

# **2014 NW Marine Technology Summit**

## **Building Infrastructure for a Vibrant Marine Economy**

Newport, Oregon – Wednesday, October 22, 2014

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**How do ports and harbors compete  
in the maritime commerce industry?**

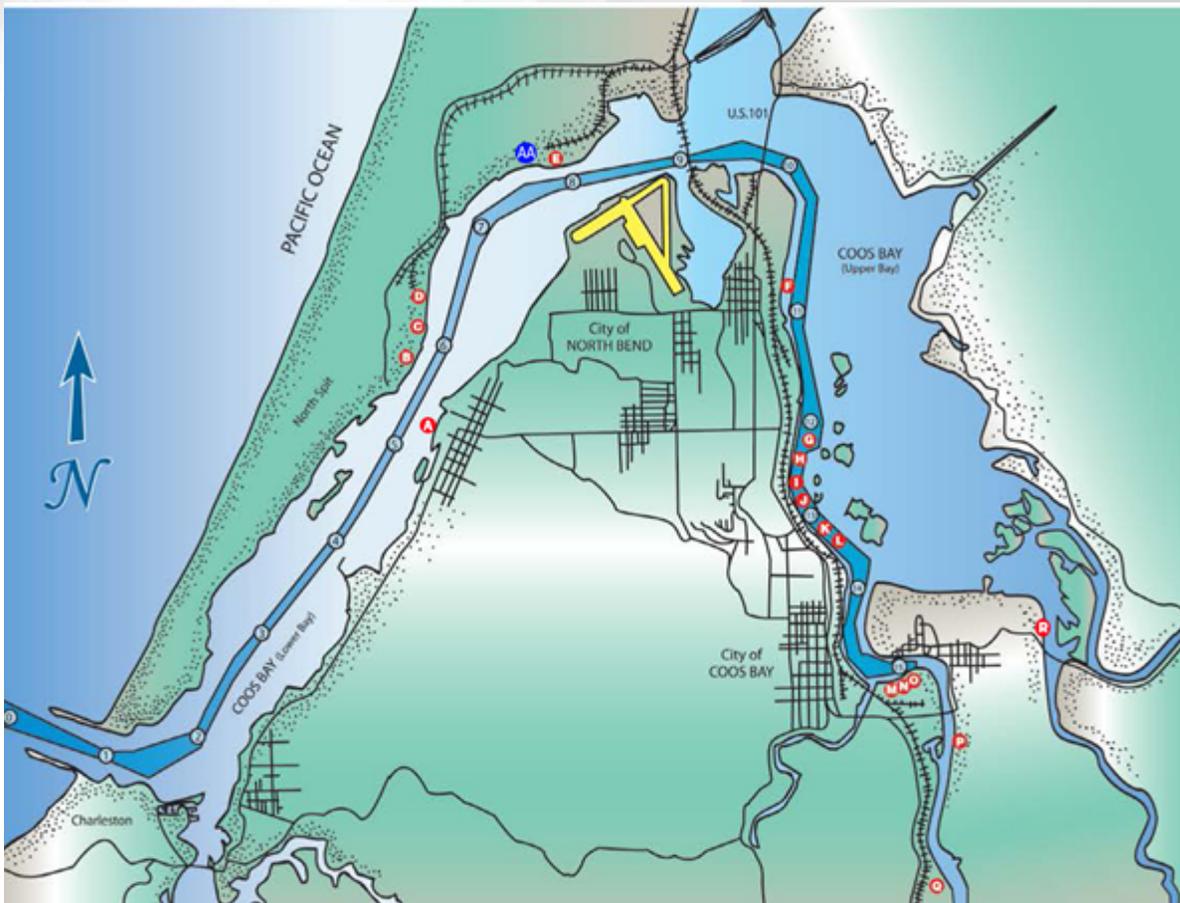
# What does it take to compete in the maritime commerce industry?

- Marine industrial property, with all required zoning/permits
- Sustainable, affordable, cost-effective infrastructure:
  - Federally authorized and maintained deep-draft navigation system: channels, jetties, dredge material disposal sites
  - Cargo handling facilities:
    - Intermodal container terminals with rail infrastructure
    - Dry and liquid bulk terminal and storage facilities
    - Multi-purpose terminals for handling breakbulk cargoes
    - Specialized facilities for handling autos/trucks and other cargoes
  - Landside transportation connections:
    - Rail connection to the North American freight rail system
    - Road and highway connections to the Interstate Freeway System

# What is the cost of property and marine infrastructure?

- Marine industrial property: \$75,000-\$100,000 per acre
- Deep-draft navigation system: entirely dependent on scope of project – depth, width, turning basins
  - Example: Coos Bay Channel Deepening / 1986-1997 approximately \$10 million for 2 feet additional depth for 15.2 mile channel; annual maintenance cost \$6 million
  - Example: Lower Coos Bay Channel Modification / 2007-2019? – current estimates range from \$150 million-\$250 million for channel deepening and widening for 8 miles of channel; does not include cost of North Jetty rehabilitation estimated at \$30 million+

# Coos Bay Harbor Channel Deepening Project 1986 - 1997



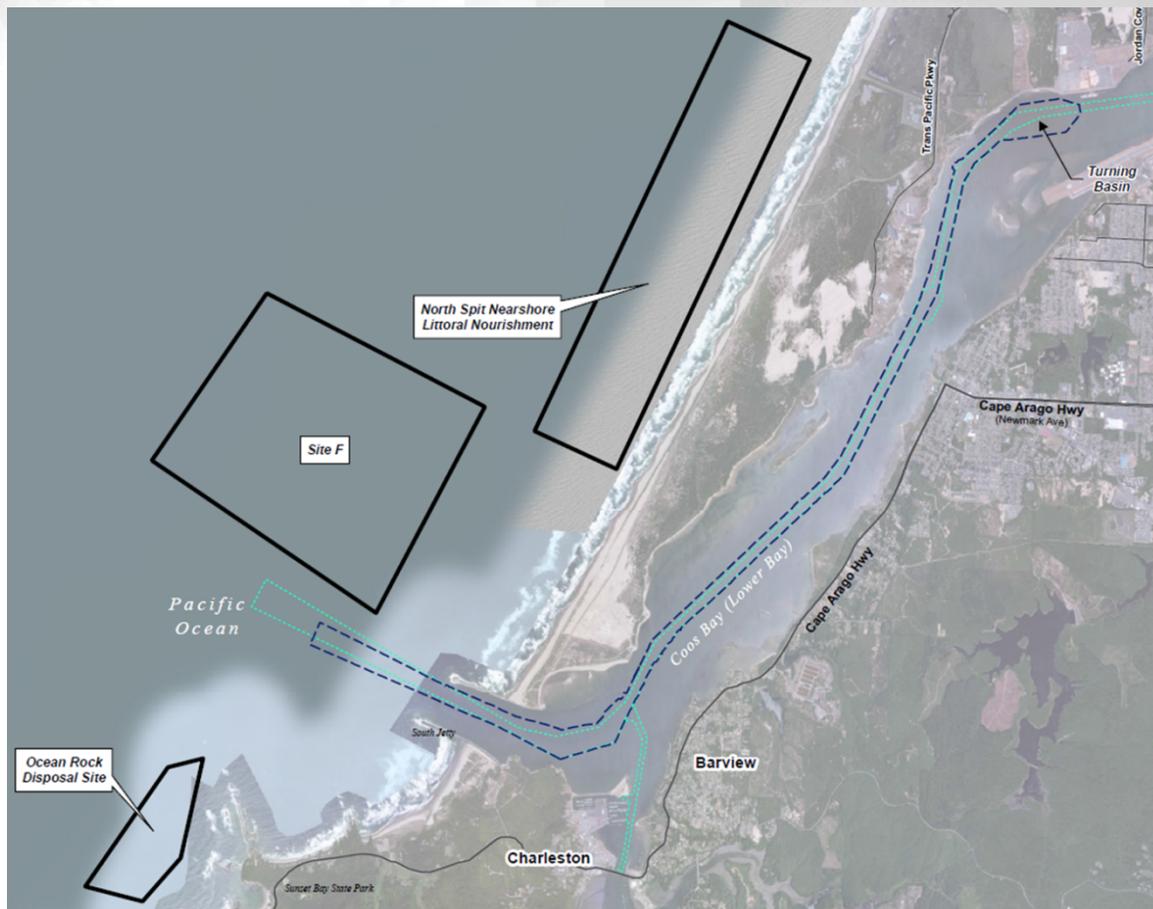
Project authorized under Water Resources Development Act 1986

Initial project funds for design/engineering not appropriated until 1992

Construction funds appropriated in 1994

Construction start in 1996; severe storm delayed finish until 1997; added \$500,000 in additional costs

# Lower Coos Bay Harbor Channel Modification Project 2007-20??



Project is being developed under WRDA Section 204

Port, State of Oregon and partners are paying for all work under supervision of U.S. Army Corps of Engineers (ACOE)

If project is accepted by ACOE, future channel maintenance will be paid for and performed by ACOE

# What is the cost of marine infrastructure?

- Development costs for cargo handling facilities; costs are driven by volume and needed on-shore equipment
  - Intermodal terminal: \$350 - \$700 million
  - Bulk terminals and storage: \$200 - \$500 million
  - Multi-purpose terminal: \$100 - \$200 million
  - Specialized facilities: \$50 - \$150 million
- Landside transportation connections
  - Rail infrastructure: will depend on if there are existing rail assets that can be rehabilitated, or if project requires new infrastructure: \$1 million - \$10 million per mile, plus bridges, tunnels, sidings and more
  - Roadway infrastructure: ???

# What's missing from the scenario?

- Marine Services:
  - Highly skilled and certified pilots; pilot boats or other equipment
  - Ship assist tugs; line boats; crews
  - Steamship agents
  - Stevedoring contractors
  - Skilled longshore labor