

Freight Transportation & the Panama Canal



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What Questions Should be Asked about the Canal...

- Is it needed?



- Does it fundamentally change North American flows?
- Can (will) I get a piece of the pie?

History of Panama Canal Expansion

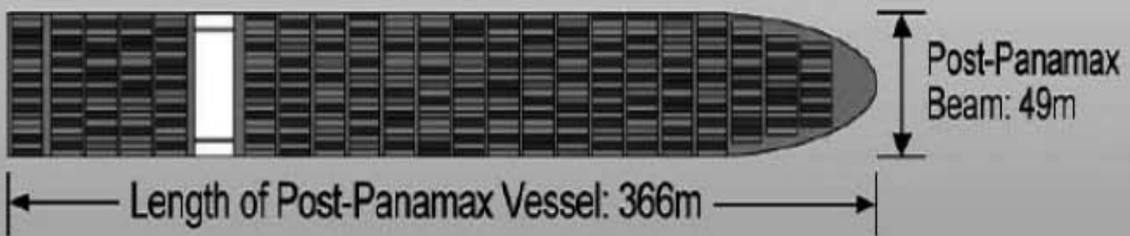
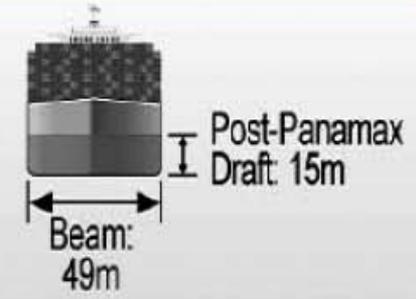
- **1914** - Opened
- **1930's** - First consideration for expanding third locks considered
- **1977** - Signing of the Panama Canal Treaty (Torrijos-Carter Treaty)
- **1999** - All canal properties transferred to the Republic of Panama.
- **2006** - Panamanian Voters approved Referendum authorizing expansion of Canal
- **2014** - Target Date for 3rd Locks

Why Expand the Canal?

- Enjoyed strong growth before “great recession”
- Critical, but obsolete, bottleneck
- West coast uncertainties
- Vessel economics



Comparison between Panamax and Post-Panamax Container Vessels

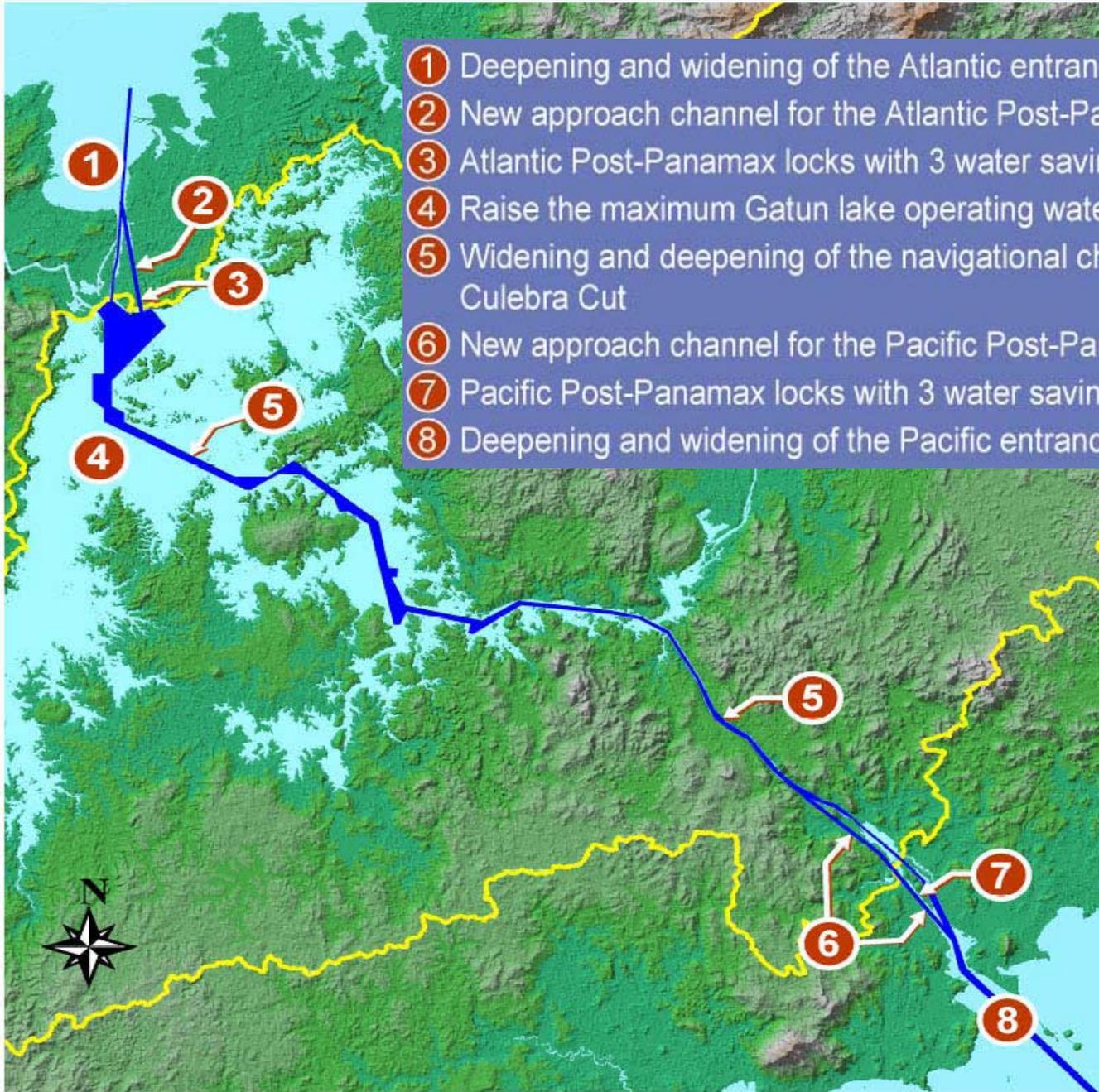


	Panamax	Post-Panamax
Capacity:		
Containers(TEUs)	4,500	12,000
Dimensions:		
Beam	32m (106')	49m (160')
Length	294m (965')	366m (1,200')
Draft	12m (39.5')	15m (50')

How Big is Big?



Components of Third Set of Locks Project



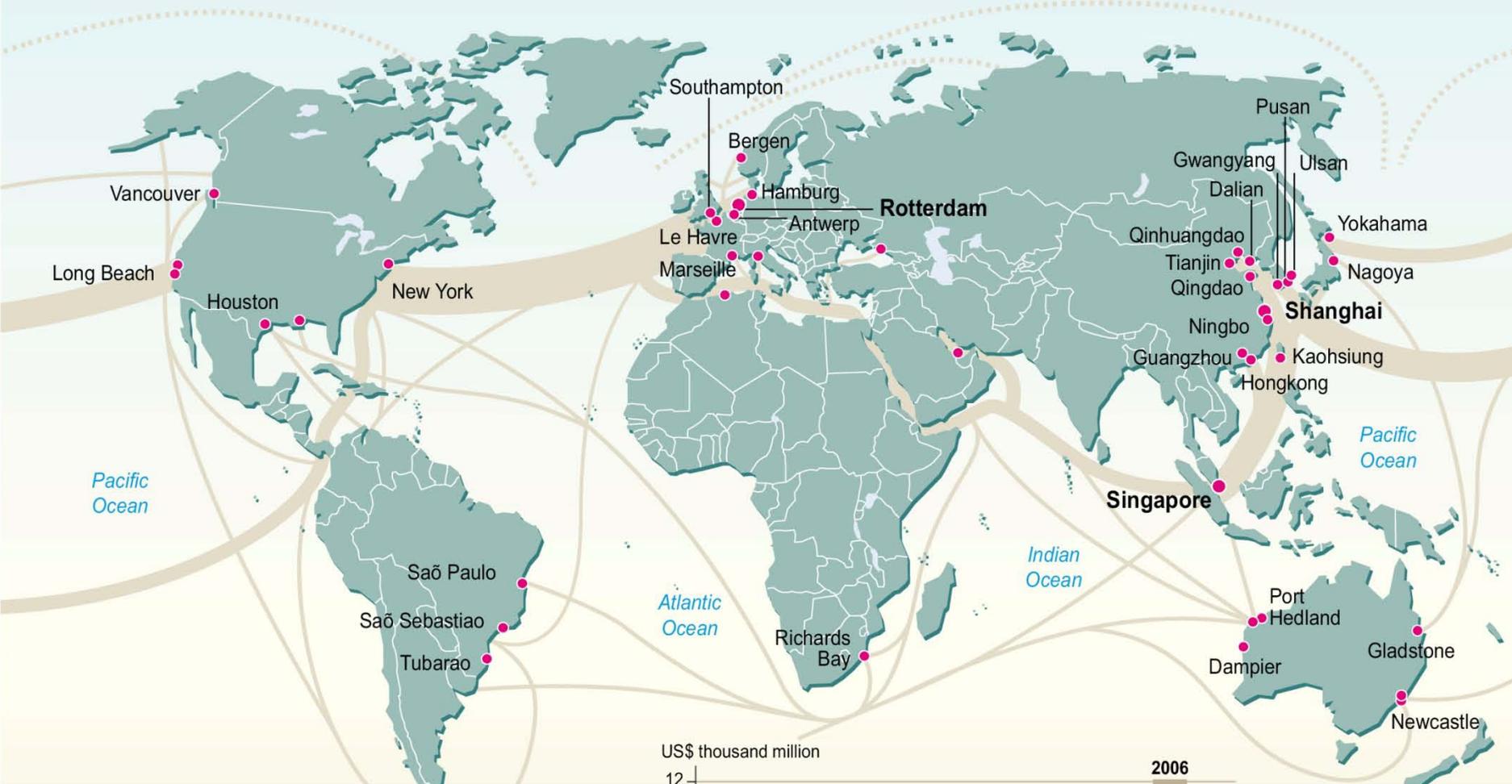
- 1 Deepening and widening of the Atlantic entrance channel
- 2 New approach channel for the Atlantic Post-Panamax locks
- 3 Atlantic Post-Panamax locks with 3 water saving basins per lock chamber
- 4 Raise the maximum Gatun lake operating water level
- 5 Widening and deepening of the navigational channel of the Gatun lake and the Culebra Cut
- 6 New approach channel for the Pacific Post-Panamax locks
- 7 Pacific Post-Panamax locks with 3 water saving basins per lock chamber
- 8 Deepening and widening of the Pacific entrance channel

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The boom in shipping trade

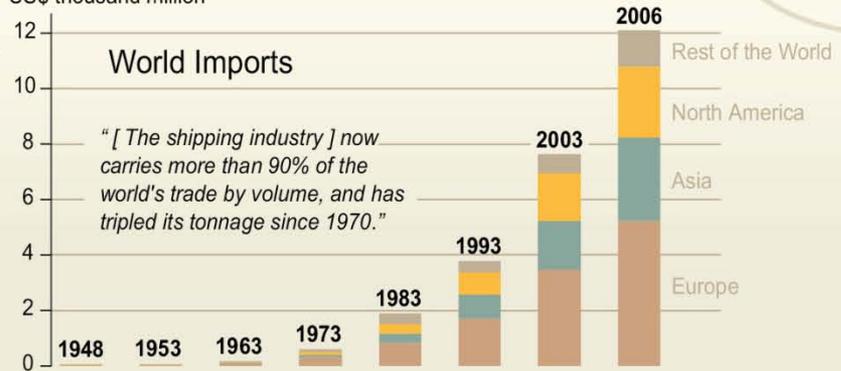


- Major merchandise port
- Major shipping routes
- ⋯ Projected shipping routes

US\$ thousand million

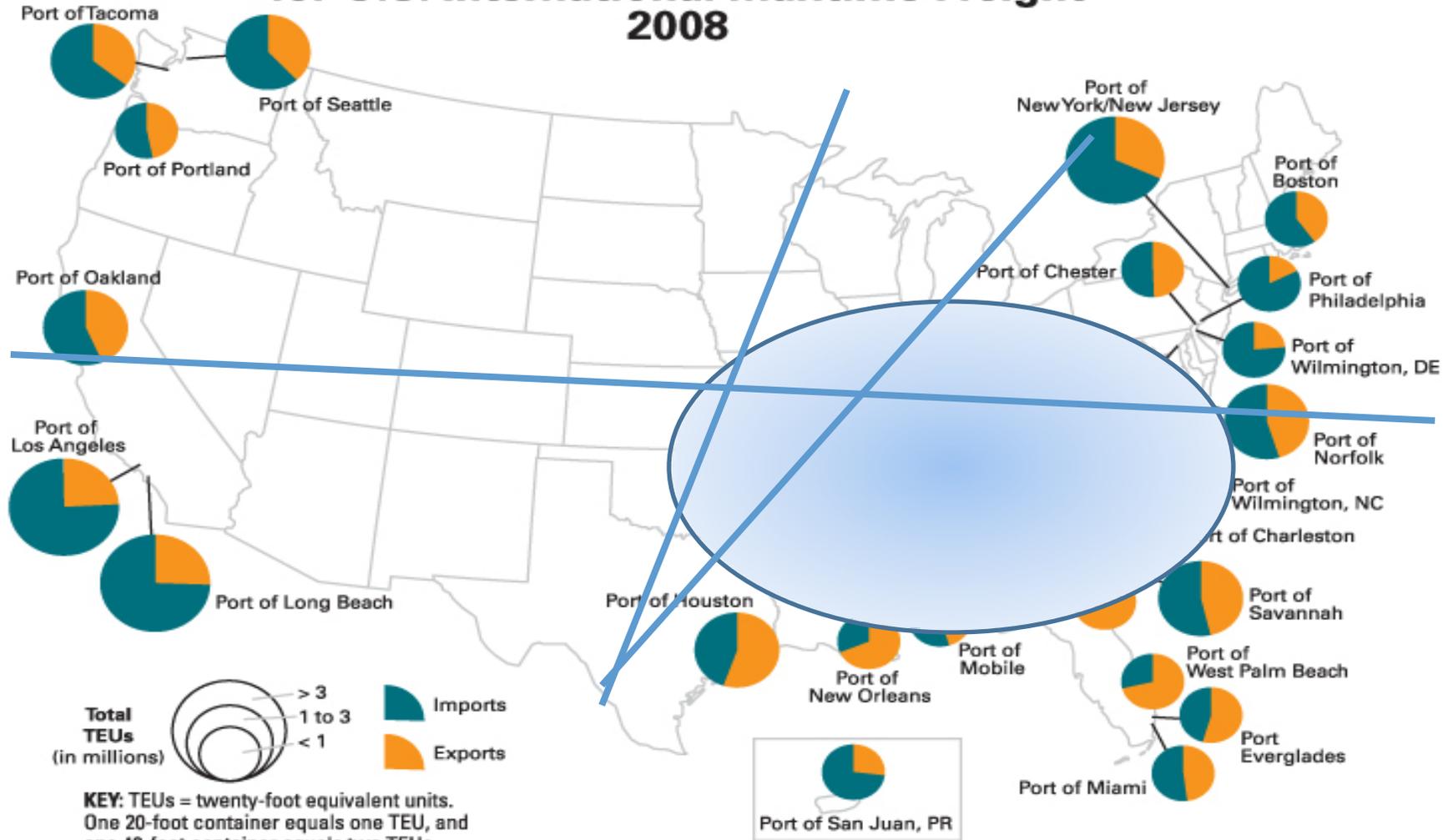
World Imports

" [The shipping industry] now carries more than 90% of the world's trade by volume, and has tripled its tonnage since 1970."



Sources: John Vidal, "Shipping boom fuels rising tide of global CO₂ emissions", The Guardian, February 13 2008; Atlas du Monde Diplomatique 2006, Armand Colin; Panorama des ports de commerce mondiaux 2003, ISEMAR, January 2005; Images économiques du monde 2002, Sedes.

Top 25 Container Ports for U.S. International Maritime Freight 2008



NOTE: The data in this figure include only loaded containers in U.S. international maritime activity and cover U.S. imports, exports, and transshipments. Therefore, the trade levels will be greater than those reported from U.S. international trade statistics, which exclude transshipments. The data also exclude military shipments.

SOURCE: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from U.S. Department of Transportation, Maritime Administration, which are drawn from The Journal of Commerce, Port Import Export Reporting Service (PIERS), available at www.marad.dot.gov, as of March 30, 2009.

The Canal "Question" Today

The Known

- The Canal is expanding
- Trade already shifted from West Coast
- Total Trade will recover in next few years
- Inbound logistics driving system

The Unknown

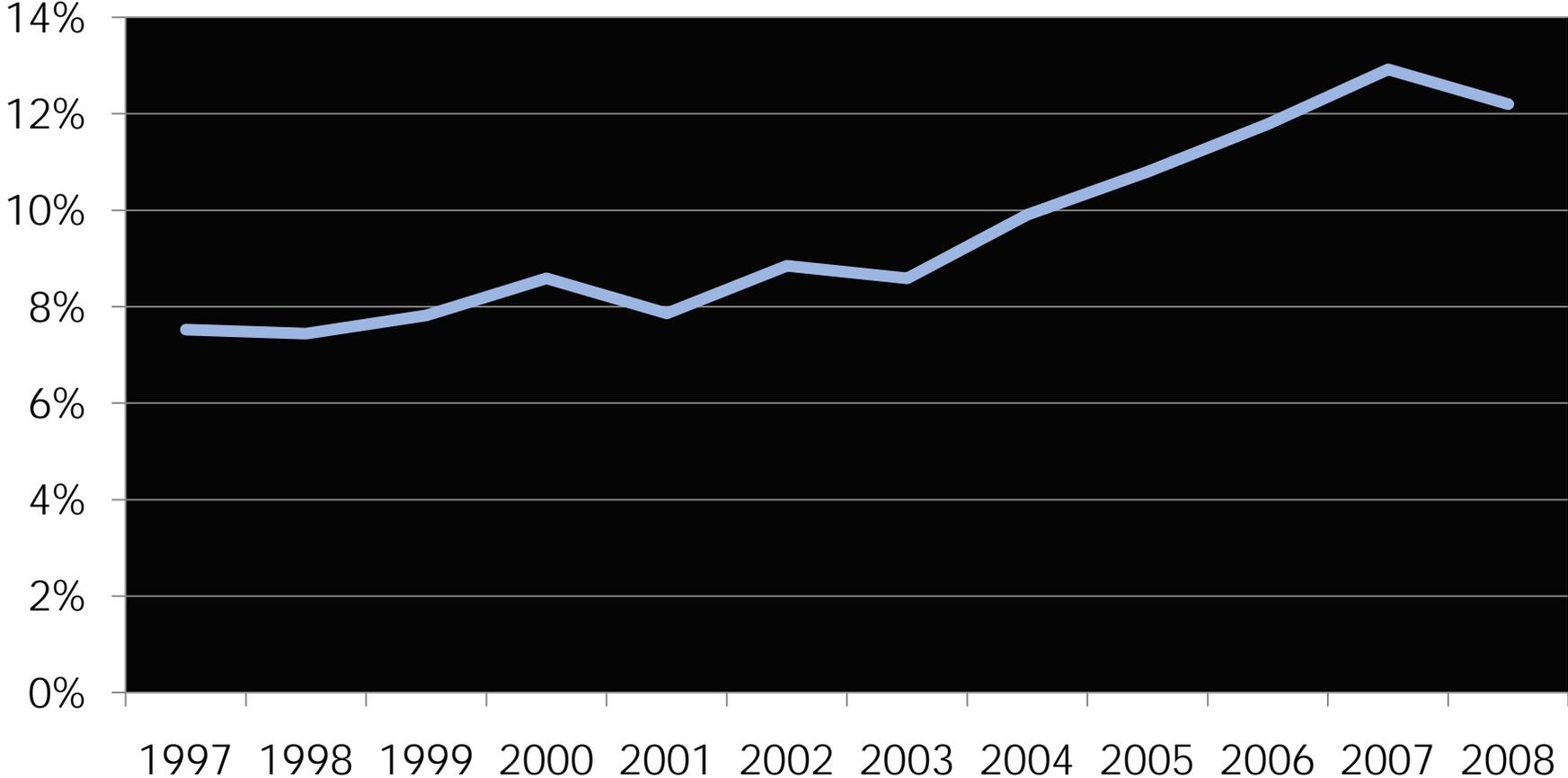
- Will S. Cal ports push trade away?
- Will Eastern U.S. ports receive dredging?
- How much more cargo is divertible?
- How (when) will vessels be deployed?
- Balance between Canal tolls and Railroad costs?
- External Shocks?

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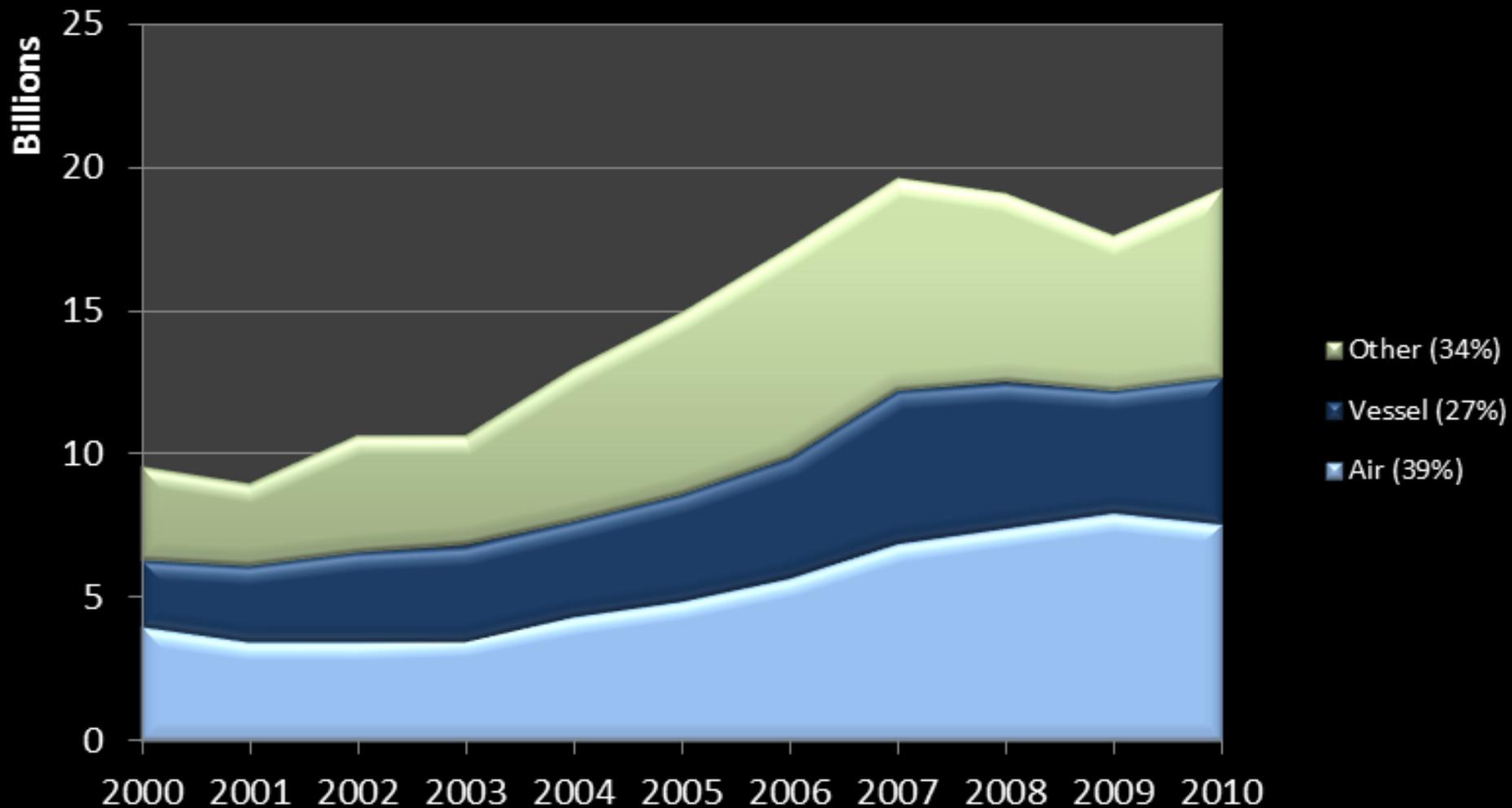
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Exports as Share of Kentucky GDP, 1997-2008



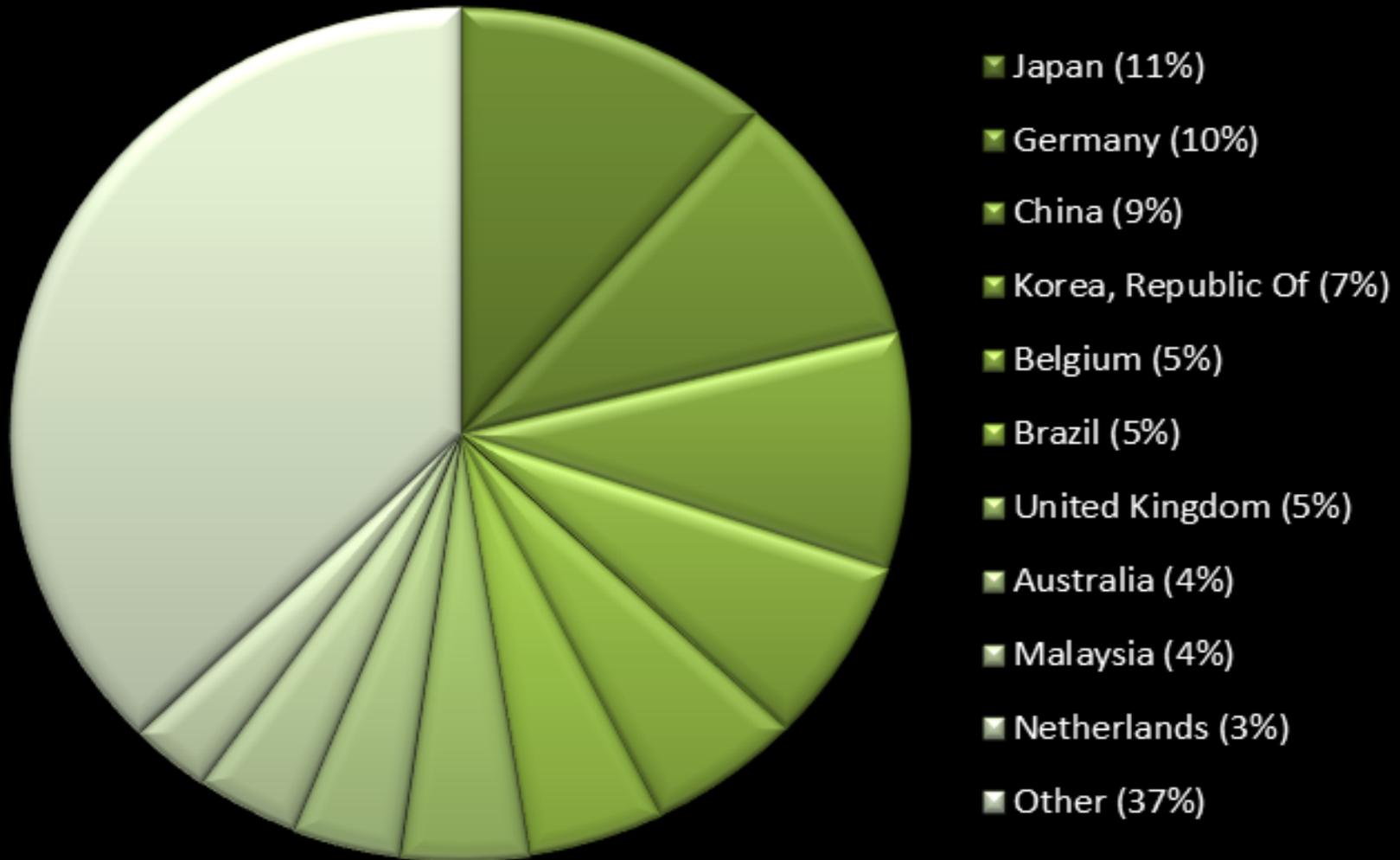
Source: Bureau of Economic Analysis, U.S. Dept. of Commerce & WISERTrade State Exports

Kentucky Shipments by Origin, Trade by Mode, By Value 2000-2010



Kentucky Shipments of Origin, top Destinations 2010

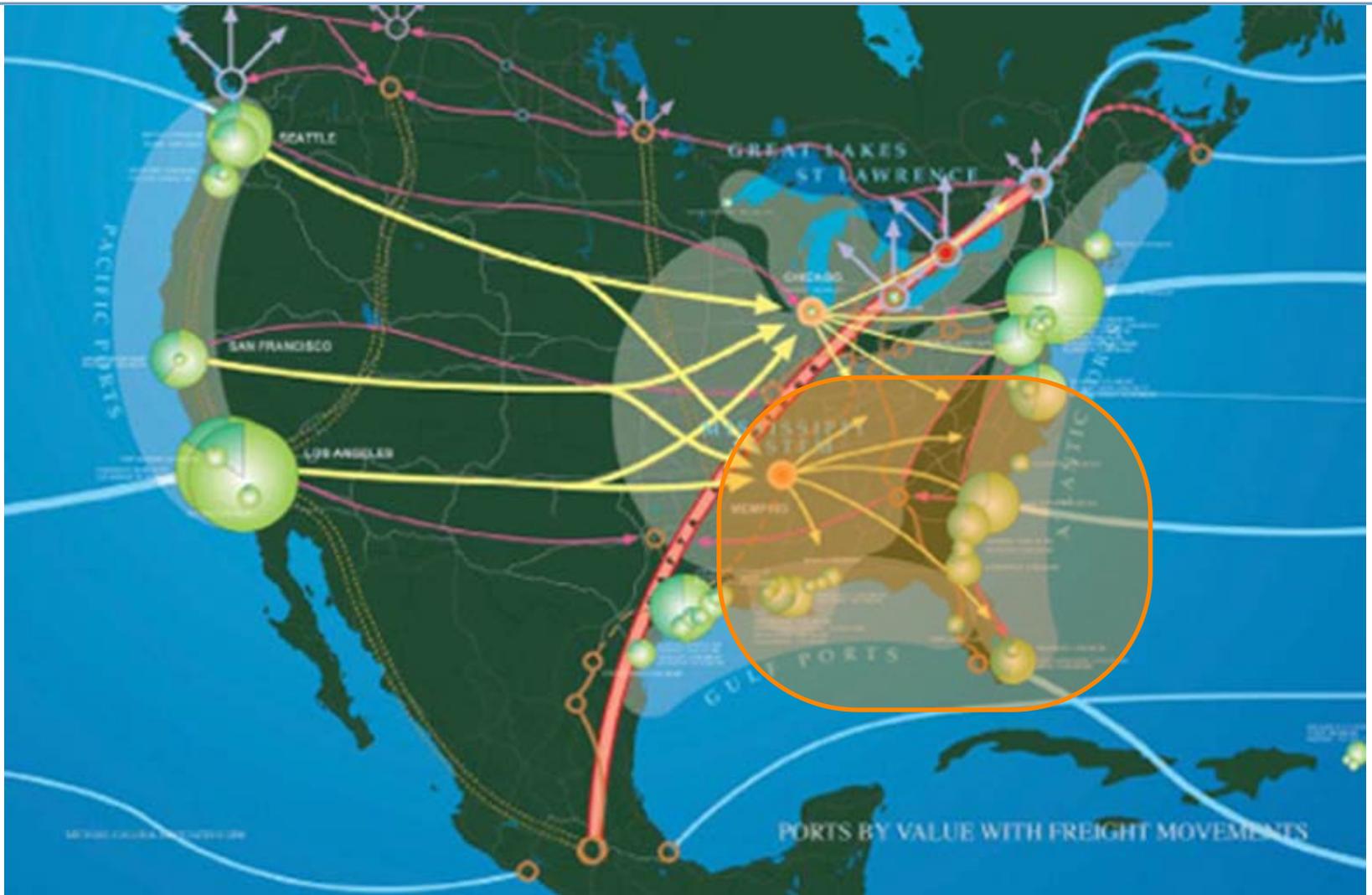
(Vessel Shipments- \$5.2 Billion)



Connecting Regional Export Markets to Panama Canal

- Intermodal Terminals
- Container Interoperability
- Who is the Champion?
- Who bears the cost?
- Can you develop densities?

AASHTO - Transportation Invests In Our Future





Freight Access and Mobility
Represent Transformative
Opportunities

1

2

3

4

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Thank you

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