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

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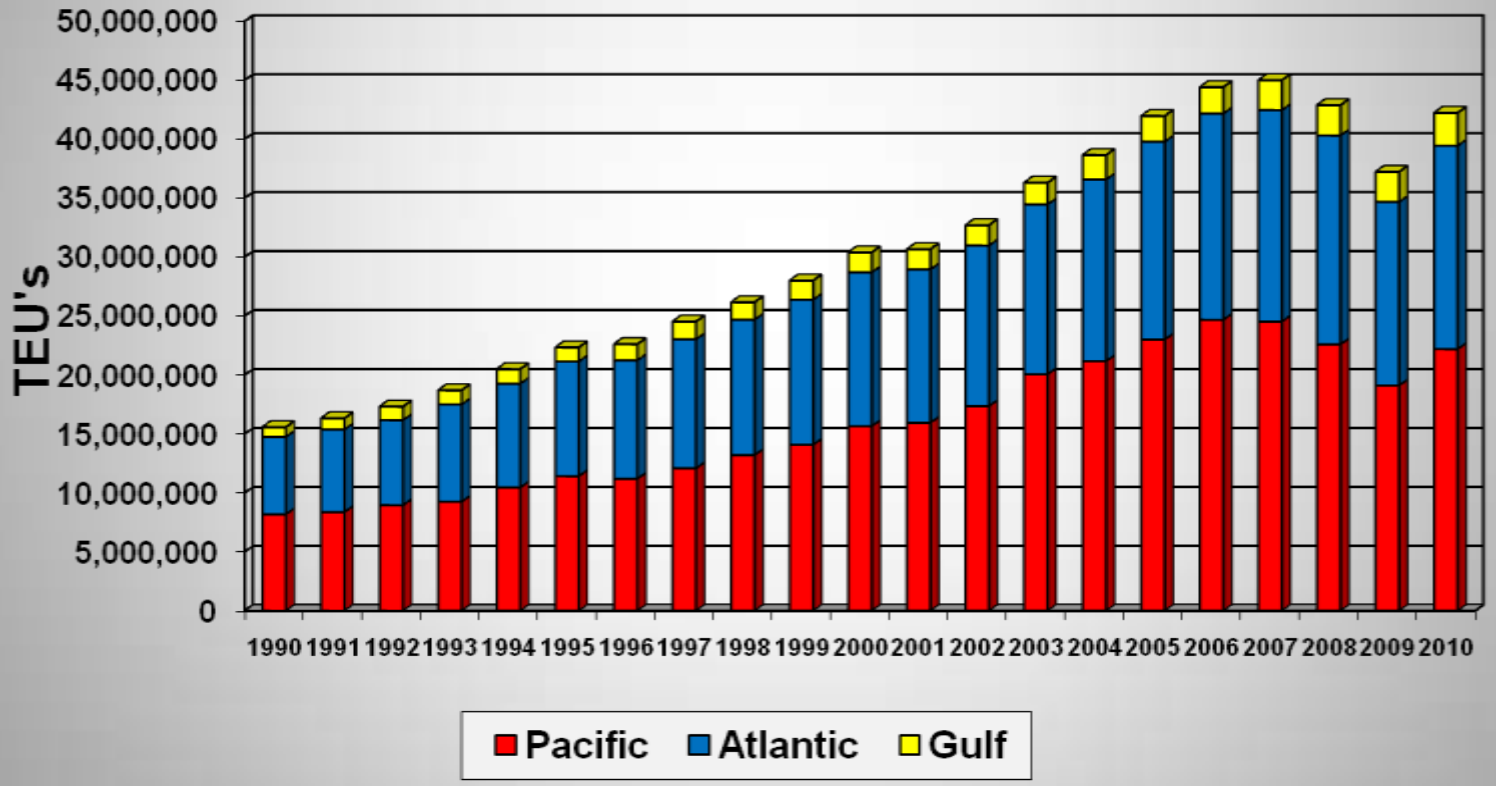
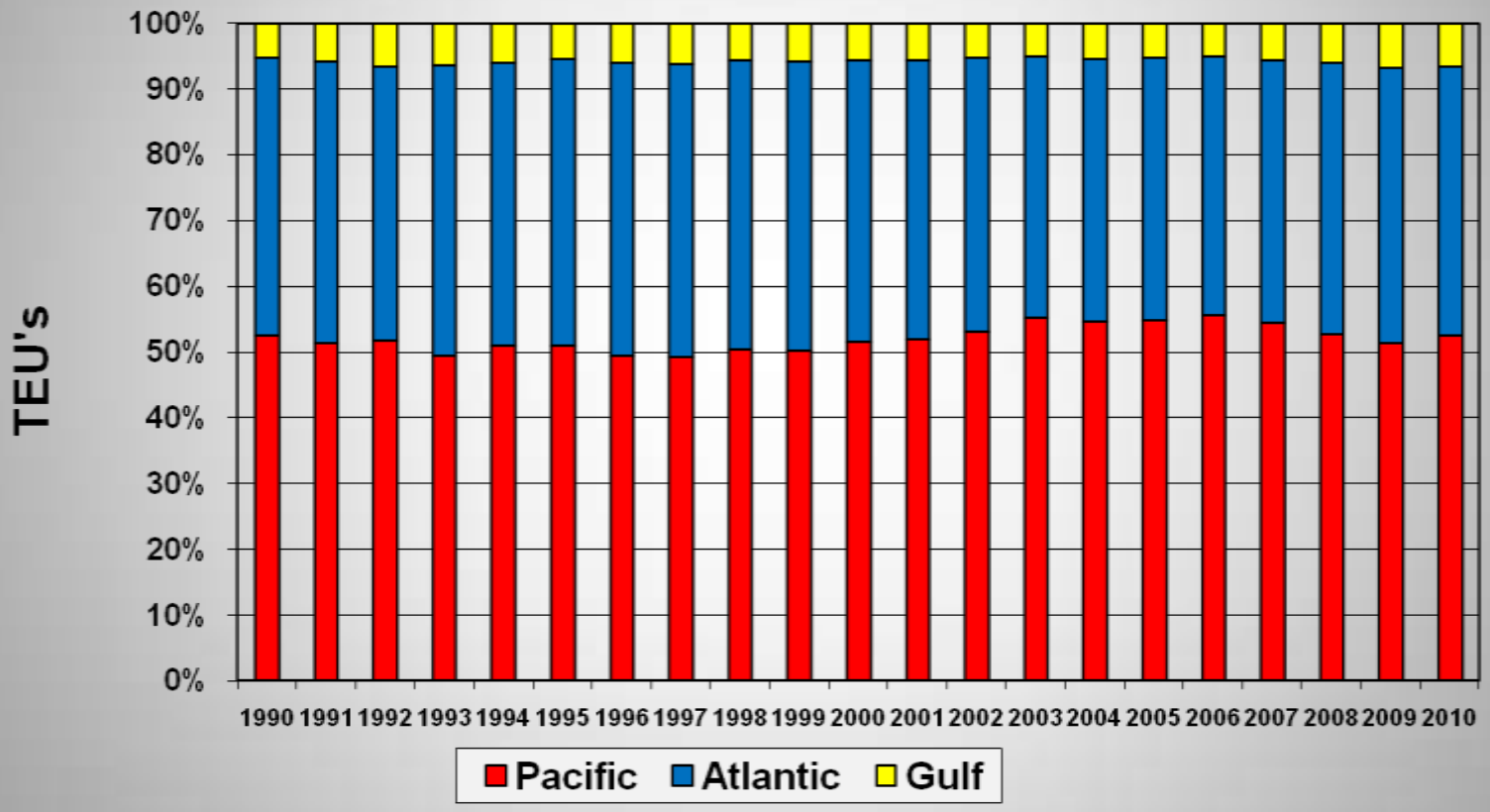
Growth in Containerized Cargo



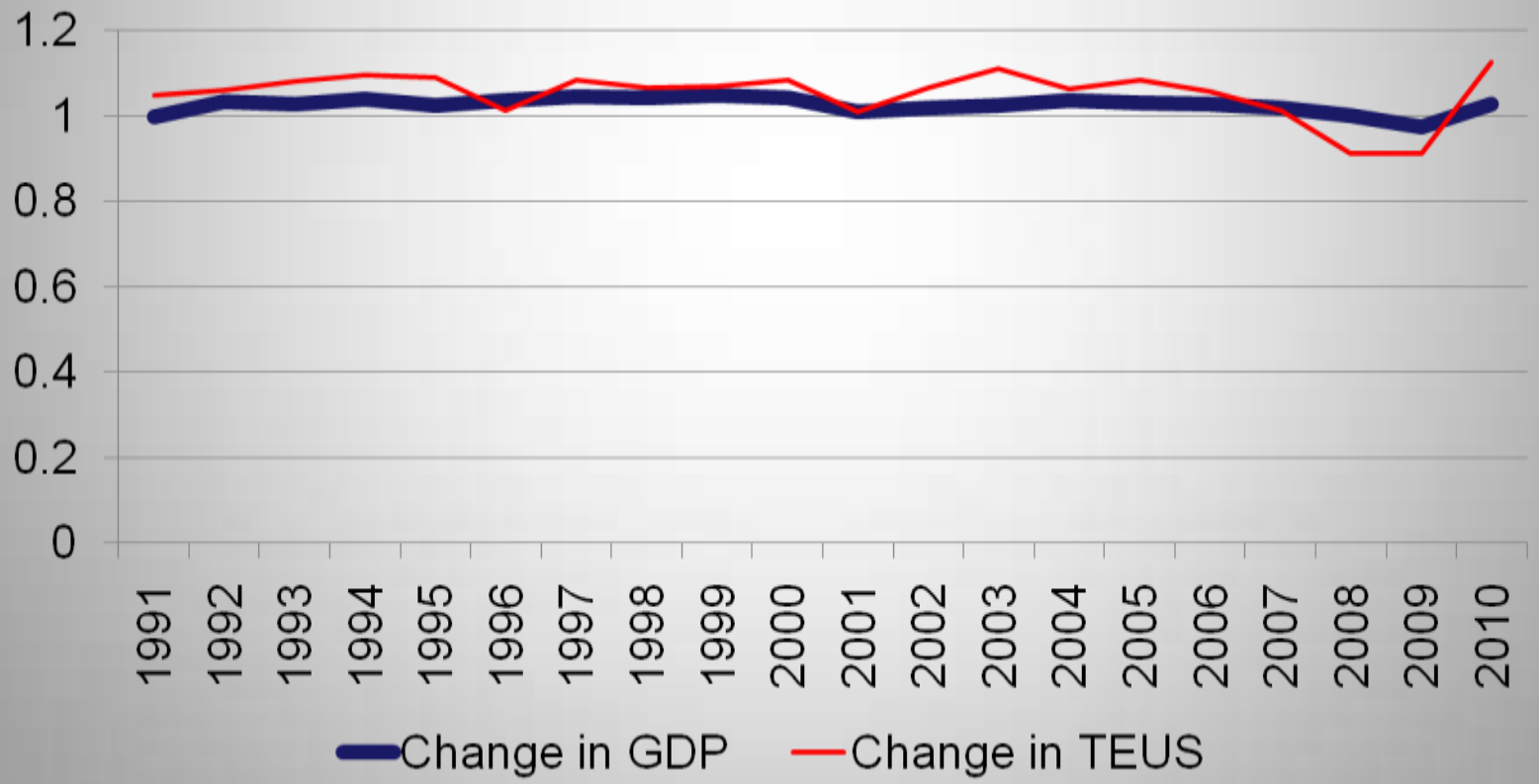
Over the past 10 years, TEU's at US ports have grown at a compound annual growth rate (CAGR) of 4.1%. Over the 1990-2010 period, the TEU's grew at CAGR of 5.1%

	CAGR 2000-2010
Pacific	4.36%
Atlantic	3.49%
Gulf	6.25%
Total US	4.11%

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



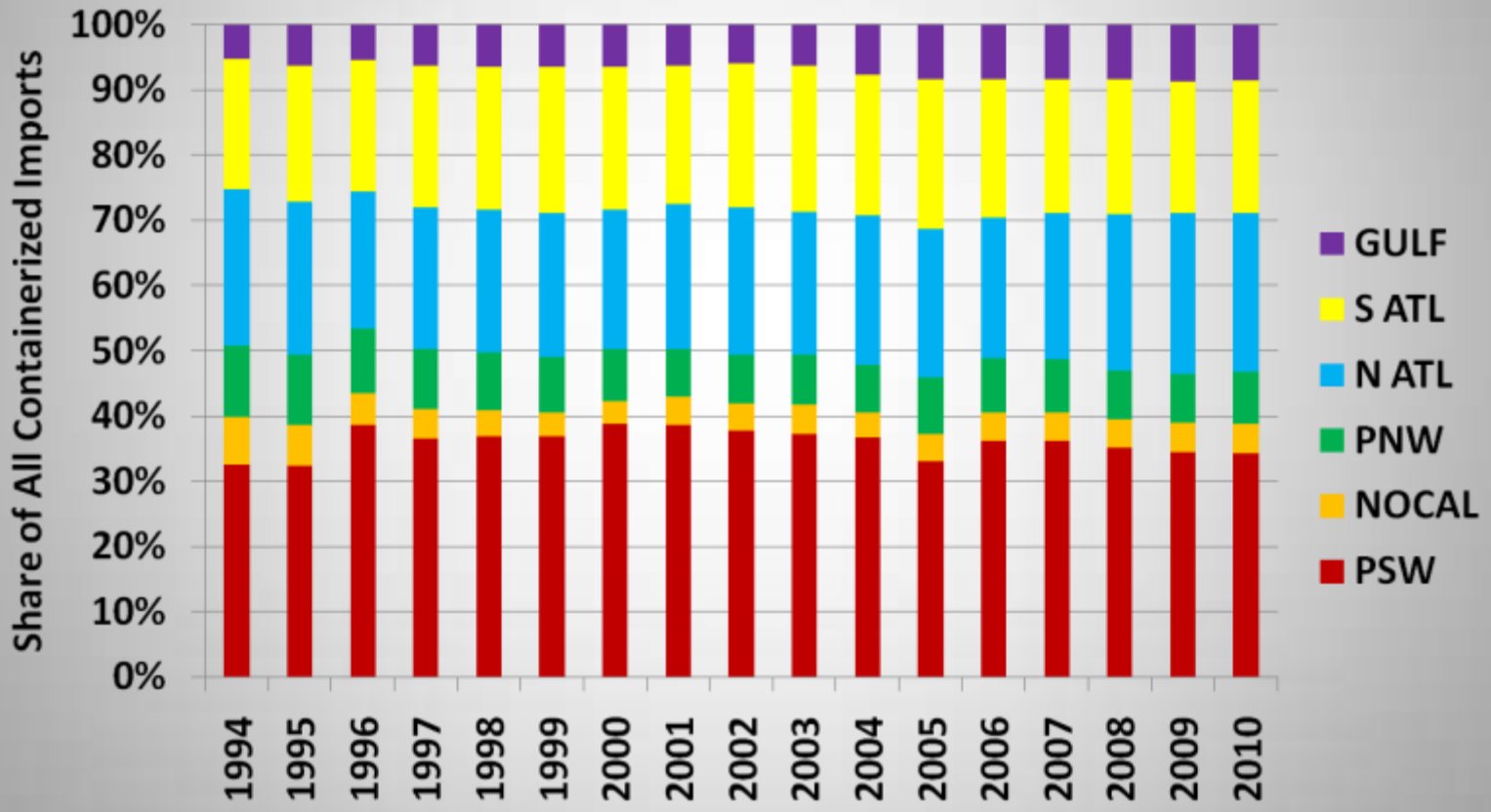
Historically, there is a strong relationship between the volume of containerized cargo & GDP: TEU's grew at a rate of 1.5 X the growth of real GDP. Since 2000, TEU's have grown (and fallen) at nearly 2X the change in real GDP



Expected Growth Rate of Containerized Cargo

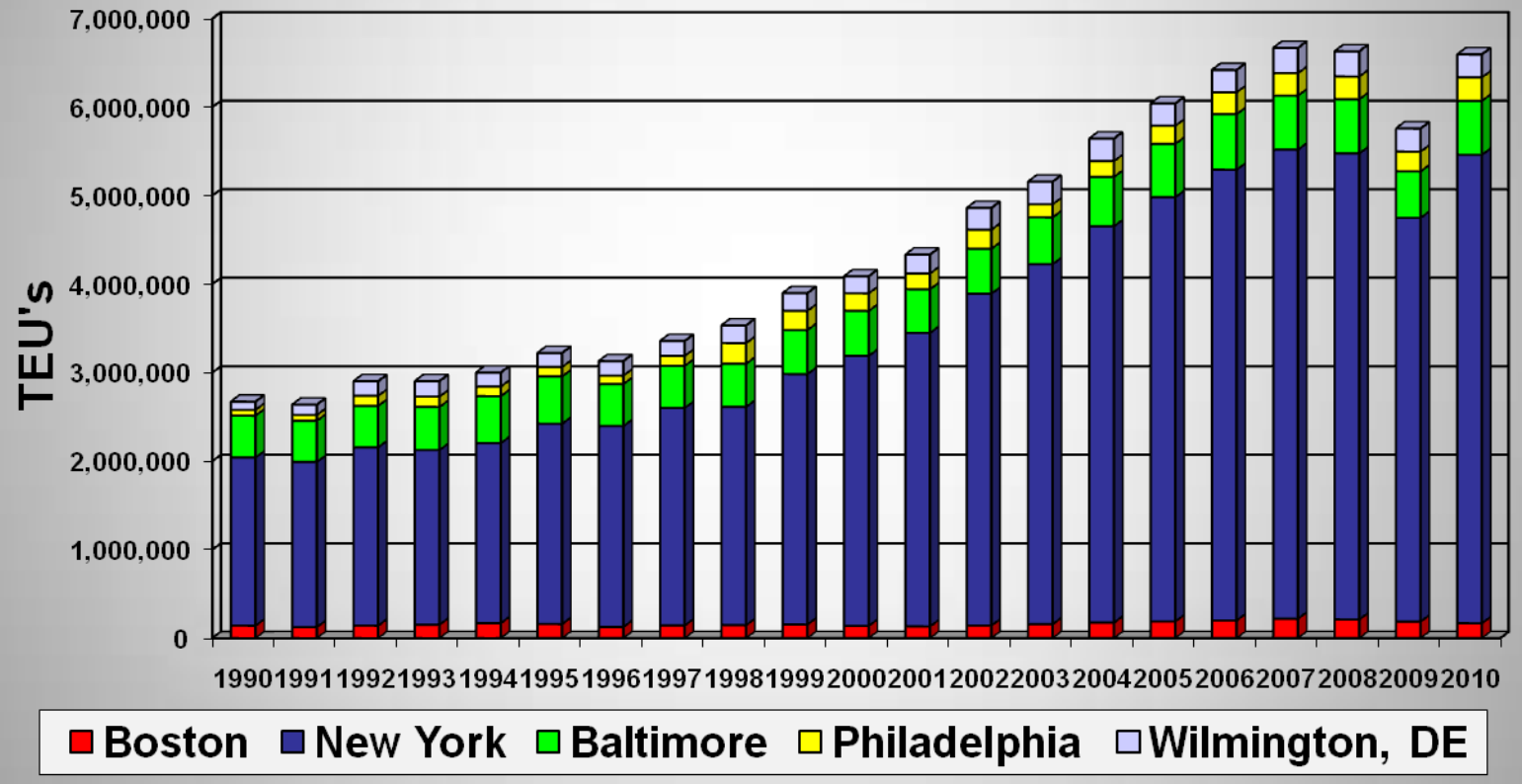
- U.S. Real GDP likely to grow between 2 -4 % annually over next 5 years
- Based on the 1.5X future growth rate, this equates to a 3% to 6% baseline growth rate in TEUS at U.S. ports
- Some ports will experience greater growth, as the result of shifting trade patterns, while other ports are likely to grow at lower rates

From a sub-regional perspective, Southern California ports (PSW) handle about 35% of all import tonnage, peaking in 2001 – this share has been falling since 2002

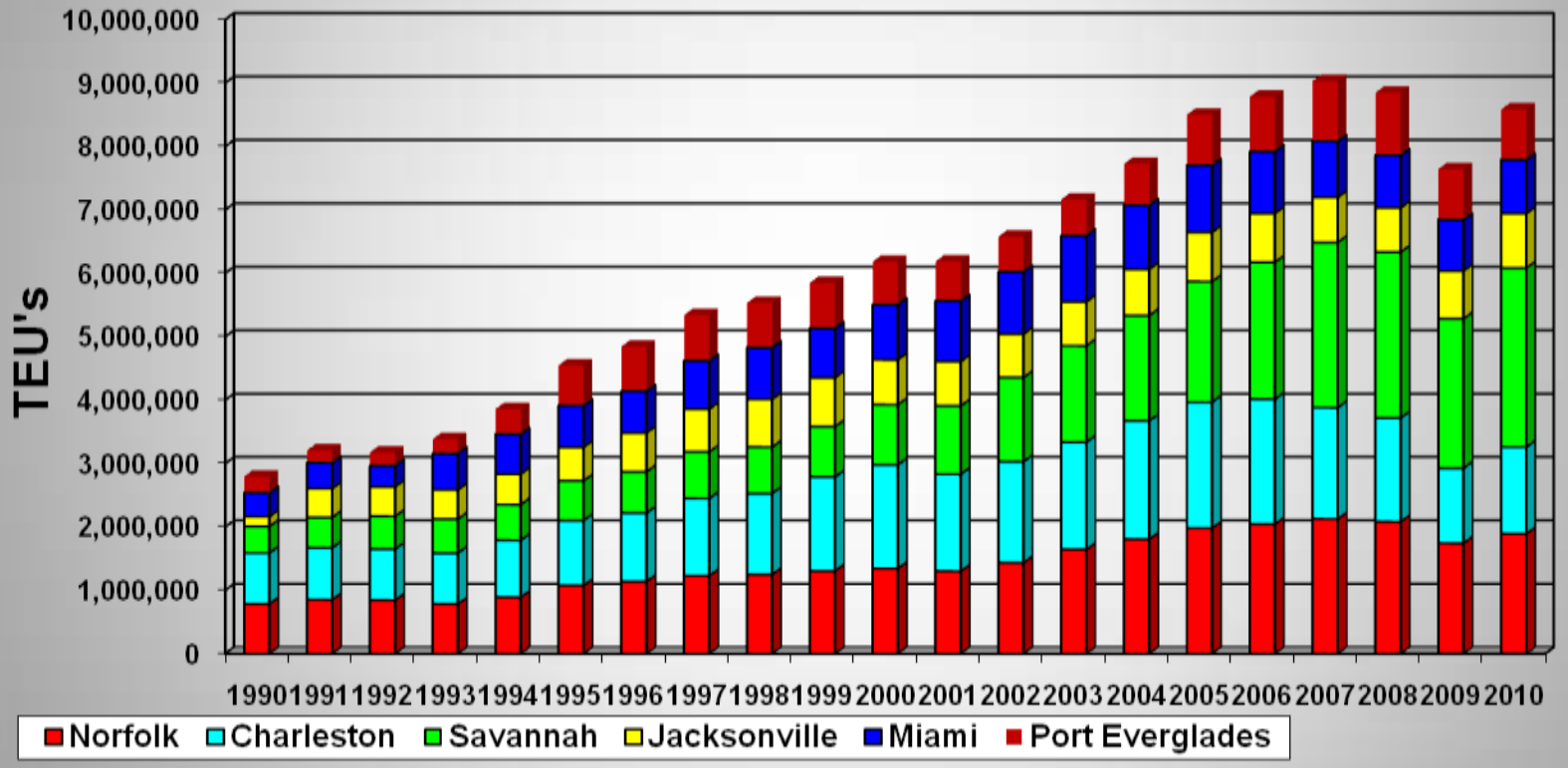


Source: US Maritime Administration

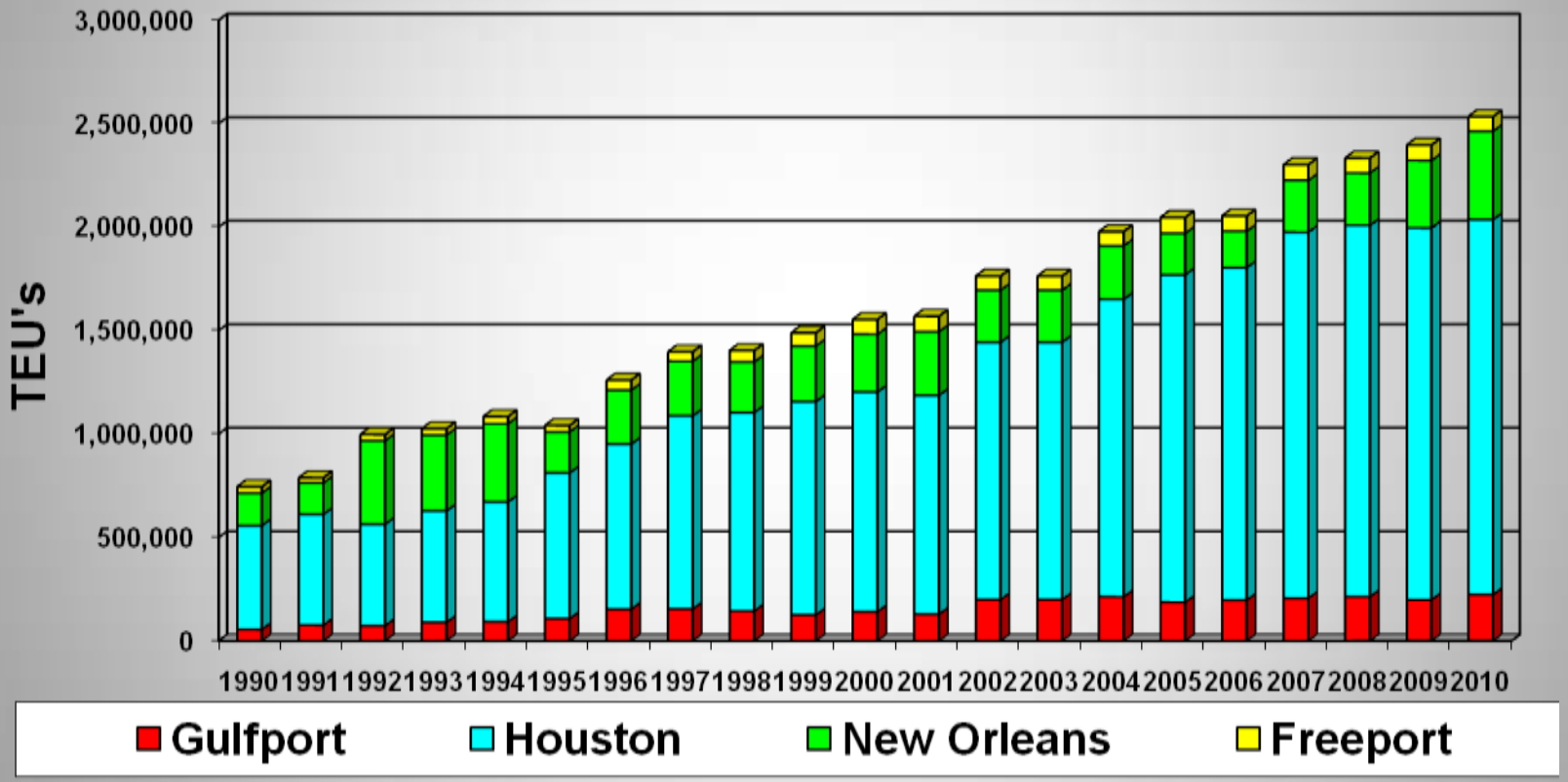
TEUs By US North Atlantic Ports



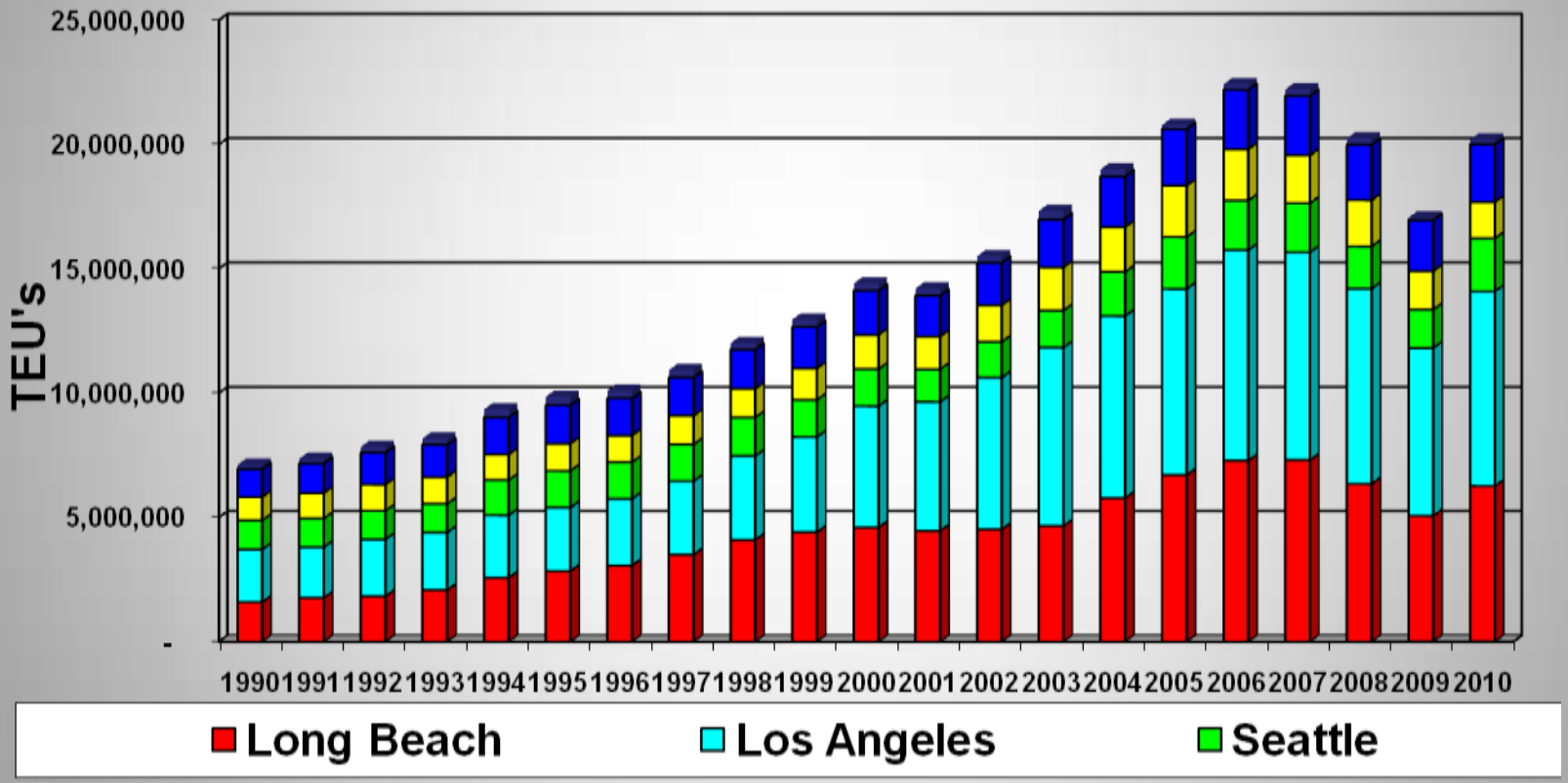
TEUs By South Atlantic Port



TEUs By US Gulf Ports



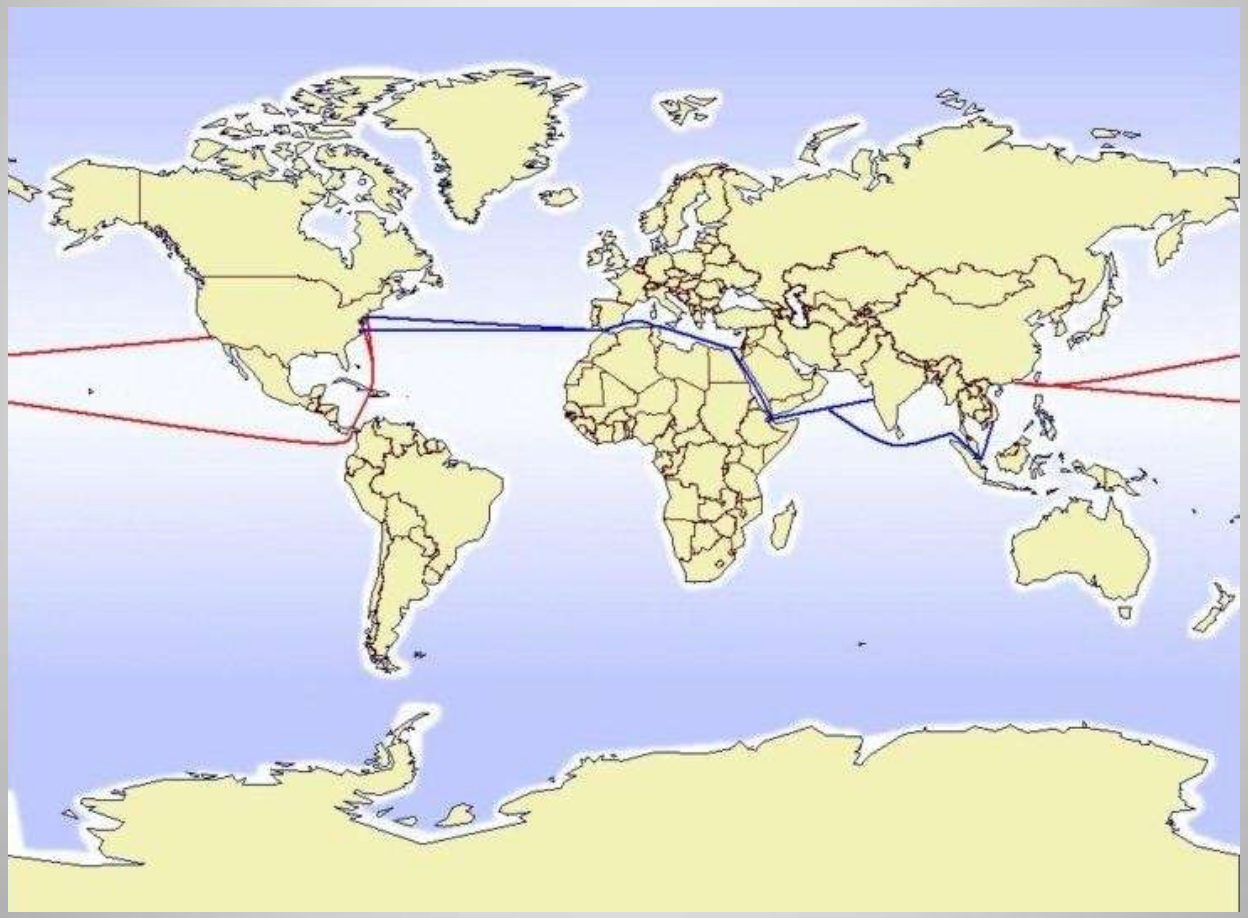
TEUs By West Coast Ports



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

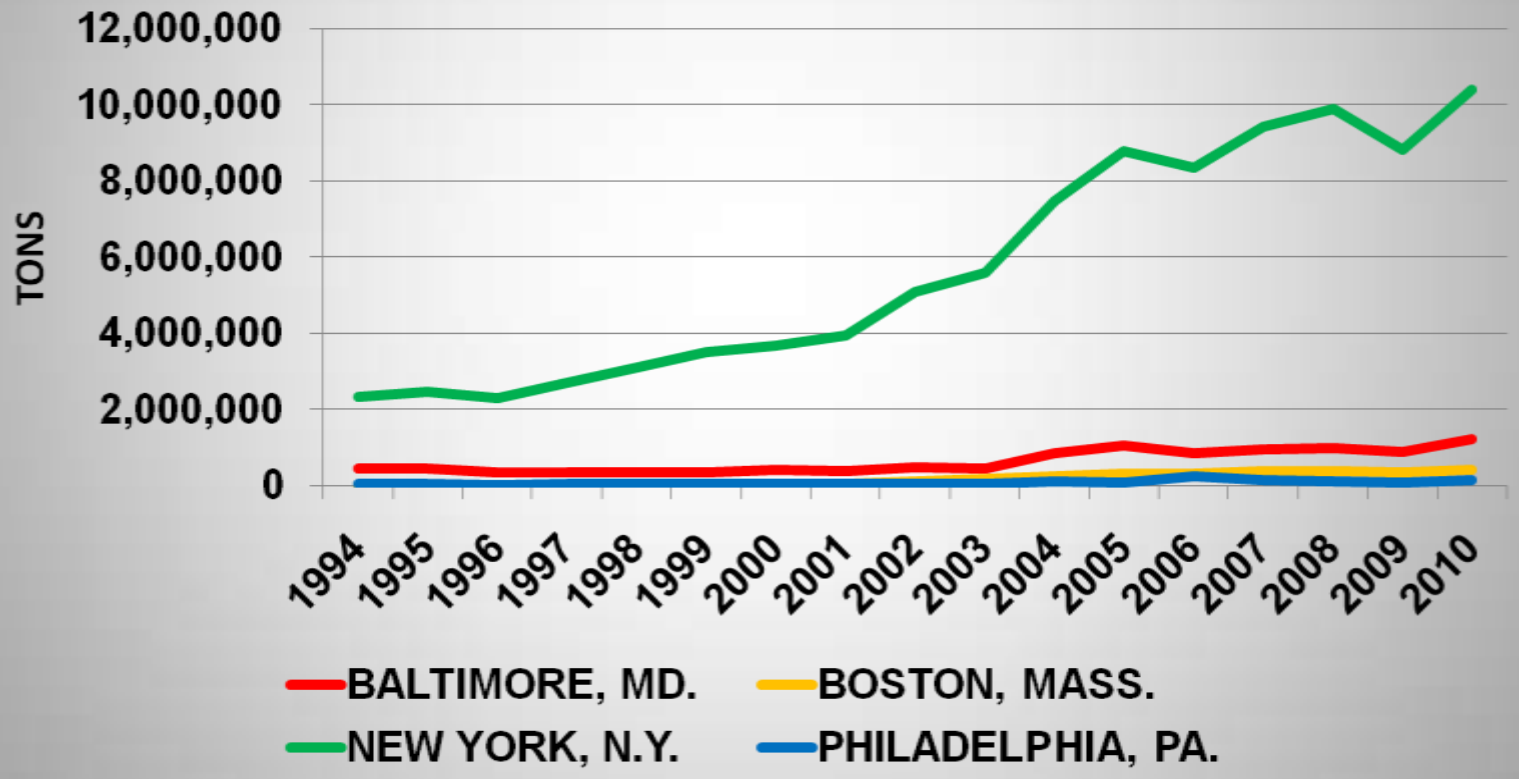
- **Panama Canal:**
  - **Current size limitations (-)**
  - **New, bigger canal (+)**
  - **Transit time issues (-)**
  - **Carriers can internalize rail revenue (+)**
- **Suez Canal:**
  - **Accommodates larger vessels (+)**
  - **Better transit to SE Asia/India (+)**
  - **Political instability/Piracy (-)**
  - **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

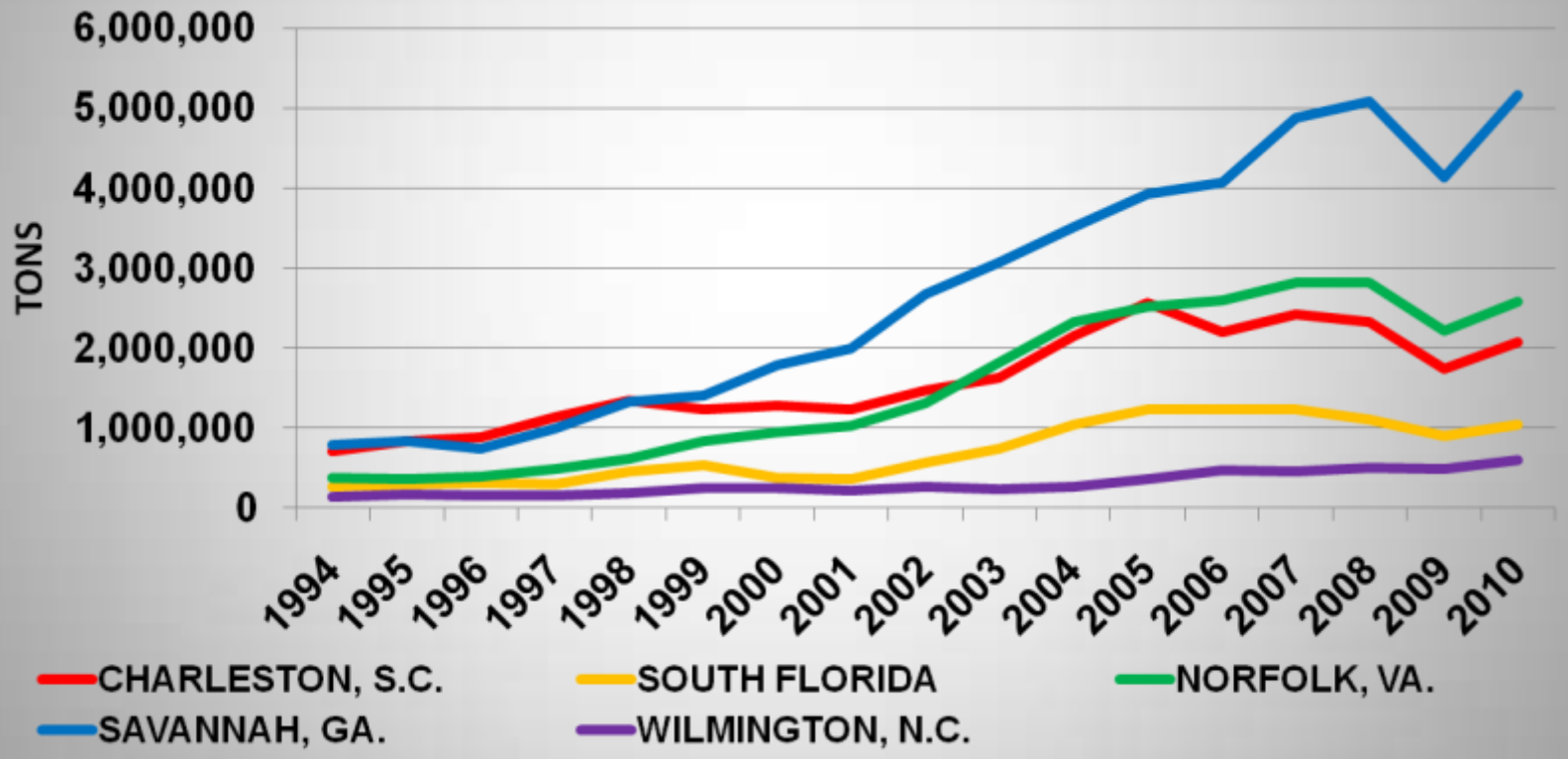
- **Significant growth in distribution centers in Gulf and Atlantic Port Ranges**
- **Proximity to Southern Asia/India is a positive – Suez Canal**
  - **Growth in Indian port infrastructure**
  - **Growth in production centers and port infrastructure in Vietnam**
- **With direct services, transit time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

Impact of Development of All-water Service

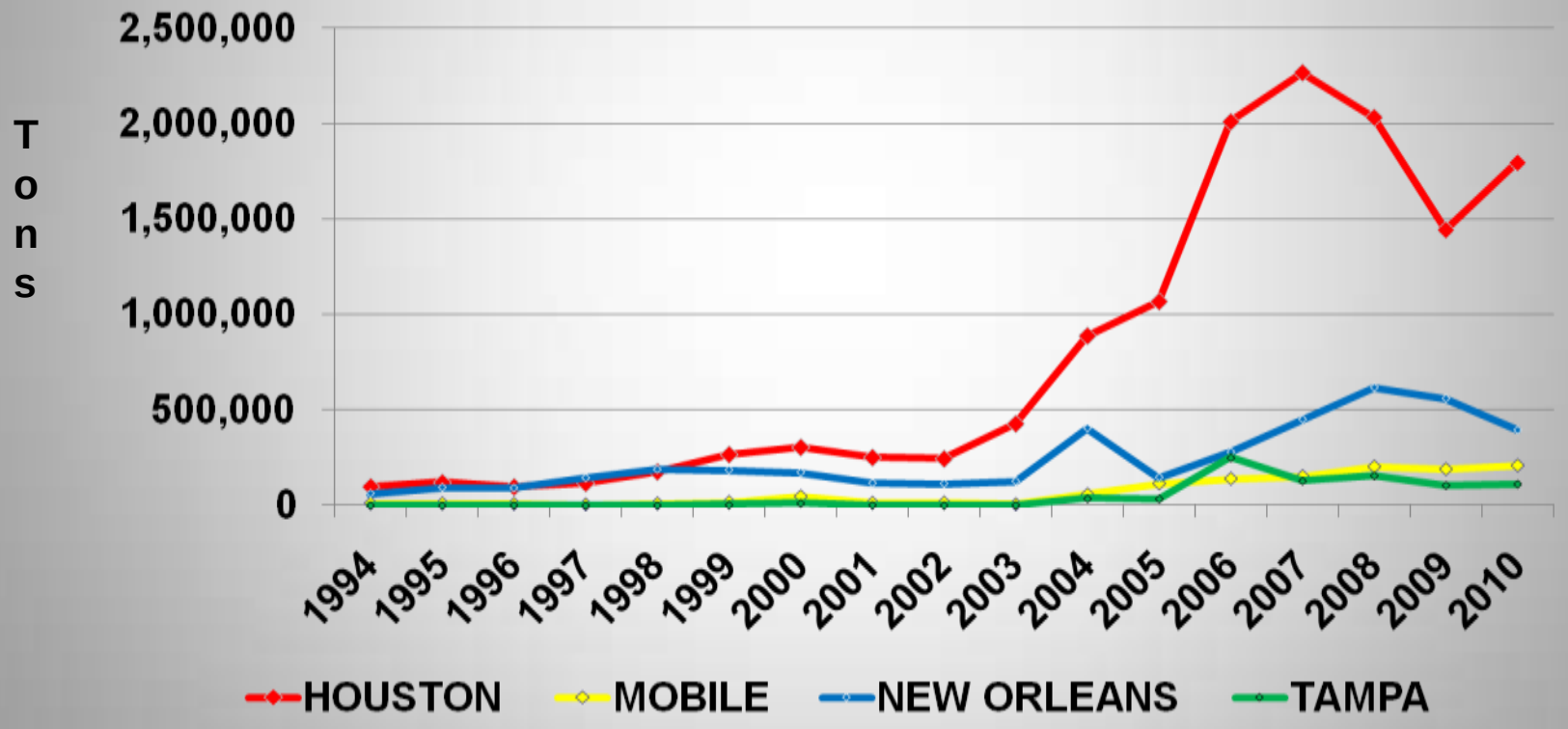
Imported Asian Container Tonnage- US North Atlantic Port Range



Imported Asian Container Tonnage – South Atlantic Port Range

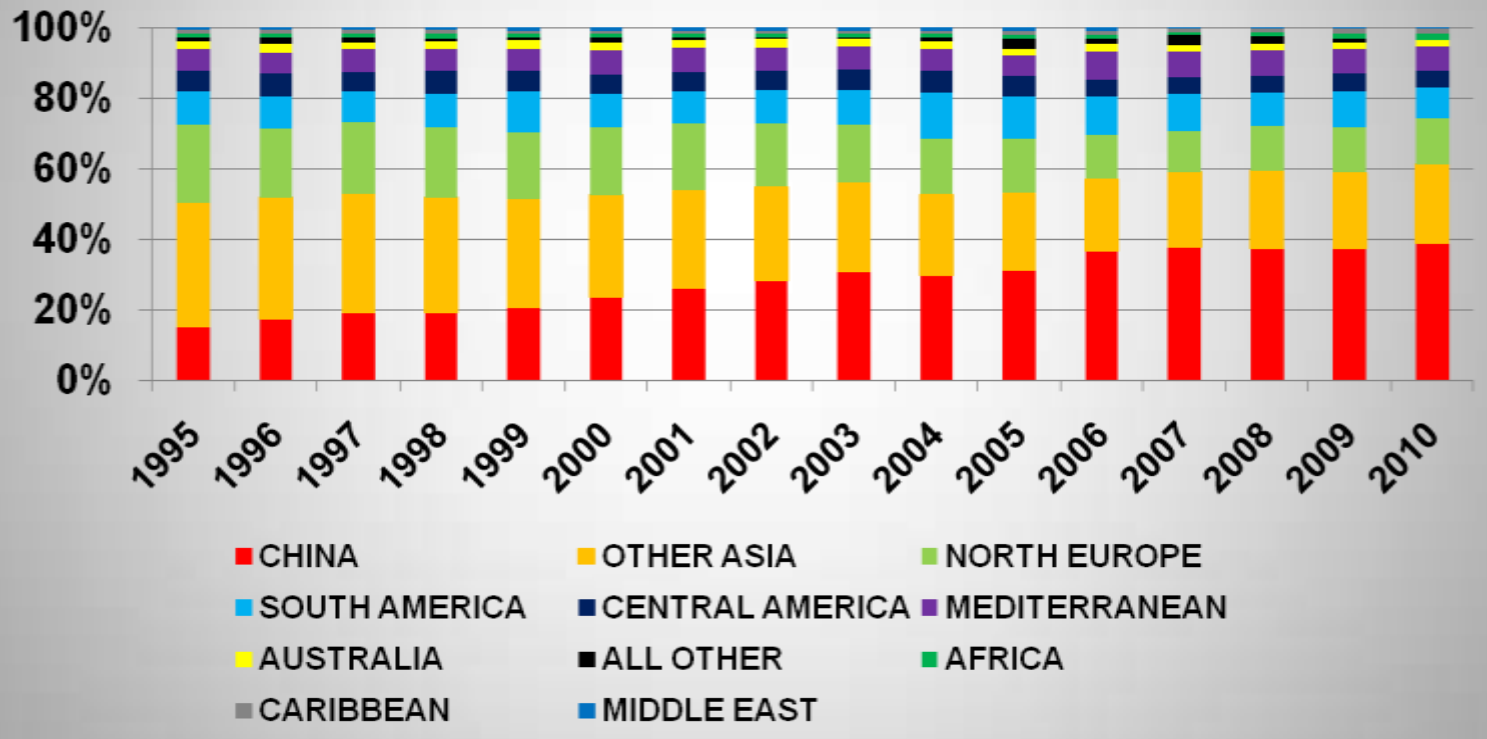


Imported Asian Container Tonnage – Gulf Coast Port Range



Source: US Maritime Administration, Foreign Trade Statistics

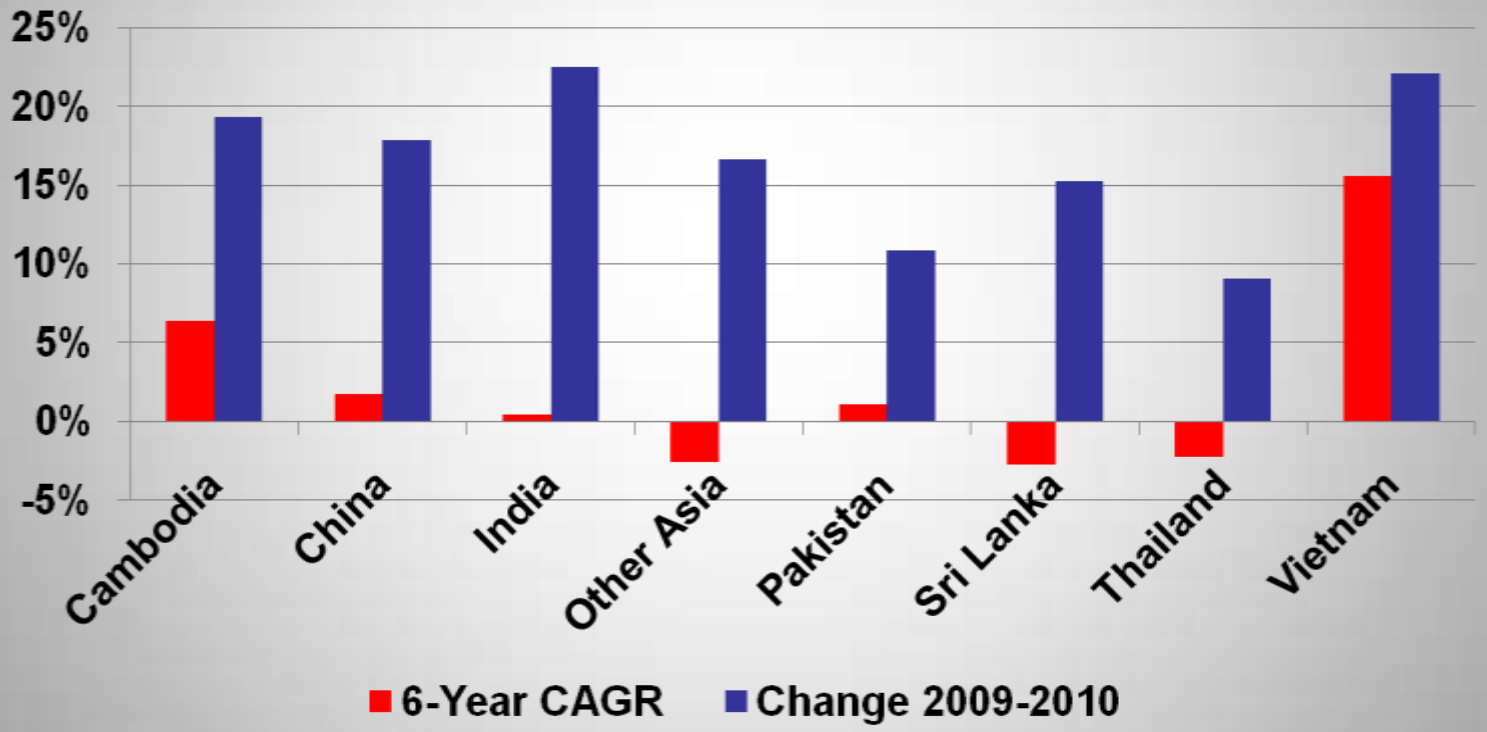
China Has Been Responsible for Nearly 40% of Imported Containerized Tonnage



US Maritime Administration

2006 data reflects new data base by MARAD

Asian Supply Sources are Shifting, Favoring Suez Routing. However, China Remains the Major Trade Source



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
  - Major expansion plans announced at Los Angeles and Long Beach
  - Development of DC's on East and Gulf Coast have slowed
  - Investment in East Coast and Gulf Coast port infrastructure

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 for both truck and rail

Implications – Water-Depth

- 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, and the State of Florida has just approved the funding for the project.

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
Massachusettes	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

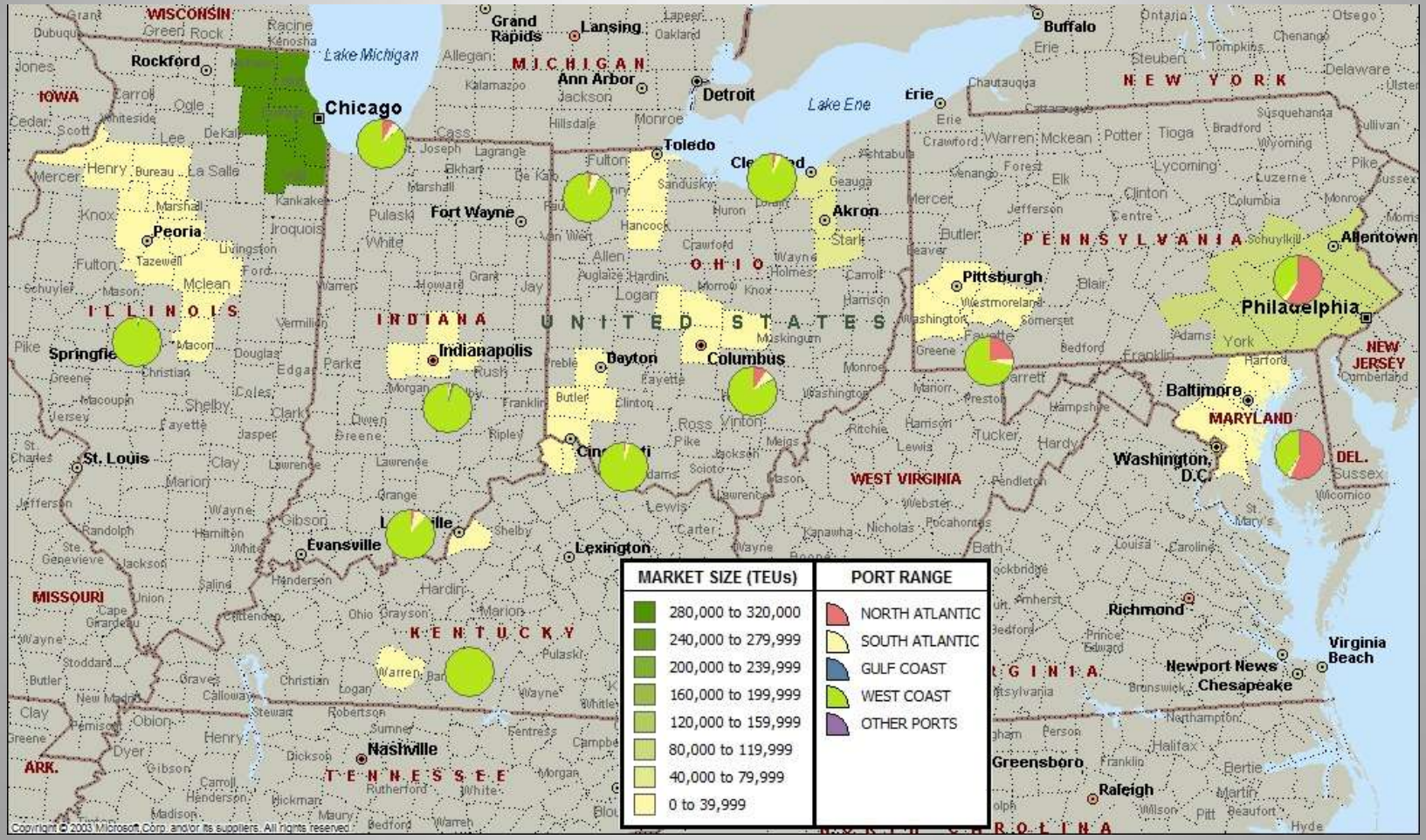
Implications - Terminal Development

- 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, but likely to move forward
- 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
- Corpus Christi just announced development plans and channel extension

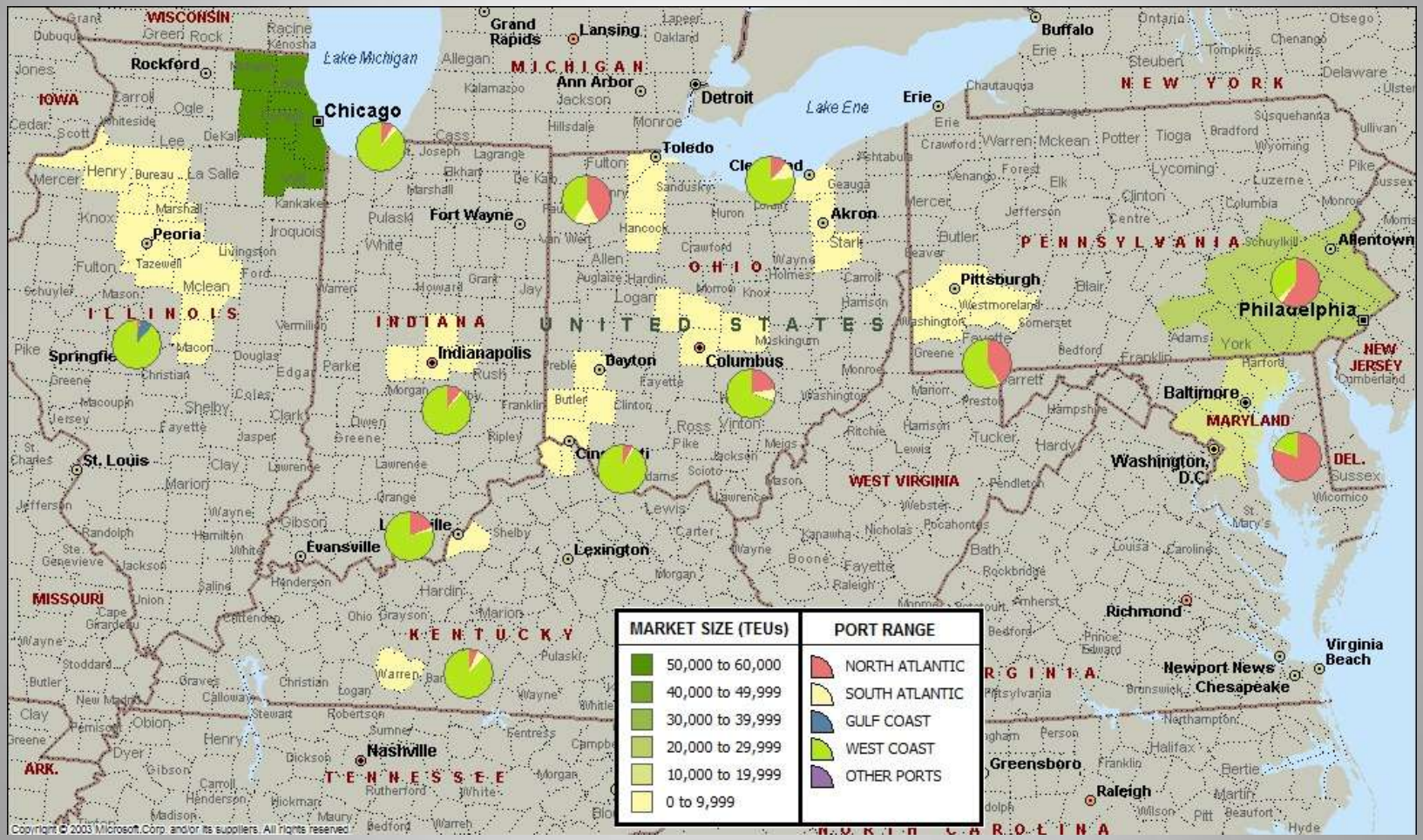
Implications – Local Market

- 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

Implications Discretionary Markets - China Imports by Location and Ports Currently Used



Implications Discretionary Markets - Southeast Asia Imports by Location and Ports Currently Used



Implications – Discreationary Markets

- The battle ground will be in the Midwest and Southeast, particularly in areas such as:
  - Columbus
  - Indianapolis
  - Cincinnati
  - Cleveland
  - Chicago
  - Memphis
  - Atlanta
  - St. Louis
- Houston, Dallas and Denver will also be key battlegrounds for Gulf Coast activity

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 construction at Miami and soon to be at Port Everglades

Implications - Infrastructure Funding is the Critical Issue

- Deepwater ports have lost funding for system preservation projects, none-the less major infrastructure projects:
  - After 9/11 - security investments competing with system preservation investments
  - Downturn of trade drastically reducing port revenues
  - Economic crisis reducing state/municipal public funding
  - USACE/Federal Government cannot fund the dredging/deepening projects
  - *Private sector participation becomes necessary*

Trends in Seaport Pricing

- Movement toward compensatory pricing
- Movement from operating port to landlord port:
  - Maryland Port Administration - Seagirt
  - North Carolina State Ports Authority – Southport
  - Port of Portland, OR - T-6 (ICSI)
  - Diamond State Port Corporation??
  - Virginia Port Authority??
  - Port of Houston -- APM ??

Trends in Seaport Financing

- Increased use of municipal bonds on behalf of private entity where private party is responsible for debt service:
  - Jacksonville
  - Baltimore
- Public-private partnerships and the increase in concessions:
  - Lump sum up front payments - Traditional concession i.e., Maher Terminals in New York
  - Combination of up front payments and annual payments and MAGS, and identified private party infrastructure investment --
    - Ports America – Oakland
    - MPA concession with Ports America/Highstar Capital

Public-Private Partnerships are Growing: 2005 - 2007 Was the Peak of Public Private Partnerships

- July, 2007 – Goldman Sachs acquires minority stake in Carrix -- SSA:
  - Multiple not known
- March 2007 - AIG Investment Group acquires MTC terminals - $800 million:
  - Multiple not known
- March 2007 – RREEF purchases Maher Terminals:
  - $2.1 billion (445 acre terminal in NYC and the Fairview Terminal in Prince Rupert, BC
  - (34.2 multiplier against enterprise value to last 12 months of earnings before interest, taxes, depreciation, and amortization)
- February 2007 Morgan Stanley purchases Montreal Gateway Terminals -- $480 million:
  - 80% share of 2 terminals in Montreal – 1.1 million TEUs
  - Hapag-Lloyd has balance
- December 2006 – AIG purchases P&O Ports North America - $1.0 billion plus
- December 2006 – Ontario Teachers Pension Fund purchases OOIL Terminals:
  - 2 in NYC
  - 2 In Vancouver, BC
  - 21.9 multiple
- November 2006 - RREEF purchases Peel Ports:
  - 16.0 multiplier

2005 -2007 Was the Peak of Public Private Partnerships

- November 2006 – Macquarie purchases 72 acre Halterm terminal in Halifax:
  - 17.0 multiplier
- September 2006 – Macquarie purchases 40% share of Hanjin's terminals in Oakland, Long Beach and Seattle:
  - Multiple not known
- June 2006 - Admiral Consortium purchases Associated British Ports that handle 25% of the UK cargo:
  - $6.4 billion
  - 16.2 multiplier
- April 2006 – PSA purchases Hutchinson Port Holdings:
  - $7.5 billion
  - 14.0 multiplier
- January 2006 – DP World purchases P&O Ports:
  - $8.9 billion
  - 15.2 multiplier
- December 2005 - Babcock & Brown purchases PD Ports:
  - $1.1 billion
  - 13.2 multiplier

Recently, There Has Been Increased Public-Private Partnership Activity

- 2008-2011 Diamond State Corp. requests valuation of marine terminal for possible
- 2008-2009 MOL/TraPac invests in Port of Jacksonville
- 2009-2010 - Port of Portland Terminal 6 Concession with ICSI
- 2009 - Ports America enters into Port of Oakland Concession
- 2010 - Port of Baltimore Seagirt Marine Terminal Concession with Ports America and Highstar Capital

Recently, There Has Been Increased Public-Private Partnership Activity

- 2009-2011 Philadelphia Regional Port Authority issues RFP for Southport Container Terminal
- 2010 – Port of Lake Charles considering concession of City Docks
- 2009-2010 – Private land owner on Ship Channel markets land for future terminal development to terminal operators
- Port of Galveston looking for private partner - 2011

The Enterprise Value Approach Underlying the Concession Concept

- Historically, the Ports viewed the value of the terminal and hence, the lease, based on:
  - Land value (traditional appraisals), including replacement costs of structures
  - Historical investment in parcel/terminal
  - Current operating/maintenance and allocated debt service costs to terminal
  - Depreciation associated with specific terminal
  - Future capital investments
  - Revenue to Port Authority:
    - Operating -- Storage, Dockage, Wharfage, Handling, Water, etc.
    - Leases
    - Minimal annual guarantees
  - Competitive Environment

Enterprise Valuation Model

- The enterprise value represents the value of the entire terminal operations – “from off the ship to out the gate”
- Provides information to the Port as to operating revenue/costs of the tenant
- Provides a basis to negotiate and evaluate:
  - New lease terms
  - Concession agreement
- Too much money has been “left on the table”

Key Factors Considered Using Enterprise Value Approach

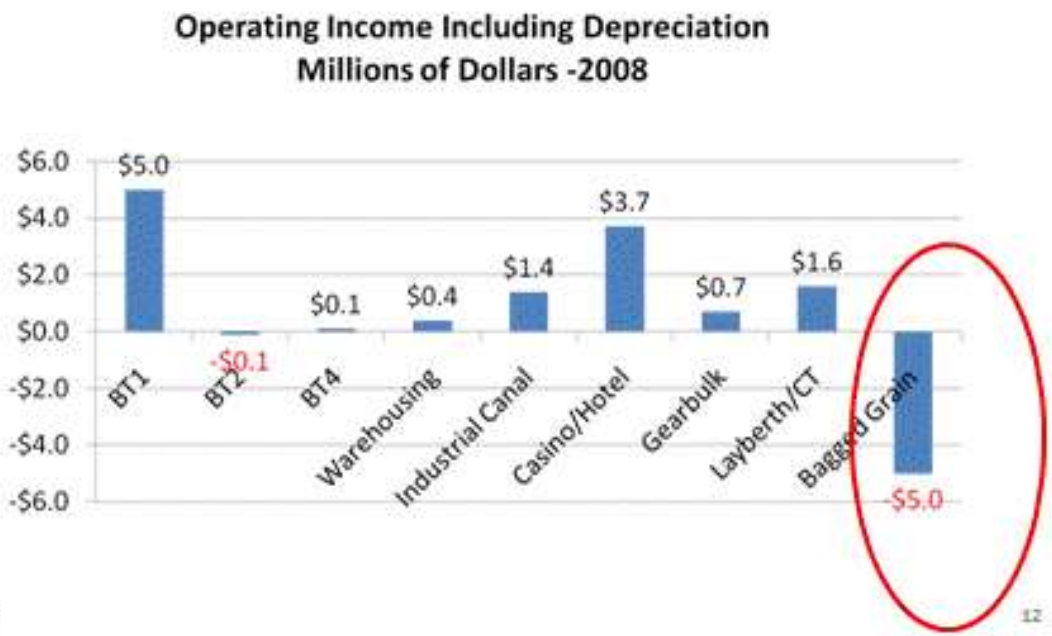
- Enterprise value of the terminal operation:
  - Identify total terminal operating and maintenance costs:
    - Assigned to Port
    - Assigned to Tenant
  - Assign fixed costs to terminal operator and Port Authority
    - Identify depreciation and fixed costs
    - Indentify future investment requirements
  - Identify revenue streams to both Port and Tenant
    - Stevedoring
    - Terminal
  - Develop “total” value of terminal
    - Apply multiples to EBITDA
    - Estimate NPV of earnings stream

Steps in Determining the "Suitablility" for a Private-Public Partnership

- Assess historical financial performance/asset utilization of the Port -- How have the Port's assets been utilized over time?
  - Lease structures/tariffs
  - Competitive markets
  - Terminal throughput
  - Capital investments
    - System preservation
    - Market driven
    - Dredging
  - Line of business level
  - Port wide level

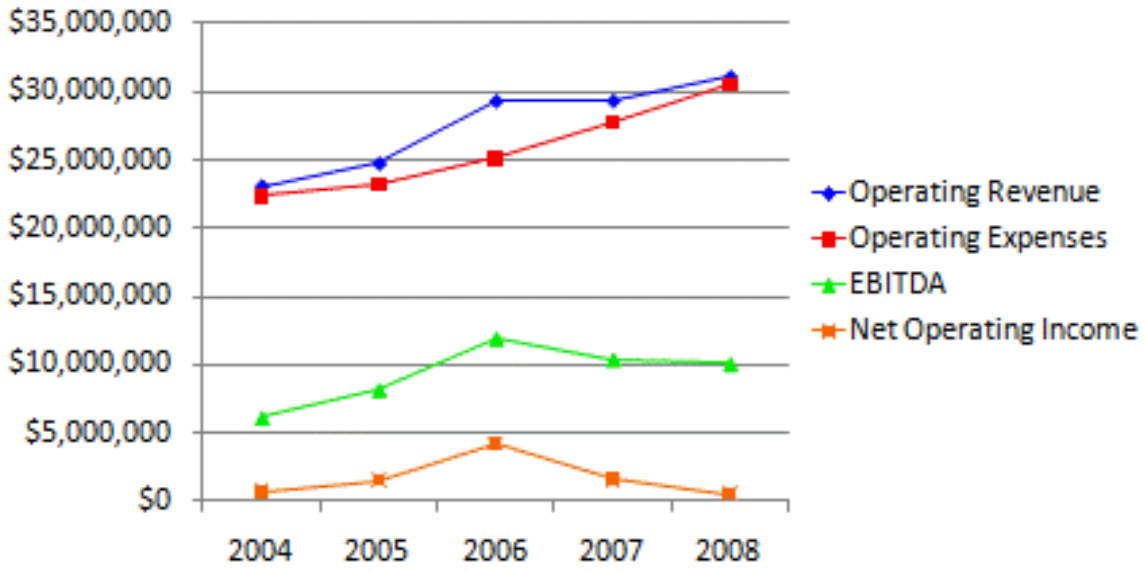
Tenant/Terminal Specific Line of Business Performance

BT-1 Bulk cargoes are also the POLC's largest contributor to financial self-sufficiency. Conversely, the POLC's bagged grain business is a significant drain on self-sufficiency



Port-wide Historical Pro-Forma Performance

Despite impressive gains in 2006, profitability (EBITDA, Net Income) is eroding. The POLC faces significant strategic challenges in sustaining its financial self-sufficiency



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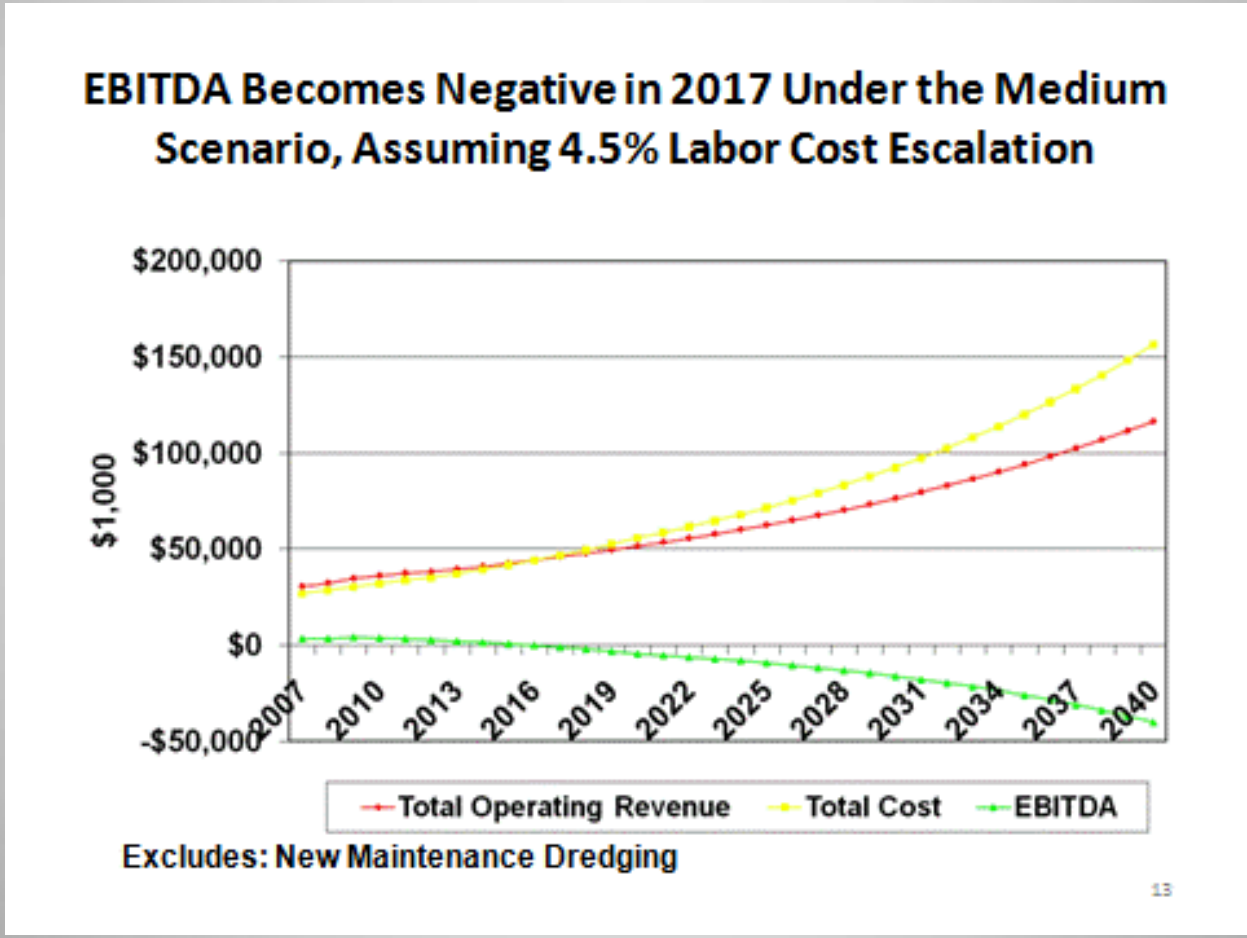
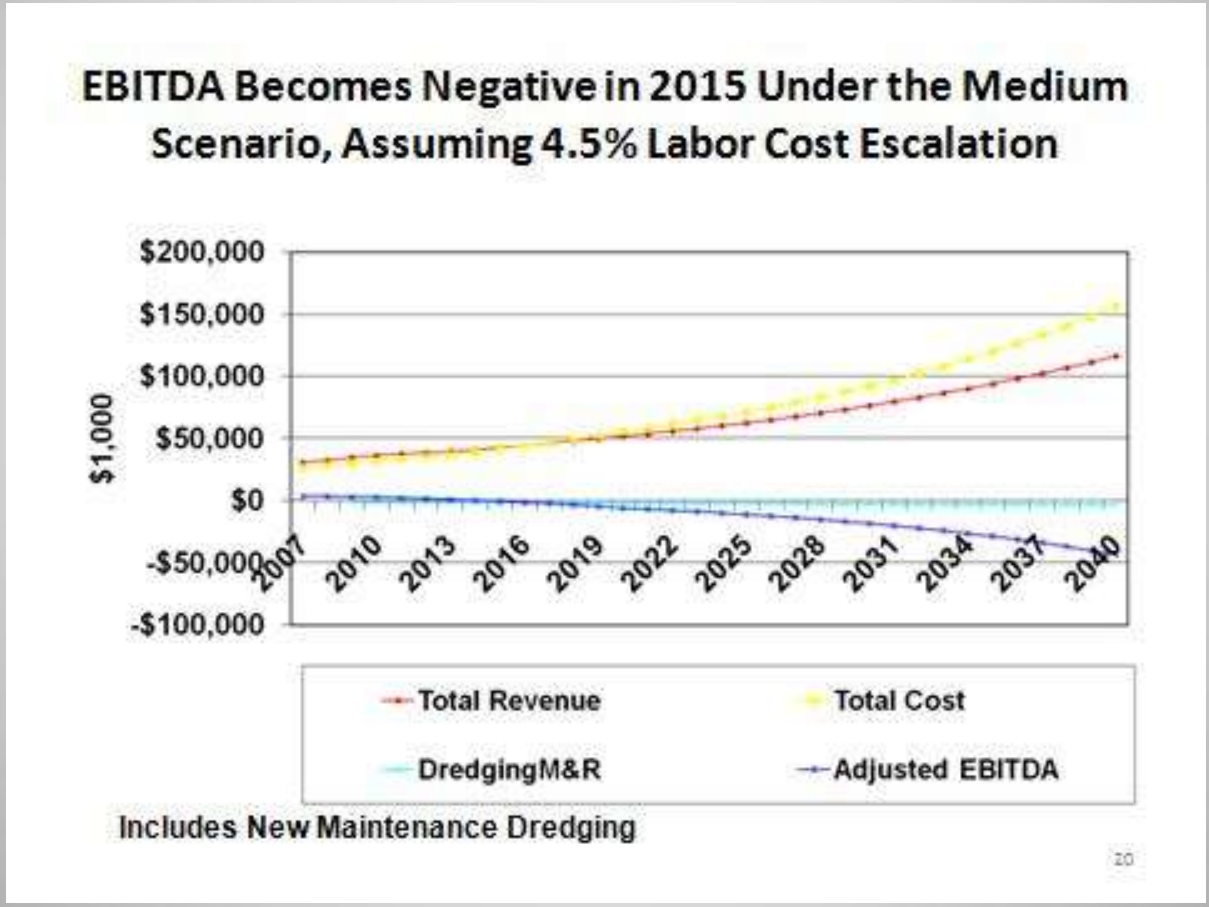
Steps in Determining the "Suitability" for a Private-Public Partnership

- Assess future performance under continuation of existing operating structure
  - Conduct market analysis/develop cargo throughput projections by line of business
    - Competitive analysis
    - New and base cargo opportunities
  - Identify capital requirements under existing operational structure by tenant/lease
    - System preservation
    - Market driven
- Estimate future cash flow/NPV of Port/Terminal under continuation of current operating structure

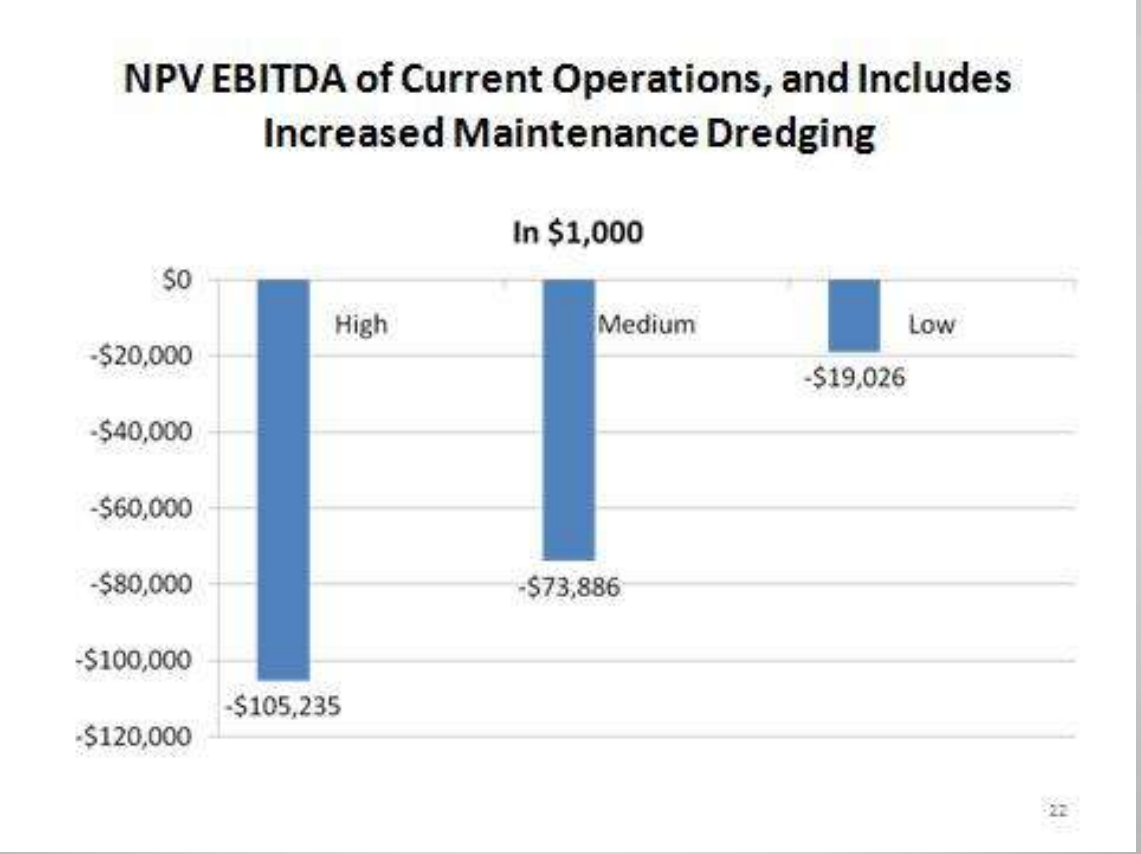
Projected Pro-Forma Continuation of Existing Operations – Port-Wide



Projected Pro-Forma - Continuation of Existing Operations Plus New Capital Expenditures



Value of the Port/Terminal under Continuation of Current Operating Structure



Estimate Value of Port/Terminal – Enterprise Value

- Develop revenue/cost structure for total operation -- one operator, from stevedoring to “out the gate”
  - Includes revenue from all sources, regardless of who now receives revenue
    - Wharfage (now received by Port)
    - Dockage (now received by Port)
    - Passenger fees (now received by port)
    - Existing leases (now received by Port)
    - Stevedoring (now received by terminal operators/stevedores)
    - Terminal revenue:
      - Handling
      - Storage
      - Rail loading/discharge
  - Includes operating costs for all parts of operation, regardless of who pays
    - Administration costs (now incurred by Port and tenants)
    - Maintenance costs (now incurred by Port and tenants)
    - Debt service (now incurred by Port)
    - Operating cost (shared by Port and various terminal operators/stevedores/tenants)
    - Capital costs (mostly incurred by Port as per each lease)

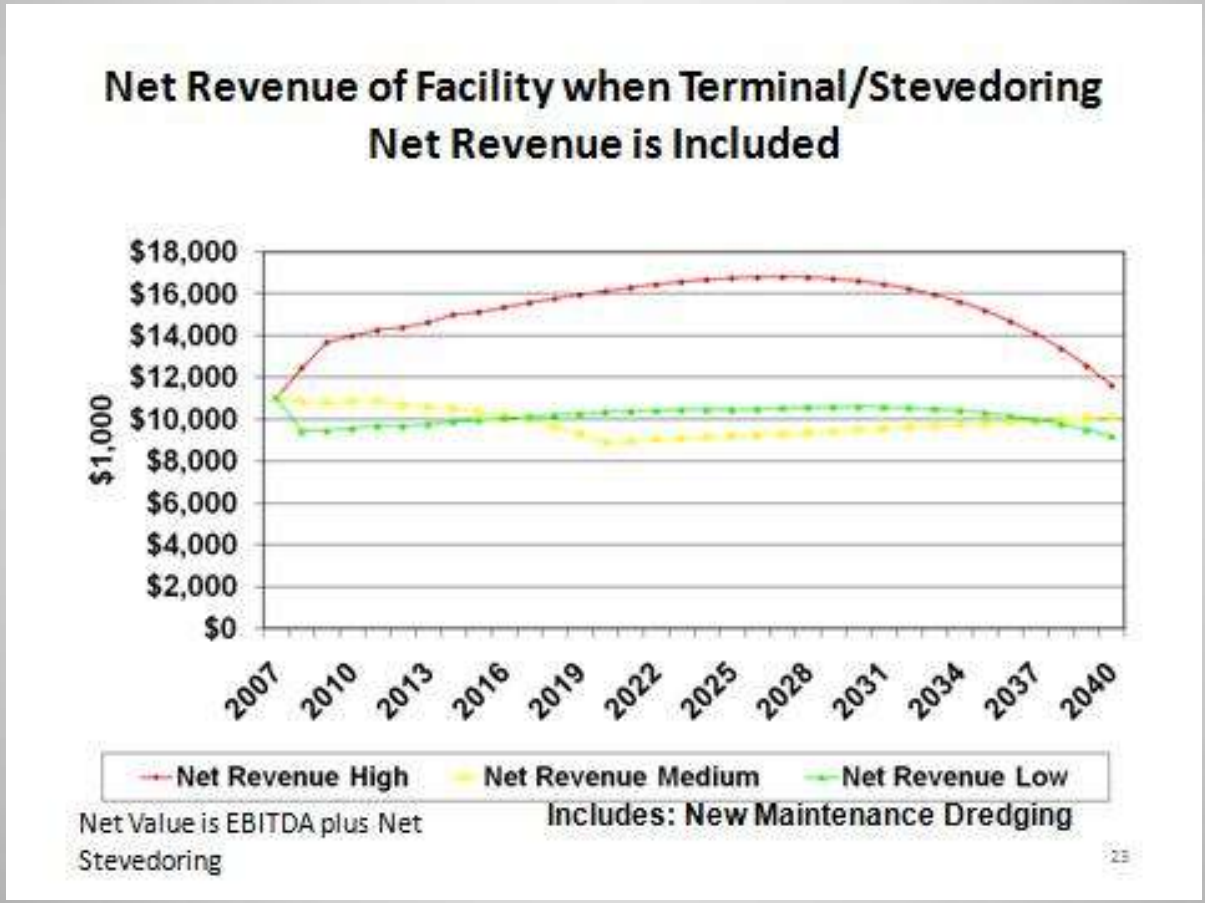
Estimate Enterprise Value of Port/Terminal)

- Indentify future capital requirements under existing operations
  - Replacement costs (now shared by Port and tenants)
  - Port's capital development costs
- Estimate new capital requirements and associated operating costs with identified projects
- Estimate revenue potential from indentified projects

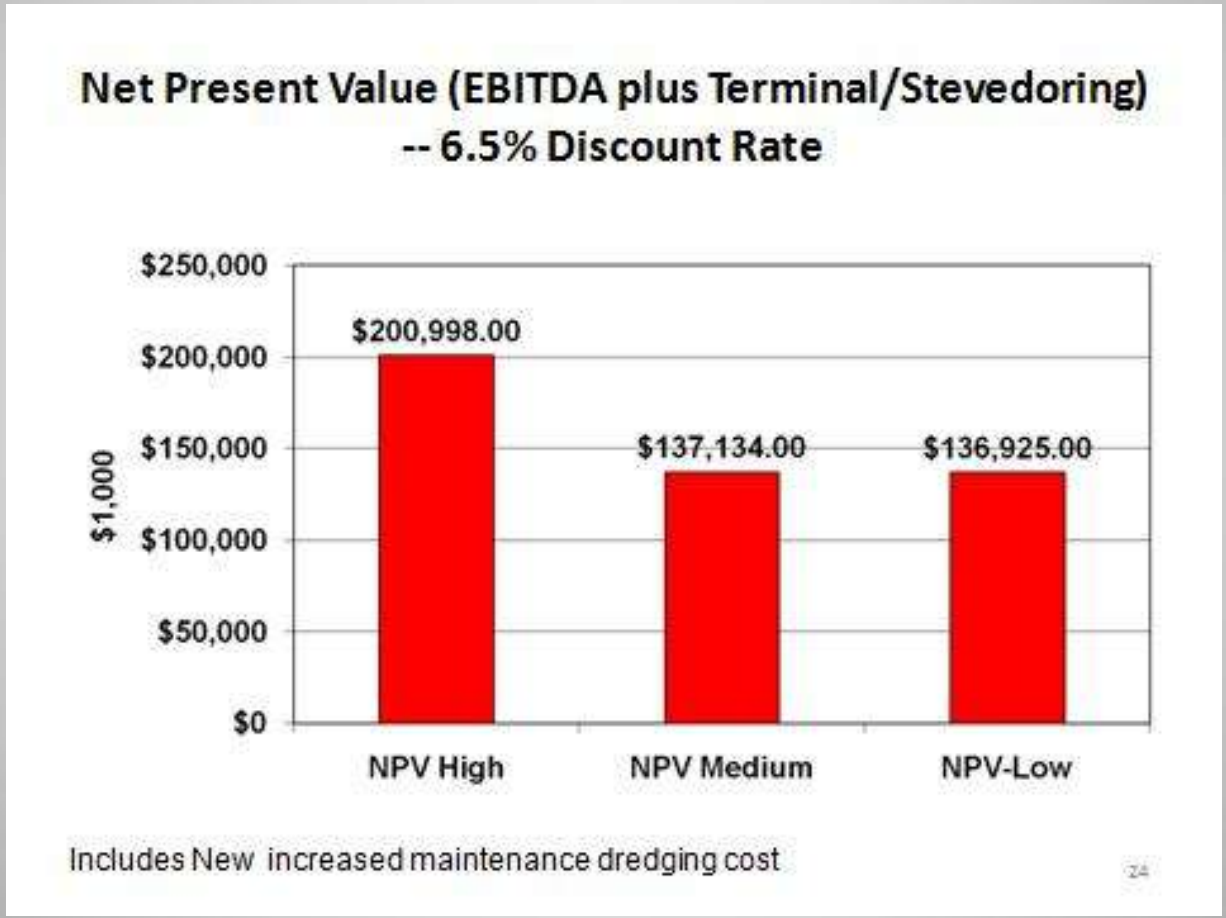
Estimate Enterprise Value of Port

- Develop terminal/port value from the perspective of one operator – the enterprise value:
  - Specific terminal
  - Entire Port
- Terminal value based on:
  - Net present value of cash flow
  - Net present value of EBITDA

Cash Flow of Enterprise Value – One Operator



Net Present Value of Enterprise Value Cash Flow - One Operator



Concession Model

- Advantages of a concession agreement:
  - Brings private sector investment to terminal without impact on bonding capacity
  - Tie concession required investment to a specific terminal project
  - Simple to monitor revenue reporting – up front cash payment combined with annual land lease or throughput charge. Required investments can be monitored as well
  - Port will receive property at end of concession, which will reflect value added by concessionaire over long term lease
  - The up front payment as part of the concession agreement, as well as the length of the concession (40-50 years), incentivize the tenant to make long term capital improvements to the terminal, and further to maximize the annual throughput of the terminal in order to minimize average through-put costs per ton or unit

Concession Model

- Disadvantages of a concession agreement:
  - Port loses control of land usage except for explicit investment requirements stipulated in agreement
  - Land/terminal under concession no longer available for multiple users, in turn reducing acreage/berths that can be marketed by Port
  - Concession agreement may limit Port from competing in that cargo market for a specified time period
  - Port may not realize benefits from activity in excess of forecasted results
  - The more a concession agreement has port-specific requirements from the tenants, lower the concession payout to the port
  - Concession may require assumption of leases already on land/terminal under agreement
  - Concession could change current Port relationships with stevedores and exiting tenants

Summary - Implications for Trade Lane Shifts

- **The factors that have resulted in shifts to all-water services have been occurring since 2002 – Significant Growth in all-water service depends on logistics costs and production/consumption centers – not simply on the Canal expansion**
  - 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
      - Grain and Coal from the Gulf
      - Coal from East Coast
  - 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
- **Public Private Partnerships will increase**