2012 Commissioners Seminar

Port Governing Board Members & Port Commissioners

Montréal Marriott Château Champlain, Québec *June 26, 2012*

Planning Your Port's Role in an Uncertain Future

Presented By

M. John Vickerman

VICKERMAN & ASSOCIATES, LLC

Williamsburg, Virginia

International Port External Industry Pressures Driving Today's Logistics

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More than 98% of everything we consume, wear, eat, drive and construct is brought to us via ships through the North American port system.

Relationship Between US Trade and US Prosperity – 1930 to 2005

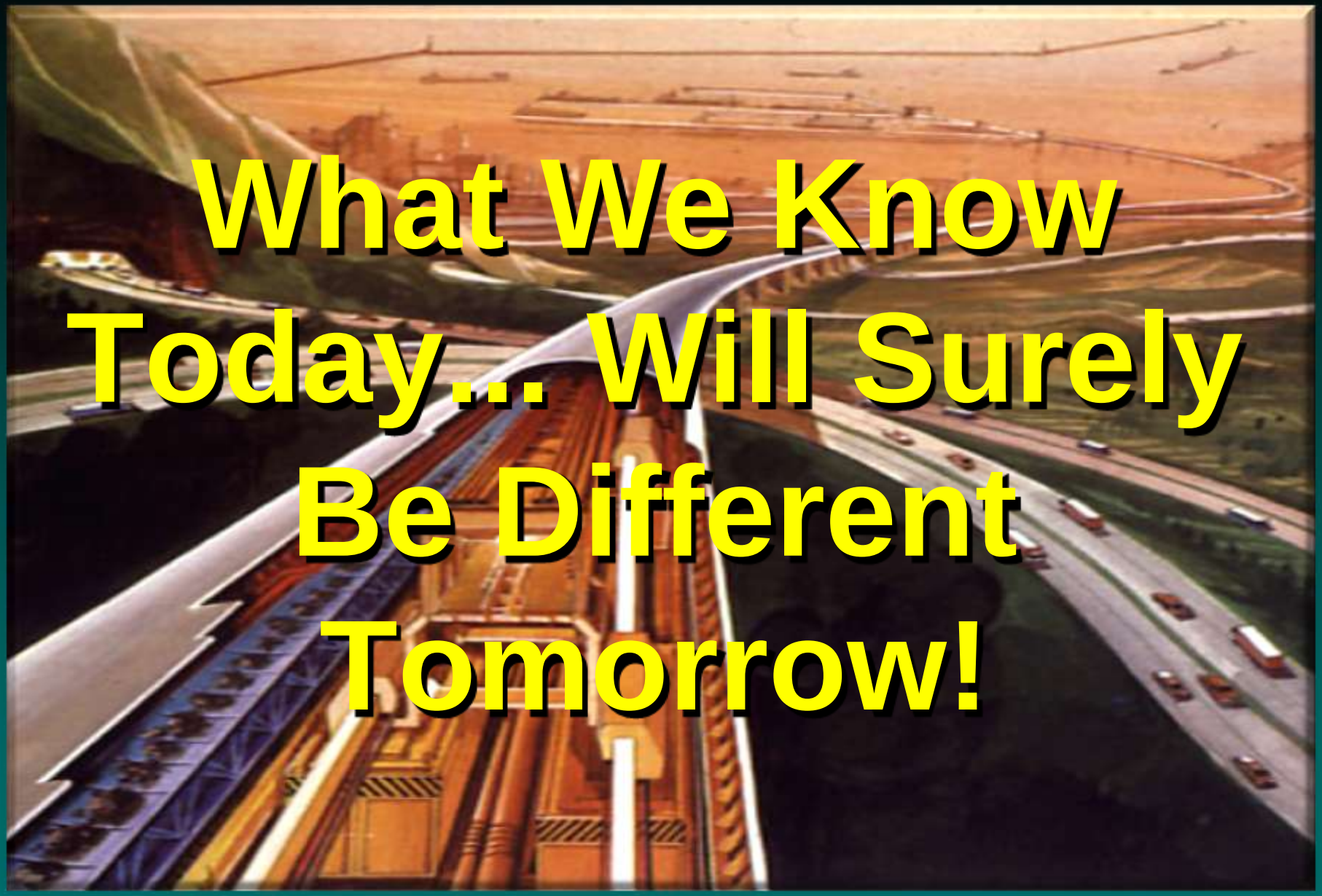
(US Trade & Gross Domestic Product - $ Billions)

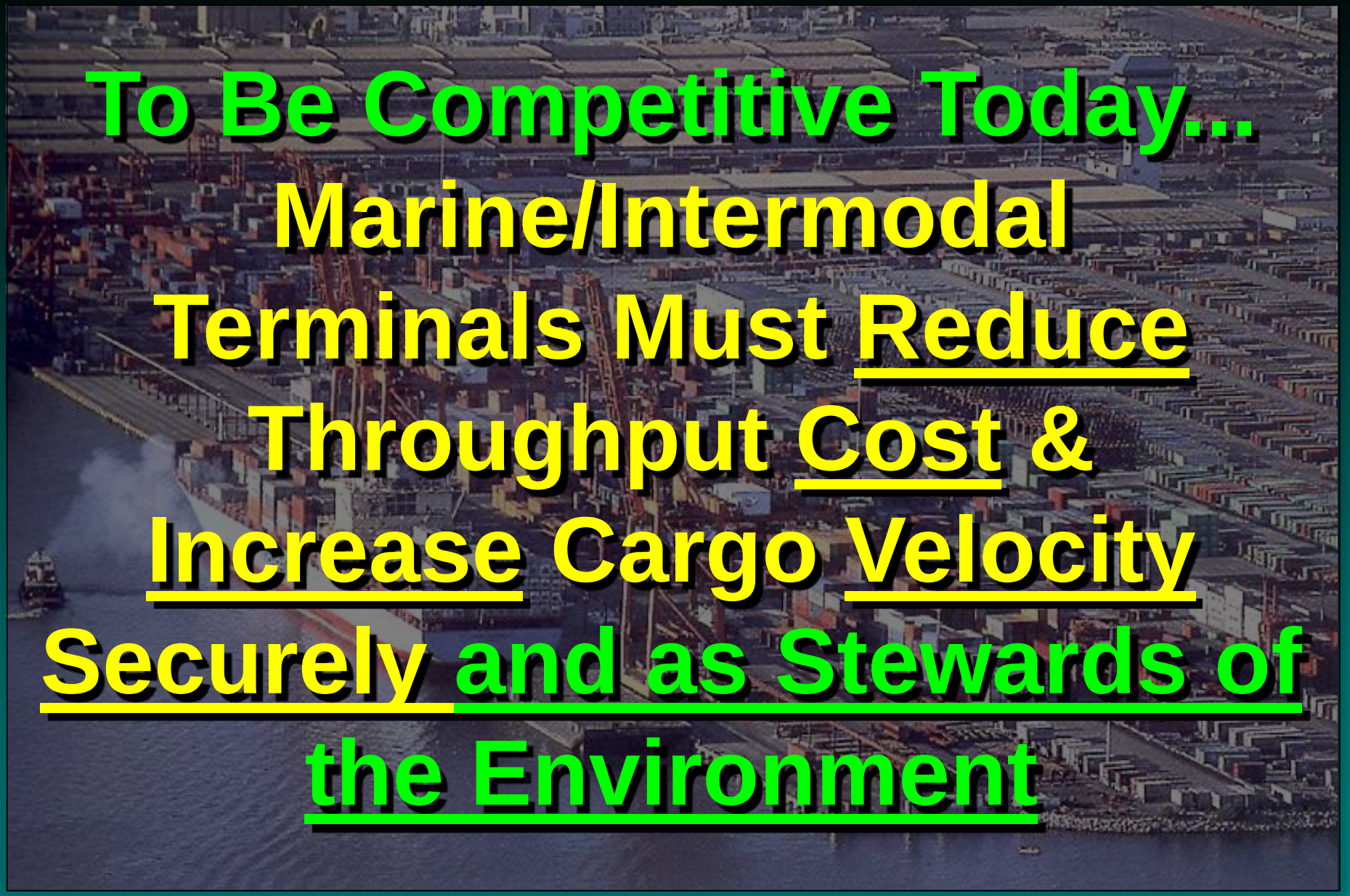
Source: USDOT Based on USDOC Data

Vessel Cargo Handling Circa 1955

Cargo Handling Circa 2010

US Navy Fast Frigate Circa 2045





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Who Owns & Controls Today's Cargo?

- The "***Shipper***" or "***Beneficial Cargo Owner***" *(BCO)*
- **BCO** = **Importer of record**, the entity that physically takes possession of cargo at destination and **does not act as a third party** in the movement of such goods
- The person or company who is usually the **supplier or owner of commodities shipped**.

The Speed of Shipper – BCO Decisions Today:

E-Commerce Tools Speed Trade Decisions Instantly:

- **Freight Planning and Optimization** - Electronic Tender Management Tools: Rapidly gather & analyze multiple freight logistics bids instantly.
- **Data Visibility** - Shipment data is available electronically via the Web or Desktop E-tools, in real-time or close to it.

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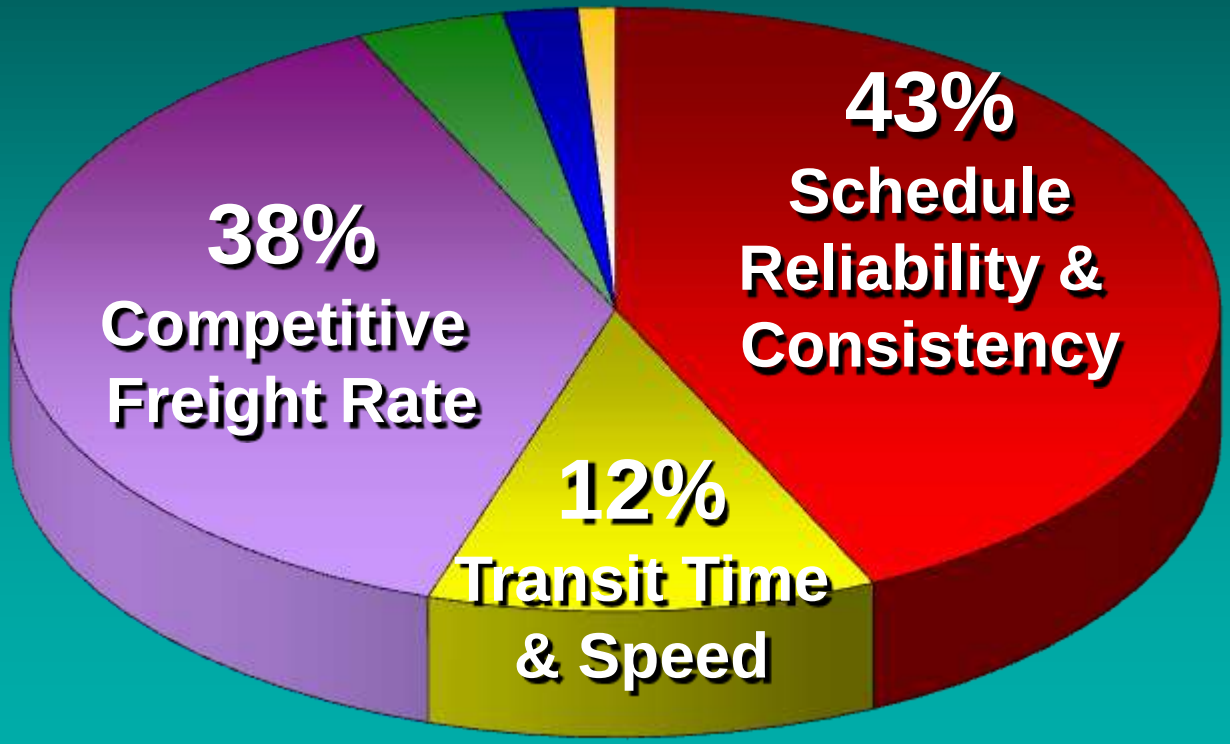
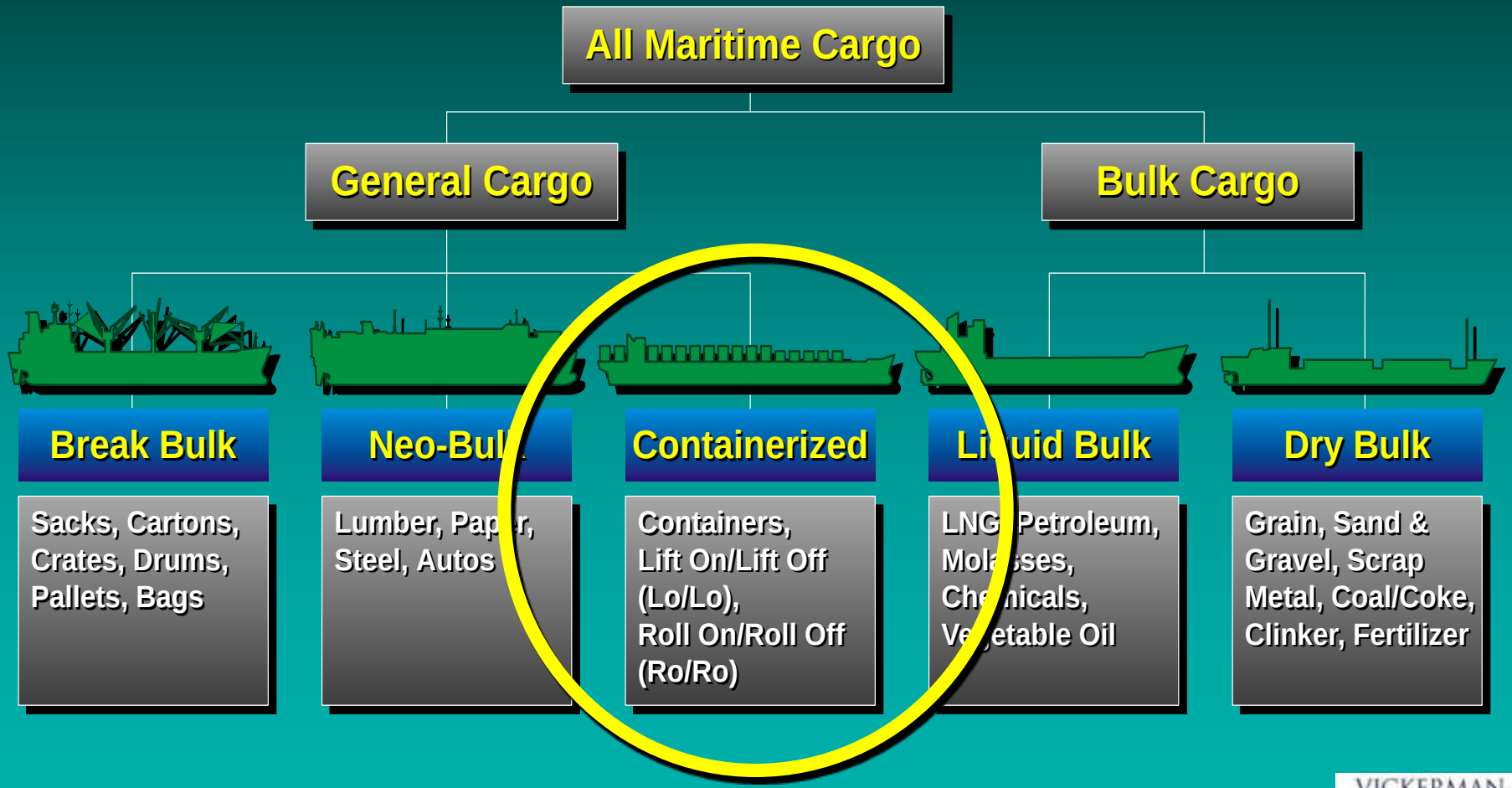
Poll of the Top 1000 "Blue Chip" Multinational Shipper Priorities



Today's Logistics Truth:

"The customer wants more and is willing to pay less for it."

Functional Classification of Global Maritime Cargoes



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What is the Value of a Single Container Load?

(Example 40 ft. Container, FEU)

					Example Value $
	=	1,890 Cases	@	$25.50/Case	=	$48,195
	=	432,000 Packs	@	$4.00/Pack	=	$1,728,000
	=	10,000 Pairs	@	$30/pair	=	$300,000
	=	315 20” TVs	@	$299/TV	=	$94,185

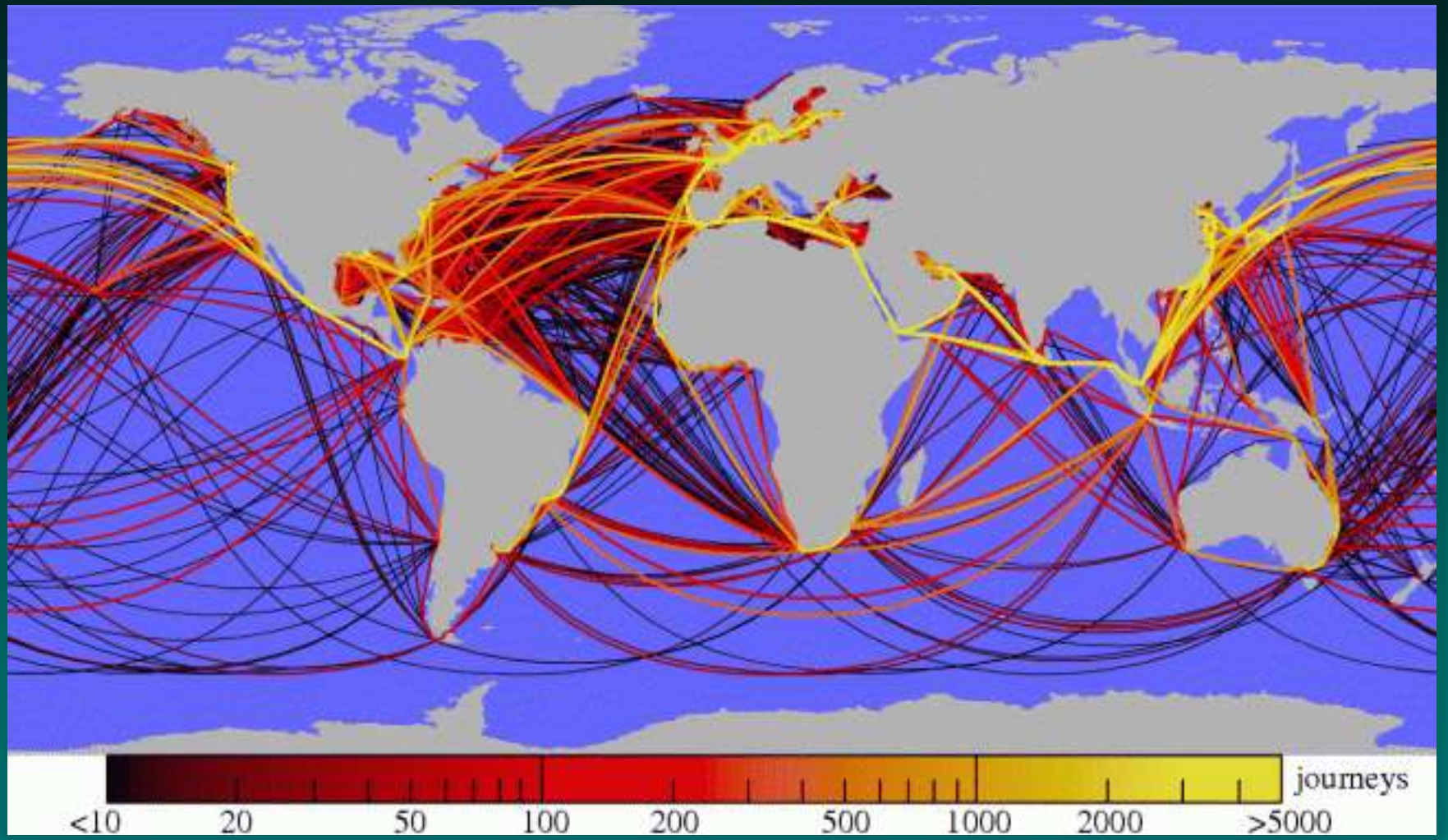
Source: Virginia Port Authority

International Maritime Cargo Demand Trends

Global Shipping Routes Plotted by AIS GPS

2010 Busiest Routes:

(1) Panama Canal, (2) Suez Canal, (3) Shanghai Port



Source: Wired Science January 2010 Journal of the Royal Society: Interface

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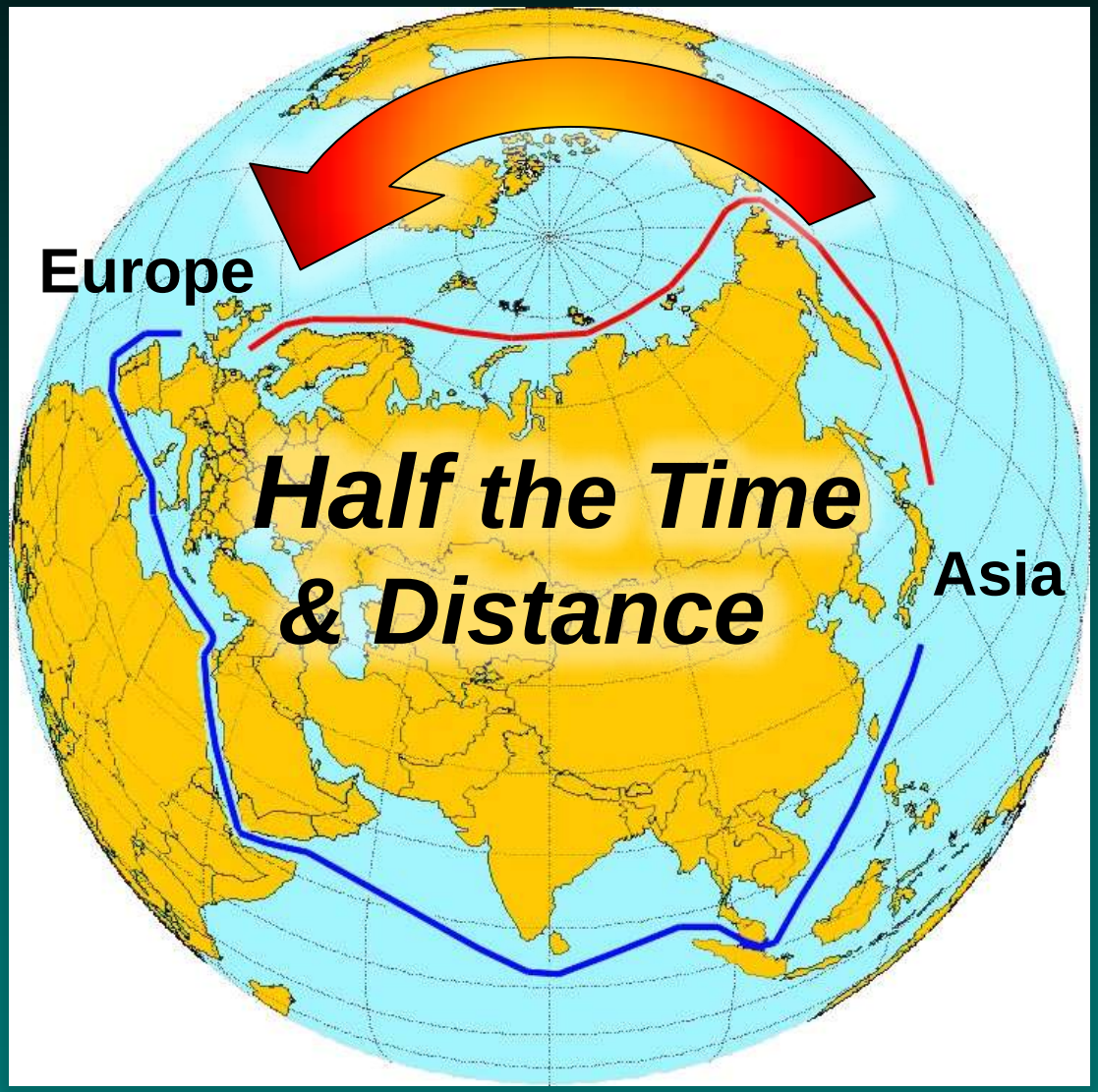
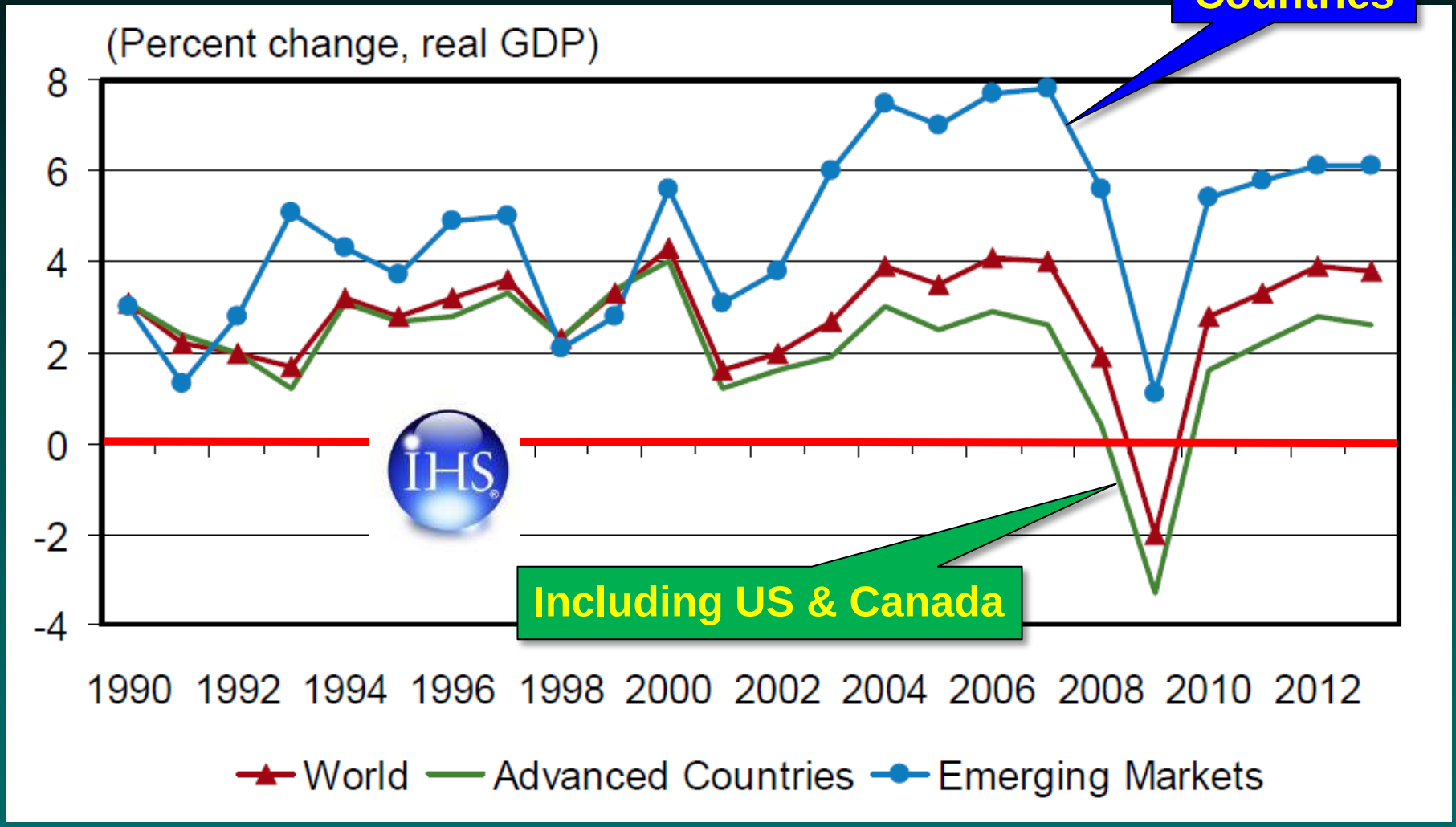
Shorter – Faster Arctic Ocean Route

2+ Months A Year Using Convoys



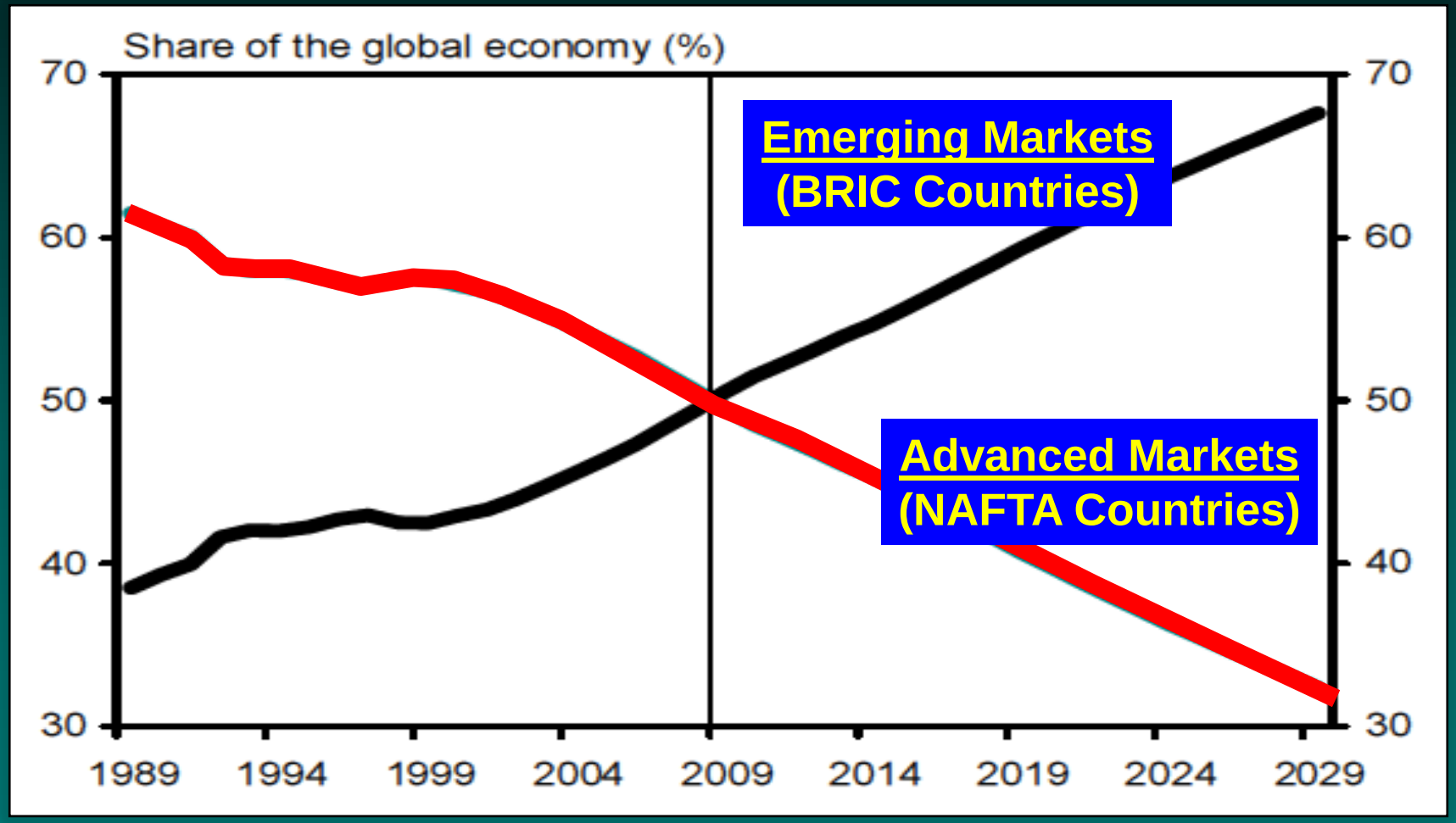
Emerging Markets Lead the Global Recovery



Source: IHS Global Insight – World Trade Service

A Turning Point in Global Economic History

The Advanced Economies Will Decline From 2/3 share of the Global Economy to a 1/3 Global Share. The Global Economy Will See Higher Average Pace of Growth in the Future…



Source: IMF - Forecast by TD Economics, December 2009

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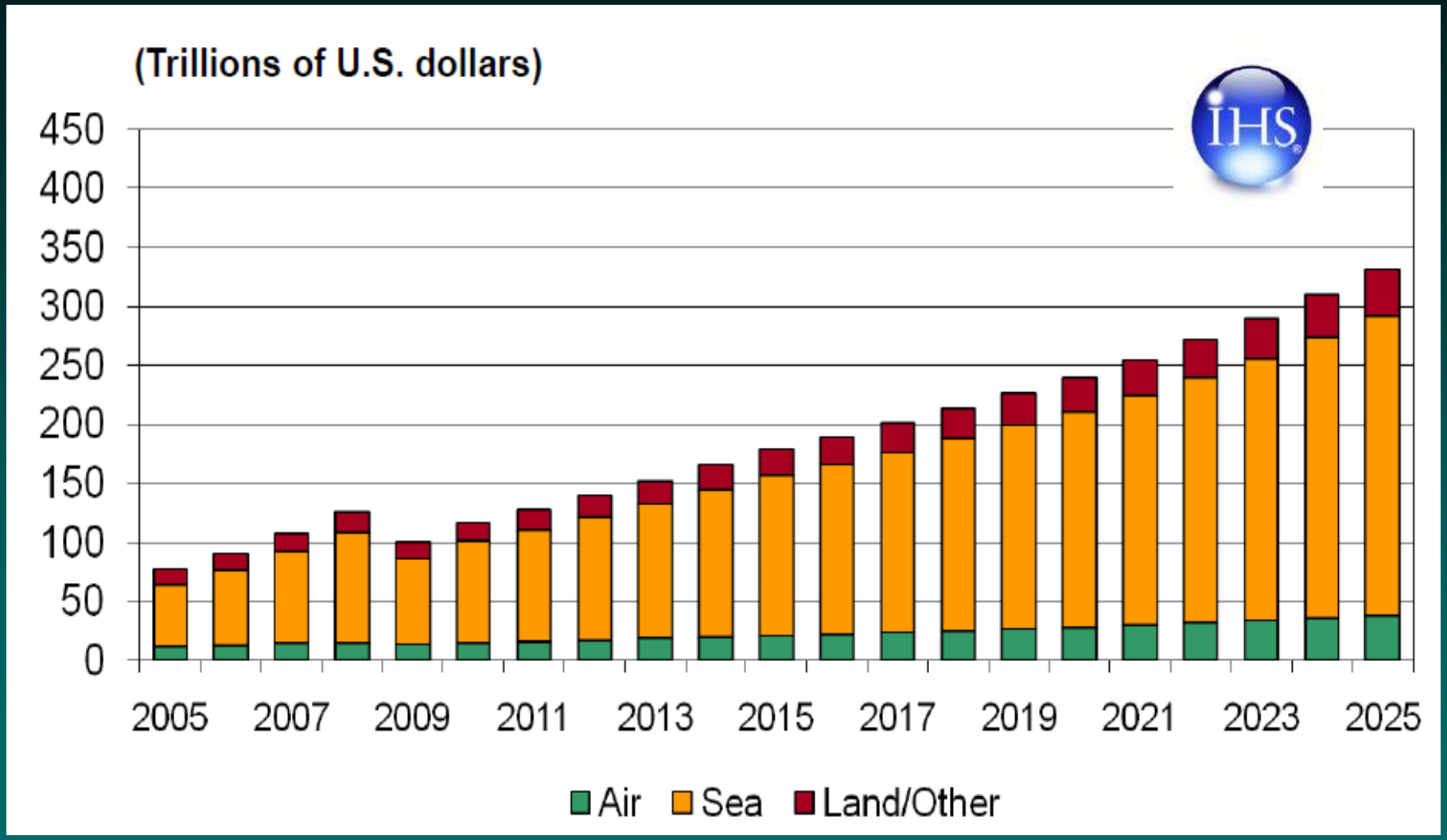
Growth in Global Merchandise Trade

(Intra Europe Trade Excluded)



Source: IHS Global Insight – World Trade Service

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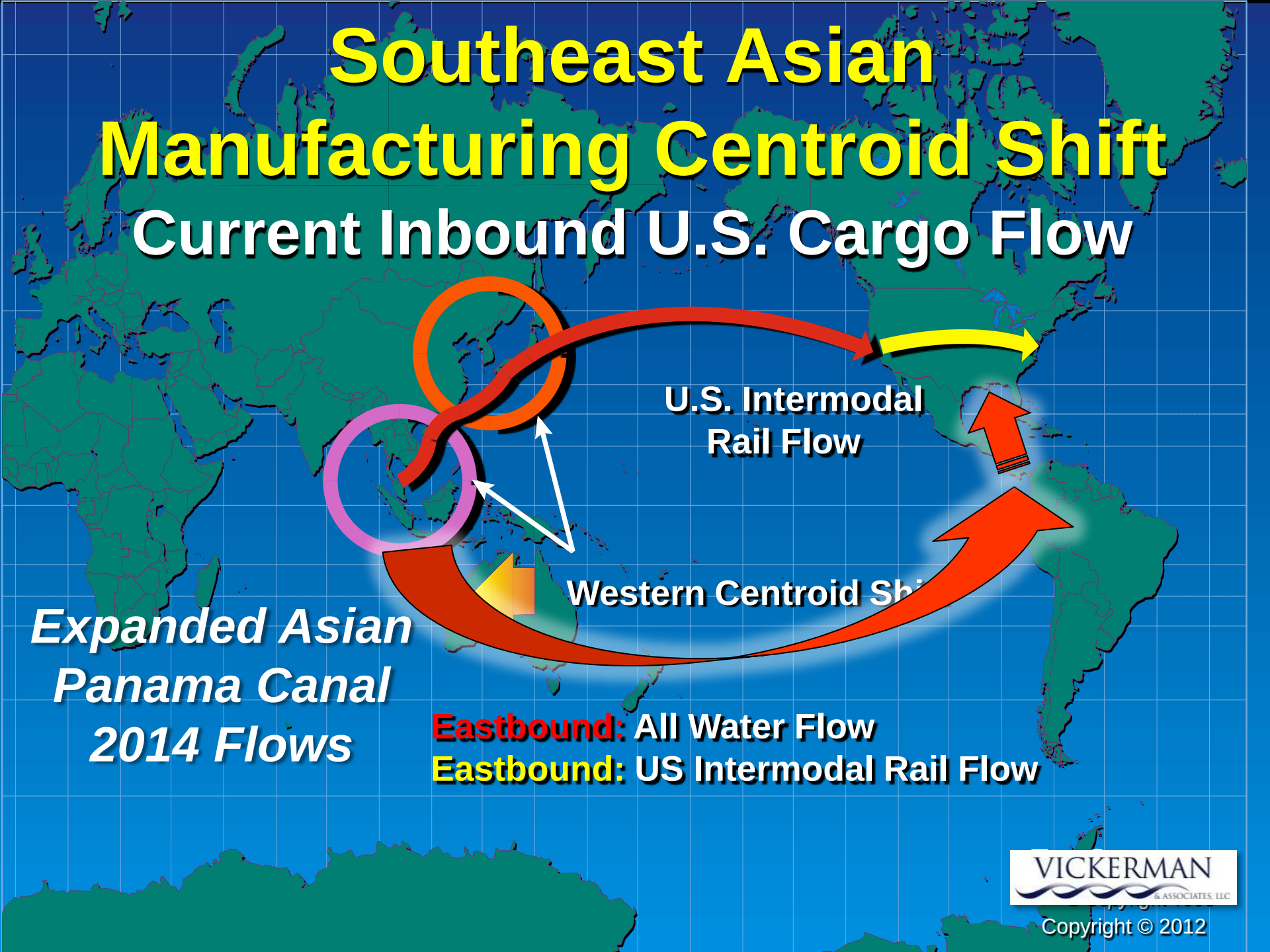
Southeast Asian Manufacturing Centroid Shift

Current Inbound U.S. Cargo Flow



Expanded Asian Panama Canal 2014 Flows

Eastbound: All Water Flow
Eastbound: US Intermodal Rail Flow

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Southeast Asian Manufacturing Centroid Shift

Cu Flow

U.S. In
Rail Fl

With Manufacturing Centroid Shifts Into Vietnam and/or India, The North American East Coast will See Dramatically More Westbound Suez Traffic

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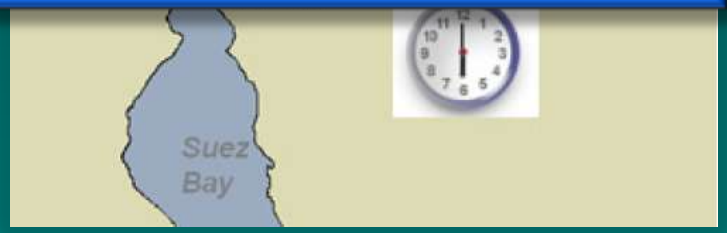
Suez Canal Container Vessel Convoy Traffic

(Ships Currently Transit the Suez Canal in 3 Daily Convoys)

2014 Suez Canal Pricing Strategy:

The Suez Canal has an opportunity to competitively alter global shipping patterns by undercutting 2014/15 Panama Canal new pricing strategy.



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AAPA
The Growing Asian Import Trade Challenge
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The World's Top 20 Ports Posted a 15.1% Volume Growth in 2010 (2009 Rank in Brackets)

Rank		Port	Mteu	(Change)
1	(2)	Shanghai	29.07	16%
2	(1)	Singapore	28.43	10%
3	(3)	Hong Kong	23.53	12%
4	(4)	Shenzhen	22.51	23%
5	(5)	Busan	14.21	19%
6	(6)	LA/LB	14.10	19%
7	(9)	Ningbo	13.14	25%
8	(7)	Guangzhou	12.55	12%
9	(10)	Qingdao	12.01	17%
10	(8)	Dubai	11.60	4%
11	(11)	Rotterdam	11.14	14%
12	(12)	Tianjin	10.08	16%
13	(13)	Kaohsiung	9.18	7%
14	(14)	Port Klang	8.87	21%
15	(15)	Antwerp	8.47	16%
16	(16)	Hamburg	7.94	13%
17	(17)	Tg Pelepas	6.53	8%
18	(18)	Xiamen	5.82	24%
19	(20)	Dalian	5.24	15%
20	(19)	Laem Chabang	5.19	12%

2010: 260 Million TEUs

2009: 226 Million TEUs

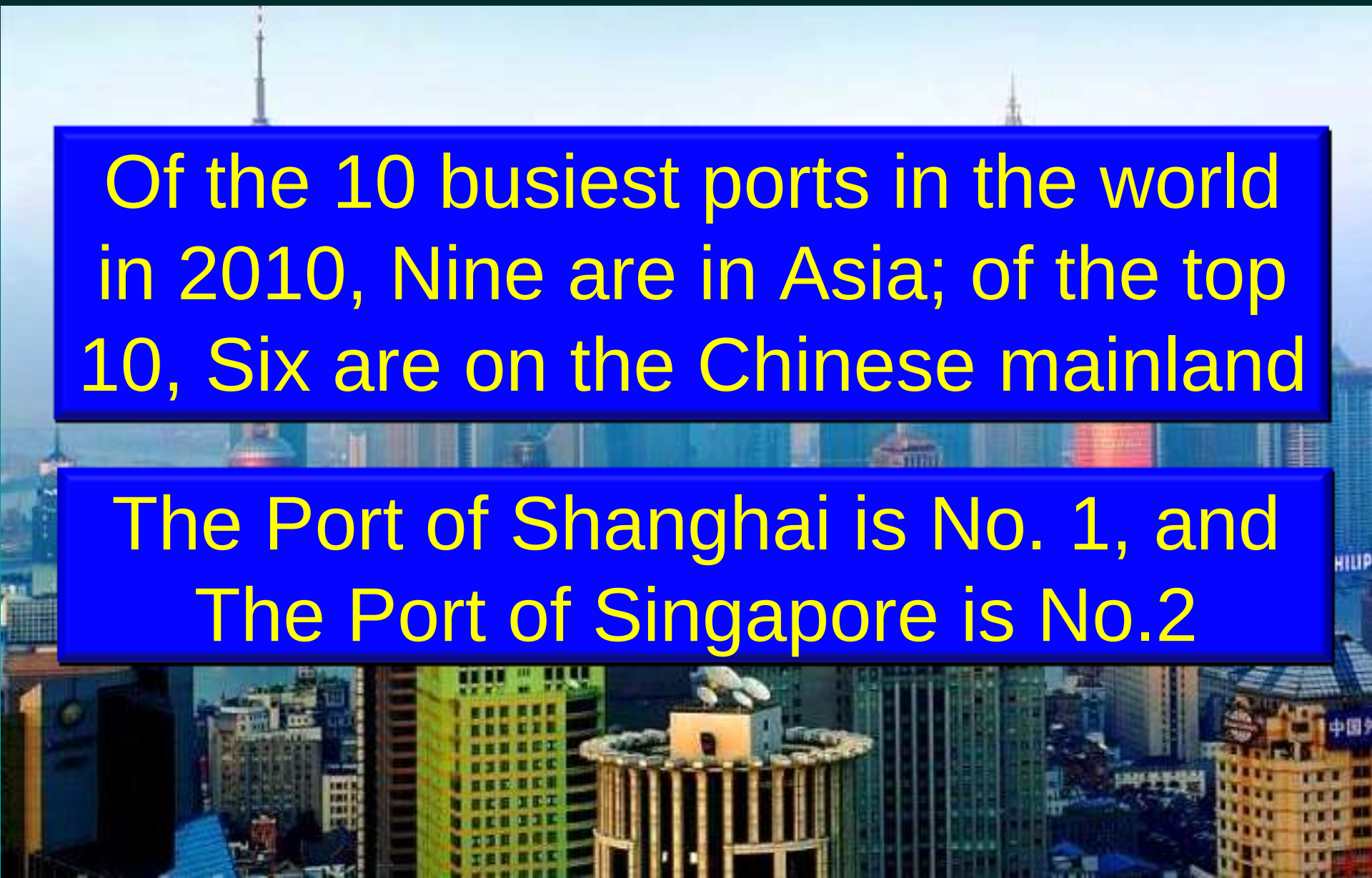
This Recovery Reflects the Rebound in Global Container Trade Due Primarily to Intra-Asia Volumes and Supply Chain Inventory Restocking.

US Ports

Chinese Ports

Source: Alphaliner Newsletter Volume 2011 Issue 5

Container Transhipment World Records

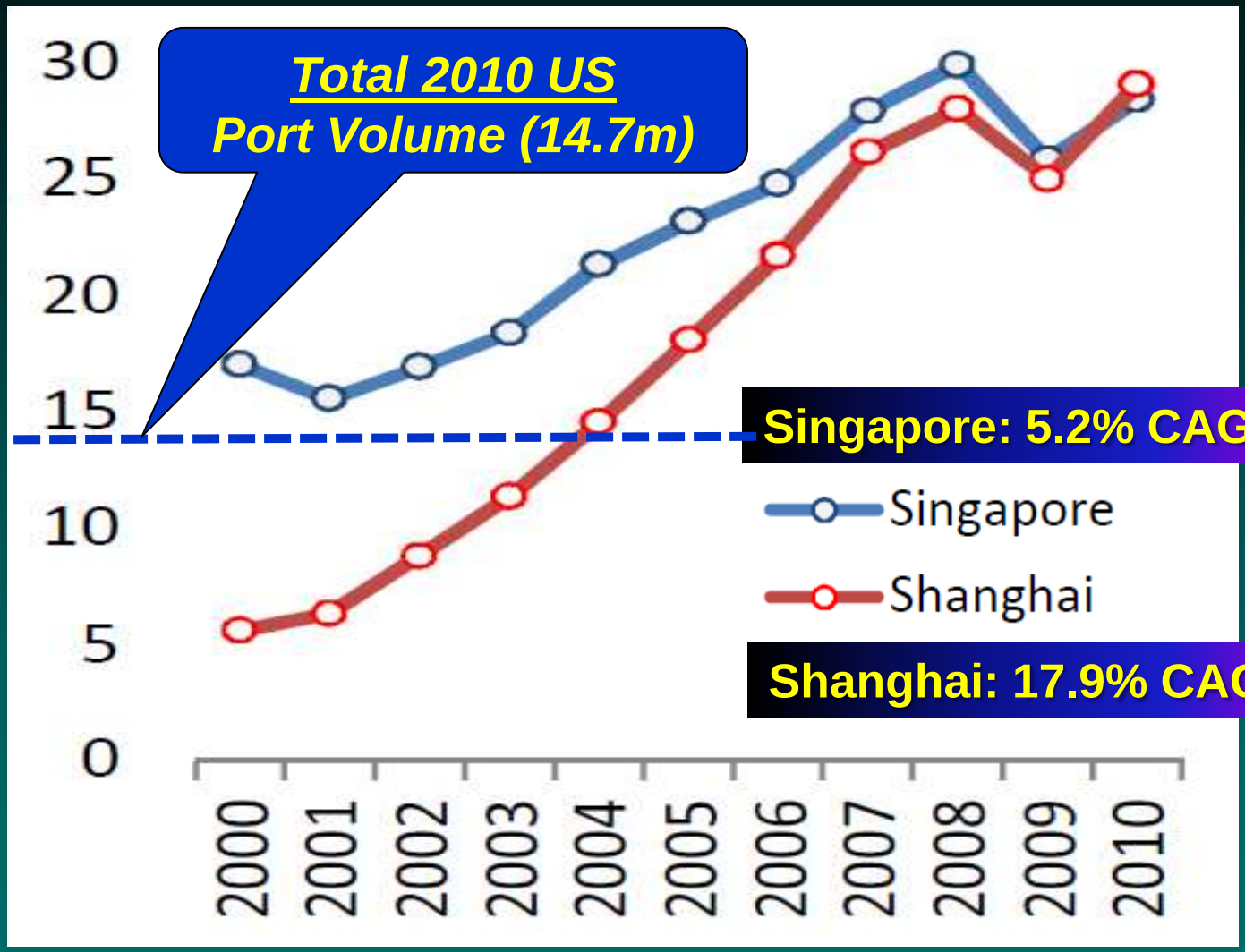


Of the 10 busiest ports in the world in 2010, Nine are in Asia; of the top 10, Six are on the Chinese mainland

The Port of Shanghai is No. 1, and The Port of Singapore is No.2

Singapore vs. Shanghai Container Volumes

2000 through 2010 Volumes in Millions of TEUs



Source: Alphaliner Newsletter Volume 2011 Issue 2

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Full Global Recovery:

Singapore-based PSA posted a 14.4 percent increase in throughput in 2010

65.12 million TEUs handled by the PSA Group, a new record for the Singapore (4.4 x total US volume)

Port Operator PSA International Reported its net profit for 2010 rose 20.8 percent to S$1.2 billion.

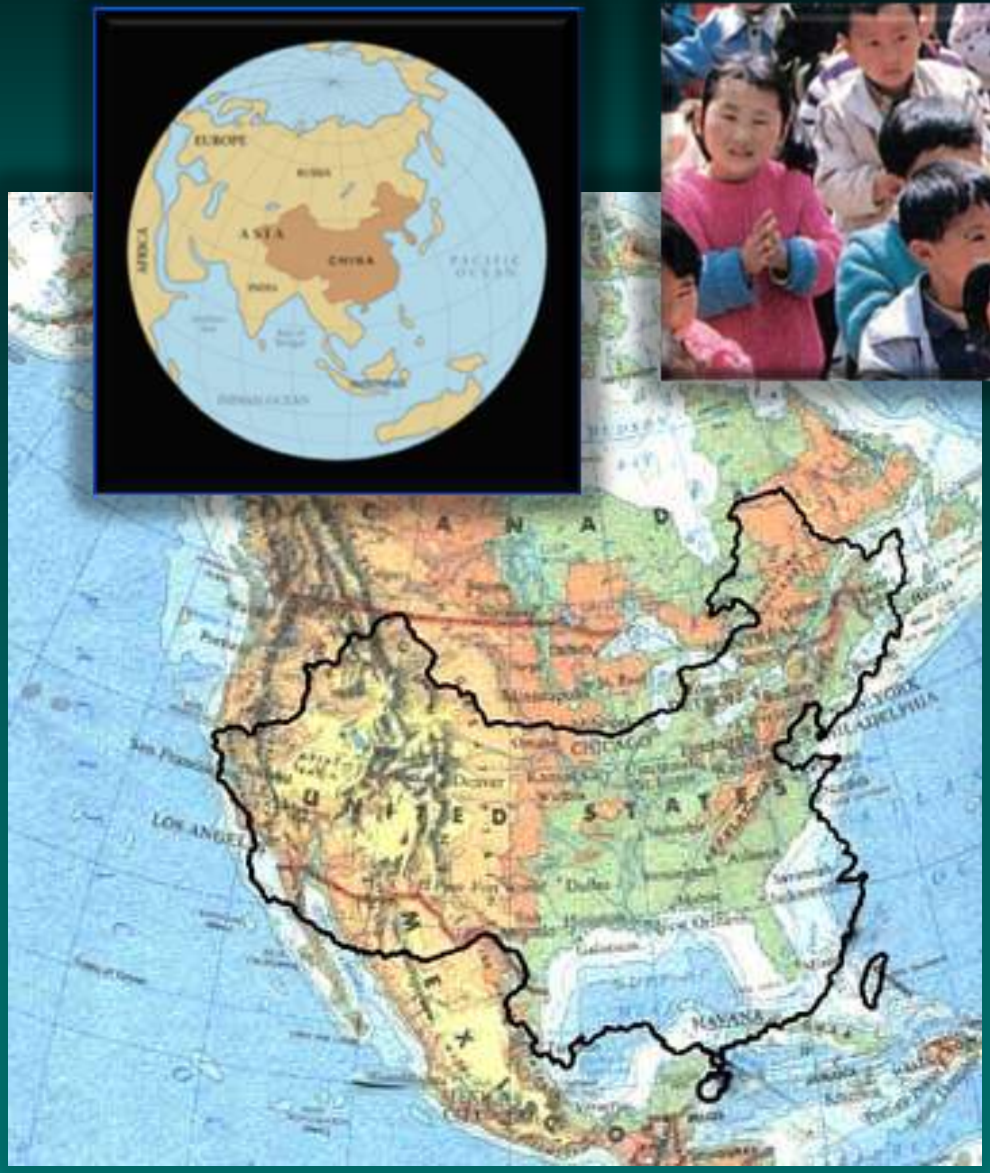
Global Market Economic Shifts

	2000	2010	2020	2030	2040	2050
#1	USA/CA	USA/CA	USA/CA	USA/CA	USA/CA	CHINA
	Japan	Japan	CHINA	CHINA	CHINA	USA/CA
	Germany	Germany	Japan	Japan	INDIA	INDIA
#5						
#6						
#7						
#8	Brazil	INDIA	Russia	France	Germany	Germany
#9	INDIA	Russia	Italy	Brazil	France	France
	Russia	Brazil	Brazil	Italy	Italy	Italy

Dramatic Market Shifts are Underway that will Affect the Very Core of US Trade and Transportation

Source: HIS Global Insight

China: New World Economic Engine



Population:
US: 307 million
China: 1,338 million
(1/5 World)

The number of Chinese children in elementary school is equivalent to the total US population.

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Shanghai International Shipping Center

Yangshan Deep Port & Logistics Park

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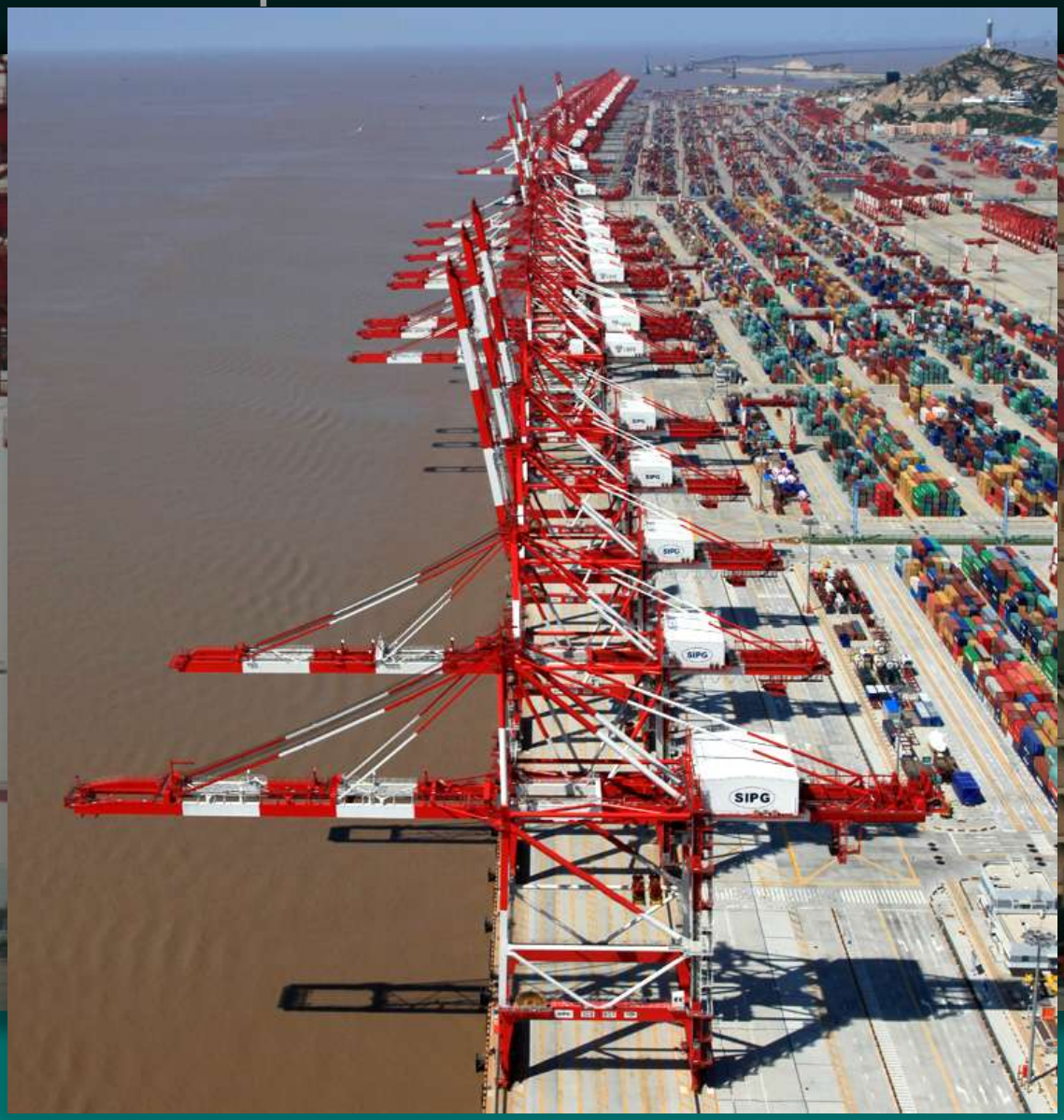
Shanghai International Shipping Center

Yangshan Deep Port - 20 Mile Bridge Access

Shanghai Yangshan Deep-Water Harbour

Yangshan Deep Port – 54 Berths East China Sea



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Huge Population Growth Over Next Decade
Top 10 countries to add 422 million people by 2020

Country	2010	2020	Nominal Change	% Change
India	1,173,108,018	1,326,093,247	152,985,229	13.0%
China	1,330,141,295	1,384,545,220	54,403,925	4.1%
Ethiopia	88,013,491	120,420,018	32,406,527	36.8%
USA	310,232,863	341,386,665	31,153,802	10.0%
Nigeria	152,217,341	182,344,492	30,127,151	19.8%
Pakistan	177,276,594	204,274,257	26,997,663	15.2%
Congo	70,916,439	95,605,489	24,689,050	34.8%
Indonesia	242,968,342	267,532,450	24,564,108	10.1%
Bangladesh	158,065,841	180,753,264	22,687,423	14.4%
Brazil	201,103,330	222,607,506	21,504,176	10.7%

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Asian Hourly Wage Rates in US Dollars

	2008	2009	2010*	2011*	2012*	2013*	2014*	2015*
CHINA	1.56	1.63	1.83	2.16	2.51	2.90	3.29	3.66
HONG KONG	7.24	7.27	7.42	7.64	7.95	8.27	8.68	9.11
INDIA	0.50	0.49	0.53	0.57	0.61	0.66	0.72	0.78
INDONESIA	0.51	0.51	0.59	0.67	0.77	0.88	0.98	1.08
JAPAN	24.30	26.23	22.59	21.70	20.41	19.81	19.51	18.73
SOUTH KOREA	13.21	11.27	13.31	14.54	16.49	18.70	20.91	23.38
MALAYSIA	2.99	2.80	2.97	3.18	3.38	3.58	3.80	4.03
PHILIPPINES	1.65	1.59	1.67	1.77	1.87	1.99	2.11	2.24
SINGAPORE	13.18	12.86	13.18	13.85	14.69	15.59	16.53	17.54
TAIWAN	7.24	6.56	6.95	7.19	7.50	7.85	8.19	8.52
THAILAND	1.08	1.06	1.04	1.08	1.19	1.27	1.35	1.42
VIETNAM	0.81	0.86	0.87	0.89	0.97	1.03	1.07	1.10

Source: JOC, IMA Asia – Asia Forecasts 2010

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India's Current & Planned Container Port Developments

Majority of New Indian Container Port Capacity Favors Southeast Asian Continual Centroid Shift to the WEST

Source: Alphaliner Volume 2012 Issue 14

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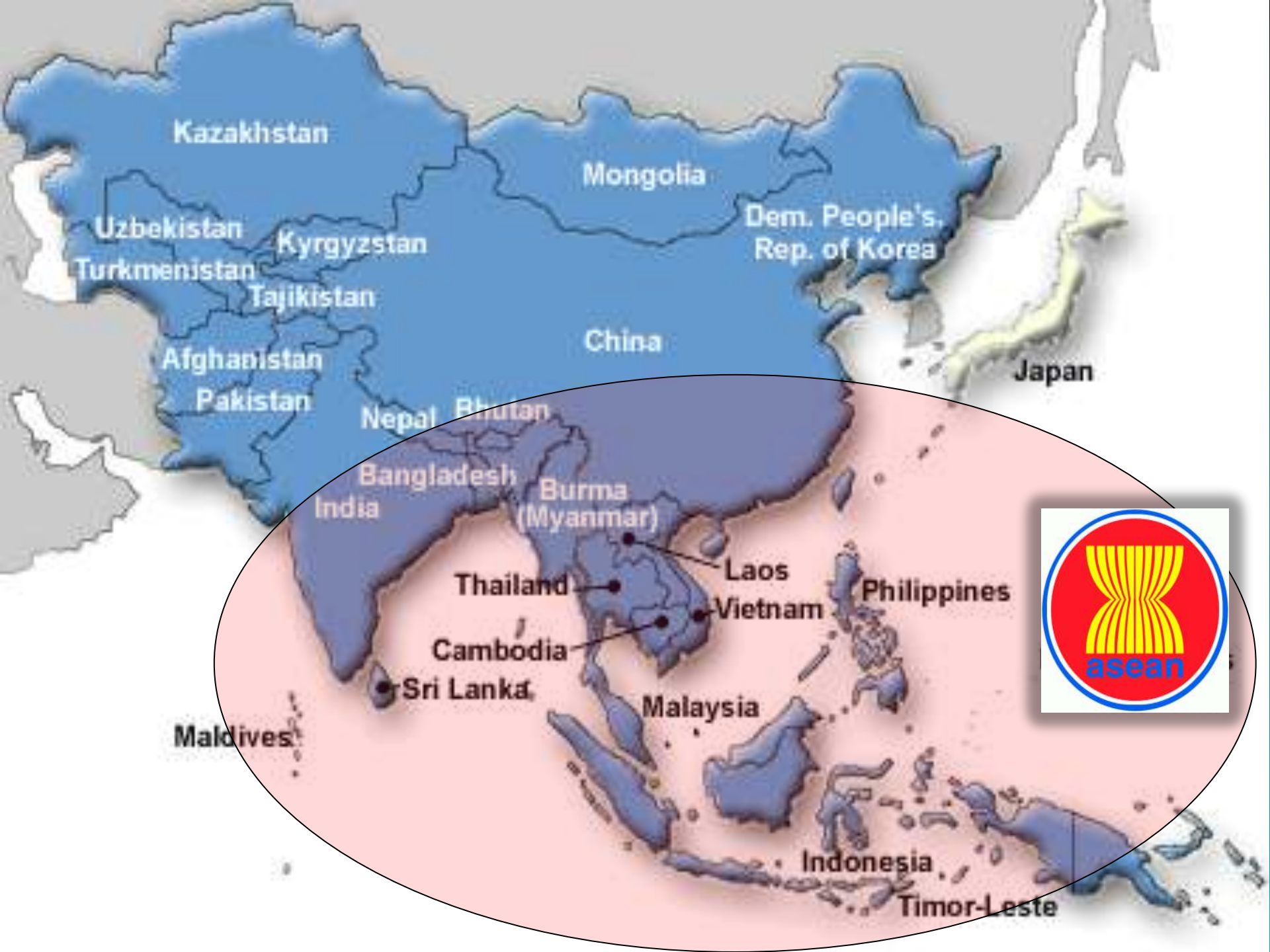
Kazakhstan
Mongolia
Uzbekistan
Kyrgyzstan
Turkmenistan
Tajikistan
Dem. People's Rep. of Korea
China
Afghanistan
Pakistan
Japan
Nepal
Bhutan
Bangladesh
India
Burma (Myanmar)
Laos
Thailand
Philippines
Vietnam
Cambodia
Sri Lanka
Malaysia
Maldives
Indonesia
Timor-Leste
asean

Ho Chi Minh City Regional New Port Container Terminal Development

(12 Port Terminals in 14 years)

VIETNAM – Has Become the <u>Apparel Distribution Capital</u> of the World – The "Apparel Shipper"

VIETNAM - Ho Chi Minh City, (Saigon)
Bitexco Financial Tower

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The Astounding Ocean Marine Carrier Industry Comeback

2009 Carrier Losses: Container Ocean Carriers Suffered $52 Million/Day Average Loss

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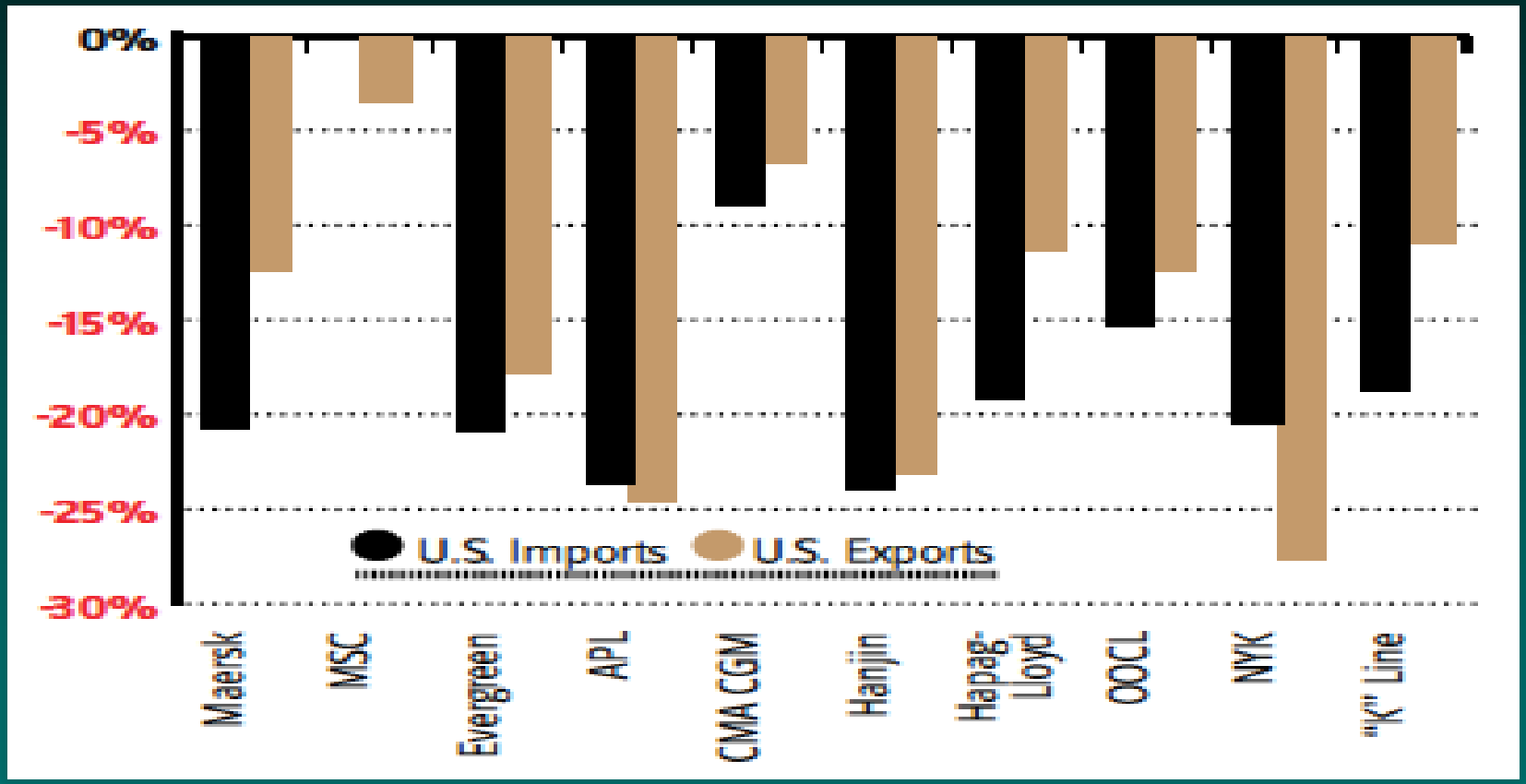
In 2009 the Ocean Carriers Lost $10 Billion Every Six Months

Jan-Sept 2009 vs 2008



Note: MSC's US Import Volume was Flat Through the First Nine Months of 2009

Source: JOC Top 40 Container Lines, PIERS Global Intelligence Solutions

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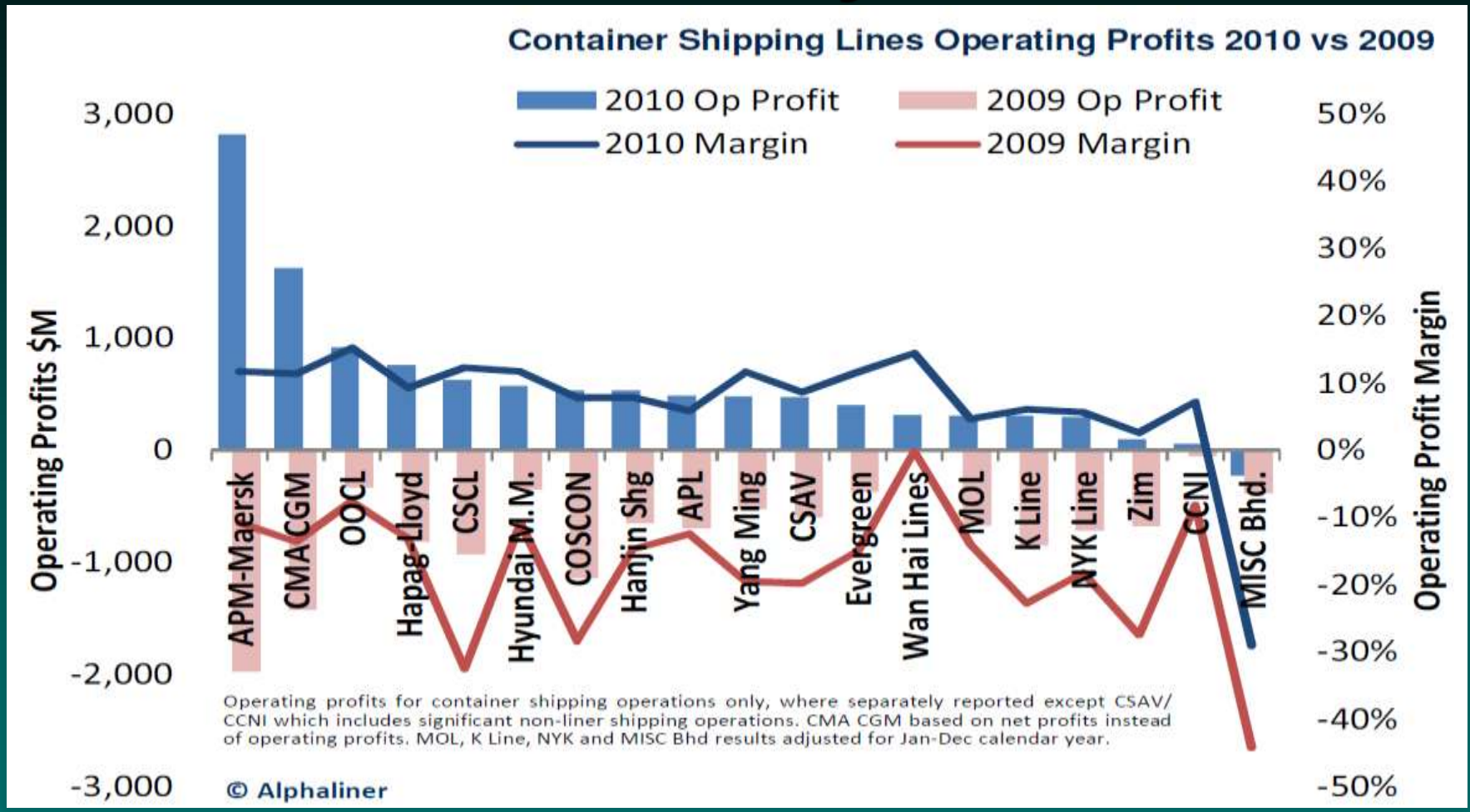
2010: Container Carriers Most Profitable Performance in History - $14B in Profit



2010: Total Revenues Rising 42%; Total Container Handlings Increased by 14%; Freight Rates Increased 26%

Source: Alphaliner Newsletter Volume 2011 Issue 16

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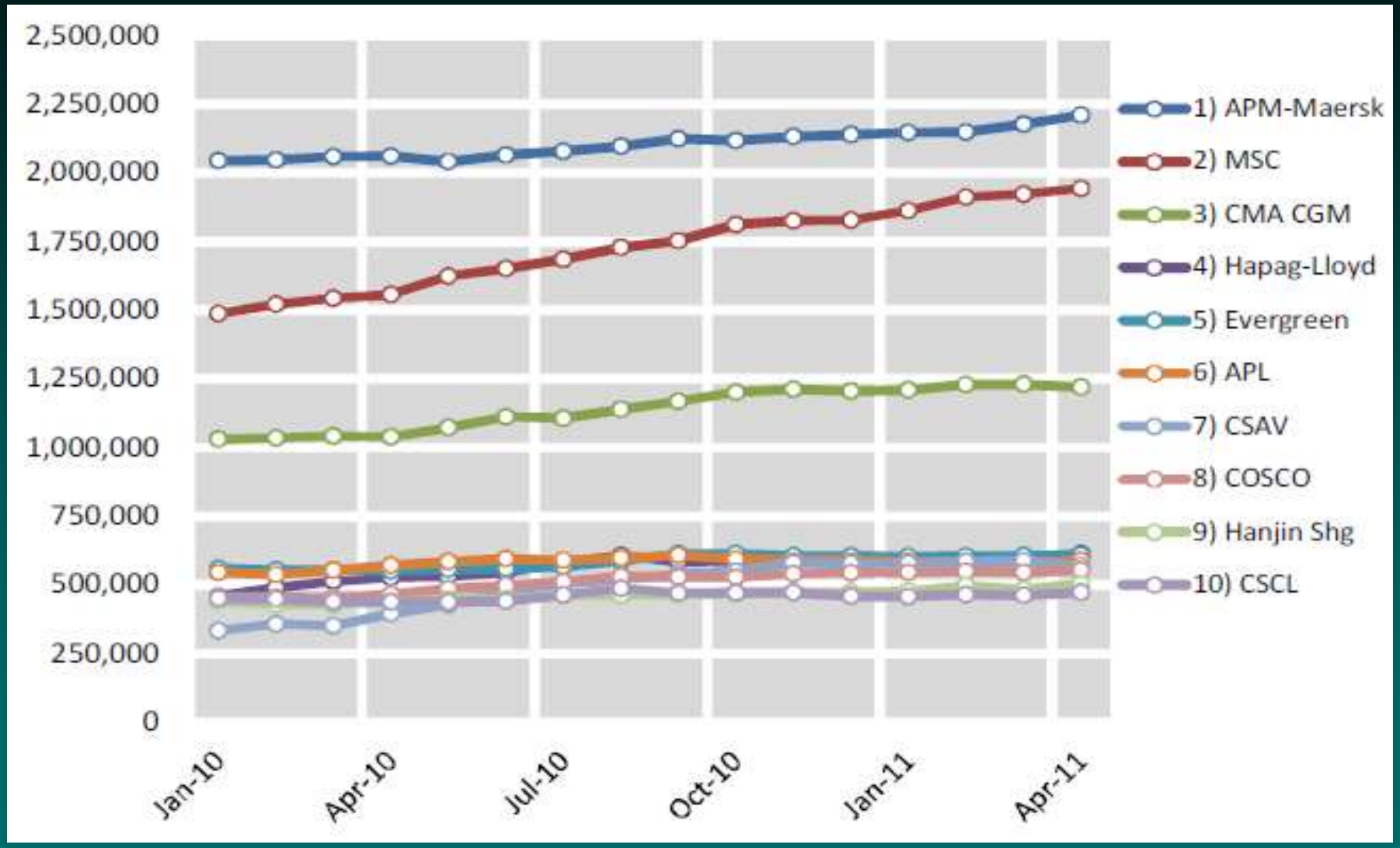
2011 Top Containership Carriers
(Monthly Change in Operating Capacity (TEUs)



Source: Alphaliner Newsletter Volume 2011 Issue 16

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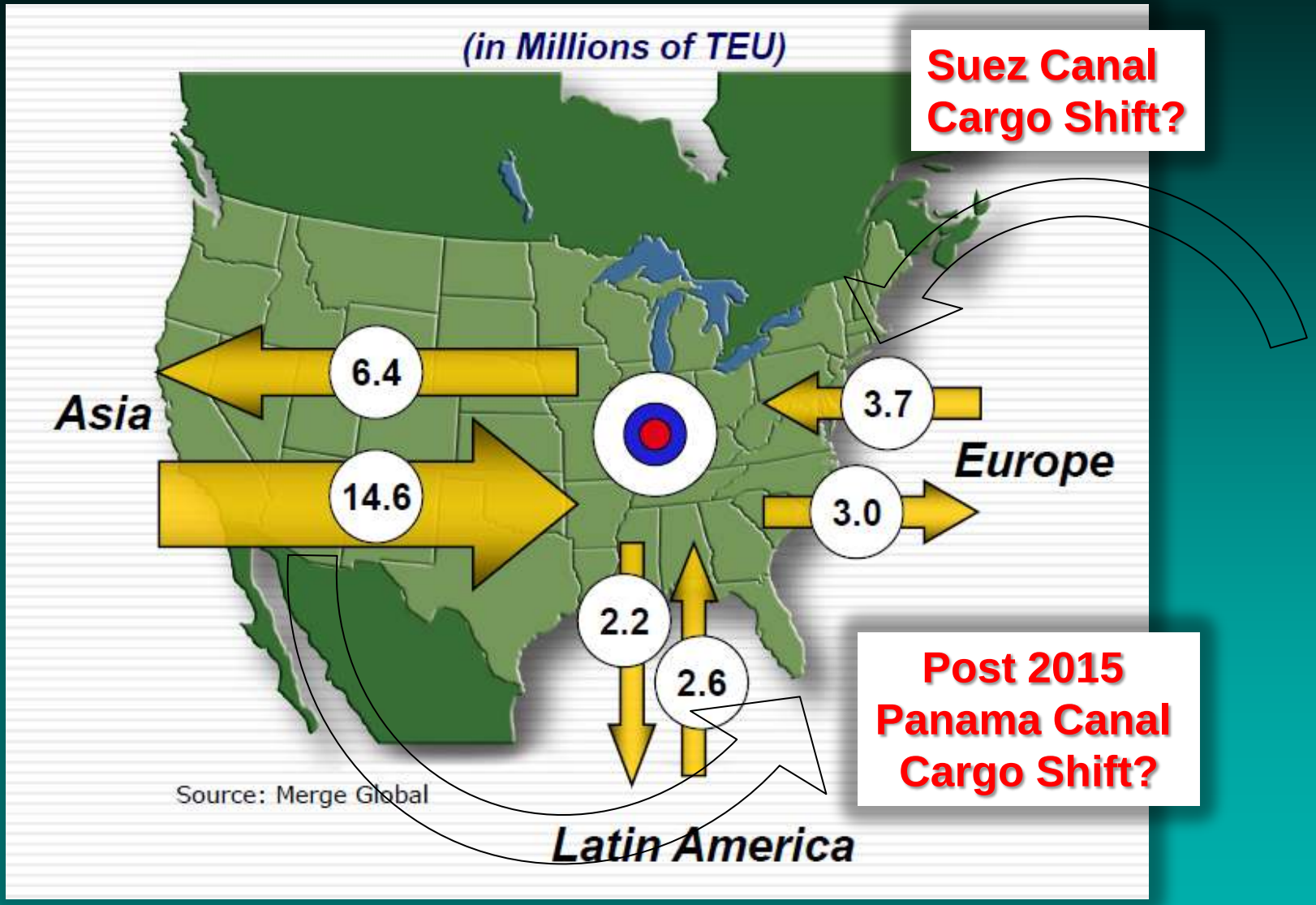
North American Cargo Demand Trends

(Dé jà vu Experience)

US Containerized Ocean Trade Flows (2007)

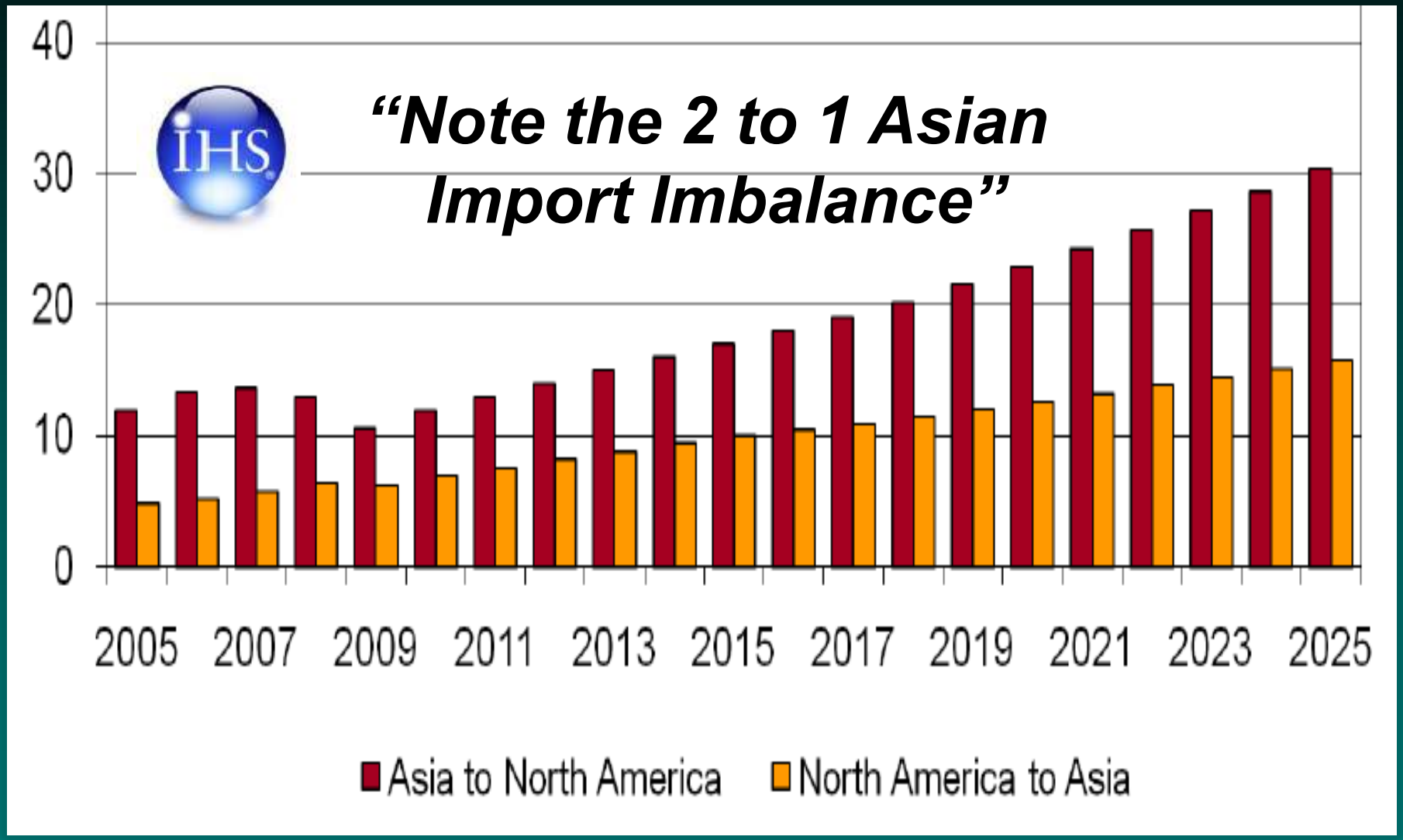
(West Coast Ports Handle 63% of Imports)



Source: CSX Transportation May 12, 2011 - Director of Strategic Analysis

Transpacific Container Trade Recovery

(Millions of TEUs)



Source: IHS – Global Insight -The Global Outlook – October 14, 2010

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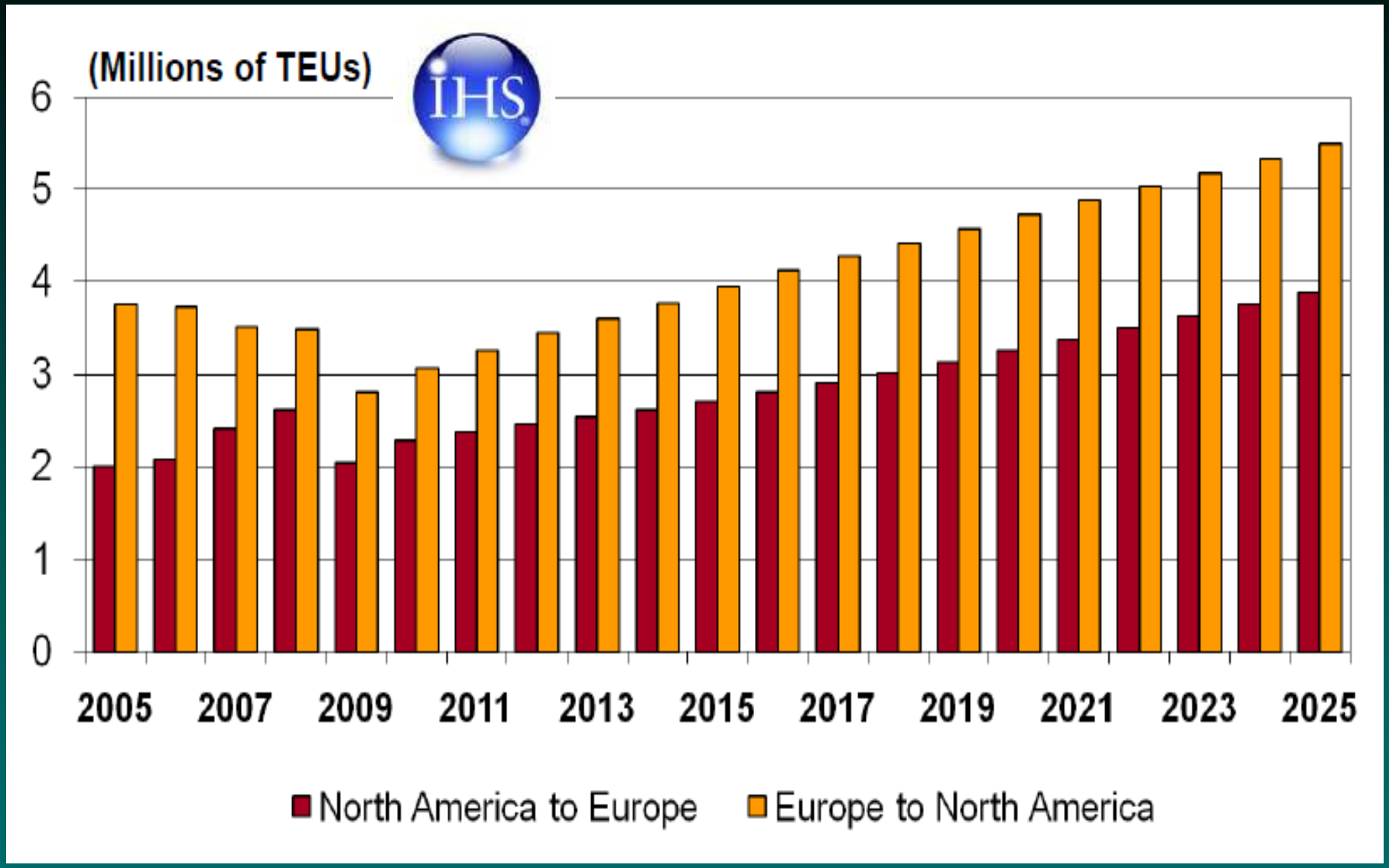
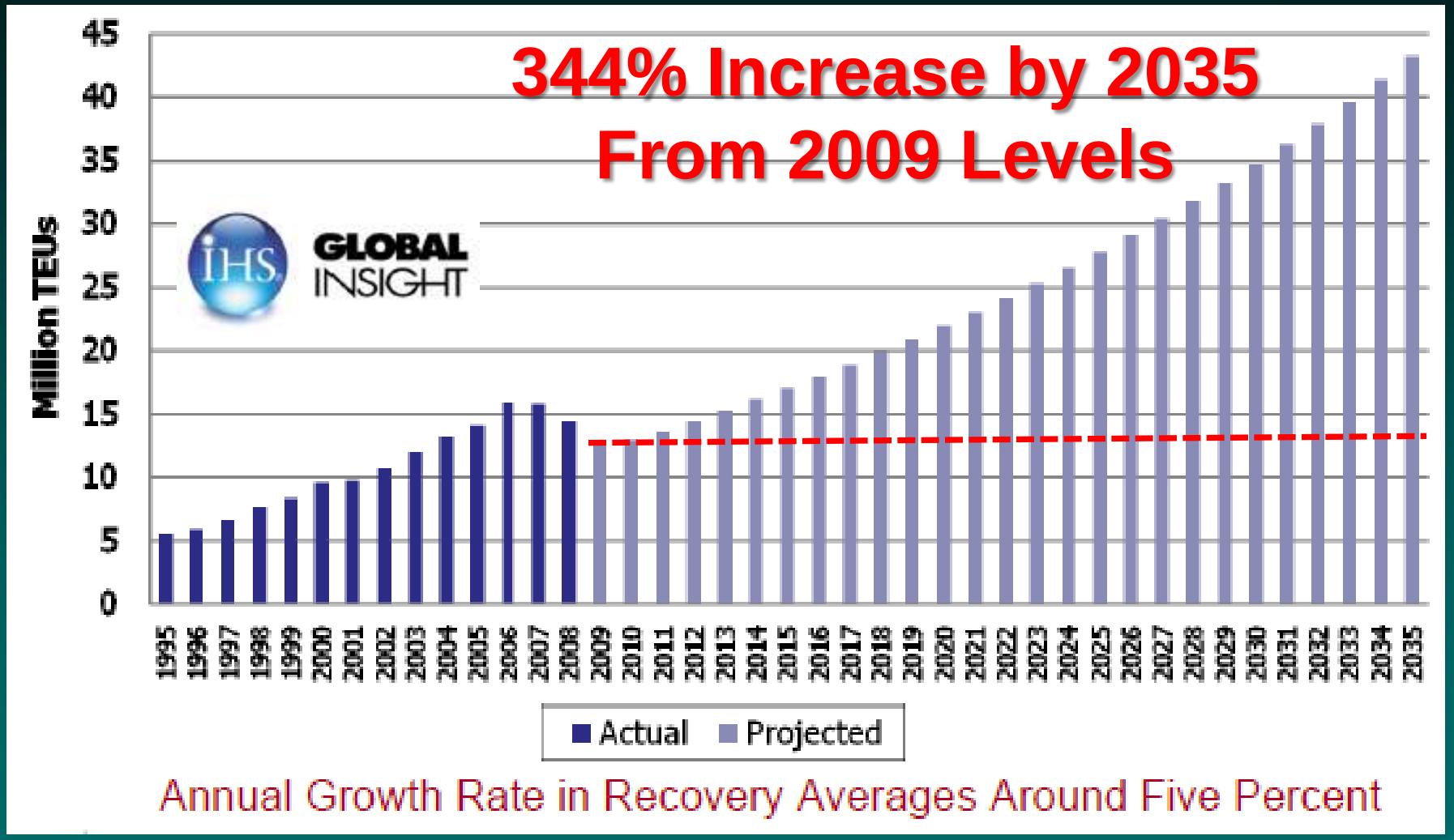
Transatlantic Container Trade Recovery



Source: IHS – Global Insight -The Global Outlook – October 14, 2010

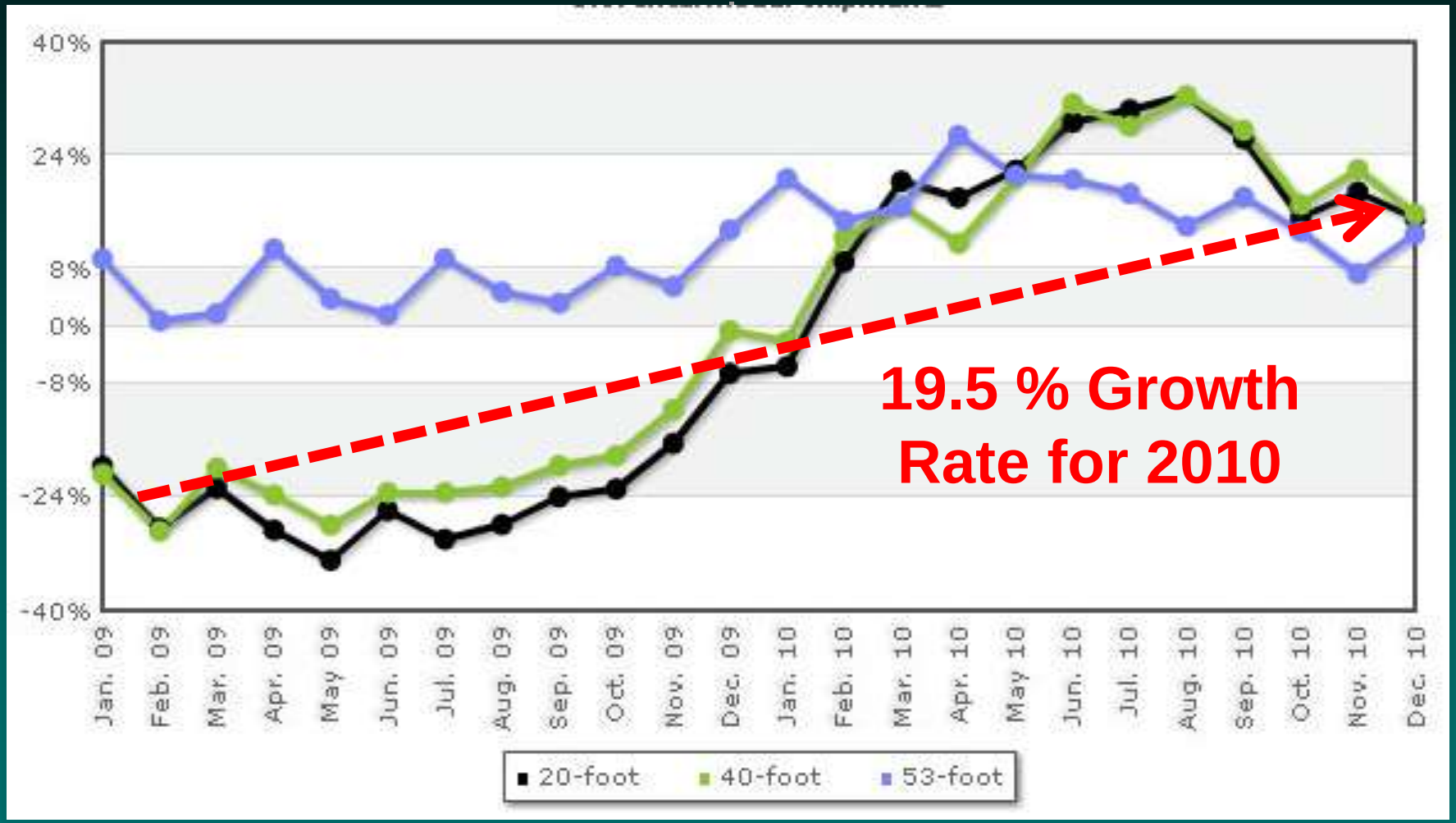
San Pedro Bay (POLA +POLB) Container Volume Forecast



Source: IHS Global Insight 2010 Forecast

2010 US Intermodal Rail Shipments

In calendar 2010, 40-footers led year-over-year growth at 19.5 percent, followed by 20-footers at 19 percent and 53-footers, 16.2 percent.



Source: Intermodal Association of North America, 2012

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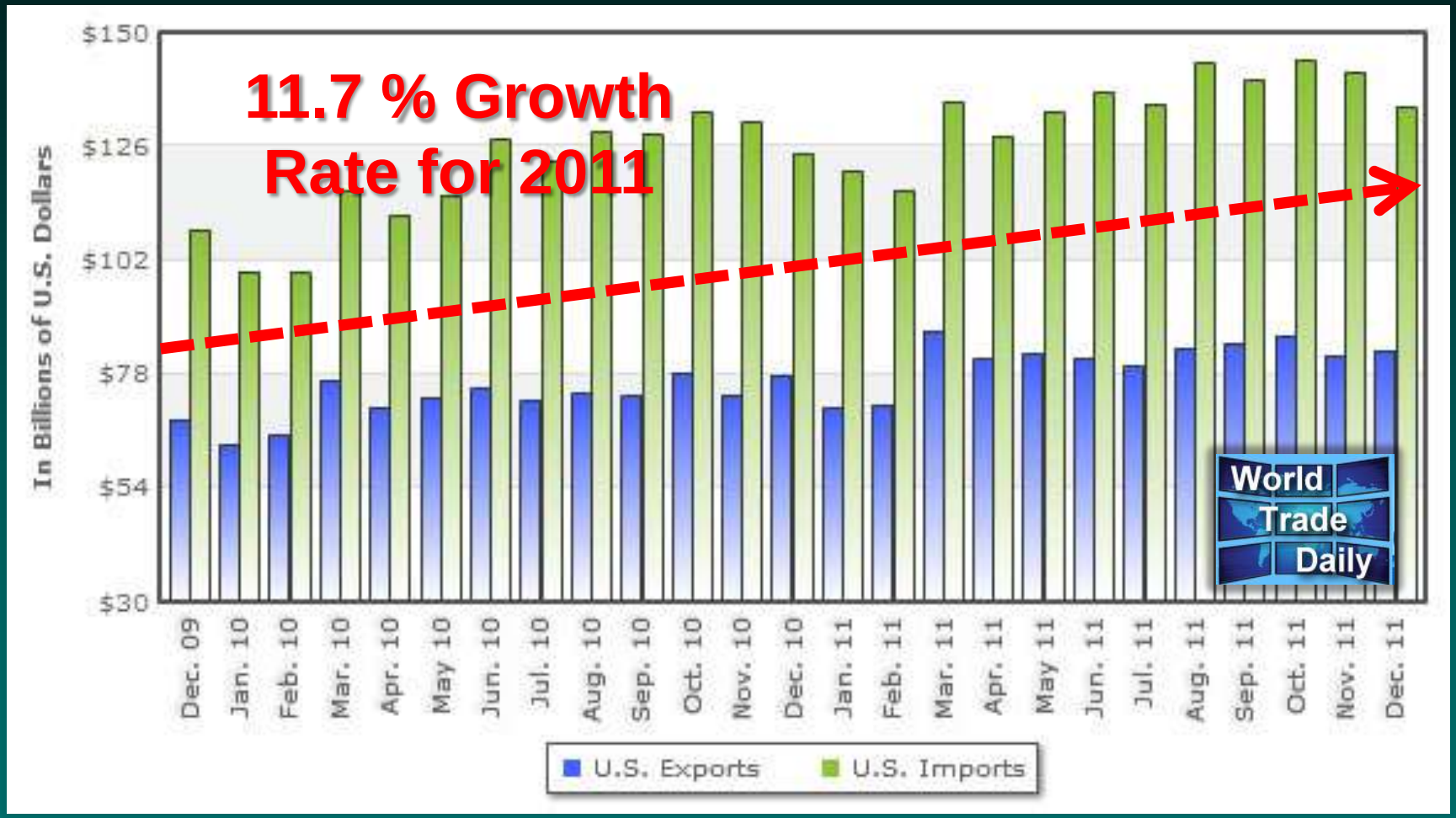
2011 US Manufactured Goods

U.S. Manufacturered goods trade increased 11.7 percent year-over-year during calendar 2011, with exports up 11.3 percent and imports, 11.8 percent.



Source: US Department of Commerce, US Census Bureau, Foreign Trade Div

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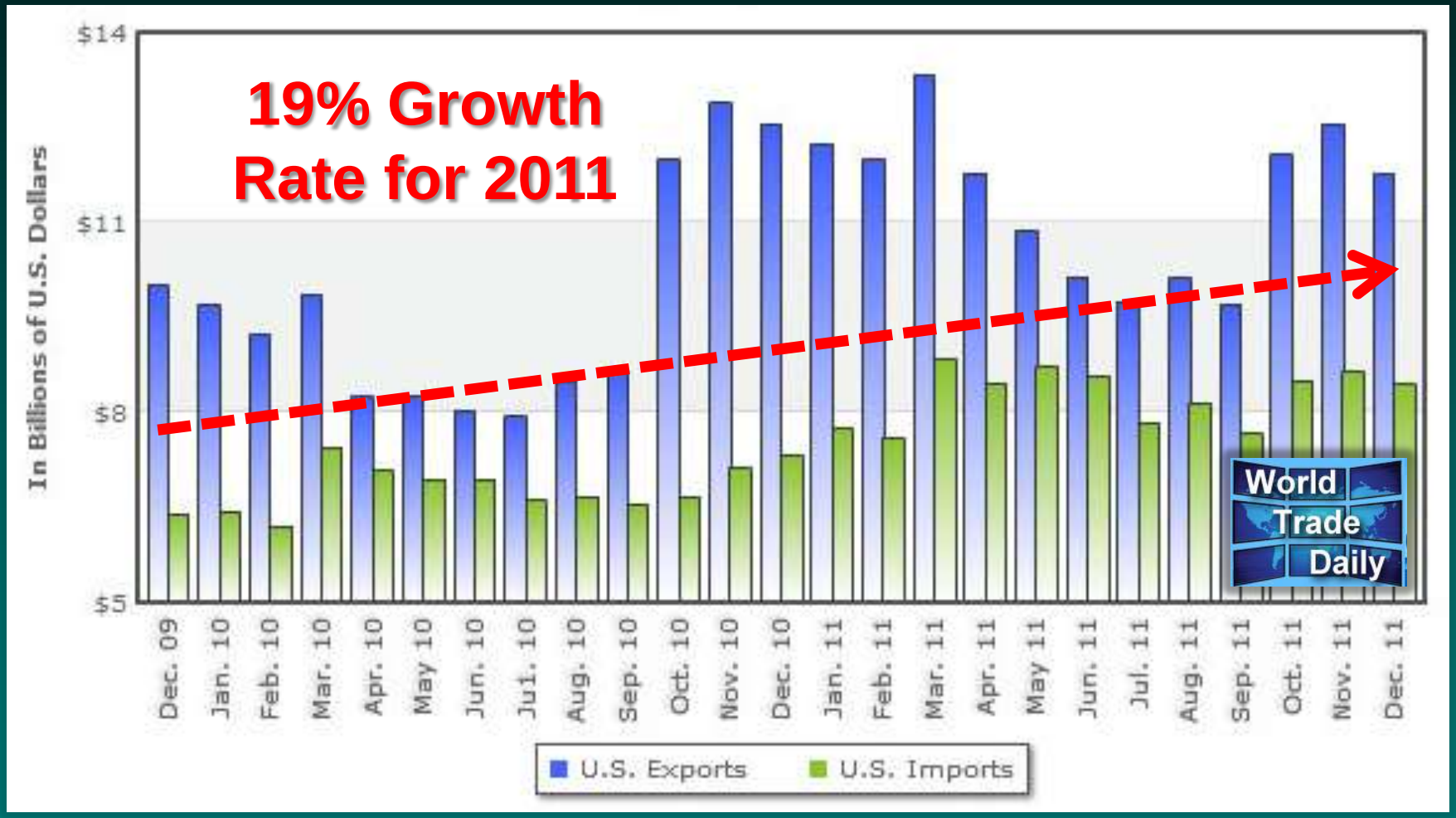
2011 US Agricultural Commodities

U.S. agricultural commodities trade increased 19 percent year-over-year during calendar 2011, with exports up 17.7 percent and imports, 20.9 percent.



Source: US Department of Commerce, US Census Bureau, Foreign Trade Div

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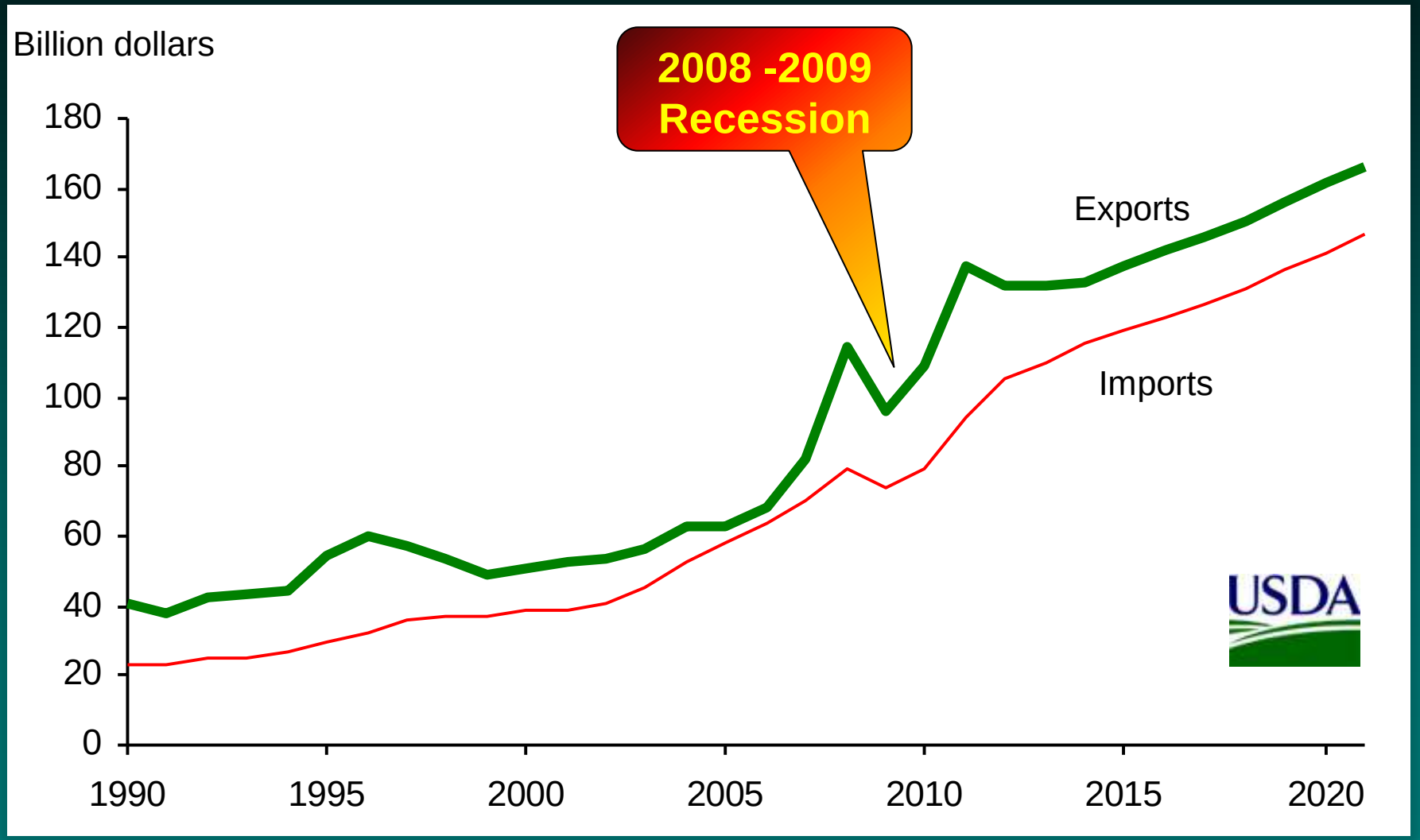
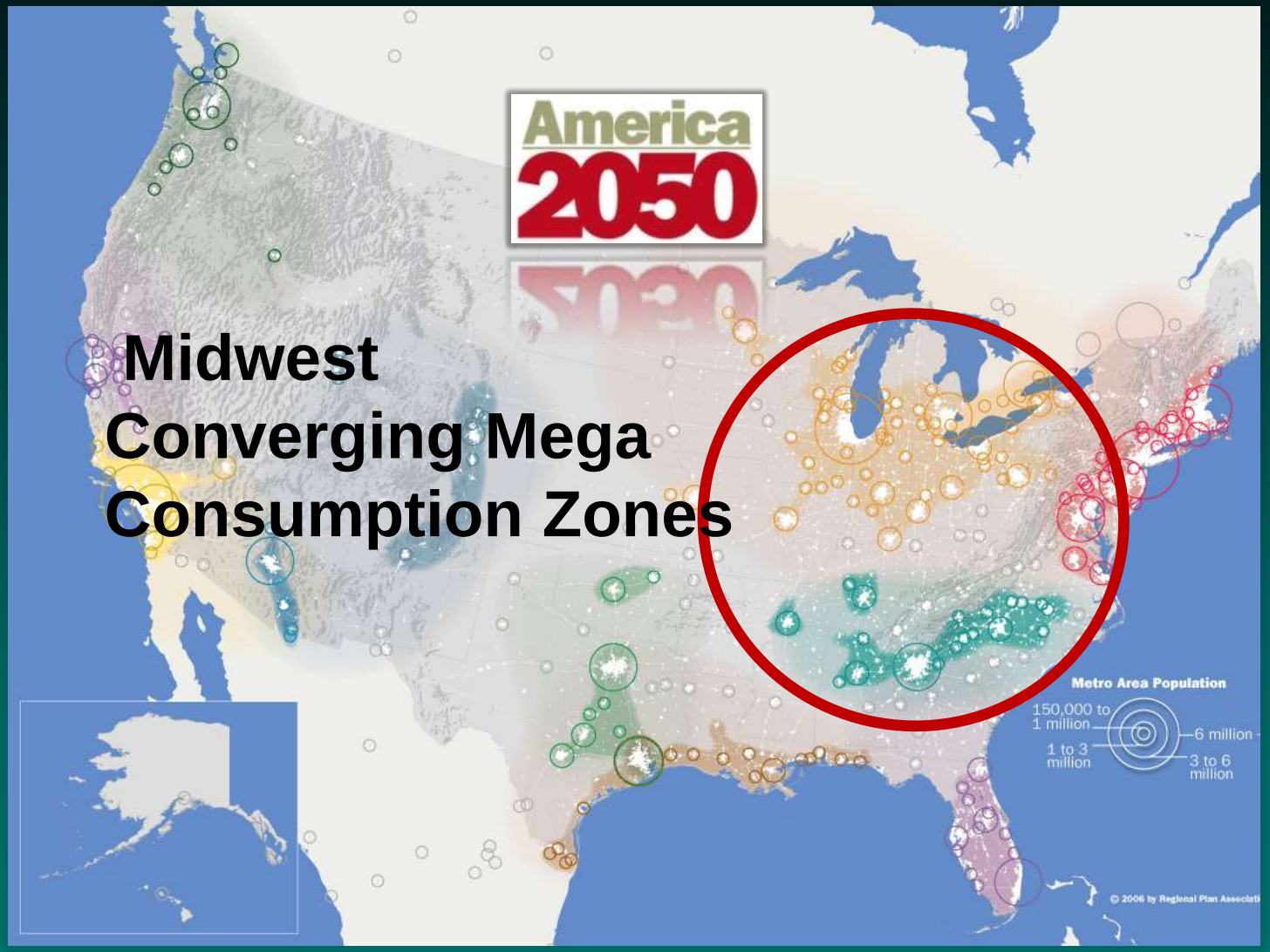
US Agricultural Trade Value Forecast



Source: USDA Economic Research Service - USDA Agricultural Projections to 2021

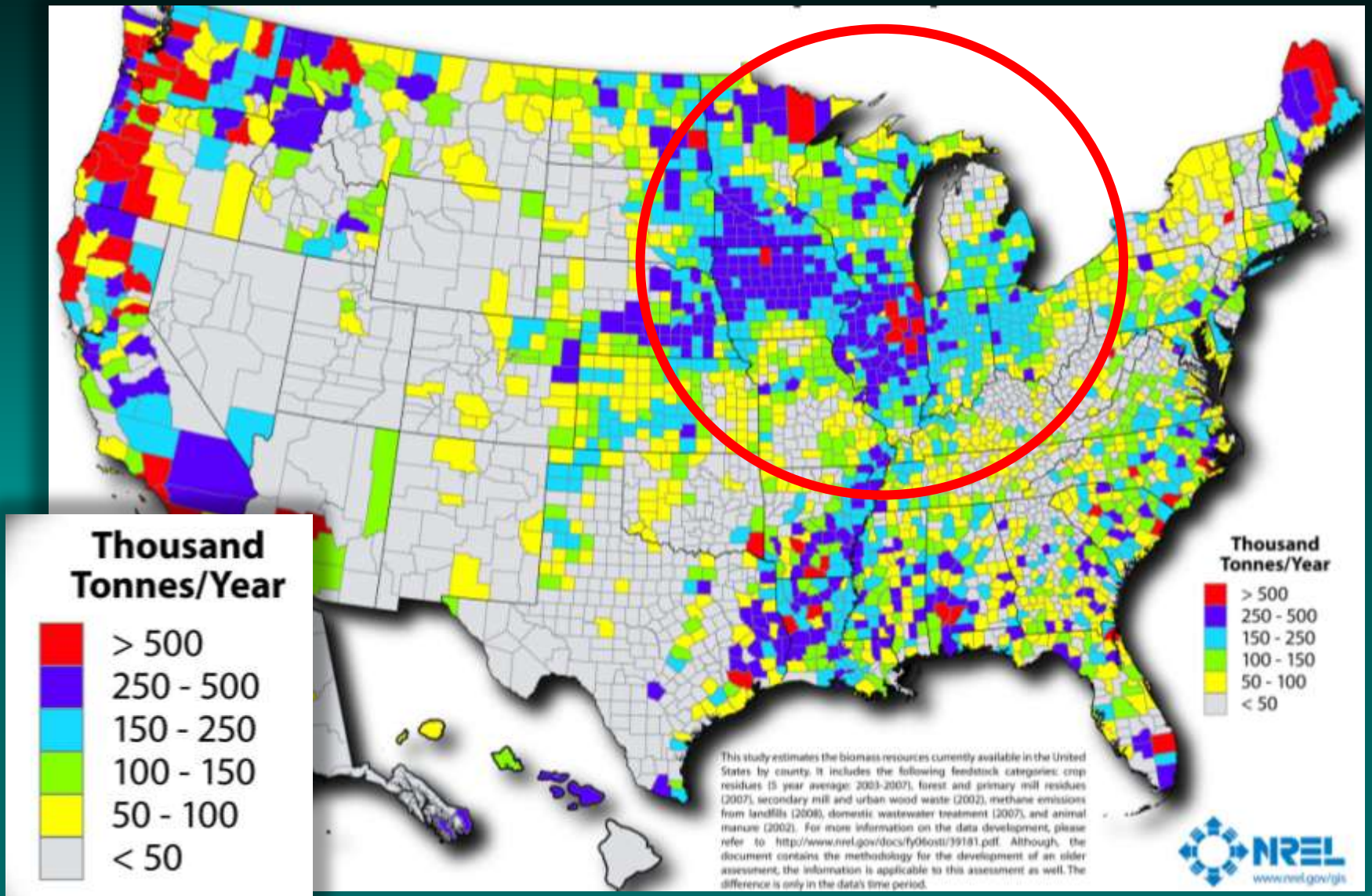
North American Emerging Mega-Regions

Future US Growth Areas



Source: America 2050 Prospects - Regional Plan Association

US Biomass Resources Epicenter



Source: USDOE National Renewable Energy Laboratory (NREL) Sept. 2009

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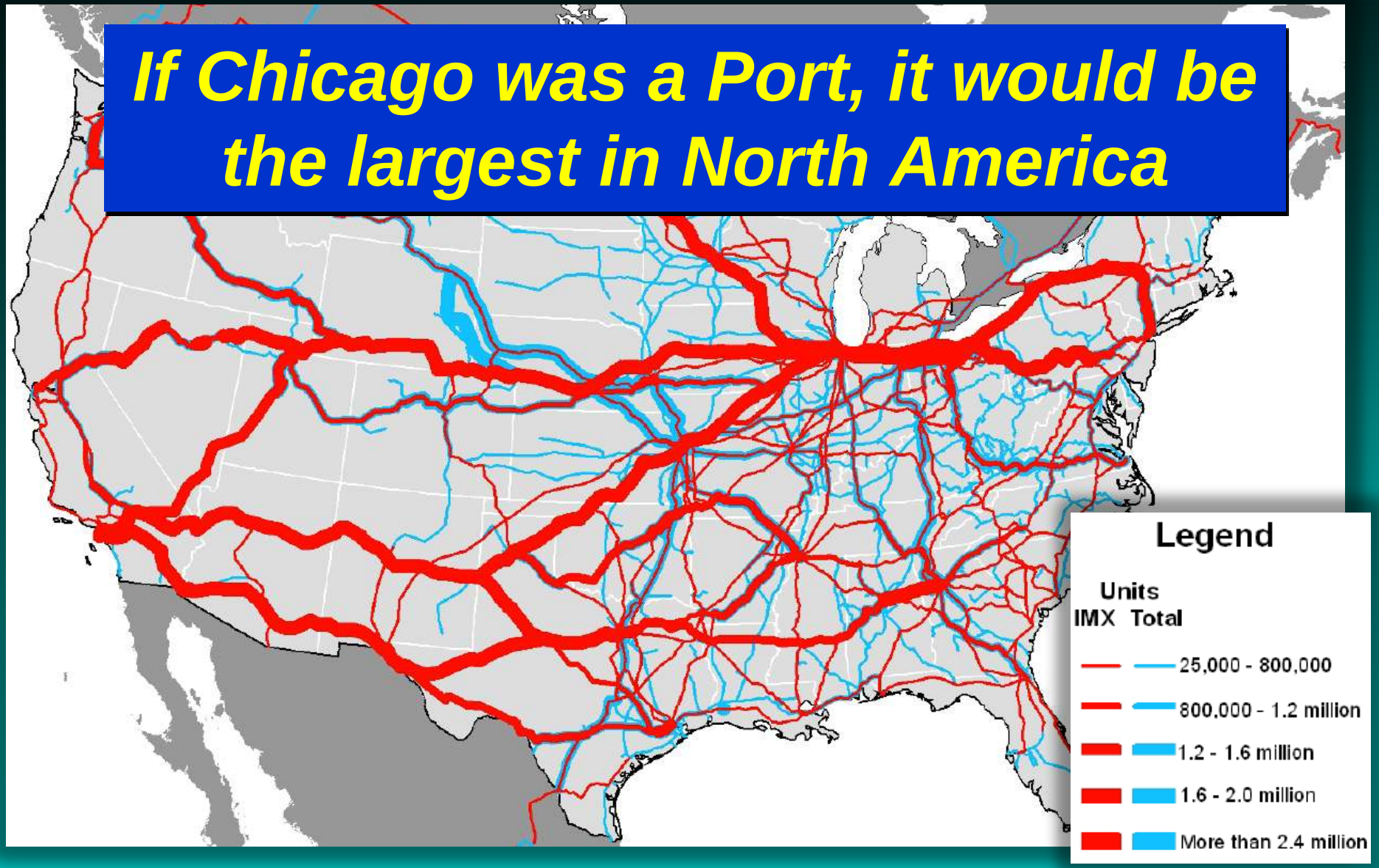
2035 Intermodal Rail Car Volumes



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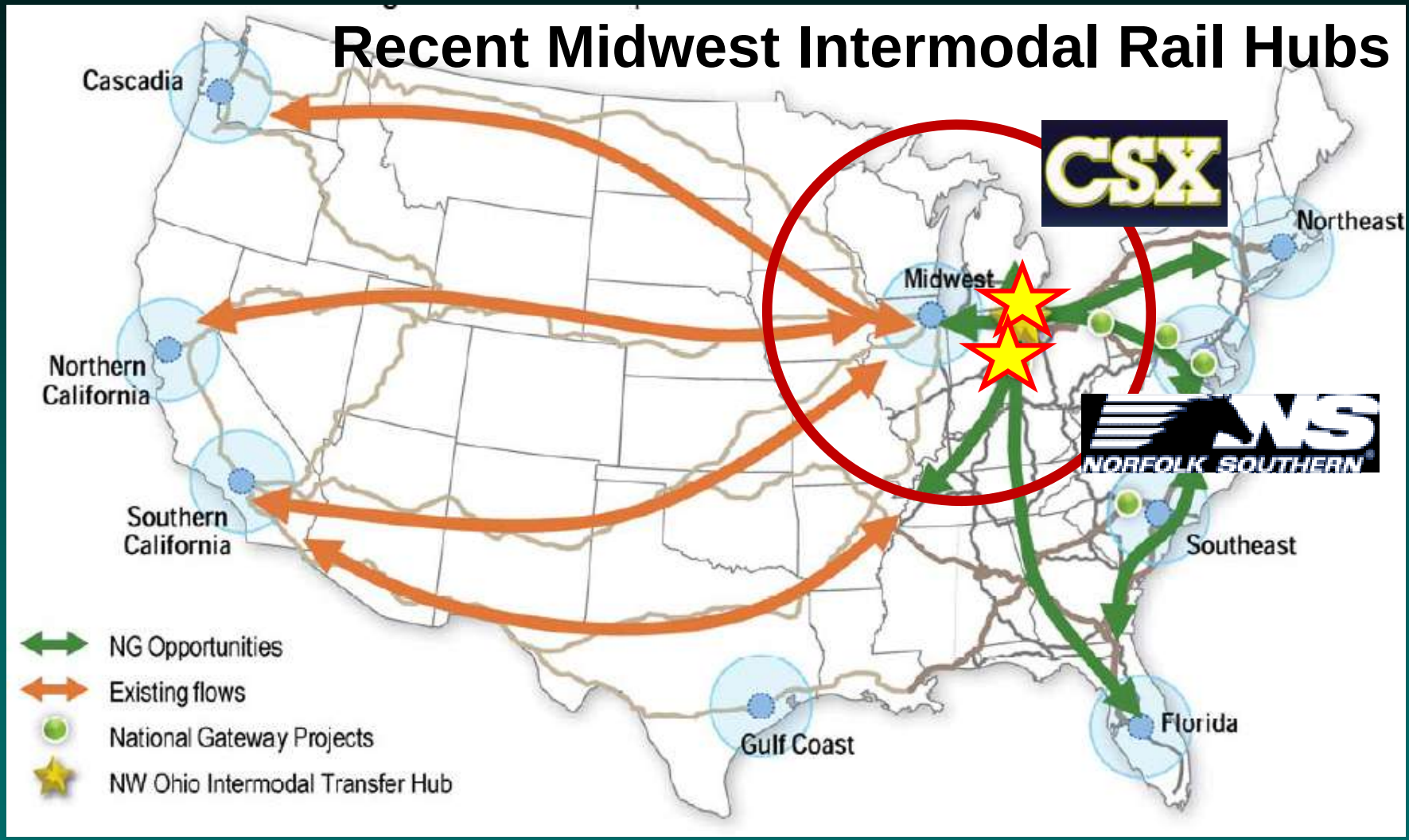
CSX & NS National Expansion of Integrated Intermodal Rail Logistics Centers



Maritime Vessel Technology Trends


April 26, 1956
58 Modified 35-foot Truck Containers
The deck of the *Ideal X* at Port Newark preparing for the historical sailing of the world's first containership
April 2006:
50 Year Anniversary of the Container
In 1955 Malcolm McLean, sold McLean Trucking, and secured a bank loan of US$42 million to build the world's first container ship.

World Container Ship Evolution

1st Generation (Pre-1960 - 1970)

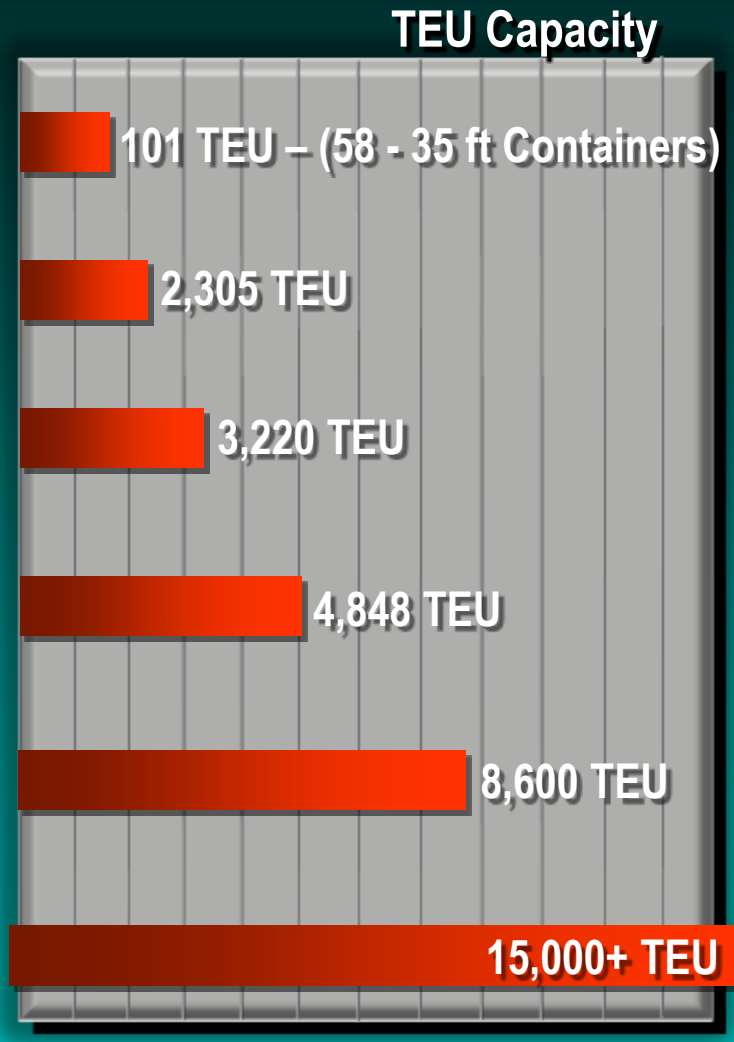
2nd Generation (1970 - 1980)

3rd Generation (1985)

4th Generation (1986 - 2000)

5th Generation (2000 - 2006)

6th Generation (2006 - 2012)



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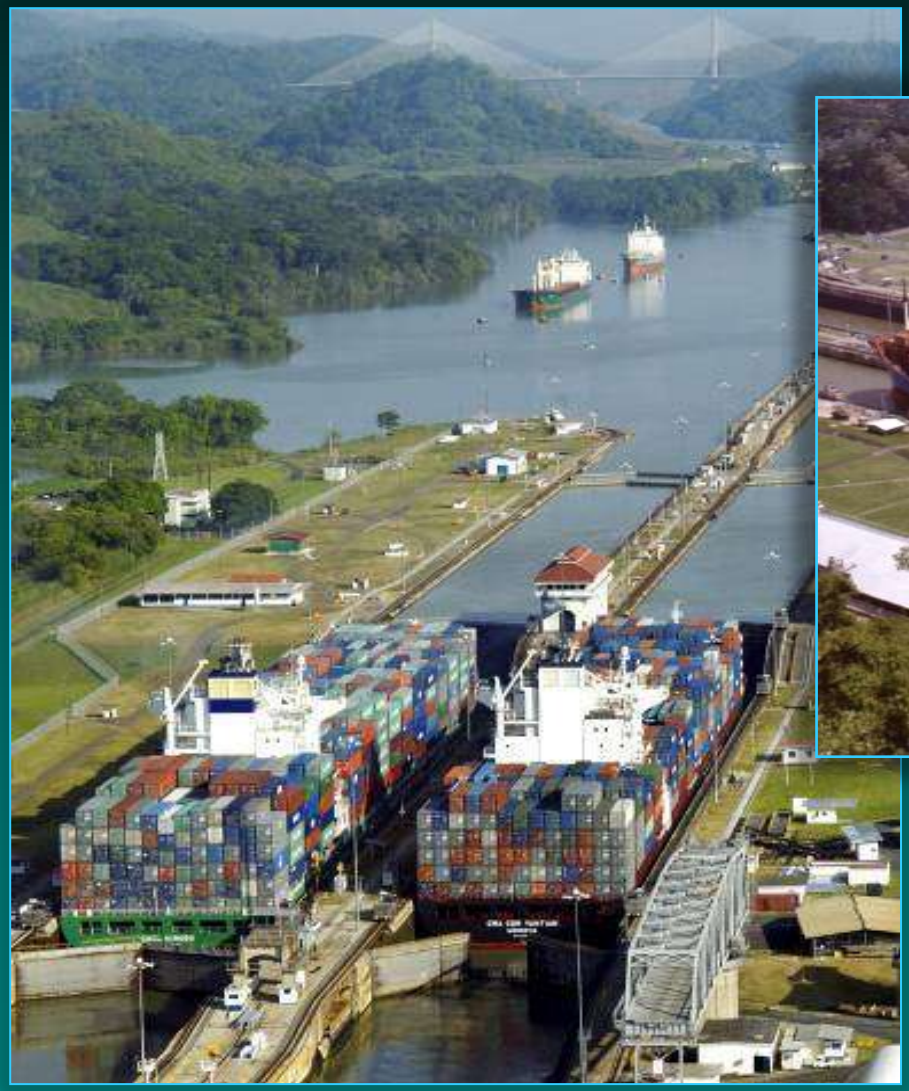
Madison Maersk (3,928 TEUs) in the Panama Canal

(Current Max Panamax Vessel Approx. 4,800 TEUs)



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*Maersk's New 30 Vessels (ordered) are **4** Times the Current Size of the Panama Canal & **1.5** times the Size of the Expanded Panama Canal*

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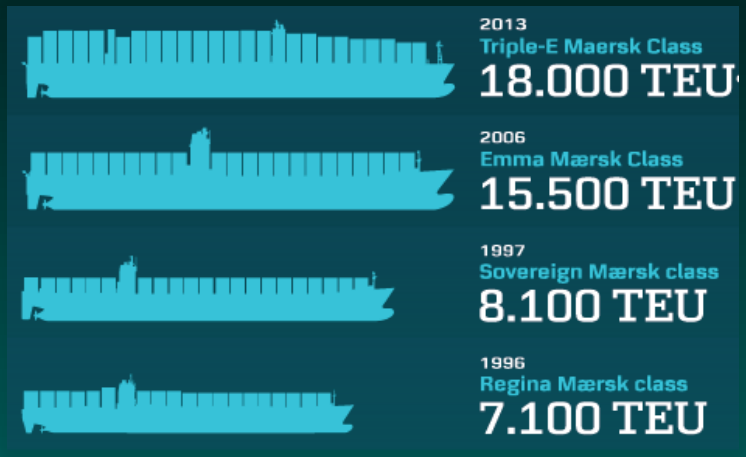
MAERSK LINE, LIMITED

February 2011: A.P. Moller-Maersk Orders 30 – 18,000 TEU Container Vessels "*Largest in the World*"



23 Containers Wide – 9 Tiers Above the Hatch

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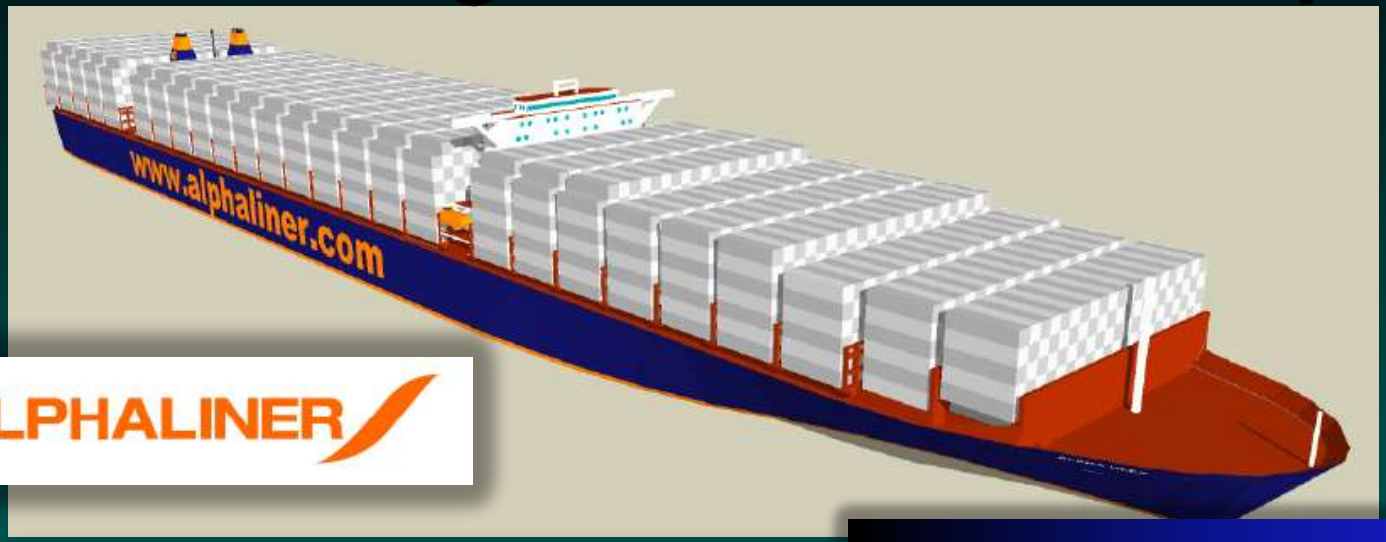
21,000 TEU Ultra Large Twin Engine Container Ship - 2011



ALPHALINER

23 Containers Wide

Source: Alphaliner Newsletter Volume 2011 Issue 4

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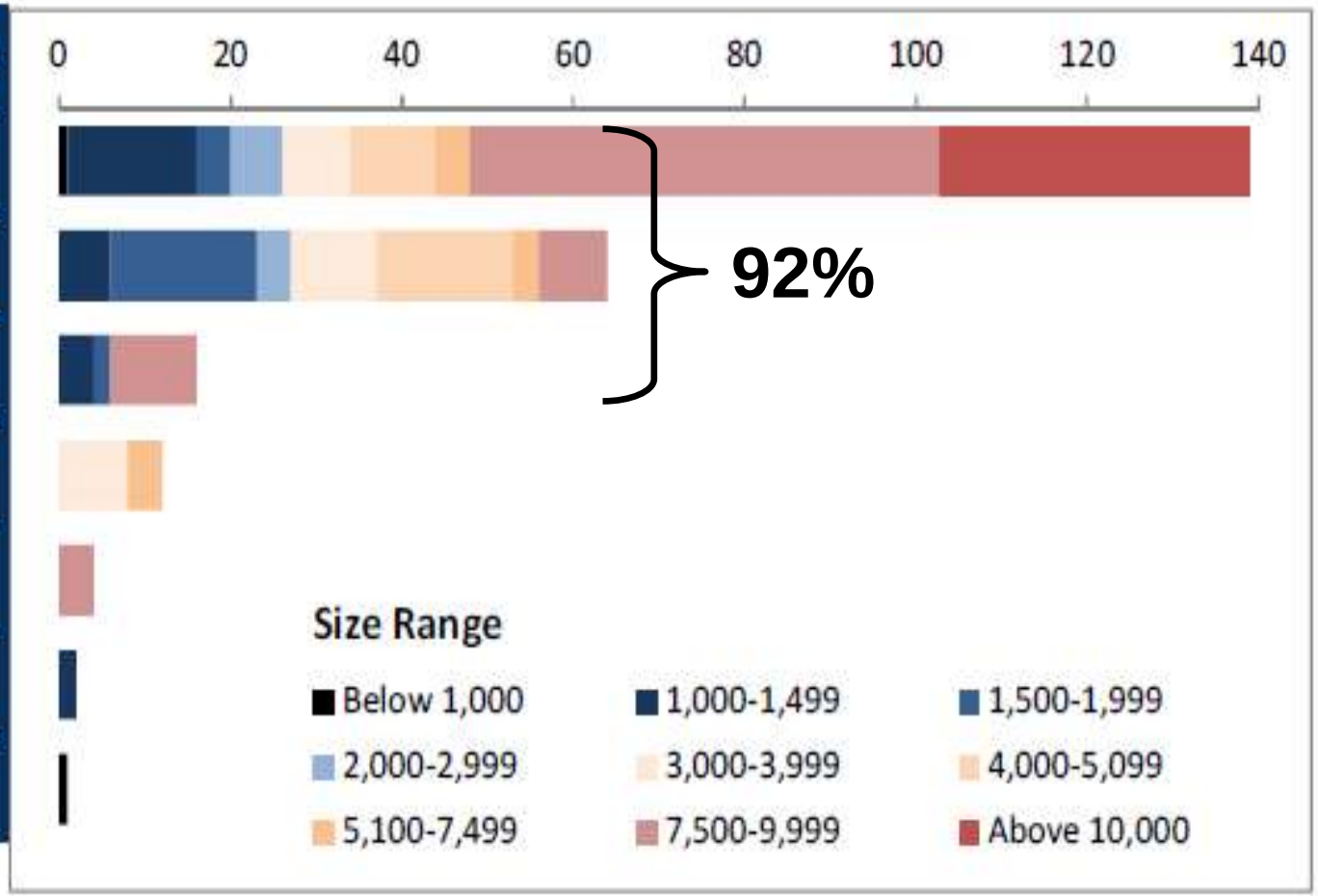
Containership Orders – Country of Build

(Orders Since January 2010)

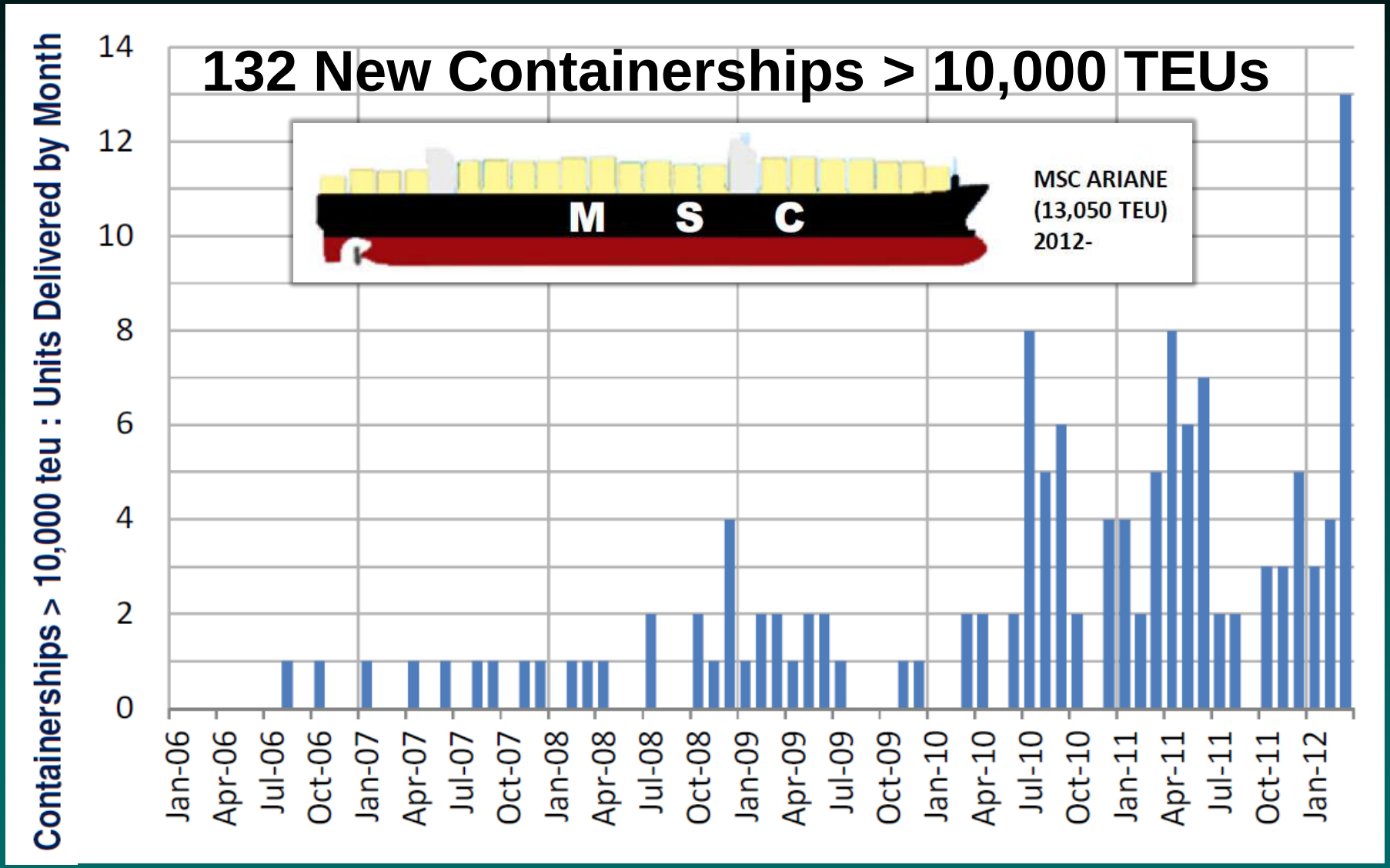
Country	Units
S Korea	139
China	64
Taiwan	16
Philippines	12
Romania	4
Japan	2
Germany	1



Source: Alphaliner Newsletter Volume 2011 Issue 21

Record New Container Ship Delivery > 10,000 TEUs

(11 Vessels now 13,000 to 14,000 TEUs)



Source: Alphaliner Volume 2012 Issue 14

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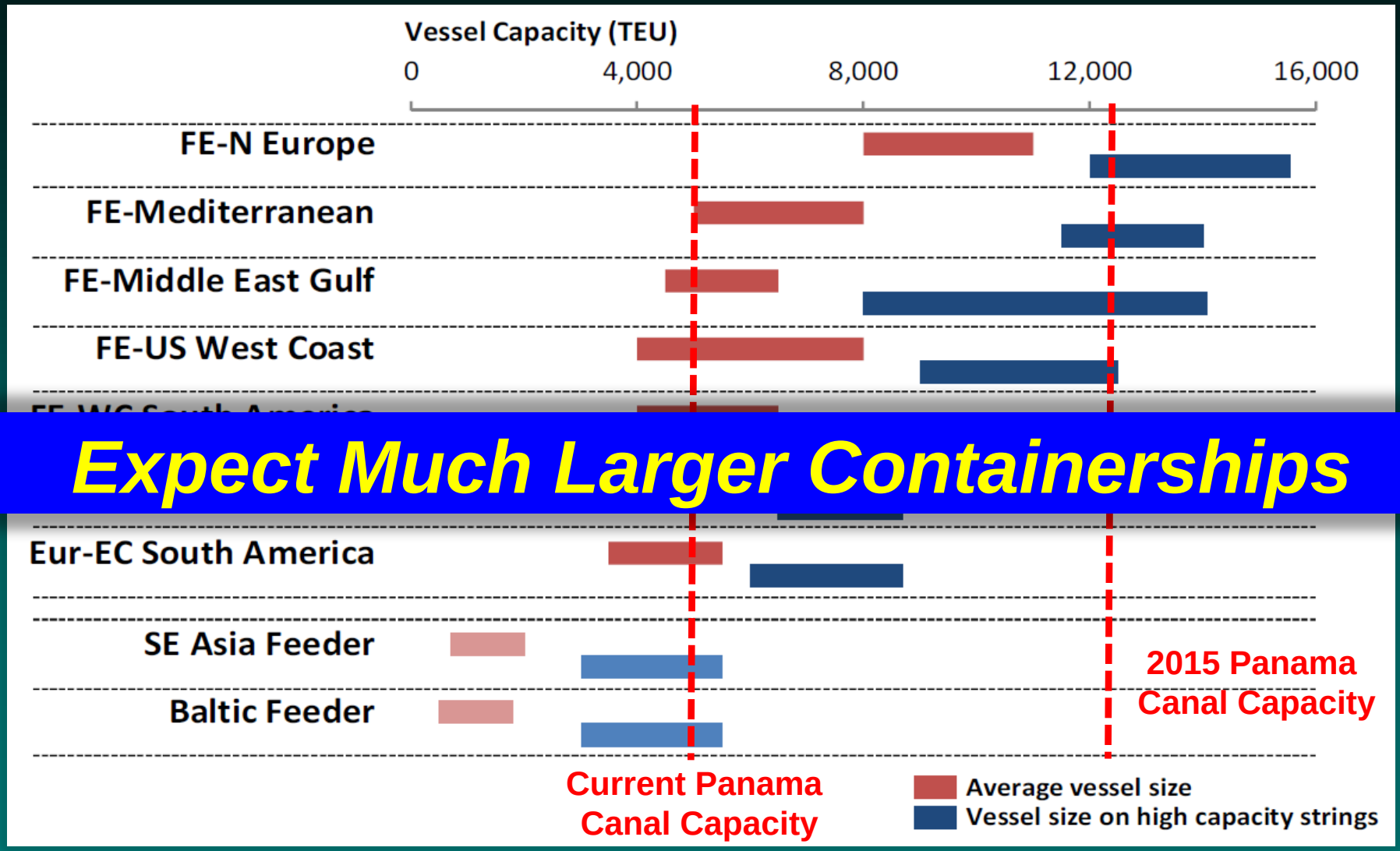
The Size of Container Ships to Come

(Average Containership sixe by Trade Route)



Expect Much Larger Containerships

Source: Alphaliner Volume 2012 Issue 14

Largest Container Vessel to Dock at a North American Port – March 21, 2012

MSC Fabiola (12,562 TEUs) at the Port of Oakland Built in Korea 2010

Length Overall (LOA): 366.08M - 1,201 Ft

Breadth: 48.2M – 158 Ft

Maximum water draft (fully loaded): 15.50M - 50.85 Ft

Deadweight Tonnage: 146,093 metric tons

25% Larger Than Any Other North American Vessel Call

Source: The Maritime Executive, LLC. – March 23, 2012

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Future Mega Container Vessel Characteristics:

Capacity = up to 22,000 TEUs
Deck Stow: 23 wide & 7- 9 Containers above hatch
Length = up to 1,445 ft (4.5 Football Fields)
Beam = up to 194 ft
Deadweight Tonnage = 220,000 Long Tons
Draft = up to 54 ft

Far Exceeds the 2014/15 Panama Third Lane Capacity

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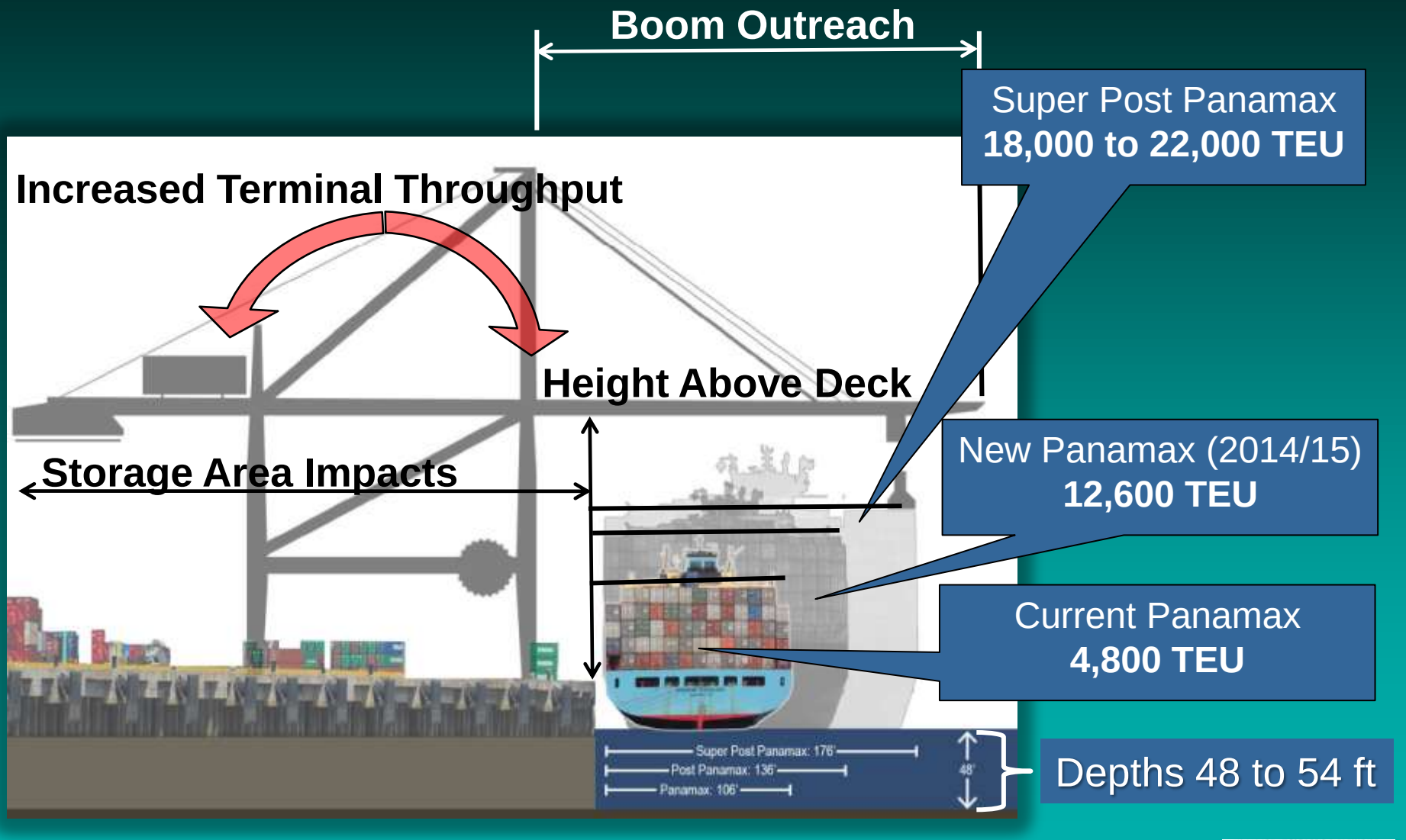
Vessel Size Expansion - Terminal Impacts

(Port Terminal Infrastructure & Equipment Geometry Impacts)



Source: Georgia Ports Authority and Vickerman & Associates

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NYK LOGISTICS & MEGACARRIER

Future Container Vessel: NYK Super Eco Ship

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NYK LOGISTICS & MEGACARRIER

Future Container Vessel: NYK Super Eco Ship

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Panama Canal Historical Tonnage Traffic

Million Canal tons

0
50
100
150
200
250
300
350

1915 1917 1919 1921 1923 1925 1927 1929 1931 1933 1935 1937 1939 1941 1943 1945 1947 1949 1951 1953 1955 1957 1959 1961 1963 1965 1967 1969 1971 1973 1975 1977 1979 1981 1983 1985 1987 1989 1991 1993 1995 1997 1999 2001 2003 2005 2007 2009

I World War (1914-1918)

Great Depression (1929-1934)

II World War (1939-1945)

Korean War (1950-1953)

Vietnam War (1958-1975)

Suez Canal Closure (1967)

First Oil Crisis 1973

Second Oil Crisis (1979)

Suez Canal Re-opened (1975)

Alaskan Oil (1980-1982)

Opening of Trans-isthmian Pipeline (1983)

Gulf War (1990-1991)

"El Niño" and Asian Crisis (1997-1998)

China Enters WTO

Iraq Invasion

Ports' strike in California (2004)

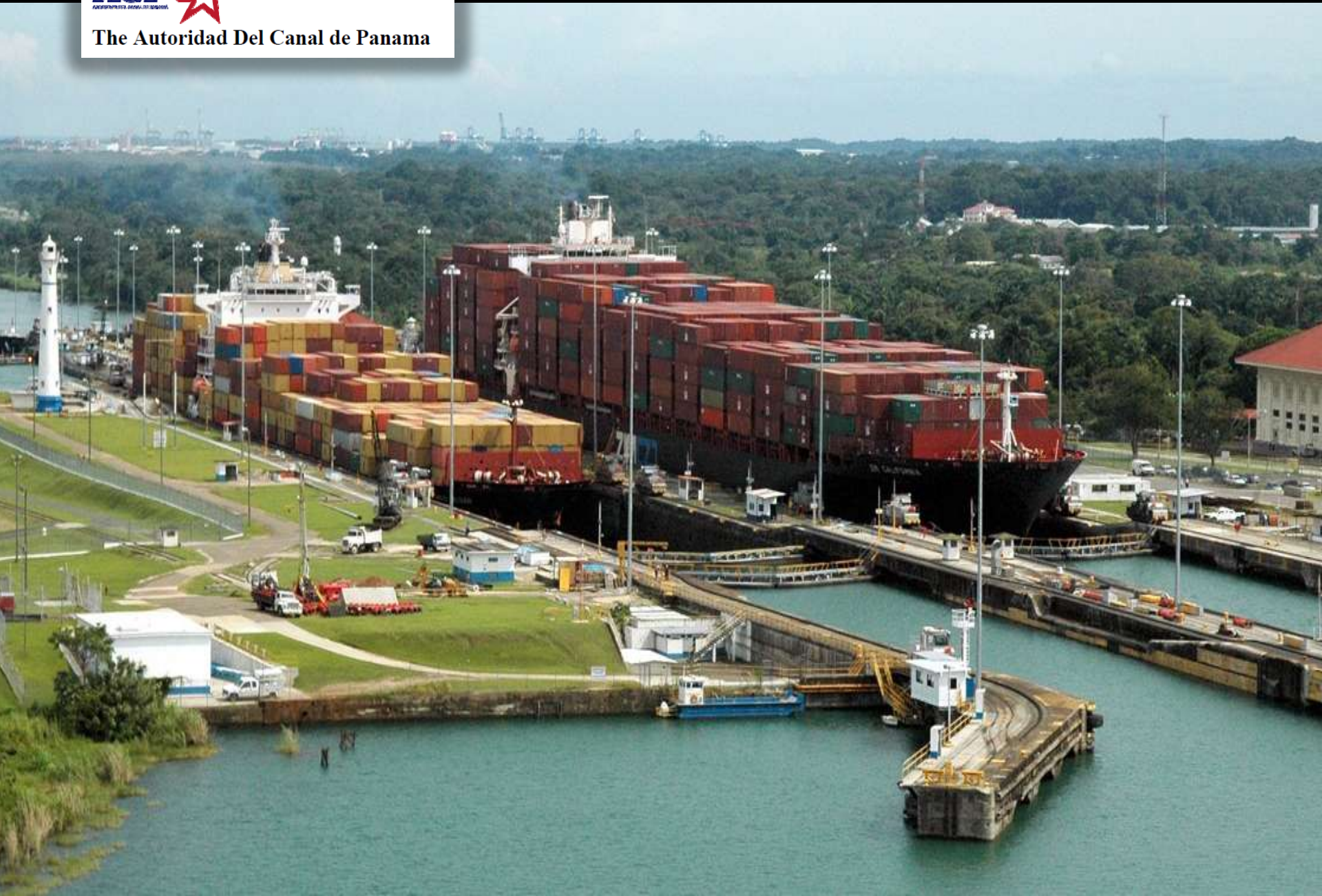
US Housing-Financial Crisis (2007-2009)

Source: ACP Data

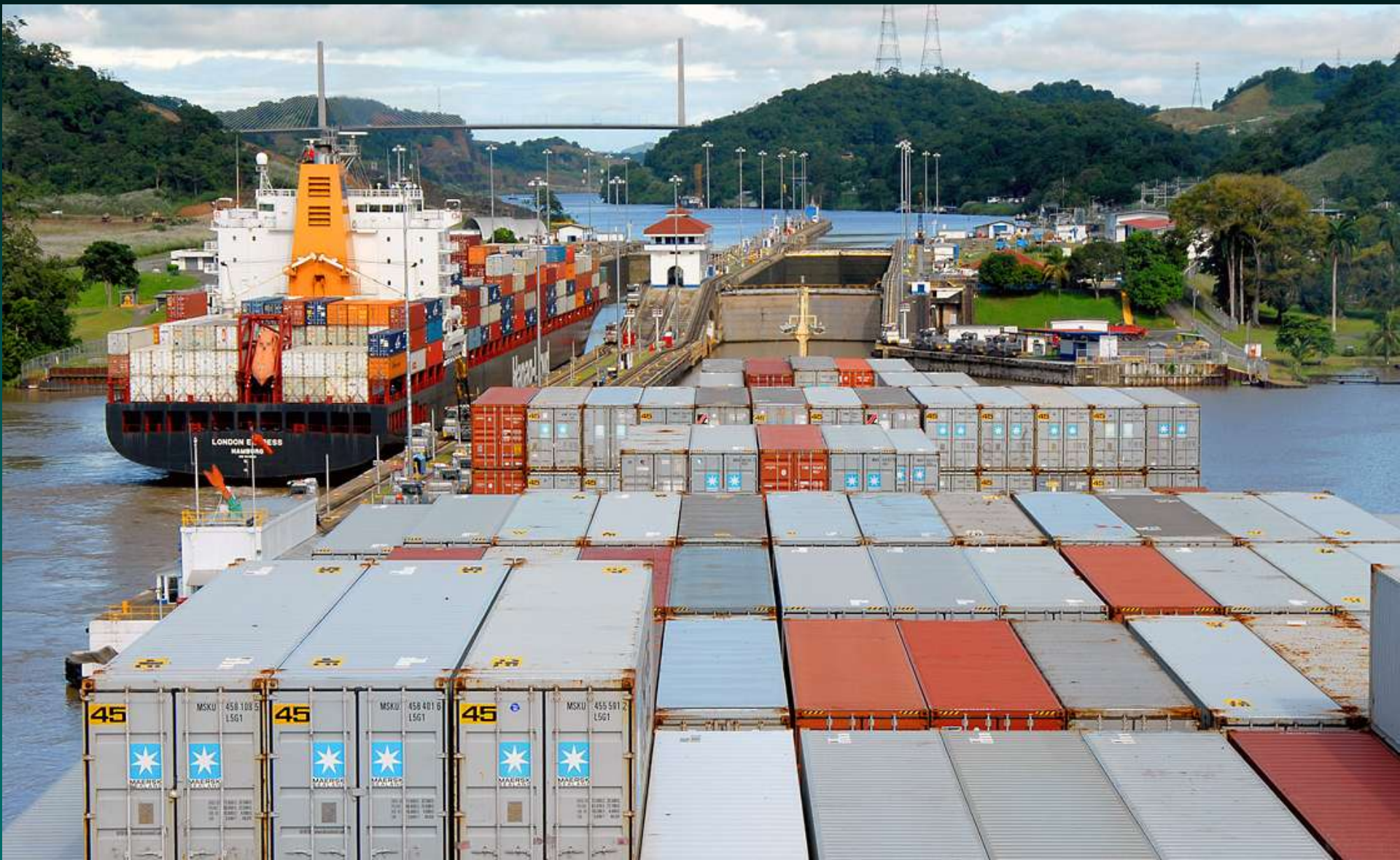
The Panama Canal Circa 1914

Panama Canal Today

The Autoridad Del Canal de Panama



Panama Canal Current Width: 13 Containers Across

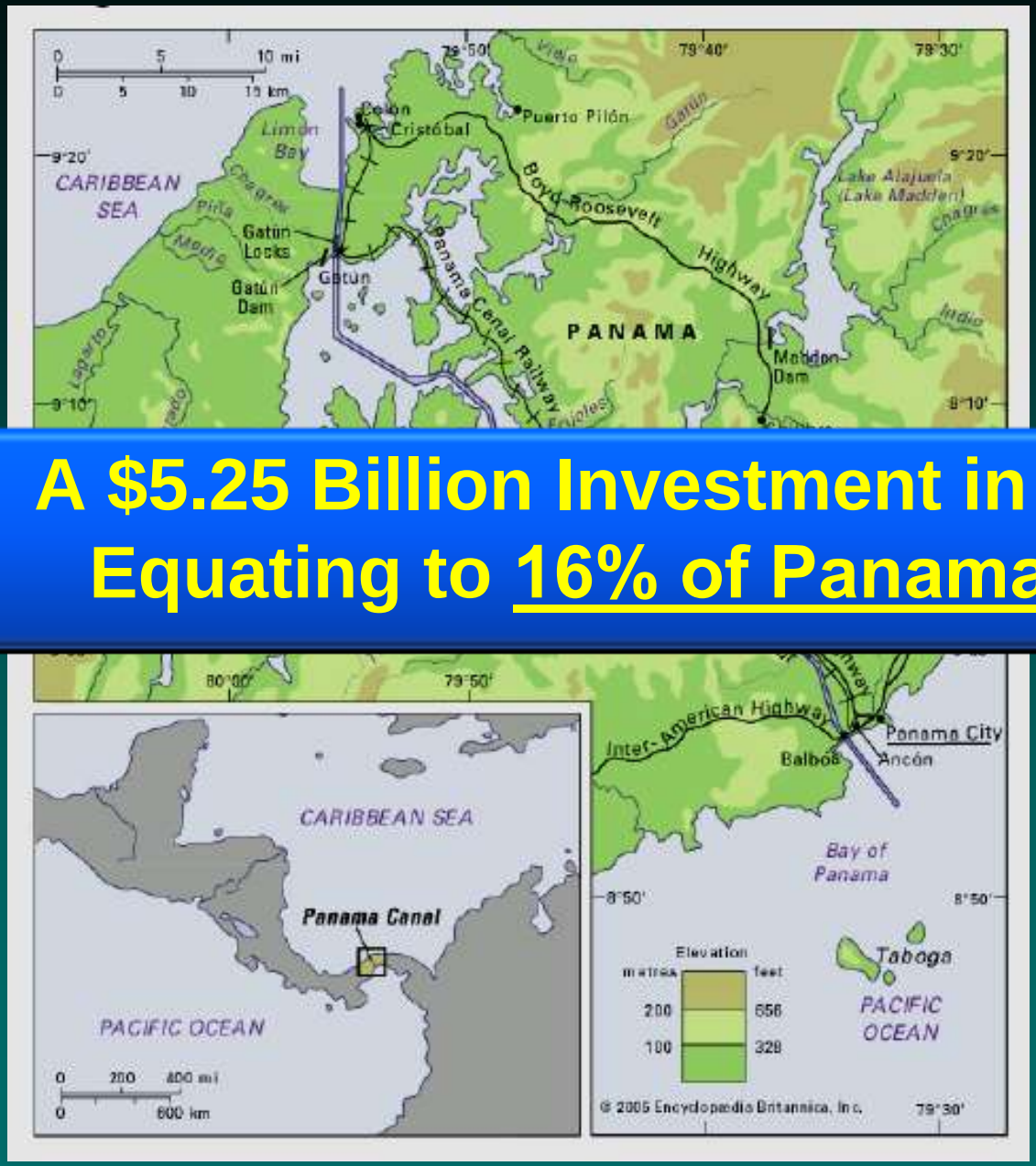


Post 2014 Panama Canal

The Autoridad Del Canal de Panama

Panama Canal Third Lane Expansion
Circa December 2014/January 2015

Panama Canal Expansion



The Autoridad Del Canal de Panama

More than **14,000 ships** a year pass through the **50 mile**

A $5.25 Billion Investment in a 3rd Set of Locks Equating to 16% of Panama's National GDP

Pacific Ocean & Caribbean Sea carrying **275 million tons of Cargo and $100 billion in container shipping**

Source: ACP Data

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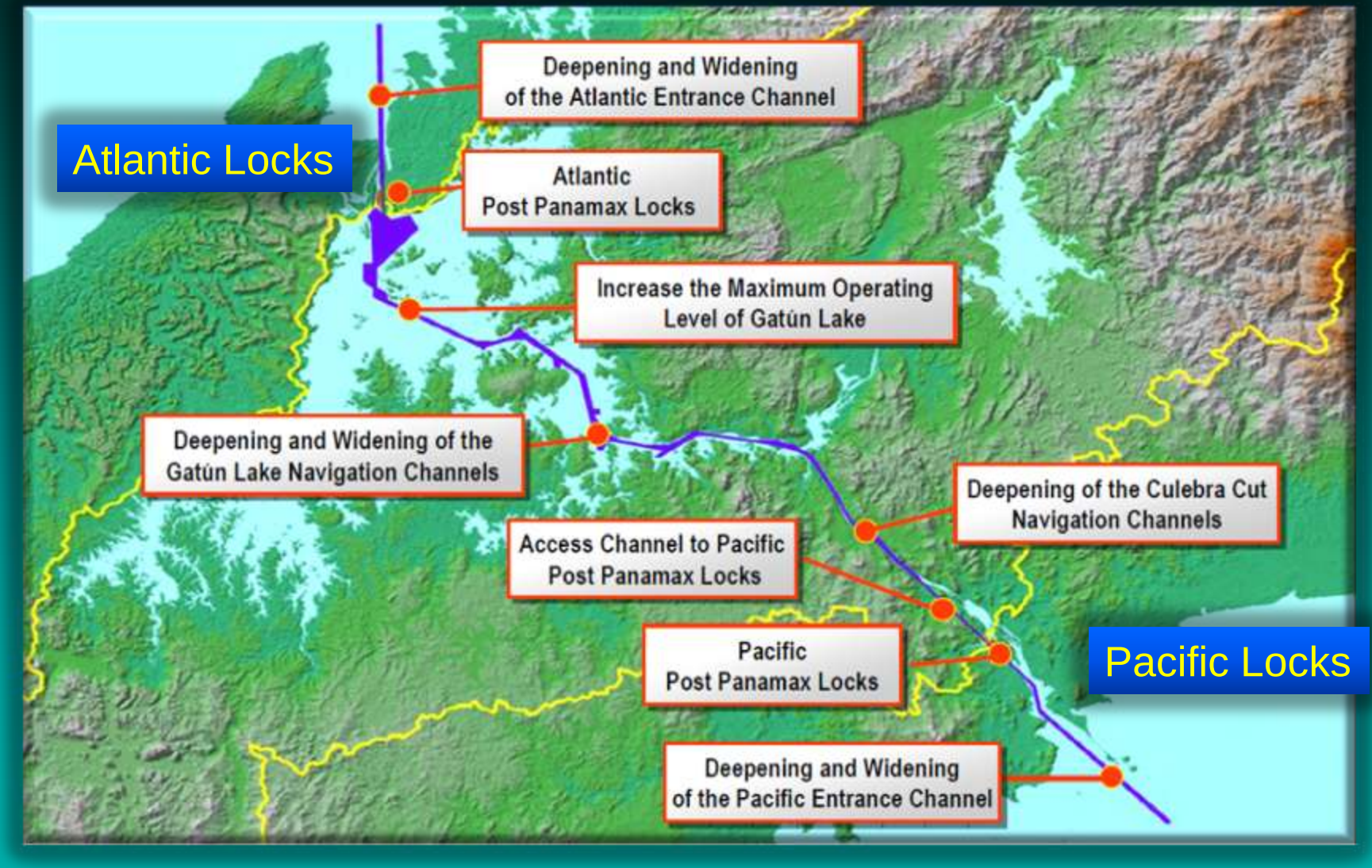
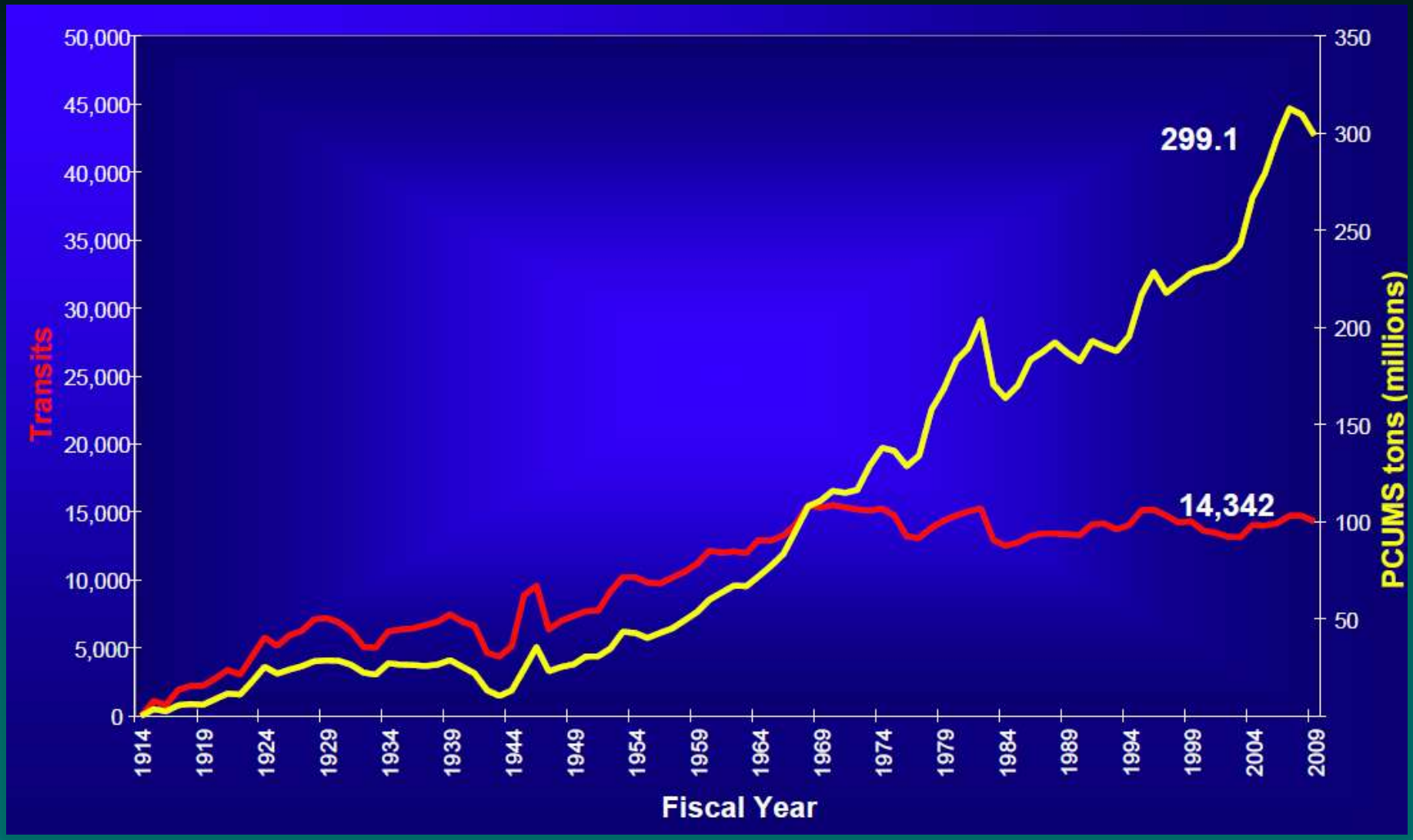
Panama Canal Expansion Program Components



Source: ACP Information

Panama Canal Transit & Tonnage Traffic

(Transits and PCUMS Tonnage 1914 to 2009)



Source: ACP Data

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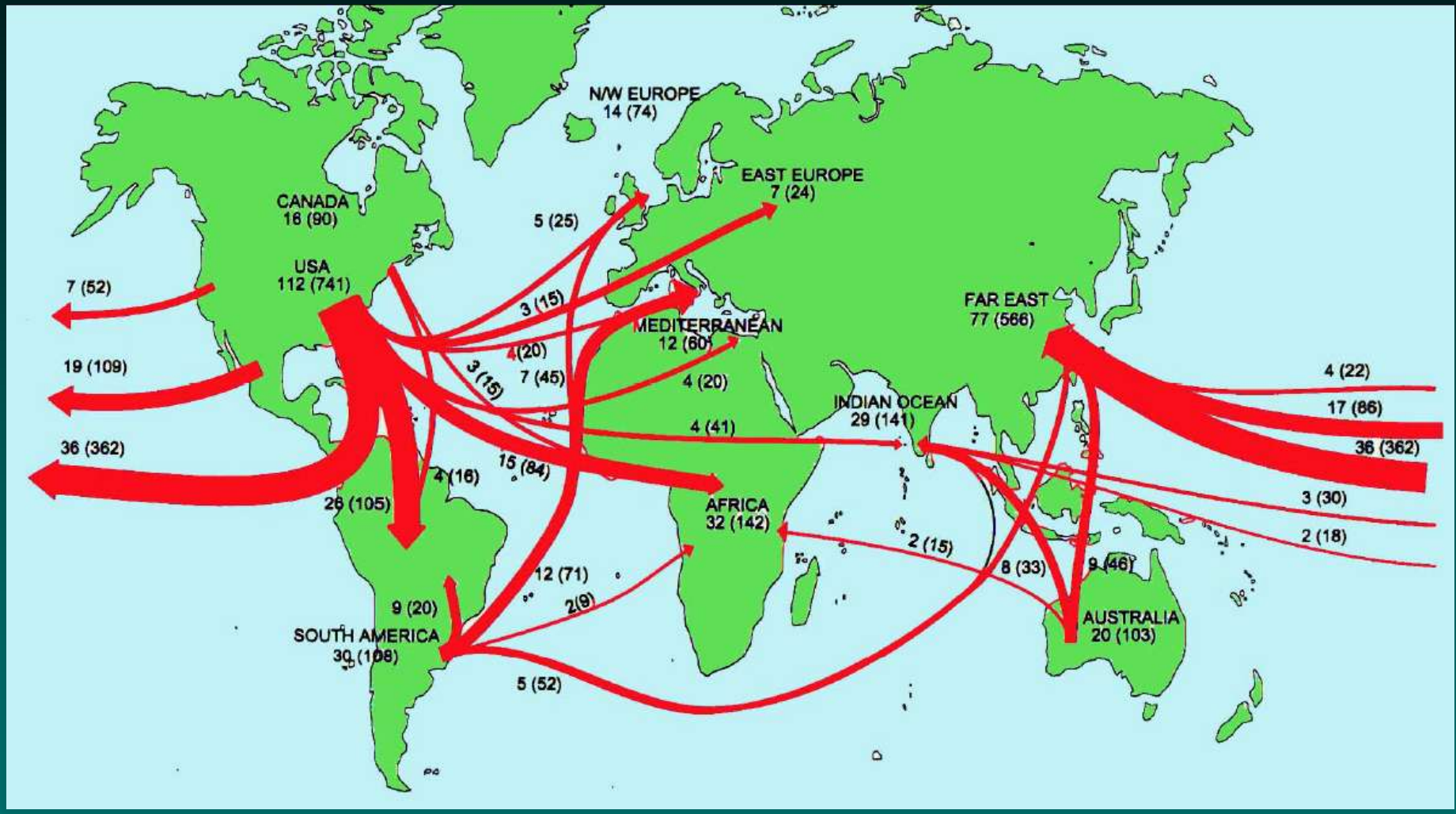
The Panama Canal is a Vital Link for US Grain Exports



Source: Fearnleys Research

A Larger Share of Other Vessels Will be Able to Transit the Canal - Fully Loaded

Crude Oil - 0% to 42%

LNG - 10% to 90%

Dry Bulk - 55% to 80%

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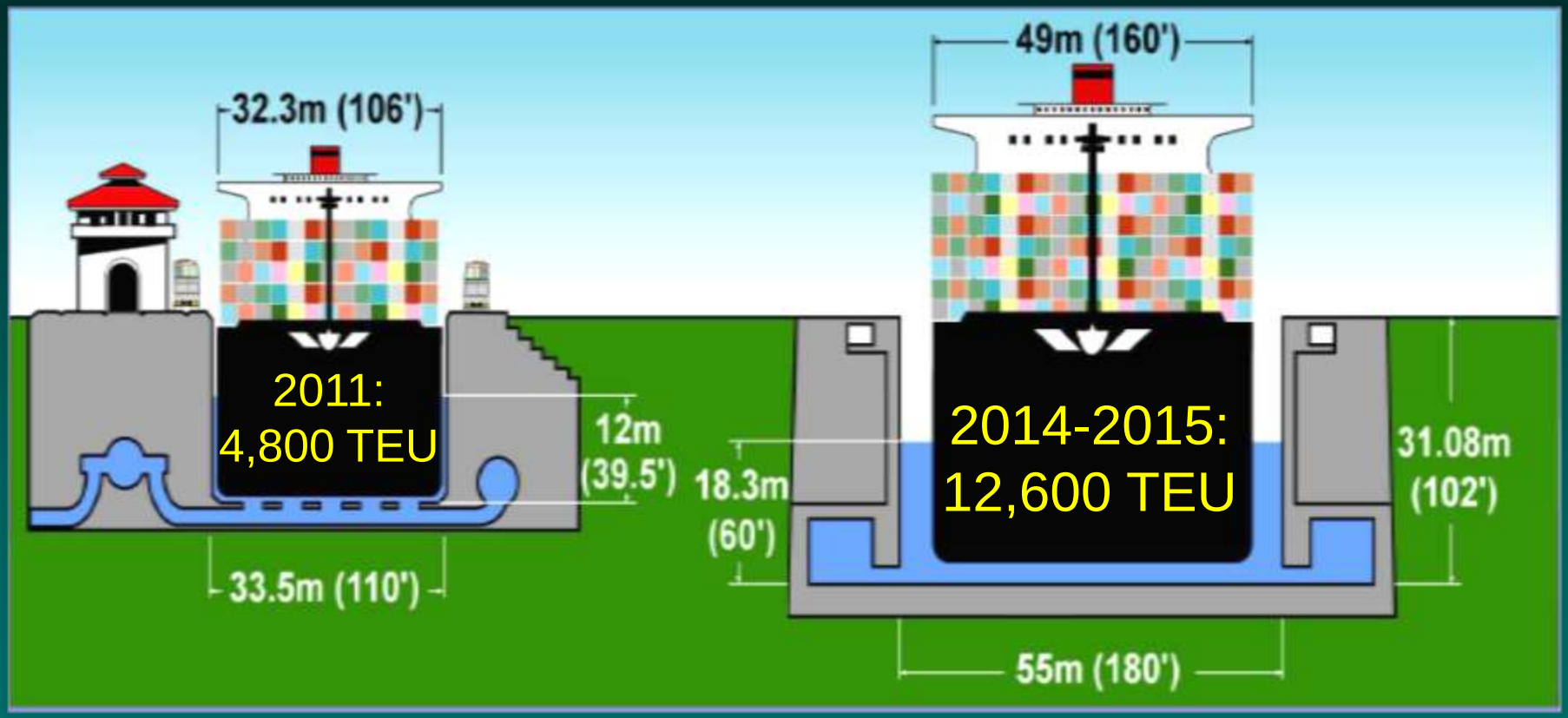
The Autoridad Del Canal de Panama

Panama Canal Third Lane Expansion Capabilities



Source: ACP Expansion Project

The New Post Panamax Capacity Favors All - Water Service Routes with the Following Vessel Characteristics:

- Vessel Capacity: **9,000 to 10,000 TEUs**
- Vessel Draft: **46 to 50 feet** (tropical fresh water)
- Required Port Channel Depths: **50 to 54 feet**
- LOA: **1,000 to 1,200 feet**
- Beam: **140 to 160 feet**

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The Container Ship Colombo Express (8750 TEU)

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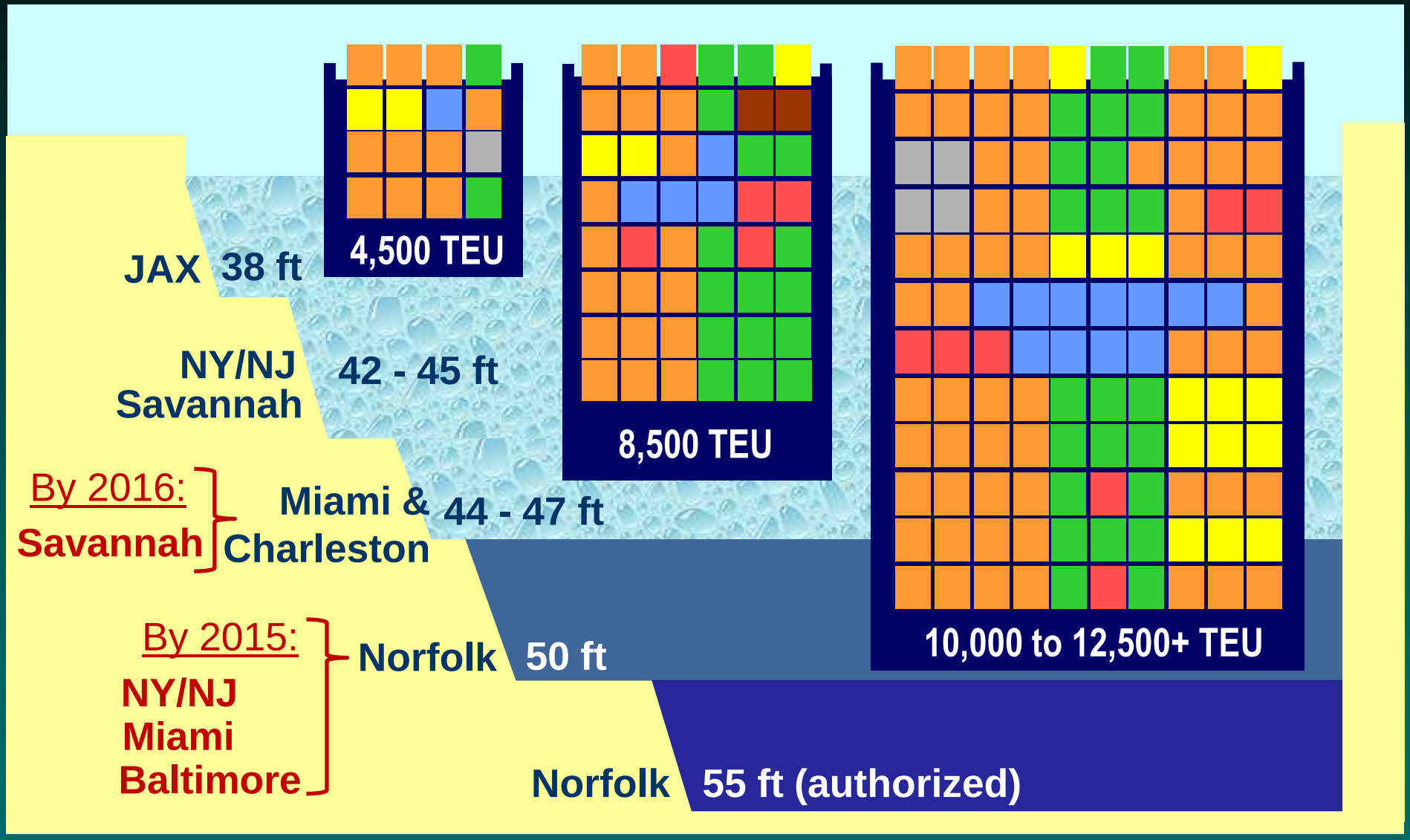
Today Only The Port of Virginia Can Handle The New 2015 Panamax Vessels Fully Loaded



Source: Virginia Port Authority (VPA) October 2011

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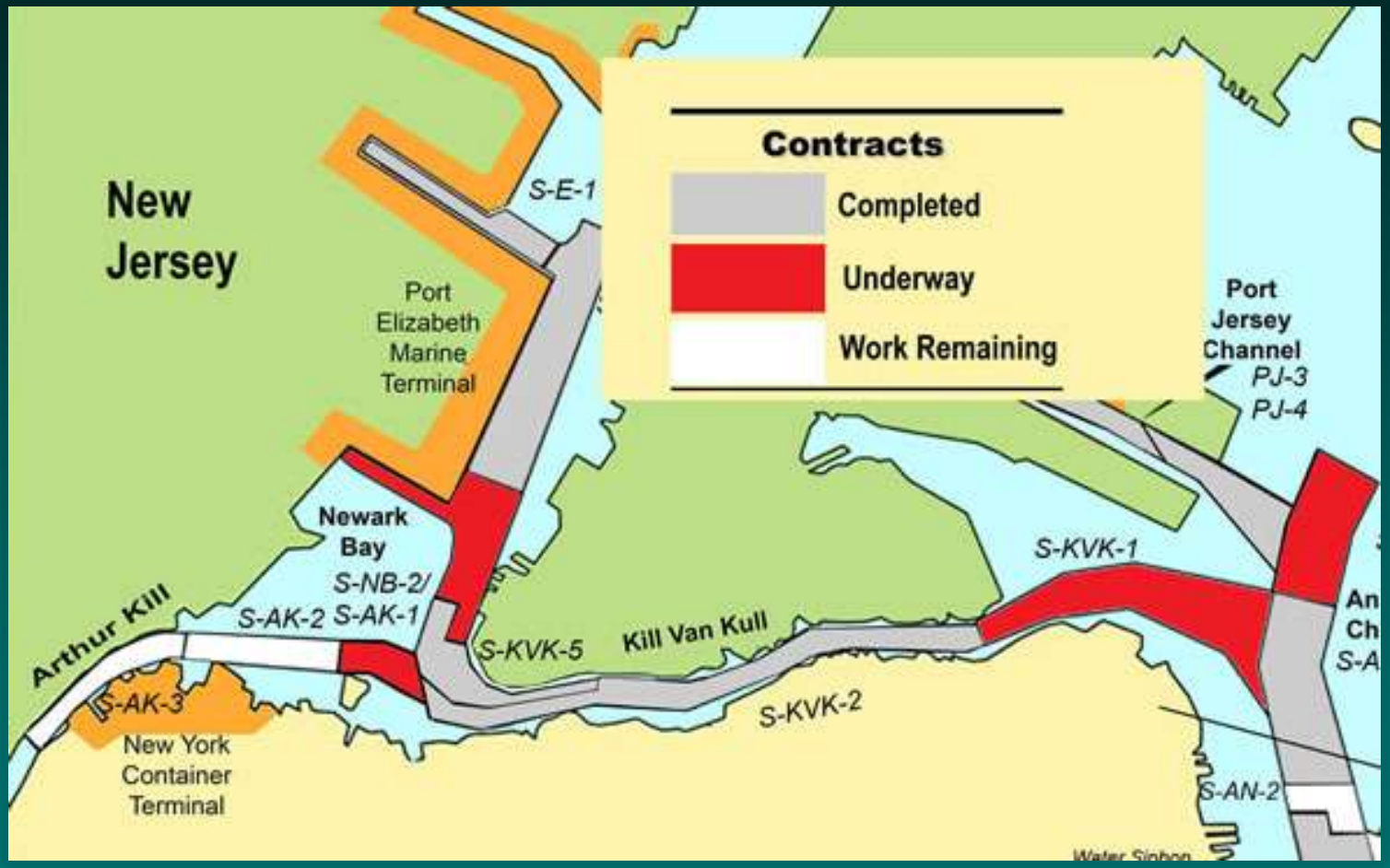
Port Authority of New York & New Jersey Entrance Channel & Harbor Dredging Program

($1.6 Billion Program, Completion December 2014)

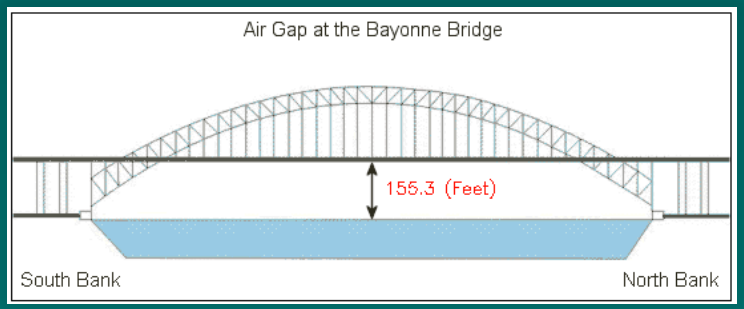


Raising of the Bayonne Bridge

(Estimated at $1 billion)

Future Clearance: 214 ft

Current Clearance: 155.3 ft



Panama Canal Future Transit Revenues & Canal Alternatives

Typical Container Vessel Service Route

Asia to USEC: Weekly Service with 8 - 4,320 TEU Vessels Generating 104 Yearly Transits and $150 million in Annual Canal Transit Fees

Source: ACP Data

2025 Summary of Canal's Financial Results

(To 2025 In Millions of Dollars – Annual Fees)

Summary of the Expanded Canal's Financial Results			
Financial Results[1]	**Year 2005**	**Year 2025**	**Annual average growth rate**
PCUMS Tons[2]	279	508	3.0%
Transit Revenue	1,033	6,101	8.9%
Other Revenues	92	125	1.5%
Total Revenues	**1,209**	**6,227**	**8.5%**
Operating Costs	444	1,016	4.2%
Fee per Net Ton[3]	218	668	6.5%
Public Services Fees[3]	2	2	0.0%
Depreciation	61	231	6.8%
Net Income	**704**	**4,310**	**11.6%**

546% Increase

890% Increase

Source: ACP Financial Data

Alternative "Dry Canal" Proposals to Counteract Anticipated Canal Fees/Costs

APM Terminals announced $1 billion Container Port in Costa Rica

China's proposal: 136-mile "dry canal" (Pacific Port of Buenaventura & Atlantic Coast Port of Cartagena in Colombia.

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Non-Transit Panama Canal "Feeder Services"

May Be the Real Boom from the Canal Expansion

Weekly Through Transits

Feeder Services – No Transit

Source: ACP and Compare , 2008 Data

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Panama Maritime Authority Becomes A Major Transhipment Center

Source: Panama Maritime Authority


AAPA
Panama Canal
Expansion Impacts:
Prediction Scenarios
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Panama Canal Vessel Deployments Will Determine New US Logistics Patterns

The Distance to New Orleans and Savannah Via the Panama Canal

A <u>Competitive & Robust</u> Landside Access to the Gateway Port's <u>Inland Market</u> will be a Key Success Factor!

The Primary North American Competitor to the Panama Canal is the Class I Rail Intermodal System

(Potential Increased Service Offerings and System Capacity)

Source: USDOT Maritime Administration (MARAD) 2009

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Post 2015 Expanded Canal: Predicting the Future Impacts for the US East & Gulf Coasts?

IF:

- ✓ *West Coast Ports & Rail become/remain congested…*
- ✓ *East Coast Ports Accommodate the big ships…*
- ✓ *Canal Cost Remains Price Competitive with Suez…*
- ✓ *Cargo Trade Volumes Continue to Increase…*
- ✓ *Canal's infrastructure keeps pace with Growth…*

Then:

- ✓ **Global Carriers will route as much traffic via the expanded Panama Canal as it can handle…**

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Post 2015 Expanded Canal: Predicting the Future Impacts for the US East & Gulf Coasts?

IF:

- ✓ *Panama Canal Tolls are Set to Maximize Revenue and not Container Volumes…*
- ✓ *East Coast Ports Can't Accommodate the big ships – Channel Draft & Terminal Impacts…*
- ✓ *Class I Railroads Exert Their "Pricing Flexibility"…*
- ✓ *All-Water Time is not competitive for High Value Time Sensitive Intermodal Landbridge Cargo…*

Then:

- ✓ **The Panama Canal Market Shift to the East and Gulf Coast May Not Occur at All!**

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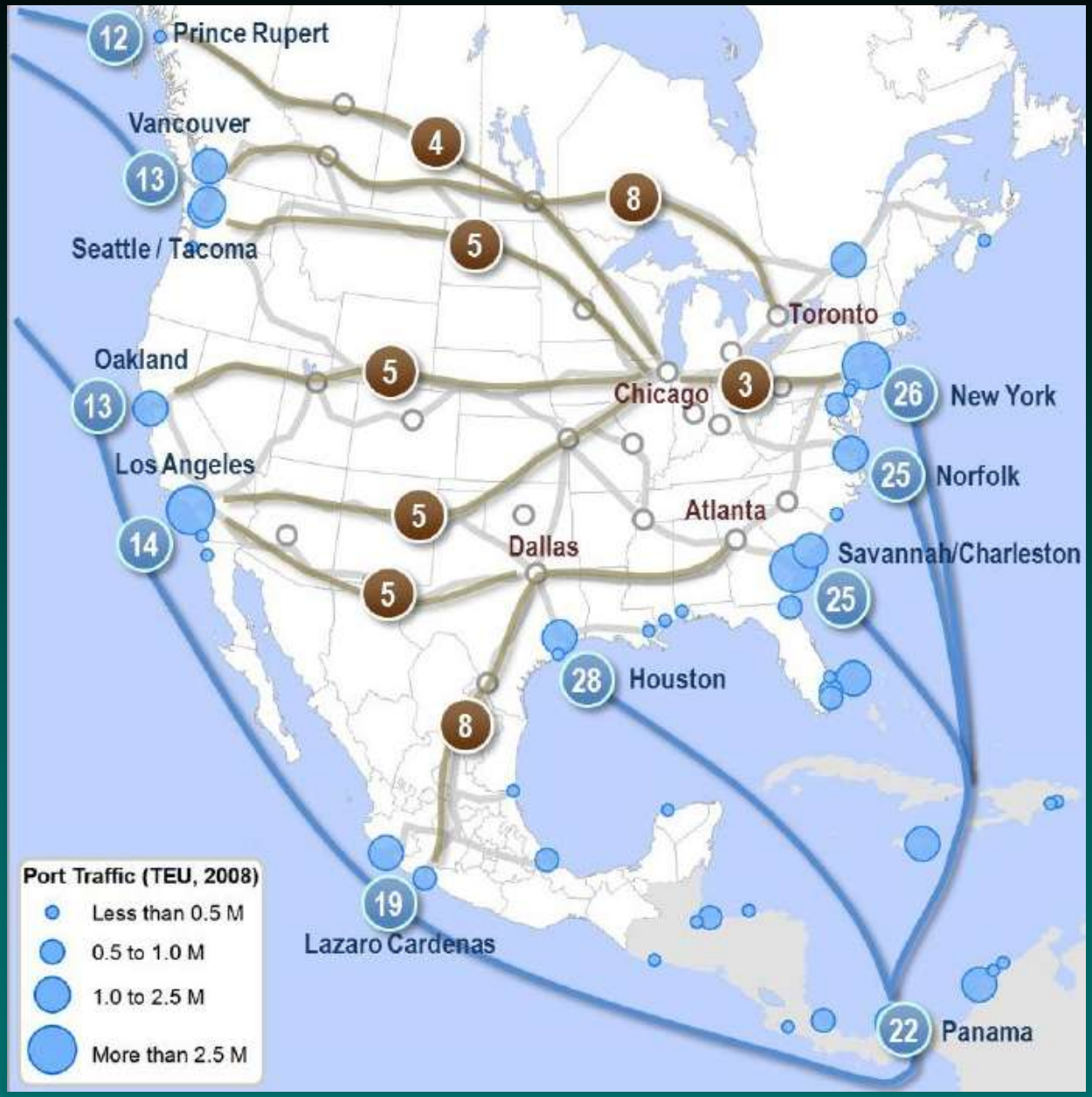
Panama Canal Large Vessel Market Penetration into the US Midwest

VICKERMAN & ASSOCIATES LLC

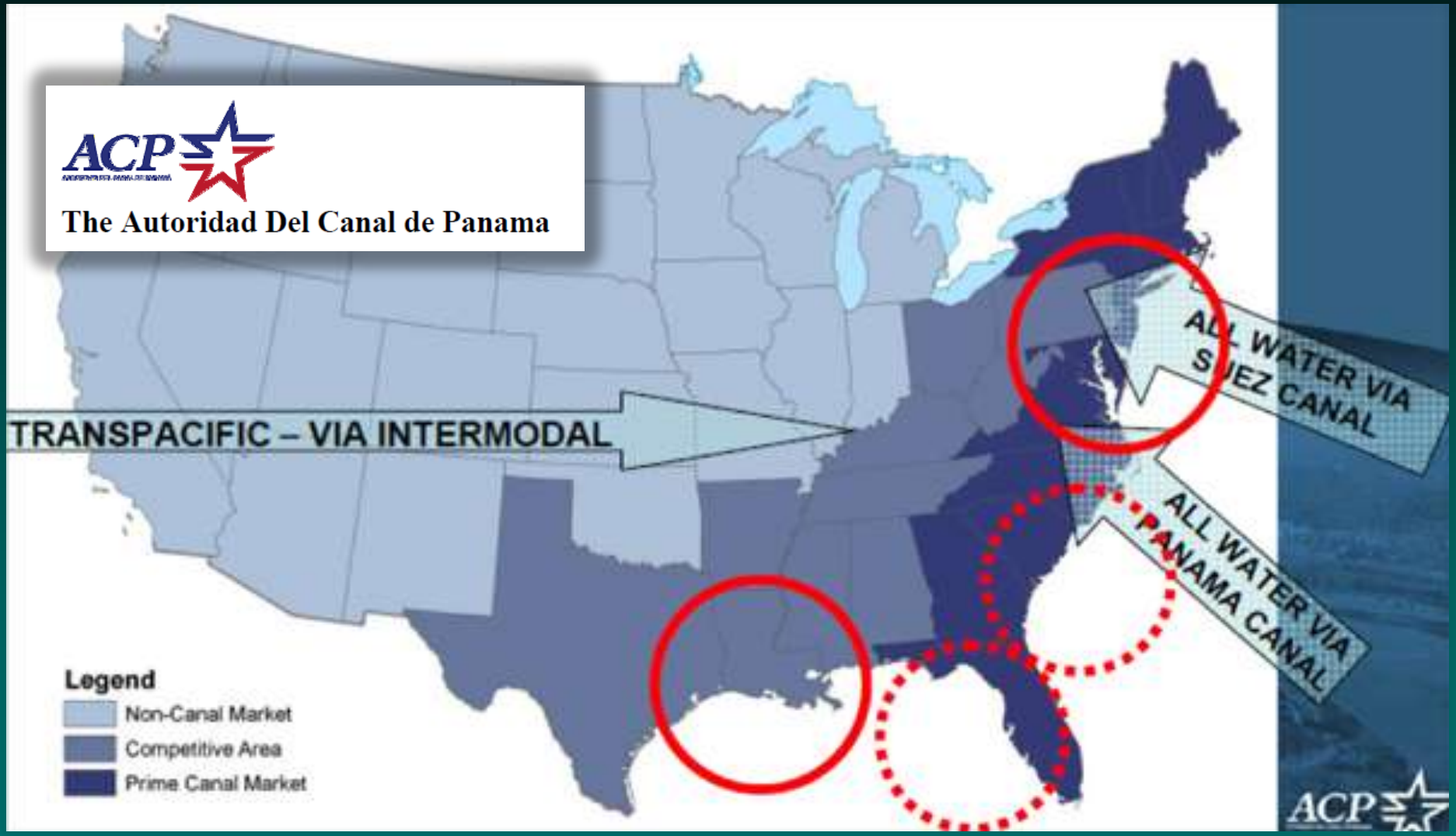
Shanghai to North American Destination Transit Times:

(Ocean Transit and Rail Land-Bridge Routings in Days)



Source: Based on Prologis data

Panama Canal's Designation of "Prime" and "Competitive" Canal Markets Destinations



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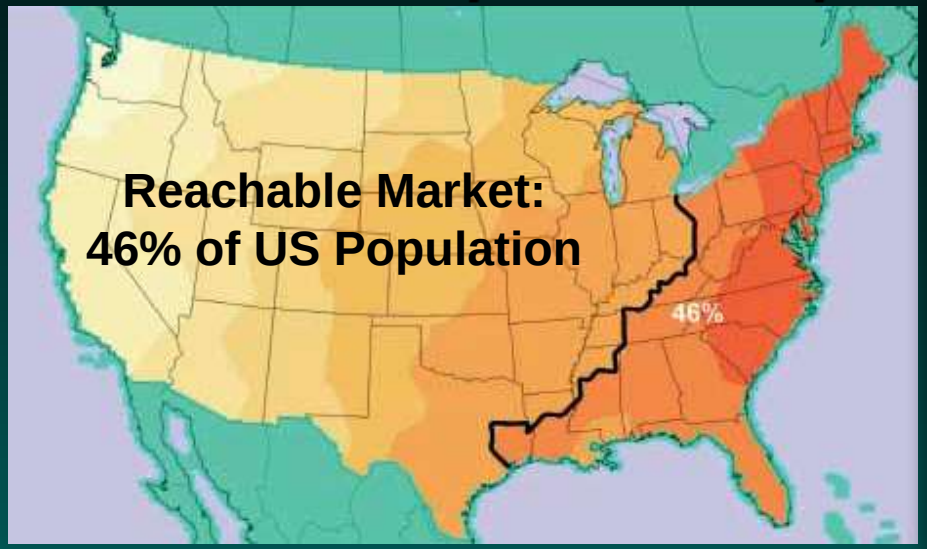
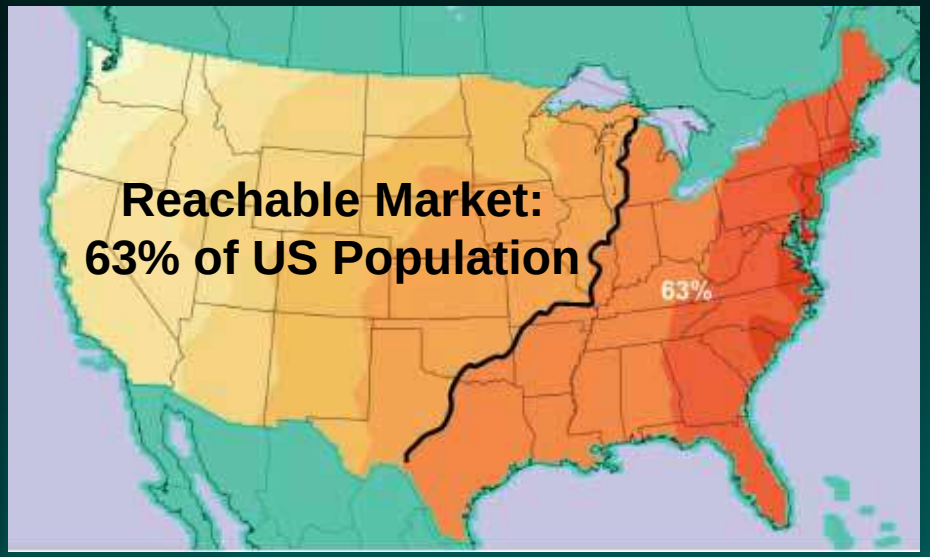
Dramatic Market Penetration in 2015

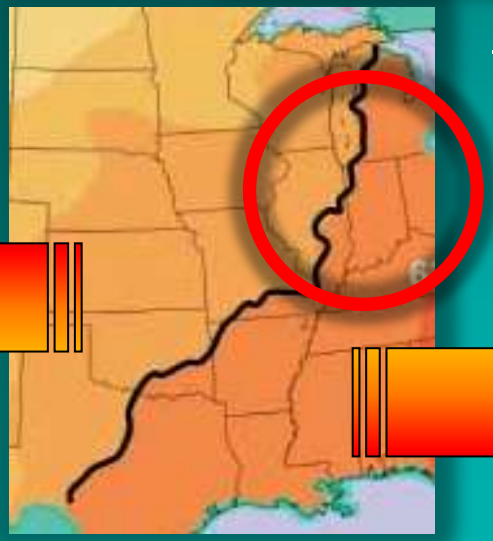
Panama Canal Economies of Scale with permit deeper market penetration into the US





4,000 TEU ship, all-water.

8,000 TEU ship, all-water.



Indiana at the Epicenter

West Coast
Cost Advantage

East Coast
Cost Advantage

Source: PB Consultants - CSX Transportation May 12, 2011 - Director of Strategic Analysis

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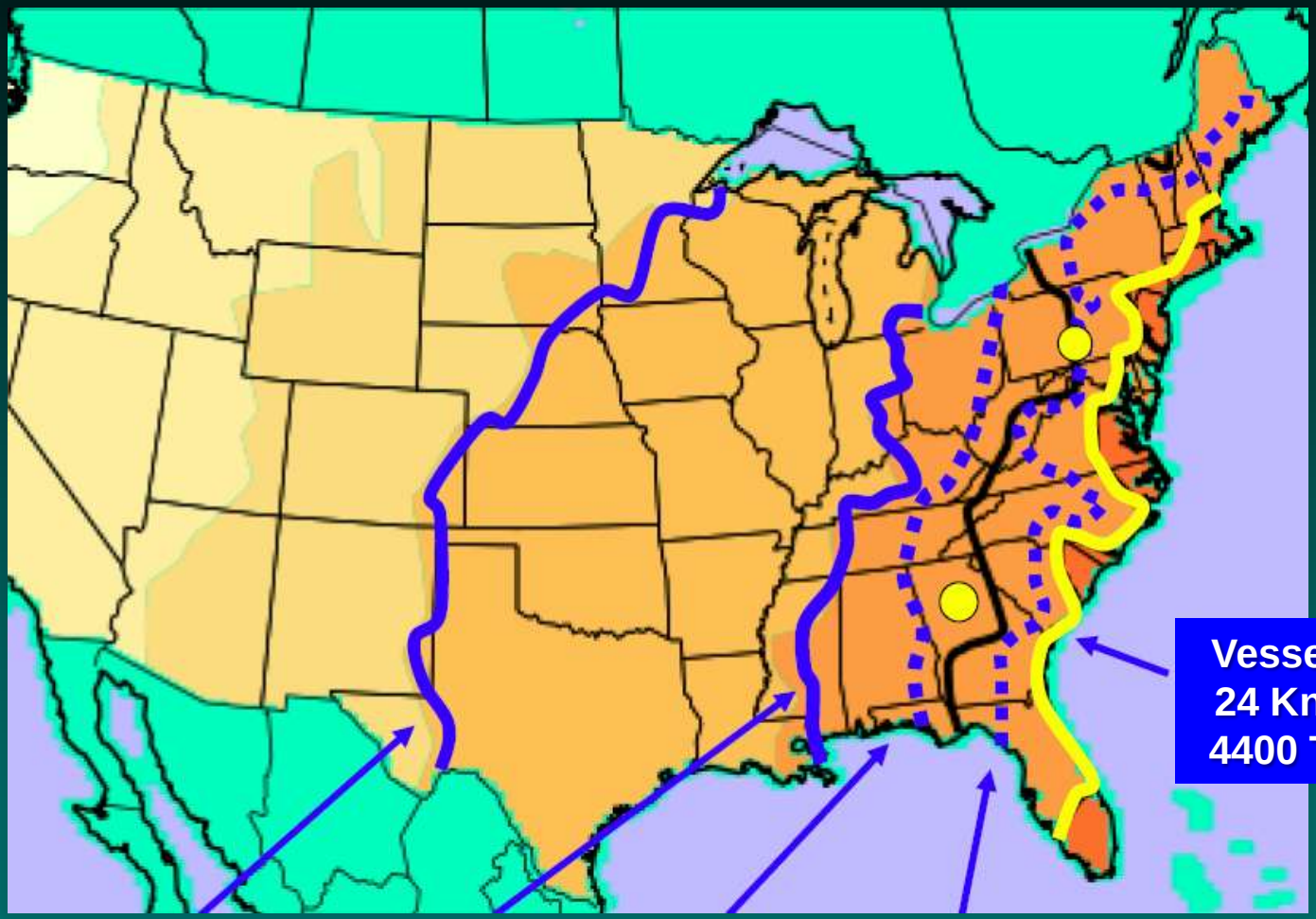
Market Penetration - High Value Goods

($300,000 Per Container – i.e.: Shoes)



Source: PB Consultants - CSX Transportation May 12, 2011 - Director of Strategic Analysis

Cargo Will Flow "*Downhill*" to the "*Lowest Cost - Best Service Levels*"

(Total Logistics Costs From Origin to Destination)

More Competitive Regions will End up with the Cargo

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Inland Ports: Defined – A Convergence of Logistic Trends

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Inland Ports Defined

A Convergence of Logistics Trends

Short Sea Shipping Technology

Intermodal Rail

Logistics

Automation

Distribution Center

Inland Ports: Europe's Current Strategy Applications

Rotterdam World Gateway- EUROGATE Builds an Inland Container Port Network

ECT Main Terminal

Maasvlakte 2 Plan

Short Sea Container Inland Port

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The Dutch Transport Ministry and Port of Rotterdam Authority (PoRA) signed a Founding Agreement on June 29, 2009

The Town of Alblasserdam, East of Rotterdam will get a Container Transferium (CT), *a Inland Port Container Transfer Facility* to be operated by Binnenlandse Container Terminals Nederland (BCTN).

"This is the first time the Port Authority has promoted such a partnership. PoRA to promote transport by rail and water and to shift containers from road to the other modes of transport in order to reduce the number of trucks in the road."

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Dutch Transport Ministry Inland Port Container Transferium (CT) Strategy

(Noord River, Town of Alblasserdam €38 million, open by end-2012)

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Dutch Transport Ministry Inland Port Container Transferium (CT) Strategy

(Noord River, Town of Alblasserdam €38 million, open by end-2012)

Emerging Major Inland Port Logistics Centers

Throughput Capacities in Millions of TEUs

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BNSF Logistics Park, Joliet. IL

A New Model For Freight Logistics Centers

Wal-Mart's New 3.4 million SF (78 acres under roof) Import Distribution Center

The Cost of This Import Distribution Center was Paid for by the Savings in Truck Drayage Between the Warehouse & the Intermodal Rail Terminal


The Inland Port:
"With Integrated JIT Delivery:
The Inland Port Can Greatly
Increase a Regions Freight
System Capacity"