

Marine Port Air Quality Impacts

Port of Portland's Perspective: Current and Planned Actions, Opportunities, and Challenges

Philip Ralston
Port of Portland

Air and Waste Management Assn.
West Coast Conference on Marine Port Air Quality Impacts, Seattle, WA
April 22, 2004



Port of Portland



Secretary of State of the State of Oregon, and Custom
of the Seal of said State; that the foregoing transcript
of "An Act. to establish and incorporate the Port
of Portland and to provide for the improvement of the
Willamette and Columbia Rivers, in said Port and
between said Port and the Sea," passed by the 16th
session of the Legislative Assembly of Oregon



MISSION STATEMENT

“The mission of the Port of Portland is to provide competitive cargo and passenger access to regional, national, and international markets while enhancing the region’s quality of life.”

Business Lines

- Marine
- Aviation
- Properties
- Dredge



Aviation

The Port owns and operates four airports:

Portland International Airport

Hillsboro

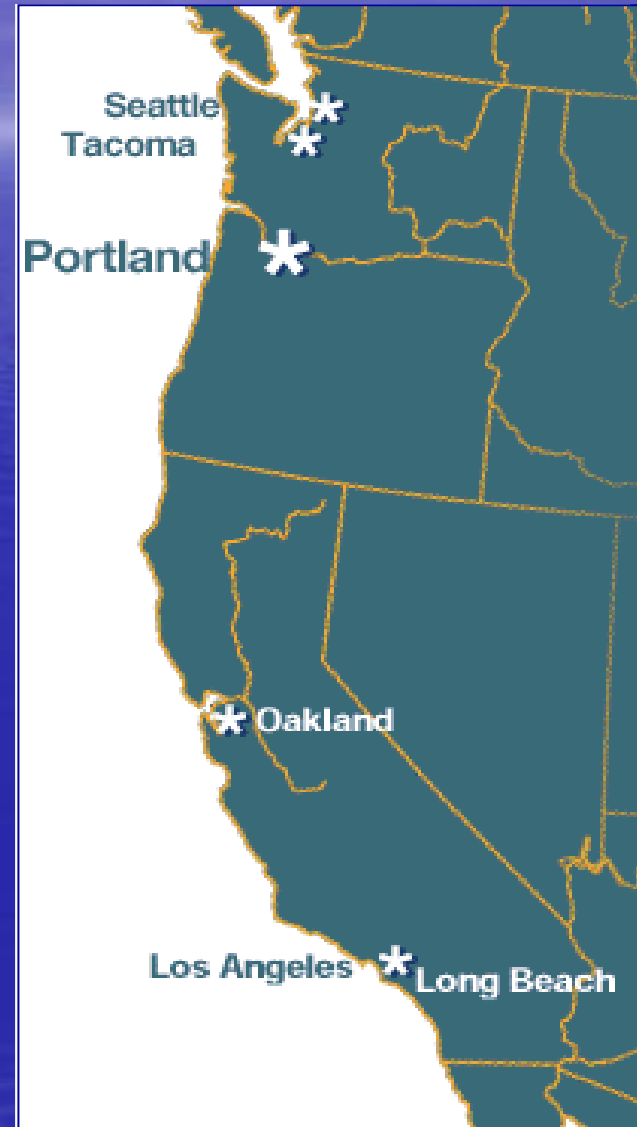
Troutdale

Mulino



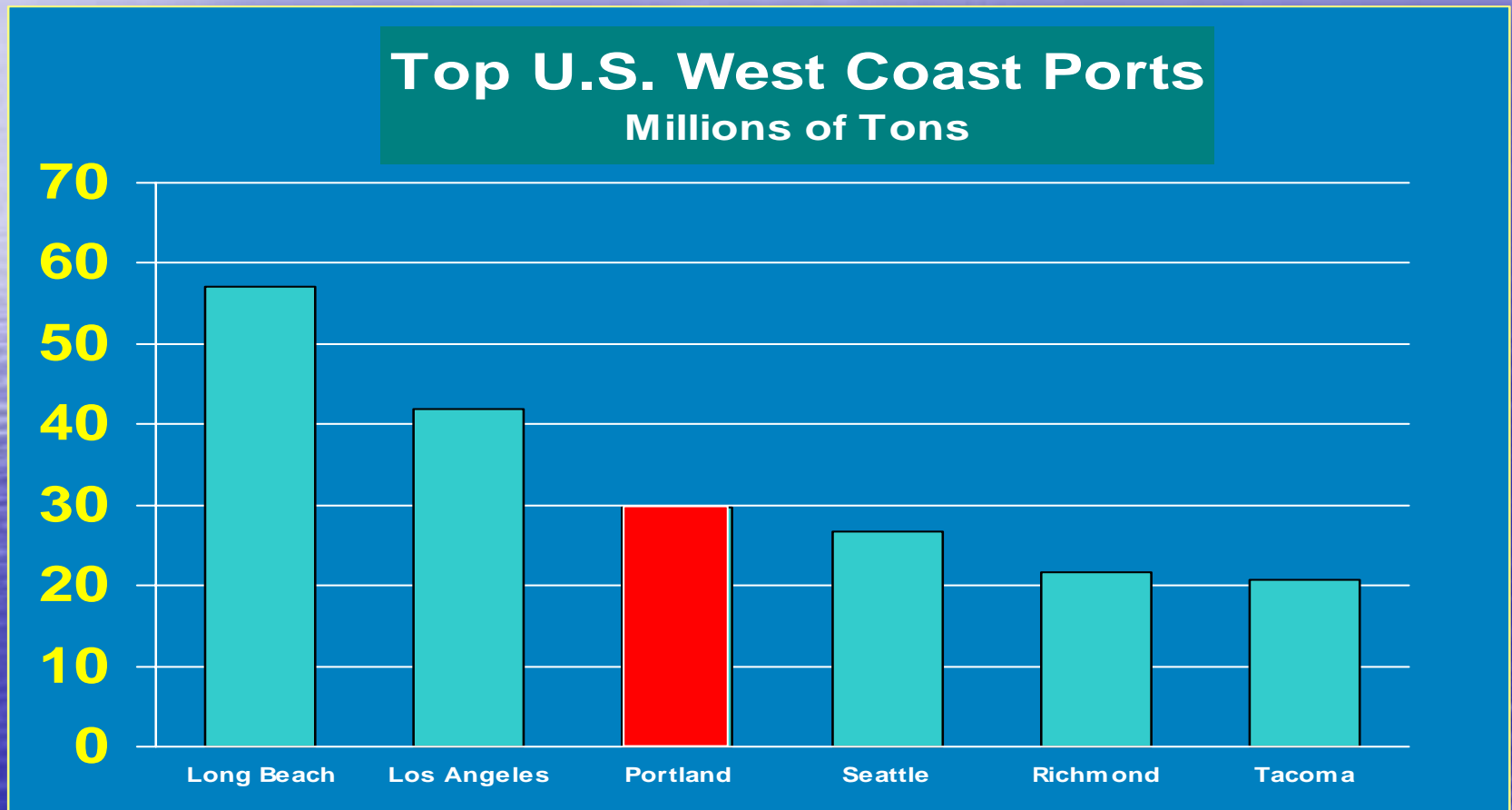
Marine – Columbia Snake River Navigation System Makes Us Unique

- Export Orientation
- Inland river system 2nd longest in US
- 18 deep-water and barge-channel ports
- Inland shipping on System results in lower costs than truck or rail rates.
- More energy efficient than truck or rail
- Less potential for emissions per cargo unit transported.
- Large Commercial Vessel Calls/Yr. = approx 1,800



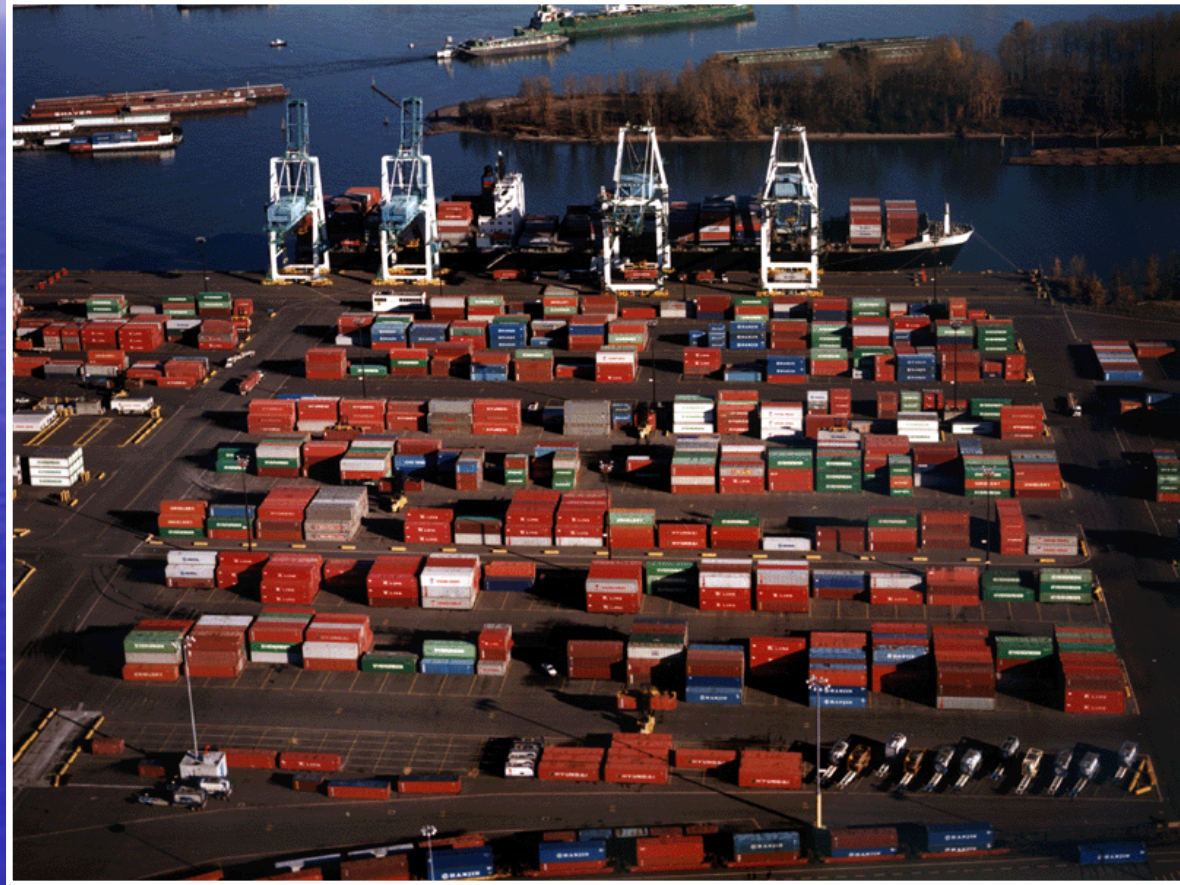
Portland Harbor: 3rd Largest on US West Coast

(Vancouver BC is larger)



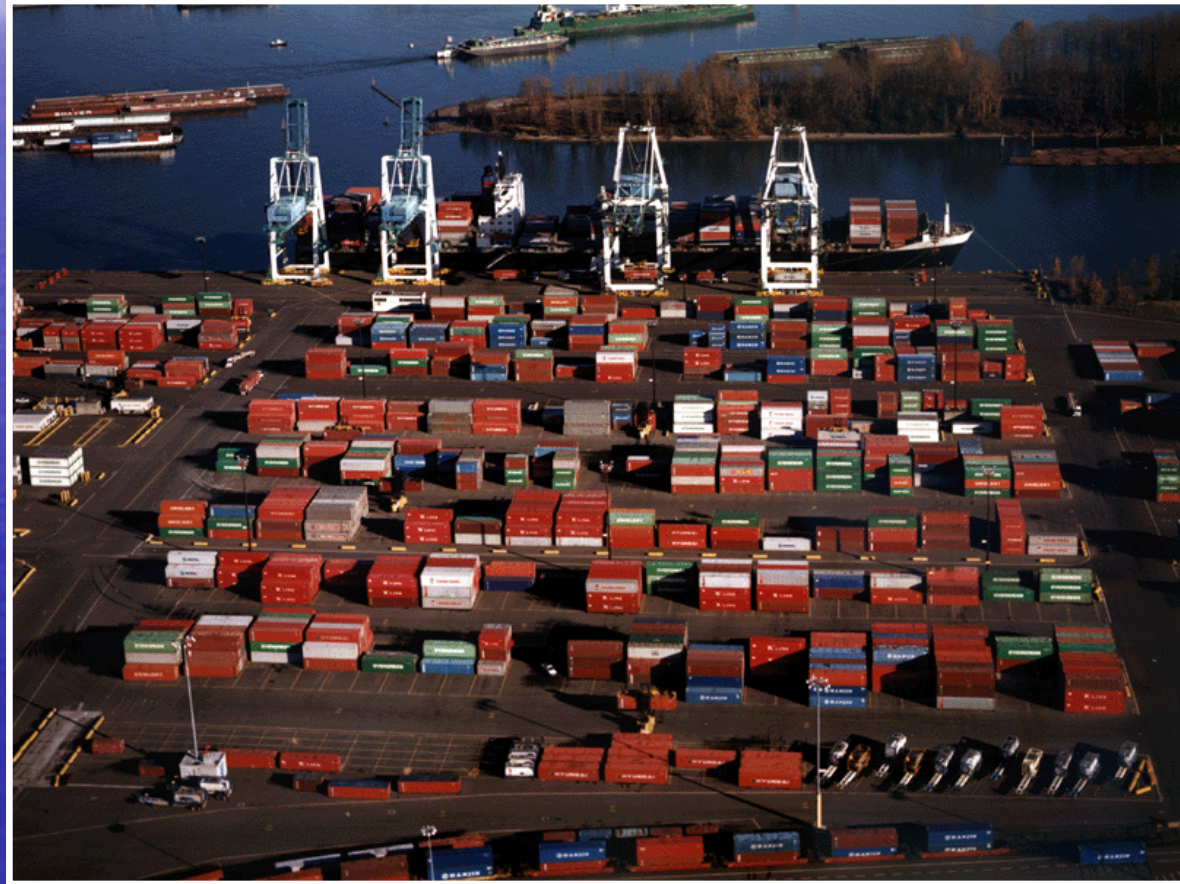
Containers

- 14th largest container port in US
- 340,000 TEUs in 2003 is much less than other major WC Ports
- 1 Terminal (T6)
- 12% of vessel calls in System vs. > 50% at other ports



Containers (continued)

- Barge to vessel = 40,000 containers/yr
- Rail to vessel = 70,000 containers/yr
- Approx. 1,000 truck trips per day (in+out)



Automobiles

- Among largest volume auto handling port on the West Coast
- Third largest in the US
- 200+ auto vessels/yr at Port terminals (T4/T6)
- 80% of all autos distributed by rail, others by truck



Grain and Mineral Bulks

- Largest wheat export port in the U.S.
- Largest mineral bulks port on the West Coast
- 250 dry bulk vessel calls/yr.
- 100% of dry bulk cargo (soda ash and potash) received by rail.



Breakbulk

- Steel
- Lumber
- Machinery
- 40 vessel calls/yr.

Petroleum

- 100 vessel call s/yr. in harbor



The Columbia River Channel

Evolution of the Industry



Portland's Working Harbor

- Oregon's primary seaport
- West Coast hub of river, rail and highway networks
- Region's largest heavy industrial area
- Major employment sector
 - exceeds Seattle, LA, SF and NYC in % (approx 11%) workforce employed in transportation and distribution.

Key Strategic AQ Issues

- Hazardous Air Pollutants – NATA/PATA
- Ozone Attainment Status - Maintain
- Global Climate Change – West Coast Govs.
- Regional Haze – Col. River Gorge Visibility
- Increase focus on Marine-related emissions
 - ❖ Ex: This conference
 - ❖ Ex: Marine vessels were 5th highest contributor to diesel particulate in Multnomah Co. in '96 (42 tpy) after on-road mobile sources (579 tpy), construction (278 tpy), agriculture (82 tpy), and rail (47 tpy)

CURRENT ACTIONS:

Environmental Management System (EMS)

- **Establish Policies**
- **Review Aspects & Impacts**
 - ❖ **Emissions Inventory**
- **Formulate Objectives & Targets to address Impacts**

Port Air Quality Policy

- Highlights -

- Promote clean air
- Minimize emissions
- Continually seek ways to reduce emissions of Hazardous Air Pollutants (HAPs)

A Need to Establish Priorities; Criteria:

- **Business**
- **Public Concerns**
- **Regulatory**
- **Political**

Program Priorities

Overall Goal:

Minimize Impacts to Air Quality

- Hazardous Air Pollutants
- Ozone Attainment Status
- Global Climate Change
- Haze/Visibility/Acid Deposition

* Health more important than ecosystem protection

Impacts of Having Priorities

- Influences fuel choices
- Reshapes development projects
- Impacts project costs
- Addresses public & political concerns
- Protects human health
- Streamlines our ability to carry out our mission.

Other Actions

- Constructed a rail bridge over the Columbia Slough to reduce travel time and increase efficiency for train service to marine terminals
- Constructed roadway improvements near the terminals designed to reduce freight congestion
- Utilizing road-grade rather than non-road grade diesel in vehicles within the terminals
- Partner is low-sulfur diesel purchasing group
- Employee commute program, alternative fuel vehicles, hybrid fleet
- Purchase energy from green power sources

CURRENT PLANS:

Objectives and Targets:

- **Reduce Greenhouse Gas Emissions, Contribute to Cleaner Air**
 - **Process improvements at our Marine Terminal 6 truck gate**
 - **Complete 3 energy conservation projects**
 - **Complete Port-wide air emissions inventory by July '04**

CURRENT PLANS (cont.): Marine Terminal Master Plan 2020 (EMS in action)

- Environmental Action Plan – Reduce Impacts to Air
 - Select terminal designs that reduce air impacts per unit of cargo by promoting efficient transportation systems - intermodal
 - Implement new technologies to increase efficiencies and reduce truck idling time
 - Evaluate alternative energy sources for vessels at dock

OPPORTUNITIES:

- Focus:
 - Direct control: Port design, construct, O&M – T4 redevelopment, T6 expansion, vehicle and equipment, terminal ops
 - In-direct control: tenants, operators
 - Influence: other Marine Industry partners, purchasing groups, public, policy-makers
- Participate with others: ports, shippers, agencies, industry, community in PATA, SIP, transportation planning, etc.

Some Challenges:

- Hazardous Air Pollutants – what will the future bring?
- State Implementation Plan (SIP) Revision for Ozone – we need to stay in Attainment status
- Remind that many ER strategies are in place, working, and will continue to accrue benefits as they are fully implemented
- Ports can be very different from one another in many ways – geographic, financing, cargo mix, etc.
- Ports, carriers, shippers and regulators need to continue to help each other understand what and how we do what we do.

Some Constraints:

- **Jurisdictional: local, regional, national, international issues**
- **Control: ability to directly reduce emissions is limited to what we actually do; we have some ability to influence**
- **Financing: Capability of Ports to finance improvements varies greatly from Port to Port**

Some Conclusions:

- To help keep PORTLAND'S WORKING HARBOR "working", we need:
 - To maintain Attainment status
 - To have a practical air toxics program
 - Maintain a vital regional transportation planning effort
 - Create benchmarks for determining which emission reduction efforts are cost effective.

Contact Information:

Philip Ralston
Environmental Project Manager
Port of Portland
Marine Department
PO Box 3529
Portland, OR 97208

Phone: (503) 240-2011

Email: ralstp@portptld.com