Crude Oil by Rail in the Delaware Valley

April 16, 2014

Overview

Overview of Crude Oil Transportation in North America

A review of Delaware Valley refineries and bulk transfer facilities.

Railroad tank car information and crude oil safety precautions.

Section 1

Overview of Crude Oil Transportation in North America and Associated Issues

Source: U.S. Energy Information Administration based on data from various published studies. Canada and Mexico plays from ARI.
Updated: May 9, 2011

Unit Train Loading Operations in North Dakota

Rail Movement of Crude Oil

Crude Oil

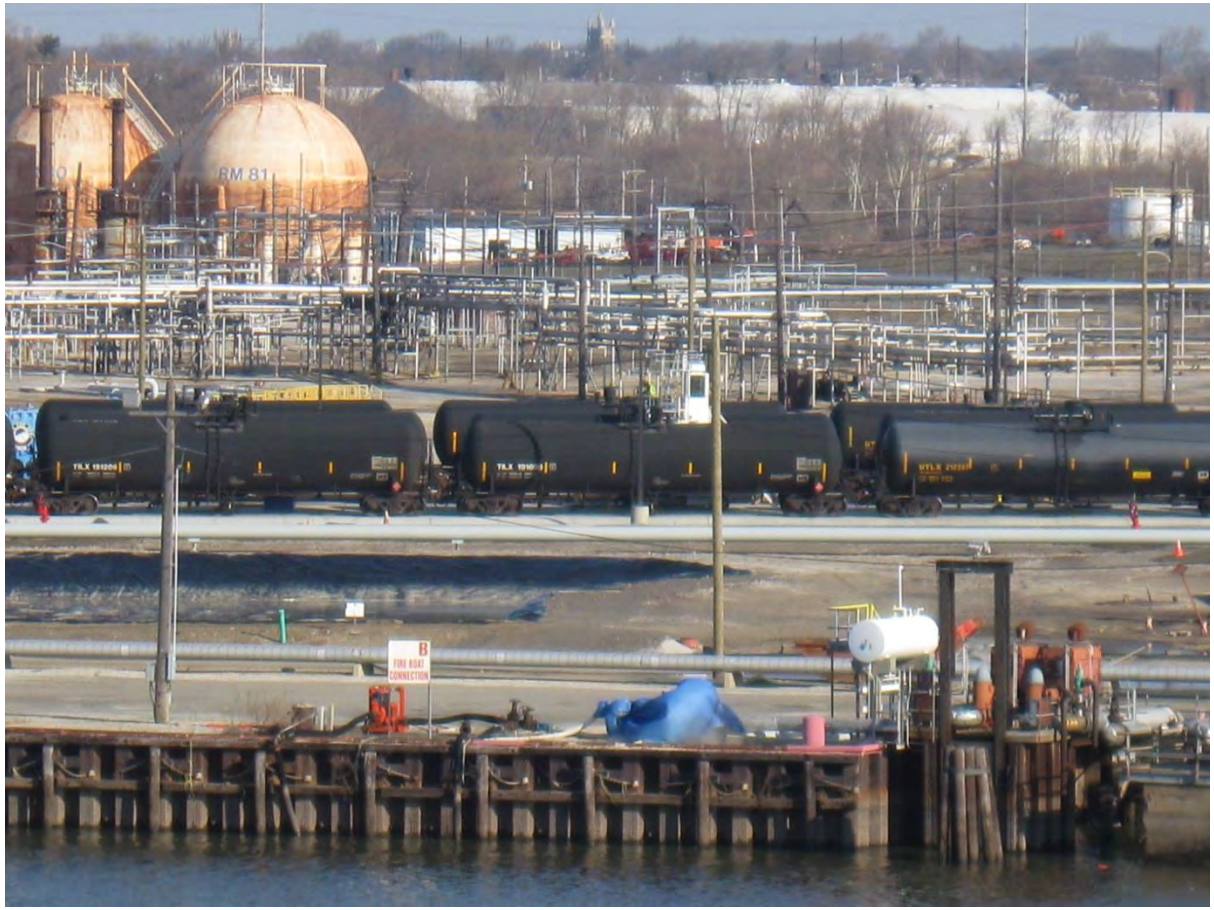
- From 2005 through 2012, crude oil traffic increased by 443%.
- The number of carloads originated held steady until 2010 when growth began.
- In 2012, crude oil originations by rail increased by 256% over the previous year.
- Carloads originated increased from 65,600 in 2011 to 257,450 in 2012.
- Growth is expected to continue for the foreseeable future.
- Issues center on supply of tank cars.

Section 2

A review of Delaware Valley Refineries and Bulk Transfer Facilities.

Transportation of Crude Oil in the Delaware Valley

Philadelphia Energy Solutions (PES)



PBF Energy

Eddystone Railway Co.

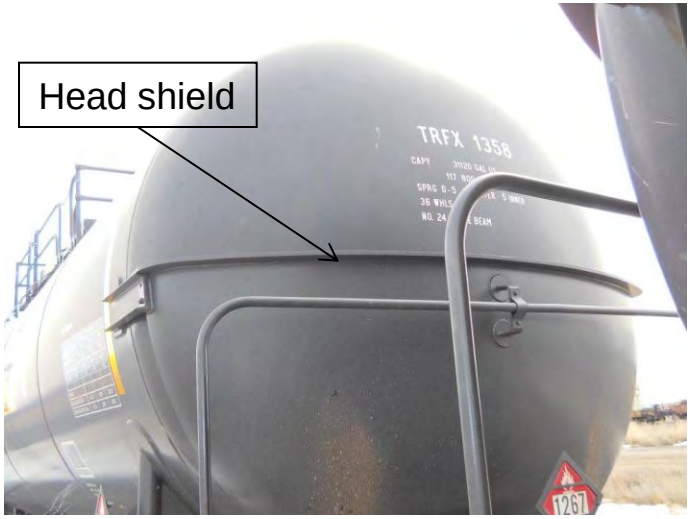
Section 3

Railroad tank car information and crude oil safety precautions

General Purpose Tank Cars

DOT111A100W specification

Head shield



Top fittings protection

Testing of Tank Cars

Side Impact

- 0.777 inch-thick shell
- 0.1196 inch jacket
- Puncture velocity: 15.2 mph
- Ram: 6 inch x 6 inch face

Head Impact (component test)

- 0.777 inch-thick shell
- 0.5 inch jacket/full head shield
- Puncture velocity: 8.66 mph
- Ram: 6 inch x 6 inch face

Tank Car Manufacturing

- The North American tank car fleet population: 300,000 tank cars
- This comprises approximately 20% of the total rail car fleet
- Current demand for new tank cars: 60,000 tank cars
- Annual manufacturing capacity: 12,000 tank cars
- Tank cars are a 50-year asset

Tank Car Manufacturing

- Major manufacturing across the country include the following facilities:
  - **Trinity Rail:** Texas (2), Oklahoma (1), Mexico (2)
  - **Union Tank Car:** Louisiana (1), Texas(1)
  - **American Railcar Industries:** Arkansas (1), Pennsylvania (1)**
  - **Gunderson Rail:** Mexico (1)

Emergency RSAC

- The first ever emergency Railroad Safety Advisory Committee (RSAC) was scheduled as a result of the Lac-Megantic derailment.
- This RSAC focused specifically on crude oil safety.
- This RSAC consisted of railroad managers and union representatives, and was chaired by FRA

Emergency RSAC Task Statements

1. **Hazardous Material Shipments** – *misclassification of the material*
2. **Securement of Trains**– *developing standards/ procedure for securing trains at outlying points, outside of railyards* **(EO-28)**
3. **Efficiency Testing for Securement of Trains**– *railroads required to inspect and test crew capabilities for compliance*
4. **Crew Size Requirements**– *discussing a possible rules making for a minimum requirement.*

RSAC Outcomes

- Emergency Order 28, effective 8/21/13.

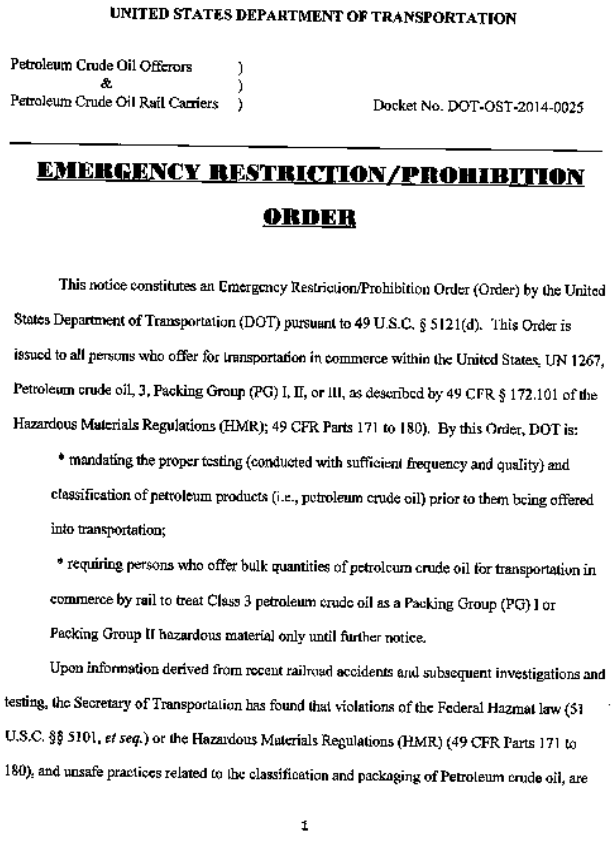
- Provides requirements for railroads to properly secure unattended trains containing certain amounts of HM shipments.

Emergency Restriction on the Classification of the Crude Oil

- **DOT Emergency Restriction/**
  - **Prohibition Order**

  (Emergency Order)

- **Signed by DOT Secretary Anthony R. Foxx Dated Feb. 25, 2014**



UNITED STATES DEPARTMENT OF TRANSPORTATION

Petroleum Crude Oil Offerors)
&
Petroleum Crude Oil Rail Carriers) Docket No. DOT-OST-2014-0025

EMERGENCY RESTRICTION/PROHIBITION ORDER

This notice constitutes an Emergency Restriction/Prohibition Order (Order) by the United States Department of Transportation (DOT) pursuant to 49 U.S.C. § 5121(d). This Order is issued to all persons who offer for transportation in commerce within the United States, UN 1267, Petroleum crude oil, 3, Packing Group (PG) I, II, or III, as described by 49 CFR § 172.101 of the Hazardous Materials Regulations (HMR); 49 CFR Parts 171 to 180). By this Order, DOT is:

* mandating the proper testing (conducted with sufficient frequency and quality) and classification of petroleum products (i.e., petroleum crude oil) prior to them being offered into transportation;

* requiring persons who offer bulk quantities of petroleum crude oil for transportation in commerce by rail to treat Class 3 petroleum crude oil as a Packing Group (PG) I or Packing Group II hazardous material only until further notice.

Upon information derived from recent railroad accidents and subsequent investigations and testing, the Secretary of Transportation has found that violations of the Federal Hazmat law (51 U.S.C. §§ 5101, *et seq.*) or the Hazardous Materials Regulations (HMR) (49 CFR Parts 171 to 180), and unsafe practices related to the classification and packaging of Petroleum crude oil, are

1

Current Emergency Restriction

Effective Feb. 25, 2014
Primary Focus – Classifying Petroleum Crude Oil & Selection of authorized tank cars to ship Petroleum Crude Oil
Mandates the shipper to properly test & classify the product prior to being offered into transportation to identify the:

- Flash point
- Boiling point *(initial)*
- Corrosivity to steel & aluminum
- Specific gravity at loading temperature
- Specific gravity at reference temperature
- Presence & concentration of specific compounds, *such as Sulfur & Hydrogen sulfide gas – identify % of gas*

Current Emergency Restriction

Requires the shipper to maintain records of testing

Eliminates the option of using non-DOT specification tank cars (i.e., AAR specification tank cars)

Additional directives (based on the Lac-Megantic, Quebec accident) are found in:

- NTSB recommendation R-14-6
- Transport Canada: TC Protective Direction No. 31

Enhanced Track Inspections

- Due to the increase in Crude Oil traffic, an enhanced burden has been placed on the rail infrastructure.
- The railroads involved have increased their inspection frequency to compensate for the increased rail traffic and;
- Subsequently, FRA has also increased their inspection activities on these identified routes

Questions?

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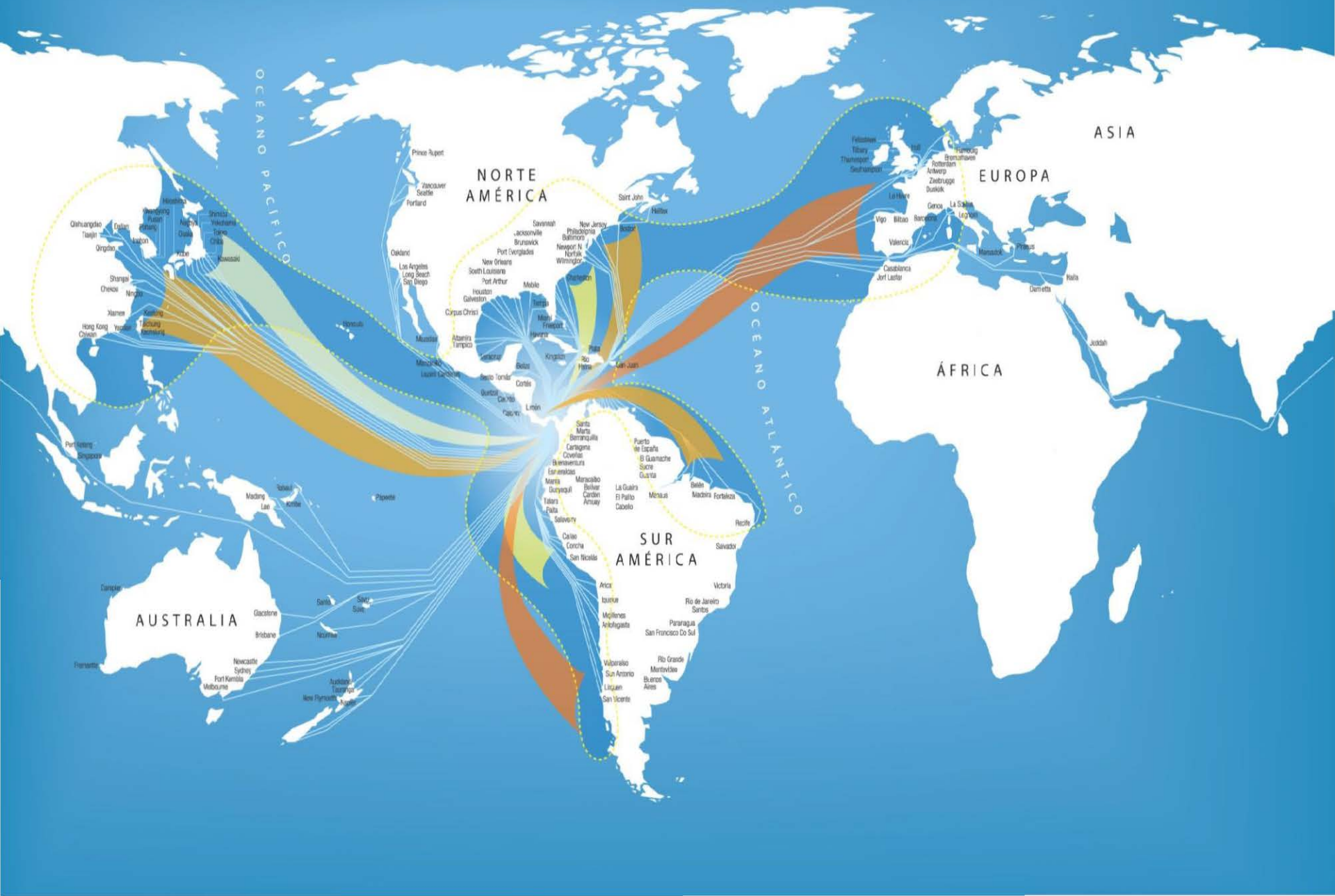
Delaware Valley Regional Planning Commission

Panama Canal Expansion Program (PCEP)

Presented by: Robert S. Bright, President

April 16, 2014

Panama is Right smack in the Middle!



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Aerial View of Canal Area and the Terminal Ports

Panama is the only port with terminals in both oceans !! Joined by canal, rail, trucks, barges

PCEP

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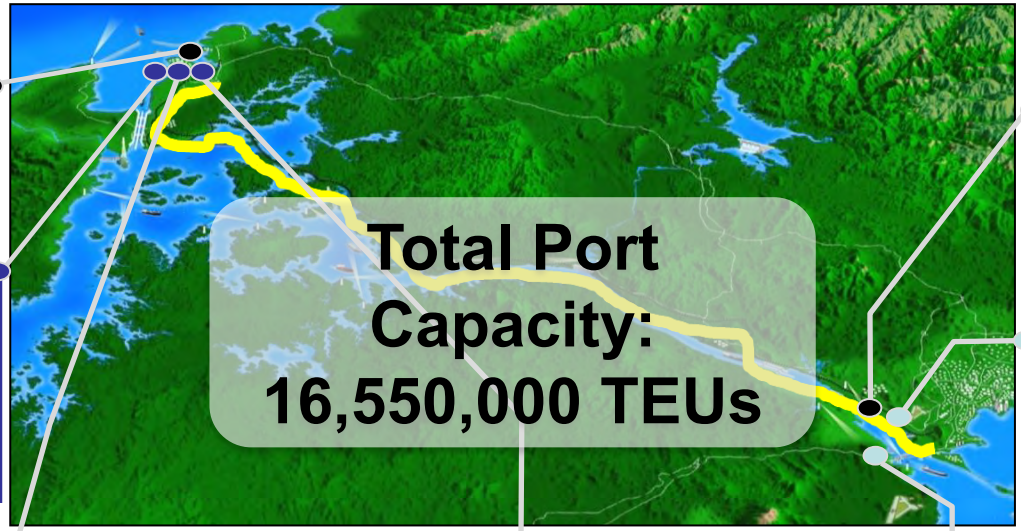
Port Development in Panama

Panama Canal Colon Port, Inc.

Panama Ports Company – Cristobal

Colon Container Terminal



Manzanillo International Terminal (MIT)

Corozal Port

Panama Ports Company - Balboa

PSA

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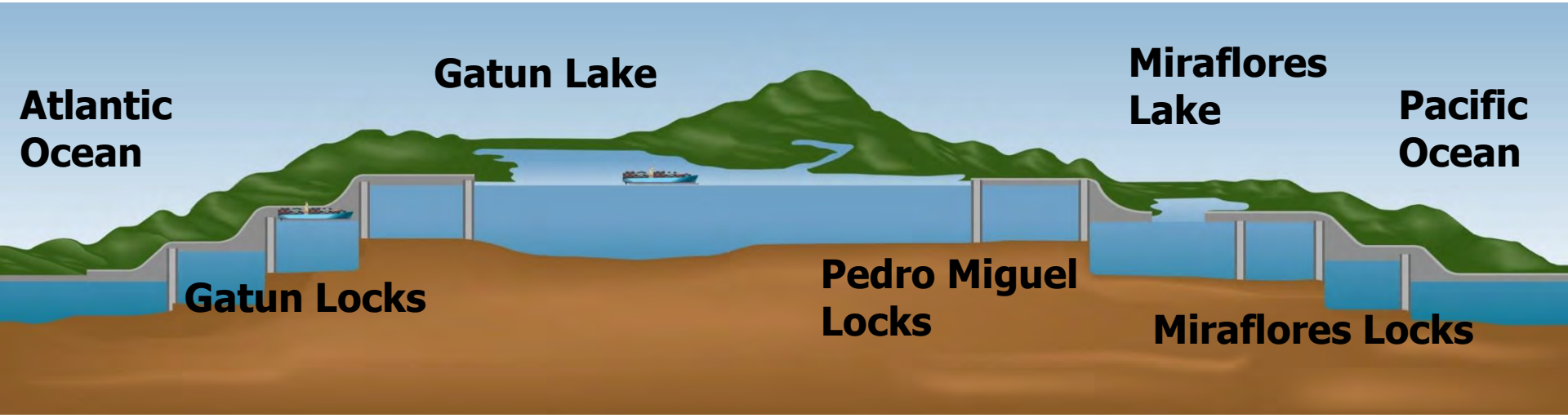
The Panama Canal

- Water stairs, 80 km long linking the Pacific and the Atlantic Oceans
- Raise vessels at 26 m (85´) above sea level using three sets of locks
- Vessel transit through the continental divide - Gatun lake feeds the Canal with fresh tropical water, IT IS NOT SALT WATER
- Water consumption 52 million gallons per transit
- Transfer to Panama on December 1999 by the US



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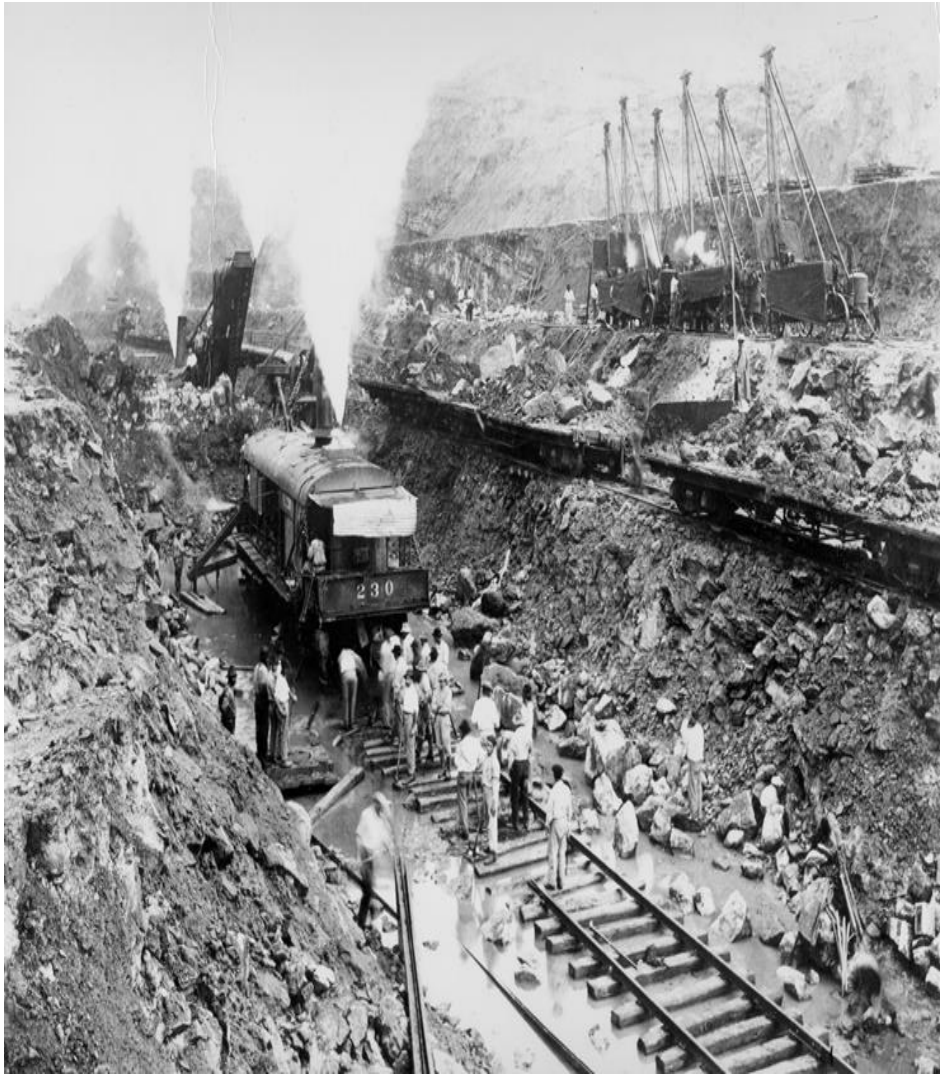
Original Construction

1880 – FRANCE



1904 – USA

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Ship In Transit - Existing Locks

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Existing Chamber Under Maintenance

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New Chamber Under Construction

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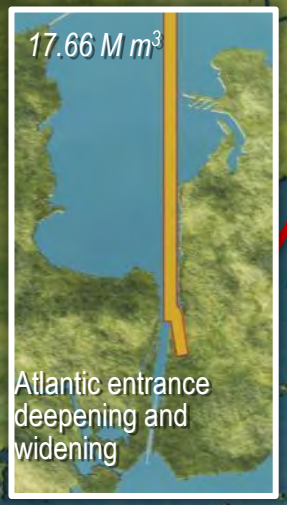
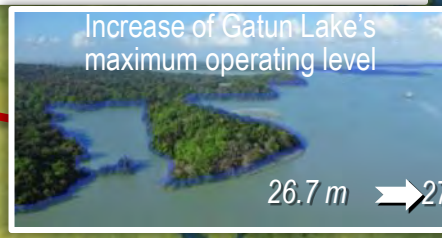
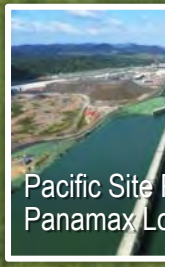
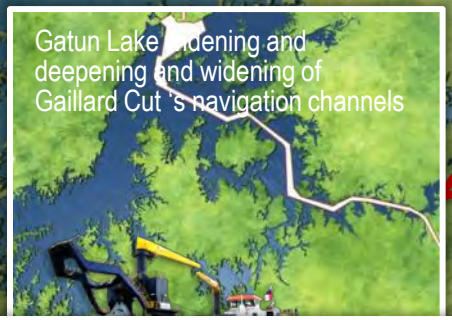
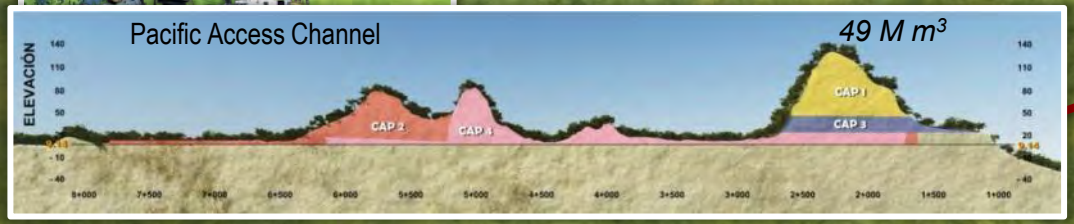
Canal Expansion Program Components
$5.25 Billion Investment











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Pacific Aerial View

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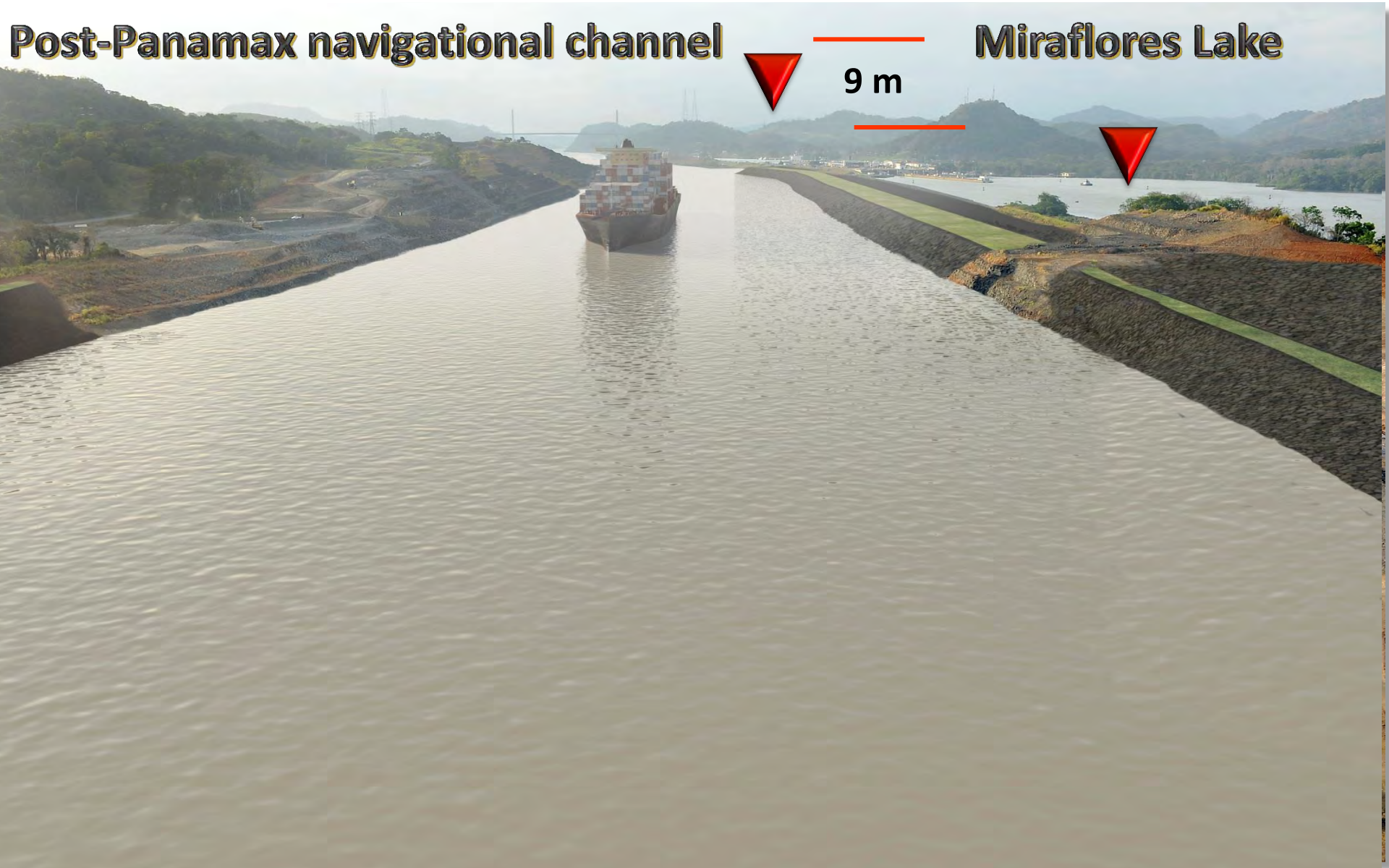
Pacific Access Channel



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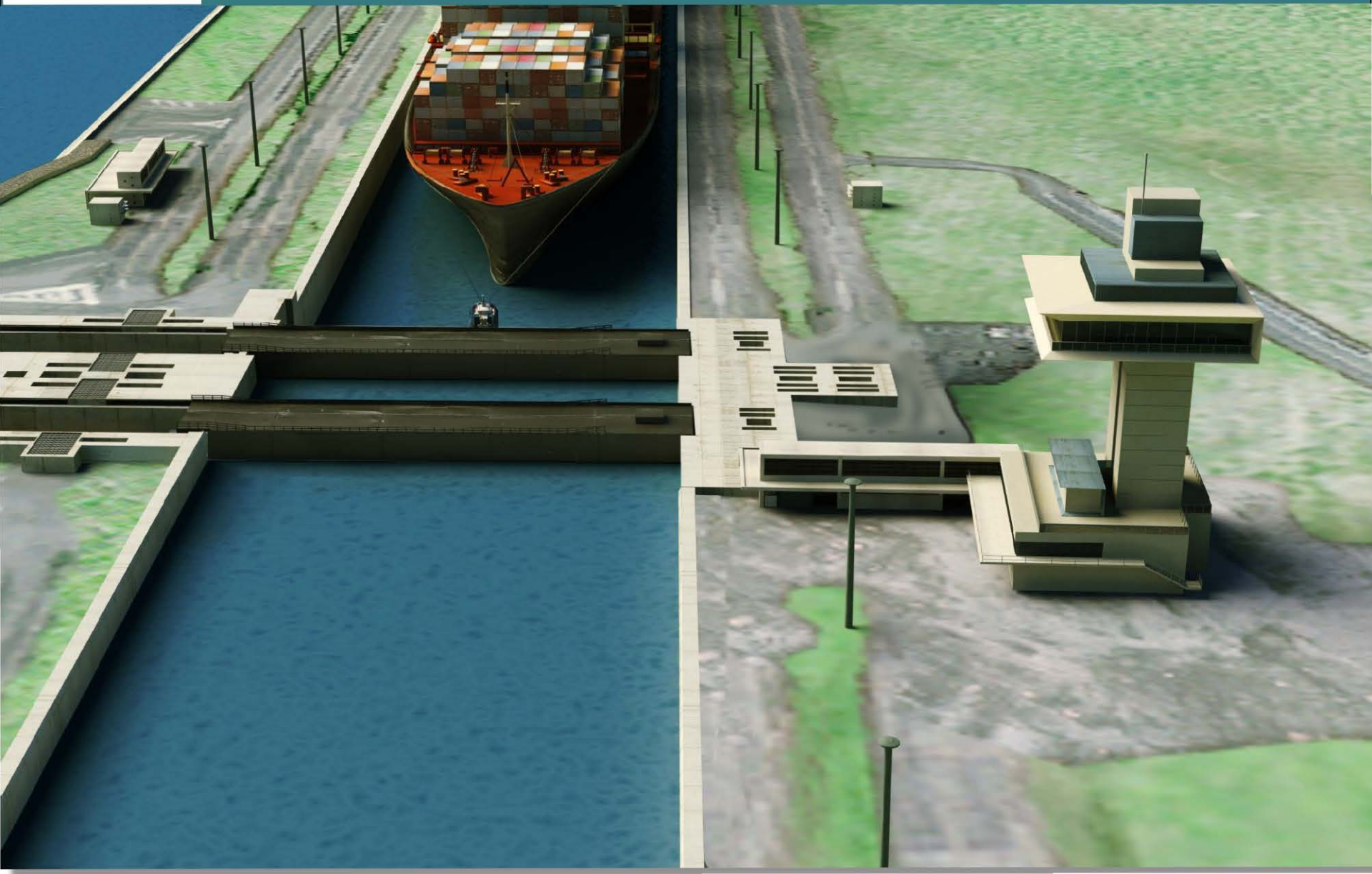
Locks and Design Construction



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Third Set of Locks Project
Key Facts

Civil Works Quantities	
Dredging	11.2 Million Cubic Meters
Excavation	37.3 Million Cubic Meters
Concrete	4.4 Million Cubic Meters
Reinforcing Steel	192,000 Tons
Cement	1.2 Million Tons
Coarse Aggregates	5.5 Million Tons
Fine Aggregates	4.0 Million Tons

Main Equipment	
Lock Gates	16
Culvert Valves	64
Conduit Valves	72
Equalization Valves	16
Control Buildings	64

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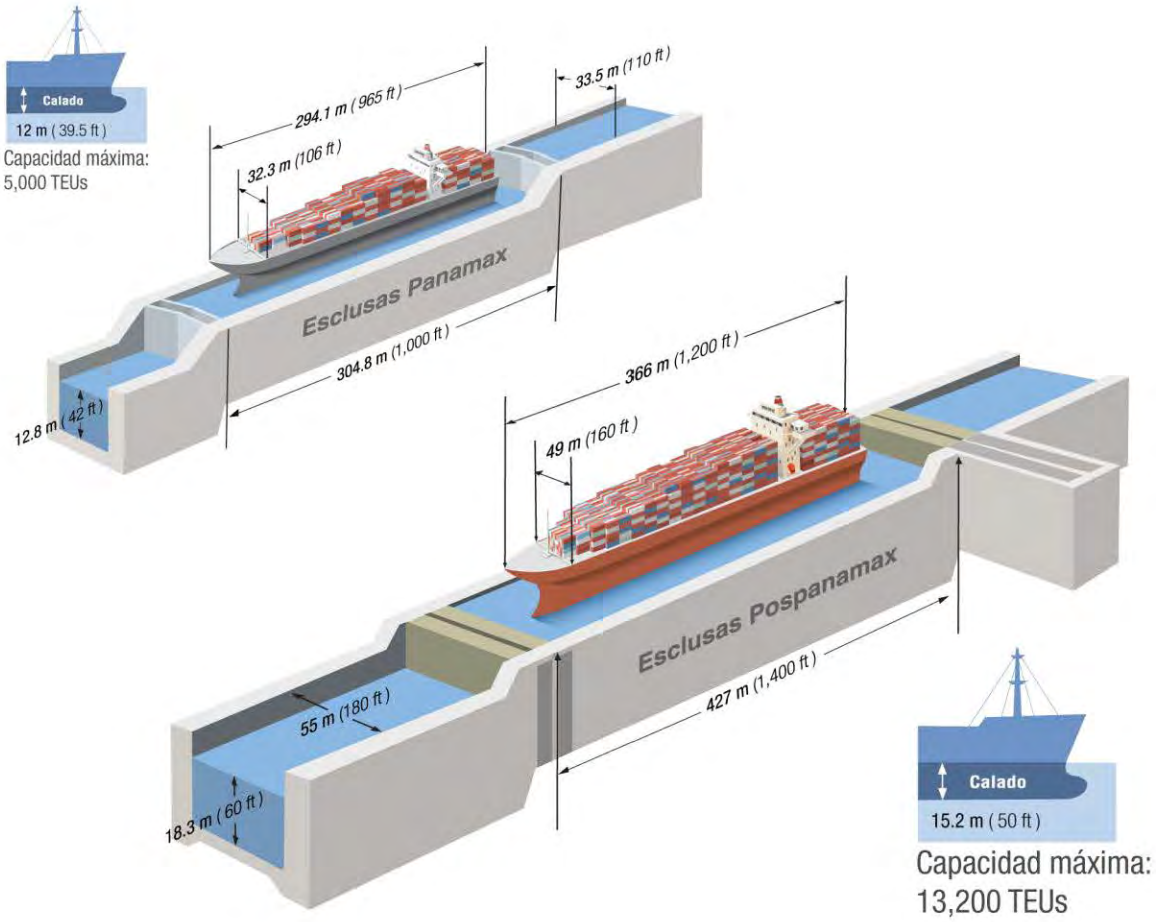
Bigger and More Efficient Locks



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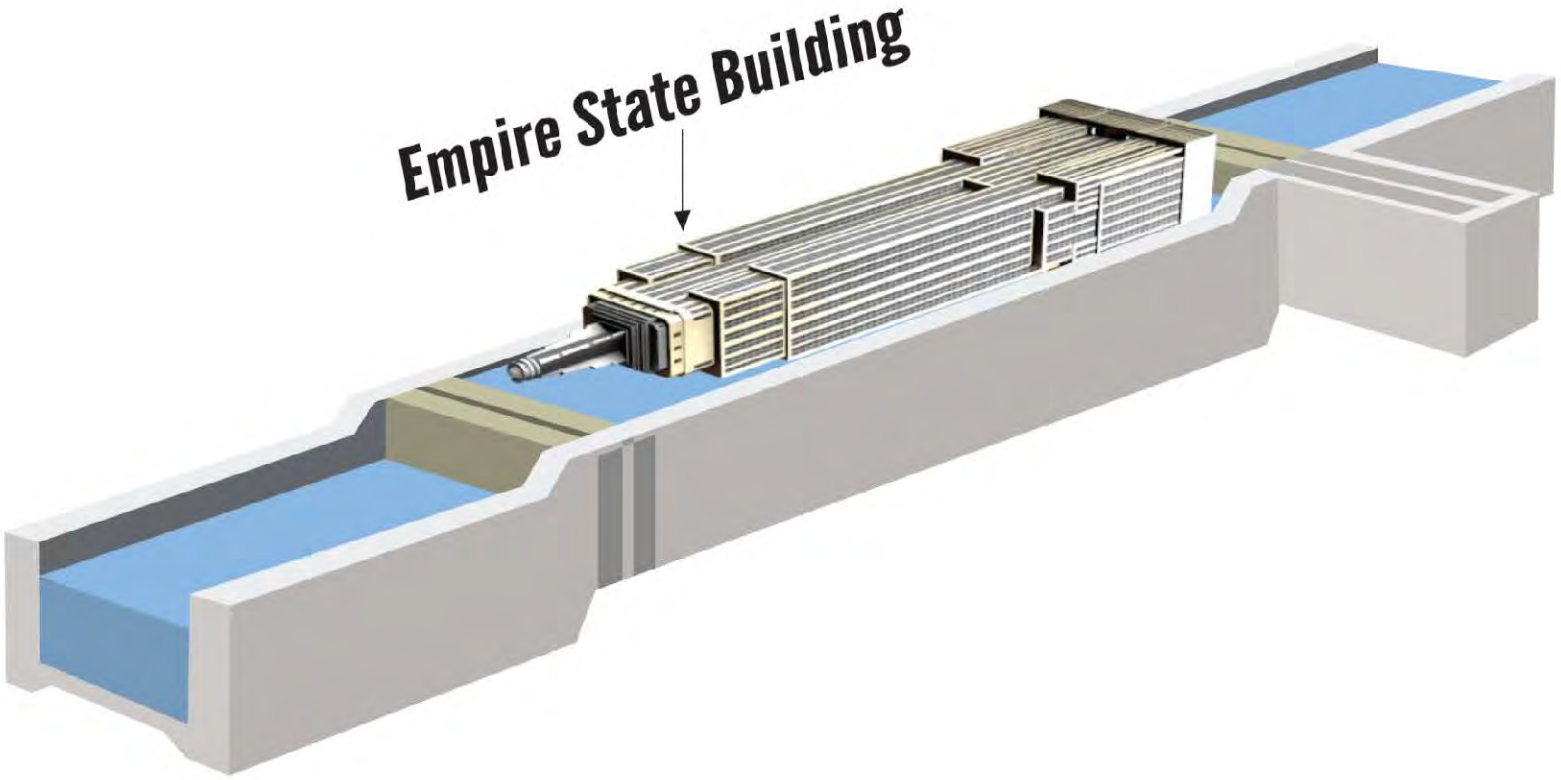
How Big?



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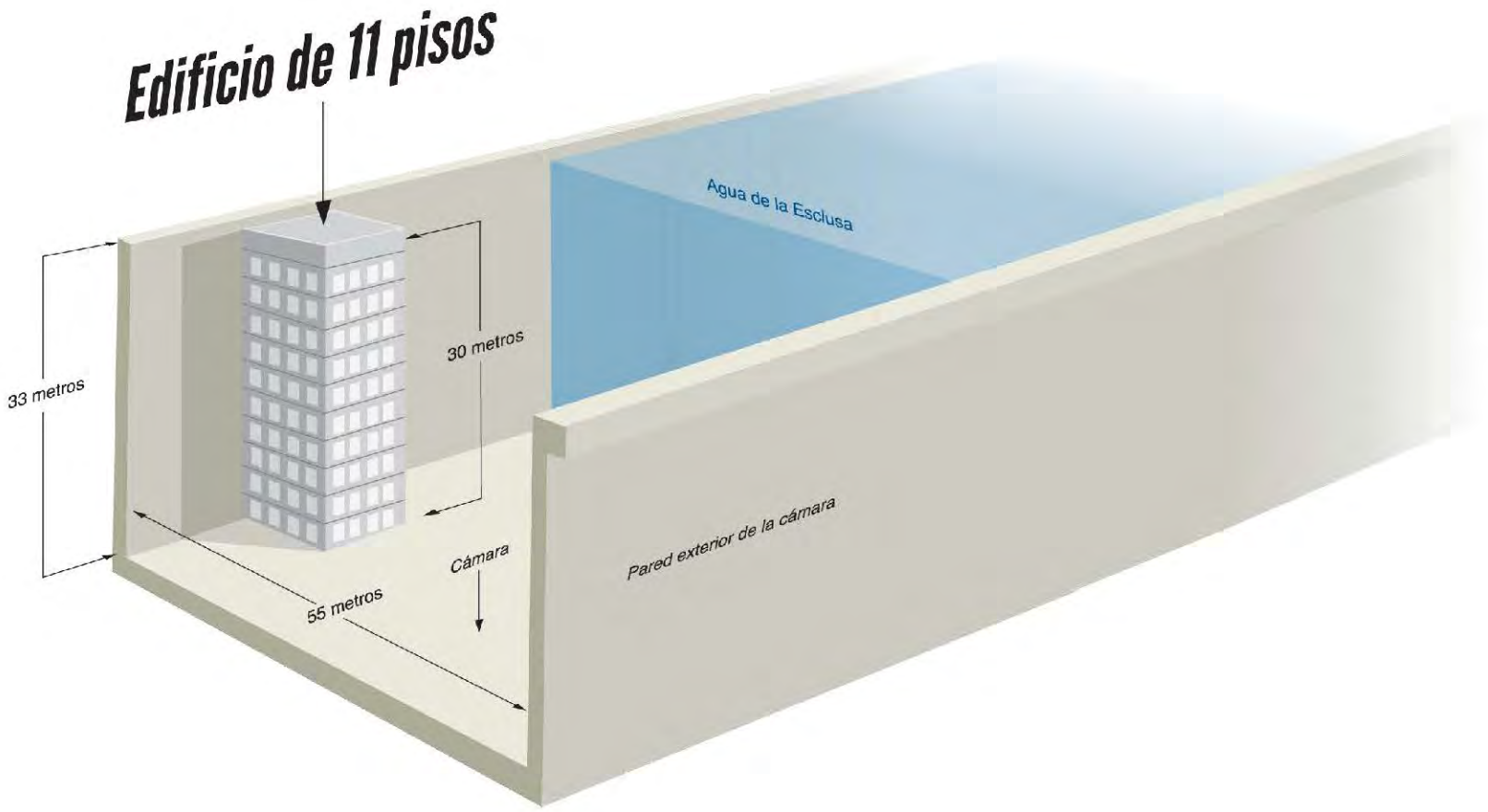
How Tall?



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Gate Fabrication

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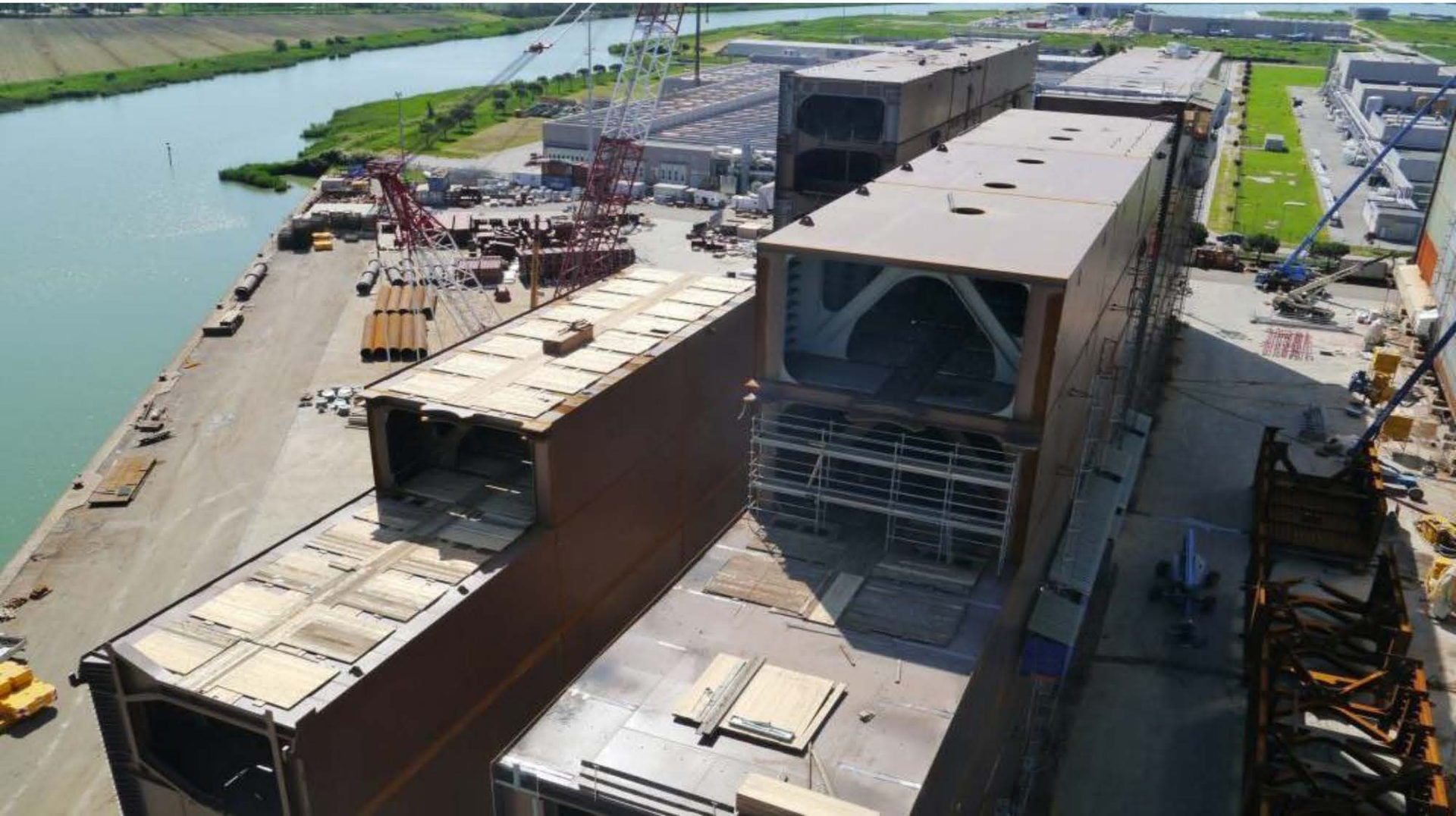
Gate Fabrication



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Transporting New Lock Gates

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Lock Gates - Atlantic Site

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Atlantic Site – Aerial View

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Atlantic Site – South East View

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Atlantic Site – Chamber Conduit

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Locks – Atlantic Site - Culvert

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Atlantic Site – Concrete Activity

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Pacific Site - Excavation

PCEP

TALSON SOLUTIONS LLC

Pacific Site - Cofferdam

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Pacific Site – Lock Head Construction

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Lock Head Concrete Activity

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Third Set of Locks Worldwide Procurement

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Valves – South Korea

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73 % Completion February 2014

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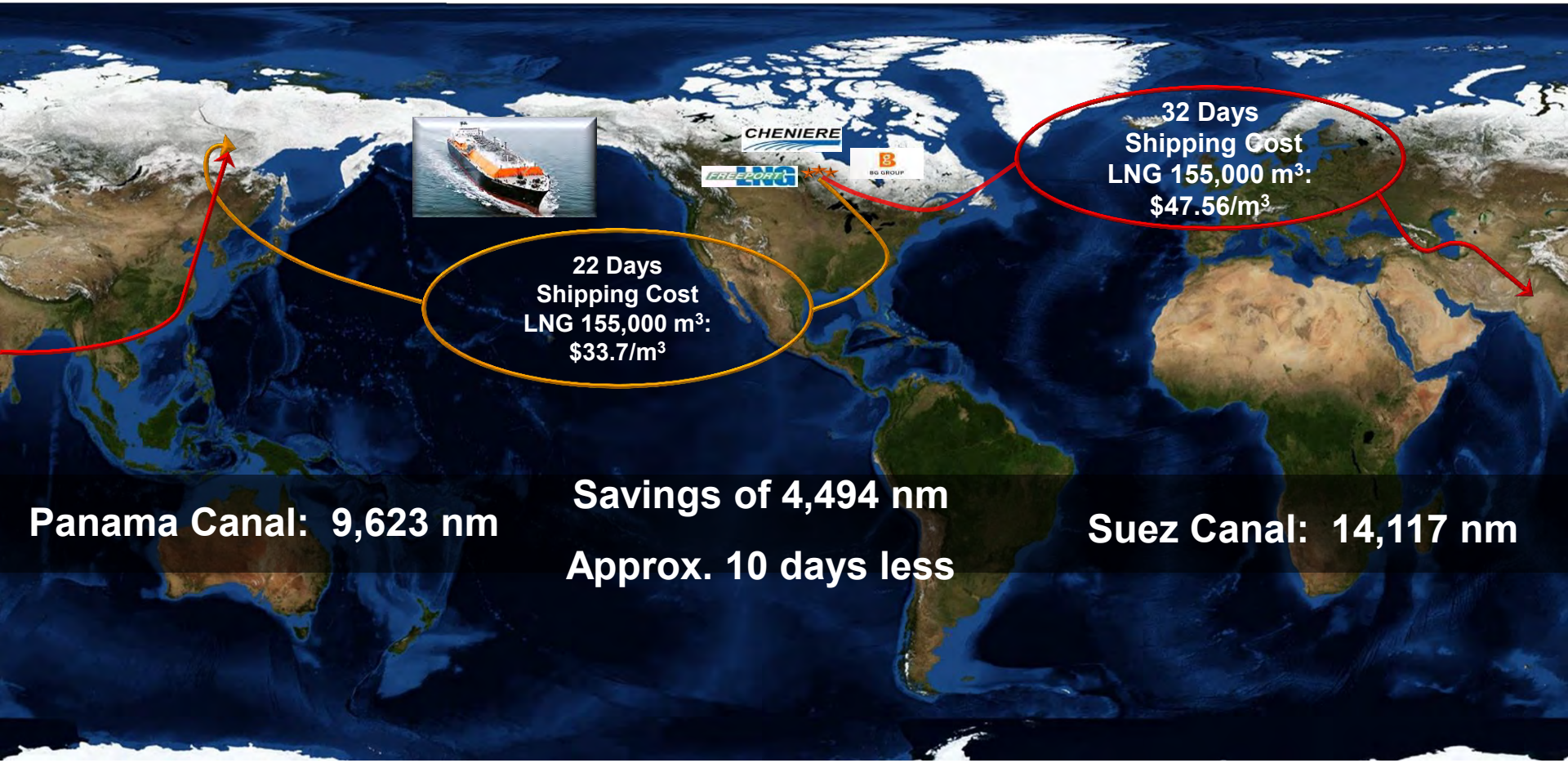
LNG Trade – U.S. Gulf to Fukuoka, Japan



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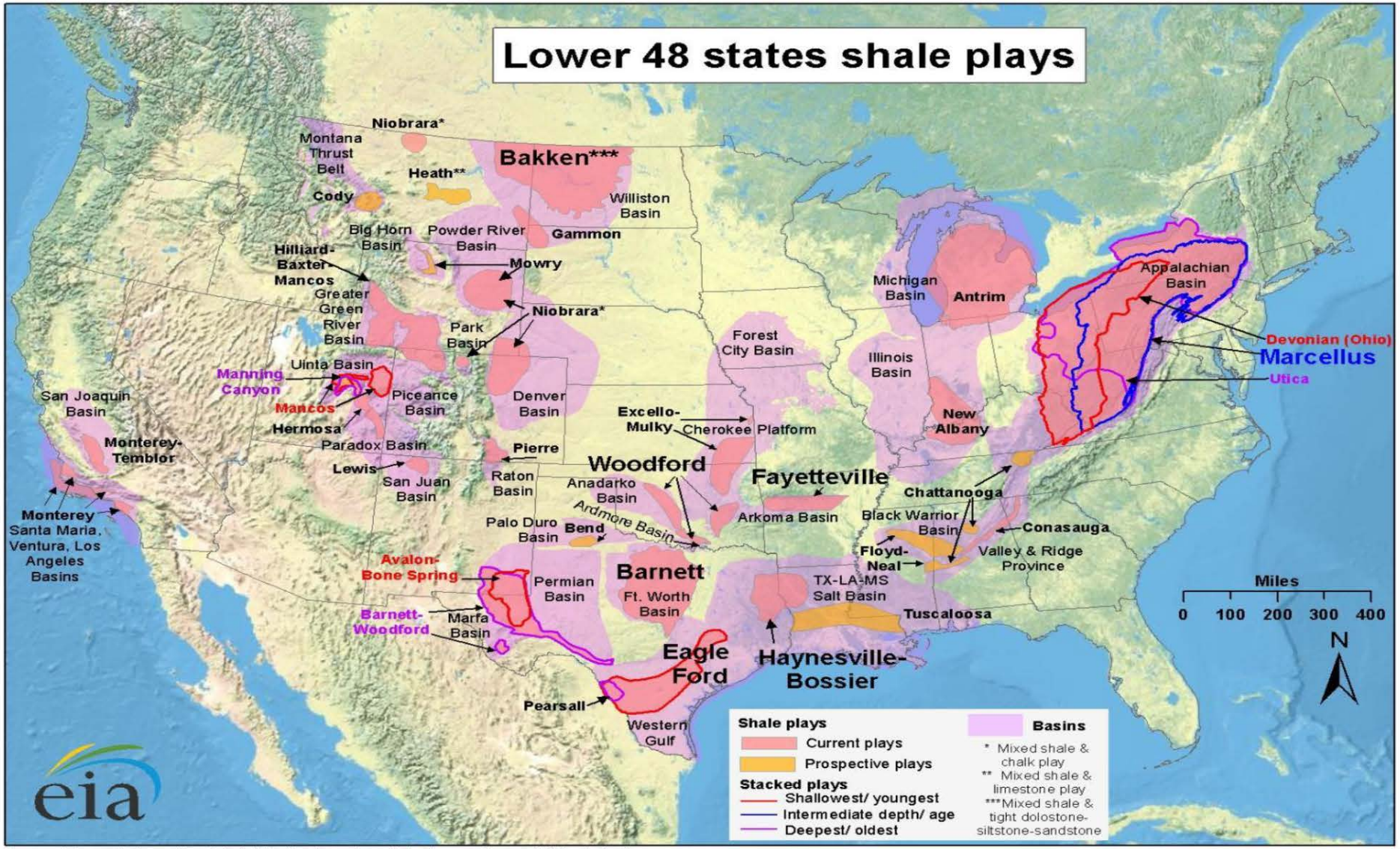
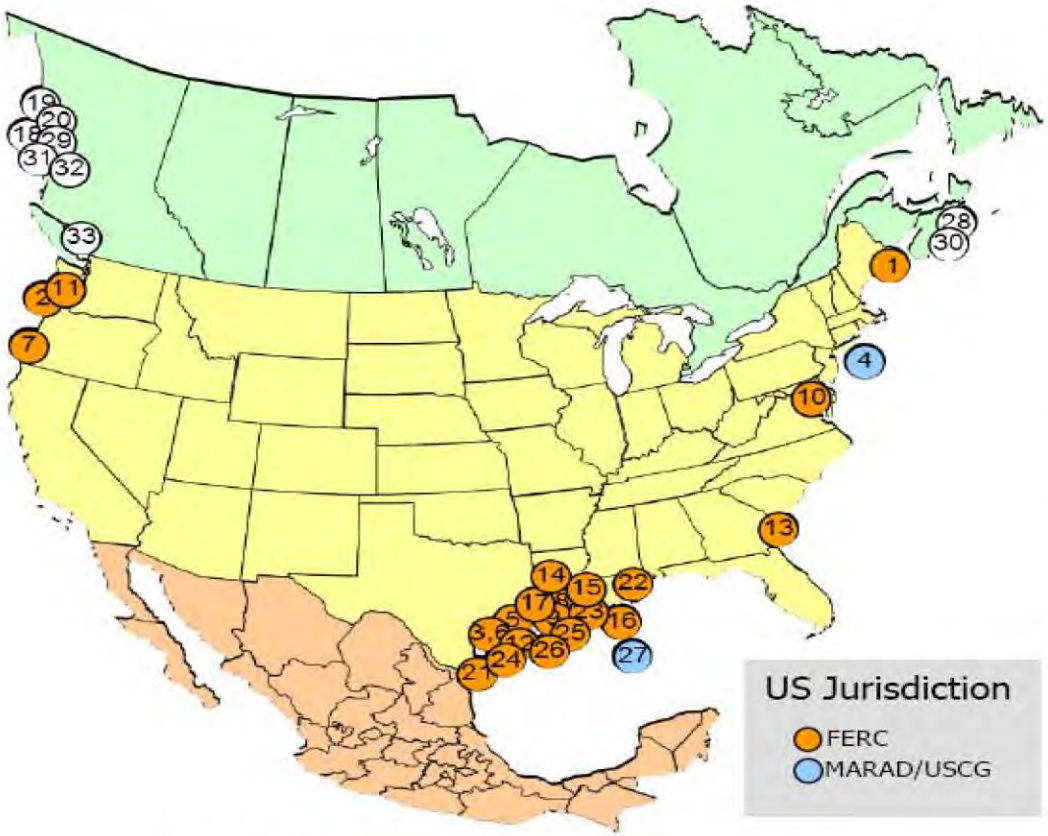


Source: Energy Information Administration based on data from various published studies.
Updated: May 9, 2011

North American LNG Import/Export Terminals

Proposed/Potential



Import Terminal

PROPOSED TO FERC

1. **Robbinston, ME:** 0.5 Bcfd (Kestrel Energy - Downeast LNG)
2. **Astoria, OR:** 0.5 Bcfd (Oregon LNG)
3. **Corpus Christi, TX:** 0.4 Bcfd (Cheniere – Corpus Christi LNG)

POTENTIAL U.S. SITES IDENTIFIED BY PROJECT SPONSORS

4. **Offshore New York:** 0.4 Bcfd (Liberty Natural – Port Ambrose)

Export Terminal

PROPOSED TO FERC

5. **Freeport, TX:** 1.8 Bcfd (Freeport LNG Dev/Freeport LNG Expansion/FLNG Liquefaction)*
6. **Corpus Christi, TX:** 2.1 Bcfd (Cheniere – Corpus Christi LNG)*
7. **Coos Bay, OR:** 0.9 Bcfd (Jordan Cove Energy Project)*
8. **Lake Charles, LA:** 2.4 Bcfd (Southern Union - Trunkline LNG)
9. **Hackberry, LA:** 1.7 Bcfd (Sempra – Cameron LNG)*
10. **Cove Point, MD:** 0.82 Bcfd (Dominion – Cove Point LNG)*
11. **Astoria, OR:** 1.25 Bcfd (Oregon LNG)
12. **Lavaca Bay, TX:** 1.38 Bcfd (Excelerate Liquefaction)
13. **Elba Island, GA:** 0.35 Bcfd (Southern LNG Company)
14. **Sabine Pass; LA:** 1.3 Bcfd (Sabine Pass Liquefaction)
15. **Lake Charles, LA:** 1.07 Bcfd (Magnolia LNG)
16. **Plaquemines Parish, LA:** 1.07 Bcfd (CE FLNG)
17. **Sabine Pass, TX:** 2.1 Bcfd (ExxonMobil – Golden Pass)

PROPOSED CANADIAN SITES IDENTIFIED BY PROJECT SPONSORS

18. **Kitimat, BC:** 0.7 Bcfd (Apache Canada Ltd.)
19. **Douglas Island, BC:** 0.25 Bcfd (BC LNG Export Cooperative)
20. **Kitimat, BC:** 3.23 Bcfd (LNG Canada)

POTENTIAL U.S. SITES IDENTIFIED BY PROJECT SPONSORS

21. **Brownsville, TX:** 2.8 Bcfd (Gulf Coast LNG Export)
22. **Pascagoula, MS:** 1.5 Bcfd (Gulf LNG Liquefaction)
23. **Cameron Parish, LA:** 0.16 Bcfd (Waller LNG Services)
24. **Ingleside, TX:** 1.09 Bcfd (Pangea LNG (North America))
25. **Cameron Parish, LA:** 0.20 Bcfd (Gasfin Development)
26. **Cameron Parish, LA:** 0.67 Bcfd (Venture Global)

U.S. – MARAD/COAST GUARD

27. **Gulf of Mexico:** 3.22 Bcfd (Main Pass - Freeport-McMoRan)

POTENTIAL CANADIAN SITES IDENTIFIED BY PROJECT SPONSORS

28. **Goldboro, NS:** 0.67 Bcfd (Pieridae Energy Canada)
29. **Prince Rupert Island, BC:** 4.2 Bcfd (BG Group)
30. **Melford, NS:** 1.8 Bcfd (H-Energy)
31. **Prince Rupert Island, BC:** 2.5 Bcfd (Pacific Northwest LNG)
32. **Prince Rupert Island, BC:** 3.8 Bcfd (ExxonMobil – Imperial)
33. **Squamish, BC:** 0.27 Bcfd (Woodfibre LNG Export)

As of July 25, 2013

QUESTIONS?

Thank You

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The Panama Canal History and Future

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VILLANOVA UNIVERSITY

The Panama Canal

Presentation Overview

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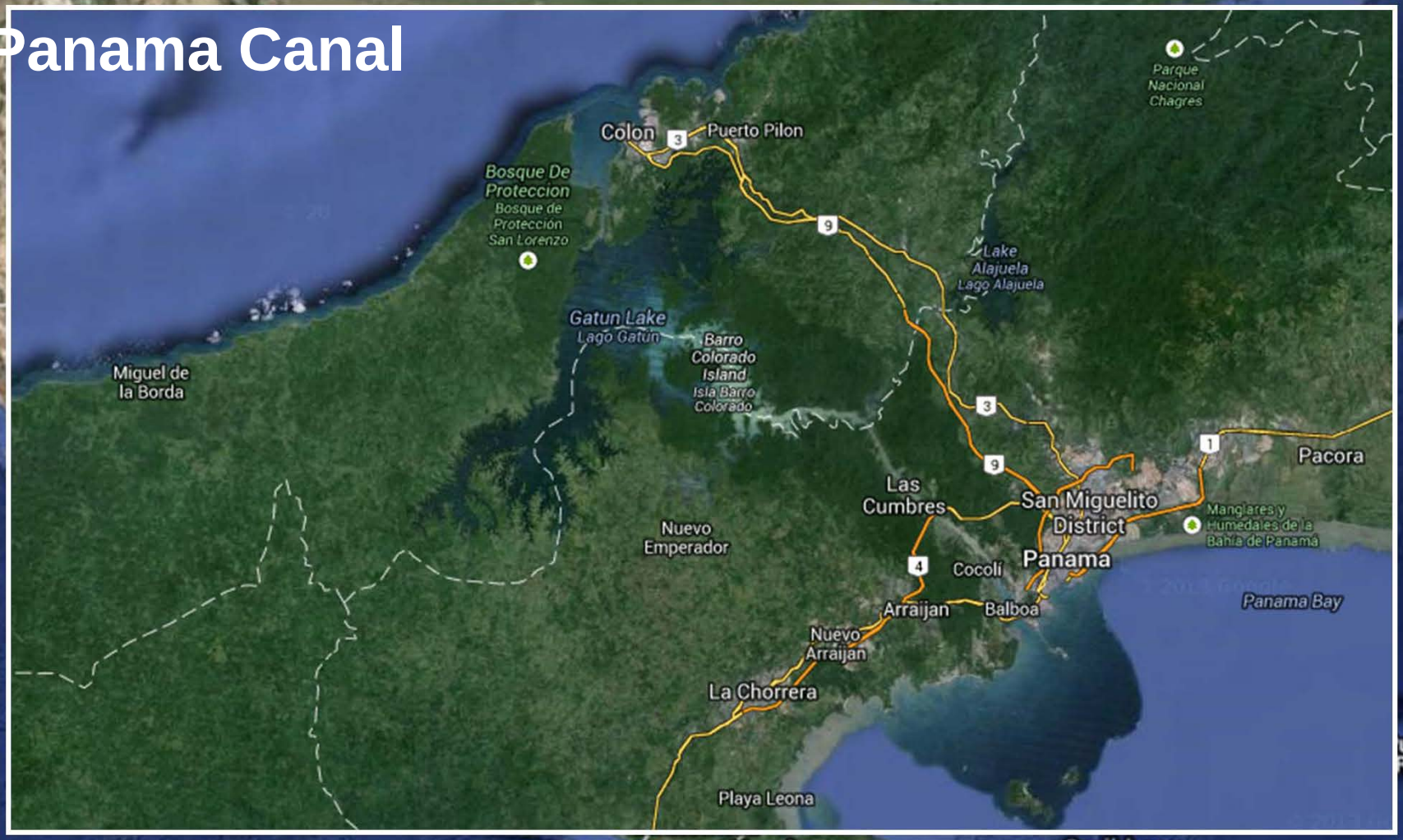
Panama Canal History	• History • Current status
Panama Canal Expansion	• Need for expansion
Panama Canal Expansion Impacts	• Benefits • Worldwide impact on shipping and intermodal transportation
Panama Canal Authority (ACP) & Villanova Univ. Collaboration	• Internship • Student Activities to Date • Faculty Arrangement

The Panama Canal



Honduras

Caribbean Sea

Nicaragua

Costa Rica

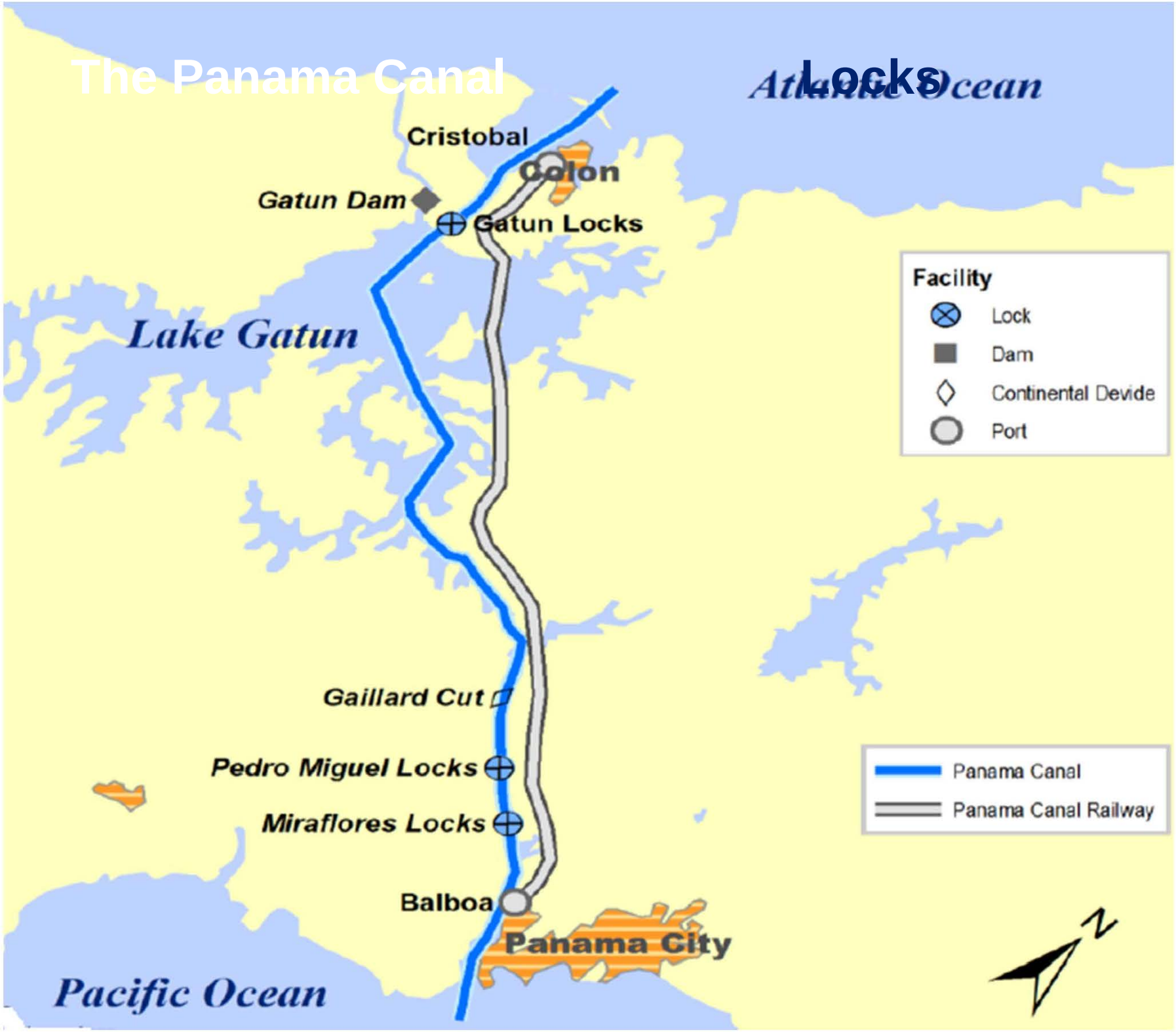
Panama

Venezuela

Colombia

The Panama Canal

Locks



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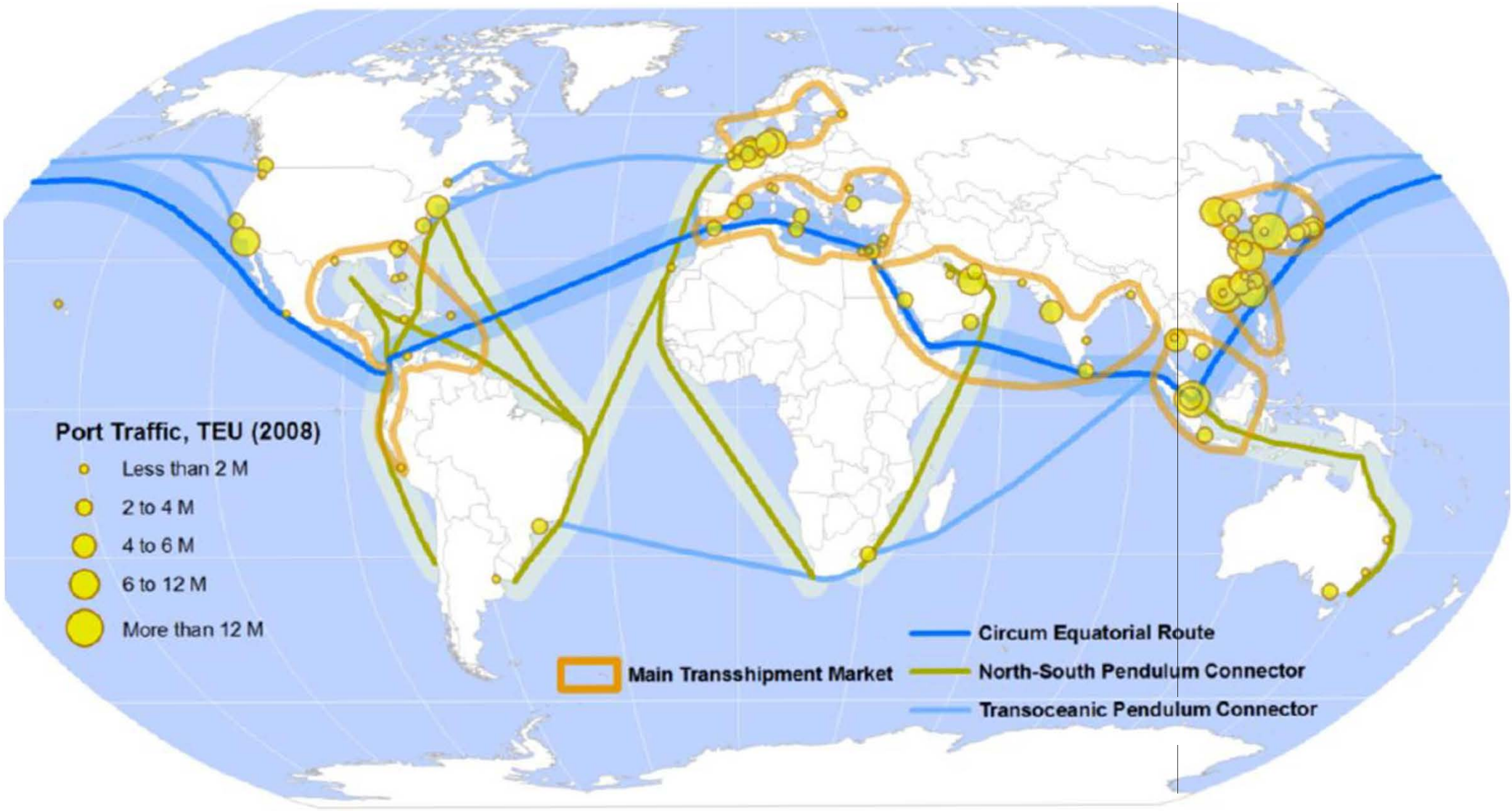
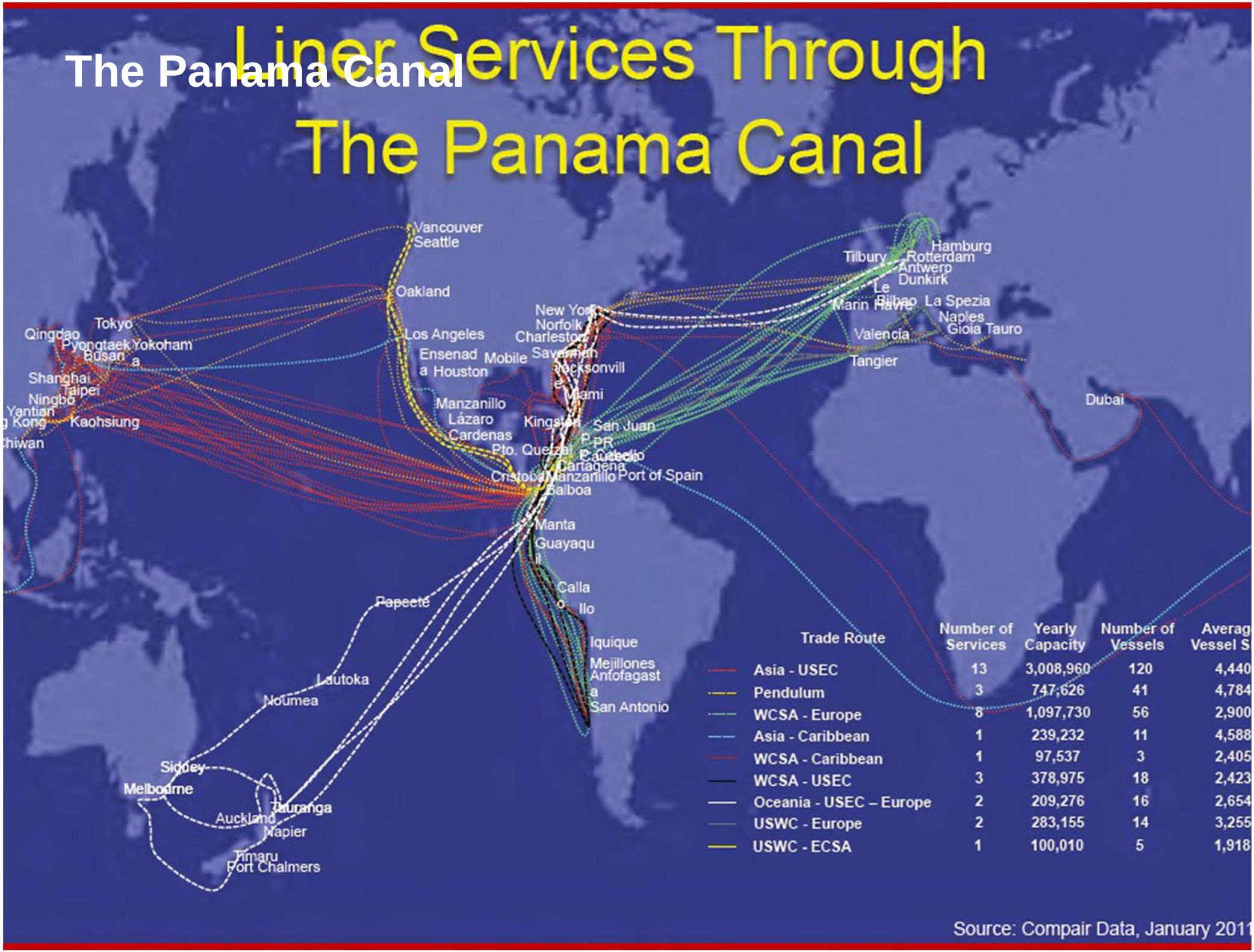
The Panama Canal



Source: The Van Horne Institute

The Panama Canal



The Panama Canal

Panama Canal History

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1500s:
Roads across the Isthmus of Panama were built by Spain

1850:
The Panama Railway was built

1882:
The French began digging a canal

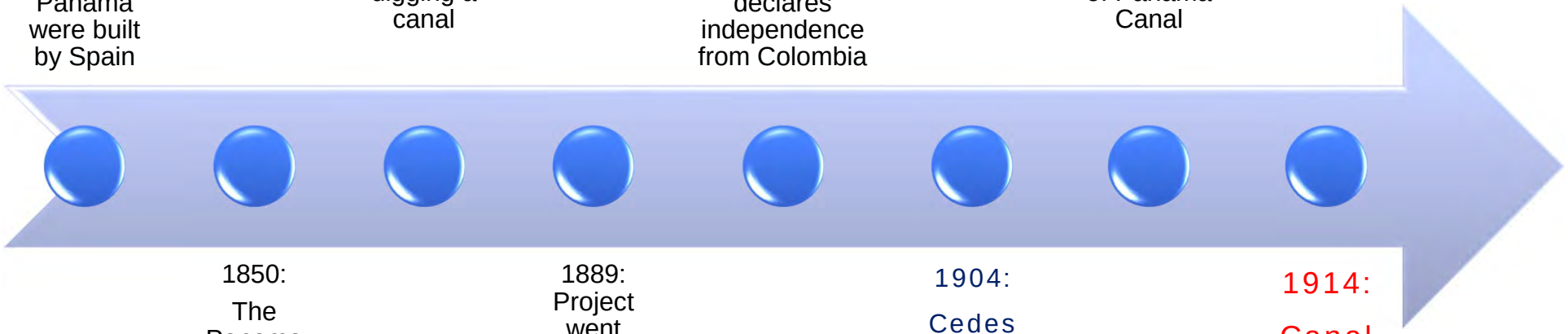
1889:
Project went bankrupt; work stopped

1903:
Panama declares independence from Colombia

1904:
Cedes Panama Canal Zone to the United States

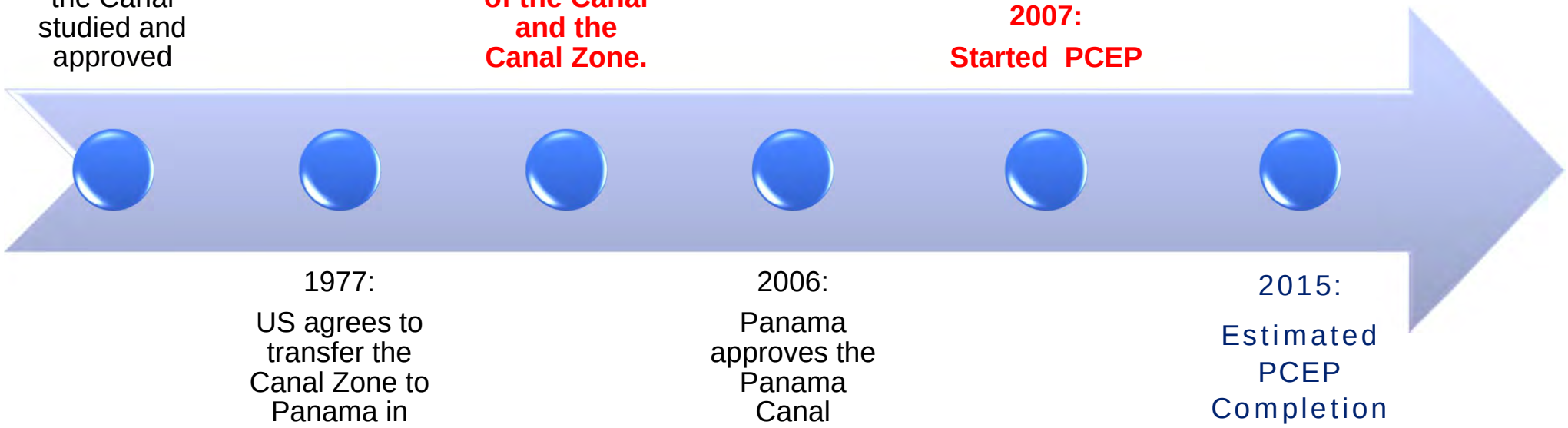
1904:
US resumes construction of Panama Canal

1914:
Canal Opens



The Panama Canal

Panama Canal History



The Panama Canal

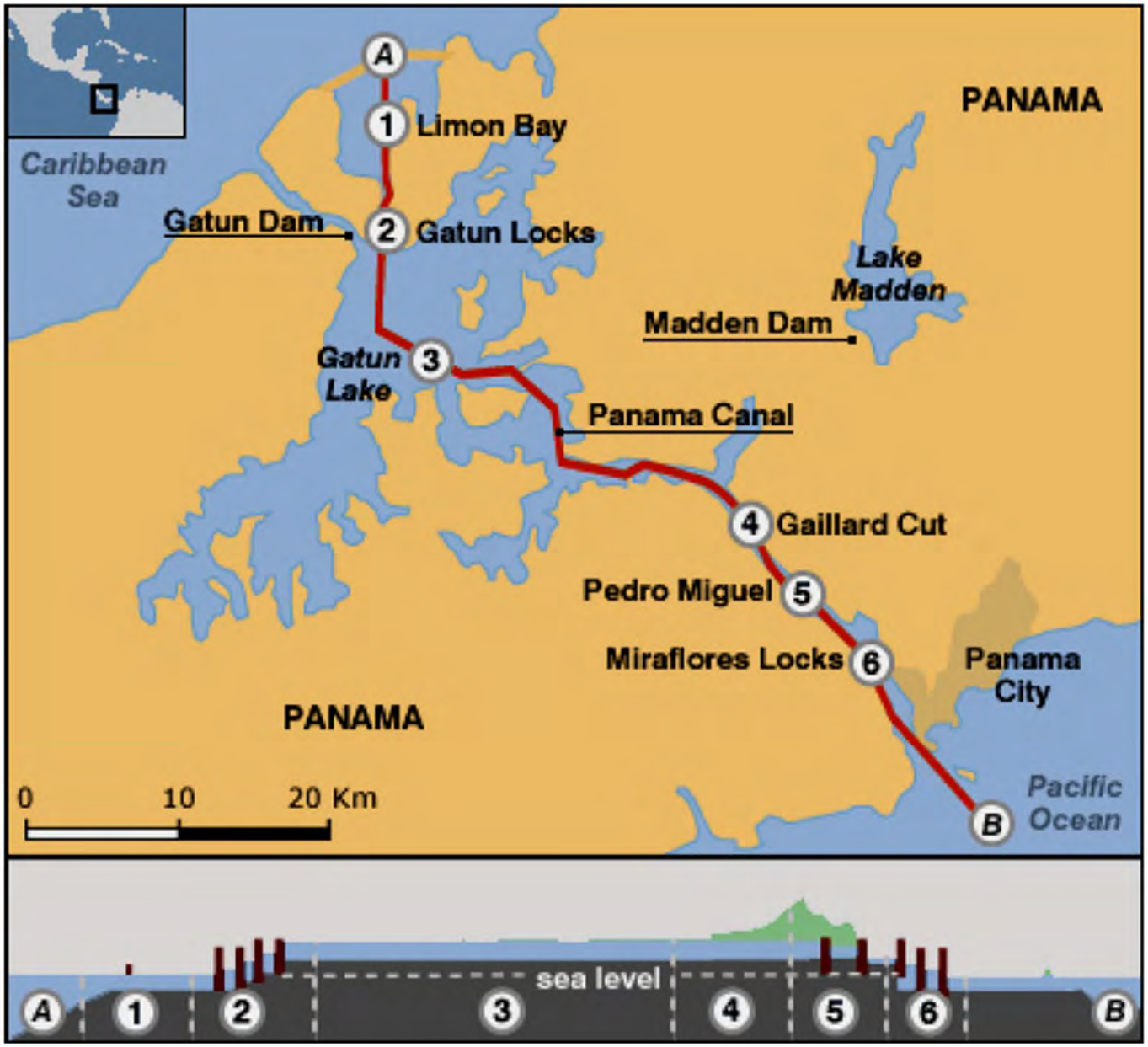
Canal Statistics

Source: The Van Horne Institute

- 77 km (48 mi) canal connecting the Atlantic and Pacific Oceans.
- 3 sets of 2 lane locks that raise and lower ships a total of 85 ft.
  - Gatun (3 stage)
  - Pedro Miguel (1 stage)
  - Miraflores (2 stage)
- Complete transit takes 8-10 hours and the average toll is $54,000.
- Each transit requires 52 million gallons of fresh water from Gatun Lake.

The Panama Canal

Current State



- 48 miles long
- 41.2 feet deep at it's shallowest point
- Three sets of locks
  - 1050 feet long, 110 feet wide
  - Two lanes
  - 85 foot elevation change

Source: BBC

The Panama Canal

Current Capacity/ Need for Expansion

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- **Current locks define Panamax ships:**
  - **1050 ft. long x 110 ft. wide**
  - **4400 Twenty-ft. Equivalent Unit (TEU) containers**
- **Gaillard Cut also limits larger ships.**
- **~14,000 transits per year.**
- **~300 million tons of shipping through the Canal per year.**
- **37% of container ships are now larger than Panamax**
- **Increased numbers of container ships traveling between China and the East/Gulf coasts of the US.**
- ***Even with minor improvement work, the max sustainable capacity reached by 2012 (340M tons/year).***

The Panama Canal

Panamax Ships

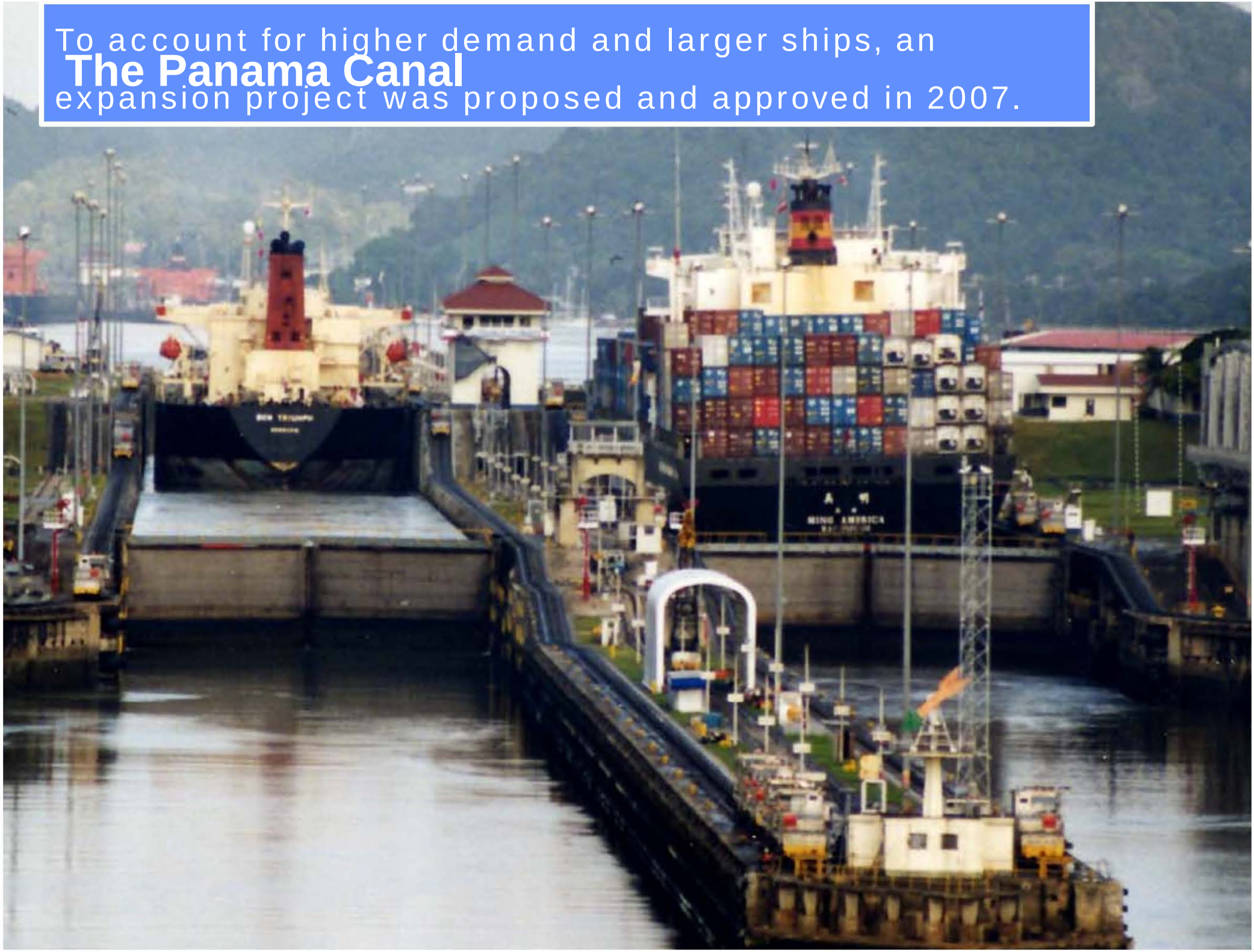
- **Maximum dimensions for vessels transiting the Canal**

http://en.wikipedia.org/wiki/File:Panamax_ship_1.JPG

- **Maximum height: 190 feet above waterline**
  - **205 feet at low tide**
  - **Height restrictions are due to the Bridge of the Americas at Balboa.**

The Panama Canal

To account for higher demand and larger ships, an expansion project was proposed and approved in 2007.



The Panama Canal

Need for Expansion

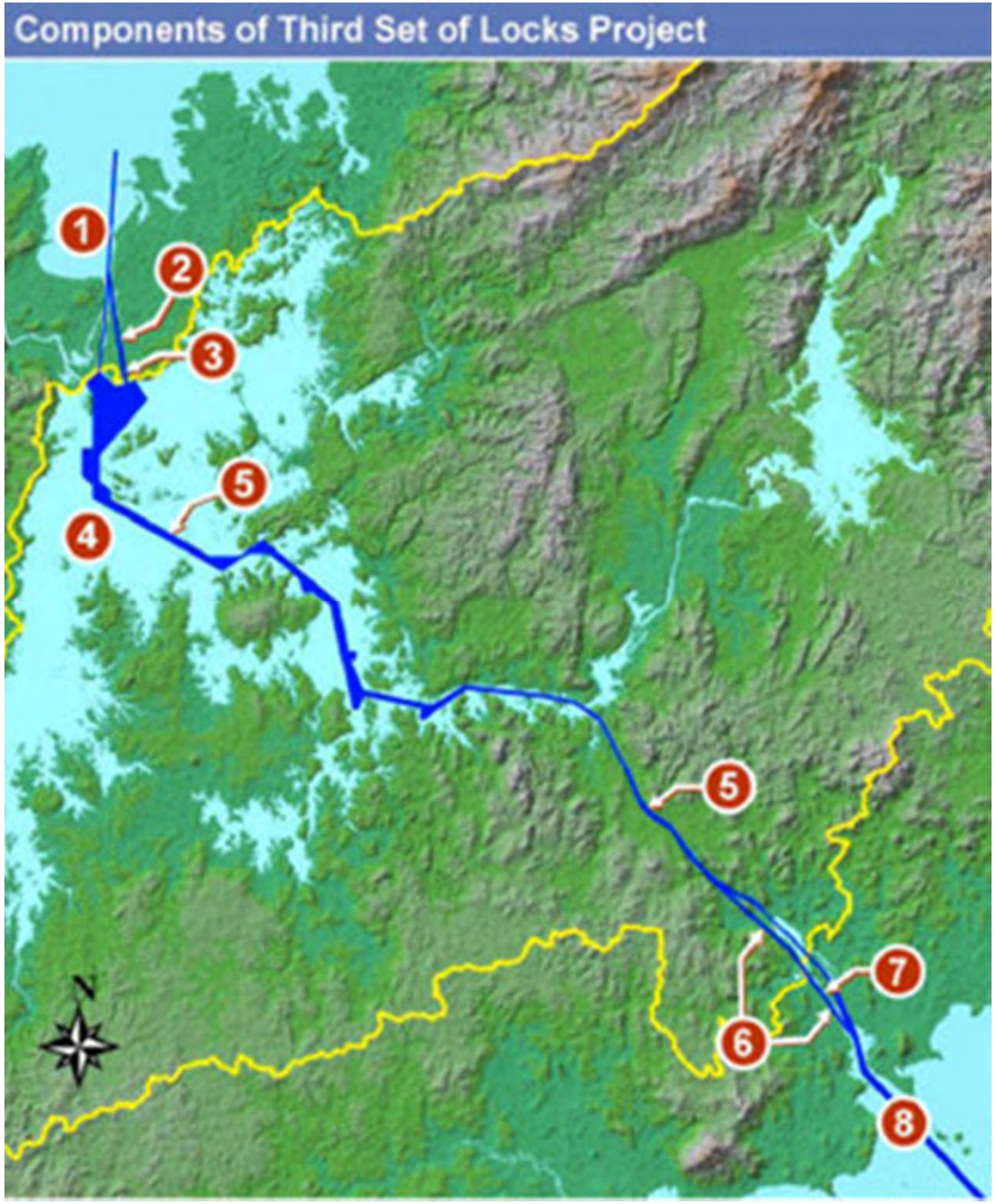
VILLANOVA UNIVERSITY

- **Existing locks limit vessel size**
- **Navigation channels are too narrow for larger ships to pass side-by-side**
- **The Panama Canal Authority (ACP) projects 3% average annual growth in cargo volume**
- **Shipping lines are ordering larger vessels.**
  - **50% of container ships built between 2006 and 2011 are too large to transit the Canal (Post Panamax).**
  - **Percentage of Post Panamax ships increasing from 27% to 37% of the world's container ship fleet.**
- **Canal must accommodate larger container ships to be competitive.**
  - **Shipping containers suited to intermodal transport, can bypass the Panama Canal entirely (e.g. California-New York by rail).**
  - **Container ships are the Canal's main revenue source.**

The Panama Canal

The Panama Canal Expansion Project (PCEP)

VILLANOVA UNIVERSITY



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-Panamx locks with 3 water saving basins per lock chamber

8: Deepening and widening of the Pacific entrance channel

The Panama Canal

Economic Issues

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- **The Canal is the backbone of Panama's economy.**
  - **8000 Panamanians employed before expansion.**
  - **$434 million transferred to Panamanian Treasury in 2009**
- **Projected 2024 revenue *four times greater* than current value!**
  - **Contribution to Panamanian Treasure likely to increase**
- **After 2025, Canal will again be nearing capacity**
- **PCEP will create about 7000 new jobs!!**
  - **positive social & economic issue**

The Panama Canal

Major Benefits of Expansion

- **Canal cargo capacity dramatically increases.**
- **Increased revenue:**
  - **$6 billion per annum (from $1.4 billion currently).**
- **In Panama:**
  - **Creates jobs.**
  - **Increased toll revenue means potentially larger budget surplus**

The Panama Canal

Post-Panamax Ships

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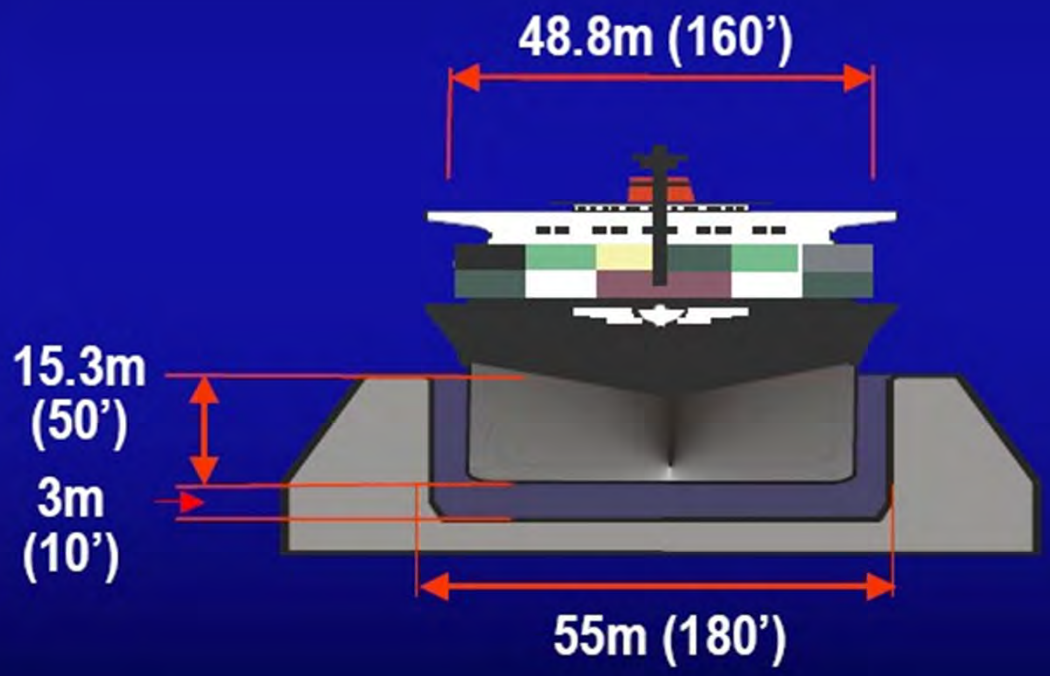
Vessel and Lock Dimensions

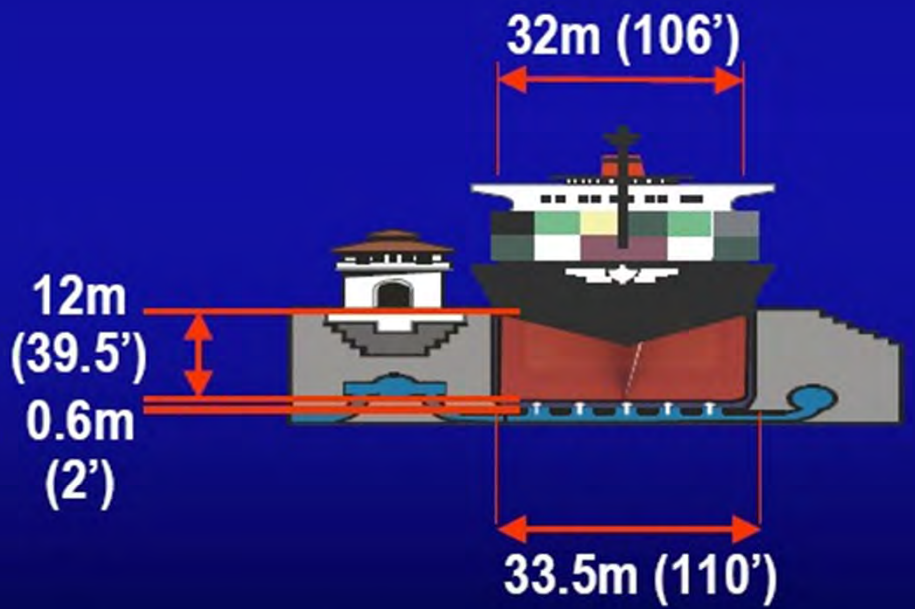
Source: http://www.oil-electric.com

Post-Panamax Locks



Chamber length 427m (1,400')
Vessel length 366m (1,200')

Existing Locks



Chamber length 305m (1,000')
Vessel length 294.3m (965')

The Panama Canal

3/7/2014

The Panama Canal

3/7/2014

The Panama Canal

The Panama Canal

Effect of PCEP on the USA

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- **East Coast growth should outpace West Coast growth.**
  - **Post Panamax ships will be able to transit the Canal instead of stopping at West Coast Ports.**
  - **East Coast ports will likely not take cargo in large numbers in the short-term.**

- **Large quantities of cargo being diverted from the West Coast to the East Coast will depend on railroad pricing and Panama Canal tolls.**

- **Most East Coast port facilities *must be upgraded!***

- **Future Ship Design**
  - **Larger vessels will be designed in shipping sectors such as car carriers and cruise ships.**
  - **Container ships are already at “Post-Panamax”.**
  - **Solid and Liquid Bulkers and Coal Carriers will be redesigned to fit the new Canal locks.**

Other Countries Most Affected by PCEP

- **Nations closest to Panama**
  - **Columbia and Venezuela**
- **Nations in the Caribbean that have developed Transshipment facilities**
  - **Jamaica**
  - **Dominican Republic**
  - **Trinidad**
- **The potential for Latin American countries to see expanded trading opportunities over the next decade is substantial.**
- **Nicaragua has had an *'alternate canal'* proposal.**
  - **But this project may not be built due to the lack of potential market share and due to the need for required funds.**

The Panama Canal

Overarching Limitations

- The operation of the Canal is restricted by the amount of water in Gatun Lake.
- Currently, each transit uses water (52 million gallons) from the Lake that is discharged into the Atlantic or Pacific Oceans.
- Even the new PCEP locks do not retain all of the water.
- The Canal is absolutely dependent upon the rainy seasons in Panama (April – November) to keep Gatun Lake full to support transits.

- **Internship**
  - **Max. duration: 2 months**
  - **Max. number of students at the same time**
    - **3 students**
  - **Technical areas of concentration**

Initial Technical Areas of Concentration	Potential Additional Future Areas of Concentration
Environmental Management	Worldwide Shipping Trends; Transportation Engineering/Planning
Water Resources Management	Research regarding future Ship Design
Alternate Energy Sources	Business of Canal Management

The Panama Canal

ACP/VU Relationship to Date: Students

VILLANOVA UNIVERSITY

- **1 Graduate Student**
  - **Master in Sustainable Engineering**
  - ***Results of this work presented at the Transportation Research Board Annual Meeting 2014; Special Workshop One Hundred Years of the Panama Canal: Legacy and Future!***

- **2 Undergraduate Students**
  - **Bachelor in Civil Engineering**
    - **Environmental Evaluation Section of the Environmental Division**
  - **Bachelor in Biology**
    - **Air Quality Section of the Expansion Division**

The Panama Canal

ACP/VU Visiting Faculty & Reciprocal Arrangements

VILLANOVA UNIVERSITY

- **Plans are emerging for at least one member of the ACP staff to become a Visiting Professor of the VU faculty for an established duration.**

- **Future reciprocal plans may also result in a member of the VU faculty working with ACP staff for an extended duration.**

StrongPorts

U.S. Department of Transportation

Delaware Valley Goods Movement Task Force
April 16, 2014

Stephen Shafer
Office of Intermodal System Development
U.S. Maritime Administration

U.S. Department of Transportation

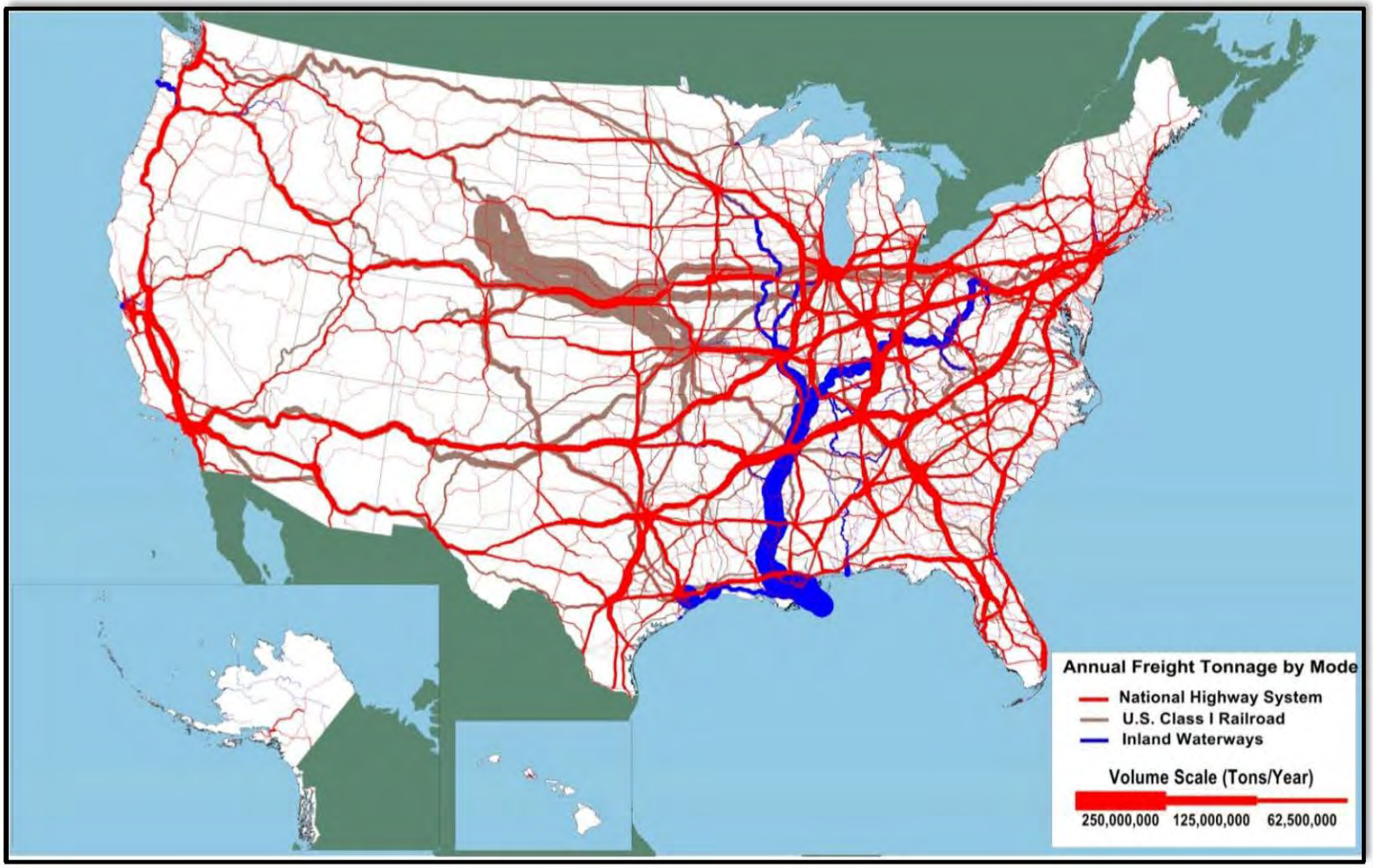
Maritime Administration

Mission:

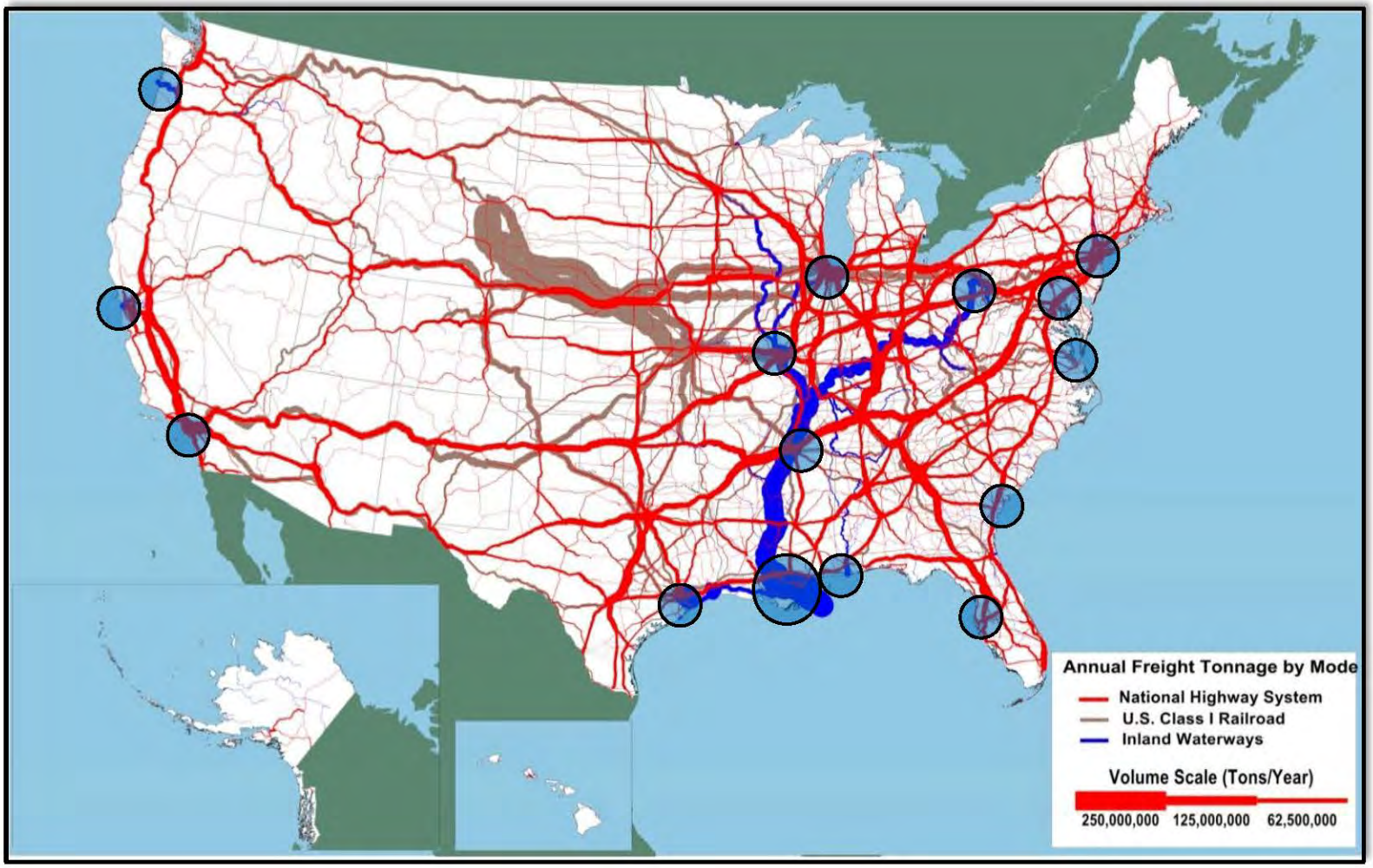
To foster and promote the U.S. merchant maritime industry for the Nation's economic and national security.

U.S. Department of Transportation

2007 Freight Volume/Day



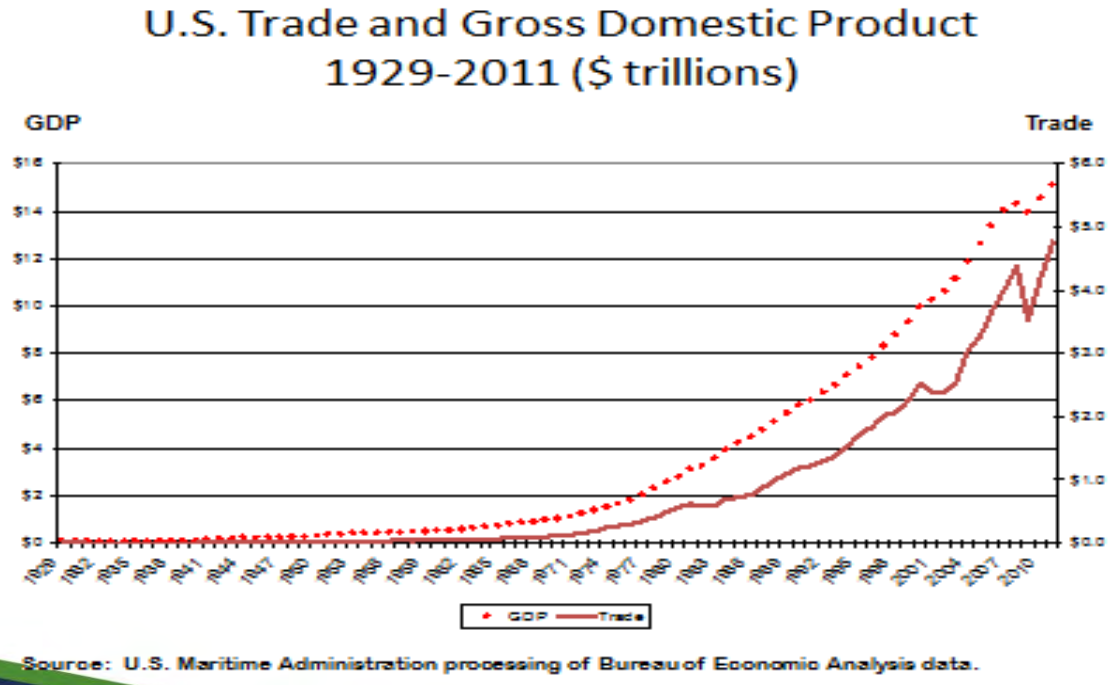
Major U.S. Sea Ports and Long Haul Trucking



Ports Contribution to the Economy

Vessels that transport cargo through U.S. seaports move **99.4 percent of the nation's overseas trade** by volume, and 65.5 percent by value.

("Port-Related Infrastructure Investments Can Reap Dividends," by Kurt Nagle, President and CEO of AAPA. Industry Today, Vol 14, Issue 3)



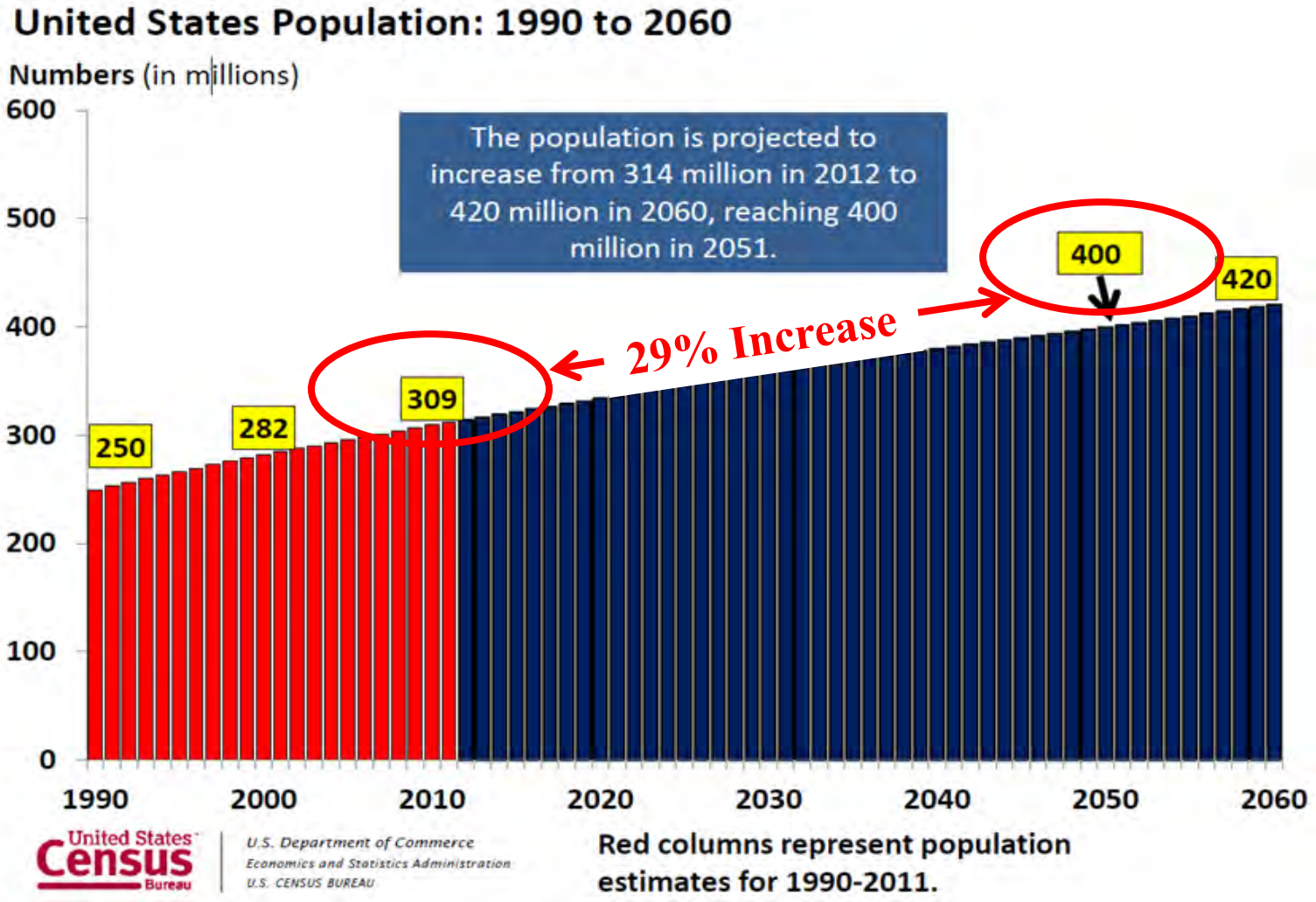
The Port Challenge

Failure to Act

American Society of Civil Engineers Failure to Act Report 13 September 2012. Continued level of (federal) investment will **cost 178,000 jobs/year and $4 Trillion by 2040.**

During a National Port Summit hosted by former Transportation Secretary Ray LaHood, participants made it clear that **port infrastructure suffers from a lack of focused and systematic investment**. (Second National Port Summit, April 21, 2011, Chicago, IL.)

Port Challenges: A Growing Population Will Stress Capacity



Source: Jennifer Ortman. A Look at the U.S. Population in 2060. U.S. Census Bureau, Population Division. December 14, 2012. http://www.census.gov/newsroom/cspan/pop_proj/20121214_cspan_popproj.pdf

StrongPorts Program

Legislation: Authorizes Port Infrastructure Development Program (2010 National Defense Authorization Act (PL 111-84))

Purpose: Promote, Encourage, Develop Ports and Transportation Facilities in Connection with Water Commerce

- Secretary of Transportation, through the Maritime Administrator **"shall establish a port infrastructure development program for the improvement of port facilities."**
- Provide technical assistance as needed for project planning, design and construction.
- Coordinate with Federal agencies to expedite NEPA.
- Coordinate reviews or requirements with local state and federal agencies.
- Receive (Federal, non-Federal, private) funds to further projects.

StrongPorts Program

Primary Objective:

- **Improve state of repair, capacity, efficiency and environmental sustainability of all U.S. ports.**
- Leverage existing programs where possible
- Improve port competitiveness for public (Federal, State and local) and private funds through enhanced planning and engagement

Factors, Goals and Methodologies to Consider

- Ensure Federal role is appropriate to circumstances – Right Size, not Super Size
- Competition among/between ports is essential – minimize impact
- Program must be effective with no new Federal Funds – New money only increases scope of program benefits.
- Address the real challenges ports face, not perceived - Consensus
- Program should benefit all ports, not just a select few.

Program Framework - Phase 1

Category I
Planning & Engagement

All Ports

Low Federal Oversight
No Market Interference

A. Guidelines & Data:

Sector advocate through analysis & showcasing opportunities/consequences regarding port role/investment

Activities Include:
- Port Investment Plan Guidelines (With Stakeholders)
- National/Regional Studies and Maritime Impact Analysis

B. Assistance:

Direct support to individual ports (upon request)

- Investment Plan Devel. Support (TIGER VI Planning Grants)
- Delivery of Federal Services (Gateway Offices & HQ)
- Dedicated Staff With MPO Experience

Category II
Financing

Limited No. of Ports

Moderate Federal Oversight
Minimal Market Interference

Financing:

Direct funding support via existing/future programs

- TIGER I-VI Grants ($420M)
- Marine Highway Grants
- Eligible for Port Infra Devel. Fund
- Possible

Category III
Project Support

Very Few Ports

High Federal Oversight
Minimal Market Interference

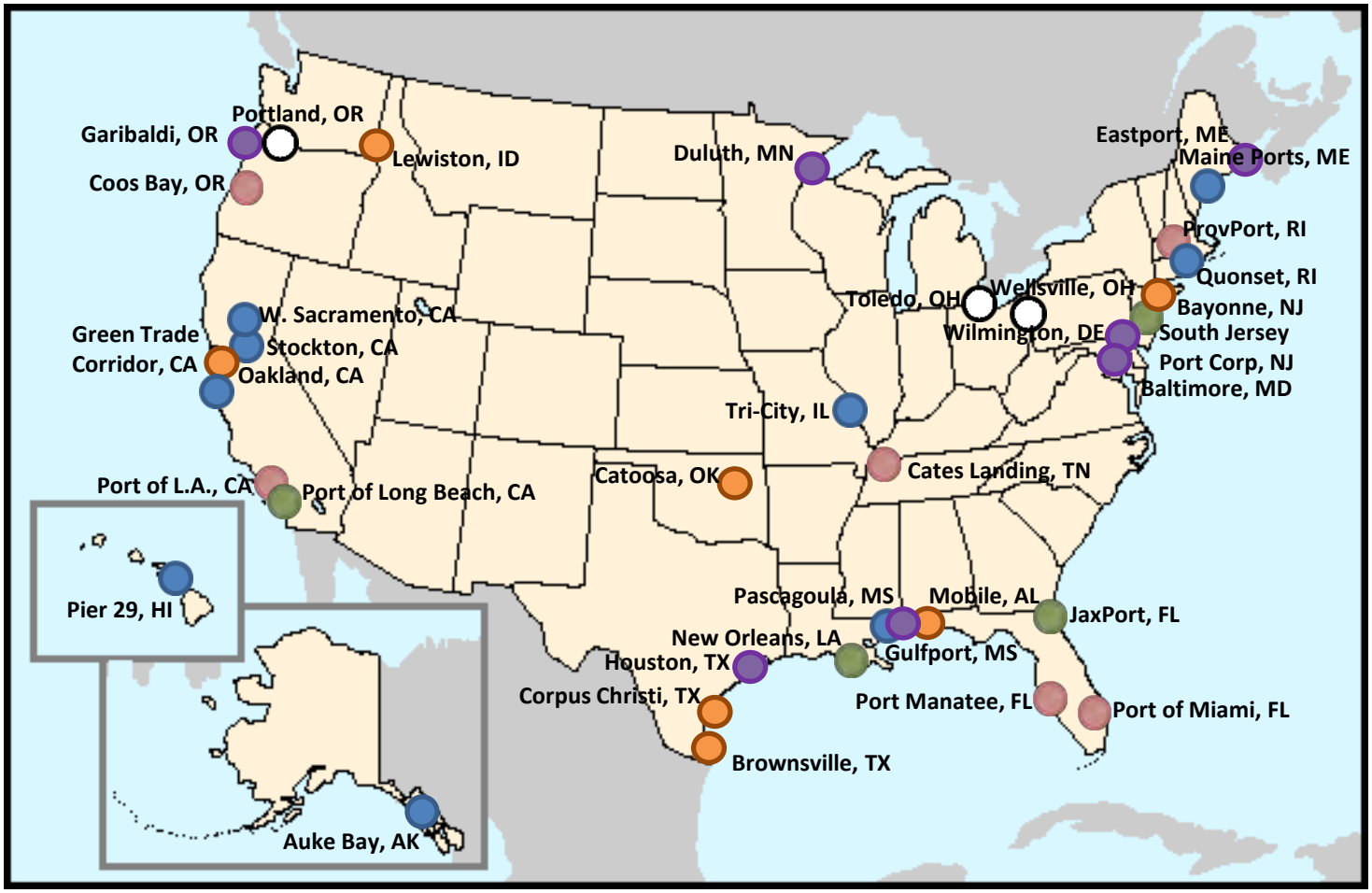
Project Support:

Increased Federal project assistance where unique Federal interest exists

MARAD Co-Manages Project w/Port
- Design Development
- Eligible For PID Fund
- Eligible for Lead Fed. Agency Supp.
- Strict Sel. Criteria
- Investment Plan Req'd
- Project Clearly Defined

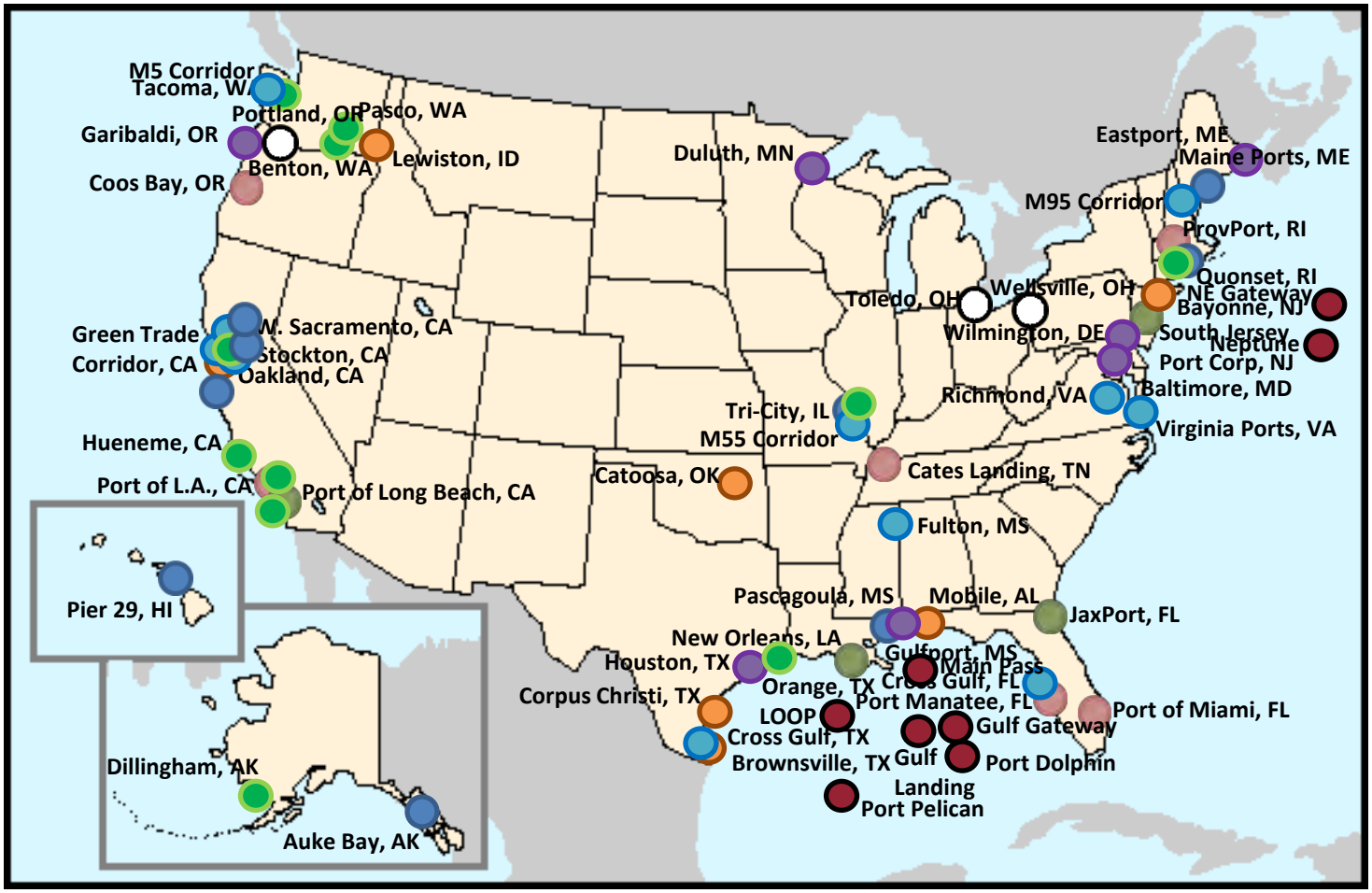
Authority: 46 USC, Section 50302

Maritime Administration Projects



ARRA Grants
TIGER FY 2009
TIGER FY 2010
TIGER FY 2011
TIGER FY 2012
TIGER FY 2013

Maritime Administration Projects



ARRA Grants
TIGER FY 2009
TIGER FY 2010
TIGER FY 2011
TIGER FY 2012
TIGER FY 2013
Marine Highway
Port Conveyance
Deep Water Ports

StrongPorts Initiatives - 2014

Port Planning & Investment Toolkit

A Maritime Industry Joint Venture

A Collection of Investment Plan Best Practices and Tools, Developed by industry experts under a cooperative agreement between AAPA and the Maritime Administration

PortTalk

A Regional Maritime Collaboration

U.S. Department of Transportation

Working with State Departments of Transportation, Metropolitan Planning Organizations, and ports to include water transportation in State freight and passenger transportation plan

Port Planning & Investment Toolkit

A Maritime Industry Joint Venture

A **joint venture** between AAPA, a working group of 57 industry expert volunteers, and the Maritime Administration.

Toolkit will help **ports obtain funding** by developing **investment grade plans that:**

- Clearly identify **future port needs**;
- Determine the most **cost-effective**, sustainable and efficient **solutions** to port problems; and
- Get port infrastructure projects into **MPO and state transportation programs** in order to receive **formula funding**;
- Position port projects for **federal funding** such as TIGER grants; and
- Assist ports in obtaining **private sector investment funds**.

PortTalk
A Regional Maritime Collaboration
U.S. Department of Transportation

A facilitated day-long session to **foster dialogue** and **develop regional maritime transportation plans**

Target participants include **State Departments of Transportation, MPOs, Economic Development Corporations, Ports, and Port Authorities**

PortTalk Outcomes:

- Identify resources and programs to help build, **modernize and expand** maritime transportation assets
- **Spotlight** maritime transportation's role in regional transportation **system planning**
- Gain **understanding** of freight system plans to 2025
- Generate **innovative solutions** to environmental and logistics challenges

StrongPorts

U.S. Department of Transportation

Questions?

Contact:

Stephen Shafer
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U.S. Department of Transportation

SURVIVE AND GROW

Freight Planning for Rhode Island

Delaware Valley Goods Movement Task Force

QUARTERLY MEETING

RHODE ISLAND TEAM

RI Department of Administration, Statewide Planning Program
Single statewide Metropolitan Planning Organization.

RI Department of Transportation
Roads, bridges, and passenger rail operations

RI Commerce Corporation
Rhode Island's economic development agency. Quasi-public.

Quonset Development Corporation
Manages the Port of Davisville and Quonset Business Park. Quasi-public.

RHODE ISLAND

Total Population: 1.05 million

Land area: 1,033 sq. miles

2nd most densely populated state

Over 400 miles of coastline

86% white, 7% African-American, 13.2% Hispanic or Latino

Unemployment rate: 9.4%

ROADS & HIGHWAYS

Interstates 95, 195, and 295 comprise 90 miles in Rhode Island

Significant bottleneck issues at junction of I-95 and I-295.

Time of day restrictions in urban areas.

Rhode Island Truck Routes

RAILROADS

126 miles of freight rail in Rhode Island

Providence & Worcester serves the state and region.

Connects to Norfolk Southern and CSX in Massachusetts.

Seaview Railroad provides on-dock service to the Port of Davisville.

Coal, salt, cement, and automobiles predominate.

PORTS

Port of Providence

2nd largest deep water port in New England

Cement, coal, scrap metal, petroleum

Port of Davisville

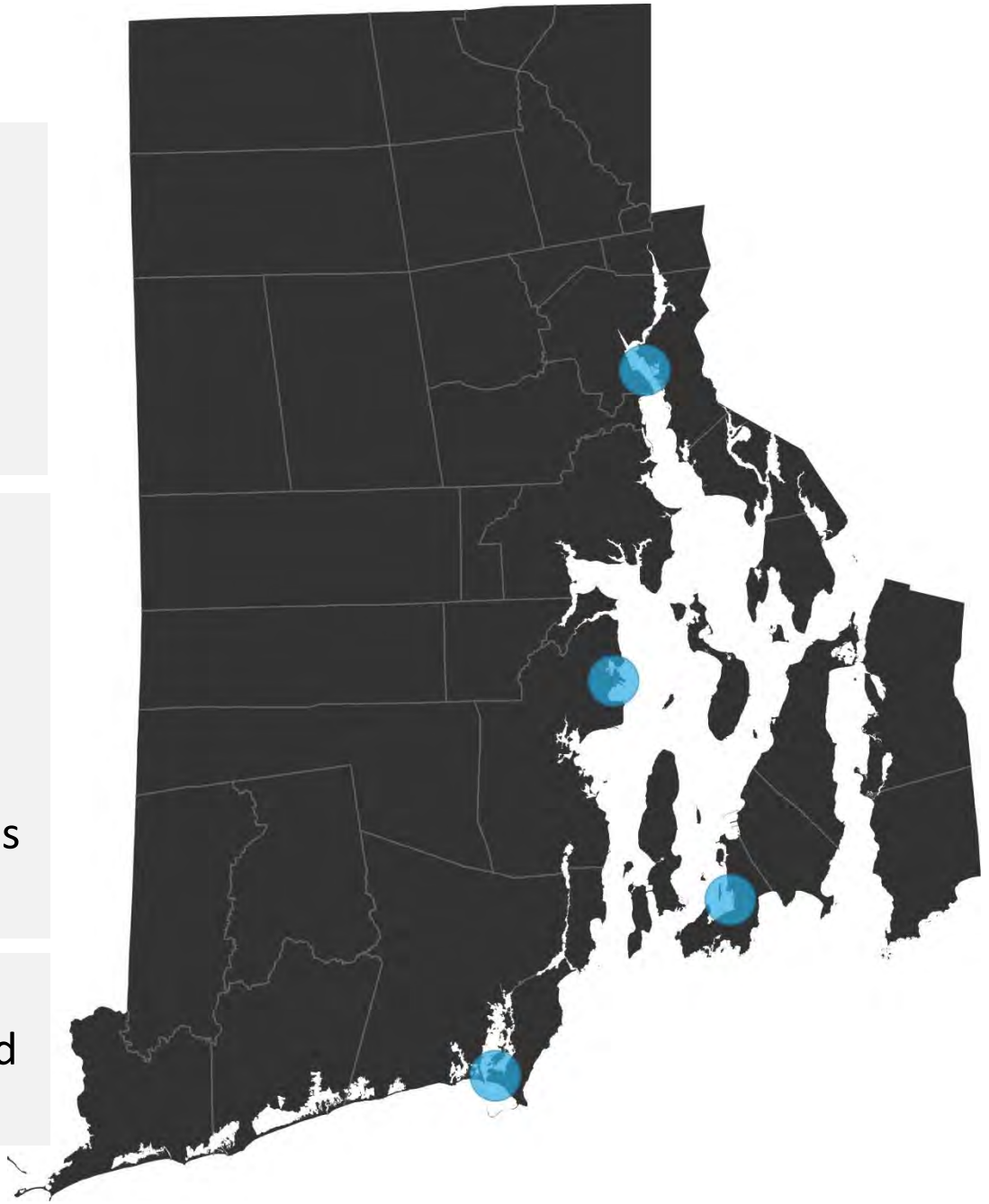
Top ten importer of automobiles in North America.

Fish and seafood also important.

Part of 3,207 acre Quonset Business Park that employs 8,800 people.

Port of Gallilee

Commercial fishing and Block Island ferry



AIRPORT

T. F. Green Airport

26.3 million pounds of cargo in 2013.

8% growth in cargo from 2012.

Federal Express and UPS largest mail and freight carriers.

PIPELINES

Natural Gas

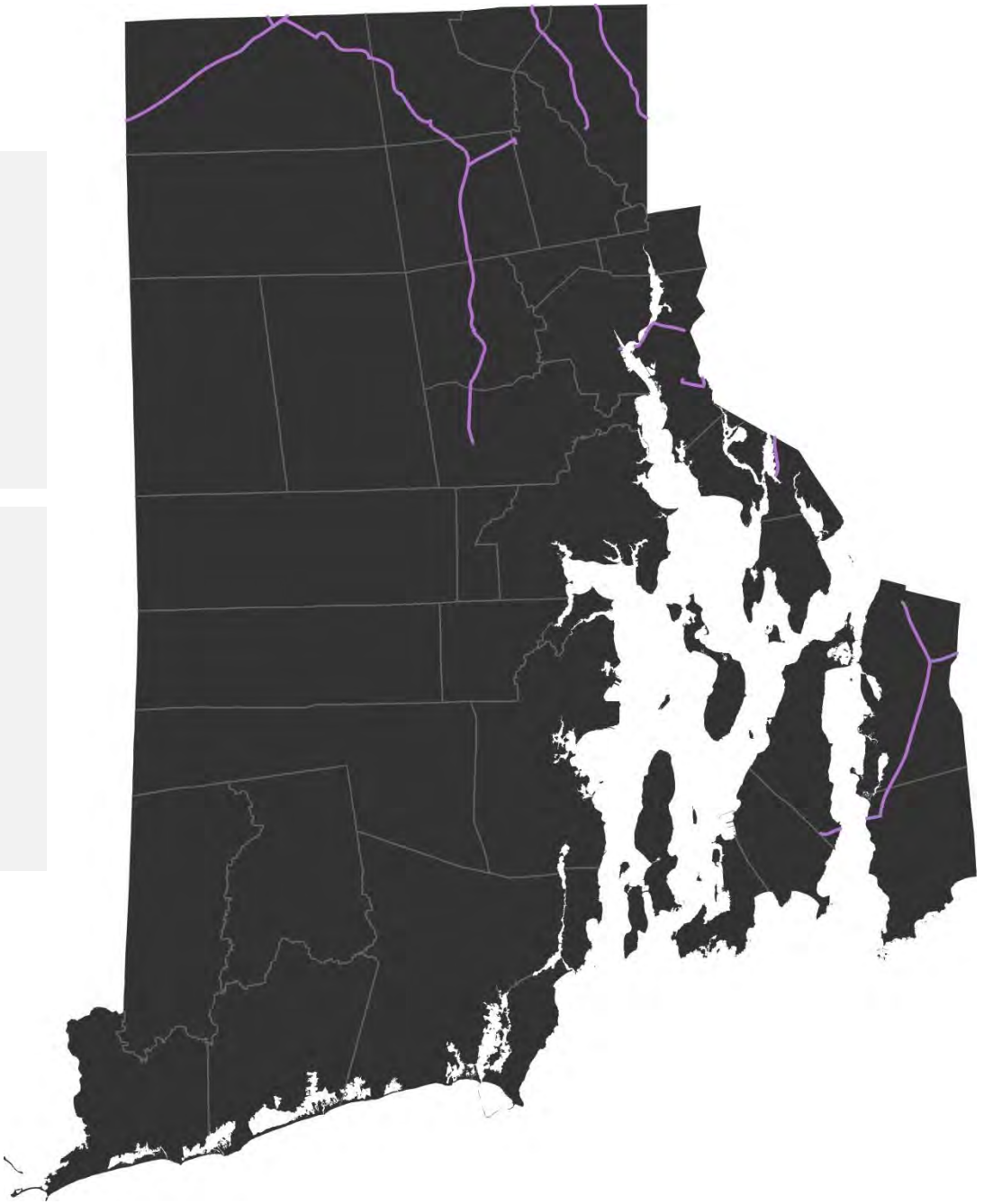
63 miles approximately

Operated by Tennessee Gas Pipeline and Algonquin Gas Transmission

Petroleum

Owned by ExxonMobile Pipeline Company

Gasoline delivered by barges in the Providence Harbor



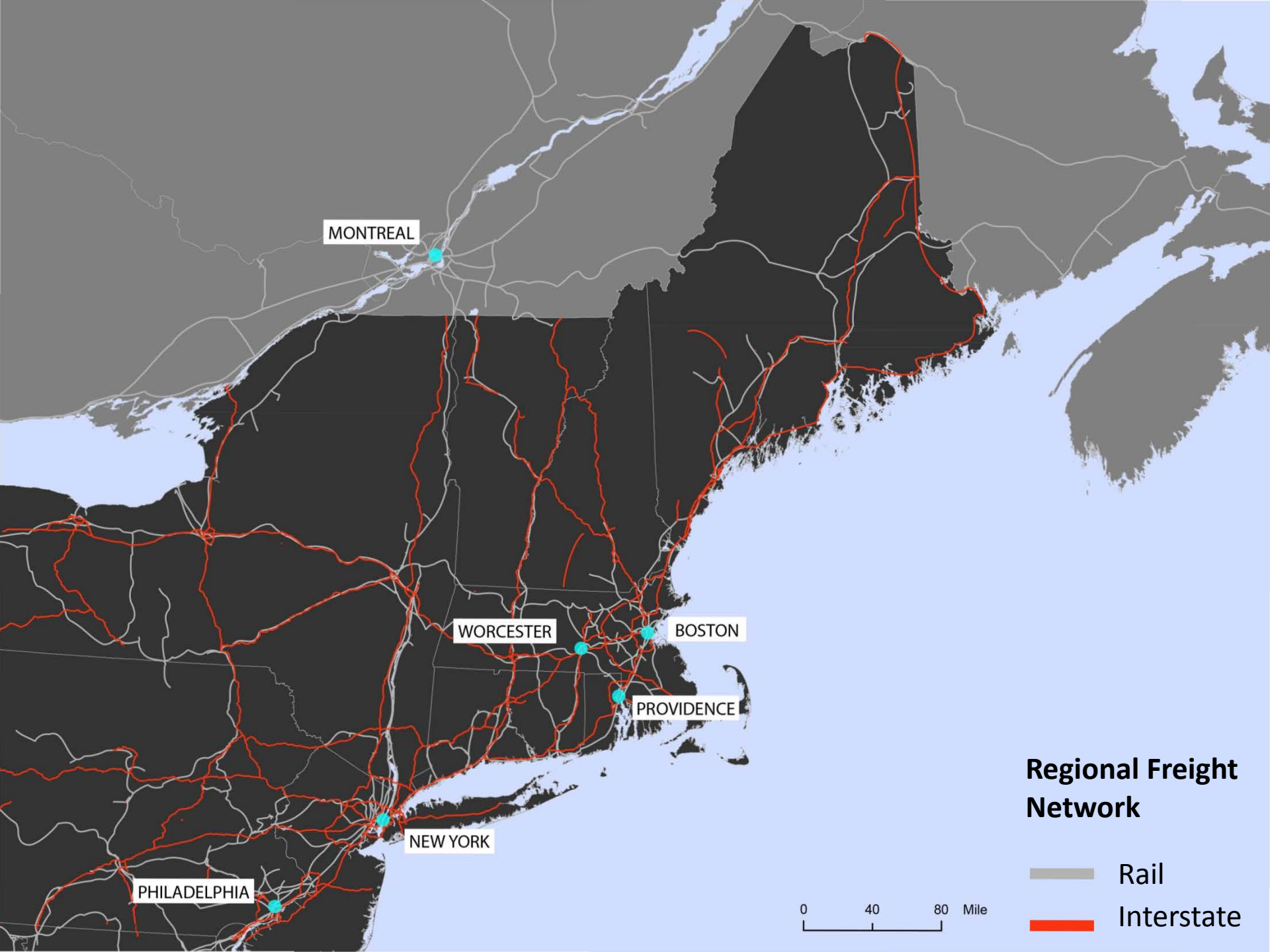
FREIGHT INFRASTRUCTURE

Freight Intermodal Facilities

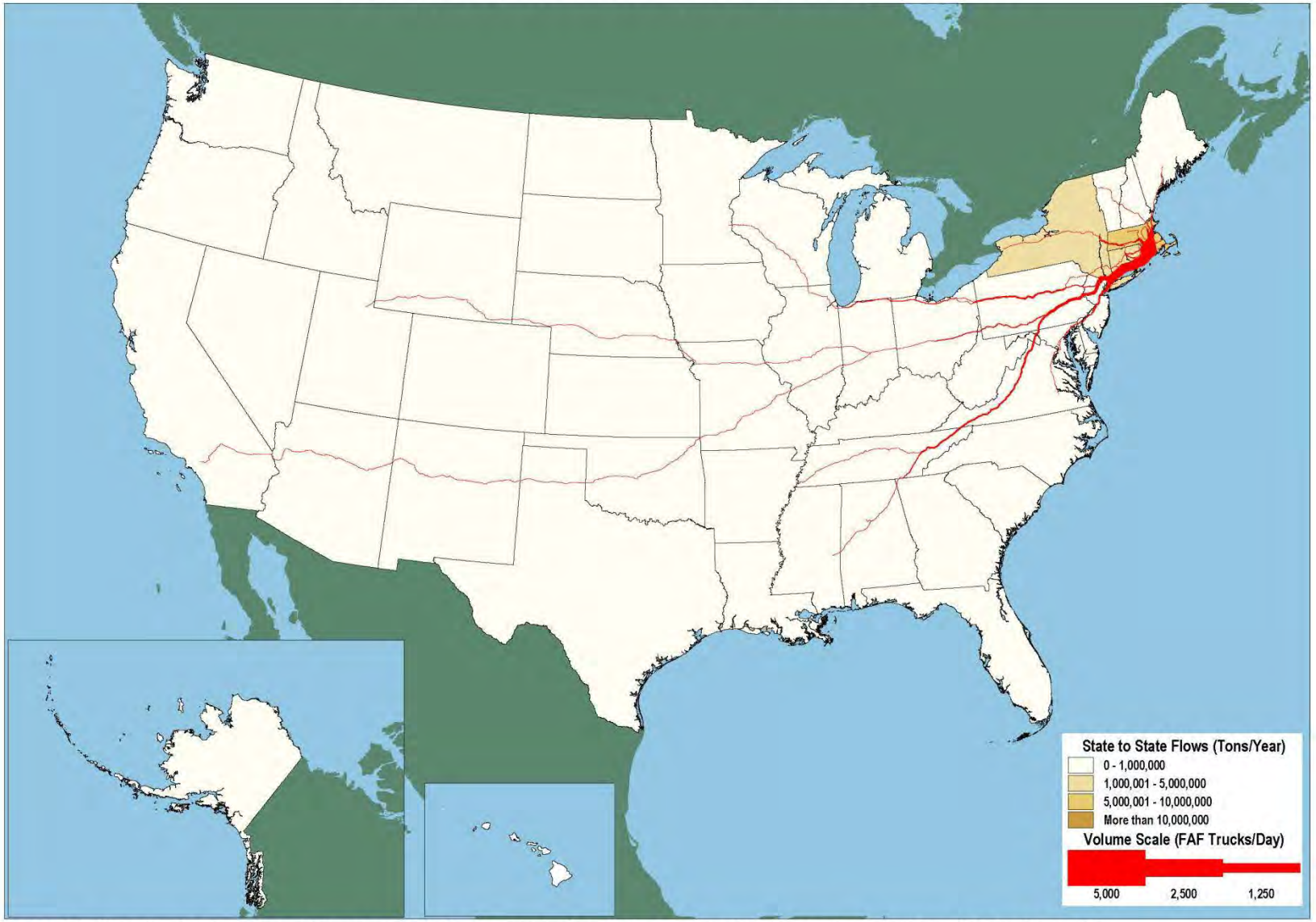
Port of Providence Water, Rail, and Highway

Port of Davisville Air, Water, Rail, and Highway

T.F. Green Airport Air and Highway


MONTREAL
WORCESTER
BOSTON
PROVIDENCE
NEW YORK
PHILADELPHIA
Regional Freight Network
Rail
Interstate
0
40
80
Mile

Major Flows by Truck To, From, and Within Rhode Island: 2007



Note: Major flows include domestic and international freight moving by truck on highway segments with more than twenty five FAF trucks per day and between places typically more than fifty miles apart.
Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, version 3.1.2, 2011.

FREIGHT VISION

SURVIVE + GROW

FREIGHT VISION

SURVIVE

Continued uninterrupted flow of goods

Maintain system, safety, and security

Maintain infrastructure

FREIGHT VISION

GROW

- Improve and expand freight service/infrastructure
- Economic development and lower unemployment
- Improve Rhode Island's business climate
- Attract and respond to new business opportunities

OPPORTUNITIES & CHALLENGES

FREIGHT ADVISORY COMMITTEE

STATE	QUASI-PUBLIC	MUNICIPAL
RIDOT RIDOA - Statewide Planning RIDEM RIEMA Univ. of Rhode Island	Commerce RI Quonset Dev. Corp. RI Airport Corp. RI Resource Recovery	City of Providence

FEDERAL	ELECTED	PRIVATE SECTOR
FHWA MARAD FMCSA	Office of Sen. Sheldon Whitehouse	To be determined. . .

FREIGHT PLANS

RI STATE GUIDE PLAN
Transportation 2035 (2012)
State Rail Plan (2014)
Industrial Land Use Plan (2001)
Airport System Plan (2011)
Economic Development Plan
Freight & Goods Movement Plan

FREIGHT STUDIES

OTHER STUDIES

Freight Planning Needs Assessment (2006)

Ports and Harbors Study (2008)

Short Sea Shipping Assessment *(City of Providence)* (2011)

HAZMAT Commodity Flow Study

INFRASTRUCTURE OPPORTUNITIES

I-95 Viaduct

I-Way

Mobile Cranes

Freight Rail Improvements

I-95 Pawtucket River Bridge

Quonset Improvements

CHALLENGES

FREIGHT CHALLENGES

- No freight-specific funds in MAP-21
- Data collection and analysis
- Northeast Corridor capacity
- Limitations on rail HAZMAT at Providence Station
- Regional highway and rail challenges in Massachusetts and Connecticut

MOVING FORWARD

SHORT-TERM

- Freight Plan RFP
- Capacity-building
- Private sector engagement
- Regional collaboration

LONG-TERM

- Centralize freight policy and planning
- Raise freight's profile in Rhode Island

FREIGHT PLAN

STATEWIDE FREIGHT & GOODS MOVEMENT PLAN

- MAP-21 guidelines and increased Federal match
- Data collection and analysis
- Freight Action Plan
- Performance measures
- Marketing and outreach

QUESTIONS OR COMMENTS?

CONCLUSION

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