

The Dynamics of the US Container Market and Shifting Trade Patterns – Resulting Implications

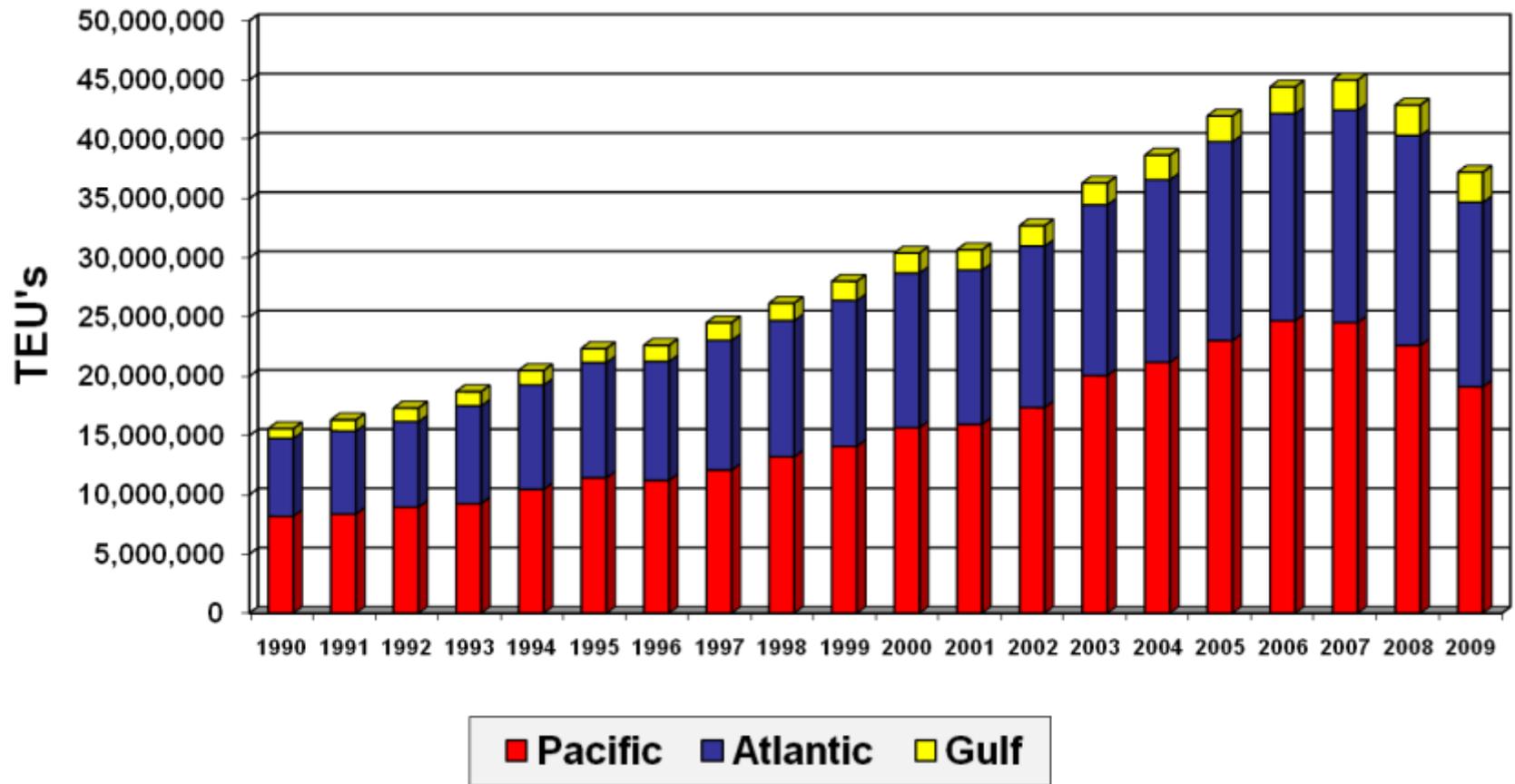
Martin Associates

941 Wheatland Ave. Suite 203

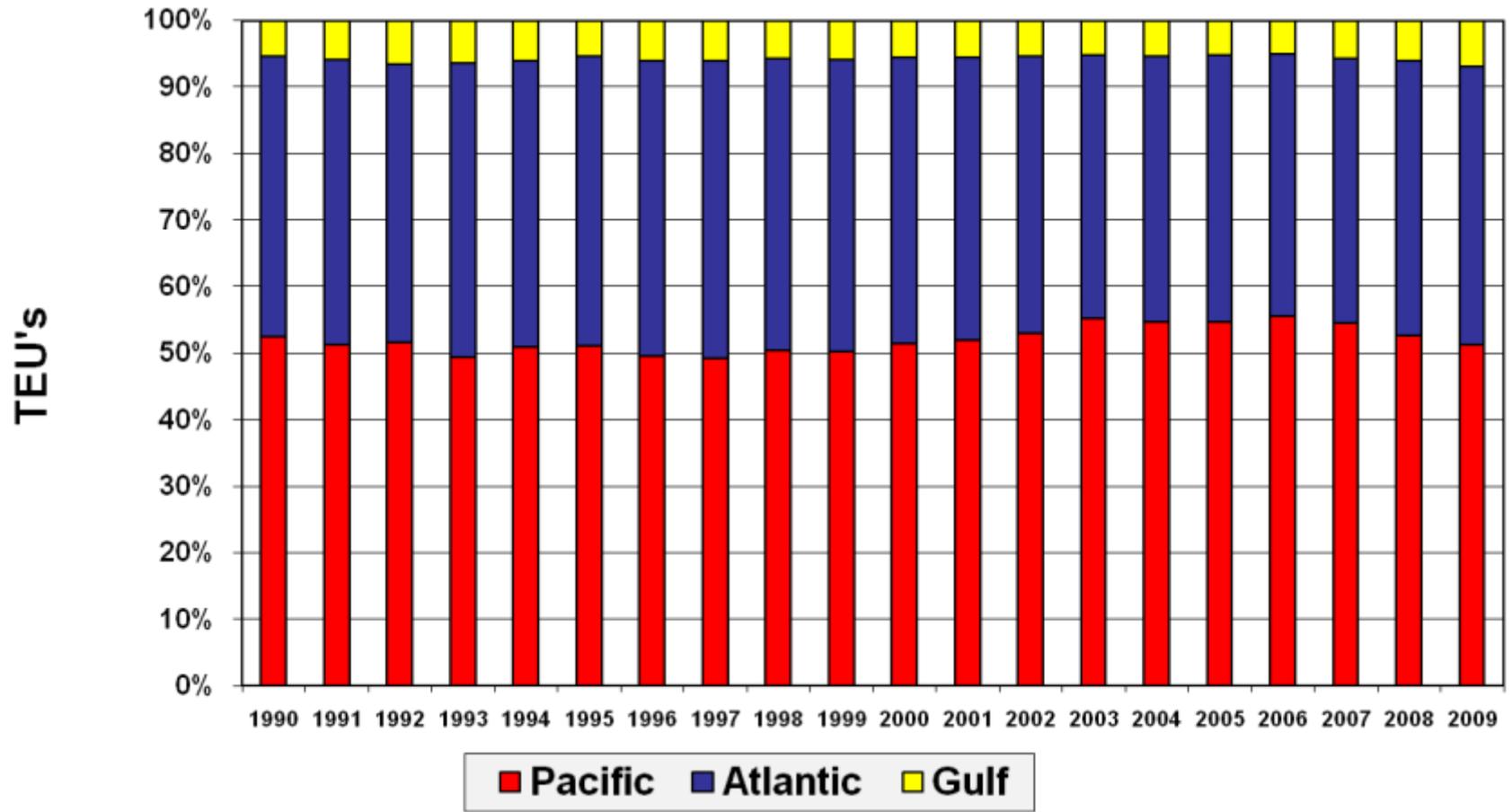
Lancaster, PA 17603

www.martinassoc.net

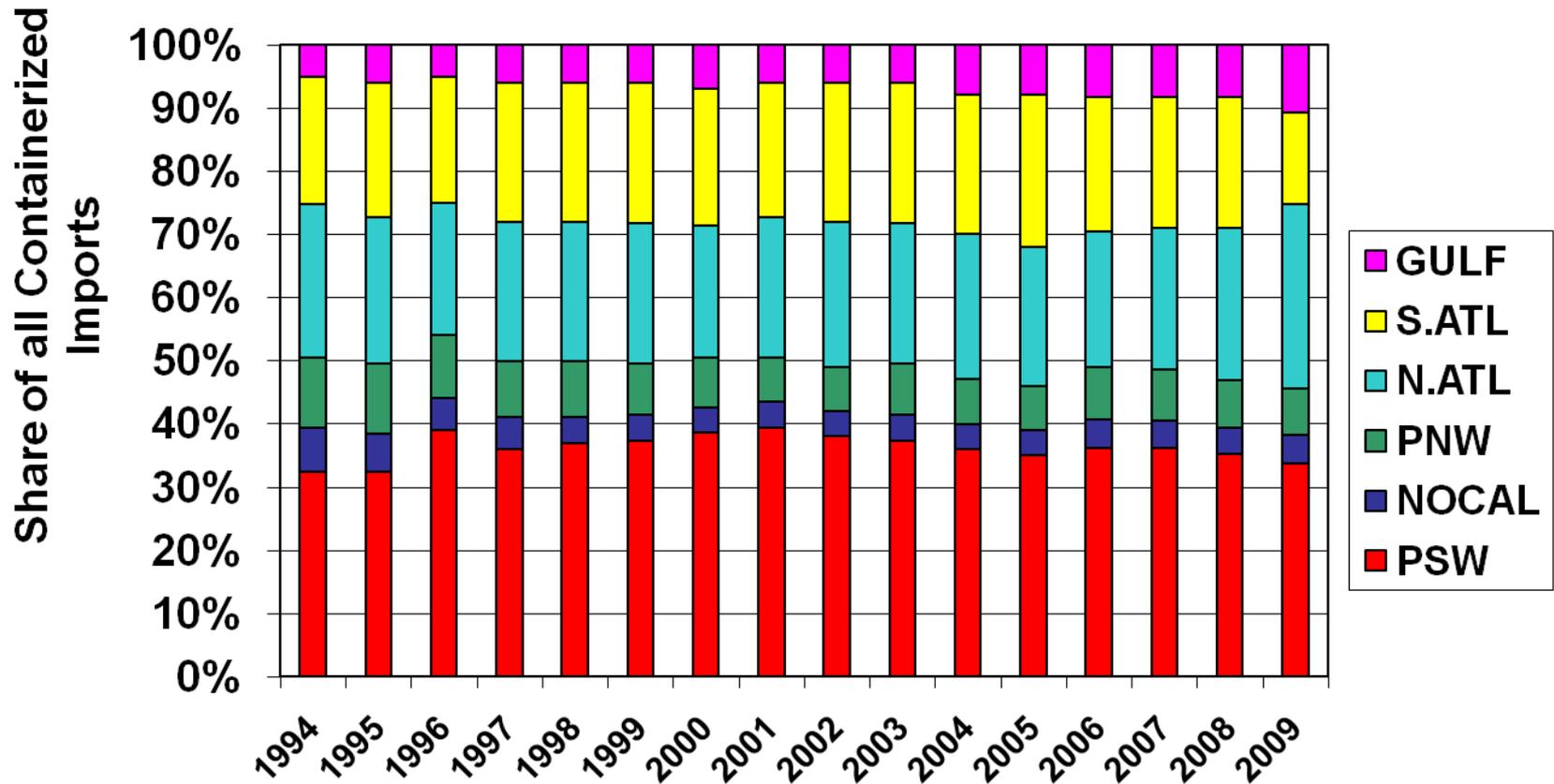
Growth in Containerized Cargo



The Pacific Coast Ports Handle about 50% of all TEUs, Reaching a Peak in 2006

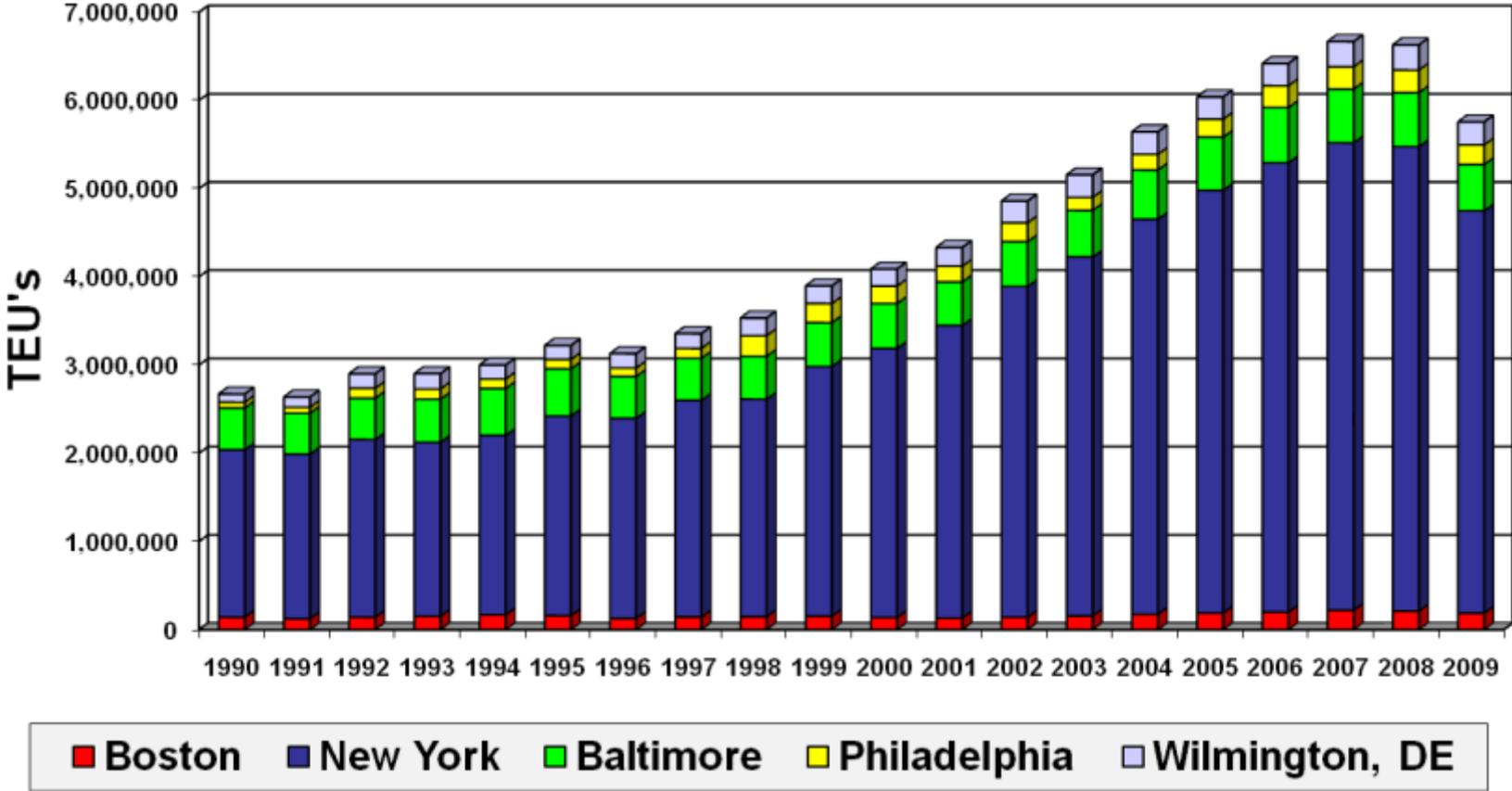


**Southern California Ports (PSW) Handle About 35% of
All Import Tonnage, Reaching a Peak in 2001 –
This Share Has Been Falling Since 2002**

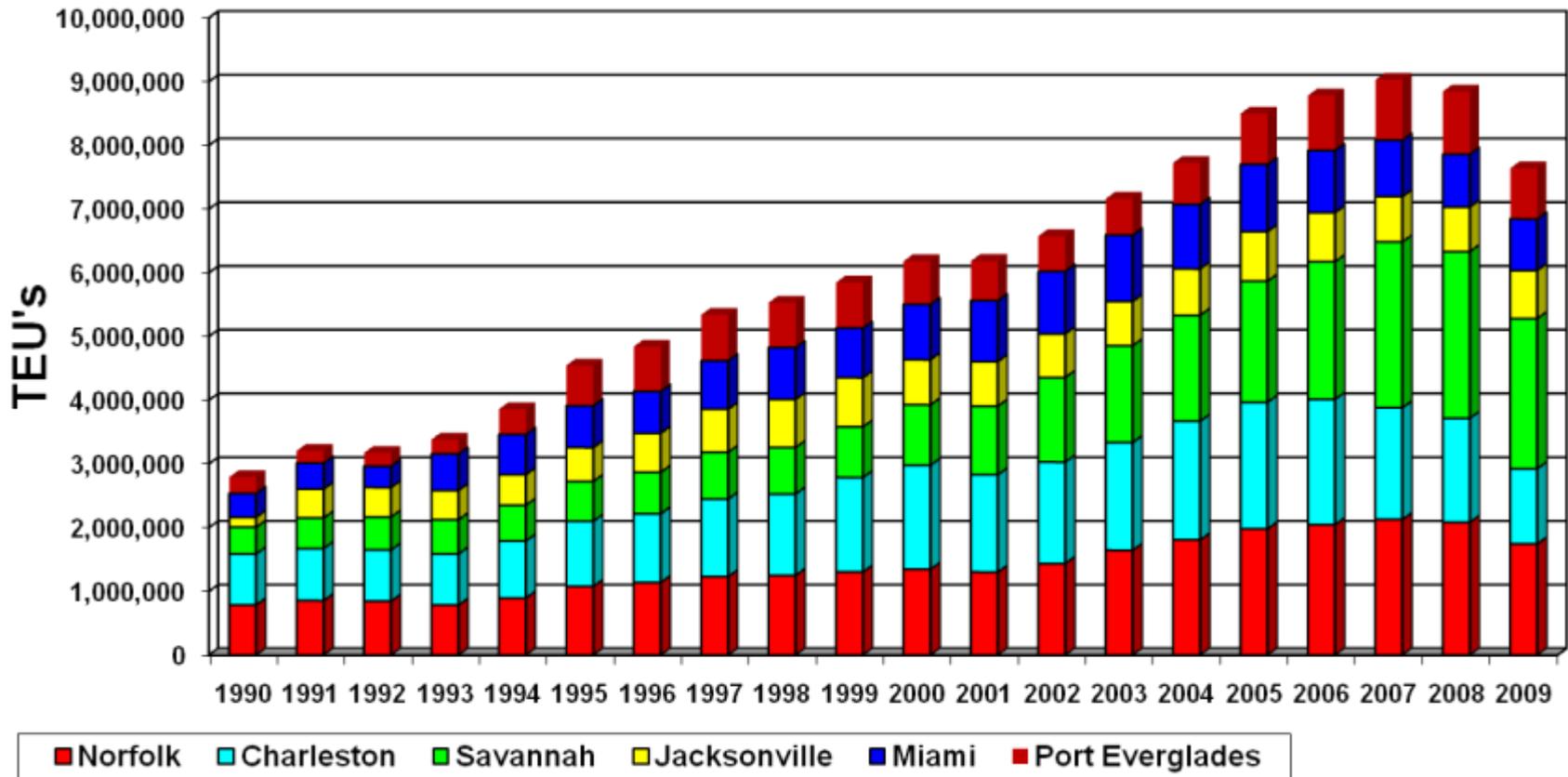


Source: US Maritime Administration

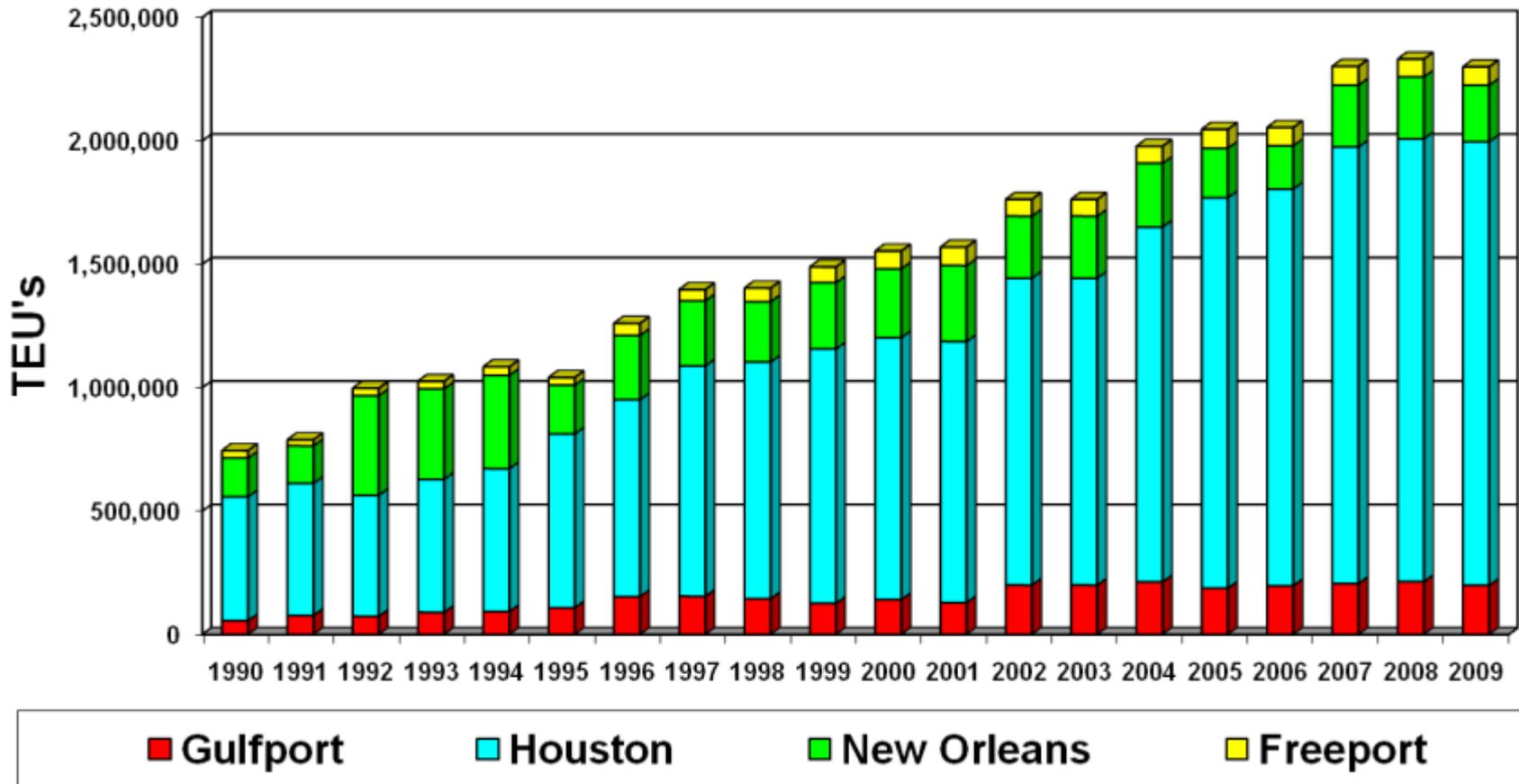
TEUs By US North Atlantic Ports



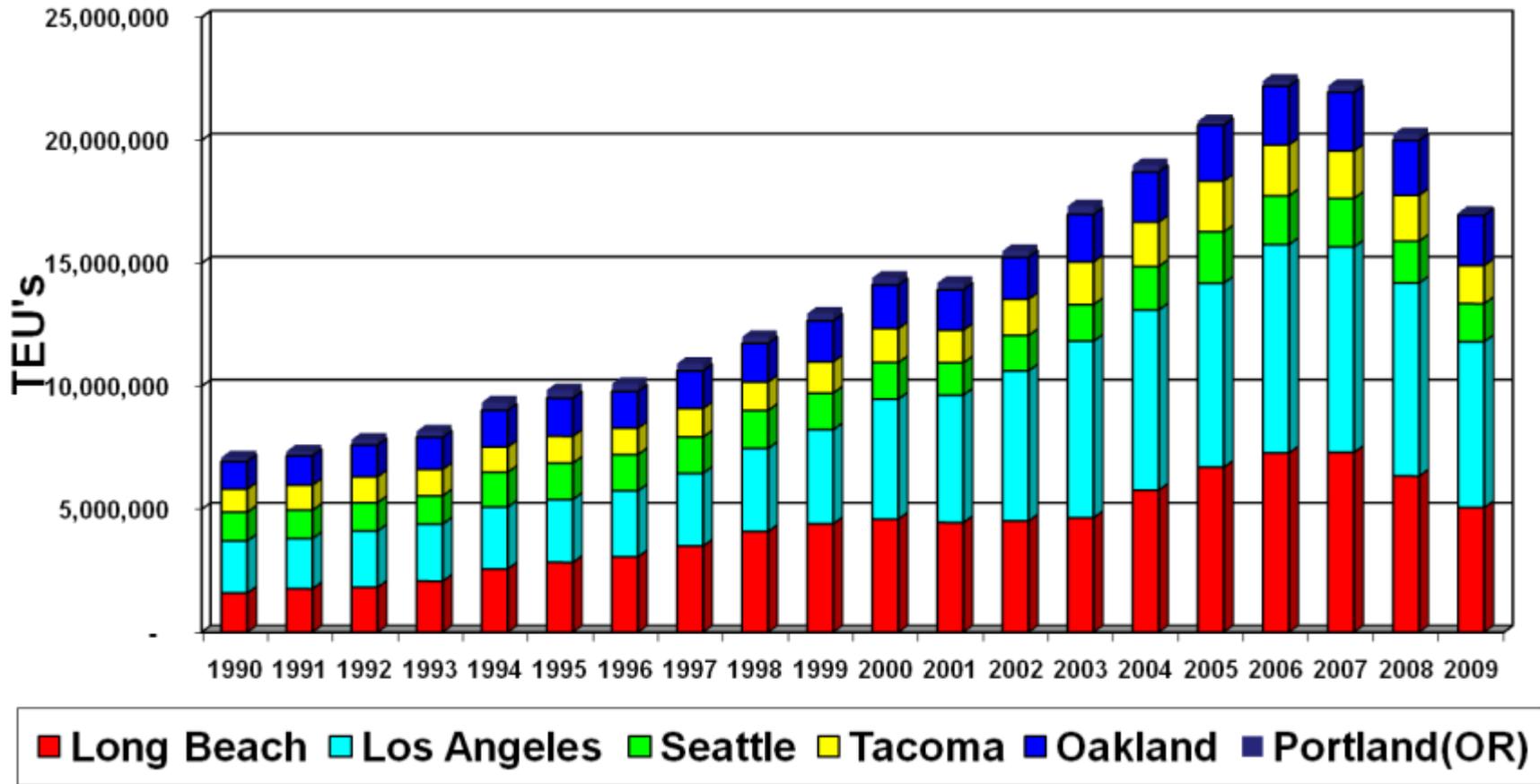
TEUs By South Atlantic Port



TEUs By US Gulf Ports



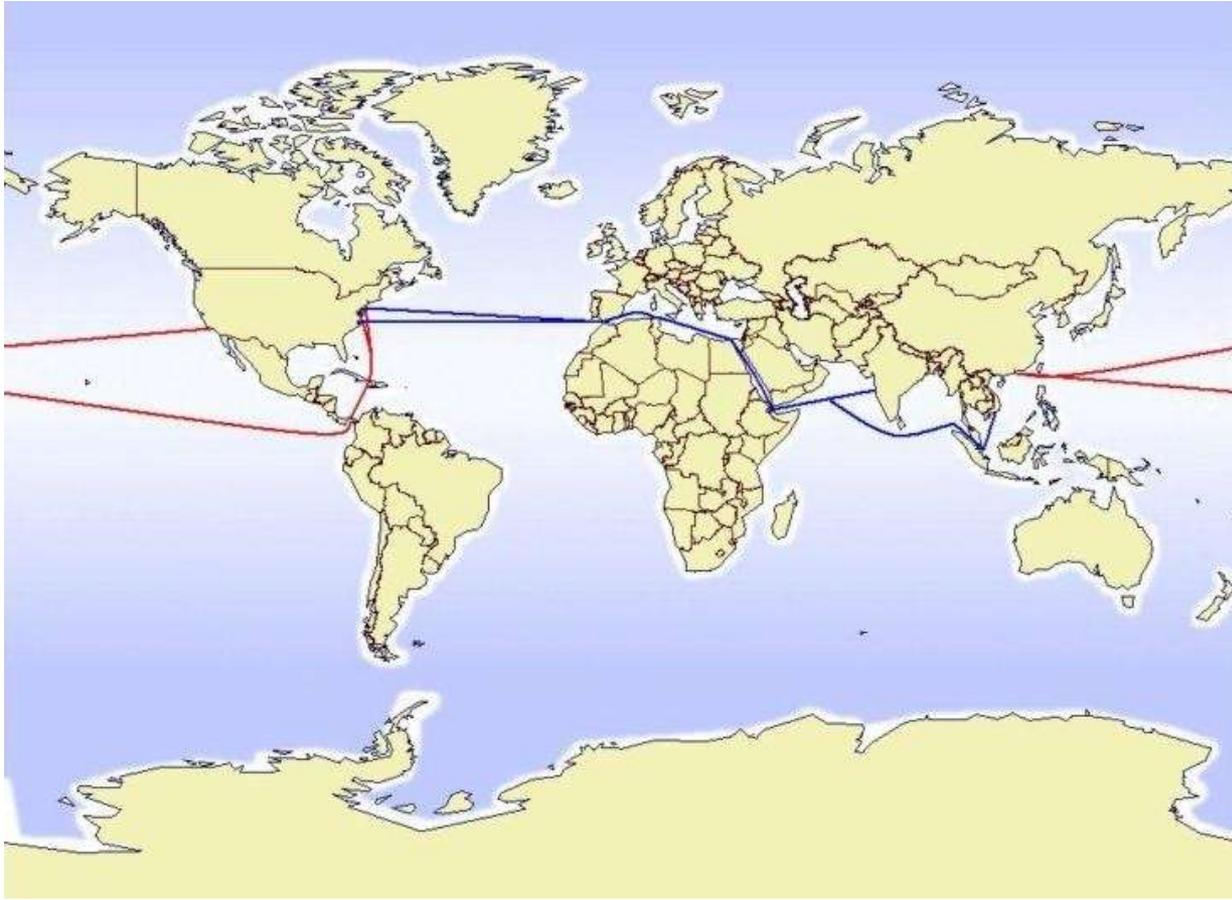
TEUs By West Coast Ports



Shocks Have Occurred in the Existing Logistics Patterns of Importers and These Changes Occurred Between 2002 and 2007

- **Consolidation of imports via San Pedro Bay (Los Angeles and Long Beach) Ports -- mid 1990's**
 - **Distribution center growth**
 - **Cross-dock operations**
 - **Rail investments in S. Cal to Midwest routings**
- **But then.....**
 - **9/11**
 - **West Coast Shutdown**
 - **Capacity Issues – Land and labor shortages**
 - **Rail and truck shortages**
 - **High Intermodal rates**
 - **Search for alternatives**
 - **Shifting production centers**
 - **Economic crisis**

All Water Routings are Growing



All Water Services are Growing

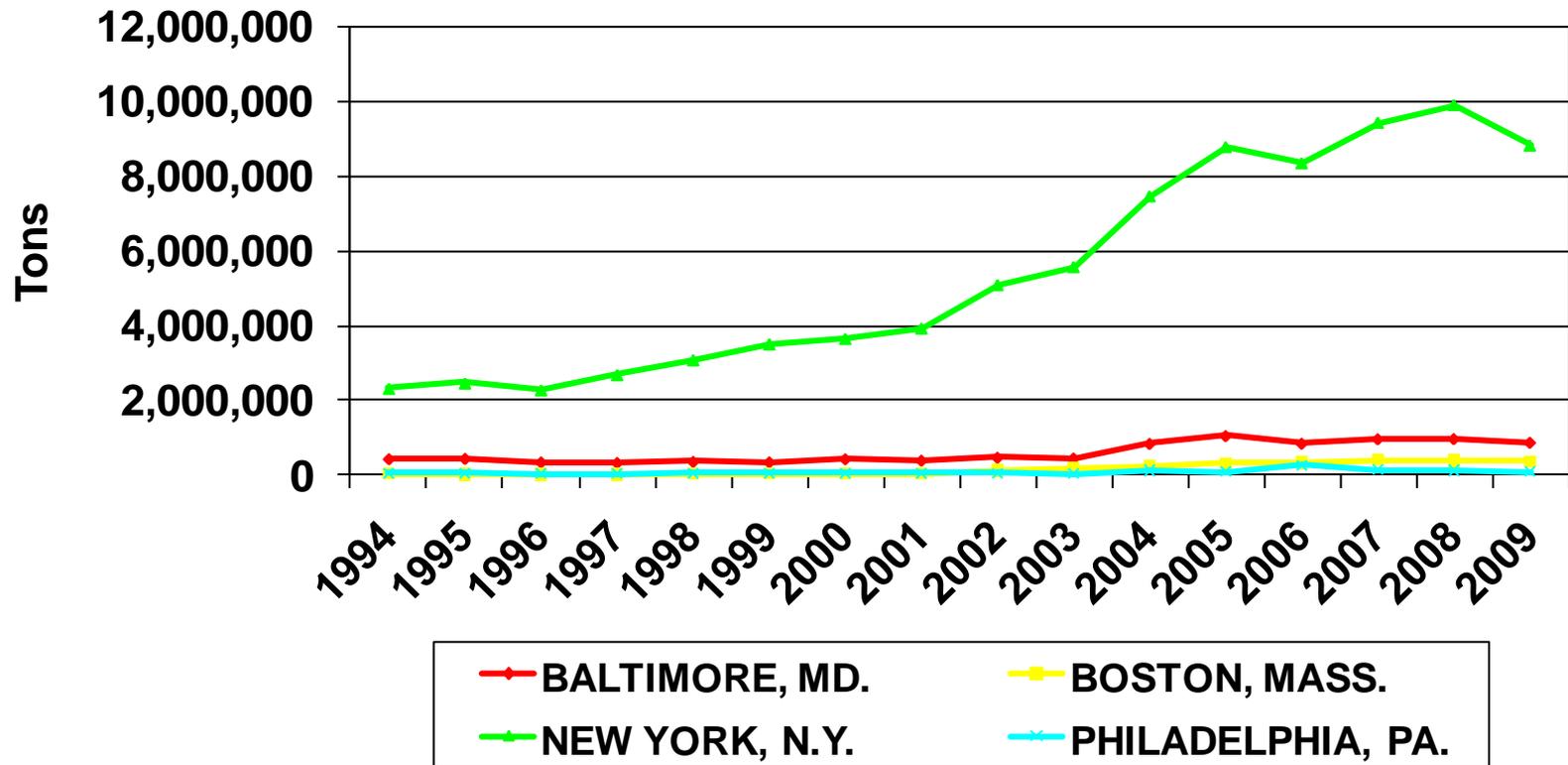
- **Panama Canal:**
 - Current size limitations (-)
 - New, bigger canal (+)
 - Transit time issues (-)
 - Carriers can internalize rail revenue (+)
- **Suez Canal:**
 - Accommodates larger vessels (+)
 - Better transit to SE Asia/India (+)
 - Political instability/Piracy (-)
 - Transit time issue to Midwest (-)
 - Shifting Production to India/SE Asia (+)
 - New India-Med direct express services
 - \$110 billion port infrastructure investment in India
 - Growth in terminal development in Vietnam
 - Transshipment operations in Med (+)

All Water Services are Growing

- **Significant growth in distribution centers in Gulf and Atlantic Port Ranges**
- **Proximity to Southern Asia/India is a positive – Suez Canal**
 - **Growth in Indian port infrastructure**
 - **Growth in production centers and port infrastructure in Vietnam**
- **With direct services, transit time differentials are narrowing**
- **Port infrastructure investment on East and Gulf Coasts has responded**

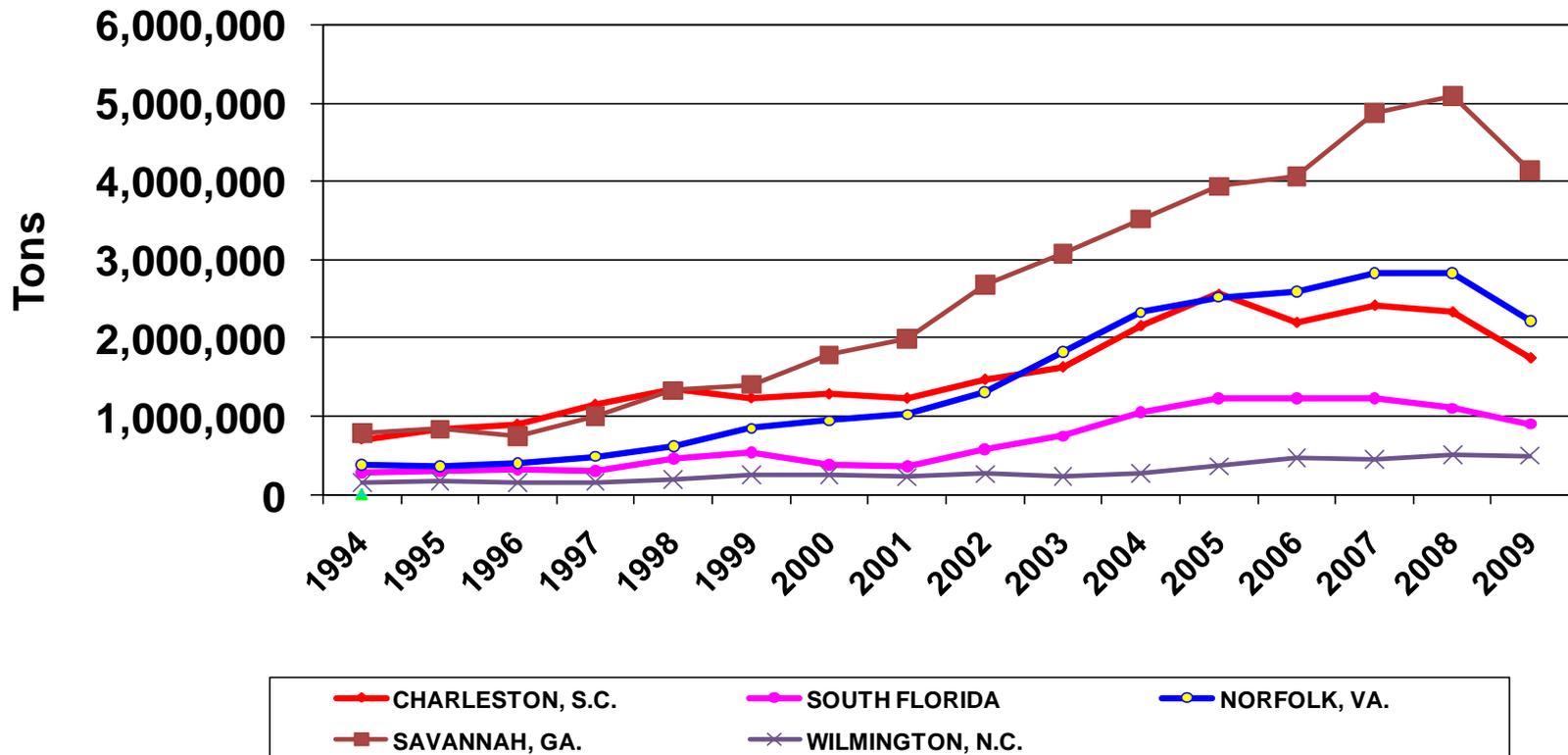
Impact of Development of All-water Service

Imported Asian Container Tonnage- US North Atlantic Port Range



Source: US Maritime Administration

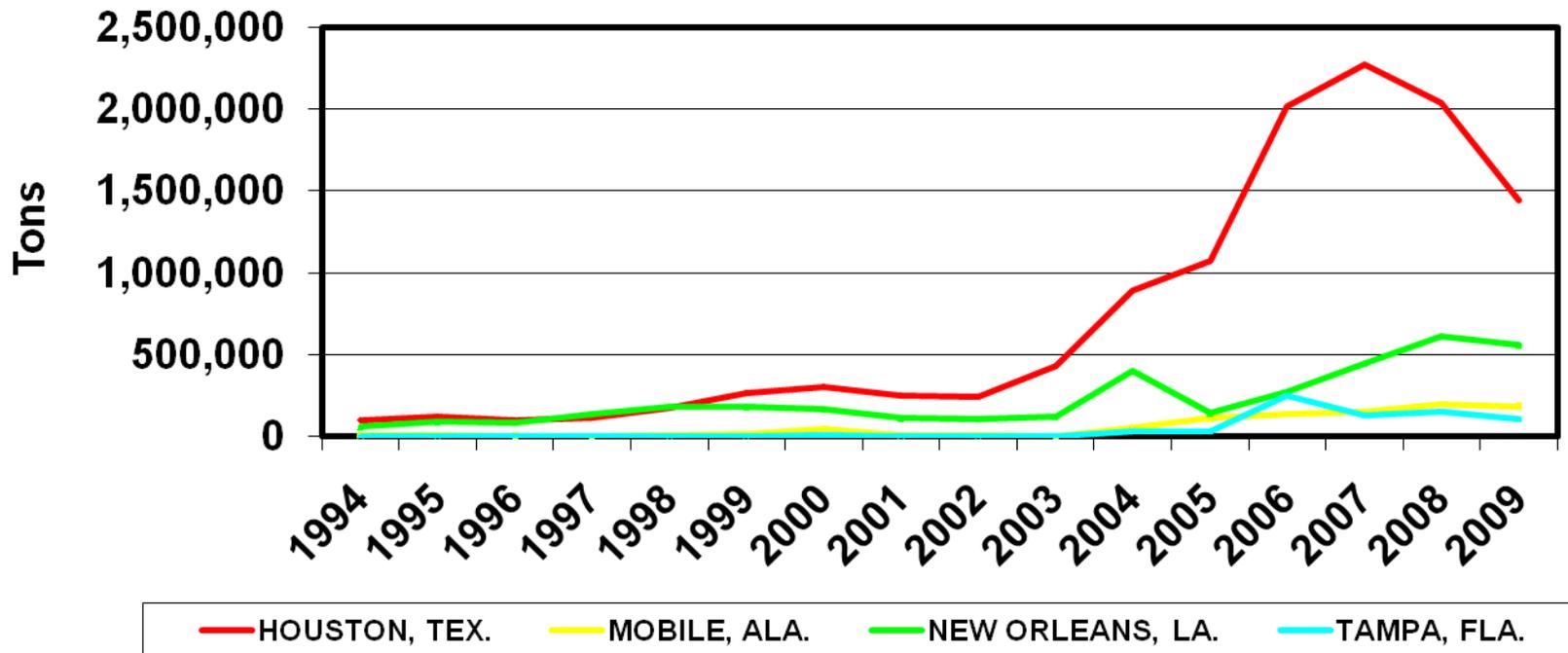
Imported Asian Container Tonnage – South Atlantic Port Range



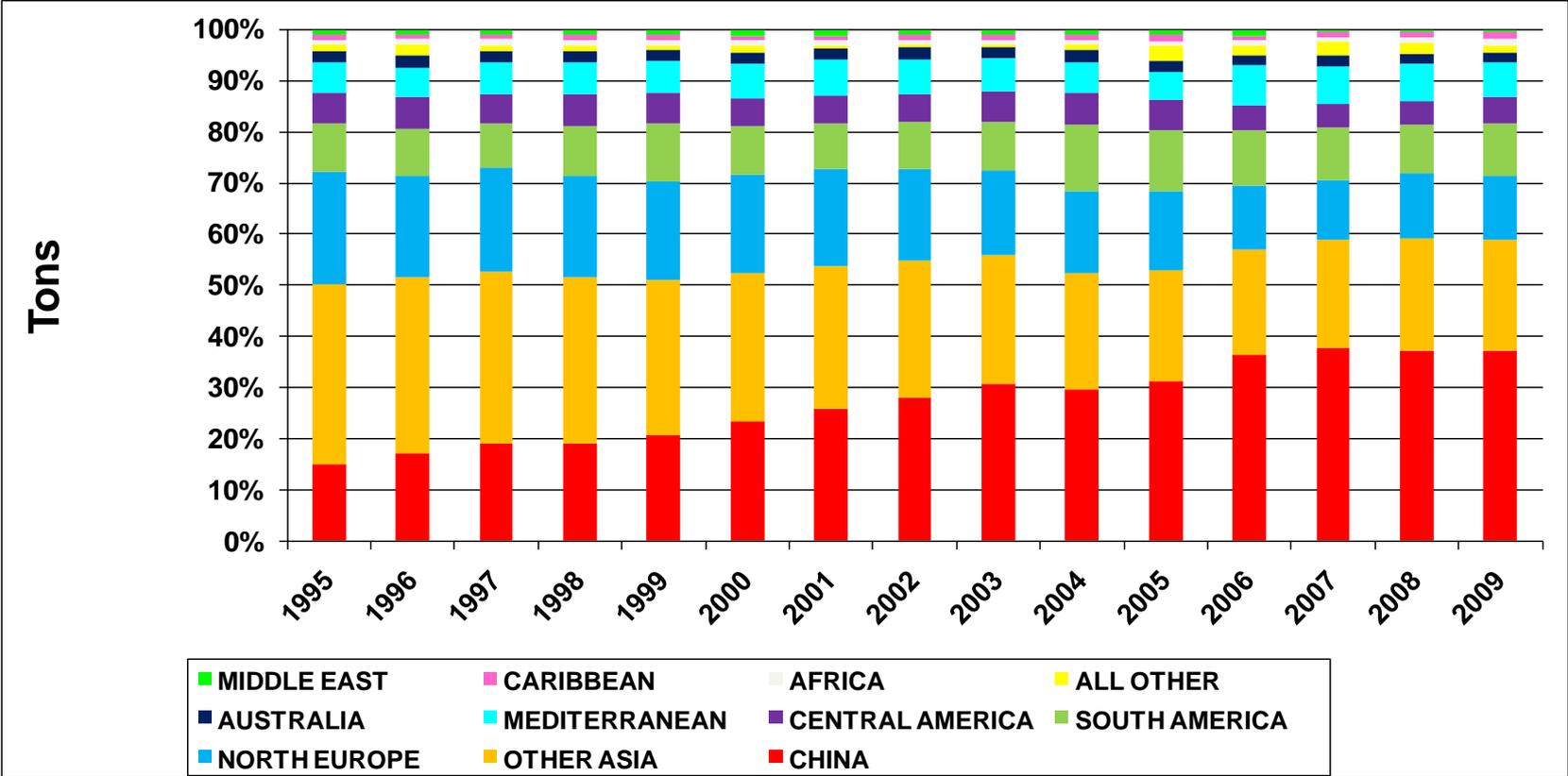
Source: US Maritime Administration

Imported Asian Container Tonnage – Gulf Coast Port Range

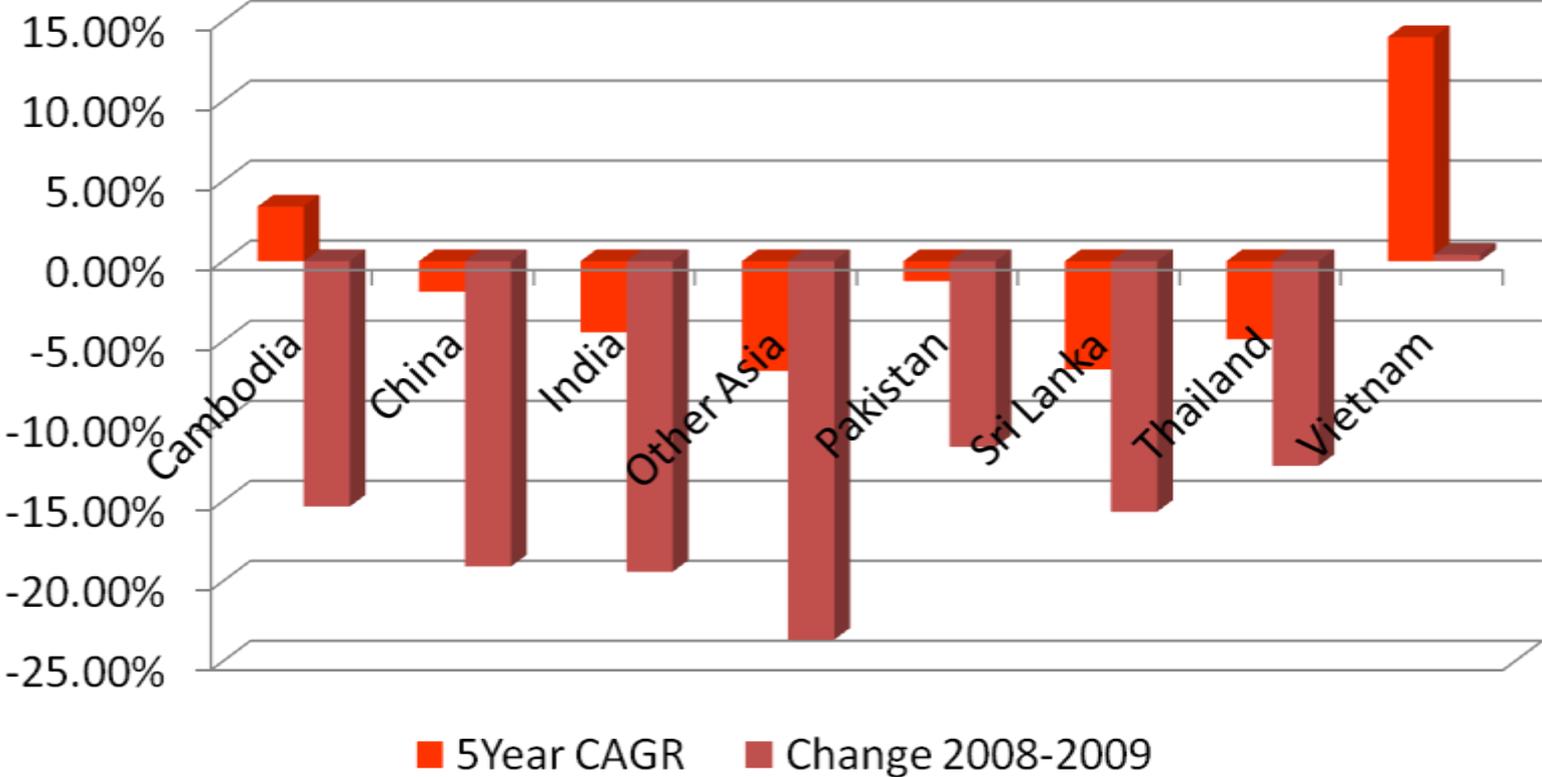
Imported Tons of Containerized Cargo



China Has Been Responsible for Nearly 40% of Imported Containerized Tonnage



However, Asian Supply Sources are Shifting



What Lies Ahead?

- Have the factors that caused the growth in all water services stabilized?
 - Recognition by West Coast ports that demand is not inelastic
 - Improved productivity and consistent work force performance on the West Coast?
 - Improved truck and rail service at West Coast ports
 - More competitive intermodal rates
 - Stabilization in growth of environmental policies and infrastructure fees at West Coast ports
 - Development of DC's on East and Gulf Coast
 - Investment in East Coast and Gulf Coast port infrastructure

Implications for Atlantic and Gulf Coast Ports

- **All water services likely to continue, but perhaps at a lower rate than between 2002 and 2007:**
 - **Bigger Panama Canal**
 - **Increased use of Suez Canal**
 - **Growth in India, Vietnam and other parts of South Asia**
 - **Development of transshipment centers in Med to relay cargo from SE Asia and India to North America**
 - **Growth in transshipment centers in Panama and the Caribbean**
 - **Channel deepening projects at East and Gulf Coast ports**
 - **Major rail corridor developments under way to improve transit times**
 - **Terminal expansion projects and private-public partnerships – the concession**
 - **New York**
 - **Baltimore**
 - **Norfolk**
 - **Charleston**
 - **Jacksonville**
 - **Galveston**

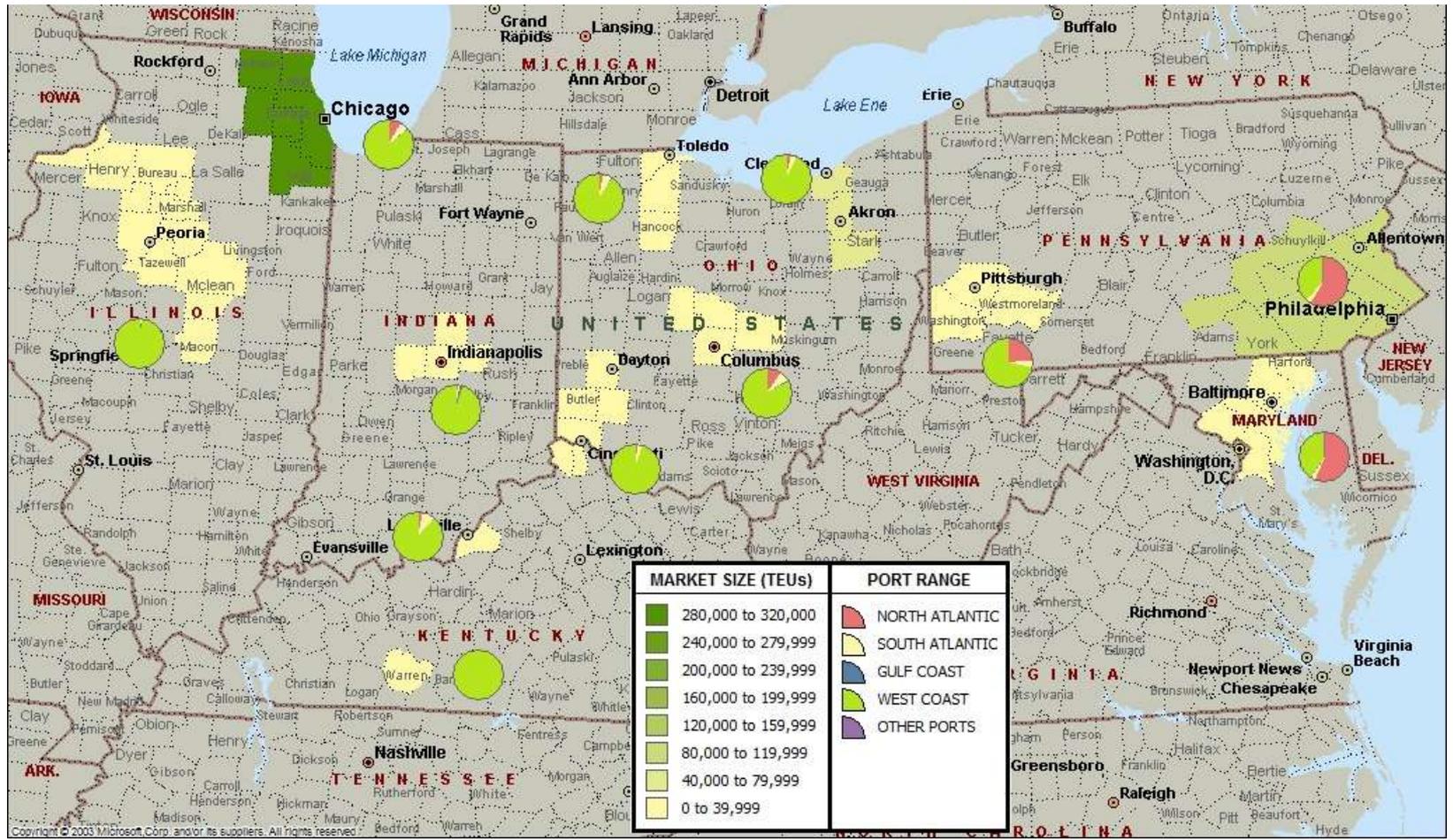
The West Coast Ports Have Experienced a Stronger Rebound than Atlantic and Gulf Coast Ports

	Change 2008-2009	Change Jan-June 2010 vs. Jan-June 2009
West Coast Ports	-13.70%	15.65%
Atlantic Coast	-13.40%	13.87%
Gulf Coast	-8.93%	0.00%

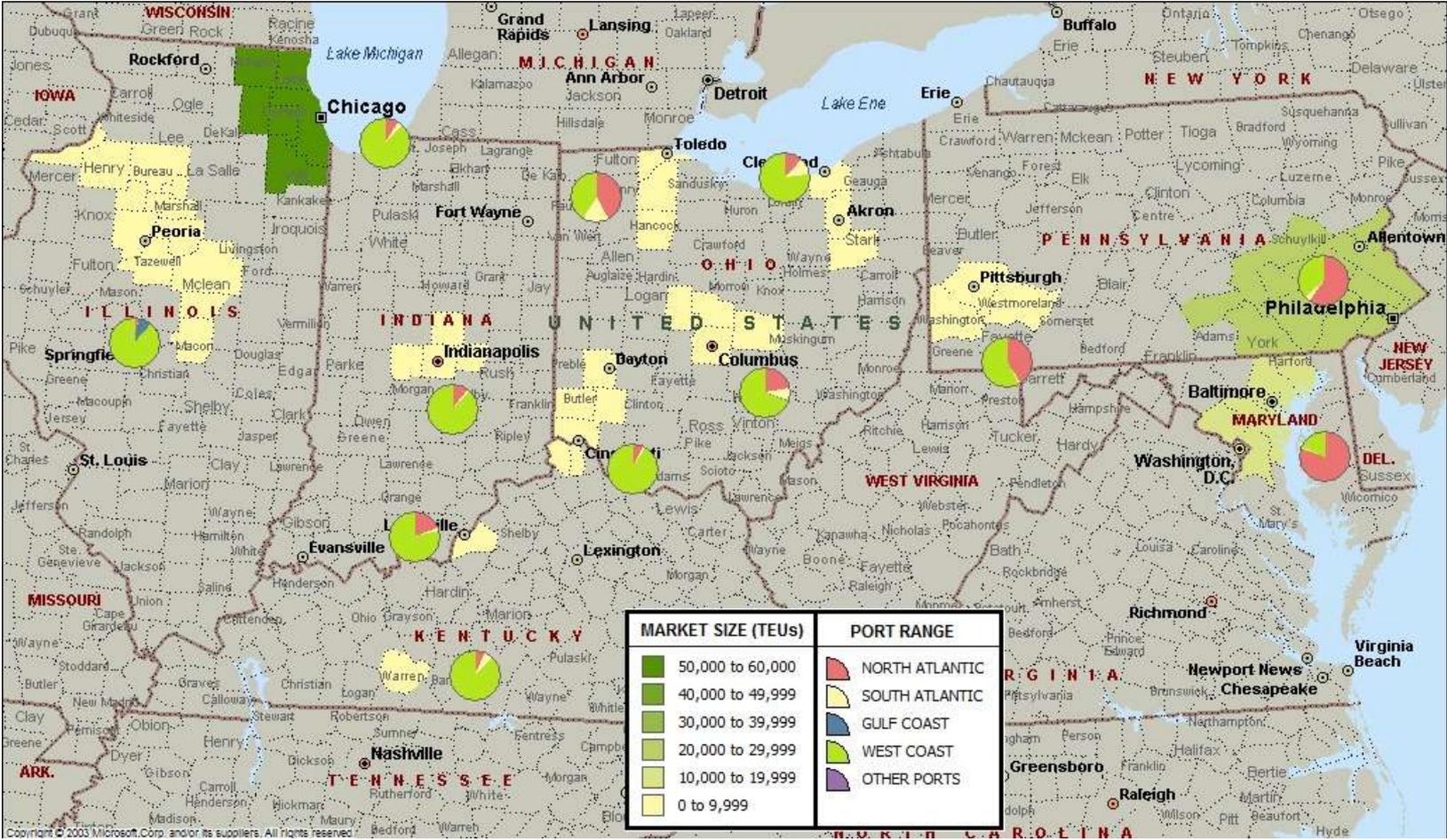
Expansion of the Panama Canal – Implications on Changing Trade Patterns

- **After 2014, the composition of the fleet will likely change, as 6,500 TEU plus vessels will be deployed**
- **Actual volume increases through the Panama Canal may be less than anticipated:**
 - **Factors that have impacted growth in all water services are now in place**
 - **Growth in trade with areas that are more efficiently served via Suez Canal**
- **East and Gulf Coasts will have to compete to handle the larger sized vessels that will be deployed on both Suez as well as Panama Canal based on infrastructure:**
 - **Channel depth to accommodate larger vessels (both Suez as well as enlarged Panama Canal)**
 - **Berth capacity to handle 1,000 ft plus vessels**
 - **Crane outreach capability**
 - **All require capital investment**
- **East and Gulf Coast ports will also need to compete based on:**
 - **Local market**
 - **Access to discretionary cargo**
 - **Truck**
 - **Rail**

China Imports by Location and Ports Currently Used



Southeast Asia Imports by Location and Ports Currently Used



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Implications

- The battle ground will be in the Midwest, particularly in areas such as:
 - Columbus
 - Indianapolis
 - Cincinnati
 - Cleveland
 - Chicago
 - Houston
 - Memphis
 - Atlanta
 - St. Louis

Implications - Water

- Only three non-Pacific ports have a 50 ft. draft to accommodate a fully laden 8,000 TEU plus ship:
 - New York
 - Baltimore
 - Norfolk
- Miami has received authorization, but not funded as of yet

Water Depths at Atlantic and Gulf Coast Ports

State	Port Name	Current Depth	Planned Depth
Virginia	Norfolk/Hampton Roads	50	55
Maryland	Baltimore	50	50
South Carolina	Charleston	45	45+
New York	New York (underway)	45-50	50
Massachusetts	Boston	40	48
Delaware River	DE, PA and NJ Ports	40	45
Texas	Sabine Naches	40-42	42-48
Texas	Corpus Christi	45	52
Alabama	Mobile	45	45
Texas	Freeport	45	55
Florida	Miami (authorized)	42	50
Georgia	Savannah	42	48
Florida	Port Everglades	42	50
Texas	Galveston-Houston	40	45
Florida	Jacksonville	40	45+
Florida	Manatee	40	40
Loisiana	New Orleans	40	40
Florida	Tampa	43	43

Implications - Rail

- Two rail projects will reduce transit times from Atlantic Coast Ports into the Midwest
 - Heartland Corridor Project will provide significant rail improvements for NS between Norfolk and the Midwest
 - The National Gateway Project will provide significant transit time improvements for the CSX service connecting New York and Baltimore to key Midwestern points, with a focus on the North Toledo (OH) ICTF
- Rail investments by the KCS and Centerpoint near Rosenberg, TX will provide significant intermodal access into the key manufacturing centers and distribution activity of the Monterey and Saltillo areas of Mexico
- UP is developing an ICTF near Rosenberg, TX which will further improve intermodal access into the Midwest from the West Gulf area
- On-dock rail is under consideration at Miami and Port Everglades

Implications - Terminal Development

- PONYNJ just purchased the MOTBY Terminal which avoids air draft restriction of Bayonne Bridge
 - PONYNJ announces the intent to address the air draft restriction of the Bayonne Bridge
- Baltimore recently entered into a 50 year concession with PortsAmerica Chesapeake and Highstar – 50 ft. berth
- Philadelphia is currently involved in an RFP for development of Southport
- Norfolk has expansion capability of Craney Island
- Charleston is completing a new terminal at the Charleston Navy Base
- Jacksonville has developed the MOL/TraPAC terminal – Hanjin Terminal development is delayed
- Galveston is currently reviewing proposals to develop a long term concession for the Port's cargo operations
 - Potential development of a major container terminal on 50 ft. of water in the West Texas port region
- Tampa is considering container terminal capacity expansion

Implications – Local Market

- PONYNJ serves the country's largest consumer market
- Baltimore is located in the Baltimore-Washington Corridor, and currently under-serves this market – 30% penetration rate
- Savannah serves the Atlanta market, as well as the Florida Market
- The Midwestern Market is open to competition from North Atlantic, South Atlantic and Gulf Coast ports
- Florida ports under-serve the Florida consumption market - about 40% of the Florida Asian import market is served via the West Coast
- More than one-third of the Texas import market is served via the Ports of Los Angeles and Long Beach

In Order to Fund Infrastructure Developments, Private Concessions are Growing

- Started in New York – Maher Terminals
- Philadelphia currently in process of seeking private sector investors
- Paulsboro, NJ seeking private partner
- Jacksonville could be seeking private sector funding
- Diamond State Port Corporation potentially interested in private sector investor
- Jasper County, SC acreage represents a potential long term opportunity
- Galveston is currently evaluating proposals from potential investors
- Miami could be looking for a private partner for on-dock rail
- Port Manatee is seeking private sector investment

Port Valuation to Raise Capital -- Enterprise Valuation Model- Concession

- Assesses the enterprise value to the terminal operator:
 - Identify total terminal operating and maintenance costs:
 - Assigned to Port
 - Assigned to Tenant
 - Assign fixed costs to terminal operator and Port Authority
 - Identify depreciation
 - Identify revenue streams to both Port and Tenant
 - Develop “total” value of terminal
 - Apply multiples to EBITDA
 - Estimate NPV of earnings stream
 - Base lease rate target to reflect enterprise value:
 - Lease negotiations
 - Concession values

Summary - Implications for Trade Lane Shifts

- The factors that have resulted in shifts to all-water services have been occurring since 2002
 - West Coast Shutdown
 - Changes in Logistics Patterns
 - Increased development of DC's on East and Gulf Coast
- New factors:
 - Growth in trade with India and Vietnam - Suez routing
 - Expansion of the Panama Canal
 - Containers
 - Bulk
 - Implications on ship size
 - Growth in transshipment centers

Summary – Implications for Port Ranges

- West Coast Ports experiencing strong rebound
 - Aggressive marketing to Asia – West Coast Port Coalition
 - Stabilization of intermodal rates
 - Potential improvement in terminal productivity and stabilization of environmental and infrastructure charges
 - Rebirth of bulk exports
 - PRB Coal
 - Grain
 - Fertilizer
 - Ore
- East Coast/Gulf Coast ports experiencing aggressive competition for the larger vessels likely to move via the expanded Panama Canal and the Suez Canal
 - Water depth
 - Terminal infrastructure
 - Markets
 - Local
 - Discretionary
 - Capital Access