Trends in Global Shipping & Future Infrastructure Needs for Washington Ports

Presented to:
Pacific NorthWest Economic Region – Annual Summit
Big Sky, MT – July 13, 2015

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1) Structural Changes to Global Container Trade and Impacts for WA and OR ports

2) Review of U.S. Container Trade, Trade Deficit and Long-Term Implications

3) Reversing the Trend: Importance of Infrastructure Investment to Facilitate Bulk Exports to Asian Markets
1) Structural Changes to Global Container Trade and Impacts for WA and OR ports

“The ports of Seattle and Tacoma face fierce competition from ports throughout North America and must adjust to the shifts in the global maritime industry. Global shipping lines, continuing to lose millions of dollars each year, are investing in larger vessels with more capacity, sharing those vessels and consolidating terminals and reducing the number of ports at which they call.”

-- Kurt Beckett, Deputy Director, Port of Seattle (2014)
CSLC Globe = ~20,000 TEU Capacity

Preparing for larger vessels & volume increases requires appropriate planning

- Crane size
- Draft restrictions
- Number of cranes & additional terminal equipment
- Berth window considerations
- Volume impact on traffic & rail
- Labor availability
Evolution of Shipping Line Alliances

Result: More freight in fewer gateways as volumes concentrate in fewer ships to reduce average fixed costs per slot, they concentrate in fewer ports
The “Big Ship” Order Book

- **Maersk**
  - Current: 2.11 Mteu, 195 ships, Ave. 10,780 teu
  - Orderbook: 0.80 Mteu, 63 ships, Ave. 12,620 teu

- **MSC**
  - Current: 60
  - Orderbook: 56

- **Evergreen**
  - Current: 188
  - Orderbook: 60

- **COSCO**
  - Current: 220
  - Orderbook: 56

- **Hanjin Shg**
  - Current: 145
  - Orderbook: 139

- **K Line**
  - Current: 123
  - Orderbook: 211

- **Yang Ming**
  - Current: 0
  - Orderbook: 0

- **APL**
  - Current: 36
  - Orderbook: 112

- **Hapag-Lloyd**
  - Current: 160
  - Orderbook: 144

- **Oocl**
  - Current: 112
  - Orderbook: 90

- **NYK**
  - Current: 137
  - Orderbook: 60

- **MOL**
  - Current: 137
  - Orderbook: 242

- **HMM**
  - Current: 137
  - Orderbook: 112

- **CMA CGM**
  - Current: 195
  - Orderbook: 467

- **CSCL**
  - Current: 39
  - Orderbook: 114

- **UASC**
  - Current: 467
  - Orderbook: 114

- **G6**
  - Current: 1.81 Mteu, 226 ships, Ave. 8,020 teu
  - Orderbook: 0.30 Mteu, 27 ships, Ave. 11,020 teu

- **O3**
  - Current: 1.20 Mteu, 134 ships, Ave. 8,970 teu
  - Orderbook: 0.75 Mteu, 59 ships, Ave. 12,760 teu

- **CKYHE**
  - Current: 1.95 Mteu, 258 ships, Ave. 7,560 teu
  - Orderbook: 0.65 Mteu, 52 ships, Ave. 12,570 teu

- **ALPHALINER**
  - FE-N Am
  - FE-Eur
  - On order > 7,500 teu
Impacts for Ports in WA and OR

More Port Rationalization – An Outgrowth of Changing Shipping Line Objectives

- Increasing prevalence of vessel sharing agreements on all major trades has been diluting the service differentiation and brand identities of most carriers.
- With less service differentiation, carriers have intensified their focus on maintaining competitiveness through cost reductions.
- This greater focus on cost reductions drives the ship lines to order ever-larger ships, in order to obtain the minimum unit slot costs possible.
- To fill larger ships, carriers have become increasingly dependent on vessel sharing alliances.
- Given ordering patterns for newly-built ships, it suggests that these ship-asset rationalization mechanisms will continue and be expanded.
- With the pressures on reducing costs, having inefficiently-utilized carrier-controlled terminals is no longer sustainable for many lines.
Result: Formation of Port of Seattle and Port of Tacoma “Seaport Alliance”
Port of Portland container terminal loses almost all business...
www.oregonlive.com/.../port_of_portland_container_te...
Apr 3, 2015 - The only remaining shipping line is Westwood, which only sends a few boats in and out of the Port of Portland. Hanjin Shipping Co. pulled out ...

Container-terminal loss at Port of Portland felt deeply upriver...
www.oregonlive.com/.../economic_pulse_remains_stea...
Apr 12, 2015 - The Port of Portland faced another round of trouble last week: Shipping line Hapag-Lloyd officially announced that no more ships would be ...
Conclusion: Negative long-term outlook for container business recovery for Washington and Oregon seaports
Result: Larger vessels with East Coast cargo can by-pass West Coast all together
2) Review of U.S. Container Trade, Trade Deficit and Long-Term Implications

“To finance this trade deficit, the U.S. has to borrow from the rest of the world or sell American assets like stocks, businesses, and real estate to the rest of the world”.

-- Martin Feldstein, Economist
U.S. Container Imports = ~1.6m TEU / mo.
U.S. Container Exports = ~1m TEU / mo.
U.S. Trade Deficit = ~$40 Billion / mo.
Key Observations

- The U.S. trade deficit is unsustainable in the long run

- Due to fracking, U.S. oil production is growing and further investment in infrastructure will help reverse the oil trade deficit

- Excluding oil, the goods trade deficit is still 2x that of the services surplus.

- The Baby Boom generation is driving a major demographic shift; most likely they will spend more on services and less on goods, which would slow US imported goods growth down.

- That would help the trade deficit but perhaps not the public sector financial deficit

- Exports may be impacted more by port / infrastructure congestion than by the stronger US dollar

- Investments in infrastructure will make exports more competitive.
What Can the U.S. Competitively Export?

- The U.S. has comparative (and competitive) advantages in the production of goods that use little labor.

- This is shown in the list of goods that the U.S. has been prone to export.

- Agricultural, forestry and energy products top the list:

<table>
<thead>
<tr>
<th>Containerized</th>
<th>Bulk (dry &amp; liquid) / Breakbulk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrap Metal and Waste</td>
<td>Oil Seeds (Soy)</td>
</tr>
<tr>
<td>Raw Hides and Leather</td>
<td>Wood and Charcoal</td>
</tr>
<tr>
<td>Cotton - Untreated, Yarn And Woven Fabric</td>
<td>Cereal Grains</td>
</tr>
<tr>
<td>Meat and other Edible Animal Parts</td>
<td>Crude Oil and Refined Petroleum</td>
</tr>
<tr>
<td>Paper and Paperboard</td>
<td>Live Animals</td>
</tr>
<tr>
<td>Plastics Feedstock and Manufactured Goods</td>
<td>Wood Pulp Scrap / Pellets</td>
</tr>
<tr>
<td>Chemical Products</td>
<td>Coal</td>
</tr>
</tbody>
</table>
3) Reversing the Trend: Importance of Infrastructure Investment to Facilitate Bulk Exports to Asian Markets

“As aging population drags on public sector finance and imports, export-oriented infrastructure is the antidote.”

-- Walter Kemmsies, PhD, Chief Economist, Moffat & Nichol