



CANAL DE PANAMÁ



# Panama Canal Expansion: Redefining World Seaborne Trade

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Panama Canal Authority

# AGENDA



- ✧ Understanding the Canal
- ✧ Traffic and Markets
- ✧ Impact of the Expansion on World Seaborne Trade
  - ✧ Development Opportunities



# Understanding the Operations of the Canal



- With an extension of 80km, the Panama Canal connects the Atlantic and Pacific oceans.
- The Panama Canal uses systems of locks (compartments) that work as water lifts.
- The ships are raised from the sea level to the level of Gatun Lake.
- Ships then cross the channel through the continental divide and enter the set of locks that will take them to the sea level again.

## A day in the Canal (Atlantic To Pacific Route)

- 1 Atlantic locks which raise ships to the Gatun Level form the sea level or vice versa.
- 2 Ships cross the Canal through the Gatun Lake.
- 3 Ships arrive to the exit locks to reach the sea level again.
- 4 Ships exit the Canal.



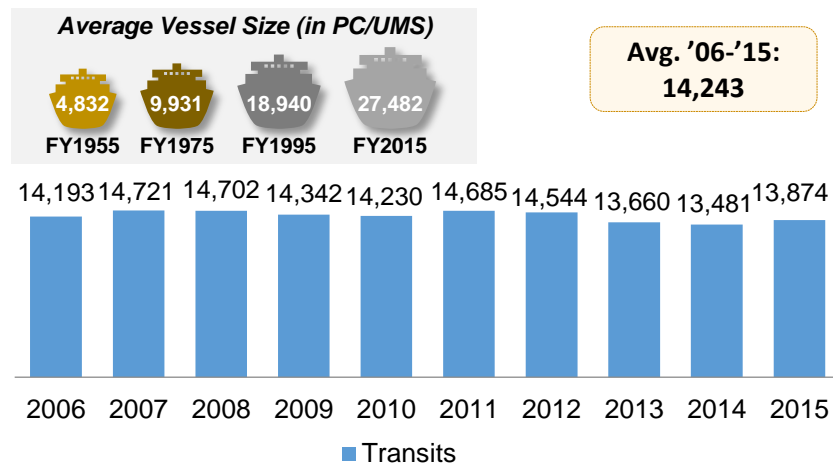
**1914 - 2015**  
**Transits: 1,071,206**  
**Cargo: 9,889,526,547 LT**



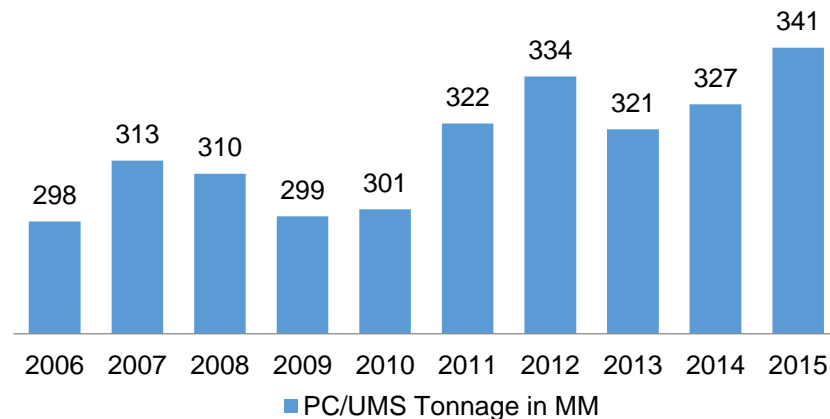


# Maritime Transit Operational Overview

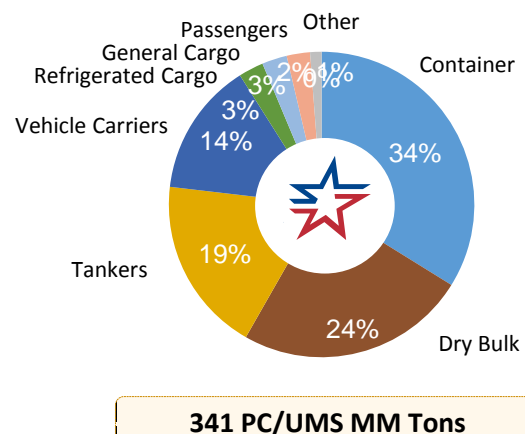
## Vessel Evolution



## PC/UMS Tonnage Volume Evolution

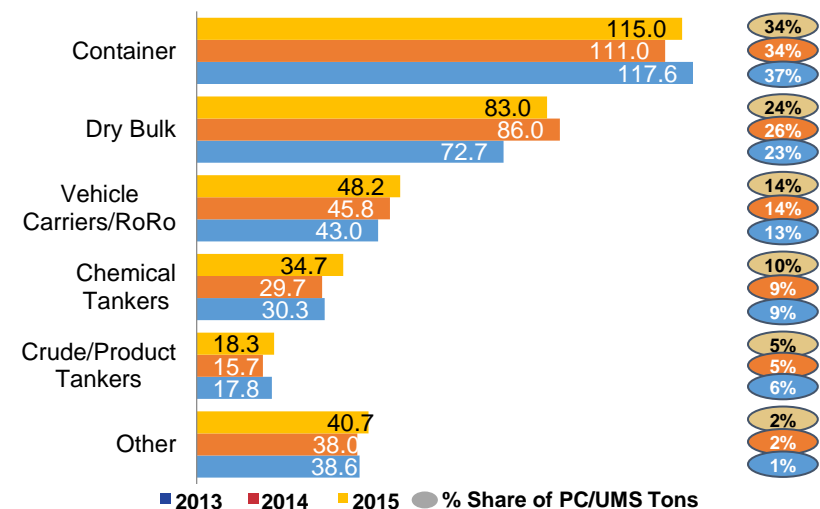


## Volume Breakdown 2015



Source: ACP

## 2013-2015 PC/UMS MM Tons by Market Segment

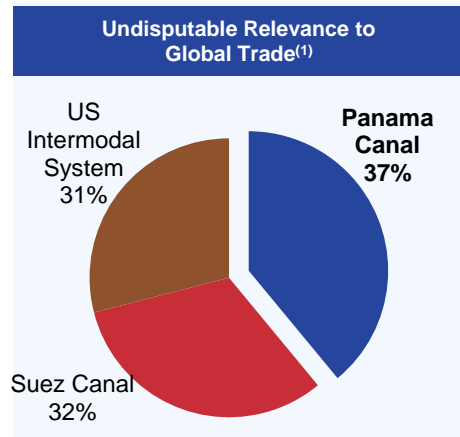
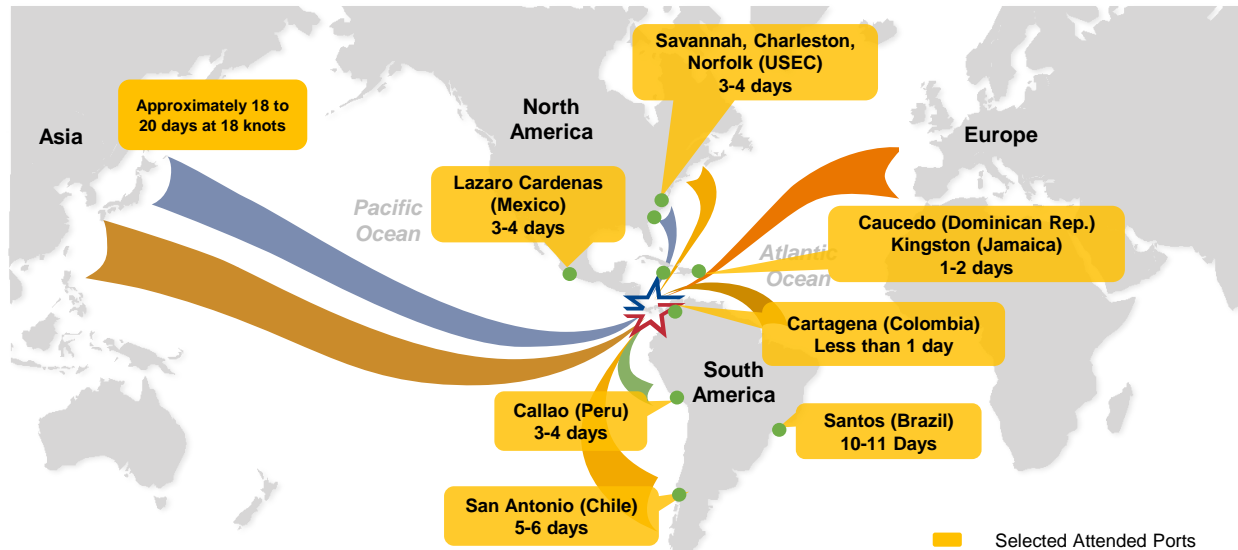


# Critical Cornerstone of Global Maritime Transportation



- ✓ Serves 144 maritime routes and 1,700 ports in 160 countries
- ✓ Privileged location with the most economical and time saving option between the Americas, Asia and Europe
- ✓ The right to limit the access to the Canal grants pricing advantages without distorting demand

## Unique Position in the World Maritime Trade



			Route <sup>(2)</sup>		Savings	
Market Segment	From	To	Panama	Suez	Miles	Days:
Containership (roundtrip)	NE Asia	US East Coast	22,000 nm	26,600 nm	4,600 nm	14
Vehicle Carrier	NE Asia	US East Coast	10,859 nm	14,490 nm	3,631 nm	8
LNG <sup>(3)</sup>	US Gulf	Japan	9,623 nm	14,117 nm	4,494 nm	10
Market Segment	From	To	Panama	Cape of Good Hope	Miles:	Days:
Dry Bulk	U.S. Gulf	Dalian, China	10,069 nm	15,353 nm	5,284 nm	16

Source: ACP

(1) Container cargo market share on the Northeast Asia to U.S. East coast route

(2) nm = Nautical Miles

(3) Expected savings after the Canal's Expansion

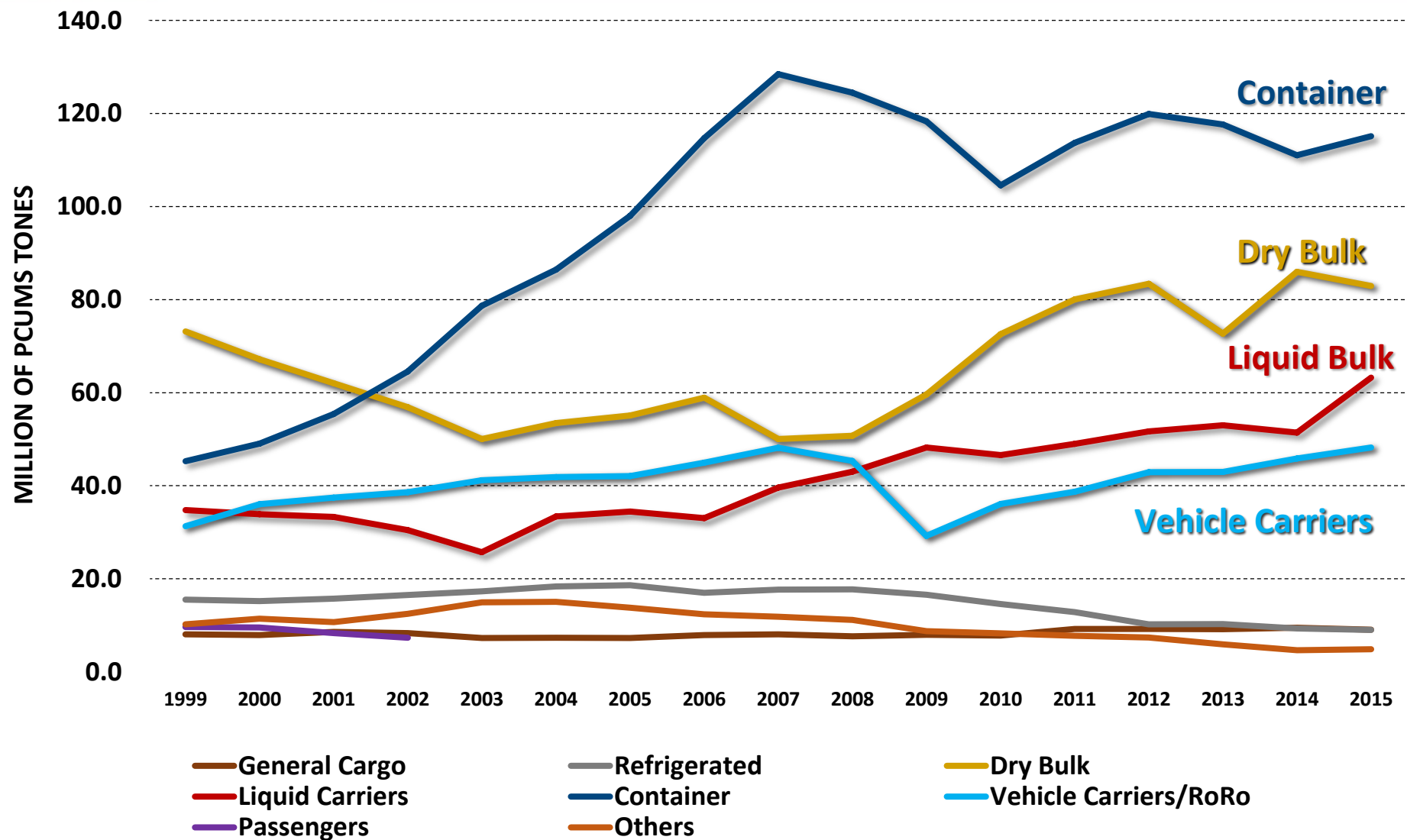




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**TRAFFIC**

# PCUMS Tonnage by Market Segment





# The Panama Canal Trade and Main Users



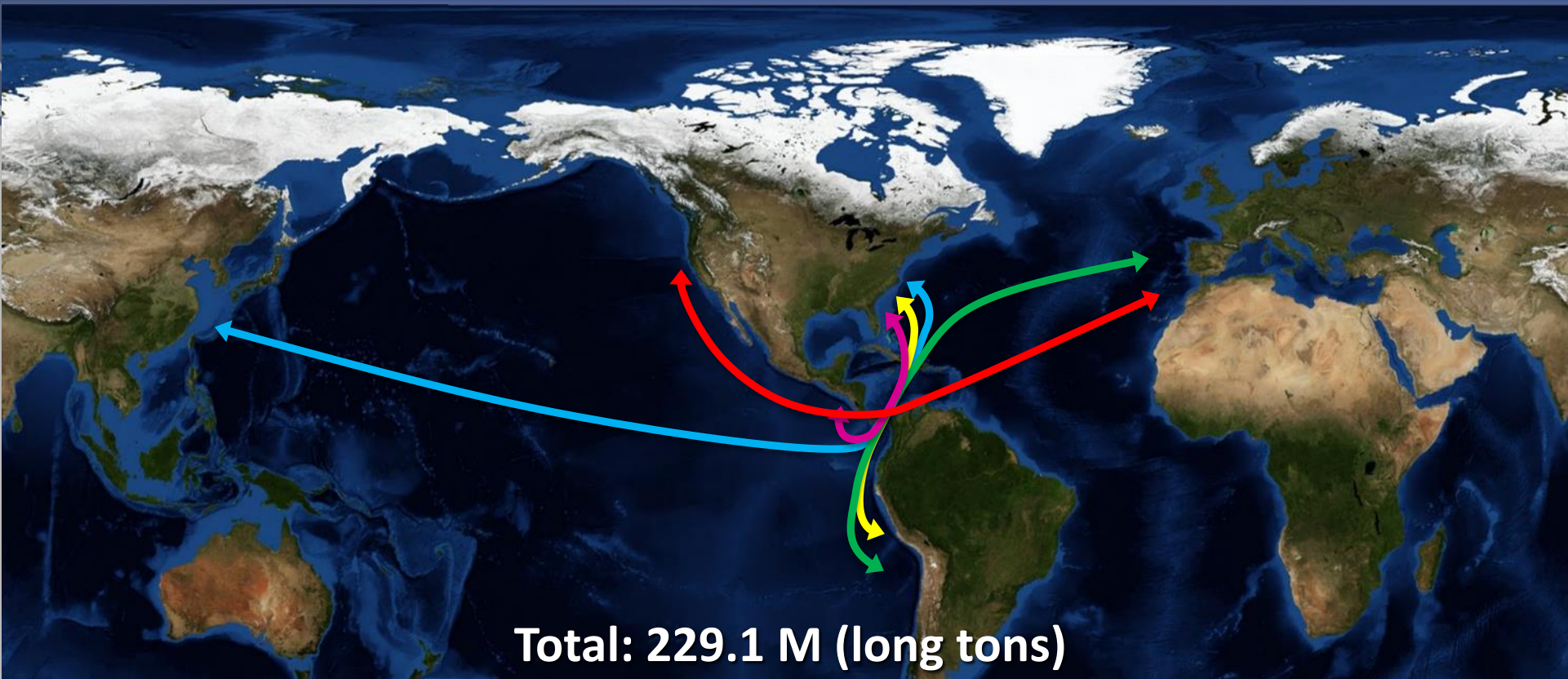
## Total Cargo Movement FY 2015






USERS	FY 2014*	FY 2015*
United States	154.1	160.8
China	51.5	48.4
Chile	29.5	29.5
Japan	21.7	22.9
Peru	16.5	18.8
South Korea	19.1	18.5

**Total cargo movements 229.1 million long tons.**

**70%** of Canal cargo traffic originates in, or is destined to, the United States

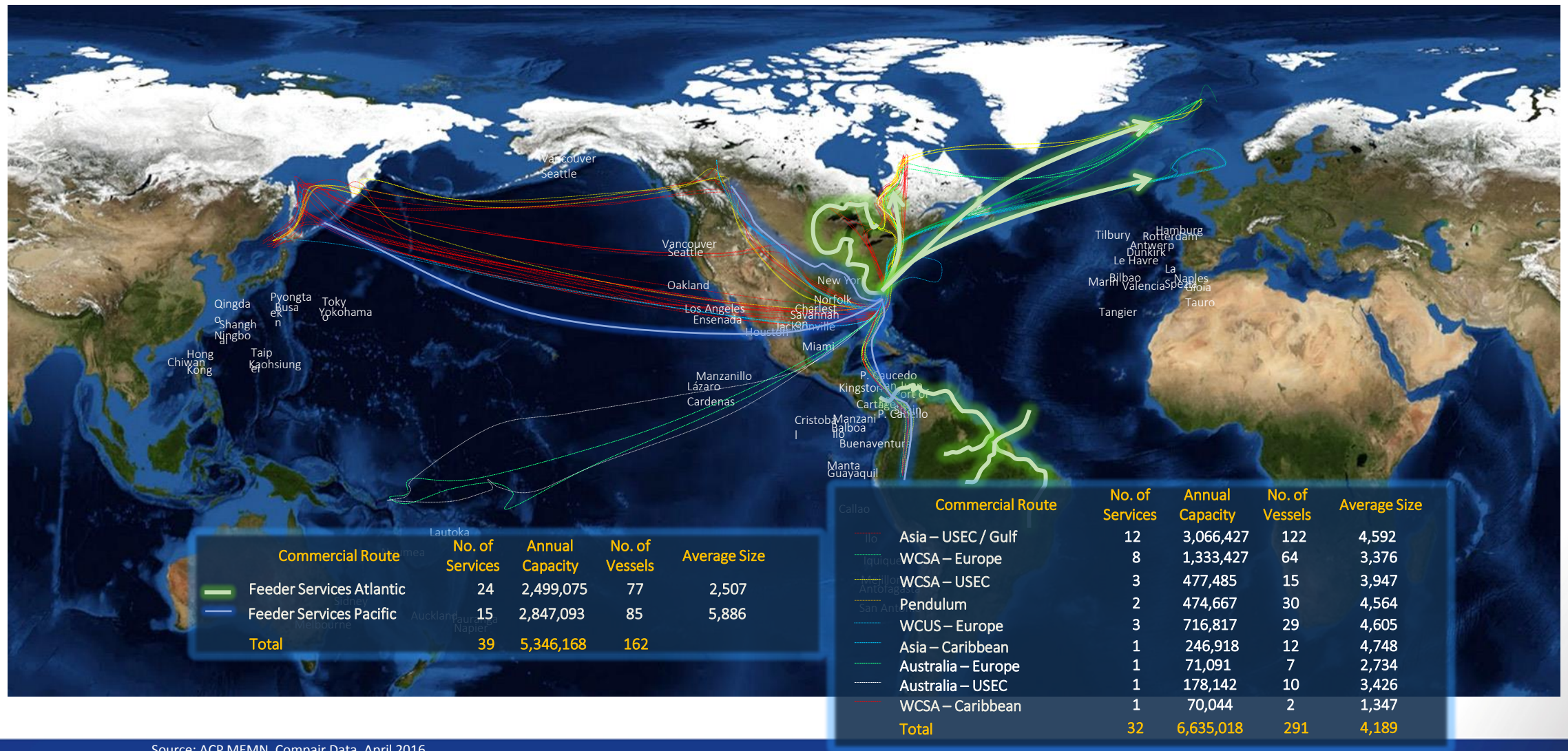
# Main Routes - AF 2015



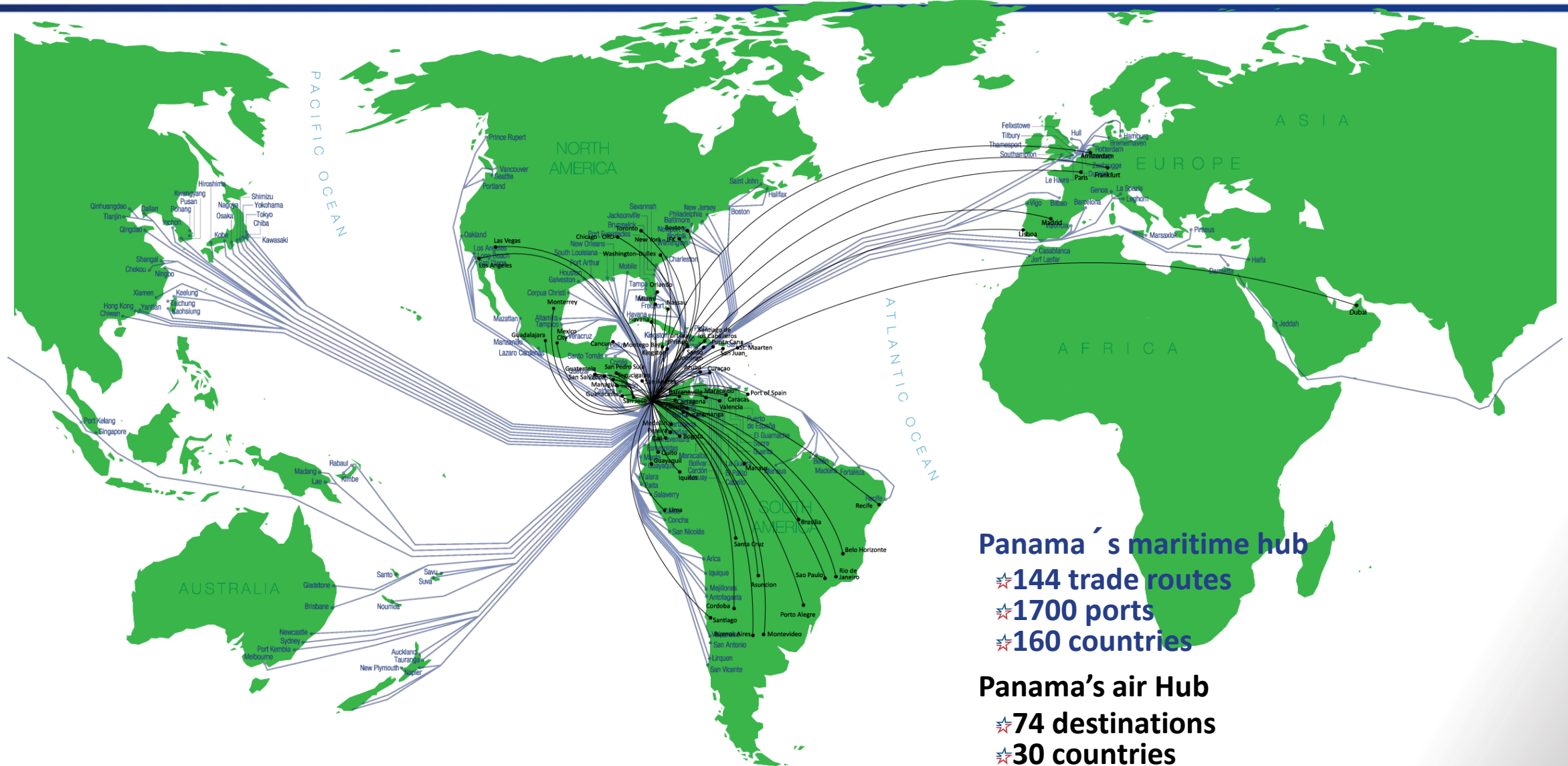
Asia – US East Coast		80.1M
South America West Coast – US East Coast		38.0M
Central America West Coast – US East Coast		15.0M
South America West Coast – Europe		13.0M
Europe – US / Canada West Coast		10.1M



# Liner Services – Connectivity of Panama



# Panama: the transportation and logistics hub of the Americas



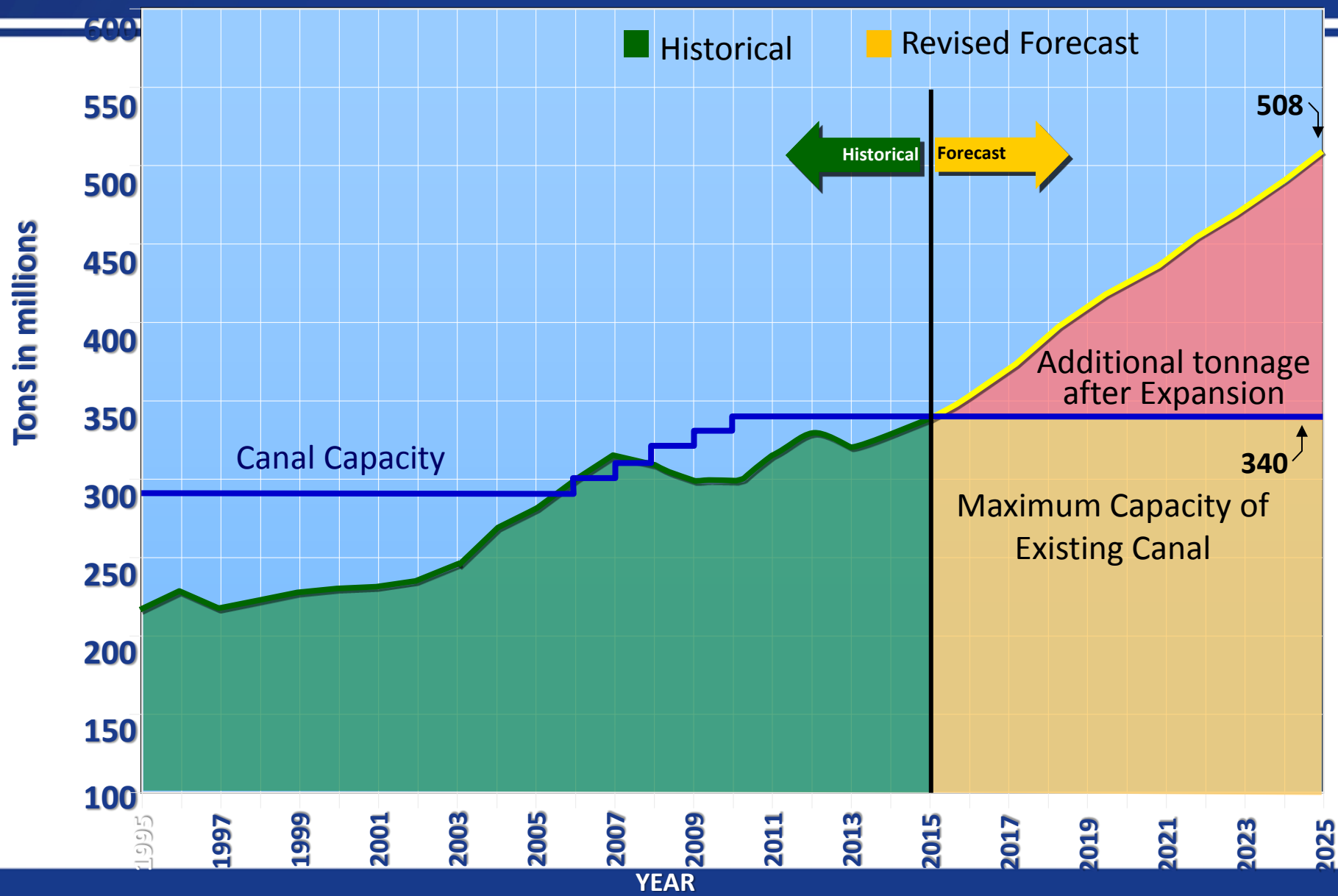


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# **Impact of Canal Expansion**



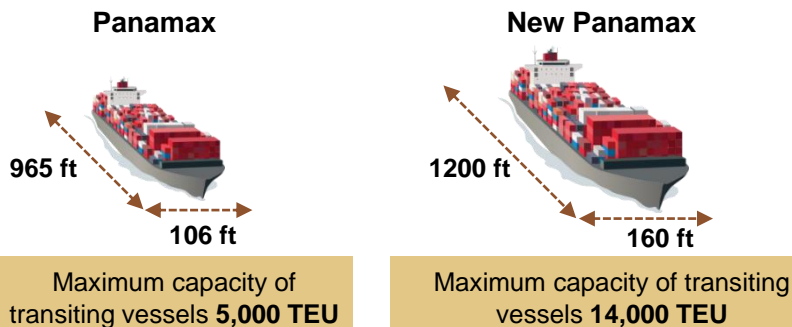
# Long Term Demand



# The Expansion Will Significantly Enhance the Canal's Global Competitive Position



## Relevant Vessel Capacity Increase



*Higher capacity to strengthen ACP's market position*

## Operational Optimization with Economies of Scale



**Economies of scale - Efficiencies in the supply chain – Connectivity**

## Increasing Market Participation Persuading New Players to Consider the Panama Canal Route

- ✓ The Expansion will increase LOA of vessels from 965 to 1200 feet.
- ✓ Maximum transported capacity increase from 5,000 TEU to 14,000 TEU.
- ✓ Just-in-time; Reservation System
- ✓ Tariff incentives for new market segments and ballast traffic.

### Container Vessels



**5,200 to 14,000 TEU new volumes from:**

- Latin America
- Recover market from:
  - West Coast United States
  - Suez Canal

### Dry Bulk



**Up to 170,000 DWT<sup>(1)</sup>**

- Coal from Colombia
- Metalurgical coal from Vancouver
- Iron Ore from Brazil in Minicapesize (85,000-120,000 DWT)

### Liquid Bulk



**Up to 150,000 DWT**

- Tankers
- Petroleum Products

### LNG / LPG



**LNG Up to 177,000m<sup>3</sup> and VLGC**

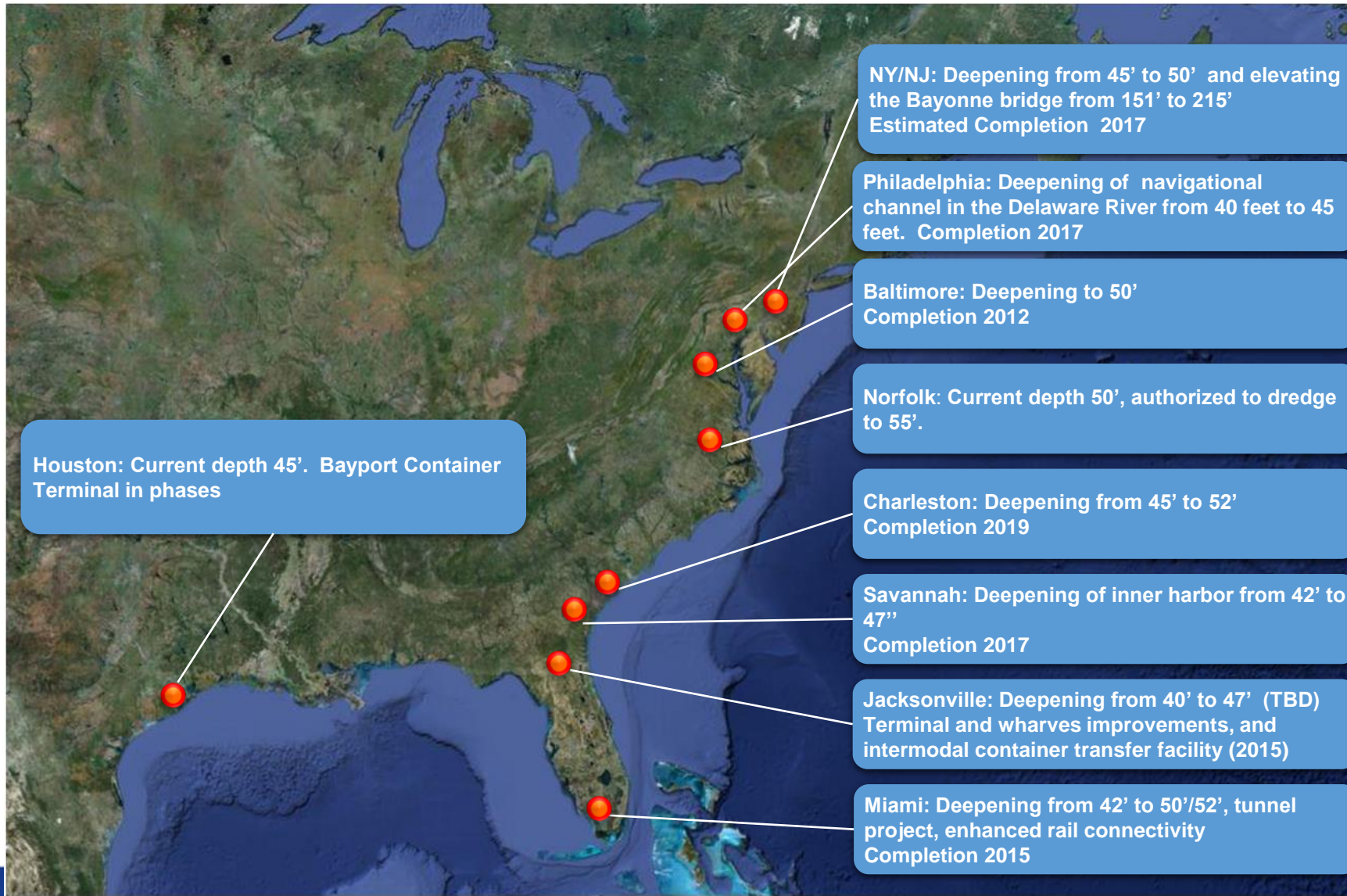
Source: ACP  
(1) Deadweight Tons

# Panama provides easy access to consumers located in Latin America, the Caribbean, North America, Asia and Europe

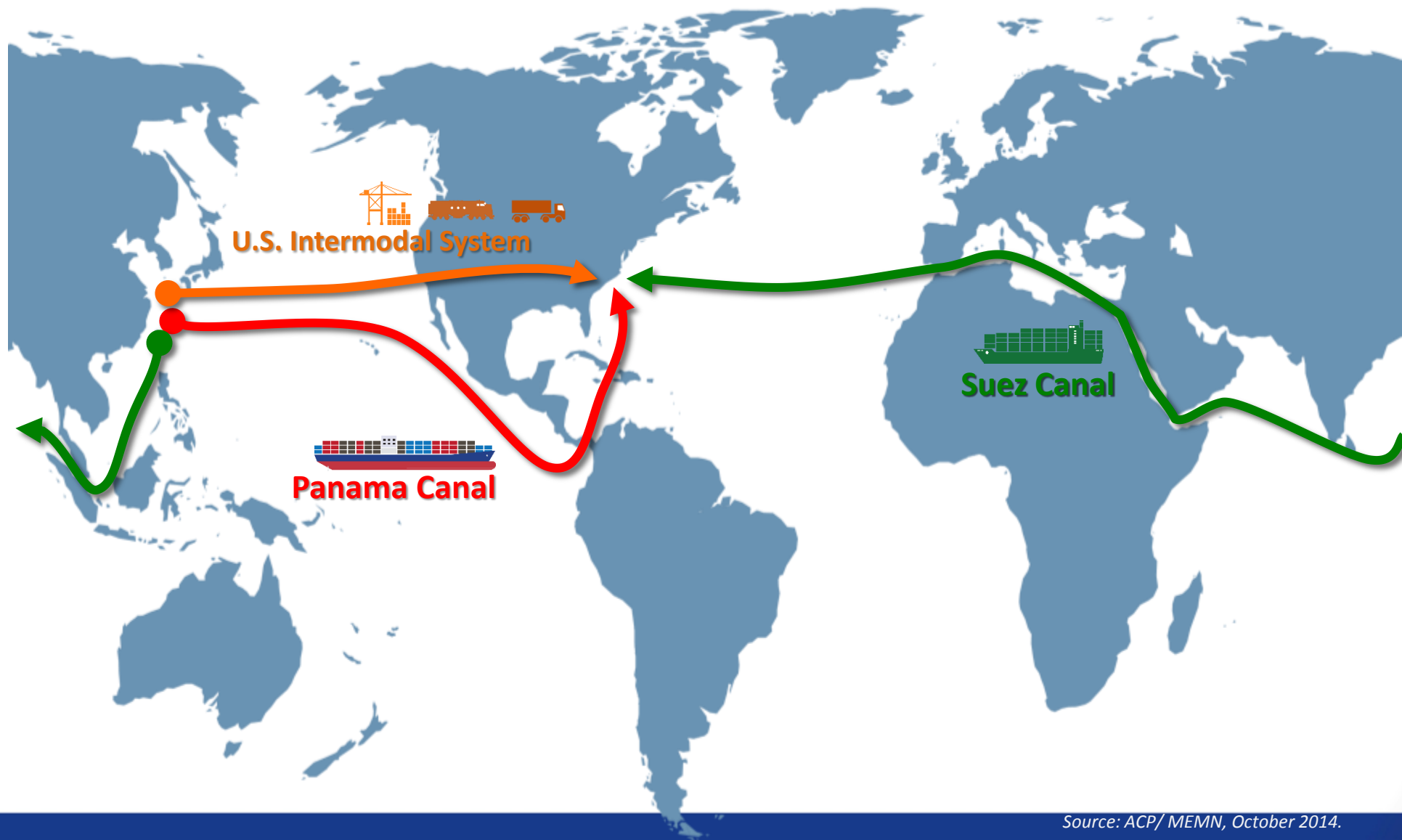




# East Coast U.S. Port Developments

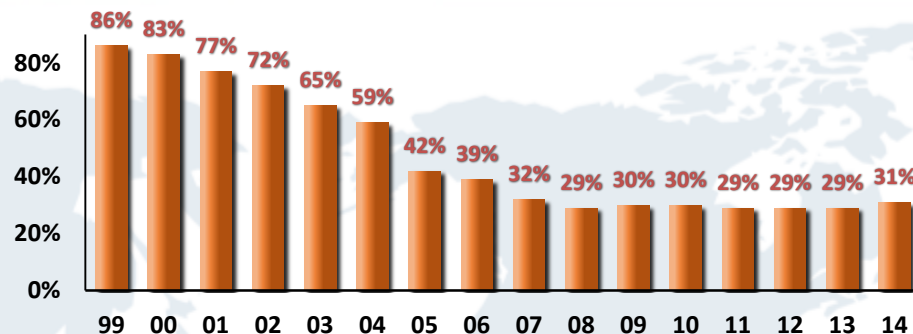


# Container Cargo Market Share Northeast Asia to the United States East Coast

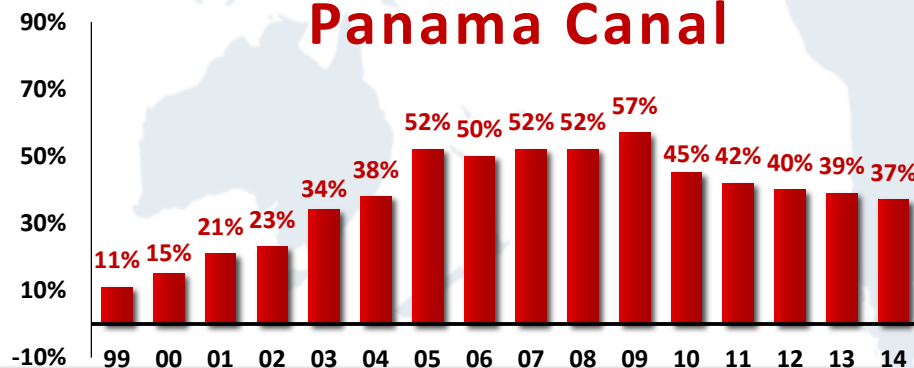


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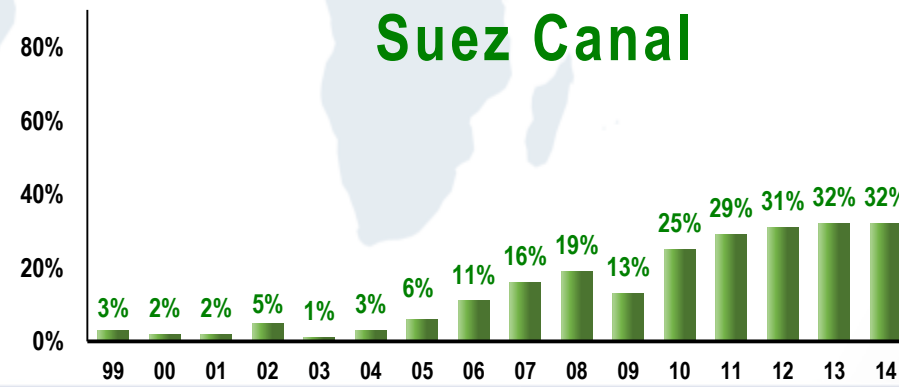
## U.S. INTERMODAL SYSTEM



## Panama Canal



## Suez Canal



Source: ACP/ MEMN, October 2014.



# Impact of the Expansion on Container Services–Asia to the U.S.

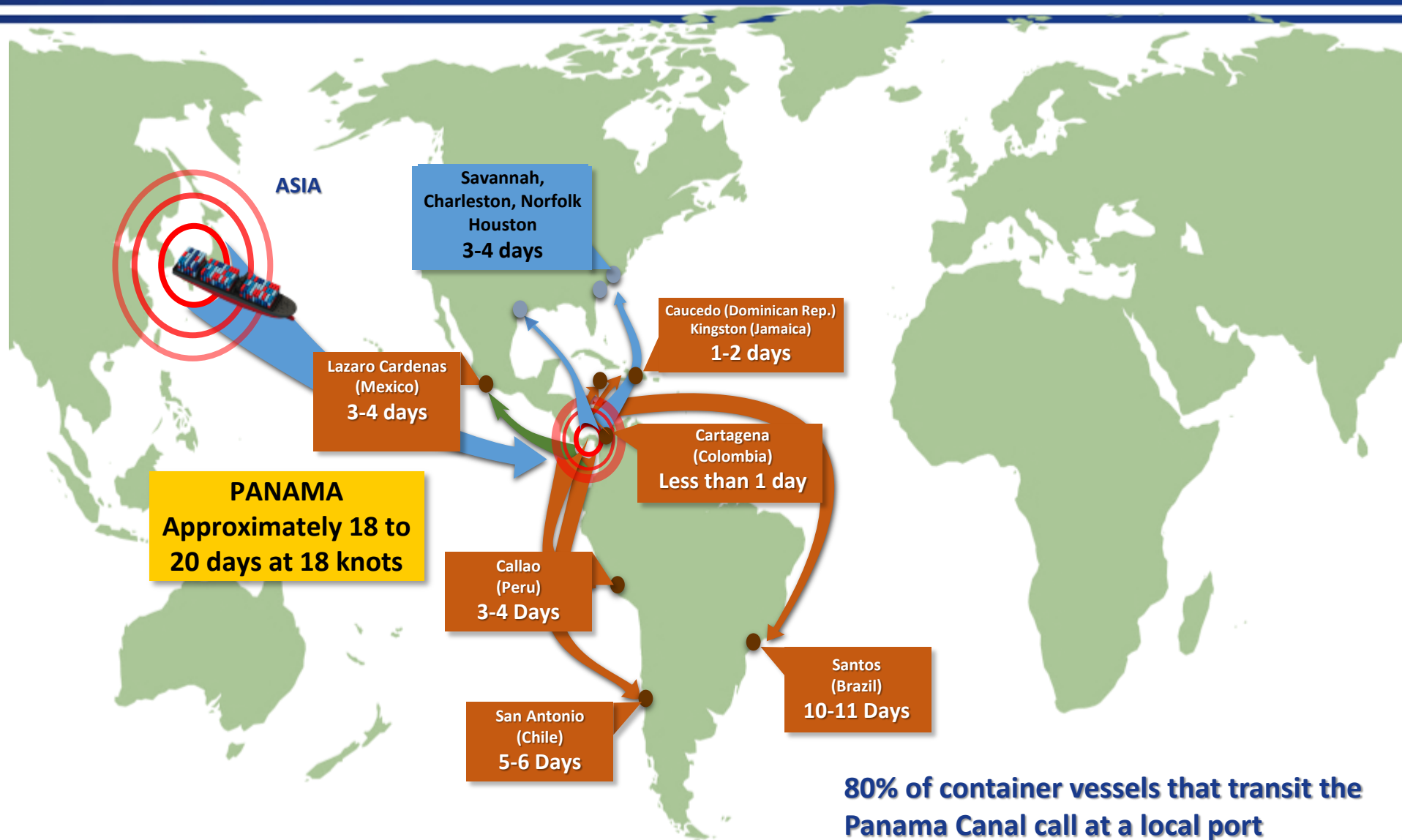
## New container vessel tariffs for the expanded Canal

*As much as 10% of container traffic between East Asia and the U.S. could shift from West Coast Ports to East Coast Ports*



# The Panama Canal

It is all about reliability, connectivity, and value added services

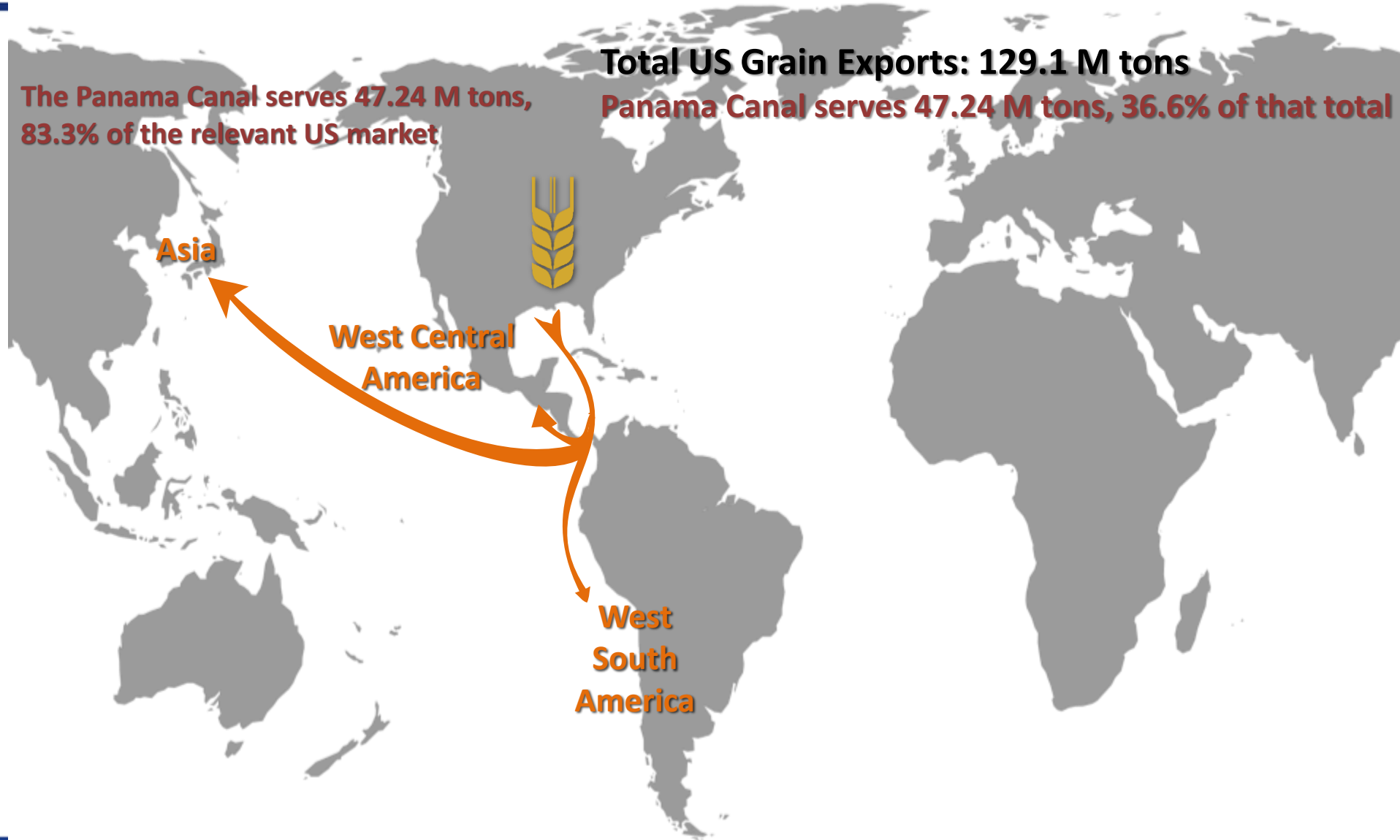


# Latin American Population / Projected Growth - 2010-2030



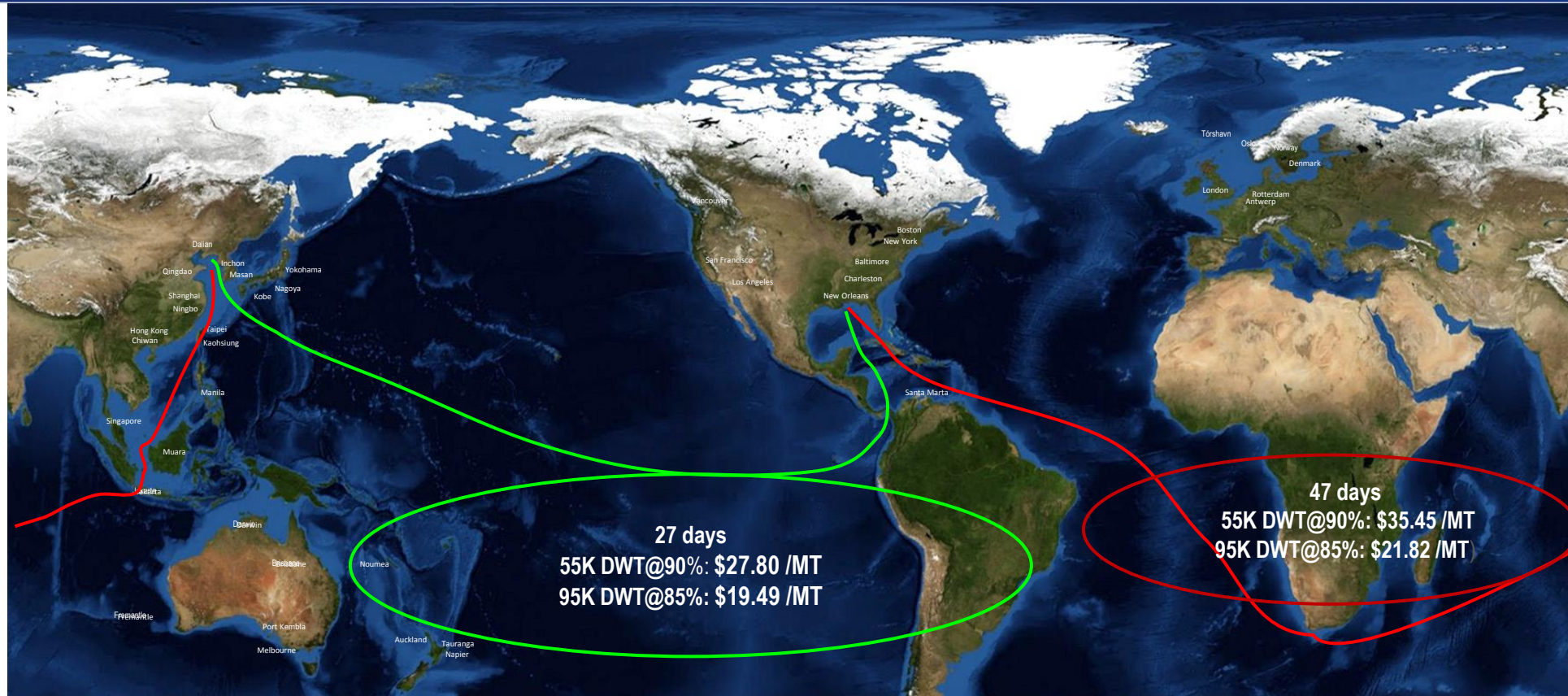


# Grain Exports from the United States



# Grain Trade from the U.S. Grain Belt- New Canal Tolls

Expanded Panama Canal. New Orleans, USA to Yokohama, Japan (@14 knots)





# Lower 48 States Shale Plays

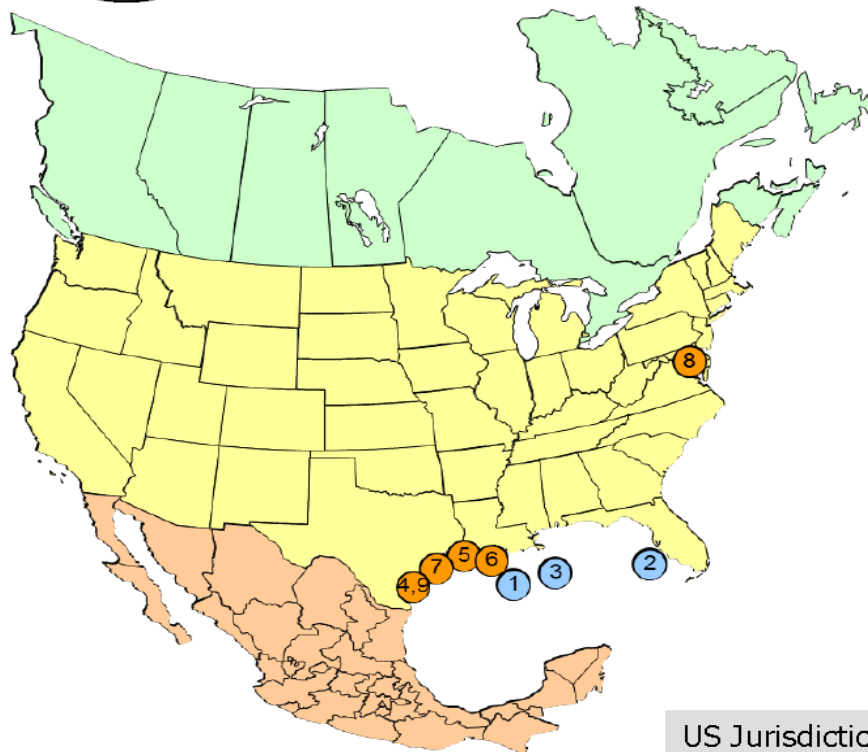




# Terminals approved by DOE/FERC



## North American LNG Import /Export Terminals *Approved*



As of March 4, 2015

US Jurisdiction

- FERC
- MARAD/USCG

### Import Terminal

#### APPROVED - NOT UNDER CONSTRUCTION

##### U.S. - MARAD/Coast Guard

1. Gulf of Mexico: 1.0 Bcfd (Main Pass McMoran Exp.)
2. Offshore Florida: 1.2 Bcfd (Hoegh LNG - Port Dolphin Energy)
3. Gulf of Mexico: 1.4 Bcfd (TORP Technology-Bienville LNG)
4. Corpus Christi, TX: 0.4 Bcfd (Cheniere - Corpus Christi LNG) (CP12-507)

### Export Terminal

#### APPROVED - UNDER CONSTRUCTION

##### U.S. - FERC

5. Sabine, LA: 2.76 Bcfd (Cheniere/Sabine Pass LNG) (CP11-72 & CP14-12)
6. Hackberry, LA: 1.7 Bcfd (Sempra - Cameron LNG) (CP13-25)
7. Freeport, TX: 1.8 Bcfd (Freeport LNG Dev/Freeport LNG Expansion/FLNG Liquefaction) (CP12-509)
8. Cove Point, MD: 0.82 Bcfd (Dominion - Cove Point LNG) (CP13-113)
9. Corpus Christi, TX: 2.14 Bcfd (Cheniere - Corpus Christi LNG) (CP12-507)

*Office of Energy Projects*

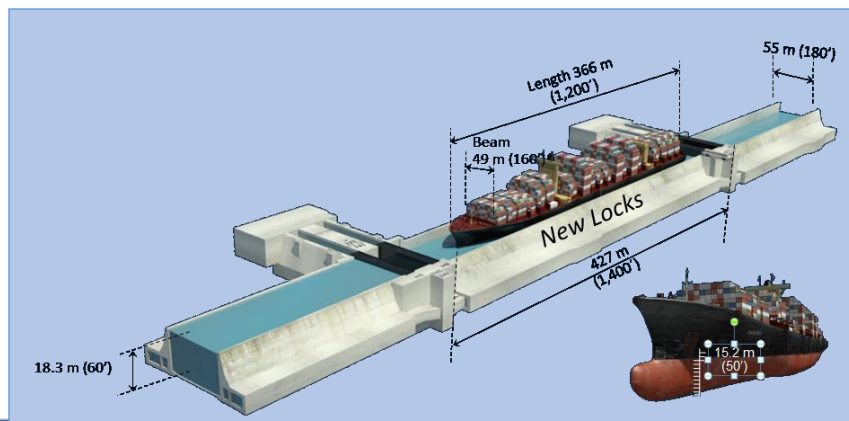
# LNG world fleet and orderbook

- Today

Only 5.6% of the LNG world fleet fits the Panama Canal locks

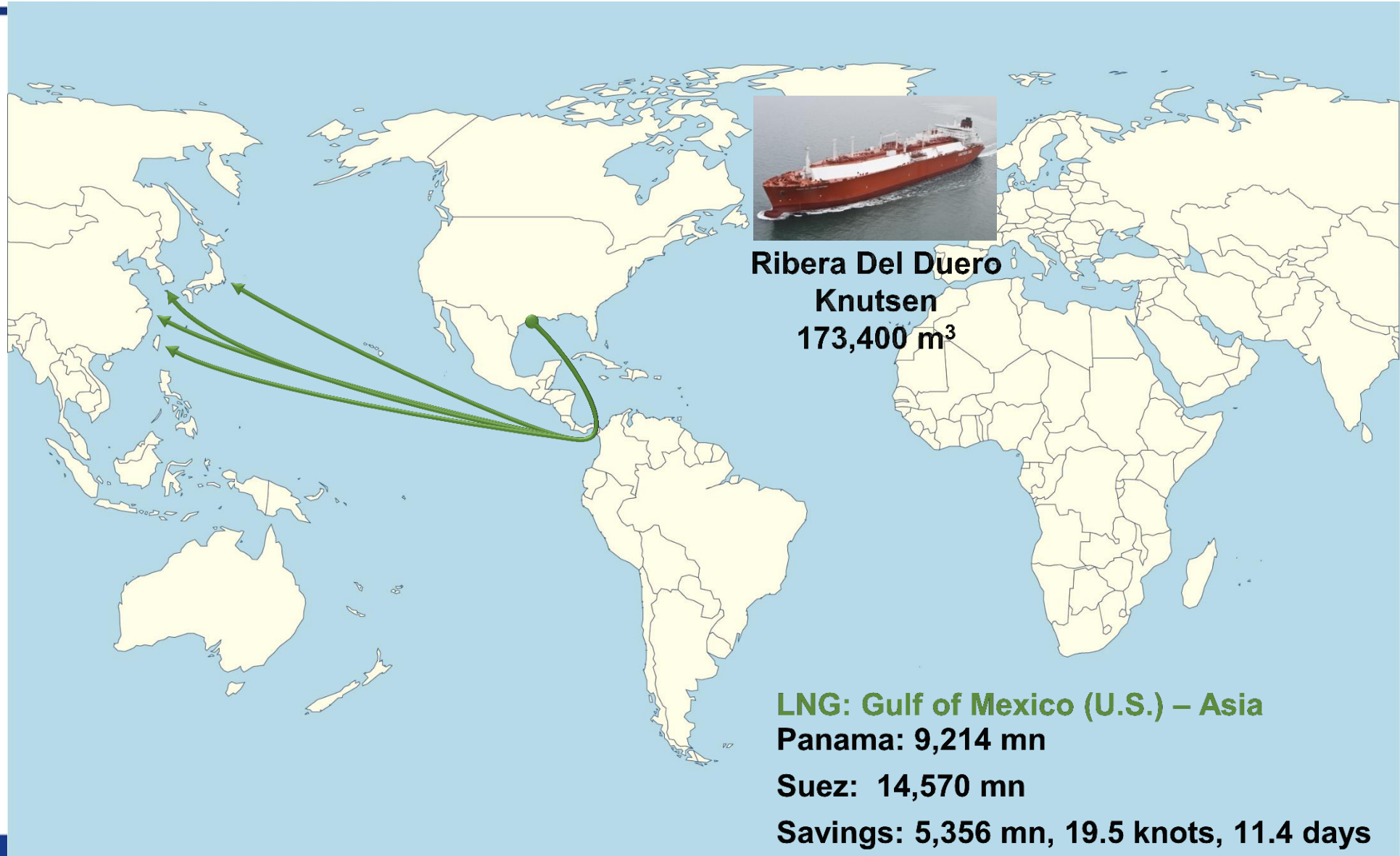
	Existing Fleet	Orderbook
Beam	5.6%	21.6%
LOA	99.3%	82.4%
Draft	100.0%	80.0%

- By 2016...



	Existing Fleet	Orderbook
Beam	88.6%	92.6%
LOA	100.0%	100.0%
Draft	100.0%	100.0%

# Potential LNG shipments to Asia



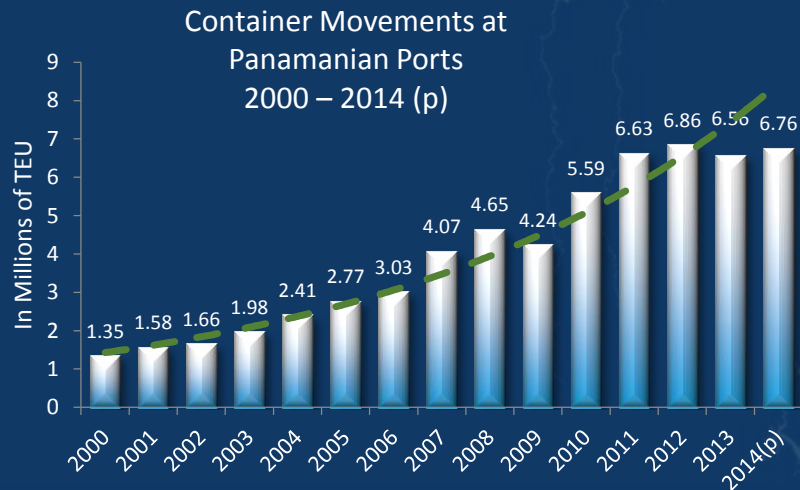
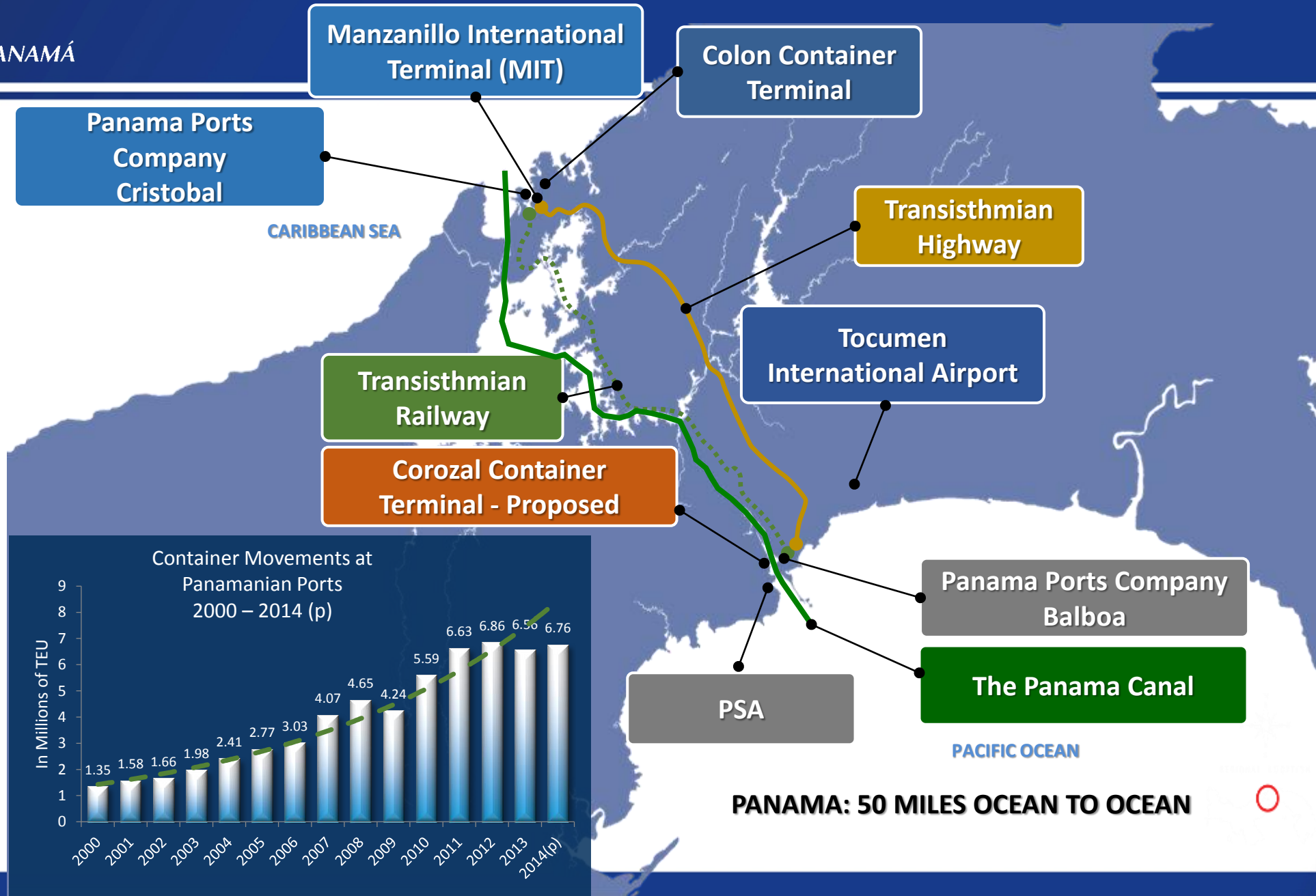




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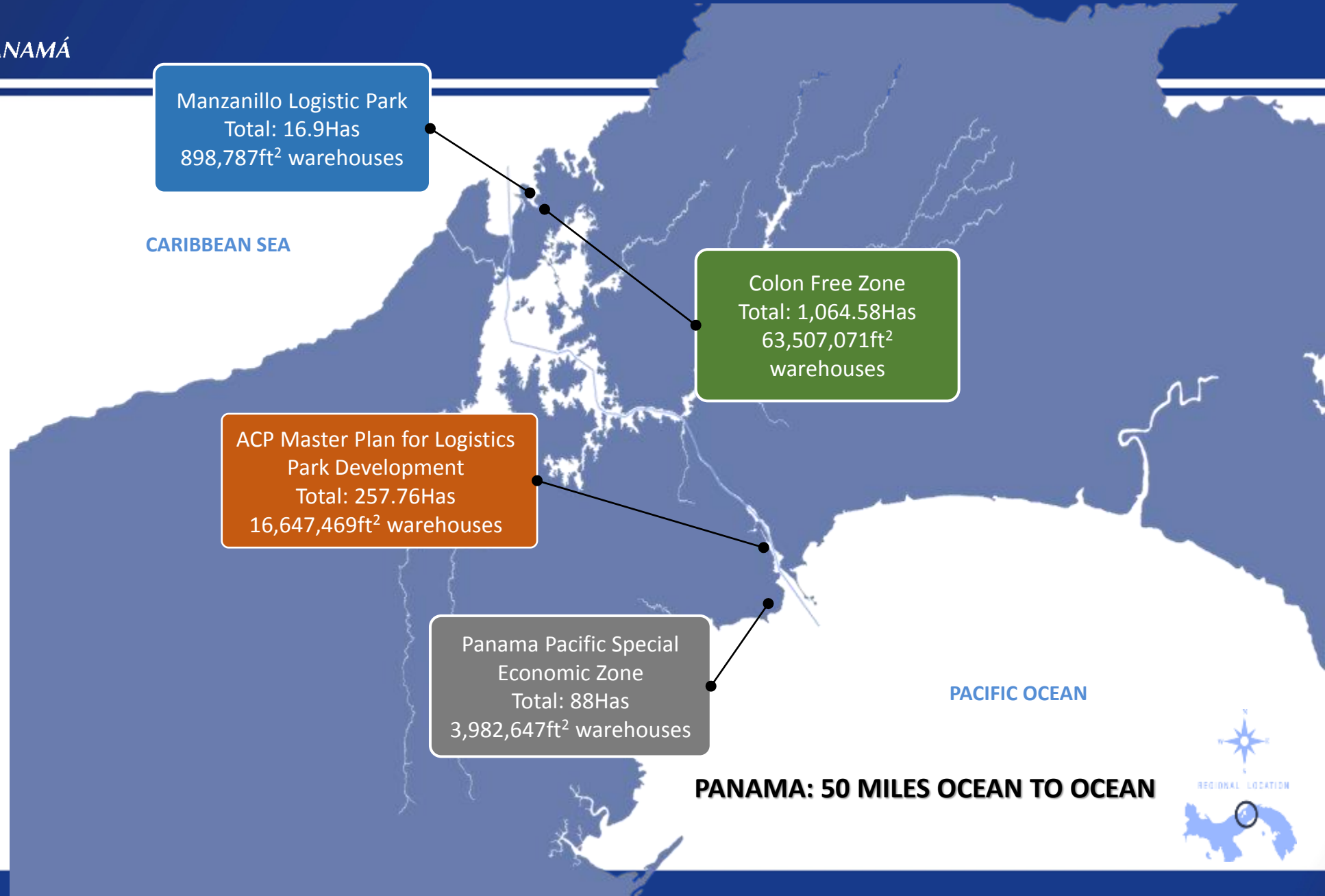
# **Development Opportunities**

# Panama's Logistics Cluster Support Infrastructure



PANAMA: 50 MILES OCEAN TO OCEAN

# Logistics Park Development



Manzanillo Logistic Park  
Total: 16.9Has  
898,787ft² warehouses

CARIBBEAN SEA

Colon Free Zone  
Total: 1,064.58Has  
63,507,071ft²  
warehouses

ACP Master Plan for Logistics  
Park Development  
Total: 257.76Has  
16,647,469ft² warehouses

Panama Pacific Special  
Economic Zone  
Total: 88Has  
3,982,647ft² warehouses

PACIFIC OCEAN

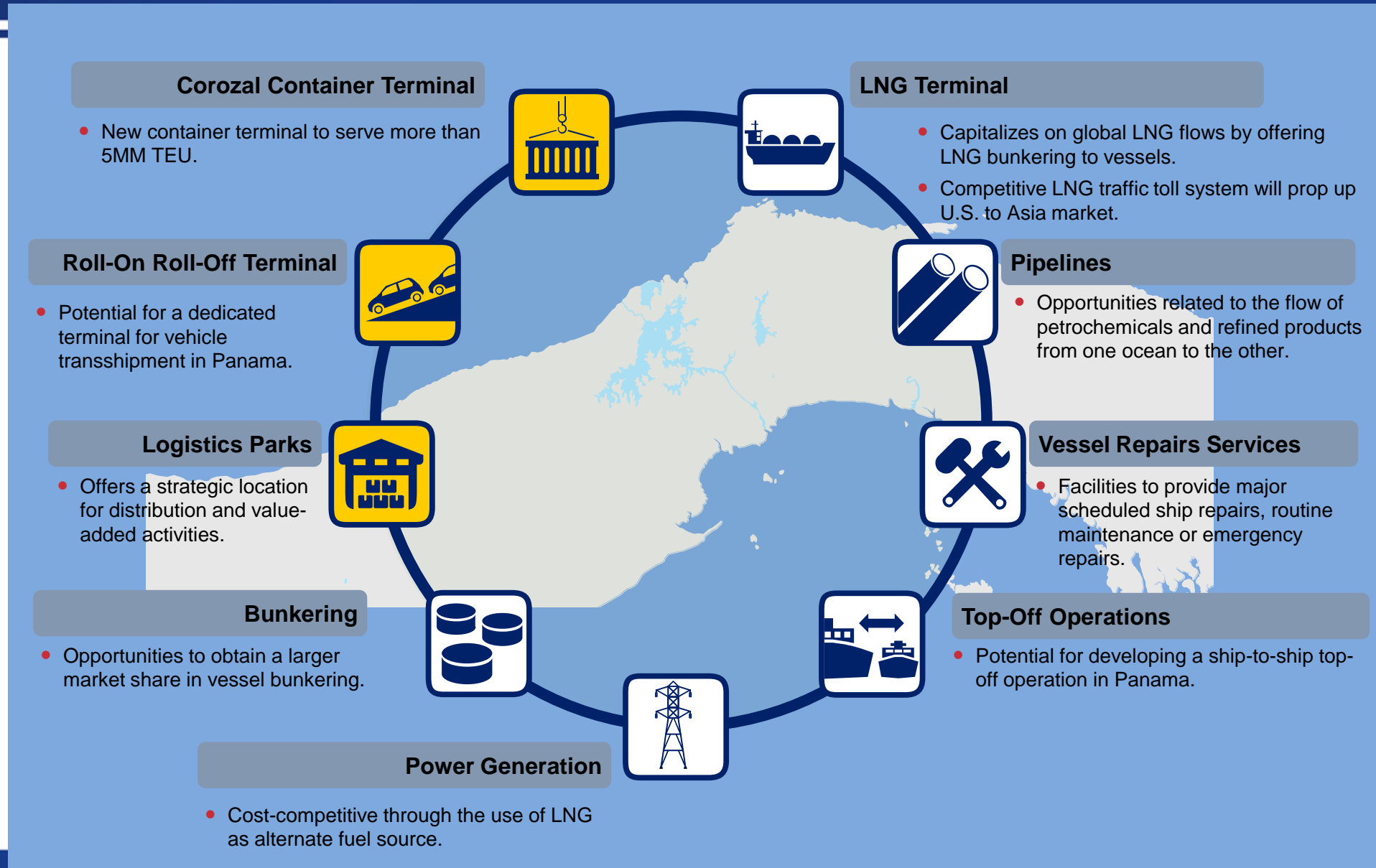
**PANAMA: 50 MILES OCEAN TO OCEAN**





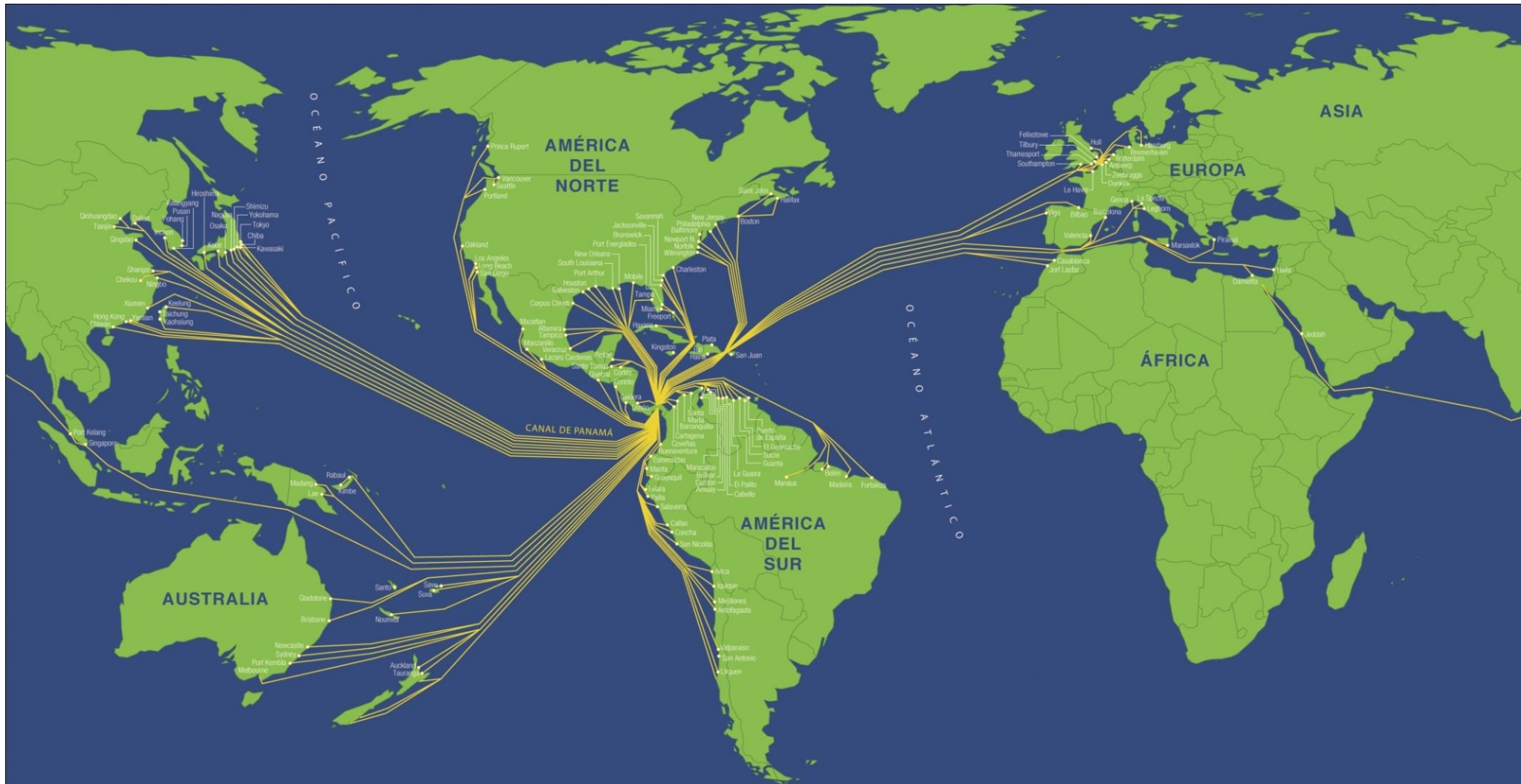
# Diversification Strategy

## Potential areas for development



# Panama – Logistic Hub of the Americas

Reaching its maximum potential from its geographic position



*The HUB competitiveness will be strengthened with more reliable and efficient services.*



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