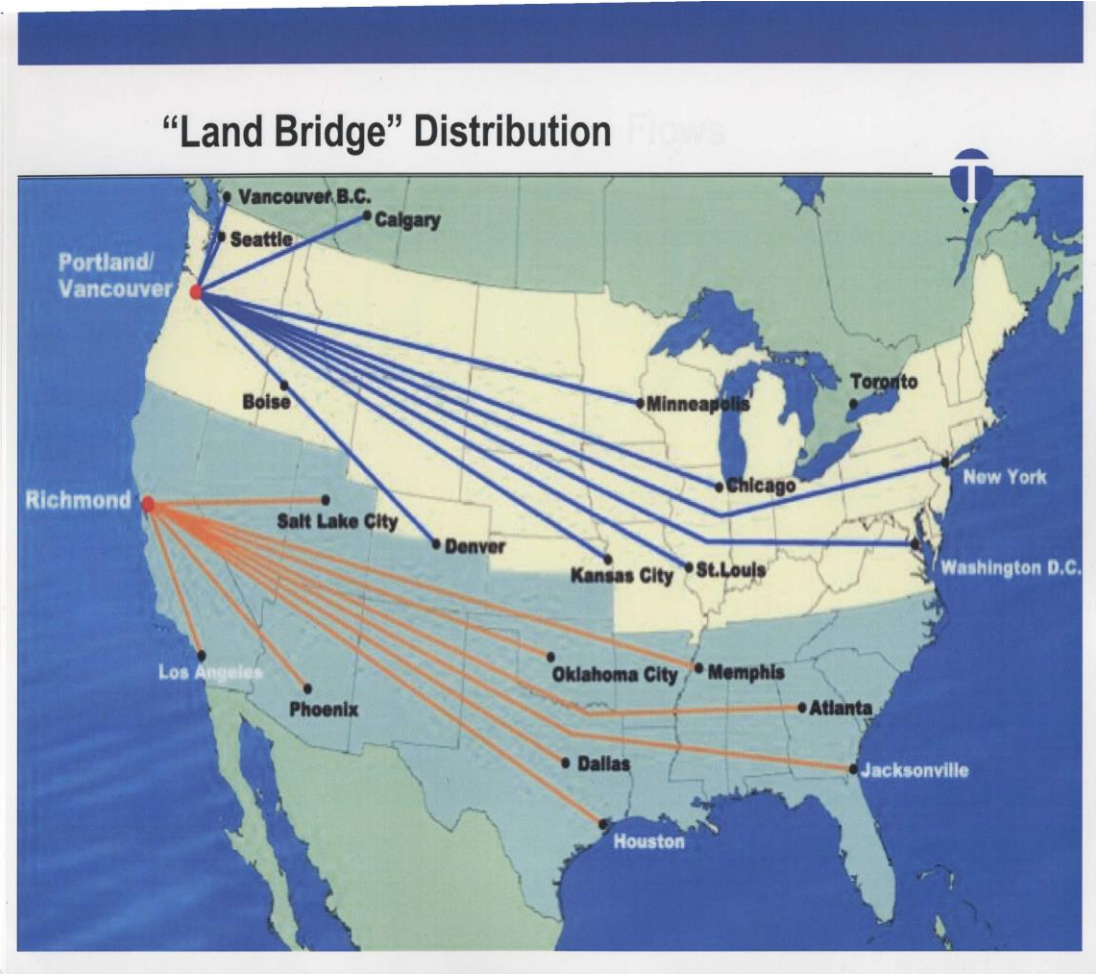
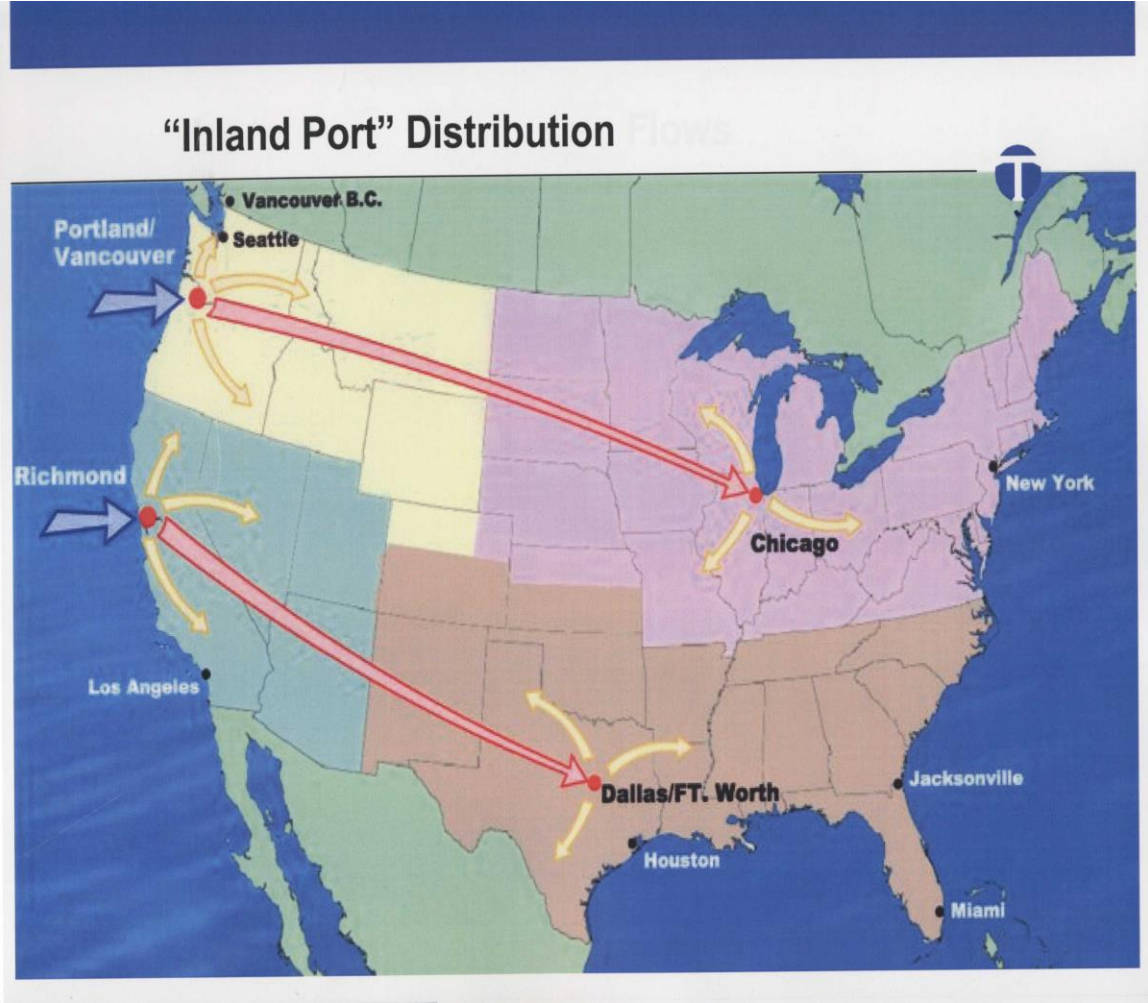
# PNW Gateway for Finished Vehicle Logistics



247,000 annual vehicles handled

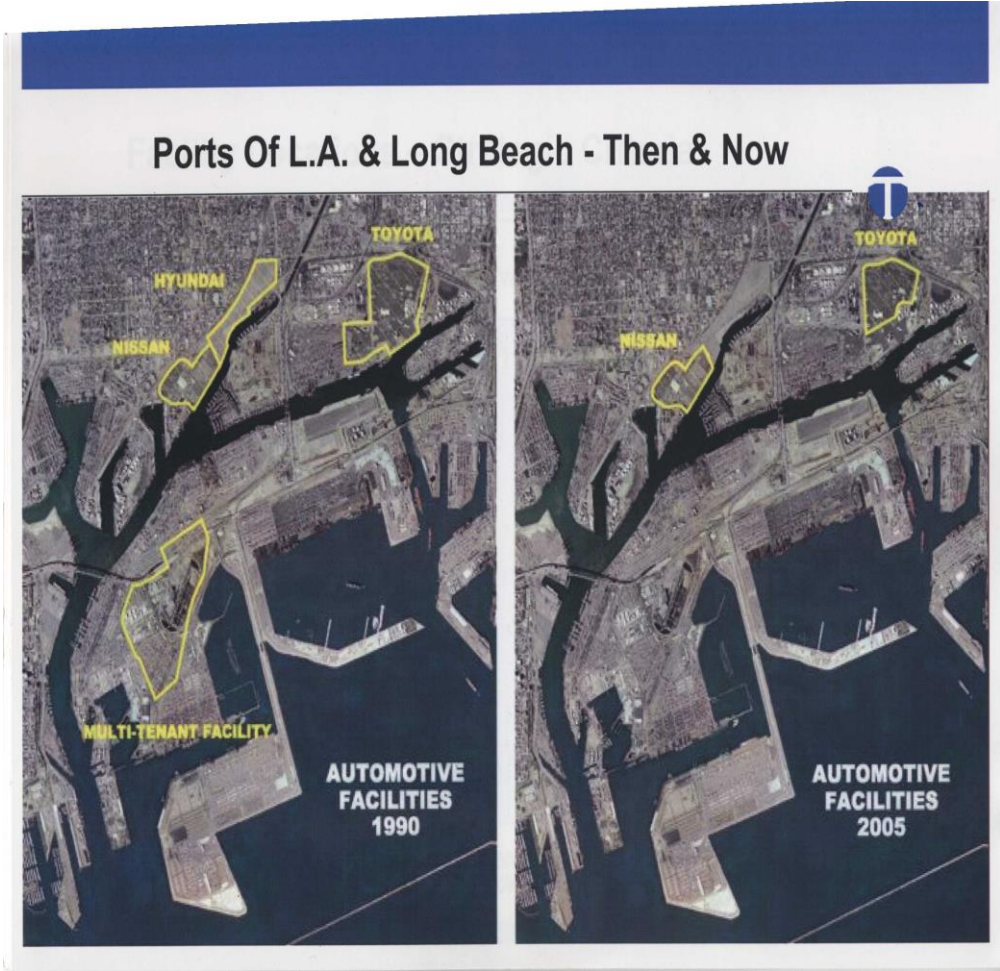


# Port Distribution and Land Bridge

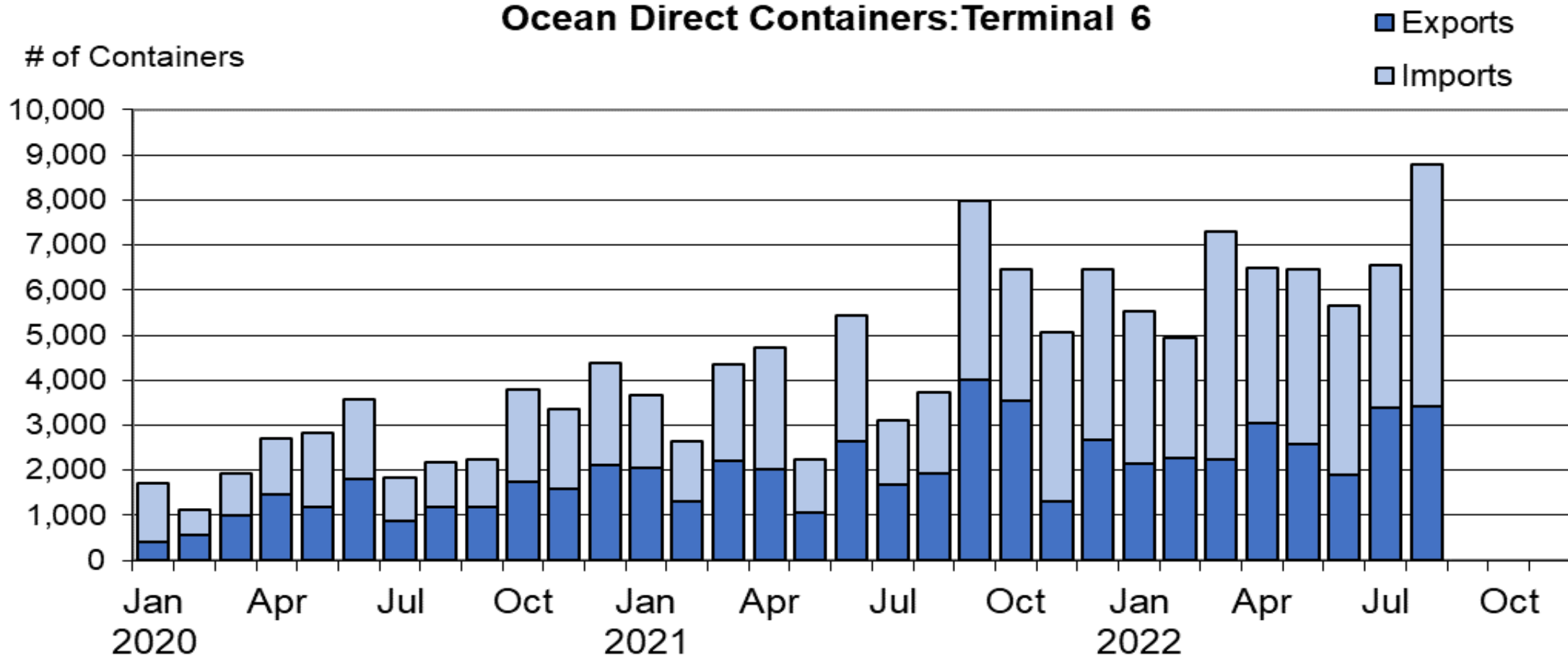




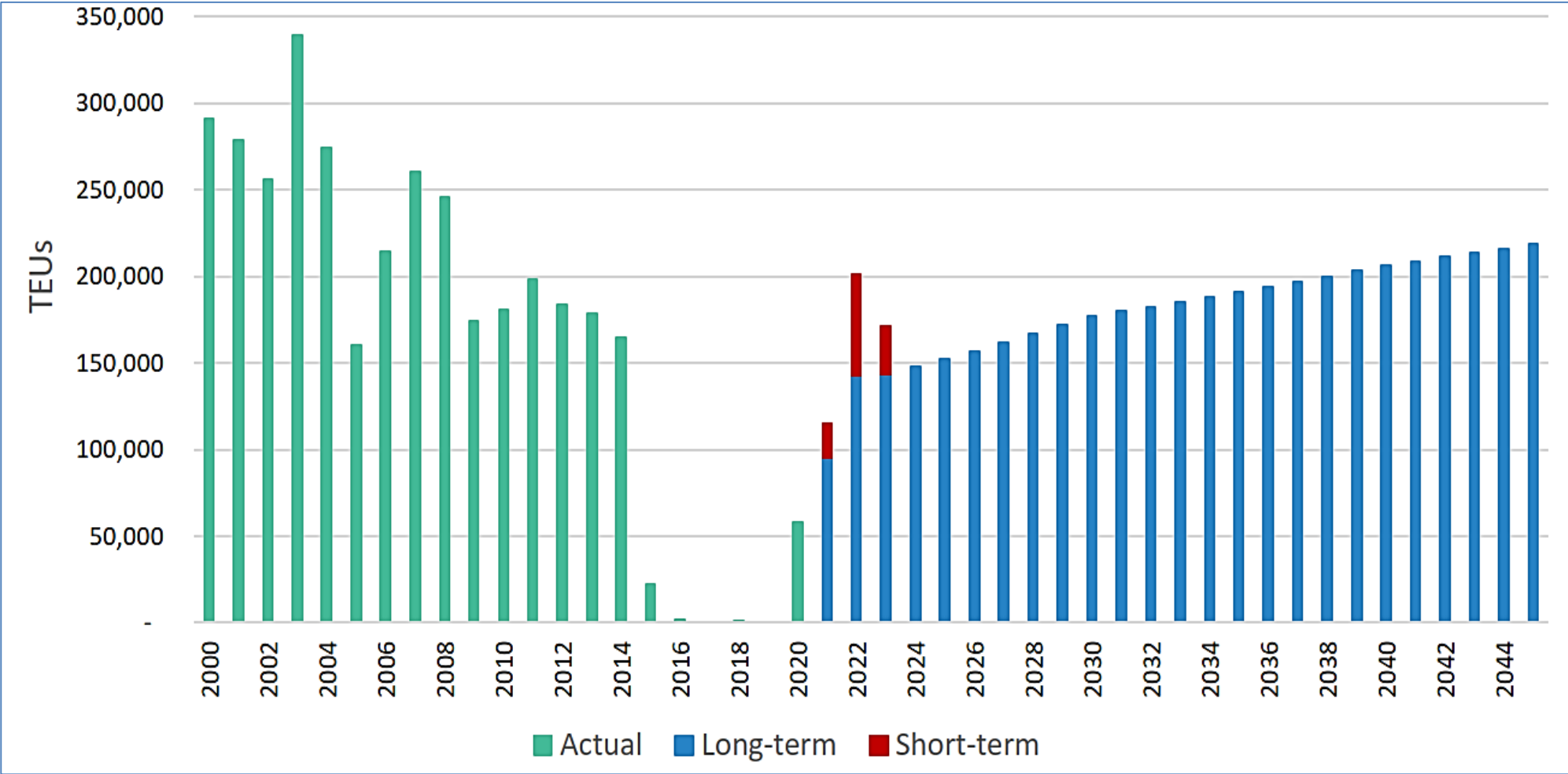
# Example of Changes in Pacific Port Cargo Flows over Time



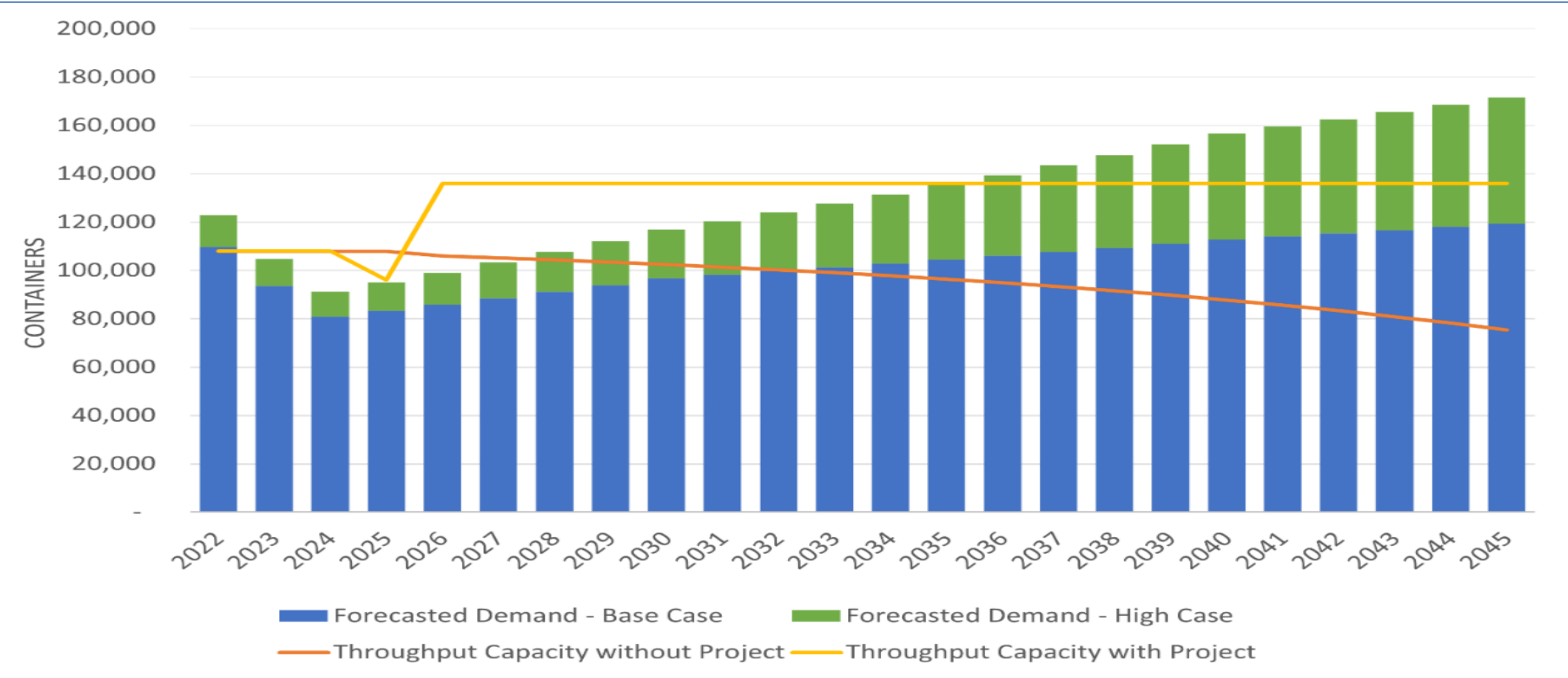
# Ocean Direct Containers:Terminal 6



# Port of Portland Historical and Estimated Future Containerized Cargo Throughput



# Projected Port of Portland T6 Future Years Container Demand and Capacity



# Recent Competitive Grant Applications Port of Portland Seaport Terminals Marine Terminal 6

October 2021 – State of Oregon (ODOT)  
Connect Oregon Program

May 2022 – United States Department of Transportation (USDOT)  
Maritime Administration (MARAD)  
Port Infrastructure Development Program (PIDP)



# Connect Oregon Grant Award

- <https://www.flypdx.com/Newsroom/Connect-Oregon-Grant-Greenlights-Increased-Capacity-at-Terminal-6>
- The Port of Portland was awarded a \$7.37 million from the Oregon Department of Transportation's Connect Oregon funding for the Marine Terminal 6 Capacity project, which is planned to increase much needed shipping container capacity and improve container handling safety and efficiency.
- Terminal 6 is the only ocean container terminal in the State of Oregon; T6 is a critical link in container shipment of both exported and imported goods between ship, rail, barge and truck.



# Terminal 6 – Expanding & Improving Container Cargo Service



# Terminal 6

Electrical Improvements

Repaving





# State DOT Connect Oregon Project – Economic Review

The project is projected to provide benefits statewide:

(1) Increased jobs, personal and business income & tax revenues in the supply chain serving container service and

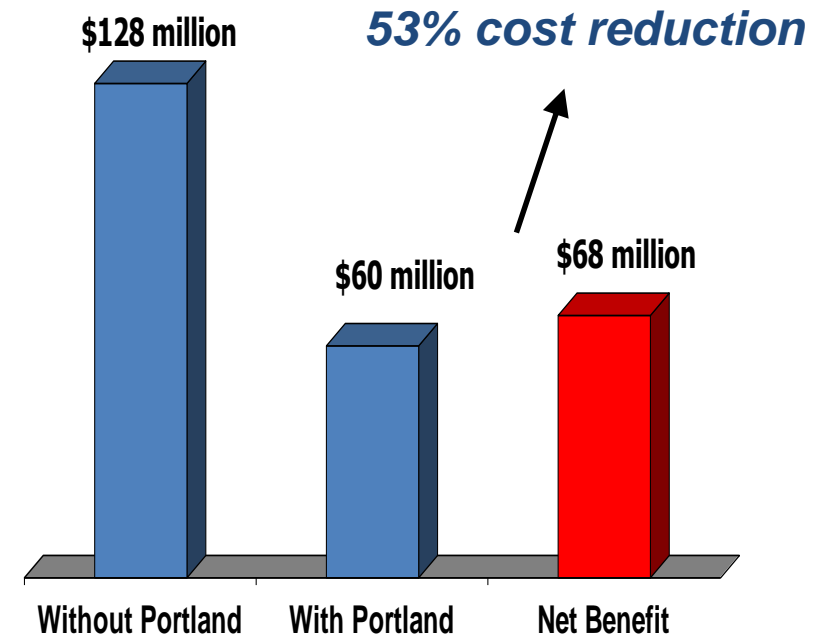
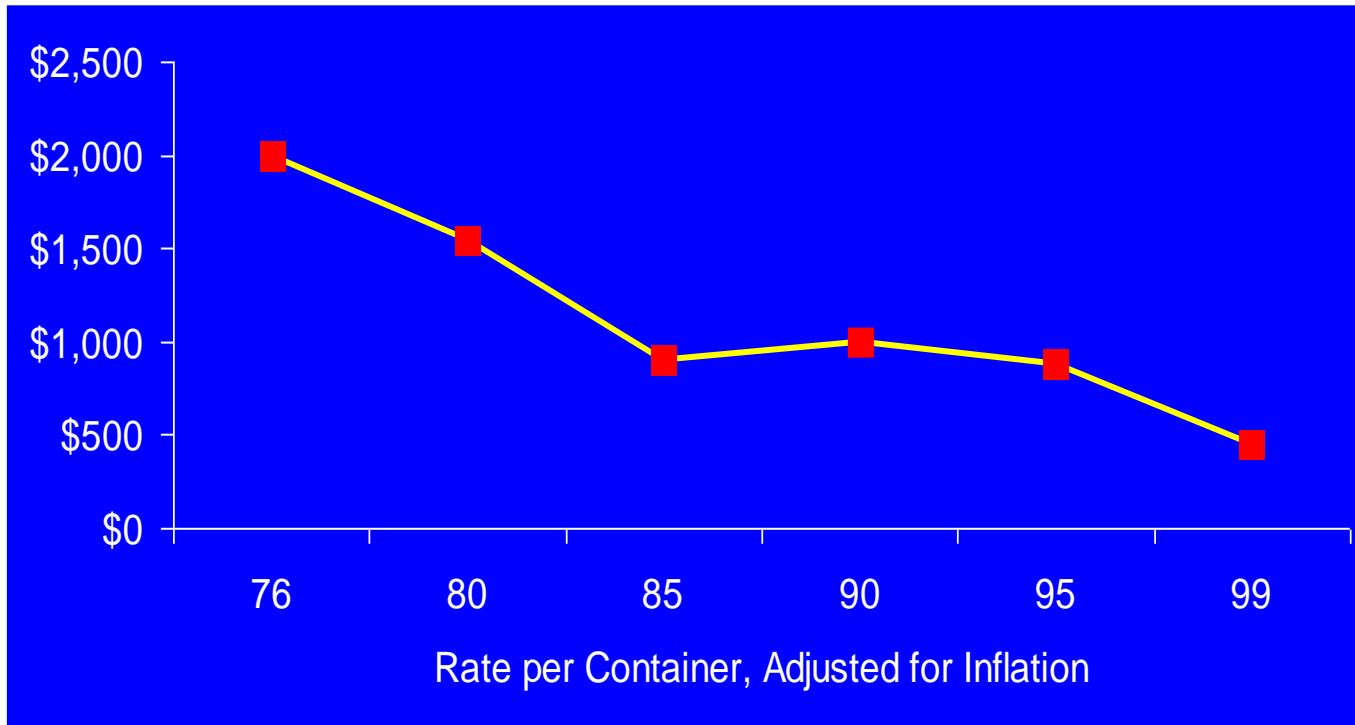
(2) retention and growth of jobs by Oregon's importers and exporters.

- 'Economic analysis -- high impact project. Significant high-wage job creation'

- Second highest ranked marine project of the 31 project applications.
- The project received a overall rating of 88, including 19/20 score for economic benefit rating



# Transpacific Export Container Freight Rate History and Container Transportation Cost Reduction



# Benefits within Port of Portland Container Market Area

- Based on a weighted average flow of containers, the Port of Portland is on average 266.7 miles closer than alternate ports used for imports to the Portland region.
- The Port of Portland is on average 83.6 miles closer than alternate ports used for exports from the Portland region.
- The weighted average mileage savings per container by continuing to flow through the Port of Portland compared to other ports is estimated to be 166 miles in 2033.



Source: Port of Portland Container Service Forecast and Economic Contribution Assessment, BST (2021)



# Benefits from Avoided Landside Diversion

Over the 20-year project analysis period, total avoided truck vehicle miles traveled (VMT) due to adequate capacity at Terminal 6 equals 45,031,123.

Year	2026	2030	2040	2045
Containers Diverting to other Ports Due to Capacity Constraints	0	0	24,433	44,450
Vehicle Miles Traveled Savings	0	0	3,985,967	7,170,993
Reduced Trucking Cost (Undiscounted)	0	0	\$6,684,467	\$12,025,755



# Previous Estimate of Overall Economic Impacts of the Portland Harbor

**14,057 jobs** created by maritime activity

- Direct Jobs: 5,199
- Induced Jobs: 5,551
- Indirect Jobs: 3,306

**\$1.1 billion** direct business revenue

- \$628.8 million generated by public terminals
- \$438.1 million generated by private terminals

**\$1.2 billion** total personal income and local consumption

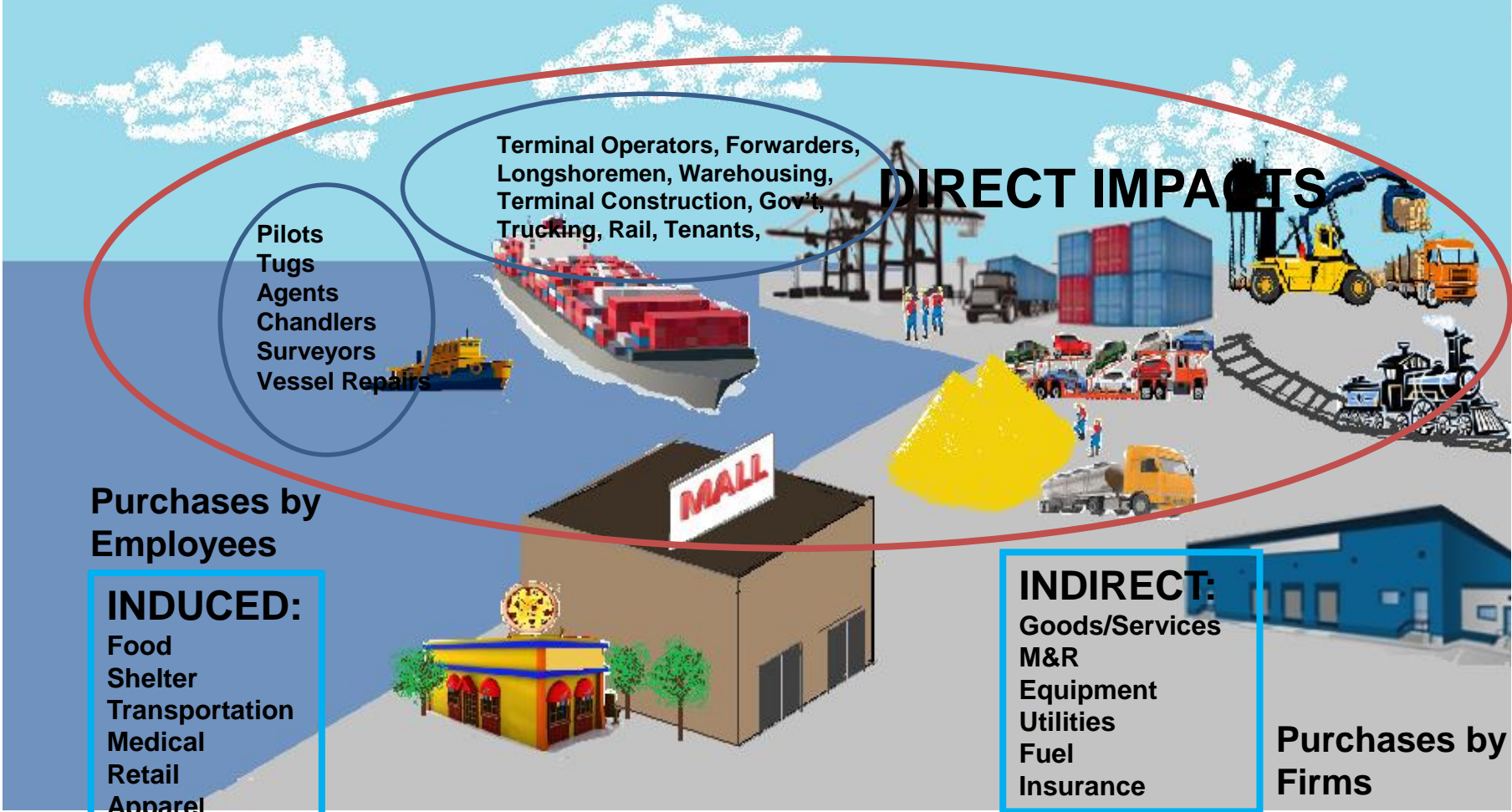
- Direct: \$294.9 million (\$56,720 average wage)
- Re-spending/Local Consumption: \$719.7 million
- Indirect: \$143.9 million

**\$111.1 million** of state and local taxes

- Oregon: \$69.0 million
- Washington: \$42.1 million



# Flow of Economic Impacts



# Direct Jobs by Category

	<b>TOTAL PORTLAND HARBOR</b>
<b>SURFACE TRANSPORTATION</b>	
Rail	365
Truck	<u>1,088</u>
<b>SUBTOTAL</b>	<b>1,453</b>
<b>MARITIME SERVICES</b>	
Terminals	1,162
ILWU	533
Towing	32
Pilots	25
Agents	22
Surveyors/Chandlers/Maritime Services	16
Forwarders	99
Warehouse and Container Repair	121
Government	222
Maritime Construction	1,133
Barge	<u>161</u>
<b>SUBTOTAL</b>	<b>3,526</b>
<b>PORT OF PORTLAND</b>	<b>178</b>
<b>BANKING/INSURANCE/LAW</b>	<b>16</b>
<b>SHIPPERS/CONSIGNEES</b>	<b>26</b>
<b>TOTAL</b>	<b>5,199</b>

<b>PROJECT-RELATED TEUs: 63,028</b>	<b>Jobs/1000 TEU</b>	<b>Total Jobs</b>
RAIL	0.22	14
TRUCK	1.68	106
<b>SUBTOTAL</b>	<b>1.90</b>	<b>120</b>
<b>MARITIME SERVICES</b>		
TERMINAL		-
ILWU	0.90	56
TUG ASSISTS	0.05	3
PILOTS	0.07	4
STEAMSHIP LINES/AGENTS	0.04	2
MARITIME SERVICES	0.09	6
FREIGHT FORWARDERS	-	-
WAREHOUSE/DISTRIBUTION CENTERS	0.85	54
GOVERNMENT	0.17	10
MARINE CONSTRUCTION/SHIP REPAIR		-
BARGE		-
<b>SUBTOTAL</b>	<b>2.16</b>	<b>136</b>
<b>TOTAL</b>	<b>4.06</b>	<b>256</b>



# Historical Perspective and Outlook/Risks for Future

- Strong Dollar getting stronger with interest rate increases
- Balance of Imports and Exports
  - Imports may trend with US economy
  - Exports may trend with global economy
- Risk of global recession, potentially impacting both imports and exports
- Shipping cycle uncertainty (e.g. 2015 Hanjin bankruptcy)





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