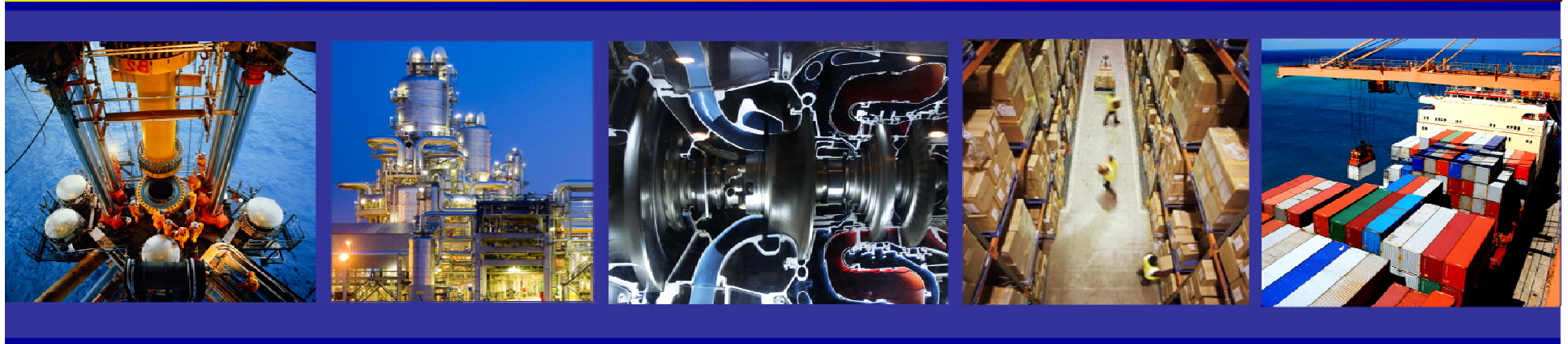


**Boston Strategies International, Inc.**

**February 2008**



# **Global Supply Chain Management: Seattle-Tacoma**

[www.bostonstrategies.com](http://www.bostonstrategies.com)

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# Agenda

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- Seattle in Perspective
- Terminals, Services, and Connections
- Congestion and Capacity Issues
- Development and Expansion Plans
- Seattle in Your Global Supply Chain



# Seattle-Tacoma in Perspective



# Rail Transit

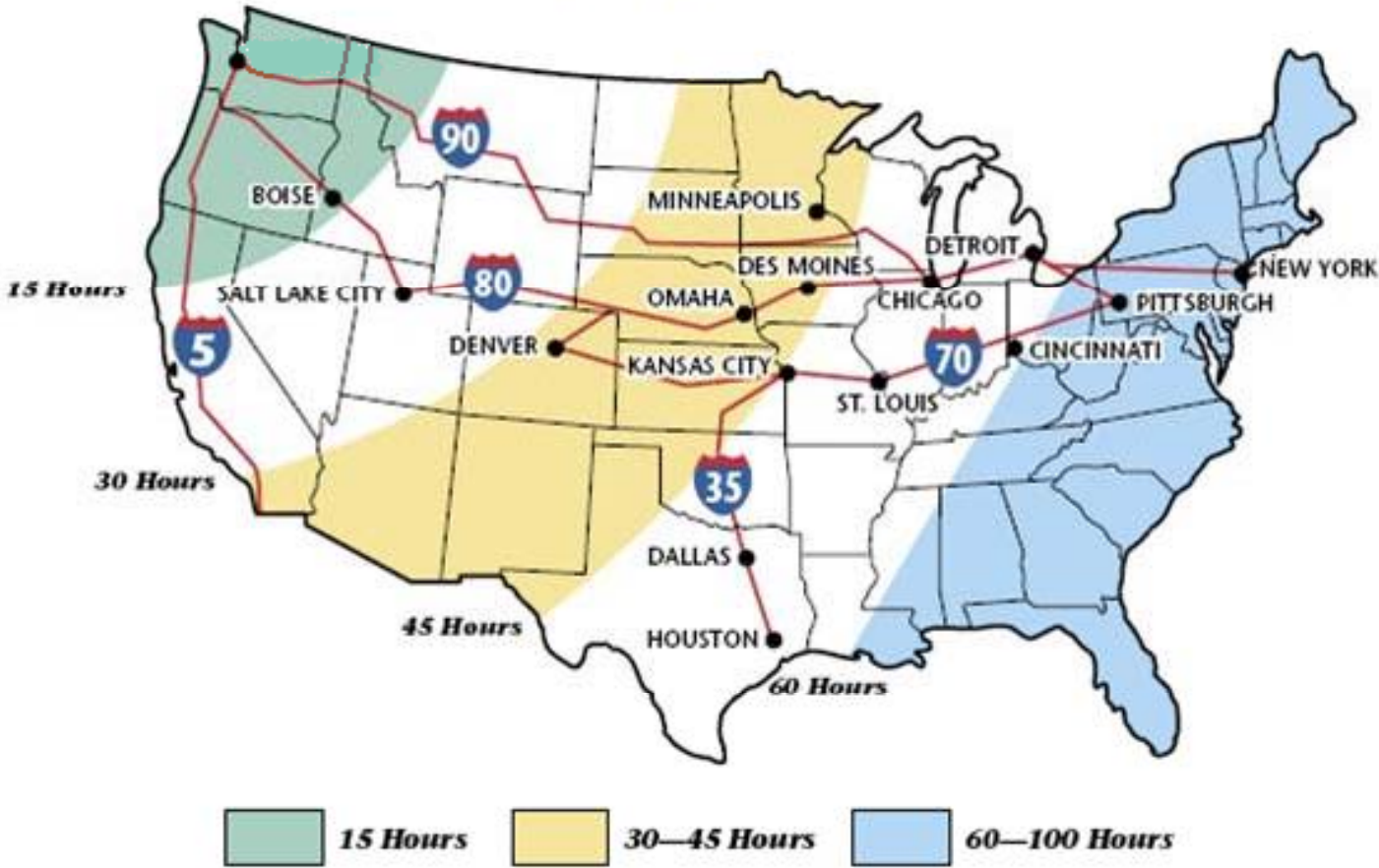
## Rail Transit Times



Source: Port of Tacoma

# Truck Transit

## Highway Transit Times



Source: Port of Tacoma

# Port of Tacoma Ocean Transit

## Ocean Routes



Source: Port of Tacoma



# One of the Largest US Port Complexes

## 2006 US Port Rankings

Rank	Port Complex	Value of Foreign Trade (Billion USD)
1	Los Angeles - Long Beach, CA	\$305,126.39
2	Newark, NJ	\$145,620.02
3	Houston, TX	\$102,990.14
4	Seattle-Tacoma, WA	\$68,457.90
5	Charleston, SC	\$55,200.49

Source: Boston Strategies International, U.S. Dept. of Commerce, Bureau of Census



Source: Port of Seattle



Rank	Port Complex	Million TEUs
1	Los Angeles-Long Beach	\$15,759,218.00
2	New York/New Jersey	\$5,092,806.00
3	Seattle-Tacoma	\$4,054,546.00
4	Oakland	\$2,390,262.00
5	Savannah	\$2,160,168.00

Source: Boston Strategies International, AAPA

# The Distribution Hub for the Pacific Northwest

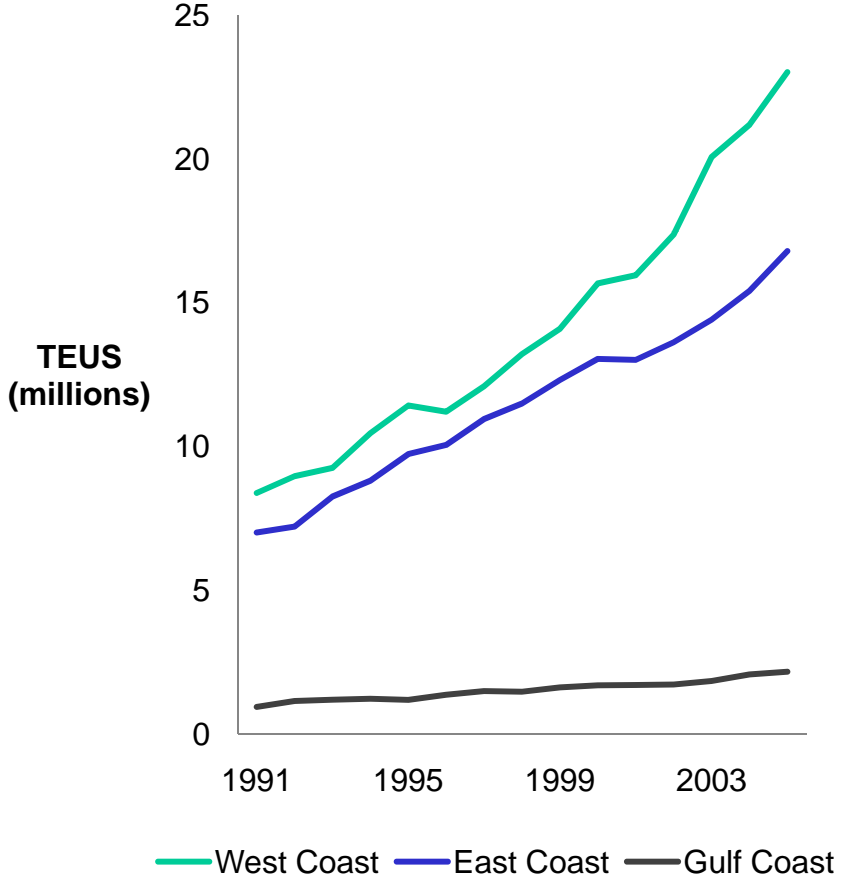


Source: [http://www.aaccessmaps.com/show/map/washington\\_west](http://www.aaccessmaps.com/show/map/washington_west)

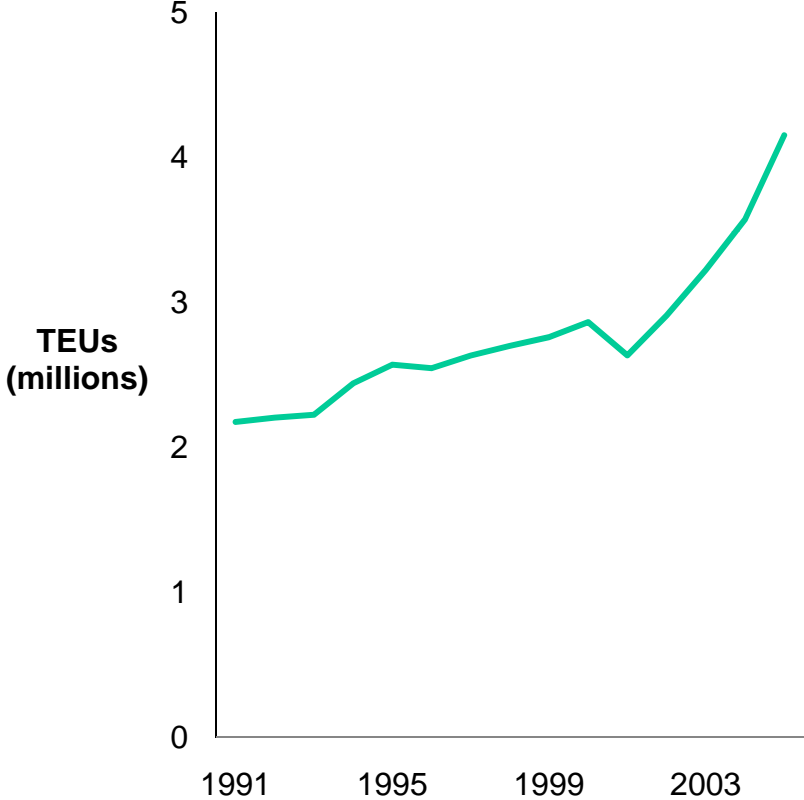


# Strong West Coast Container Growth

### US Maritime Containerized Export and Imports by Coast 1991-2005



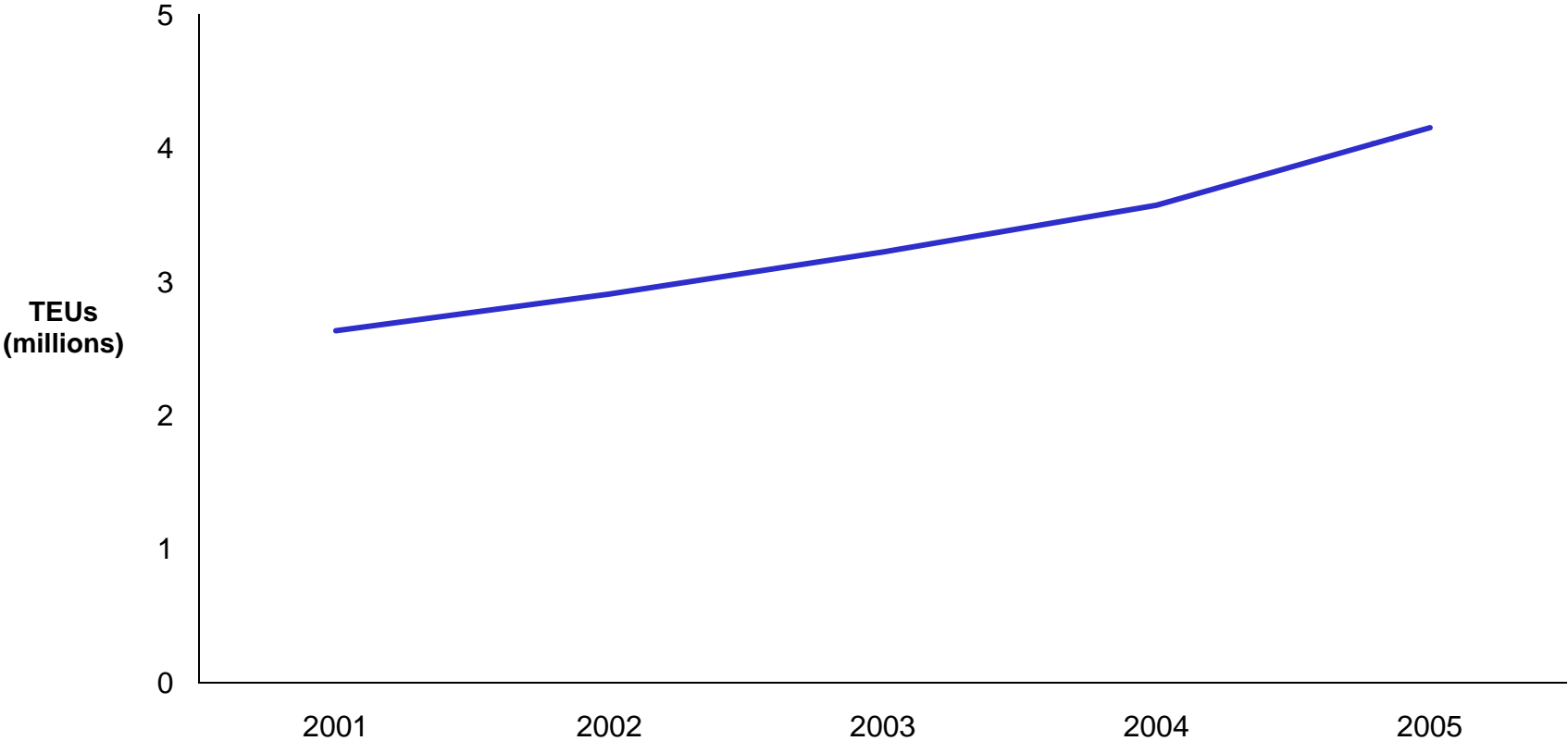
### Seattle-Tacoma Container Throughput



Sources: Boston Strategies analysis of BTS

# TEU Throughput Surge 2001-2005

- 58% Growth in five years



Sources: Boston Strategies analysis of BTS

# Tacoma Will Dominate Future Growth

<b><u>Planned Expansions</u></b>			
<b><u>Port</u></b>	<b><u>Recent Expansion</u></b>	<b><u>Planned Expansion</u></b>	<b><u>Total</u></b>
Port of Seattle	405	120	525
Port of Tacoma	422	1,335	1,757
<b>Total</b>	<b>827</b>	<b>1,455</b>	<b>2,282</b>

<b><u>Container Capacity (1000 TEUs)</u></b>			
<b><u>Port</u></b>	<b><u>2005</u></b>	<b><u>2025</u></b>	<b><u>Share of Growth</u></b>
Port of Seattle	2088	4500	24%
Port of Tacoma	2066	9,806	76%
<b>Total</b>	<b>4154</b>	<b>14,306</b>	<b>100%</b>

**Port of Tacoma**



*Source: Kemer Nelson, US Customhouse Guide*

Sources: Port of Tacoma



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# Port of Seattle Terminals, Services, and Connections



# Overview of Port of Seattle Facilities

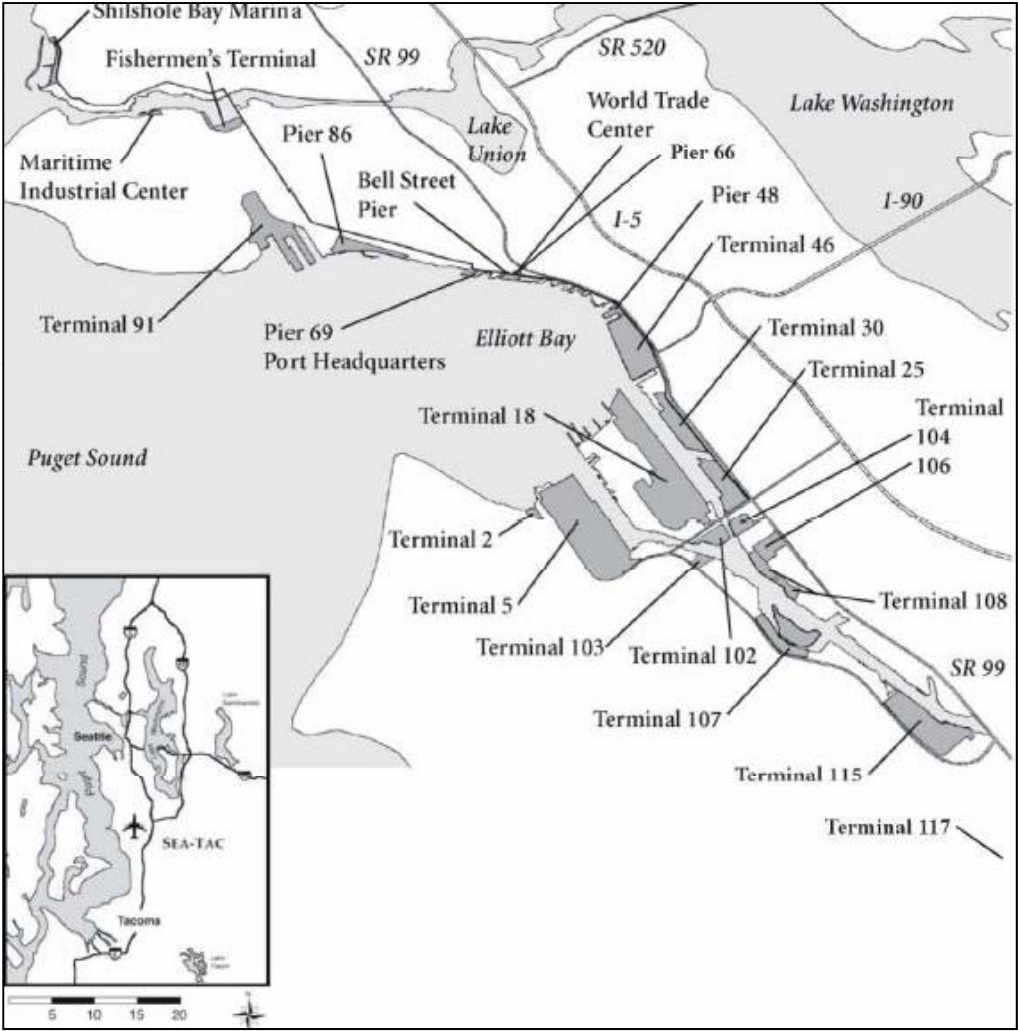
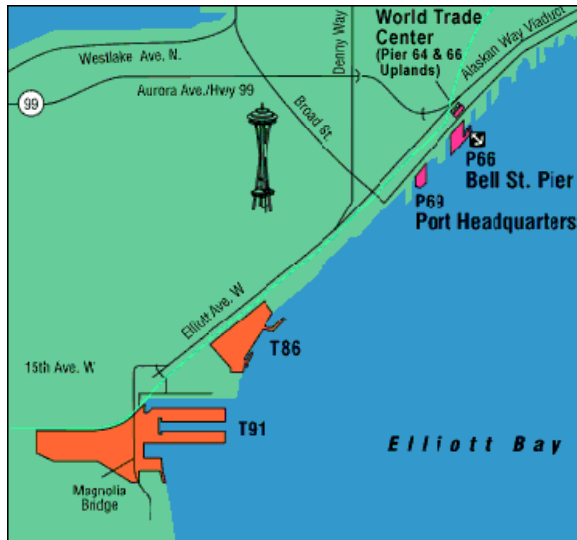


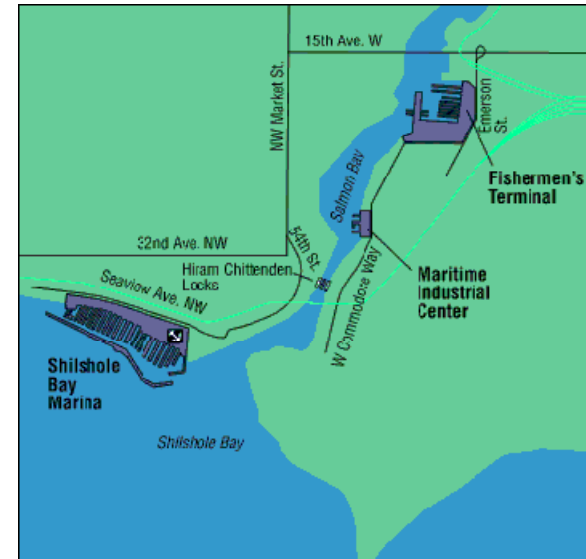
Image: Courtesy of Port of Seattle.

# View of key cargo terminals

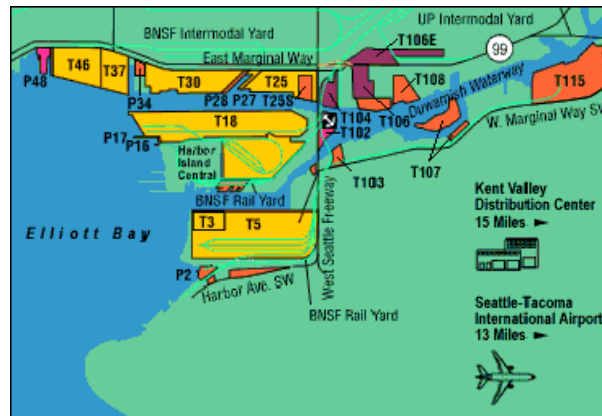
Central Harbor



North Harbor



South Harbor



Images: Courtesy of Port of Seattle.



# Key Cargo Terminals

- **Terminal 5**
  - Six container-handling cranes
  - On dock intermodal rail facilities
  - 80,000 SF covered transit shed with truck access
  - 48,000 SF maintenance and repair center
  - 182 acres (74 hectares)
- **Terminal 18**
  - One of the largest in North America
  - Terminal Size 196 acres (79 hectares)
  - Ten container handling cranes
  - 97,000 SF covered transit shed
  - Efficient road access via truck into terminal
- **Terminal 25**
  - Terminal Size : 32 acres (12.9 hectares)
  - Within 2 miles of UPRR & BNSF yards
- **Terminal 46**
  - Leased by Total Terminals Int'l. and Hanjin until 2015.
  - Includes 16 lane truck gate
- **Terminal 30**
  - Provides shore power to two vessels at the same time



Sources: [www.portseattle.org](http://www.portseattle.org), Pacific Shipper



# Seattle Break Bulk Terminals

- Terminal 91
  - Terminal Size : 212 acres
  - Frozen food use
- Terminal 115
  - Receipt and shipment of import/export cargo (domestic and international)
  - 70 acres of yard space

**Terminal 91**



**Terminal 115**



Photos: Courtesy of Port of Seattle.

# Seattle Grain Facility

- Fully automated
- 3.99-million-bushel capacity
- 68 silos each holding a total of 54,000 bushels

Grain Facility



Photo : Courtesy of Port of Seattle.



# Seattle Real Estate Division

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- Formed in 2008 to manage commercial real estate and allow Seaport and Aviation divisions to focus on core businesses
- Expected to run at a \$5m loss in 2008
- Five business groups
  - Real Estate Development & Planning
  - Harbor Services
  - Maintenance
  - Property Management & Leasing
  - Pier 69 Facilities Management



# Seattle Intermodal Facilities at South Harbor

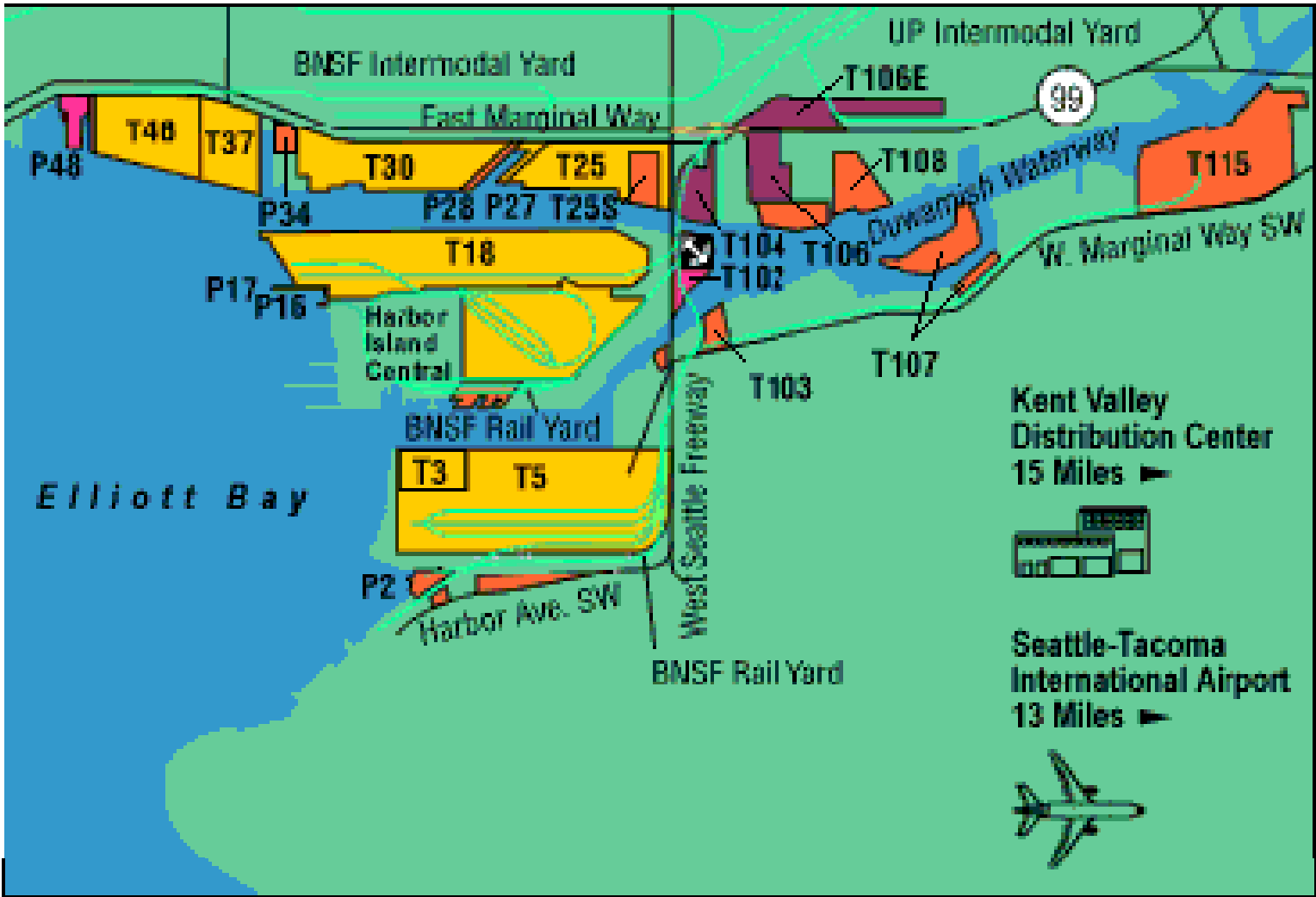


Photo: Courtesy of Port of Seattle.

# Sea-Tac Airport



# Rail access in Seattle



Source: Seattle Dept. of Transportation



# Major Truck Routes in Seattle



Source: Seattle Dept. of Transportation

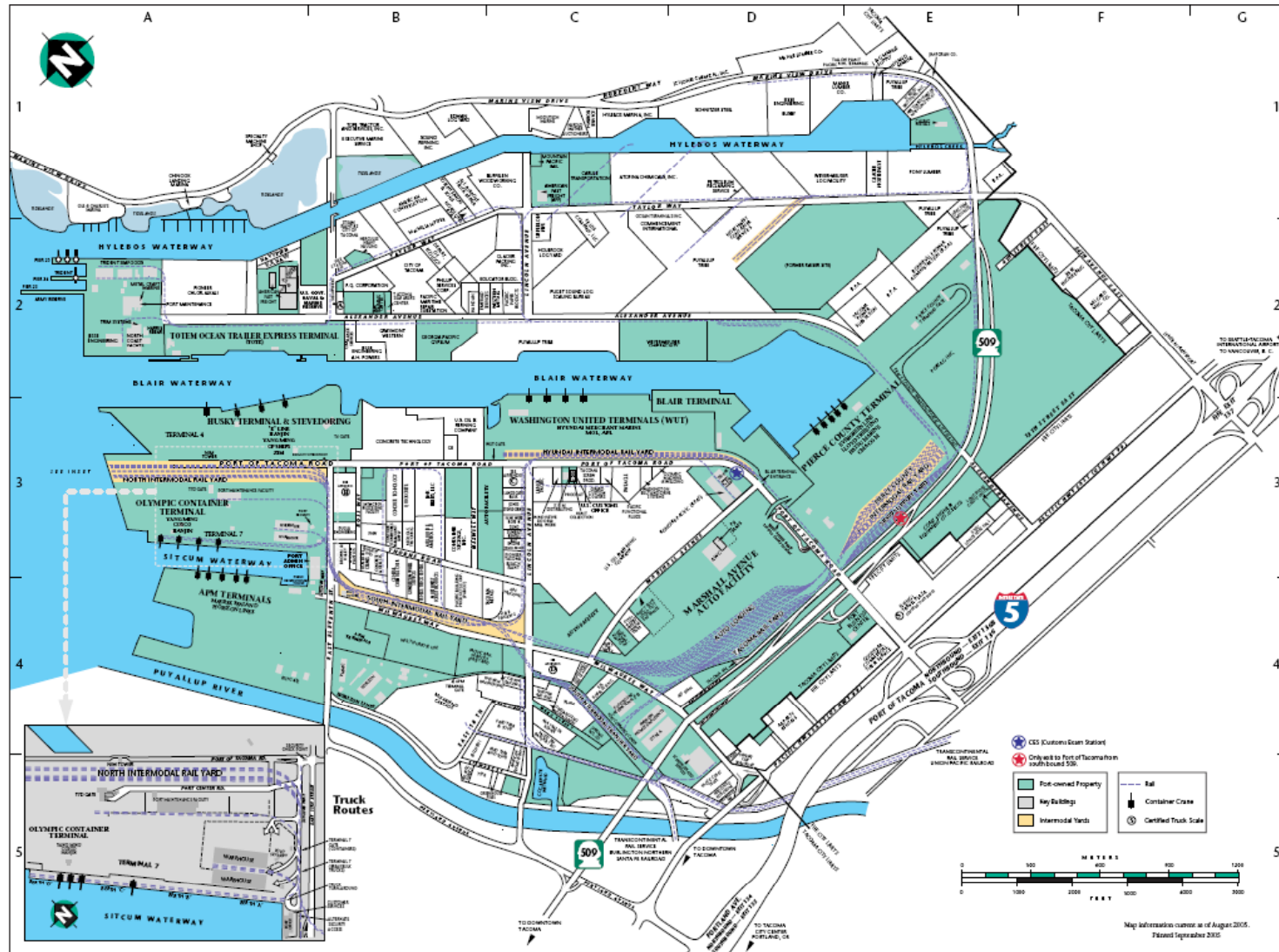




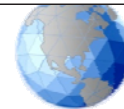
# Port of Tacoma Terminals, Services, and Connections



# Overview of Port of Tacoma Facilities



Source: Port of Tacoma website



# Tacoma Key Terminal Summary

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- **APM Terminals**
  - 135 acres
  - Five cranes
  - 875 reefer plugs
  - Six outbound truck lanes
- **Husky Terminals**
  - 93 acres
  - Four Cranes
  - 460 reefer plugs
  - Four outbound truck lanes
- **Olympic Container Terminal**
  - 54 acres
  - Four cranes
  - 300 reefer plugs
  - Two outbound truck lanes
- **Pierce County Terminal**
  - 171 acres (includes PCT intermodal yard)
  - Seven cranes
  - Six outbound truck lanes
  - 764 reefer Plugs
  - Opened in 2005
- **TOTE Terminal**
  - 47 acres
  - One operating and one lay-up berth
  - RORO operation
  - 140 reefer plugs
  - Two outbound truck lanes

Source: Port of Tacoma



# Terminal Summary, Cont'd

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- Washington United Terminals
  - 100 acres
  - Four Cranes
  - 352 reefer plugs
  - Four out
- Terminal 7-A/B
  - 25 acres
  - 2,700 feet of berth space
  - Four cranes at OCT
  - 100,000 square foot CFS
  - Two rail spurs along shed and two along berth
  - Three miles from I-5, 30 miles from I-90
  - bound truck lanes
- Marshall Ave Auto Facility
  - 146.5 acres
  - Auto Storage Capacity: 19,000 units, with overflow up to 24,000 units
  - One mile from I-5
- Cargill Grain Terminal
  - 11 Acres (4.5 hectares)
  - 3 million bushel elevator capacity
  - Three shipping belts, two legs
  - Dolphin pier
  - 73 feet of depth

Source: Port of Tacoma



# Tacoma Intermodal Facilities

- Four yards
  - North
  - South
  - Hyundai
  - Pierce County
- Combined space of 83 acres
- Approximately 72,000 feet of track
- 72 carriers
- Four lift trucks
- 5 top-pick machines



Photo courtesy of Port of Tacoma



Source: Port of Tacoma



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# Congestion and Capacity Issues



# Volumes Threatened by Canal Expansions

- Expansion will double the TEU capacity of Panamax vessels
- A deeper channel will eventually allow even large tankers through



Source: Panama Canal Authority



Source: Suez Canal Authority

# Seattle's Green Initiatives

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- Currently optional to particulate and sulfur oxide emissions restrictions require carriers to use different auxiliary fuels while in port
  - Implementing early before it becomes mandatory
- Cost of replacing or converting existing equipment may increase service costs and operating costs for shipping lines



# Congestion is Beginning to Cause Problems

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- One runway closed at Sea-Tac 44% of the time due to poor weather conditions
- I-5 to I-95 Interchange is the 18th worst bottleneck in the US
- Freight Mobility challenges include:
  - Old street infrastructure
  - Limited street space
  - Growing traffic demand
  - Increased truck and rail volumes and conflicts
  - Larger trucks
  - Construction detours

Sources: Sea-Tac, NHTSA, PSRC



# Seattle Mobility Projects

- Mercer Street Widening
- Lander Street improvements
- Spokane Street Viaduct
- \$323m



# Boston Strategies International

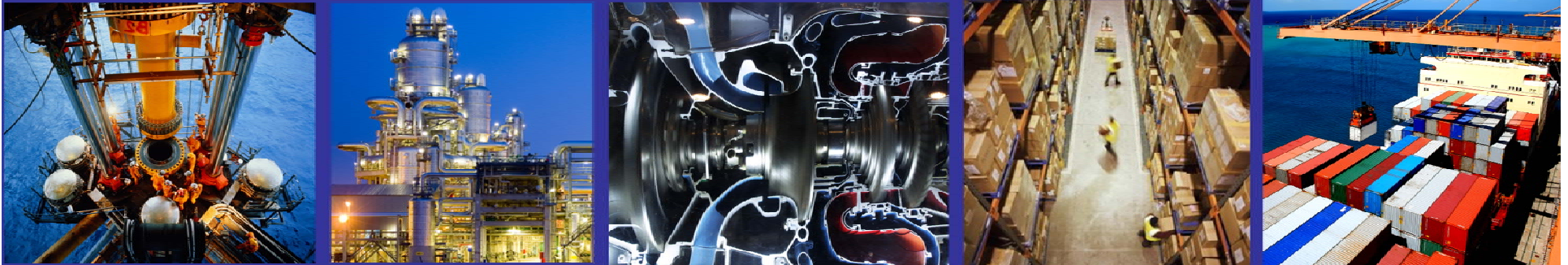
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**Boston Strategies International** is a global management consulting firm that helps market leaders achieve competitive advantage through supply chain management through:

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- **Supplier Enablement** that facilitates global growth and local content requirements
- **Supply Chain Optimization** that reduces project and life cycle costs



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