



# Assessment of Preferred Channel Depth for the St. John's River

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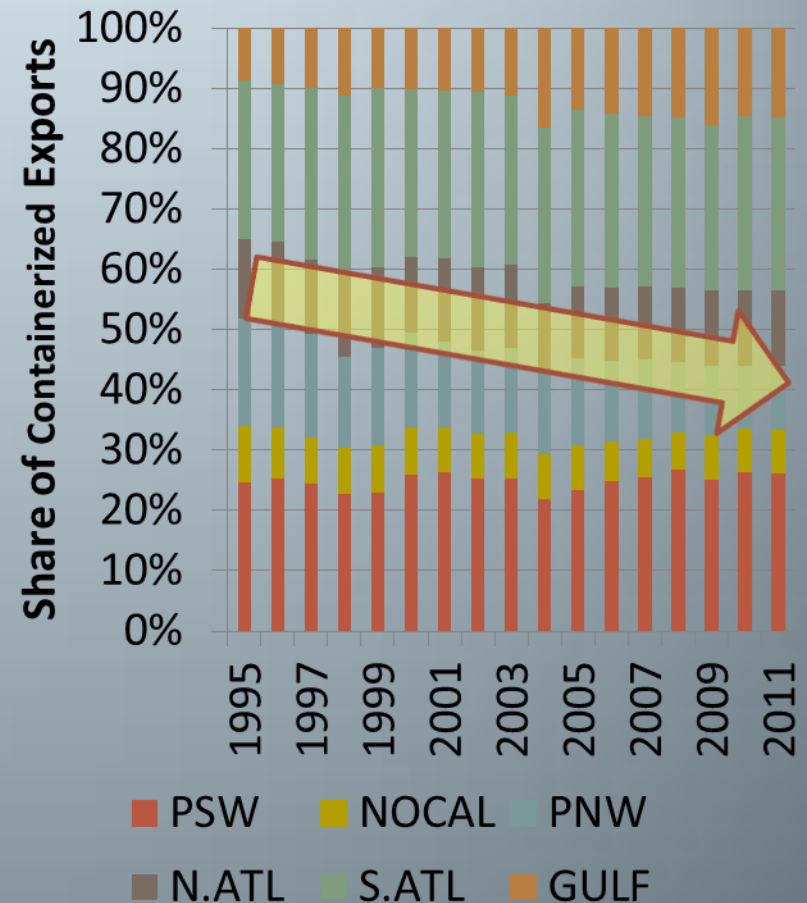
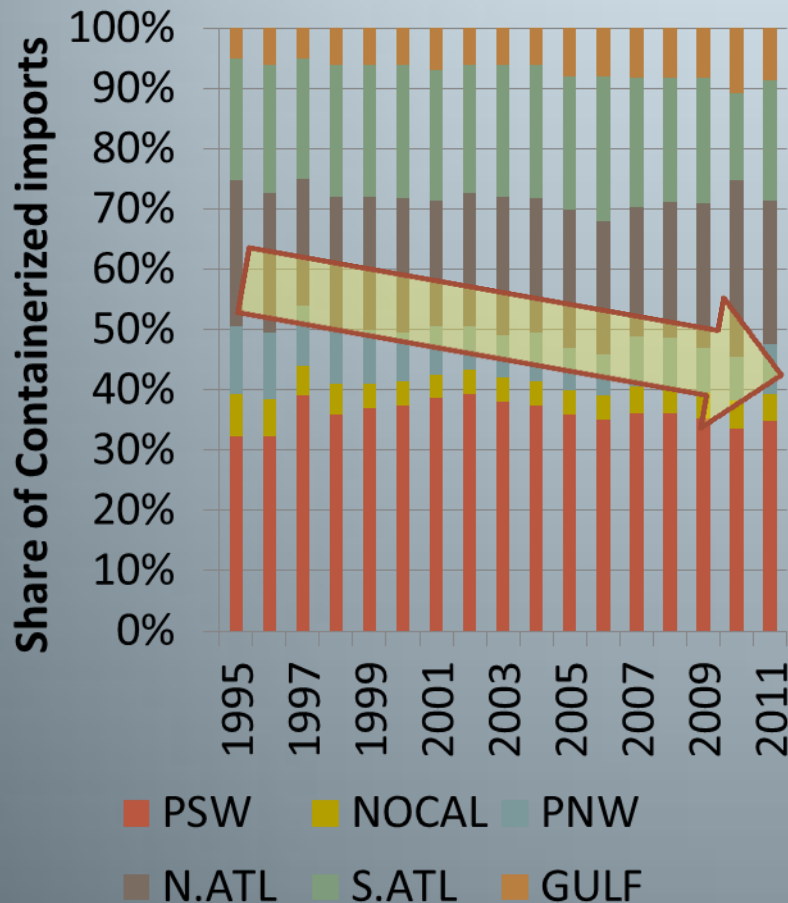
# Agenda

- **Dynamics of Global, US and South Atlantic Container Markets**
- **Current and Future Fleet Projections**
- **Economic Implications of Fleet Forecasts and Projections**
- **Maximizing Economic Growth of NE Florida**
- **Optimization of Channel Depths - How and Why 47 Feet?**
- **Assessing Economic Benefits and Opportunity Costs**
- **NE Florida's Path Forward**

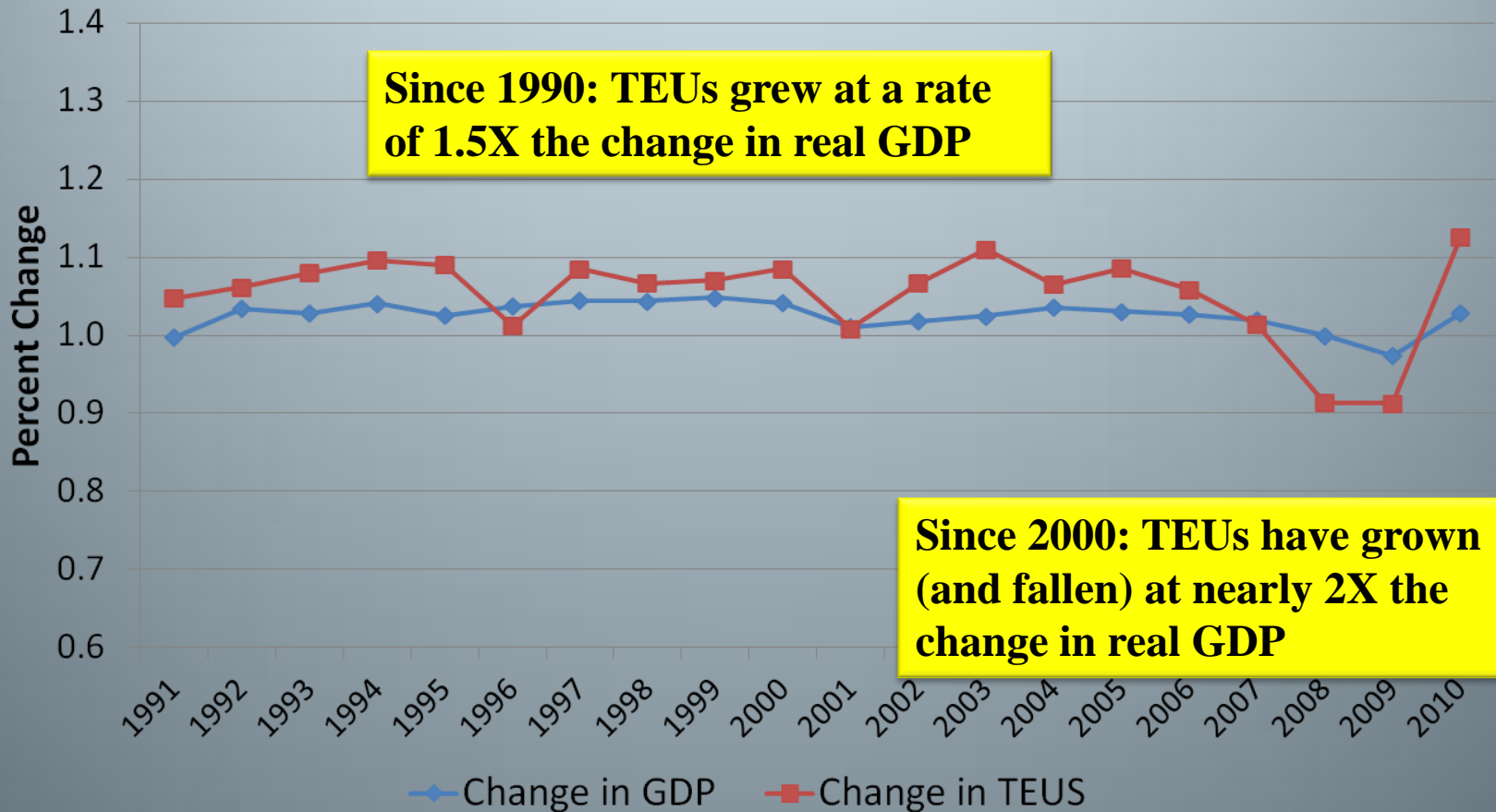
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# DYNAMICS OF US CONTAINER MARKET

# West Coast Share of Containers Has Been Declining, while East and Gulf Coast Shares Have Been Increasing

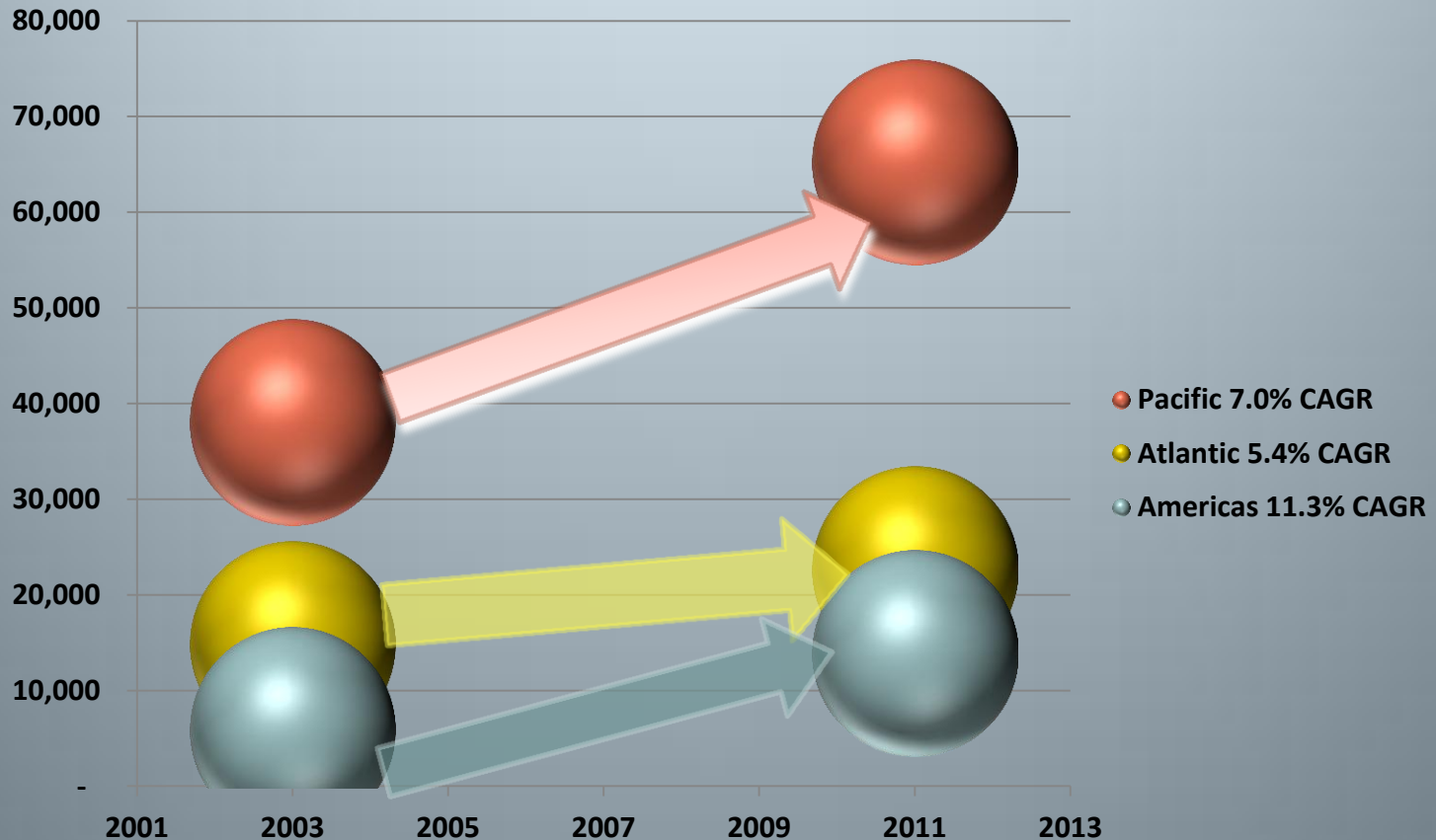


# Historically, There Is a Strong Relationship Between the Changes in Containerized Cargo & GDP



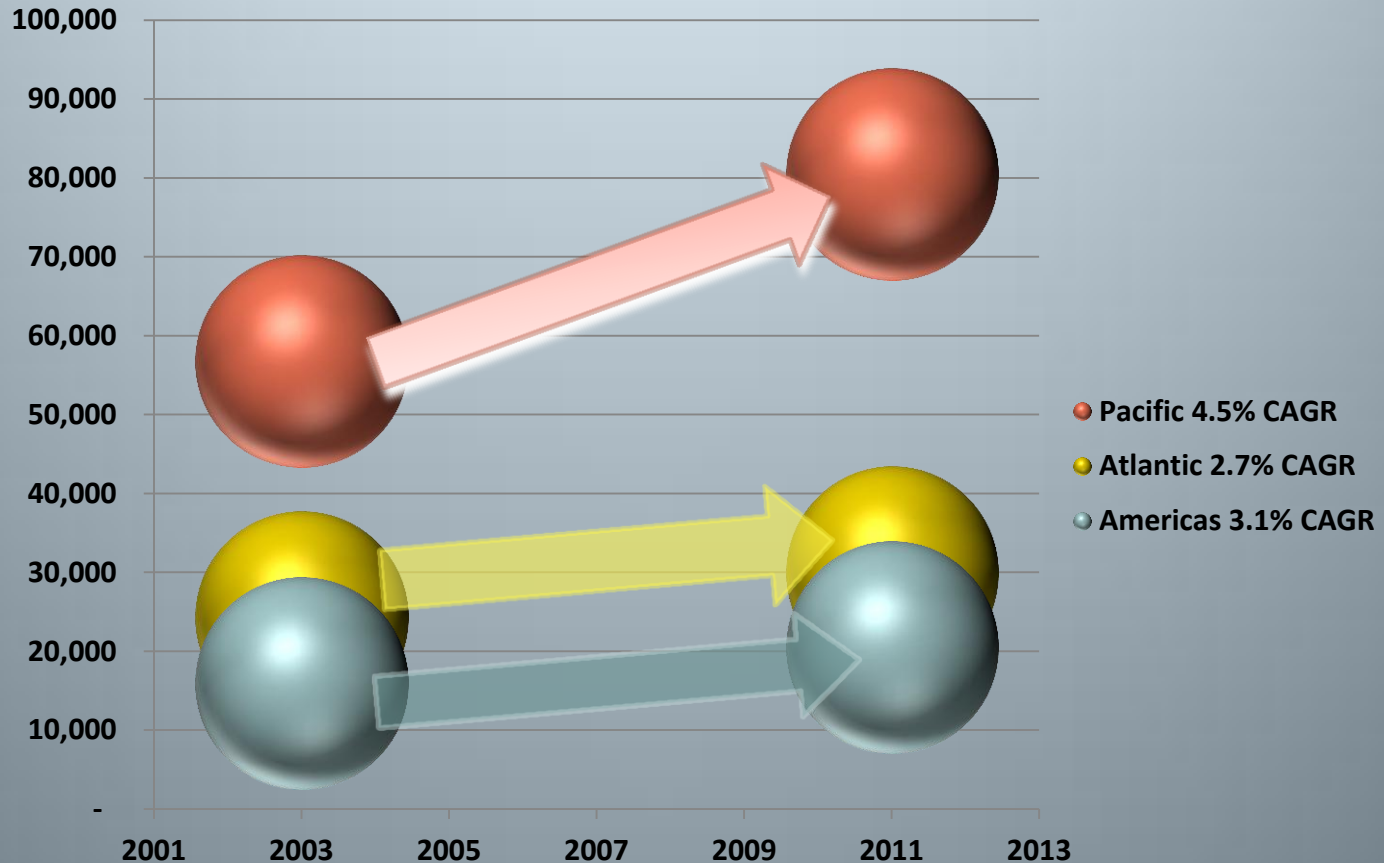
# 7.1% Compound Annual Growth Rate (CAGR) in Exports 2003-2011

1,000 Export Containerized Tons



# 3.8% CAGR in Imports 2003-2011

1,000 Export Containerized Tons



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# Shocks Have Occurred in the Existing Logistics Patterns of Importers/BCOs; Changes have Primarily Occurred Between 2002 and 2007

- Consolidation of imports via San Pedro Bay (Los Angeles and Long Beach) Ports - mid 1990's:
  - Distribution Center (DC) growth
  - Cross-dock operations
  - Rail investments in LA/LB to Midwest routings
- But then...
  - 9/11
  - West Coast Shutdown (2002)
  - Capacity issues - land and labor shortages
  - Rail and truck shortages
  - High intermodal rates
  - Search for alternatives
- And more recently...
  - Shifting production centers
  - Economic crisis
- *Leads to growth in all-water services...*



# All-water Services Are Growing...

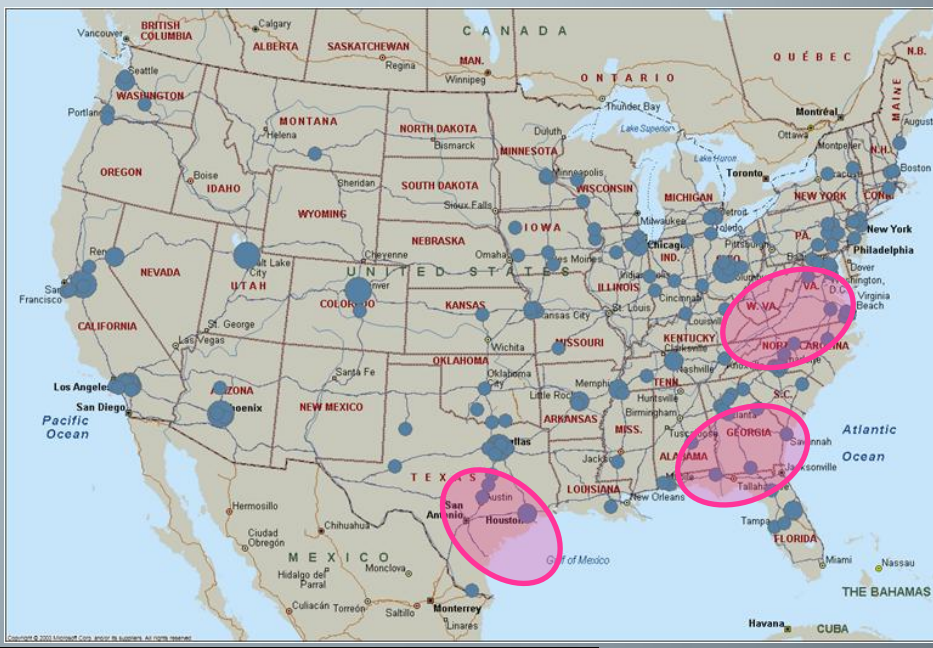
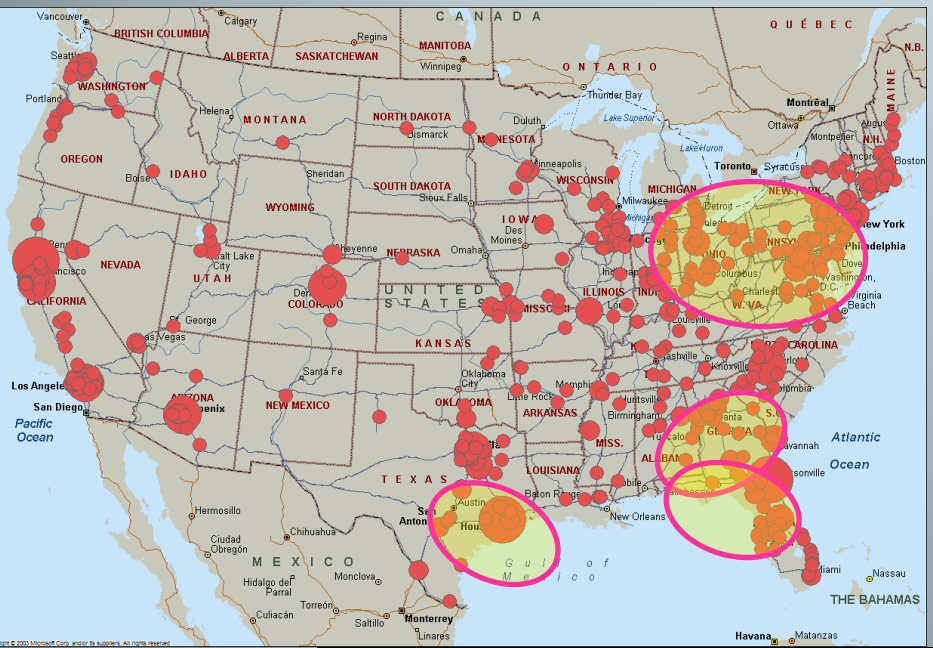
- Significant growth in distribution centers in Gulf and Atlantic port ranges
- Proximity to Southern Asia/India is a positive for Suez Canal routings
- With direct services to East and Gulf Coast, transit time differentials are narrowing
- Port infrastructure investment on East and Gulf Coasts has responded:
  - Terminal development
  - Rail infrastructure



# Significant Growth in Distribution Centers in Gulf and Atlantic Port Ranges Has Driven Growth in All-Water Services.

## Top 25 Retailers

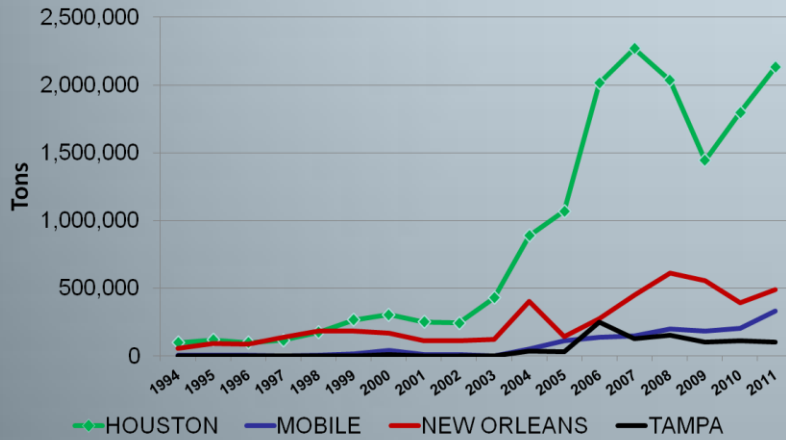
## 26-50 Retailers



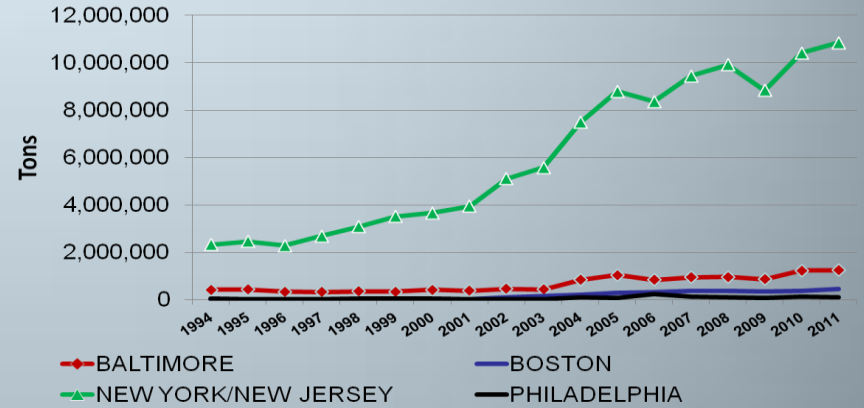
**Three areas experiencing declining vacancies: LA, Chicago and Central PA - Lehigh Valley and I-78 Corridor**

Source: Chain Store Guide, National Retail Federation

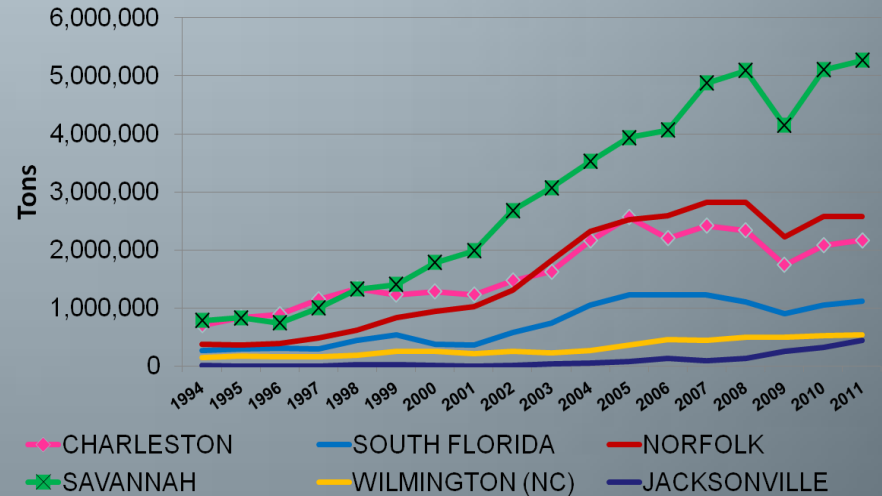
# Growth in Imported Asian Container Tonnage in the North Atlantic, South Atlantic and Gulf Port Ranges



**GULF COAST**



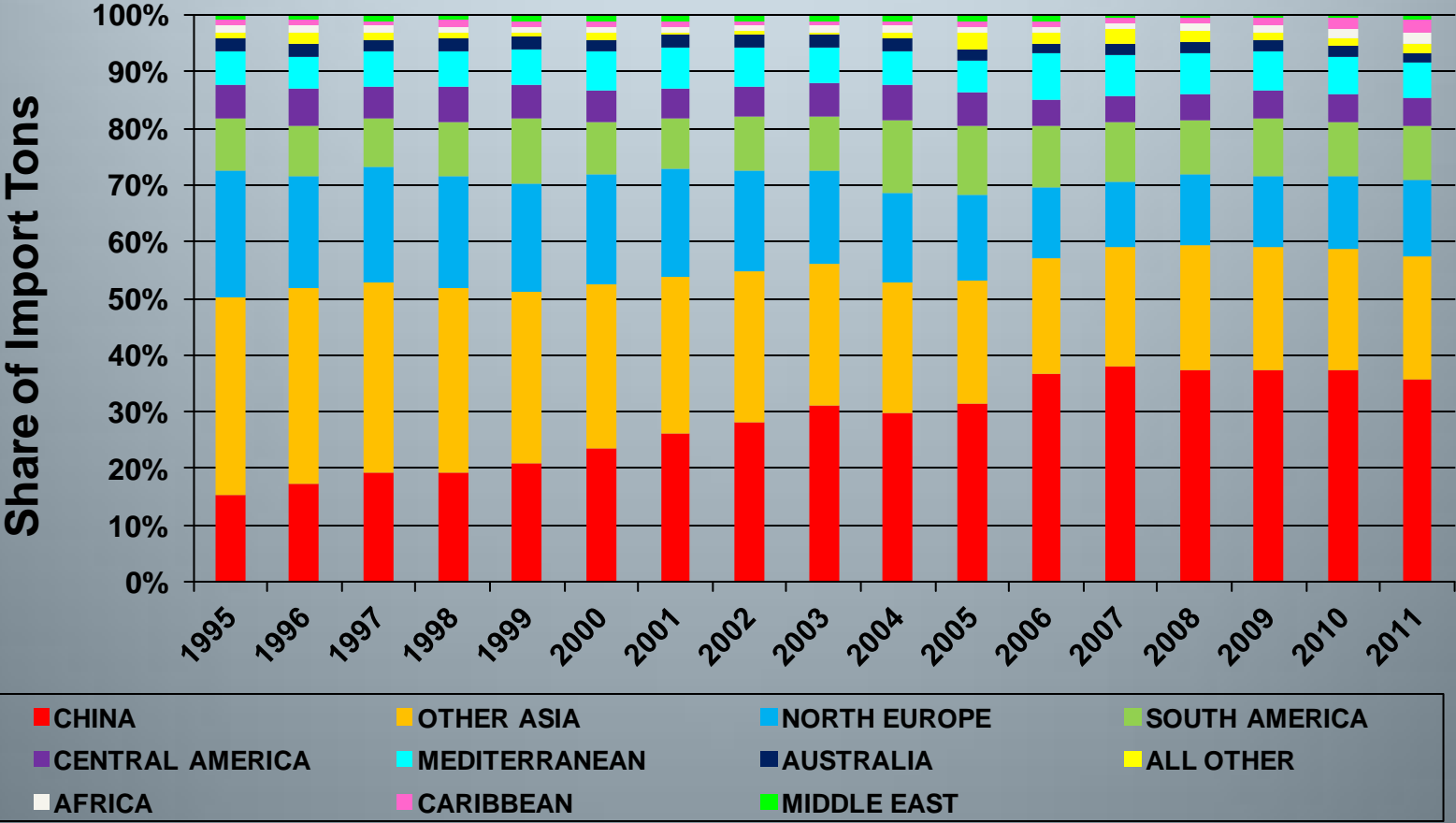
**NORTH ATLANTIC**



**SOUTH ATLANTIC**

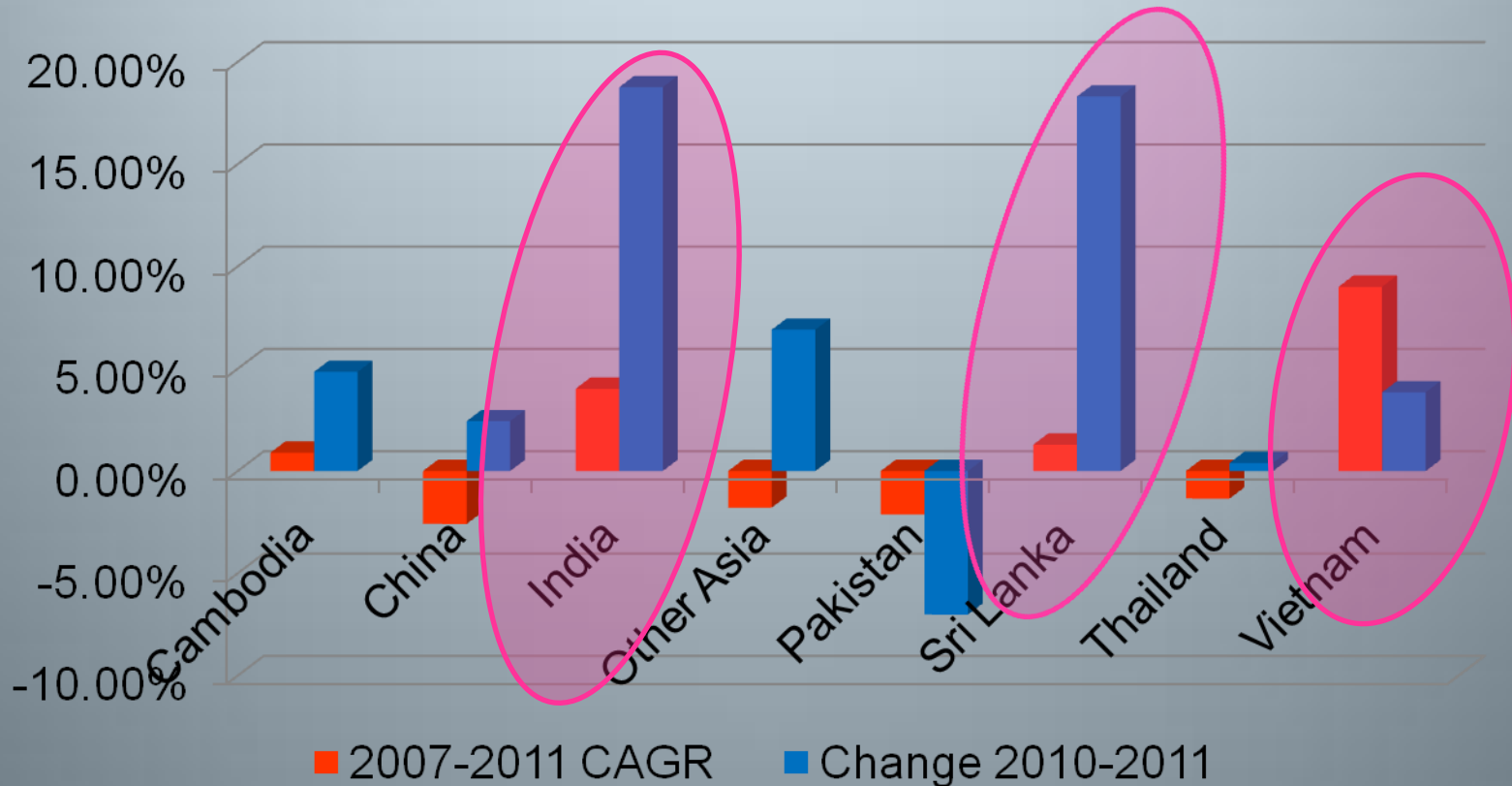
Source: US Bureau of Census, USA Trade Online

# China Sourced Nearly 40% of Imported Containerized Tonnage into the US, but the Growth in Share Has Stabilized and Declined Since 2006



Source: US Bureau of Census, USA Trade Online

# Asian Supply Sources Are Shifting, Favoring a Suez All-Water Routing; However, China Remains the Major Trade Source



Source: US Bureau of Census, USA Trade Online

# Southwest Asian Supply Sources Favor a Suez All-Water Routing to the East Coast



Source: US Bureau of Census, USA Trade Online

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# Implications of Panama Canal Expansion and Growth in Suez Traffic on Atlantic and Gulf Coast Ports:

- After 2015, the composition of the fleet will likely change, as 6,500-8,000 TEU vessels will be deployed through Canal
- Actual volume increases through the Panama Canal into the US Atlantic and Gulf Coast may be less than anticipated:
  - Shifts to all-water services have been occurring since 2002
  - Significant growth in all-water service depends on total logistics costs
  - Growth in trade with areas more efficiently served via Suez Canal
  - Caribbean transshipment centers will likely compete with mainland for import DCs
  - Growth in near-market sourcing may reduce trade with China in longer run

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# Implications of Panama Canal Expansion and Growth in Suez Traffic on Atlantic and Gulf Coast Ports:

- East and Gulf Coasts will have to compete to handle the larger sized vessels that will be deployed:
  - Channel depth
  - Berth capacity
  - Crane outreach capability
  - Air draft and environmental
  - *All require capital investment*
- East and Gulf Coast ports will need to compete for:
  - Local market
  - Access to discretionary cargo for both truck and rail
- Investment in port infrastructure becomes critical to compete with Caribbean transshipment hubs for development of logistics centers and off-shore distribution



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# Increased Investment Is Necessary To Compete with Development of Transshipment Centers and Logistics Hubs in the Caribbean and Central America

- Key transshipment center development capitalizing on water depth and East-West and North-South trade lanes:
  - Panama
  - Bahamas
  - Jamaica
  - Dominican Republic
  - Costa Rica
  - Colombia
  - Cuba
- Natural progression is to logistics center development - outsourcing of distribution center functions:
  - Potential to develop competing Logistics/Distribution Centers to mainland locations:
    - Lower cost labor
    - Lower cost land costs
    - Packaging, labeling, pre-racking
    - 53 ft. domestics?
  - Support near market sourcing development in Central America

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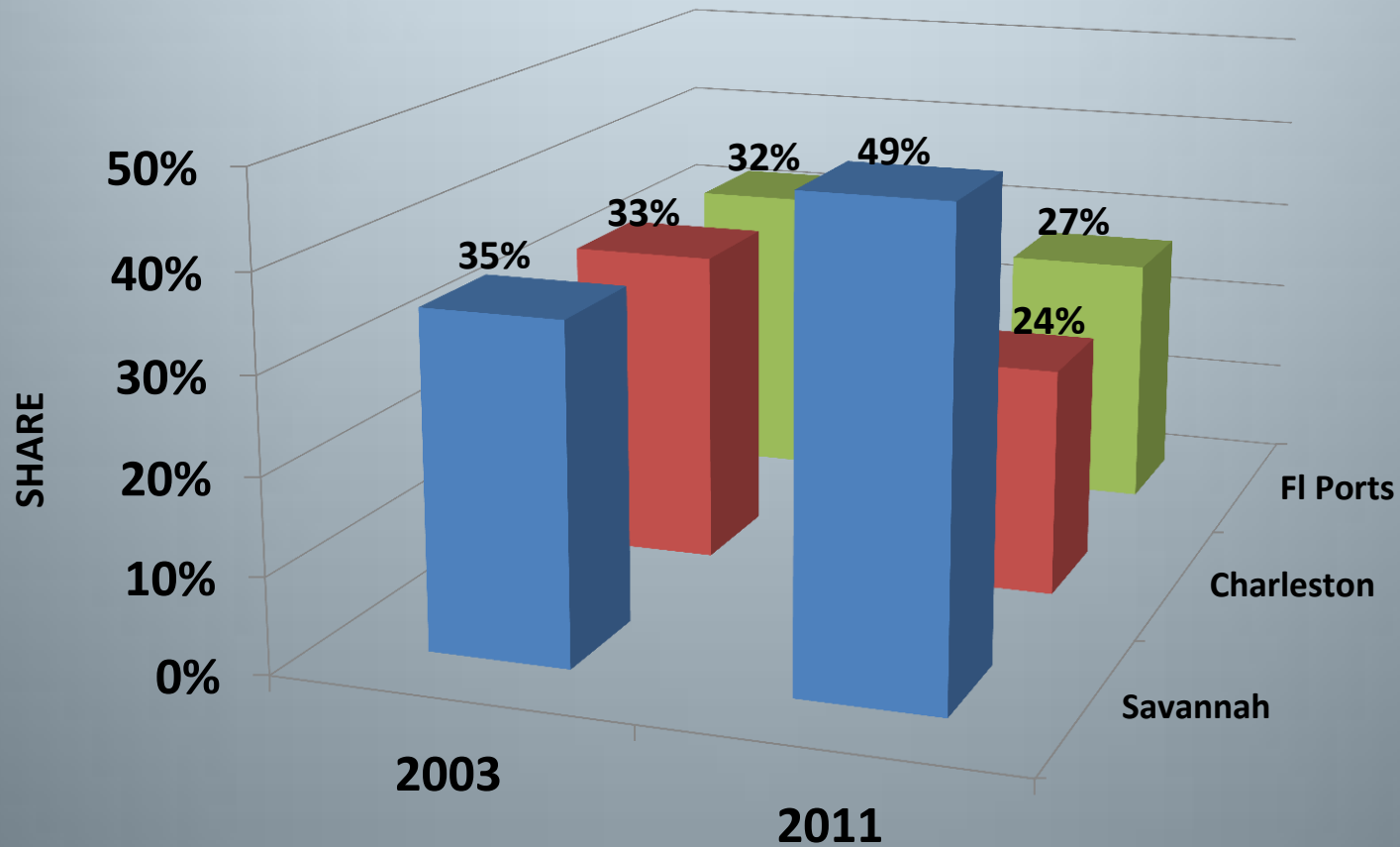
# **SOUTH ATLANTIC CONTAINER TRENDS**

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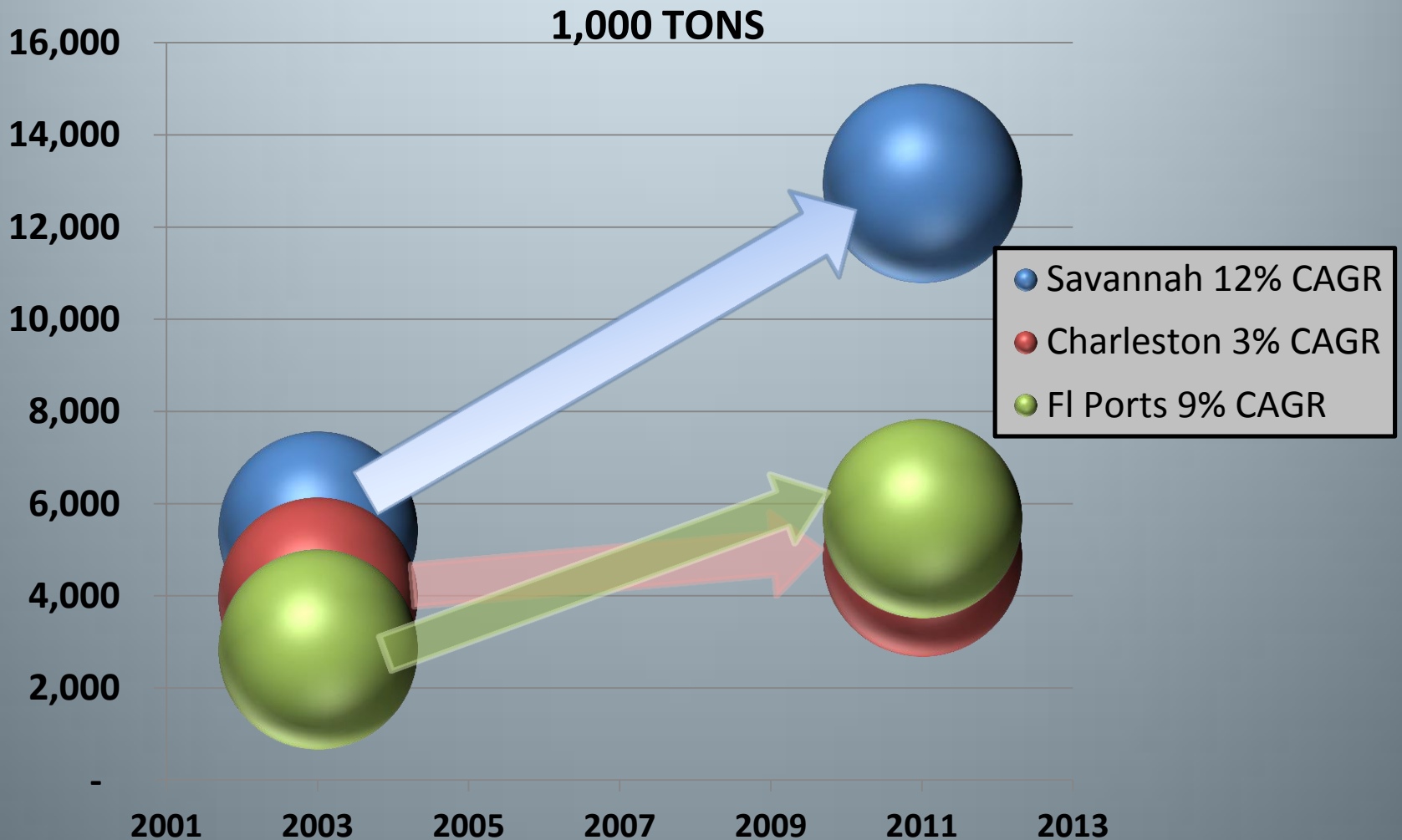
# Overall Trends in the Southeastern Container Market - Charleston to Tampa

- Savannah is the dominant port controlling nearly 50% of the container tonnage, and its dominance has increased since 2003:
  - Exports grew by 12%
  - Imports grew by 6%
- Florida Ports' market share has fallen from one-third to one-quarter of the market since 2003:
  - Exports grew by 9% annually
  - Imports *declined* by 1% annually
- Nearly 50% of the SE containerized market moves on the Pacific Trade Lane:
  - The Pacific trade lane share has grown at the expense of the Americas and European trade lane
- Exports have driven the growth in SE Container market, lead by the Pacific Trade lane
- Imports from the Americas and Trans-Atlantic trade have declined

# Southeastern Market Share by Port

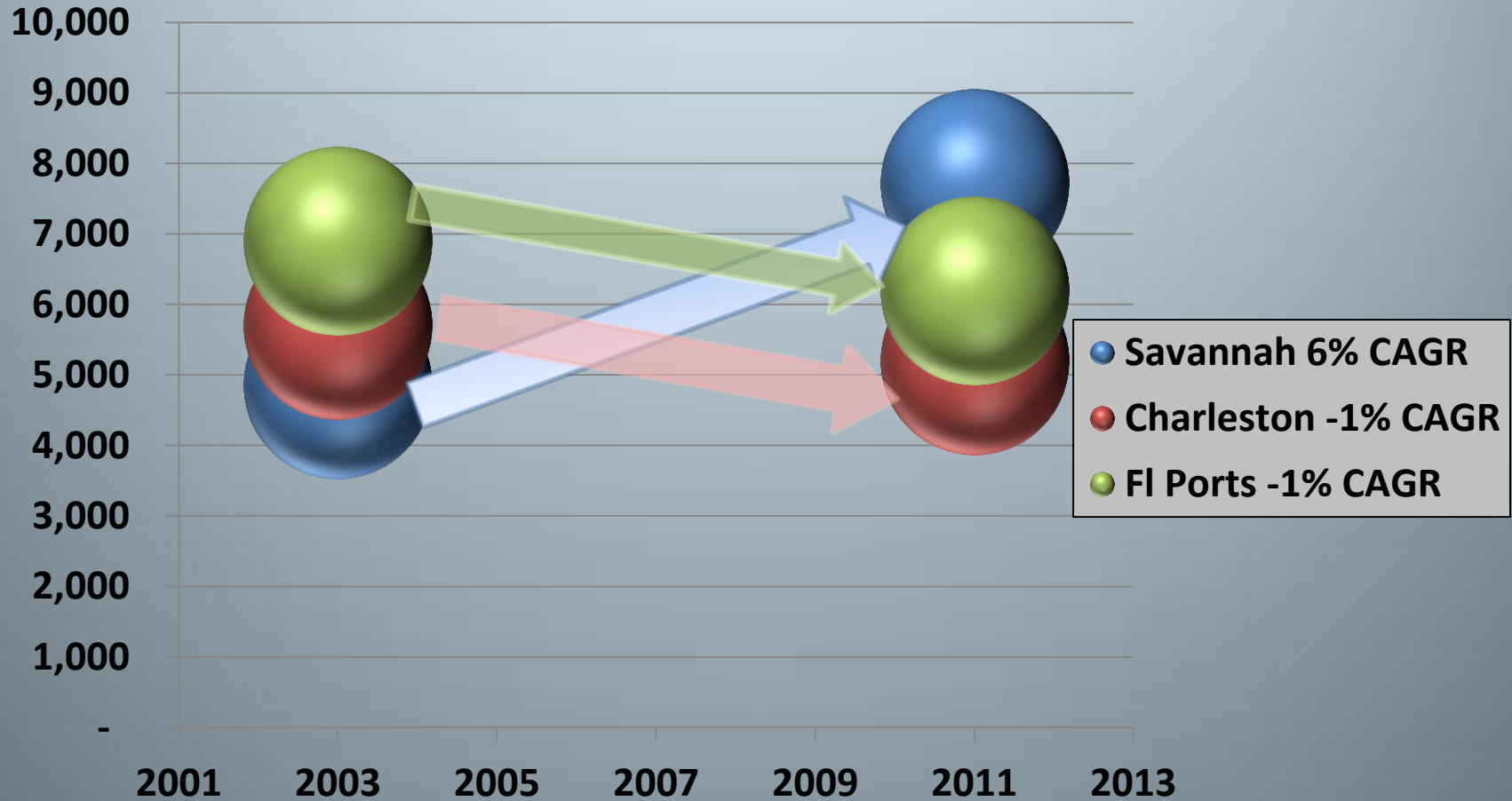


# Southeastern Containerized Exports by Port

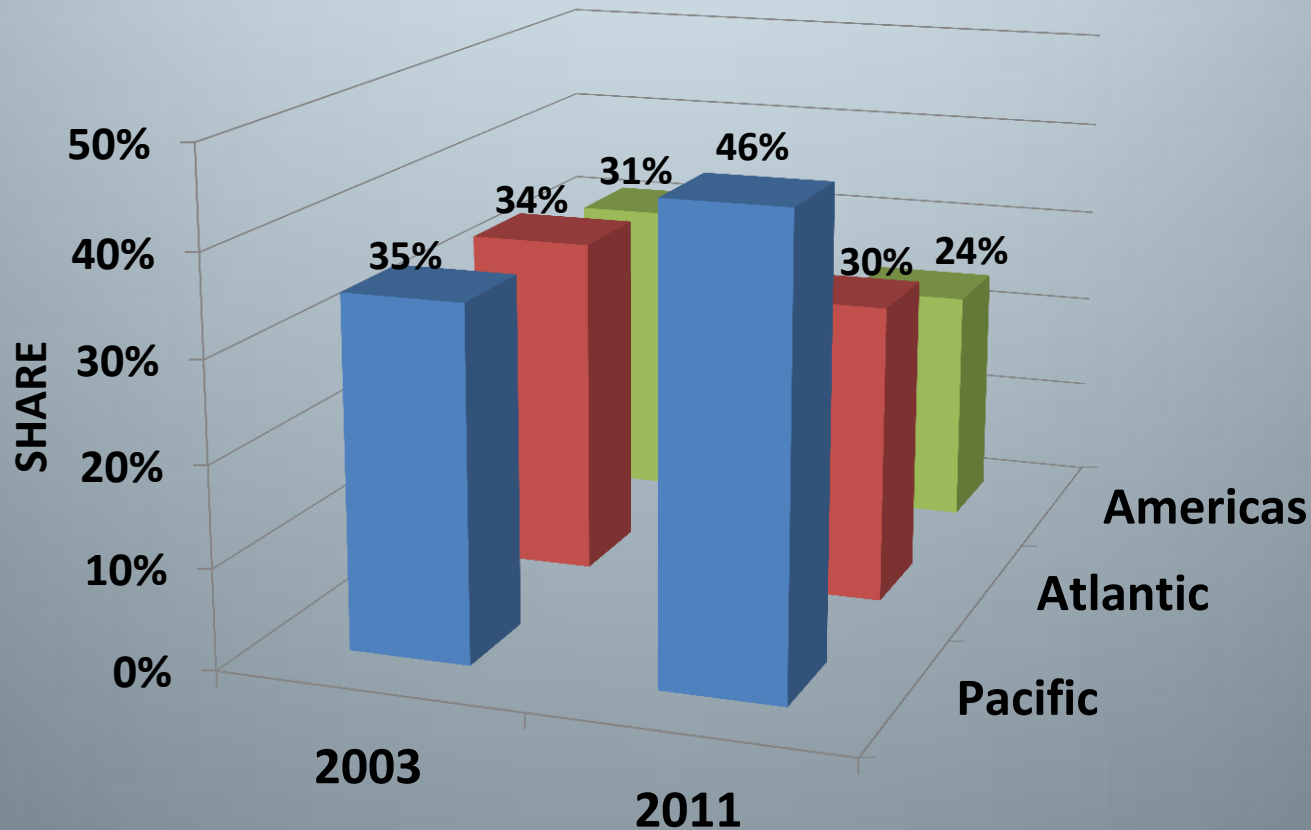


# Southeastern Containerized Imports by Port

1,000 TONS

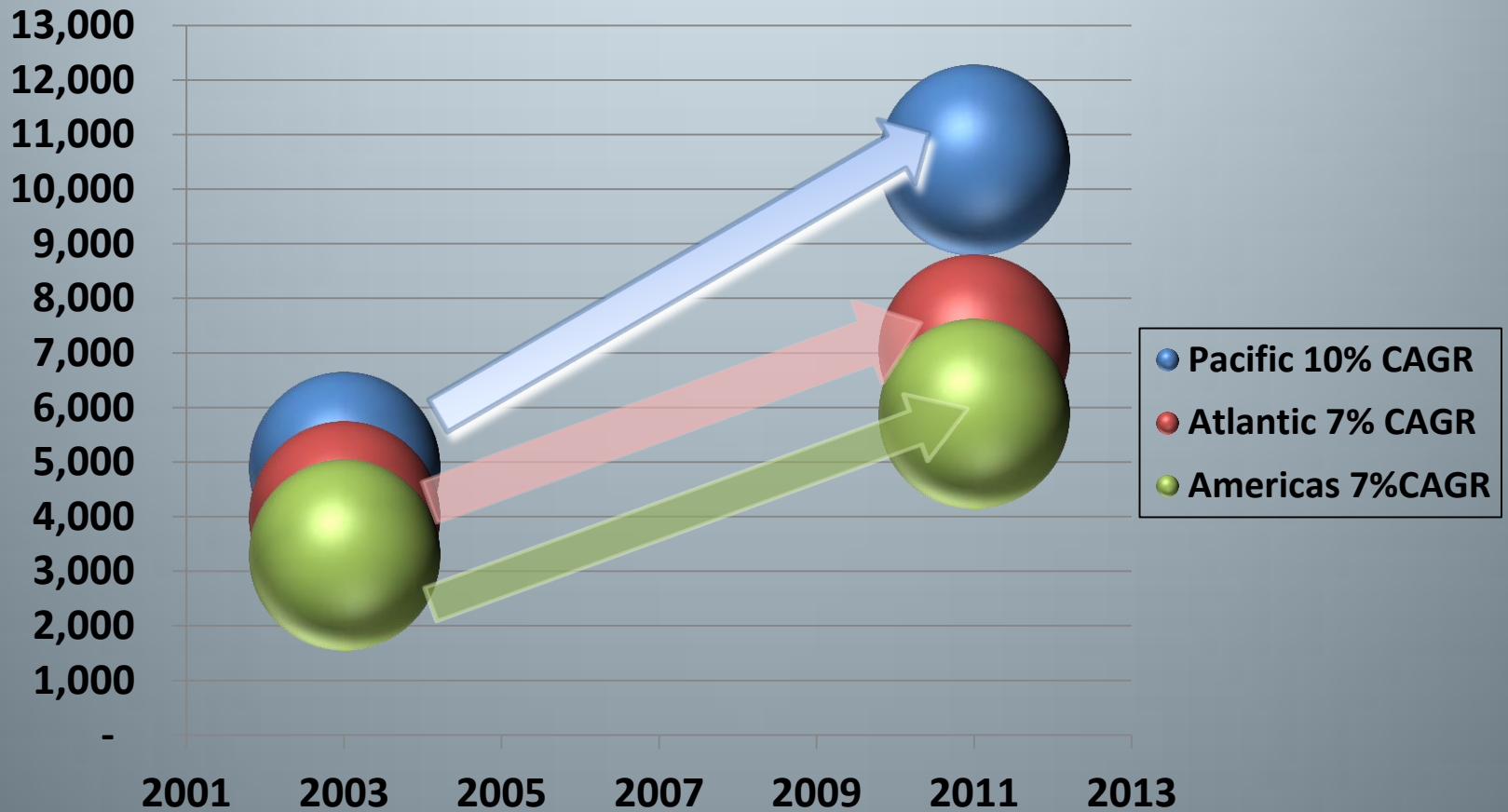


# Southeastern Container Market by Trade Lane



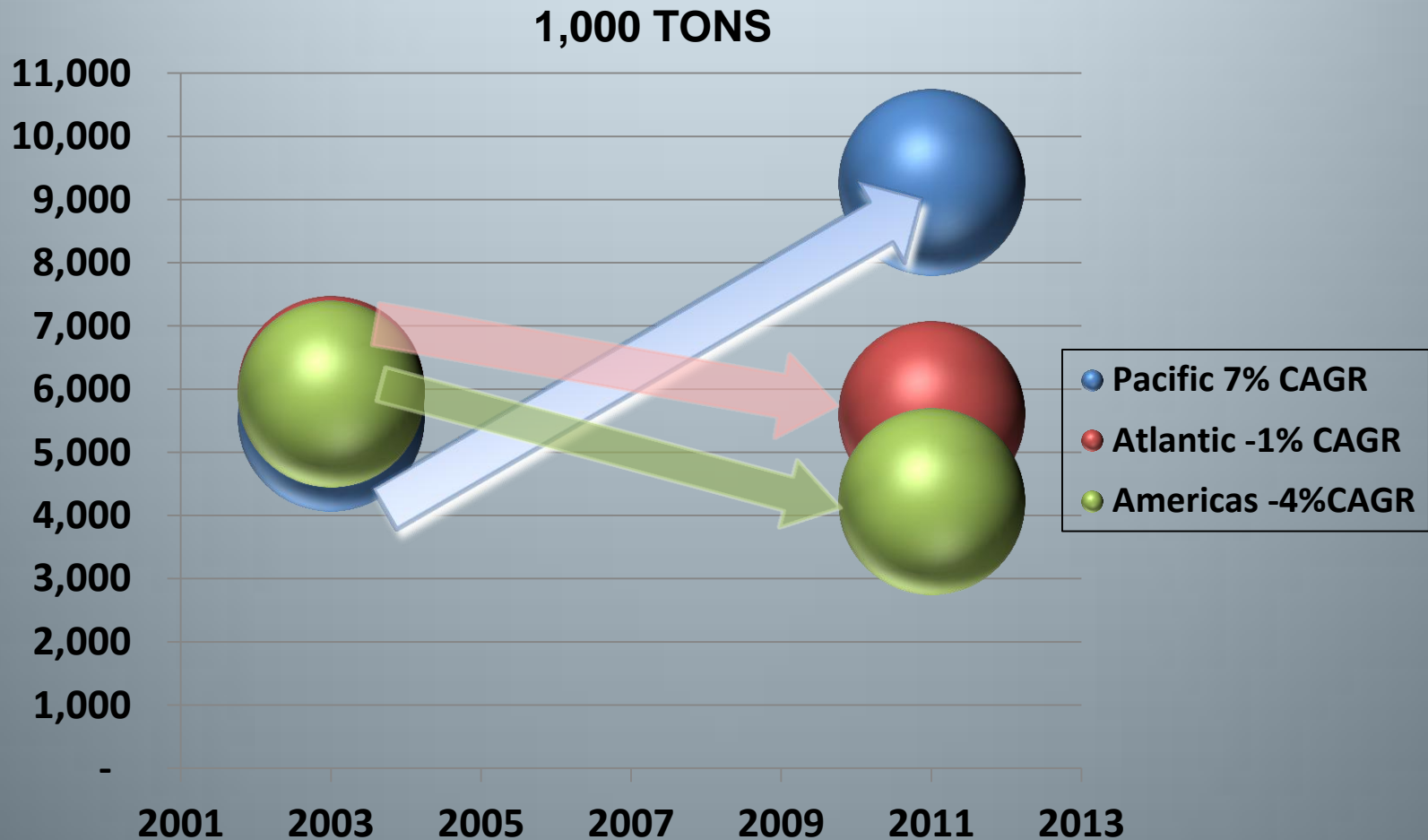
# Southeastern Containerized Exports by Trade Lane

1,000 TONS





# Southeastern Containerized Imports by Trade Lane



# Investment in Port Infrastructure Is Critical to Compete with Caribbean Transshipment Hubs for Development of Logistics Centers



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# Port Strategies To Respond To Changing Trade Dynamics, and Compete with Transshipment Hub Development

- **Leverage deep-water, on-dock rail to attract first in-bound port call -- Asian Trade (Suez or Panama):**
  - **Serve local and regional**
  - **Serve discretionary markets**
  - **Attract distribution center/logistics center development**
  - **Provide economies to ocean carriers :**
    - **Improve transit times into key markets**
    - **Improve terminal velocity**
    - **Potential for carriers to reduce vessels on a specific rotation**
  - **Compete with Caribbean transshipment hubs - Florida ports**
  - **Maximize job creation**

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# Port Strategies To Respond to Transshipment Hub Development

- **Leverage deep-water, on-dock rail to establish last outbound port call:**
  - **Focus on heavy weight exports:**
    - **Maximize weight of container**
      - **Reduce truck traffic/emissions**
  - **Fully utilize capacity of greater than Panamax ships**
    - **Deep-water and on-dock rail**
  - **Eliminate additional port calls**
  - **Maximize job creation**

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# Example of Job Creation Potential of a First Inbound Port Call

- A weekly first inbound/last outbound port call with an 8,500 TEU vessel generates significant economic activity to the local and regional economy:
  - Assume 75% of boxes discharged then reloaded
  - Assume 30% of inbound transshipped
  - Assume 70% of inbound goes to distribution center activity
- **Port Impacts:**
  - 7,900 direct, induced and indirect jobs from terminal operations and movement to DC's:
    - 2,700 direct jobs
    - 5,200 induced and indirect jobs
  - \$500 million total wages and salaries and local consumption activity
  - \$115 million Federal Taxes
- **Total logistics activity impact *less Port Impacts:***
  - 11,500 total jobs due to distribution/logistics center activity
  - \$660 million wages and salaries and local consumption
  - \$152 million Federal Taxes

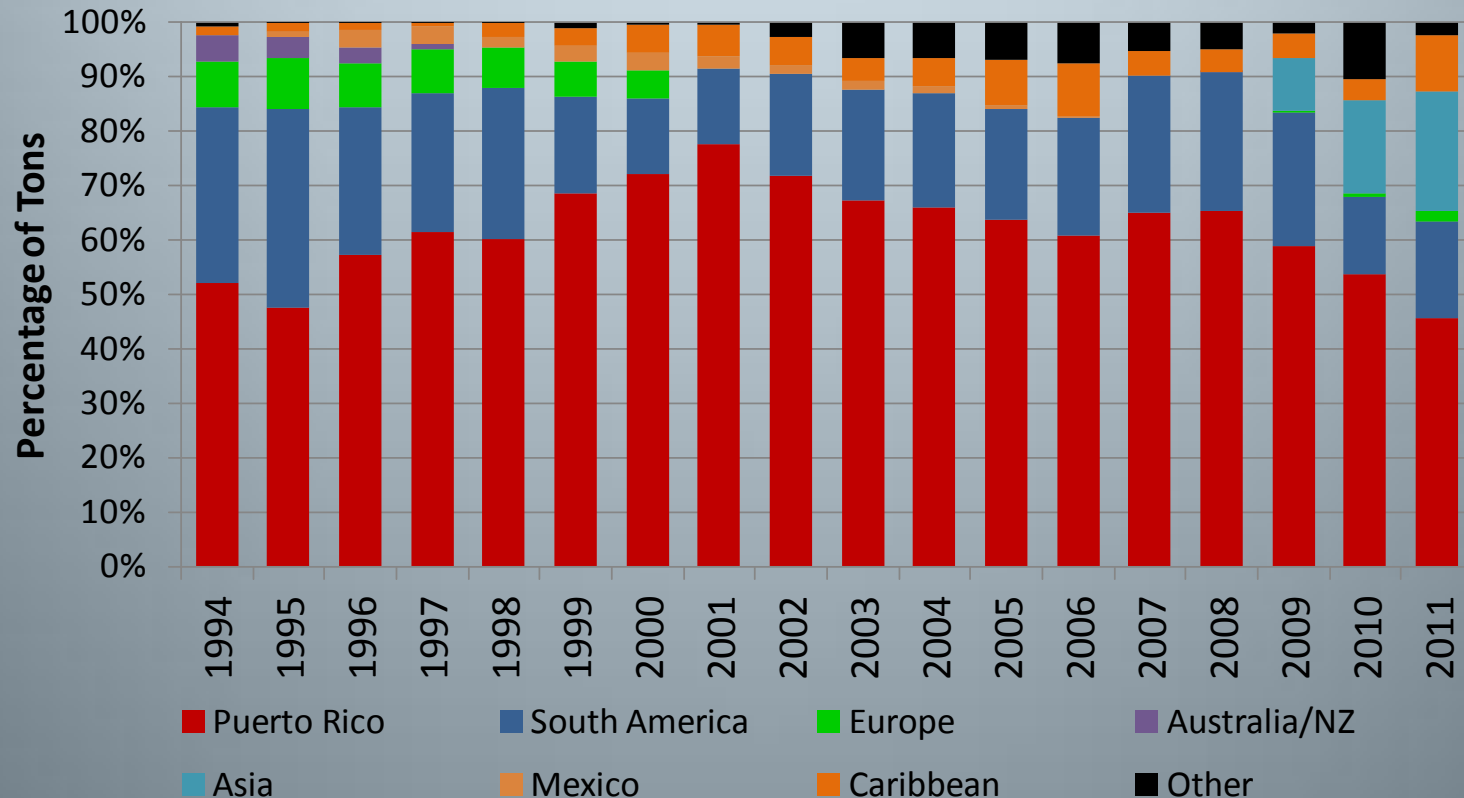
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# IMPLICATIONS FOR JAXPORT, PREFERRED CHANNEL DEPTH

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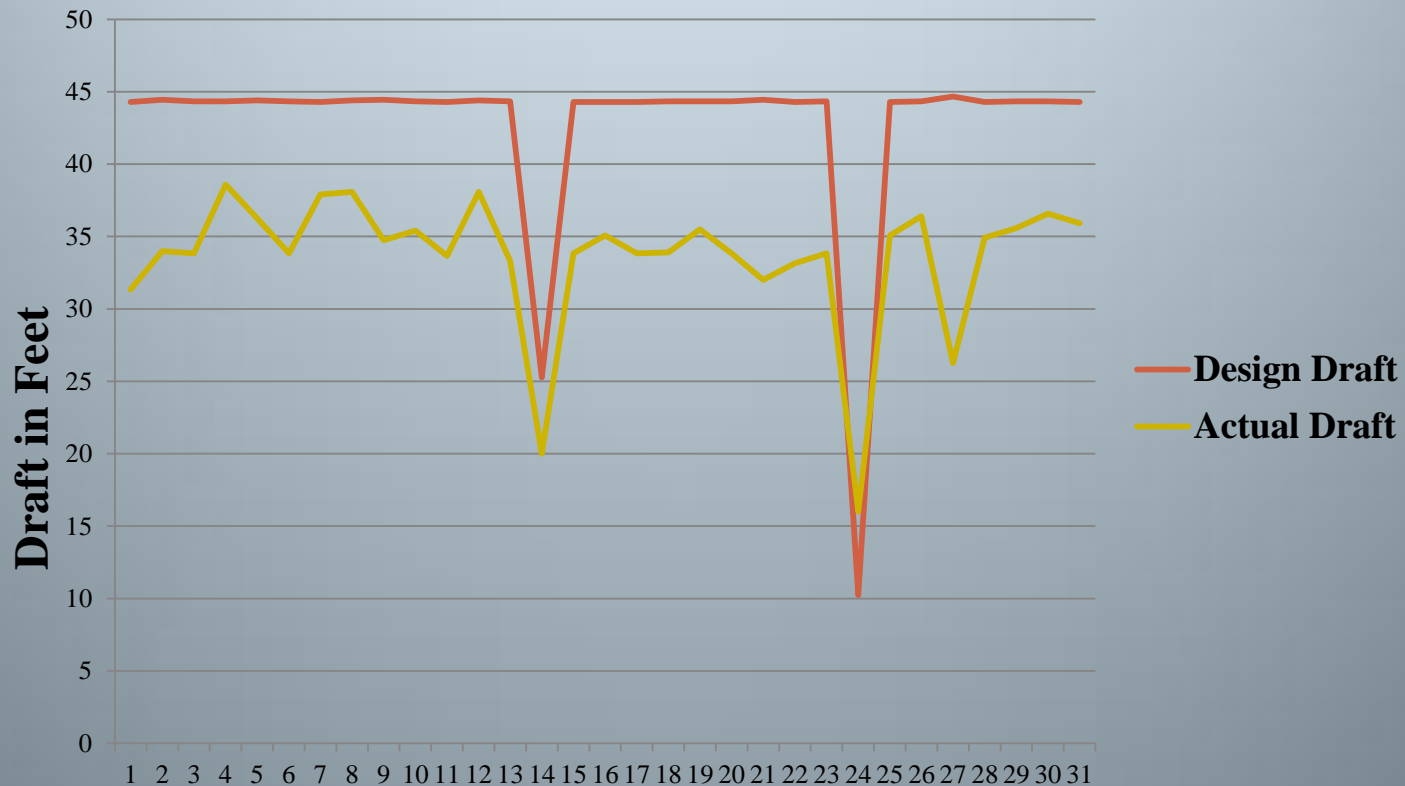
# **Current Container Situation at JAXPORT**

# JAXPORT Container Trade by Partner, Asia is the Growing Market





# Composition of Current Asia Services Calling JAXPORT - Design Draft vs. Actual Draft



Number of Vessel Calls at MOLTRAPAC in 2012

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# Implications of Channel Restrictions of St. Johns River

- The current Asian services calling MOL/TraPac terminal has a design draft of about 45 ft.
- If two feet under keel is required by the pilots, a channel of 47 ft. would be required to accommodate the current fleet prior to the Panama Canal expansion
- If a 10% of design draft is required, a 50 ft. channel depth is required to allow for full utilization of a vessel with a design draft of 47 ft.

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# **Cost Implications to the Vessel Operator of Less than Optimal Utilization of the Vessel Under Existing Channel Depth**

- **Average arrival/departure draft of vessels calling MOL/TraPac terminal is about 34.65 ft. compared to a 45 ft. average design draft for a first inbound/last outbound port call currently**
- **This current draft restriction has a significant impact on the cost of a first inbound port call, or a last outbound port call, resulting in an 80% increase in voyage costs per container over a full utilization of the vessel at its 45 ft. design draft**

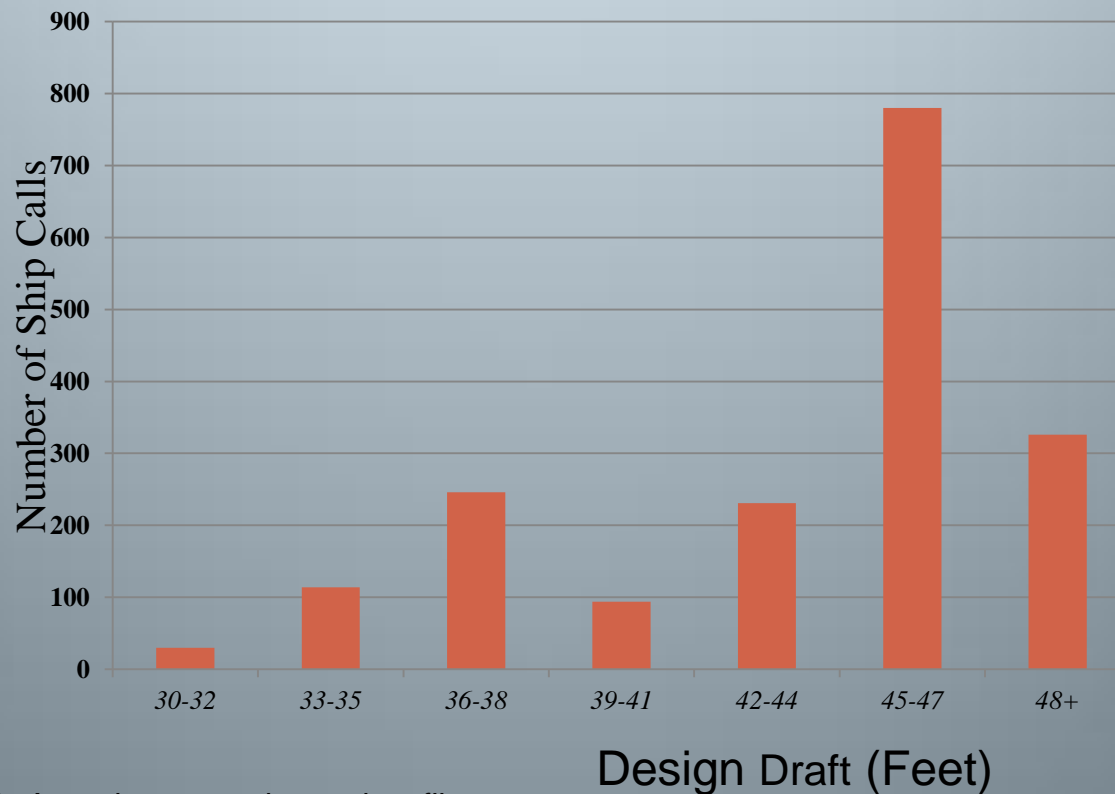
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# Even with a 45 ft. Channel Depth, the Current Vessel Fleet Economies Cannot be Optimized

- With 2 ft. under keel clearance, the vessel draft would be limited to 43 ft., and with 10% of the design draft required for clearance, the 45 ft. channel would restrict vessel draft to about 40 ft.
- Under *the current fleet*, and a 43 ft. maximum draft, the cost penalty to the vessel operator would be about 6% per container for a first inbound/last outbound call
- Under *the current fleet*, and a 40 ft. maximum draft (10% under keel assumption), the cost penalty to the vessel operator would be about 22% per container for a first inbound/last outbound port call

# Composition of Current Trans-Pacific Container Fleet at West Coast Port will Dictate New All Water Vessel Size

Current Distribution of Container Vessel Calls at West Coast Port, by Design Draft



Source: Martin Associates proprietary data file

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# Implications

- With the Expansion of the Panama Canal and the increased use of the Suez Canal, the Asian all water fleet will increase in design draft, as the larger ships on the trans-Pacific routes will be deployed on the all water services
- Vessels with design drafts in excess of 45 ft. will become the standard deployed on the all water routings
- *This will require a channel depth of 47 ft. at the minimum with a 2 ft. under keel clearance to accommodate a first in-bound, last outbound port call*

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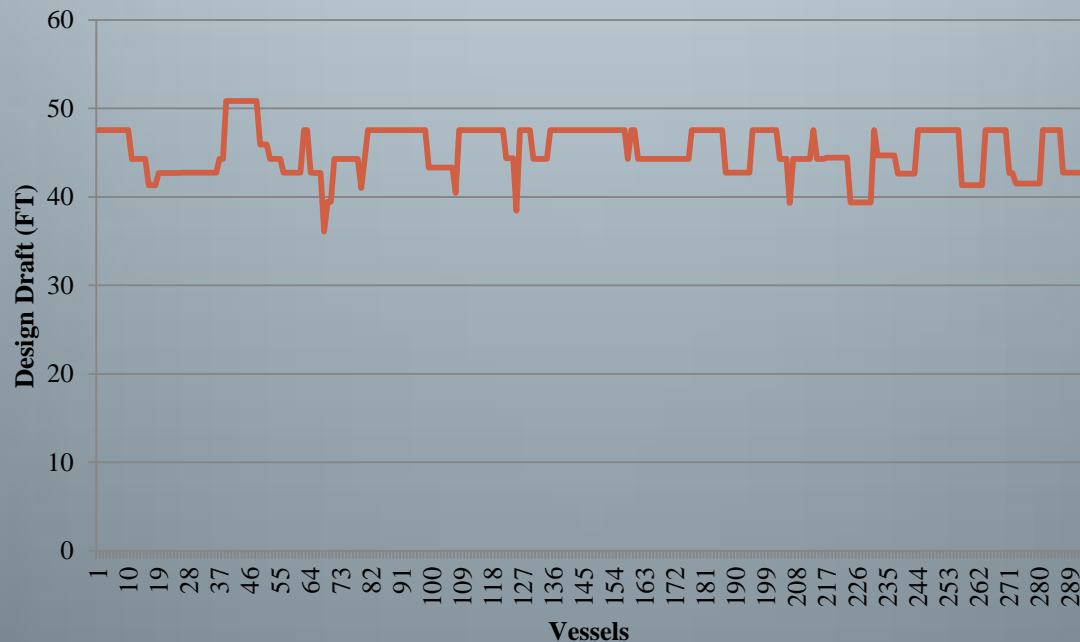
# Impact of 45 Ft. Channel on Future All-Water Container Fleet after Canal Expansion

- Martin Associates' voyage costing model was developed for a 7,000 TEU vessel with a 47 ft. design draft for a direct, first inbound call at JAXPORT or a last outbound port call on an Asian all water routing
- With a 45 ft. channel, and a 2 ft. under keel clearance (43 ft. maximum draft), the vessel operator would experience a 20-25% increase in voyage costs per container for a first inbound/last outbound call
- With a 45 ft. channel, and 10% of design draft clearance requirement (40 ft. maximum draft), the vessel operator would experience a 30-40% increase in voyage costs per container for a first inbound/last outbound call

# Implications for a Transshipment Operation Feeder Port

- The current fleet used to serve a key Caribbean transshipment hub has an average design draft of 45 ft. -- A less than 47 ft. channel at JAXPORT would put at risk the ability to participate in a Caribbean feeder operation

Distribution of Design Draft of Current Feeder Operation in the Caribbean



Source: Martin Associates Proprietary Data Base



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# Container Forecasts for JAXPORT

- **Baseline- relationships with GDP and Container throughput:**
  - **Puerto Rico: Low and High growth - Flat**
  - **Latin America/Caribbean: Low growth - 2% CAGR; High growth - 4% CAGR**
  - **Asian: Low growth - 3%; High growth - 6% through 2020, 4.5% 2021-2025, 3% 2025 and thereafter**

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# Container Projections for JAXPORT

- **Capture of Florida containers moving via non-Florida ports - 3.1 million TEUs of potential:**
  - 1 million TEUs of warehoused cargo now trucked into Florida from Atlanta, Savannah, and West Coast DC's (transloaded cargo)
  - 160,000 TEUs of Asian imports directly from West Coast and South Atlantic ports now consumed in Florida
  - 107,300 TEUs of non-Asian Cargo now moving via other Florida ports and consumed in Florida
  - Plus 1.8 million empty and loaded TEUs from Florida using other ports
- **25% of the potential captured by Florida ports and 1/3 of that moves via JAXPORT - with 47 ft. and moderate marketing**
- **50% of potential captured by Florida ports and 1/3 moves via JAXPORT - with 47 ft. and aggressive marketing**

# JAXPORT Can Cost Effectively Compete for Florida Import Market, Under Current Conditions, Assuming Milepoint is Fixed and With Deepening at JAXPORT to Compete with Other Ports

DC SITE - ORLANDO/I-4 CORRIDOR				Los Angeles 6000	Los Angeles 6000	
Port of Entry, Vessel Size	South FLA 4800	NE FLA 4800	Gulf FLA 4800	Savannah 4800	ATL intermodal	ORL intermodal
DC Square Footage	250,000	250,000	250,000	250,000	250,000	250,000
Subtotal Vessel	\$2,249	\$2,287	\$2,234	\$2,291	\$1,047	\$1,047
Subtotal Intermodal to Ramp	\$0	\$0	\$0	\$0	\$1,150	\$1,400
Subtotal Truck/Drayage to DC	\$516	\$336	\$200	\$670	\$1,047	\$150
Subtotal Average DC Lease Cost	\$229	\$229	\$229	\$229	\$229	\$229
Subtotal Truck/Drayage DC to Retail	\$330	\$330	\$330	\$330	\$330	\$330
<b>Total Cost via Truck</b>	<b>\$3,324</b>	<b>\$3,183</b>	<b>\$2,994</b>	<b>\$3,521</b>		
<b>Total Cost via Intermodal Rail</b>					<b>\$3,803</b>	<b>\$3,156</b>
DC SITE - JACKSONVILLE/DUVAL COUNTY				Los Angeles 6000	Los Angeles 6000	
Port of Entry, Vessel Size	South FLA 4800	NE FLA 4800	Gulf FLA 4800	Savannah 4800	ATL intermodal	JAX intermodal
DC Square Footage	250,000	250,000	250,000	250,000	250,000	250,000
Subtotal Vessel	\$2,249	\$2,287	\$2,234	\$2,291	\$1,047	\$1,047
Subtotal Intermodal to Ramp	\$553	\$0	\$0	\$0	\$1,150	\$1,250
Subtotal Truck/Drayage to DC	\$812	\$80	\$537	\$332	\$823	\$150
Subtotal Average DC Lease Cost	\$172	\$172	\$172	\$172	\$172	\$172
Subtotal Truck/Drayage DC to Retail	\$551	\$551	\$551	\$551	\$551	\$551
<b>Total Cost via Truck</b>	<b>\$3,784</b>	<b>\$3,090</b>	<b>\$3,494</b>	<b>\$3,345</b>		
<b>Total Cost via Intermodal Rail</b>	<b>\$3,525</b>				<b>\$3,743</b>	<b>\$3,170</b>
DC SITE - HIALEAH				Los Angeles 6000	Los Angeles 6000	
Port of Entry, Vessel Size	South FLA 4800	NE FLA 4800	Gulf FLA 4800	Savannah 4800	ATL intermodal	ORL intermodal
DC Square Footage	250,000	250,000	250,000	250,000	250,000	250,000
Subtotal Vessel	\$2,249	\$2,287	\$2,234	\$2,291	\$1,047	\$1,047
Subtotal Intermodal to Ramp	\$0	\$513	\$0	\$681	\$1,150	\$1,400
Subtotal Truck/Drayage to DC	\$110	\$845	\$670	\$1,169	\$1,591	\$516
Subtotal Average DC Lease Cost	\$203	\$203	\$203	\$203	\$203	\$203
Subtotal Truck/Drayage DC to Retail	\$413	\$413	\$413	\$413	\$413	\$413
<b>Total Cost via Truck</b>	<b>\$2,974</b>	<b>\$3,747</b>	<b>\$3,520</b>	<b>\$4,076</b>		
<b>Total Cost via Intermodal Rail</b>		<b>\$3,416</b>		<b>\$3,588</b>	<b>\$4,404</b>	<b>\$3,579</b>
DC SITE - MEDLEY				Los Angeles 6000	Los Angeles 6000	
Port of Entry, Vessel Size	South FLA 4800	NE FLA 4800	Gulf FLA 4800	Savannah 4800	ATL intermodal	ORL intermodal
DC Square Footage	250,000	250,000	250,000	250,000	250,000	250,000
Subtotal Vessel	\$2,249	\$2,287	\$2,234	\$2,291	\$1,047	\$1,047
Subtotal Intermodal to Ramp	\$0	\$513	\$0	\$663	\$1,150	\$1,400
Subtotal Truck/Drayage to DC	\$110	\$845	\$670	\$1,169	\$1,582	\$516
Subtotal Average DC Lease Cost	\$265	\$265	\$265	\$265	\$265	\$265
Subtotal Truck/Drayage DC to Retail	\$413	\$413	\$413	\$413	\$413	\$413
<b>Total Cost via Truck</b>	<b>\$3,037</b>	<b>\$3,810</b>	<b>\$3,583</b>	<b>\$4,138</b>		
<b>Total Cost via Intermodal Rail</b>		<b>\$3,475</b>		<b>\$3,633</b>	<b>\$4,457</b>	<b>\$3,641</b>

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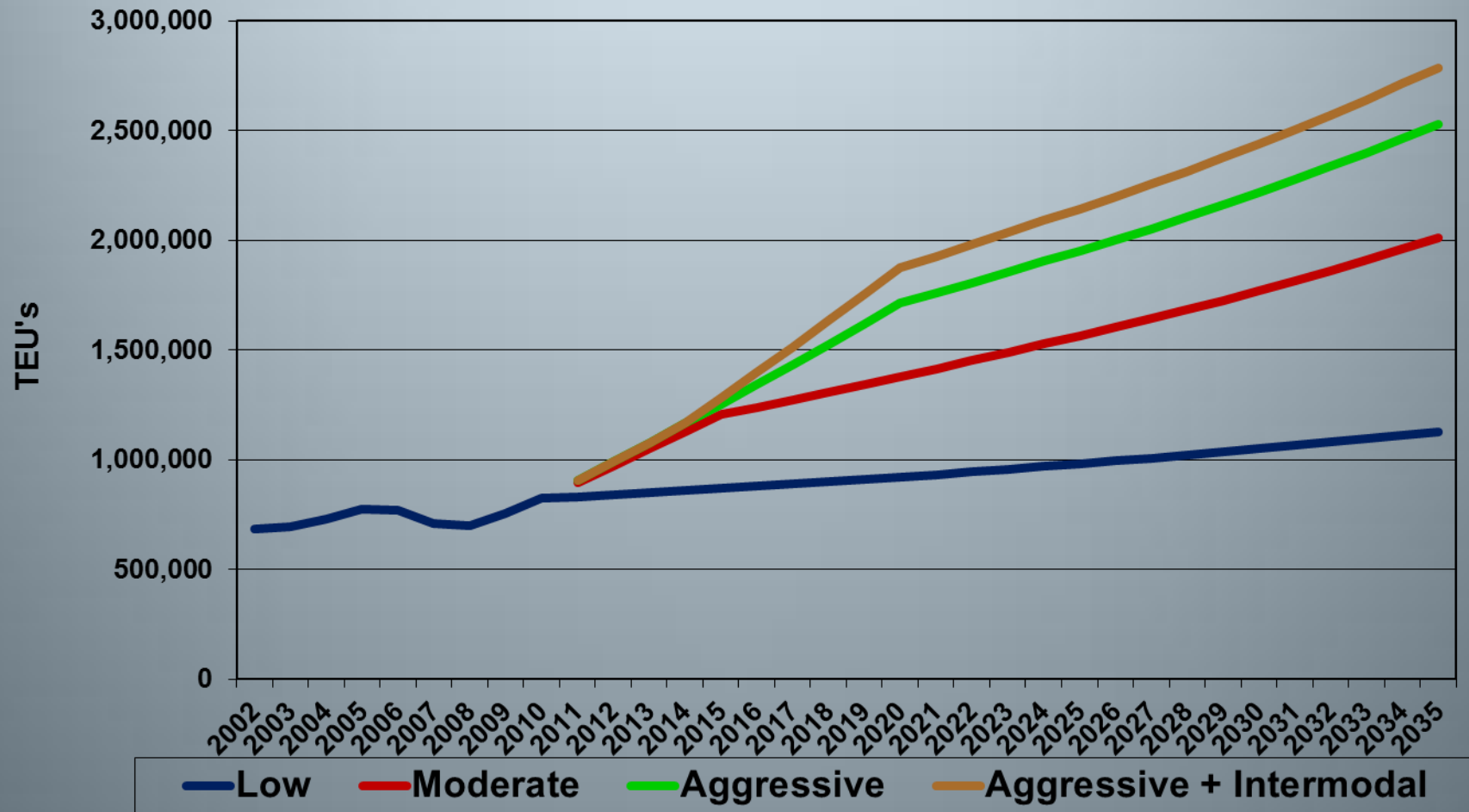
# Container Projections for JAXPORT

- **With 47 ft. of water and development of ICTF, JAXPORT can capture 25% share of TEUs moving intermodally via other South Atlantic ports - about 126,000 TEUs**
- **Without 47 ft. of water, JAXPORT will not be handicapped to compete for this intermodal market**

# With a 47 ft. Channel, JAXPORT Can Compete for Intermodal Service into Atlanta

PRE	Hong Kong Routing	Atlanta
4800	New York	\$3,648
4800	Norfolk	\$4,056
4800	Savannah	\$3,161
4800	Jacksonville	\$3,046
4800	Port Everglades	\$3,115
4800	Miami	\$3,198
4800	Houston	\$3,597
6000	Los Angeles	\$3,256
6000	Oakland	\$3,450
6000	Seattle/Tacoma	\$4,866
PRE	Least Cost (JAXPORT) to Savannah Differential	(\$115)
POST	Hong Kong Routing	Atlanta
7000	New York	\$2,888
7000	Norfolk	\$3,307
7000	Savannah	\$2,424
7000	Jacksonville	\$2,312
7000	Port Everglades	\$2,400
7000	Miami	\$2,402
7000	Houston	\$2,878
8500	Los Angeles	\$2,797
8500	Oakland	\$3,015
8500	Seattle/Tacoma	\$4,451
POST	Least Cost (JAXPORT) to Savannah Differential	(\$112)

# Summary of JAXPORT Container Forecasts Assuming the 47 ft. Depth



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# Opportunity Cost Under Status Quo (40 ft.)

- Asian market will likely disappear at JAXPORT by 2015
- No additional all-water Asian service will come to JAXPORT
- JAXPORT will not capture the non-Florida ports' share of Florida containers
- JAXPORT will not capture share of South Atlantic intermodal market

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# Opportunity Cost Under 45 ft. Channel

- Asian market will be served via a feeder operation, not a first inbound/last outbound port of call
- No additional all-water Asian service will likely come to JAXPORT
- JAXPORT will not capture the non-Florida ports' share of Florida containers
- JAXPORT will not capture share of other South Atlantic intermodal business



# Opportunity Cost of Deepening Scenarios less than 47 Ft.

## Status Quo (40 FT)

TEU Projections Scenarios	2020	2025	2030	2035
Low and No Deepening	732,816	762,889	796,093	832,752
Moderate Penetration with 47ft.	1,379,800	1,566,364	1,769,642	2,010,604
Aggressive Penetration with Deepening to 47ft.	1,713,294	1,952,976	2,217,831	2,530,178
Aggressive with 47ft. + Intermodal Penetration	1,877,695	2,143,562	2,438,772	2,786,309
<b>Maximum Opportunity Cost of no Deepening (TEUS)</b>	<b>1,144,879</b>	<b>1,380,672</b>	<b>1,642,680</b>	<b>1,953,557</b>

## Deepening to 45 Ft.

TEU Projections Scenarios	2020	2025	2030	2035
Low and Deepening to 45 ft.	921,603	981,746	1,049,807	1,126,877
Moderate Penetration with 47ft.	1,379,800	1,566,364	1,769,642	2,010,604
Aggressive Penetration with Deepening to 47ft.	1,713,294	1,952,976	2,217,831	2,530,178
Aggressive with 47ft. + Intermodal Penetration	1,877,695	2,143,562	2,438,772	2,786,309
<b>Maximum Opportunity Cost of 45 ft. Channel (TEUS)</b>	<b>956,092</b>	<b>1,161,816</b>	<b>1,388,965</b>	<b>1,659,432</b>

# Opportunity Cost of Status Quo Compared to 47 Ft. Channel

TEU Projections Scenarios	2020	2025	2030	2035
Low and No Deepening	732,816	762,889	796,093	832,752
Moderate Penetration with 47ft.	1,379,800	1,566,364	1,769,642	2,010,604
Aggressive Penetration with Deepening to 47ft.	1,713,294	1,952,976	2,217,831	2,530,178
Aggressive with 47ft. + Intermodal Penetration	1,877,695	2,143,562	2,438,772	2,786,309
<b>Maximum Opportunity Cost of No Deepening (TEUS)</b>	<b>1,144,879</b>	<b>1,380,672</b>	<b>1,642,680</b>	<b>1,953,557</b>
Opportunity Cost in Terms of Lost Economic Impacts	2020	2025	2030	2035
<b>Jobs</b>				
Direct	3,274	3,949	4,699	5,587
Induced	3,015	3,636	4,326	5,145
Indirect	1,824	2,199	2,617	3,112
<b>Total</b>	<b>8,113</b>	<b>9,784</b>	<b>11,642</b>	<b>13,844</b>
<b>Personal Income (1,000)</b>				
Direct	\$131,660	\$158,776	\$188,907	\$224,657
Re-spending/Local Consumption	\$383,683	\$462,704	\$550,511	\$654,695
Indirect	\$76,337	\$92,060	\$109,530	\$130,259
<b>Total</b>	<b>\$591,680</b>	<b>\$713,540</b>	<b>\$848,948</b>	<b>\$1,009,611</b>
<b>Business Revenue (1,000)</b>	<b>\$492,250</b>	<b>\$593,632</b>	<b>\$706,284</b>	<b>\$839,948</b>
<b>Local Purchases (1,000)</b>	<b>\$150,045</b>	<b>\$180,948</b>	<b>\$215,286</b>	<b>\$256,029</b>
<b>State/Local Taxes (1,000)</b>	<b>\$54,435</b>	<b>\$65,646</b>	<b>\$78,103</b>	<b>\$92,884</b>

**NPV of State/Local Taxes: \$670.7 million at 5% and \$786.9 million at 3.75% discount rate over 35 years**

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# **Opportunity Cost of Not Deepening to Minimum 47 ft.**

- **Loss of first inbound port call:**
  - **Distribution center development**
  - **Discretionary regional market penetration**
  - **Compete with off-shore transshipment centers**
  - **Manufacturing complex development**
- **Loss of last outbound port call:**
  - **Ability to handle heavy weight exports**
  - **Attract export manufacturing companies by providing longer cut-off times**
- **Loss of development of import distribution centers/logistics center and light manufacturing**

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# Potential Development of 5,000 Acre Industrial/Logistics Center Associated with Deep-water and Direct First-Inbound Call

- At full development, a 5,000 acre logistics center and light manufacturing is projected to support:
  - Nearly 41,000 direct jobs, 18,600 induced jobs, and 29,000 indirect jobs in the regional economy
  - \$450 million state and local taxes annually

\*Based on Martin Associates FDOT Inland Logistics Study, 2010

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# Projected Economic Impact of JAXPORT by Channel Depth Assumption

- Detailed cargo projections developed by Martin Associates as part of Jacksonville Port Authority Strategic Plan, Business and Market Analysis (2012):
  - Container traffic by trade lane
  - Auto/Ro-Ro
  - Break bulk cargo:
    - Lumber
    - Paper/pulp
    - Steel
    - Aluminum
  - Dry Bulk
  - Liquid bulk
- Compare Projected Economic Impact at 40 ft., 45 ft. and 47 ft. Channel

# Summary of Economic Impacts at Various Channel Depths

Year and Channel Depth	2020 at 40 ft.	2020 at 45 ft.	2020 at 47 ft.	2025 at 40 ft.	2025 at 45 ft.	2025 at 47 ft.	2030 at 40 ft.	2030 at 45 ft.	2030 at 47 ft.	2035 at 40 ft.	2035 at 45 ft.	2035 at 47 ft.
<b>Jobs</b>												
Direct	6,797	7,337	10,071	7,176	7,802	11,125	7,611	8,337	12,310	8,113	8,954	13,700
Induced	6,659	7,157	9,674	7,079	7,656	10,715	7,564	8,232	11,890	8,125	8,900	13,270
Indirect	<u>3,738</u>	<u>4,039</u>	<u>5,562</u>	<u>3,937</u>	<u>4,285</u>	<u>6,136</u>	<u>4,164</u>	<u>4,569</u>	<u>6,781</u>	<u>4,426</u>	<u>4,894</u>	<u>7,538</u>
<b>Total</b>	<b>17,194</b>	<b>18,533</b>	<b>25,307</b>	<b>18,192</b>	<b>19,743</b>	<b>27,976</b>	<b>19,339</b>	<b>21,138</b>	<b>30,981</b>	<b>20,664</b>	<b>22,748</b>	<b>34,508</b>
<b>Personal Income (1,000)</b>												
Direct	\$297,786	\$319,496	\$429,446	\$317,358	\$342,526	\$476,134	\$339,985	\$369,162	\$528,892	\$366,211	\$400,036	\$590,868
Re-spending/Local Consumption	\$867,808	\$931,076	\$1,251,491	\$924,845	\$998,190	\$1,387,549	\$990,785	\$1,075,812	\$1,541,296	\$1,067,213	\$1,165,783	\$1,721,908
Indirect	<u>\$156,455</u>	<u>\$169,042</u>	<u>\$232,792</u>	<u>\$164,773</u>	<u>\$179,366</u>	<u>\$256,833</u>	<u>\$174,300</u>	<u>\$191,218</u>	<u>\$283,830</u>	<u>\$185,239</u>	<u>\$204,851</u>	<u>\$315,498</u>
<b>Total</b>	<b>\$1,322,049</b>	<b>\$1,419,614</b>	<b>\$1,913,729</b>	<b>\$1,406,976</b>	<b>\$1,520,082</b>	<b>\$2,120,516</b>	<b>\$1,505,070</b>	<b>\$1,636,192</b>	<b>\$2,354,018</b>	<b>\$1,618,663</b>	<b>\$1,770,670</b>	<b>\$2,628,274</b>
<b>Business Revenue (1,000)</b>	<b>\$1,008,869</b>	<b>\$1,090,039</b>	<b>\$1,501,119</b>	<b>\$1,062,510</b>	<b>\$1,156,609</b>	<b>\$1,656,142</b>	<b>\$1,123,945</b>	<b>\$1,233,032</b>	<b>\$1,830,229</b>	<b>\$1,194,483</b>	<b>\$1,320,945</b>	<b>\$2,034,431</b>
<b>Local Purchases (1,000)</b>	<b>\$307,518</b>	<b>\$332,260</b>	<b>\$457,563</b>	<b>\$323,869</b>	<b>\$352,552</b>	<b>\$504,817</b>	<b>\$342,595</b>	<b>\$375,846</b>	<b>\$557,881</b>	<b>\$364,096</b>	<b>\$402,644</b>	<b>\$620,125</b>
<b>State/Local Taxes (1,000)</b>	<b>\$121,628</b>	<b>\$130,605</b>	<b>\$176,063</b>	<b>\$129,442</b>	<b>\$139,848</b>	<b>\$195,088</b>	<b>\$138,467</b>	<b>\$150,530</b>	<b>\$216,570</b>	<b>\$148,917</b>	<b>\$162,902</b>	<b>\$241,801</b>

# Incremental and Cumulative Impacts by Channel Depth

Incremental Impacts by Channel Depth	2020	2020	2020	2025	2025	2025	2030	2030	2030	2035	2035	2035
	Additional Impacts from 40-45 ft.	Additional Impacts from 45- 47 ft.	Additional Impacts from 40- 47 ft.	Additional Impacts from 40-45 ft.	Additional Impacts from 45- 47 ft.	Additional Impacts from 40- 47 ft.	Additional Impacts from 40-45 ft.	Additional Impacts from 45- 47 ft.	Additional Impacts from 40- 47 ft.	Additional Impacts from 40-45 ft.	Additional Impacts from 45- 47 ft.	Additional Impacts from 40- 47 ft.
<b>Jobs</b>												
Direct	540	2,734	3,274	626	3,323	3,949	726	3,973	4,699	841	4,746	5,587
Induced	498	2,517	3,015	577	3,059	3,636	668	3,658	4,326	775	4,370	5,145
Indirect	<u>301</u>	<u>1,523</u>	<u>1,824</u>	<u>348</u>	<u>1,851</u>	<u>2,199</u>	<u>405</u>	<u>2,212</u>	<u>2,617</u>	<u>468</u>	<u>2,644</u>	<u>3,112</u>
<b>Total</b>	<b>1,339</b>	<b>6,774</b>	<b>8,113</b>	<b>1,551</b>	<b>8,233</b>	<b>9,784</b>	<b>1,799</b>	<b>9,843</b>	<b>11,642</b>	<b>2,084</b>	<b>11,760</b>	<b>13,844</b>
<b>Personal Income (1,000)</b>												
Direct	\$21,710	\$109,950	\$131,660	\$25,168	\$133,608	\$158,776	\$29,177	\$159,730	\$188,907	\$33,825	\$190,832	\$224,657
Re-spending/Local Consumption	\$63,268	\$320,415	\$383,683	\$73,345	\$389,359	\$462,704	\$85,027	\$465,484	\$550,511	\$98,570	\$556,125	\$654,695
Indirect	<u>\$12,587</u>	<u>\$63,750</u>	<u>\$76,337</u>	<u>\$14,593</u>	<u>\$77,467</u>	<u>\$92,060</u>	<u>\$16,918</u>	<u>\$92,612</u>	<u>\$109,530</u>	<u>\$19,612</u>	<u>\$110,647</u>	<u>\$130,259</u>
<b>Total</b>	<b>\$97,565</b>	<b>\$494,115</b>	<b>\$591,680</b>	<b>\$113,106</b>	<b>\$600,434</b>	<b>\$713,540</b>	<b>\$131,122</b>	<b>\$717,826</b>	<b>\$848,948</b>	<b>\$152,007</b>	<b>\$857,604</b>	<b>\$1,009,611</b>
<b>Business Revenue (1,000)</b>	<b>\$81,170</b>	<b>\$411,080</b>	<b>\$492,250</b>	<b>\$94,099</b>	<b>\$499,533</b>	<b>\$593,632</b>	<b>\$109,087</b>	<b>\$597,197</b>	<b>\$706,284</b>	<b>\$126,462</b>	<b>\$713,486</b>	<b>\$839,948</b>
<b>Local Purchases (1,000)</b>	<b>\$24,742</b>	<b>\$125,303</b>	<b>\$150,045</b>	<b>\$28,683</b>	<b>\$152,265</b>	<b>\$180,948</b>	<b>\$33,251</b>	<b>\$182,035</b>	<b>\$215,286</b>	<b>\$38,548</b>	<b>\$217,481</b>	<b>\$256,029</b>
<b>State/Local Taxes (1,000)</b>	<b>\$8,977</b>	<b>\$45,458</b>	<b>\$54,435</b>	<b>\$10,406</b>	<b>\$55,240</b>	<b>\$65,646</b>	<b>\$12,063</b>	<b>\$66,040</b>	<b>\$78,103</b>	<b>\$13,985</b>	<b>\$78,899</b>	<b>\$92,884</b>

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# Next Steps

- **Decision as to preferred Channel Depth**
- **Evaluate cost assumptions used in GRR2 Study**
- **Identify any cost savings potential to deepen to minimum of 47 ft.**
- **If no 47 ft. deepening, develop a strategy to optimize use of Dames Point for non-Asian Container Service:**
  - **Develop capacity measures of current operations**
  - **Compare cargo projections with capacity by terminal**
  - **Optimize use of Talleyrand and Blount Island and identify potential uses of Dames Point not requiring 47 ft.:**
    - **Container feeder/common carrier operations to serve transshipment hubs**
    - **Growth in Central American and Caribbean Services**
- **If 47 ft. selected:**
  - **Optimize Talleyrand and Blount Island**
  - **Focus deep-water/Asian container operations at Dames Point**
  - **Priority is on first inbound/last outbound**
  - **Market distribution/logistics center and light manufacturing potential**