

The Panama Canal Update: Some Implications for Western Hemisphere Trade



April 18, 2011



Today's Objectives

Provide a brief synopsis of the potential effects of the expanded Panama Canal on Hemispheric trade patterns:

- ✓ Overview of the Panama Canal
- ✓ The Asia-US Container Trades
- ✓ The Hemispheric Bulk Trades

Panama Canal Overview

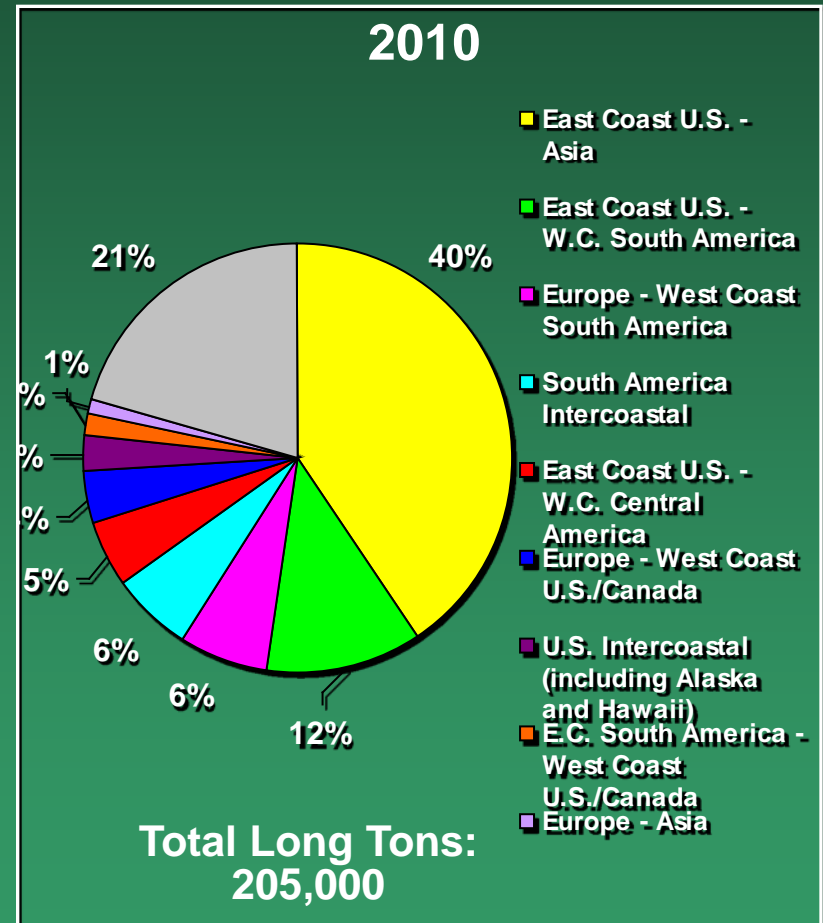
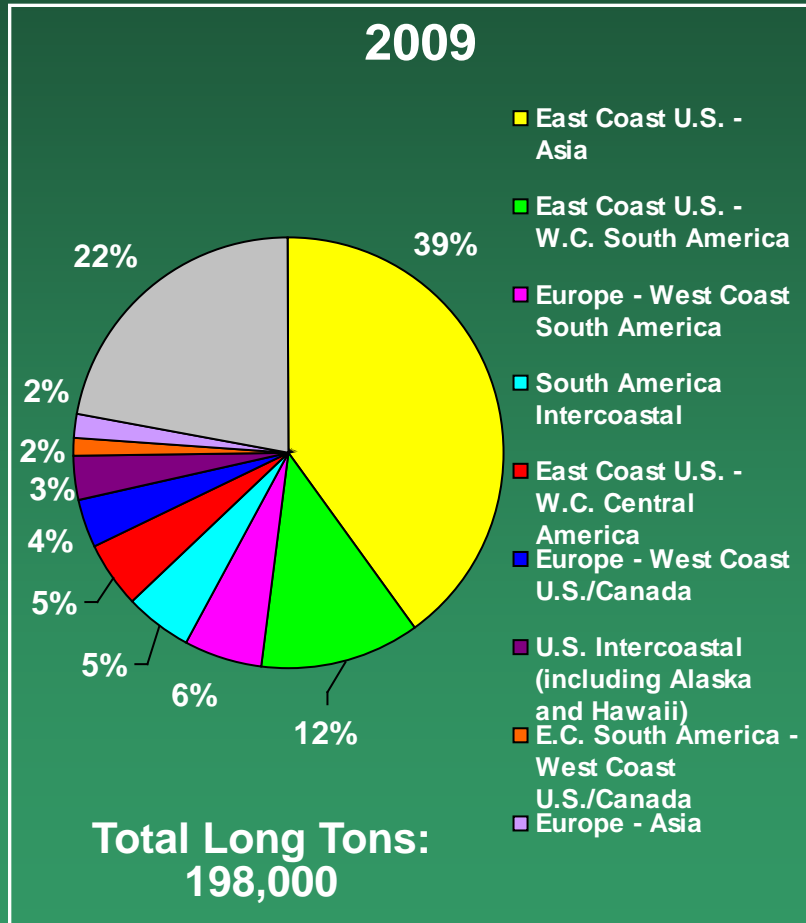


Panama Canal Overview

- ✓ Major businesses
- ✓ The expansion
- ✓ Potential market implications

The Asia-US East Coast trade lane accounts for about half of the Panama Canal's total trade

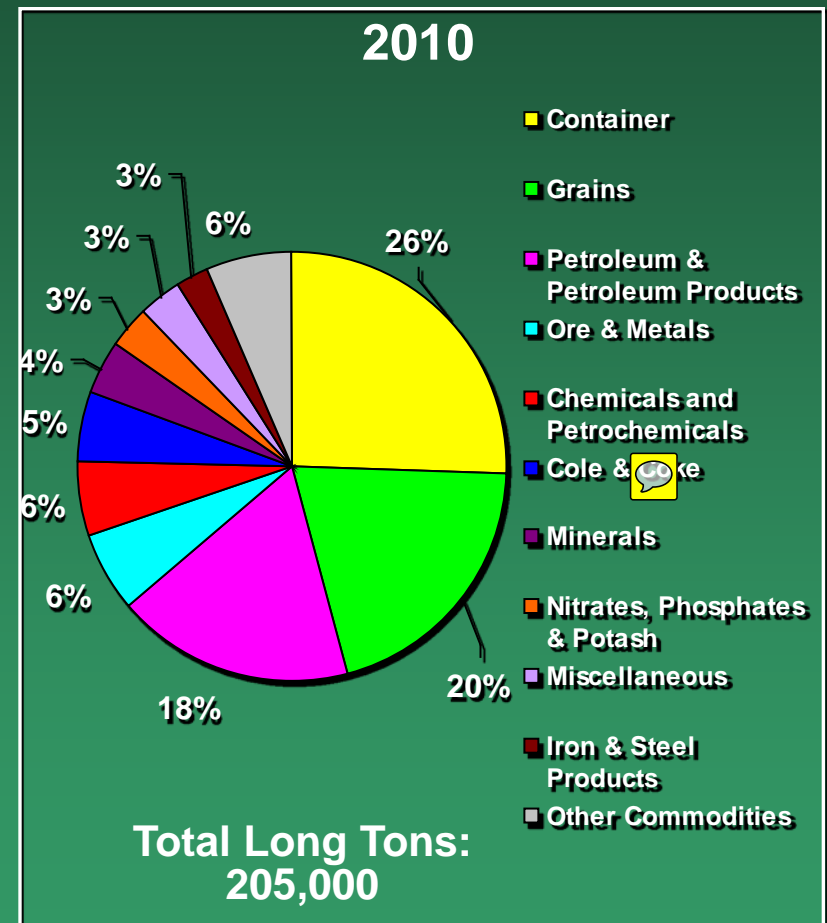
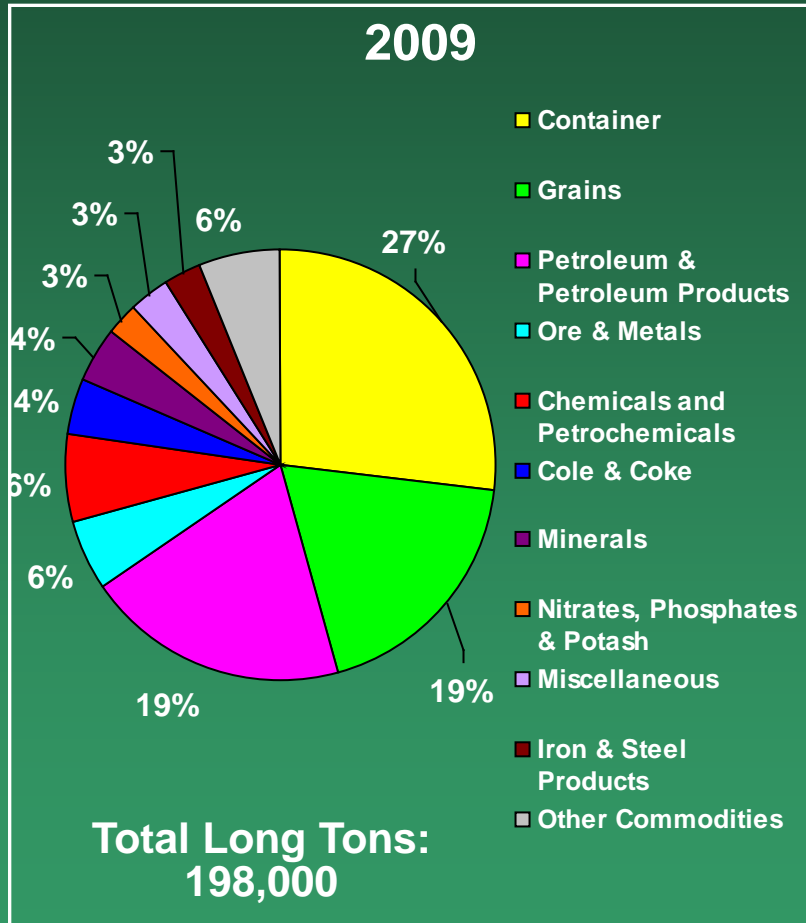
Panama Canal Traffic by Trade Lane



Source: ACP (Panama Canal Authority); Norbridge research and analysis

Container, grain and petroleum products are the Panama Canal's largest trades

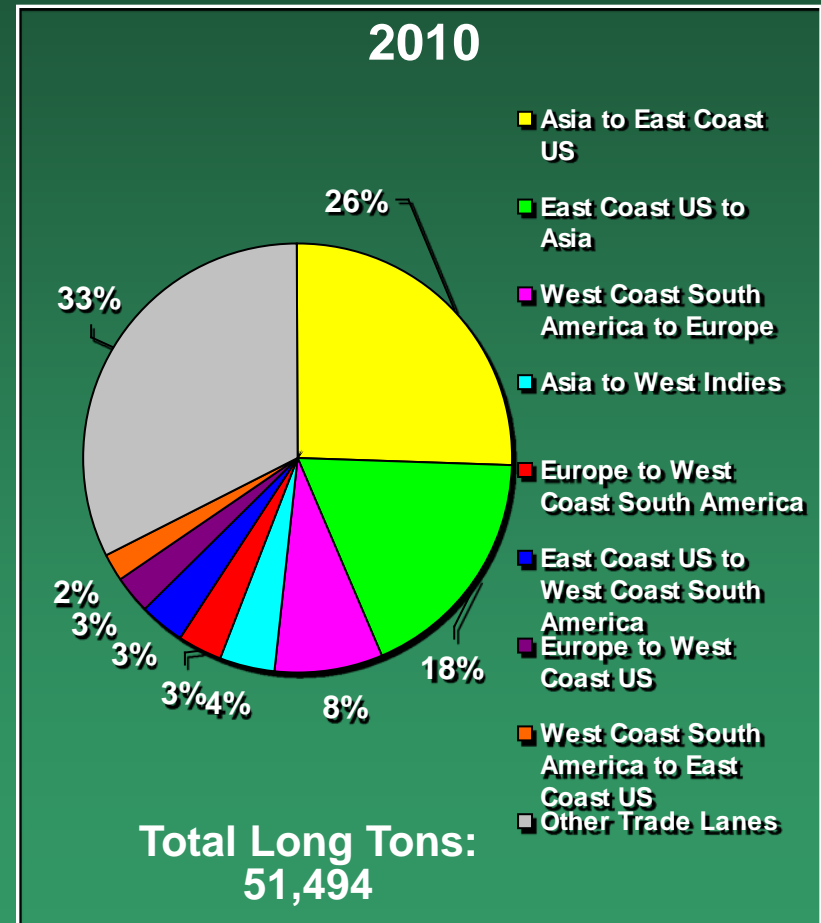
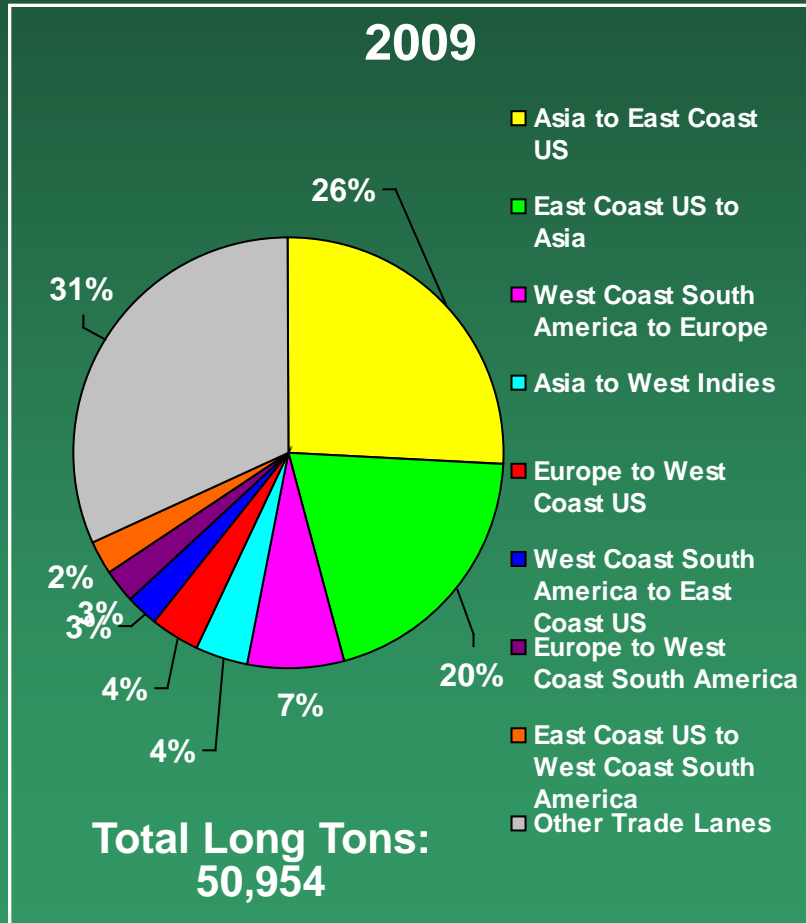
Panama Canal Traffic by Commodity



Source: ACP (Panama Canal Authority); Norbridge research and analysis

The Asia-US East container trade accounts for nearly half the Panama Canal's total container trade

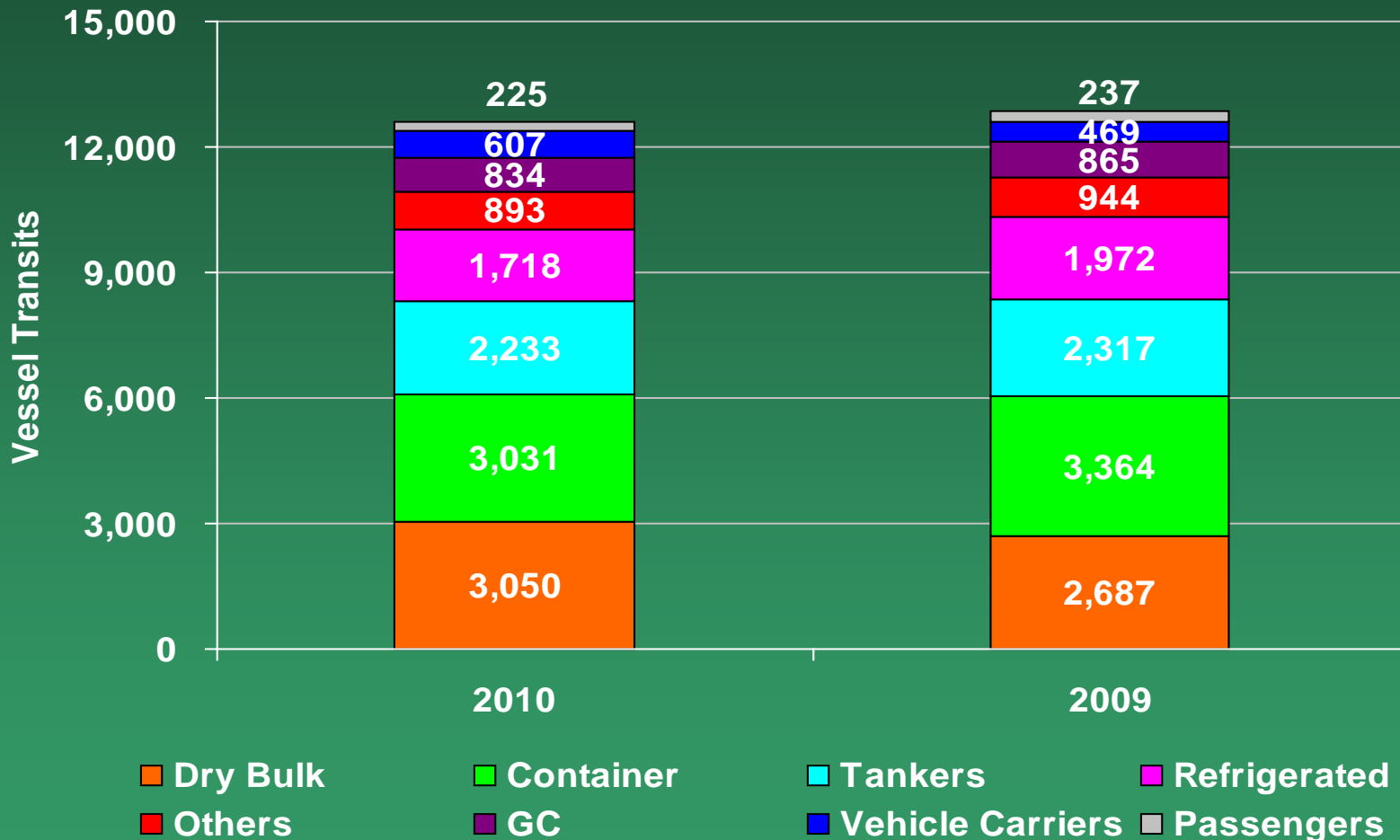
Panama Canal Container Traffic by Trade Lane



Source: ACP (Panama Canal Authority); Norbridge research and analysis

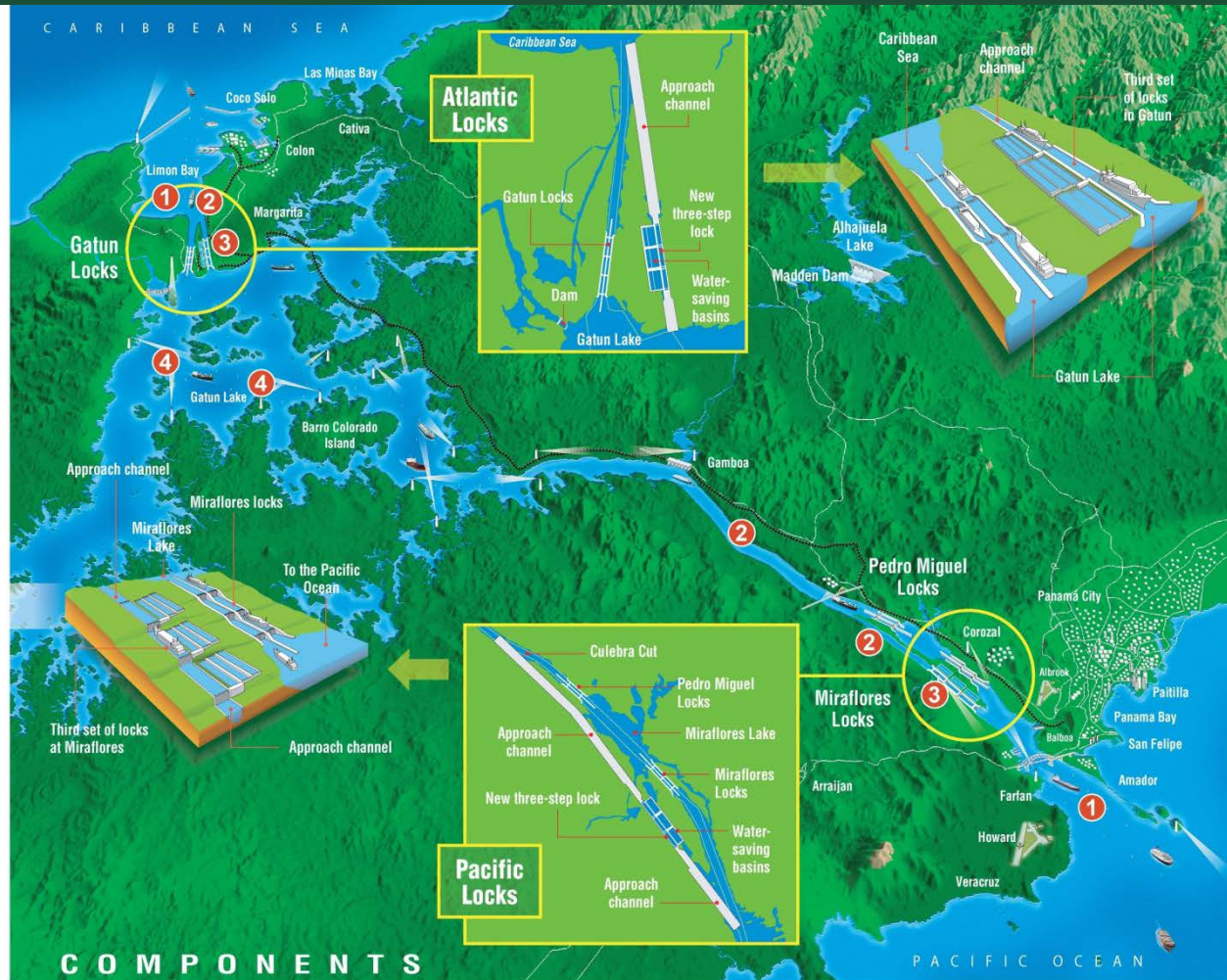
Dry bulk, container and tankers account for more than half of the Panama Canal vessel transits

Panama Canal Traffic by Vessel Type



Source: ACP (Panama Canal Authority); Norbridge research and analysis

Canal Expansion Project



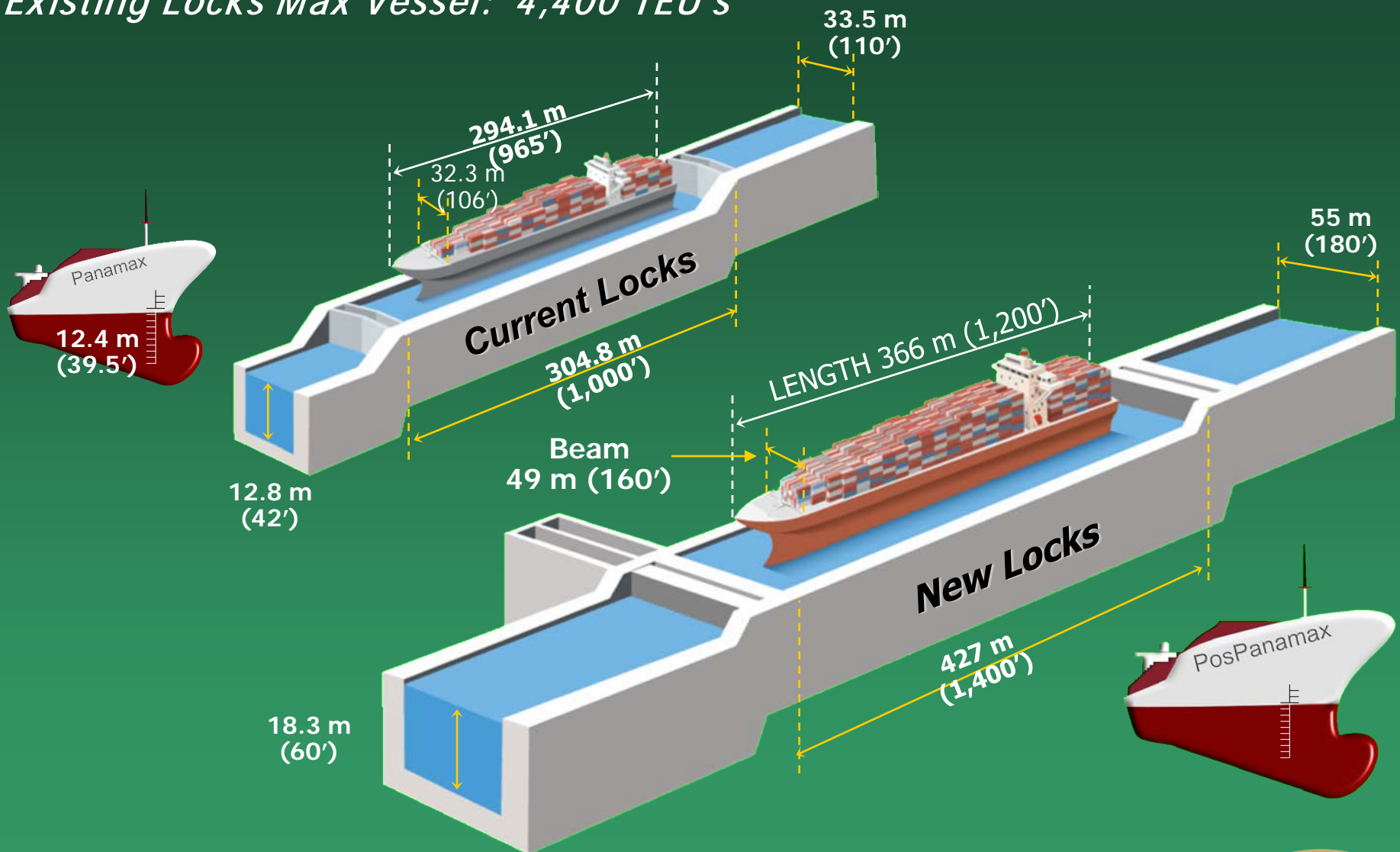
1 Deepening of the Pacific and Atlantic Entrances

2 Deepening and widening of the navigational channels of Gatun Lake and deepening of Culebra cut

3 Construction of the new locks and water-saving basins in the Atlantic and Pacific

4 Raising Gatun Lake to its maximum operational level

Existing Locks Max Vessel: 4,400 TEU's



New Locks Max Vessel: 12,600 TEU's



The Expanded Panama Canal will be able to handle vessels 2 to 3 times larger than present

	Current Panama Canal	Expanded Panama Canal
Maximum Ship Draft	39.5'	50+'
Maximum Ship Length	965'	1200'
Estimated Maximum TEU Capacity	5,000 TEUs	12,600 TEUs
Estimated Maximum Bulk Carrier DWT*	52,000	119,000
Estimated Maximum Tanker DWT*	54,000	117,000
Capacity (Estimated Annual Transits)	13,500-14,000	16,000
Lock Width	110'	180'
Lock Length	1,050'	1,400'

*Note: Based on analysis of current bulker and tanker fleet

Source: ACP (Panama Canal Authority); Norbridge research and analysis

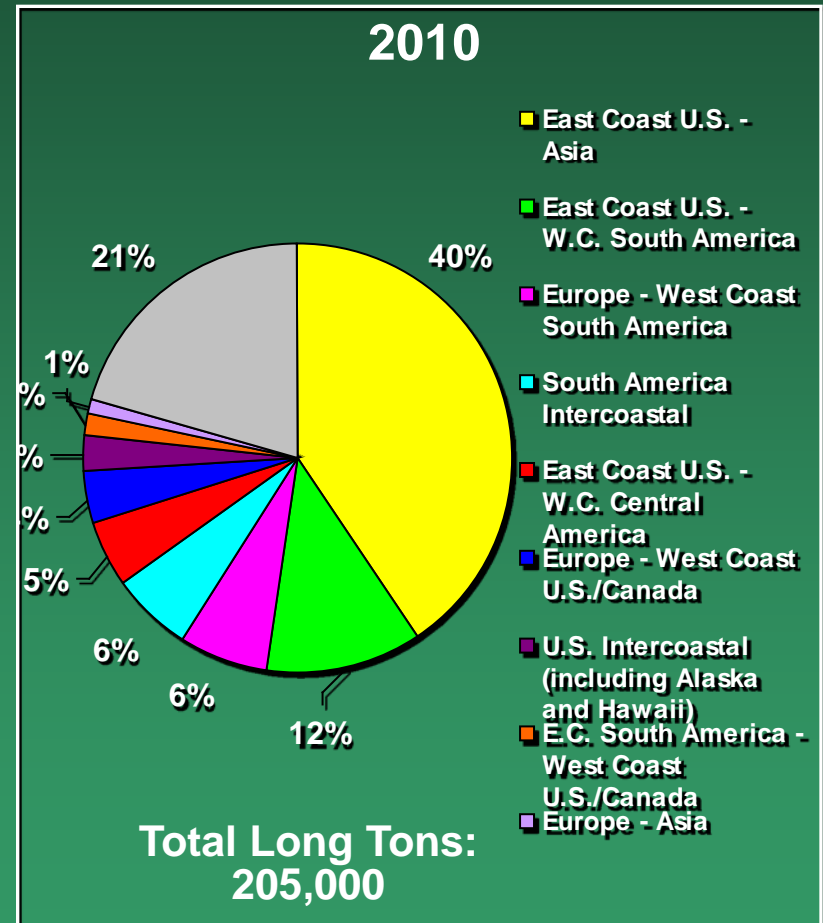
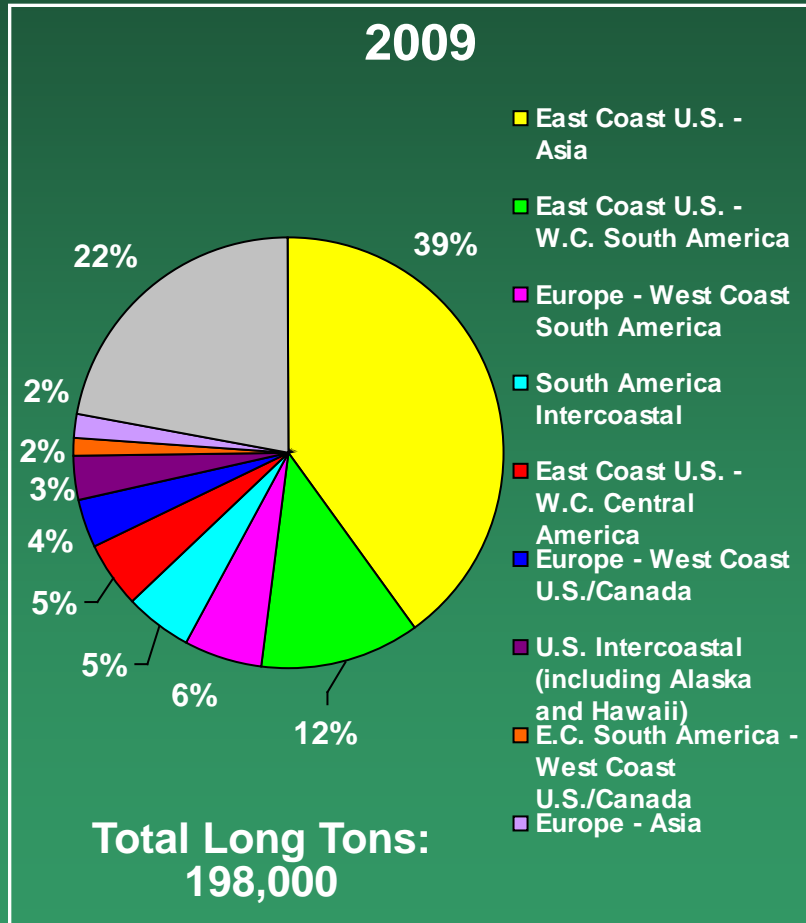


Asia-USEC Container Trades



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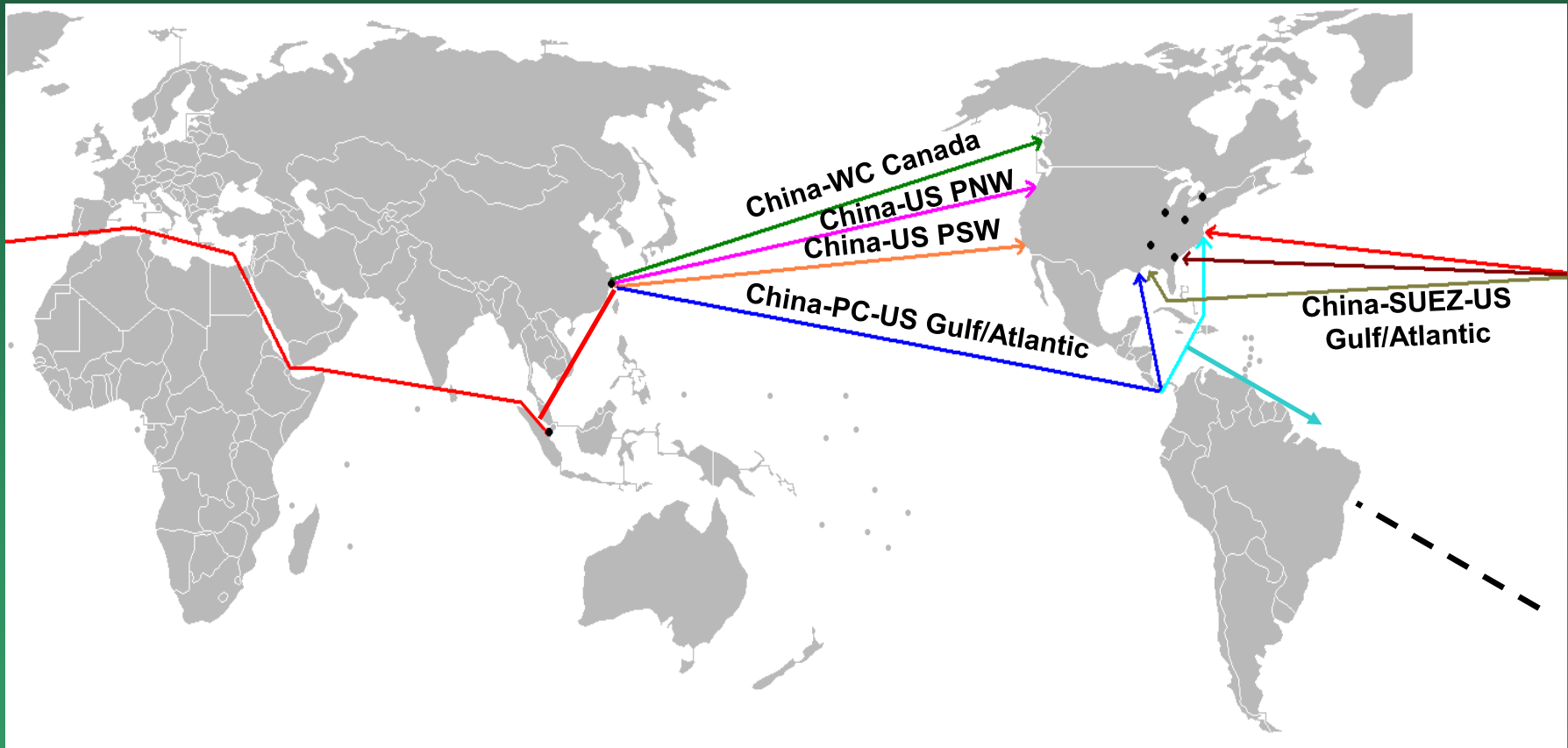
Panama Canal Traffic by Trade Lane



Source: ACP (Panama Canal Authority); Norbridge research and analysis

There are multiple options for Asia (China)- North American container trades

Asia-Americas Routing Options



Popular Perceptions & Market Realities

Popular Perceptions

- West Coast ports are out of capacity
- Western railroads have priced themselves out the market
- East Coast ports will need 50' of water and 12,000 TEU vessel capability

Market Realities

- West Coast ports continue to expand
- Western railroads continue to invest to enhance their competitiveness
- The USEC trades will likely be unable to support extensive deployment of 12,000 TEU vessels

Popular Perceptions & Market Realities

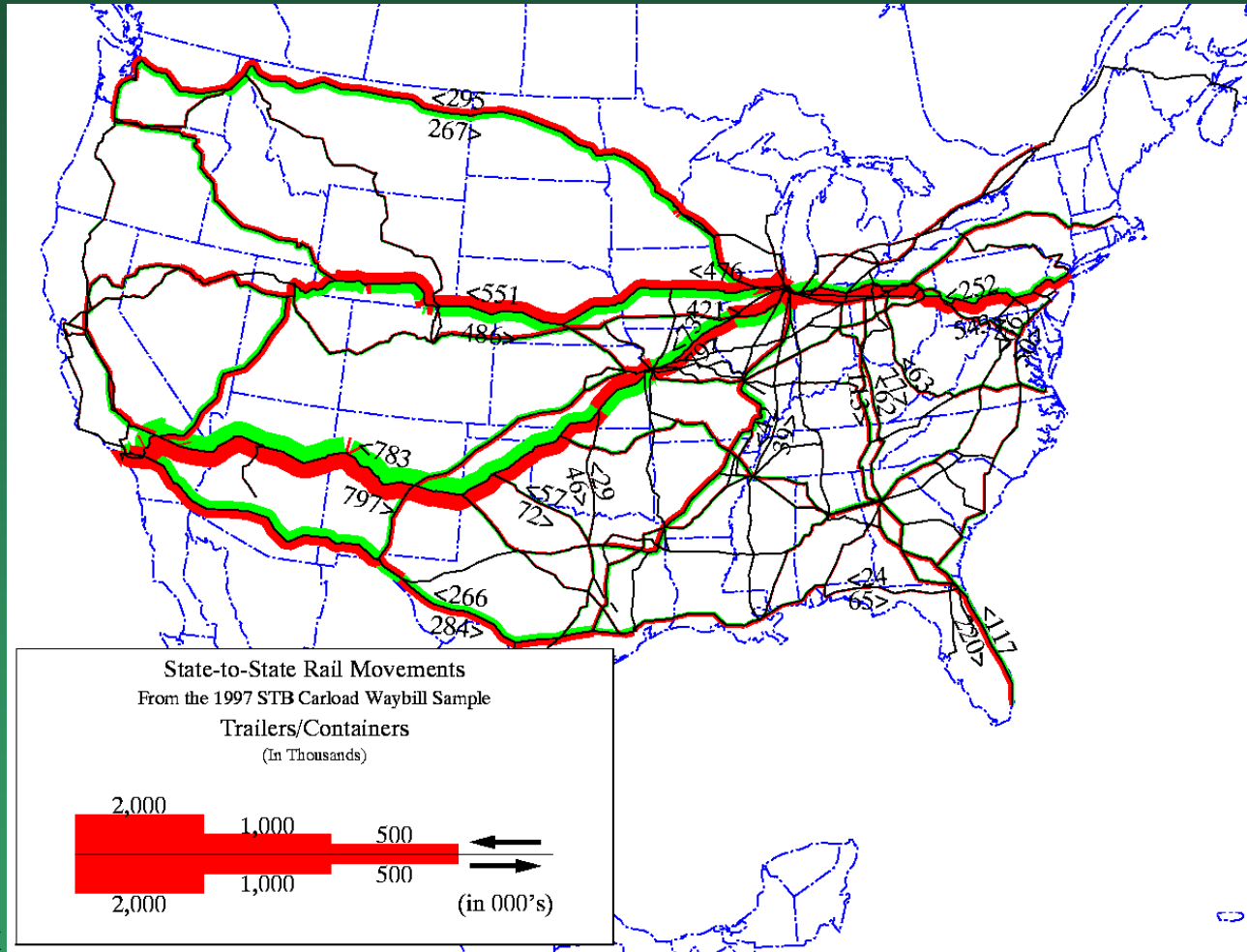
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The western railroads have significant scale advantages



Source: ALK

The western railroads continue to invest to enhance their competitiveness

- The ACP is spending \$5 billion to expand the Panama Canal
- The BNSF and UP invest approximately \$5 billion per year in rehabilitation, modernization and expansion of network capacity (track, bridges, sidings, locomotives, rolling stock, signaling and IT, etc.)

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A Few Market Realities

- The Players
- Services
- Big Ships
- Port Capacity

Some Market Realities



Chinese Factory



Local Truck - Guangdong



Freight Forwarder CFS



Container Terminal - Yantian, China



Local Dray to DC



Rail Ramp - Chicago



Intermodal Train LA-Chicago



Rail Ramp - Long Beach



Container Terminal - Long Beach



Distribution Center



Truck to store

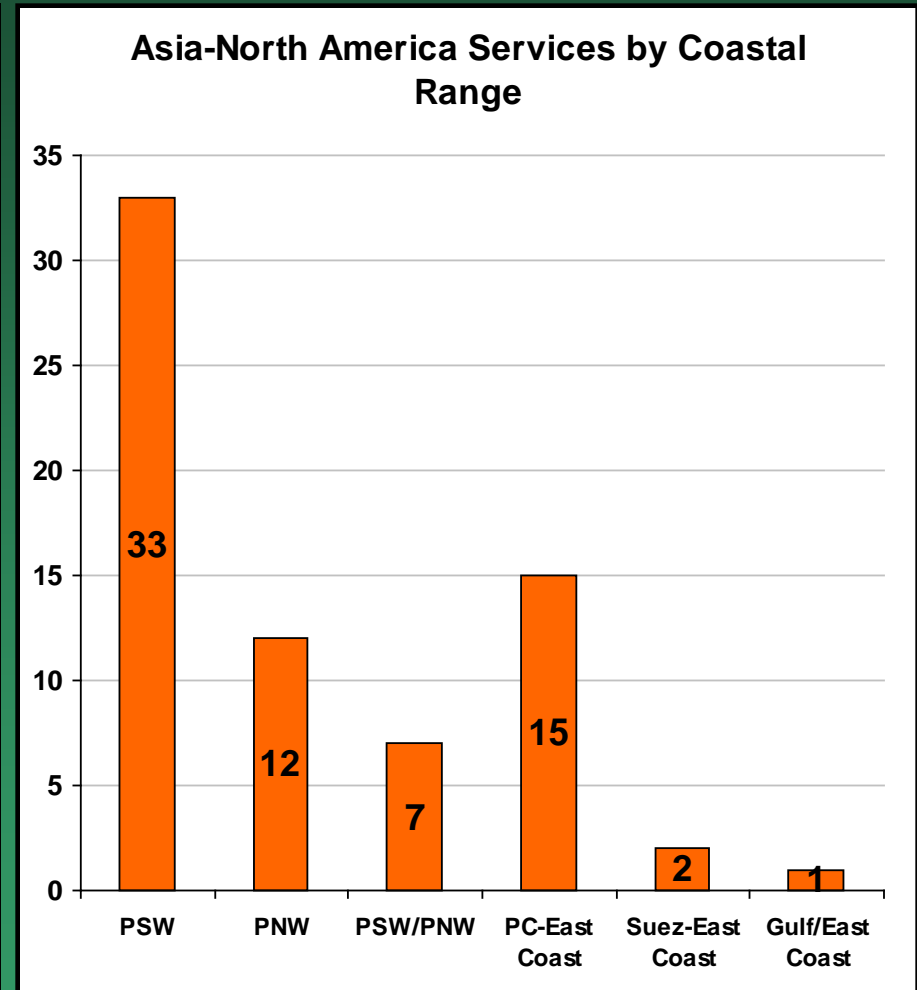
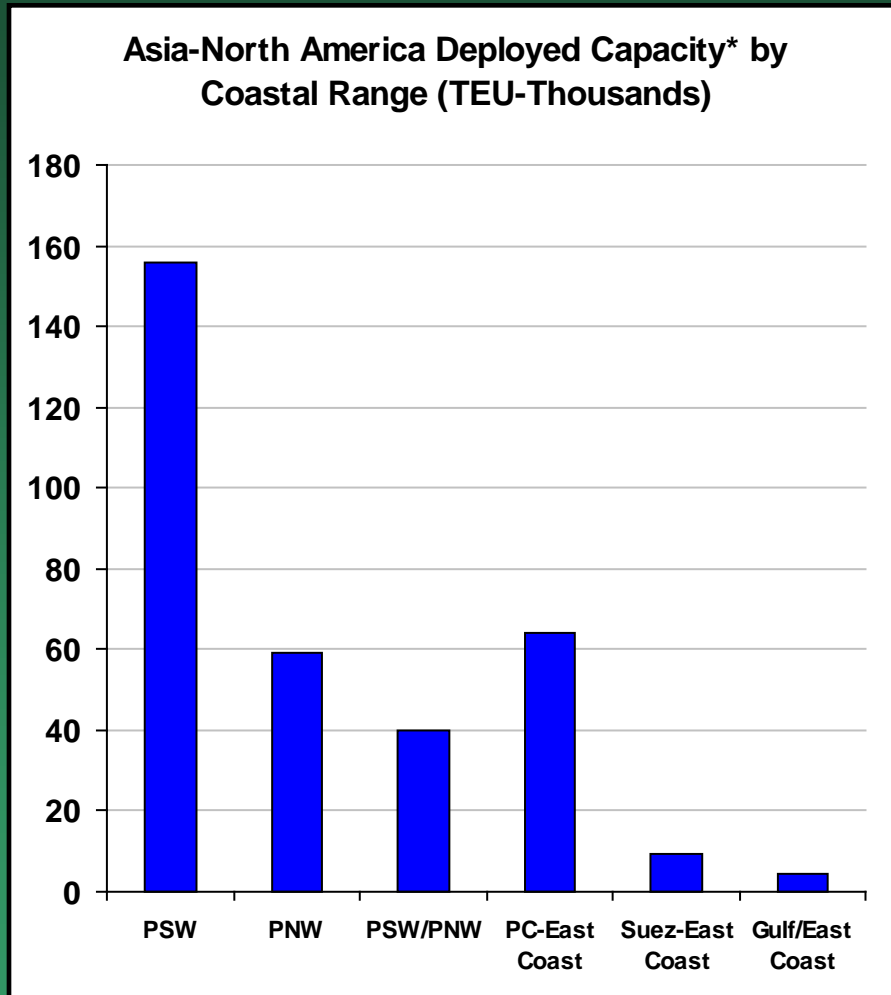


Store Shelf

There are a lot of players and options

- 100-150 significant BCOs
- 50-100 third party vendors
- 15 global shipping lines offering over 70 services per week
- Three basic routing options
- 10 major North American gateway ports
- Six railroads

Asia-West Coast services represented approximately 75% of Asia-North America services and capacity in 2007.

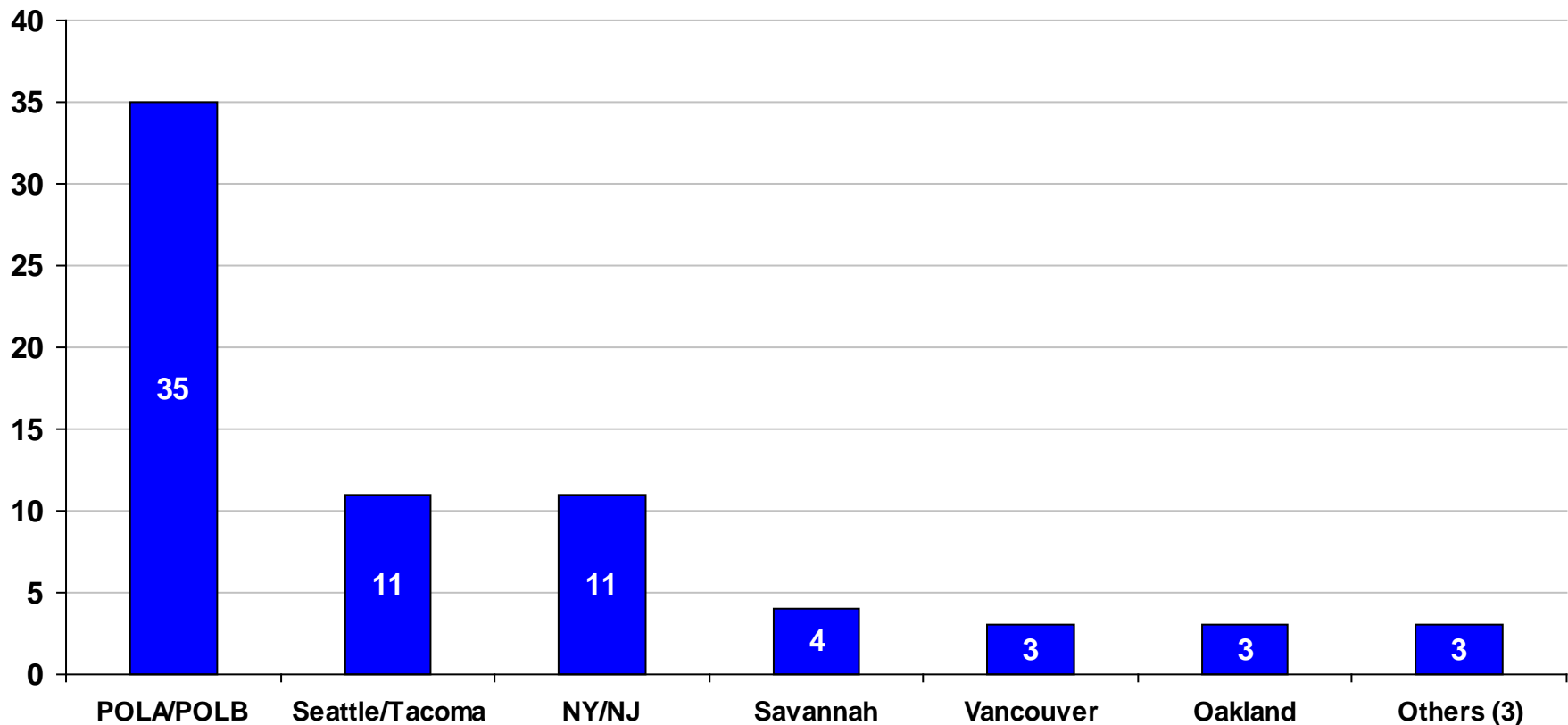


Source: Compair Q3 2007

*Noted: Deployed capacity equal to sum of one-way capacity on all vessels deployed on the trade (all on weekly services)

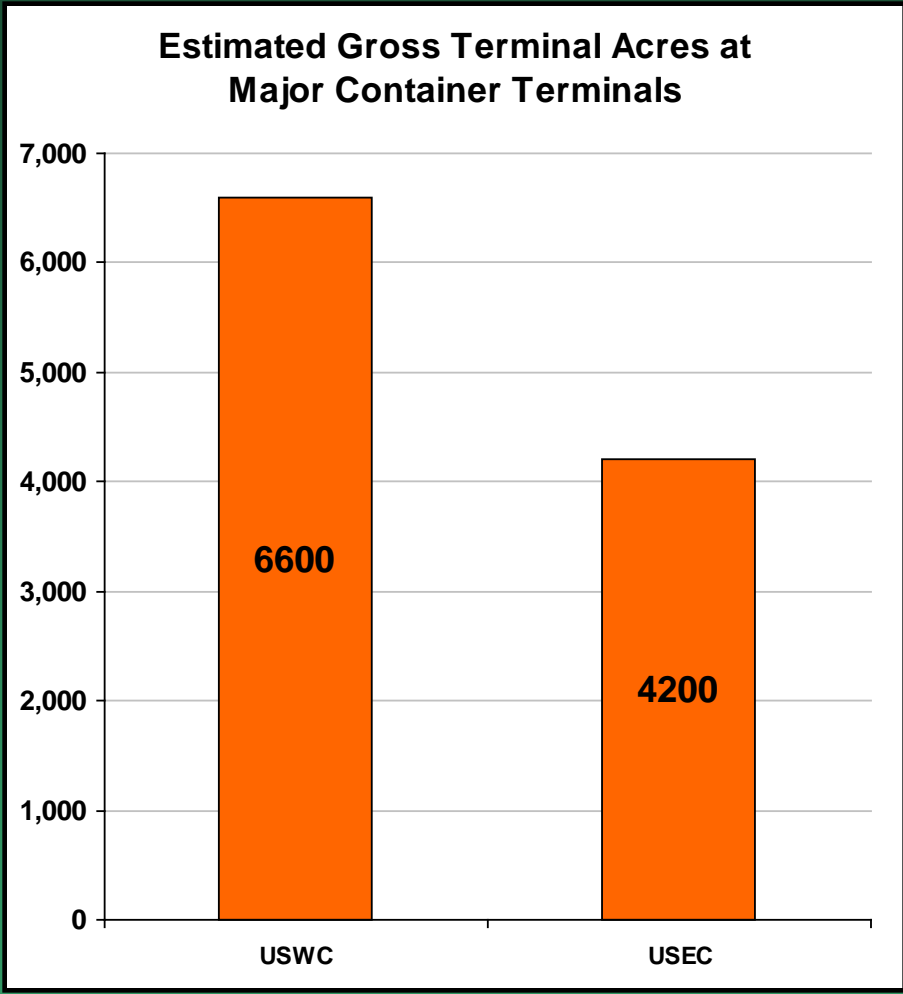
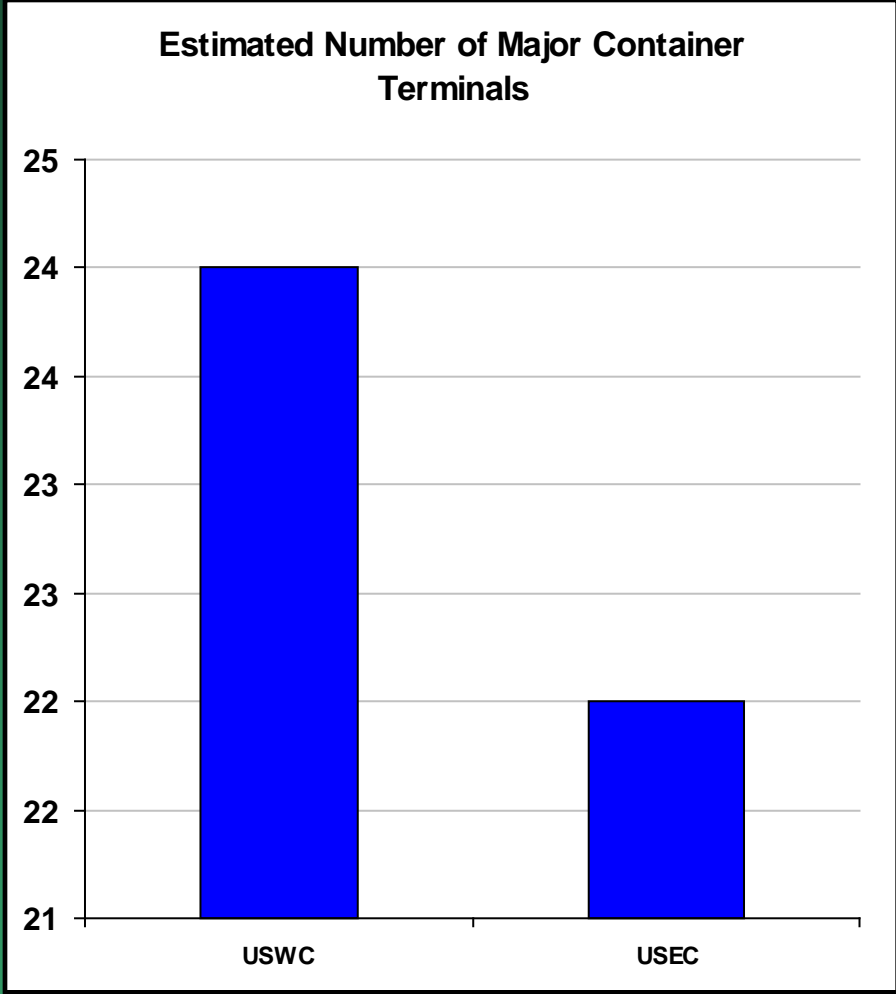
Los Angeles and Long Beach

First Ports of Call on Asia-North America Services
(# of Services)



Source: Compair Q3 2007

Ample port capacity likely exists on both coasts. Potential “latent” capacity is significantly greater



Source: Compair Q3 2007
*Noted: Deployed capacity equal to sum of one-way capacity on all vessels deployed on the trade (all on weekly services)

Significant expansion opportunities also exist

USWC

- Pier 500
- Middle Harbor
- LAXT conversion
- Tacoma: multiple developments
- Terminal 2
- Prince Rupert Phase II

USEC

- Bayonne & Global
- Craney Island
- Navy Base
- Jasper County
- Hanjin Jacksonville

Potential USEC container opportunities

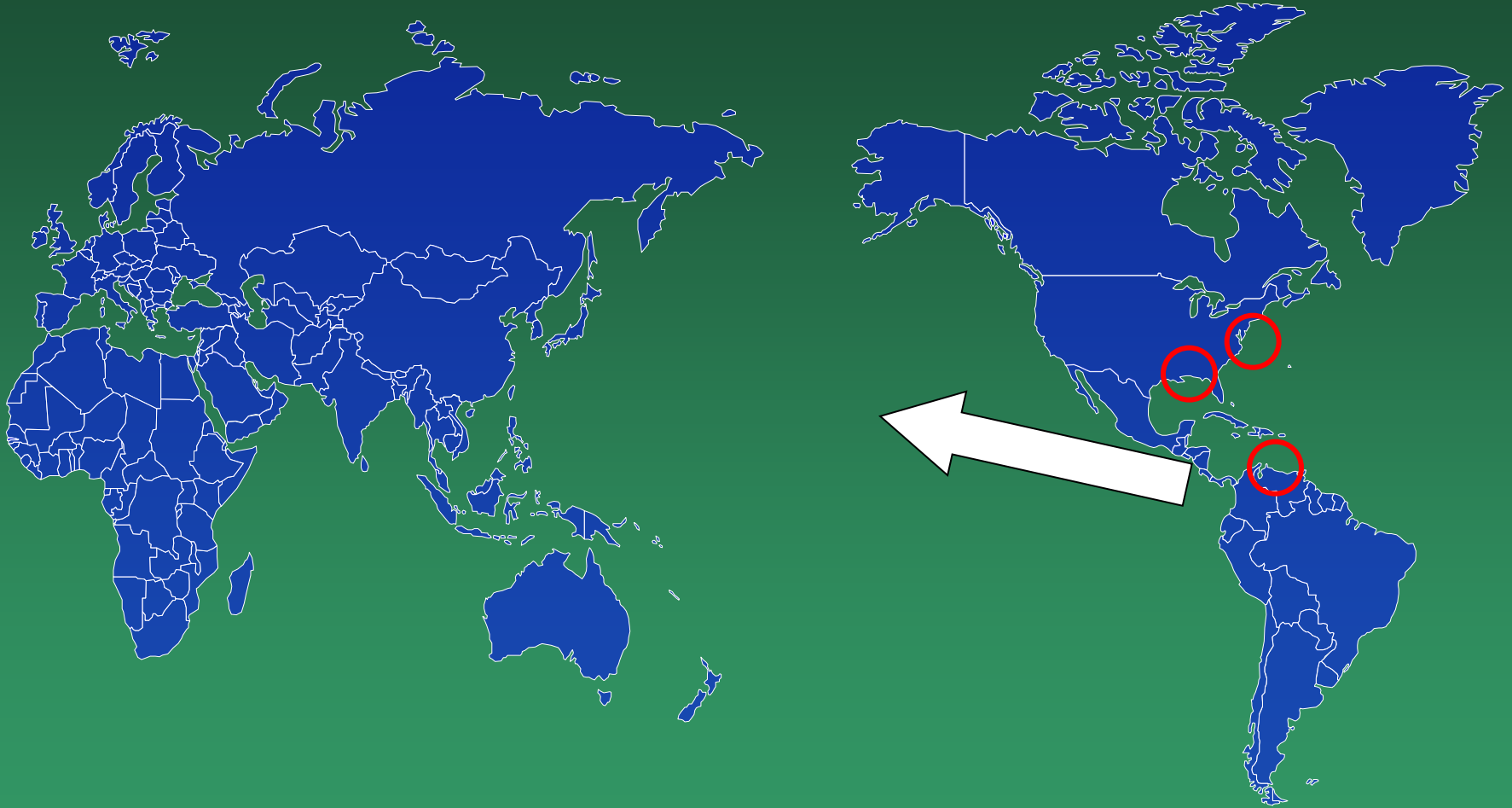
The “Likely”

- Mid-Atlantic
- Southeast

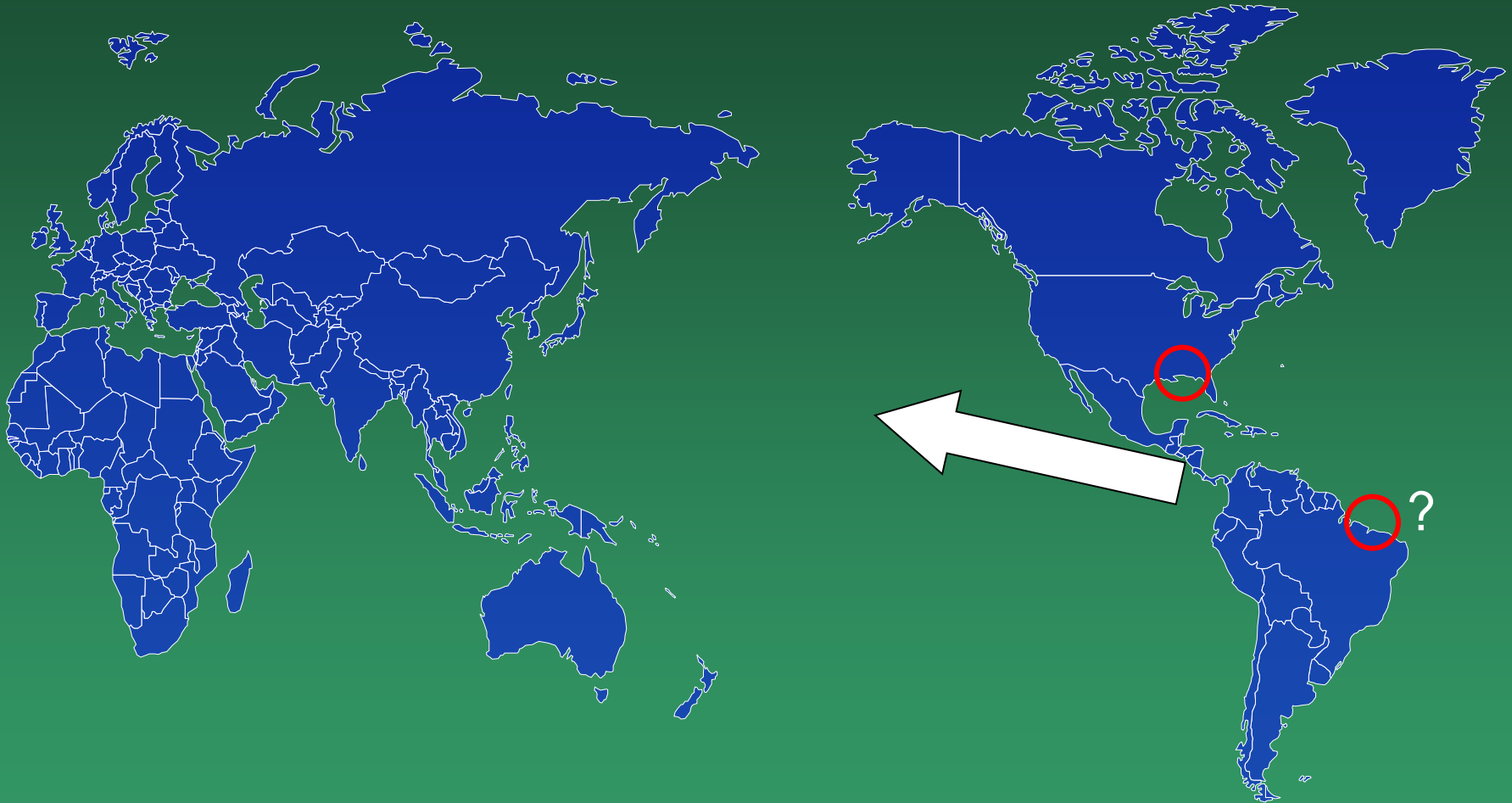
The “Contested”

- Ohio Valley
- Atlanta
- Texas
- Memphis Gateway
- Chicago Gateway

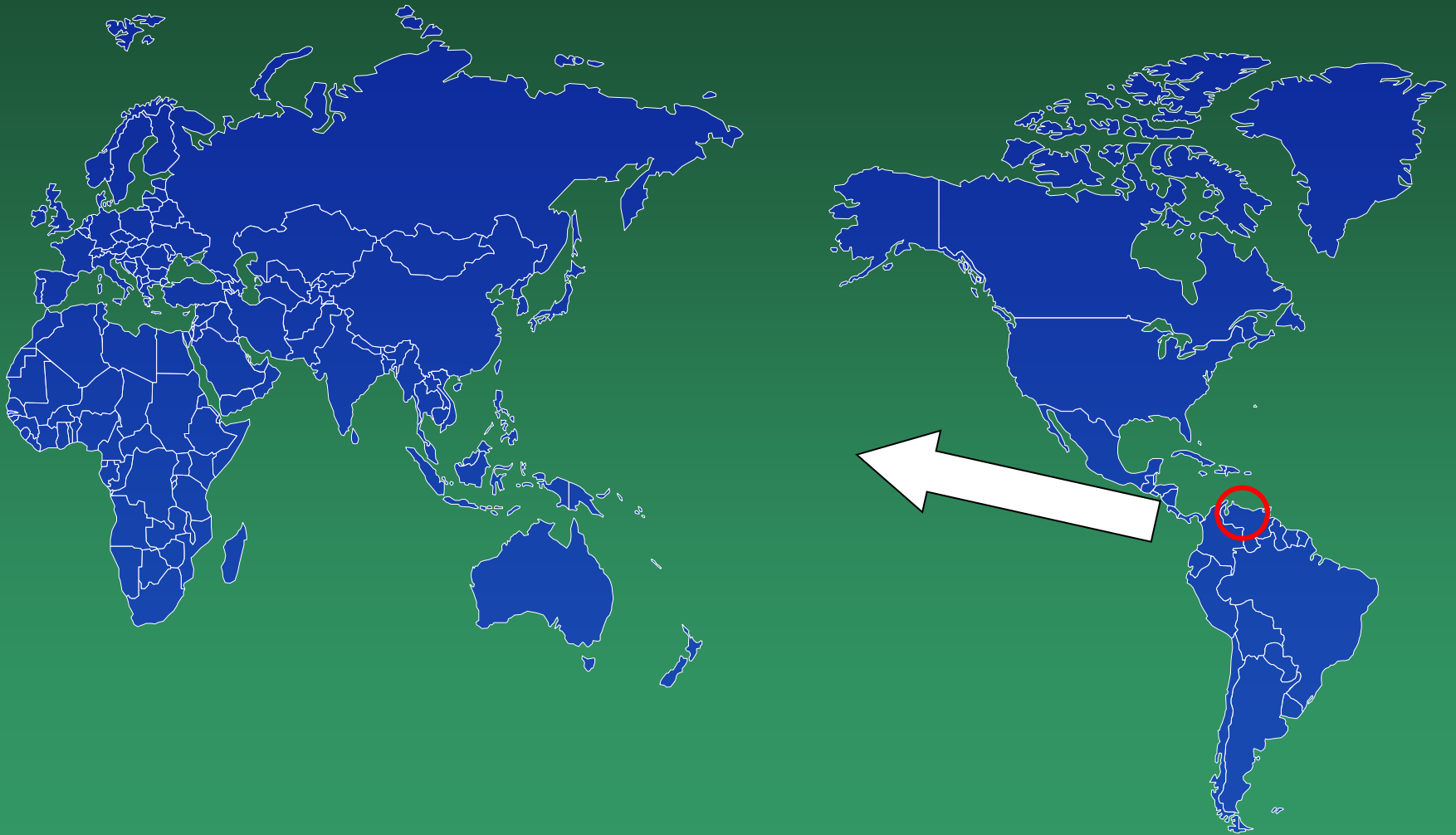
Steam & Met Coal to Asia



Grain to Asia



Venezuelan Crude to Asia



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