



**American Association of Port Authorities
Harbors & Navigation Committee
September 27, 2018**

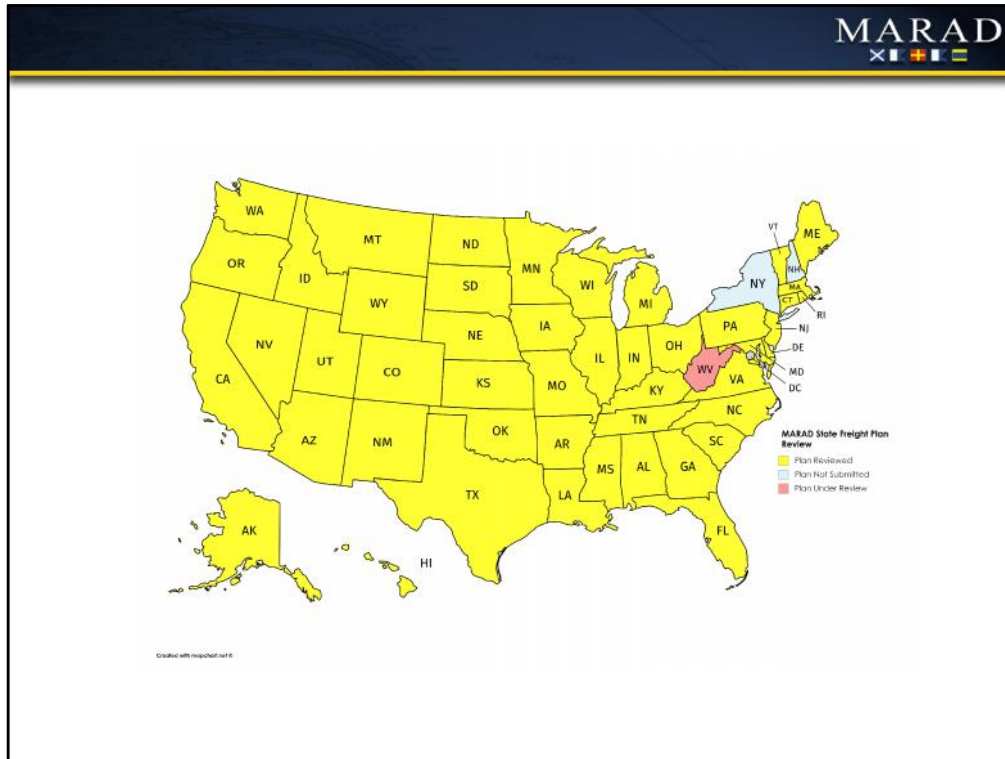
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MARAD
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- **Federal Policy Evolution**
- **Port Typology Defined**
- **Trends in Port Infrastructure Development Projects**
- **America's Marine Highways are Working**



Talking points:

We have looked at 48 States plus District of Columbia.

Currently reviewing a second submittal for West Virginia. (Lacking New York and New Hampshire).

Good:

- Approximately 2/3 of the States with Freight Advisory Committees include Port/Waterway Stakeholders on the FAC.
- 80 Percent of Plans mention the importance of waterways and ports in their plans.

Bad:


- Less than 20% of the State Freight Plans include port projects in their use of the National Highway Freight Program dollars.
- Concern only 2 out of 3 states with Marine Highways list their marine highways in their plans.

Yesterday

- Focus on containerized cargo since 1970's.
- Sporadic mention of energy ports.
- About 18 federal agencies touch ports, each in a different way.
- Federal assistance provided through earmarks until 2011 when banned
- Ports viewed individually by federal government

Today

- Ports infrastructure projects compete for federal grants with other modes – receive approx. 10% of funds available; note: ports average 8% of all modal applications for assistance from infrastructure programs at USDOT
- Movement to recognize all 8 types of port facilities.
- Effort underway to harmonize how agencies identify ports.
- “Infrastructure” defined by USDOT as including intermodal connectors and certain equipment

- Some federal programs will allow port equipment to be eligible for assistance.
 - BUT...
 - “Surface transportation infrastructure” is defined as elements fixed to the ground. Large ship-to-shore cranes are considered fixed as they can only move the length of the rails upon which they are mounted.
- 

VERIFY BEFORE APPLYING
FOR ASSISTANCE

Different cargoes and passengers require different port infrastructure:

- **Container** - needs larger contiguous acres, cranes and equipment to move containers, may need fumigation services; vessels can be very large, needs extra depth at berth
- **Cruise** - cruise facilities are best separated from cargo operations at ports for safety of passengers, but they must also accommodate provisioning by 75 or more trucks per vessel per day as well as baggage from passengers; cruise ship 'home ports' are those where passengers board the vessel and return at the end of the cruise - these need safe, secure parking facilities within a close walk, a nearby airport and facilities for buses, taxis and rental cars; 'ports of call' are those where the vessel arrives for less than a day to allow passengers to visit the region. These require safe, accessible transit options such as bus or taxi for passengers. All cruise ports are required to accommodate needs of vessel crew members.

Different cargoes and passengers require different port infrastructure:

- **Energy** - handles liquid bulk, has pipelines, tanks and berths for very large vessels; needs extra depth at berth
- **Ro/Ro** (roll on/roll off) - handles vehicle and heavy equipment exports and imports; needs ramps, docks with width, may offer value added services for vehicle prep
- **Break bulk** - handles steel, forest products, refrigerated products not in containers; needs laydown yards, specialized warehousing, may need fumigation services
- **Bulk** - handles aggregates for construction and road building, fertilizers for agriculture, agricultural exports such as rice, wheat, soy, and liquid bulk products; may have silos or warehouses near dock, or be connected by conveyor belts; may need extra depth at berth
- **Commercial Fishing** - may have a ro/ro ramp, or allow commercial fishing fleet to raft up, or discharge alongside the dock. May have waterfront freezer or fish processing facilities nearby.

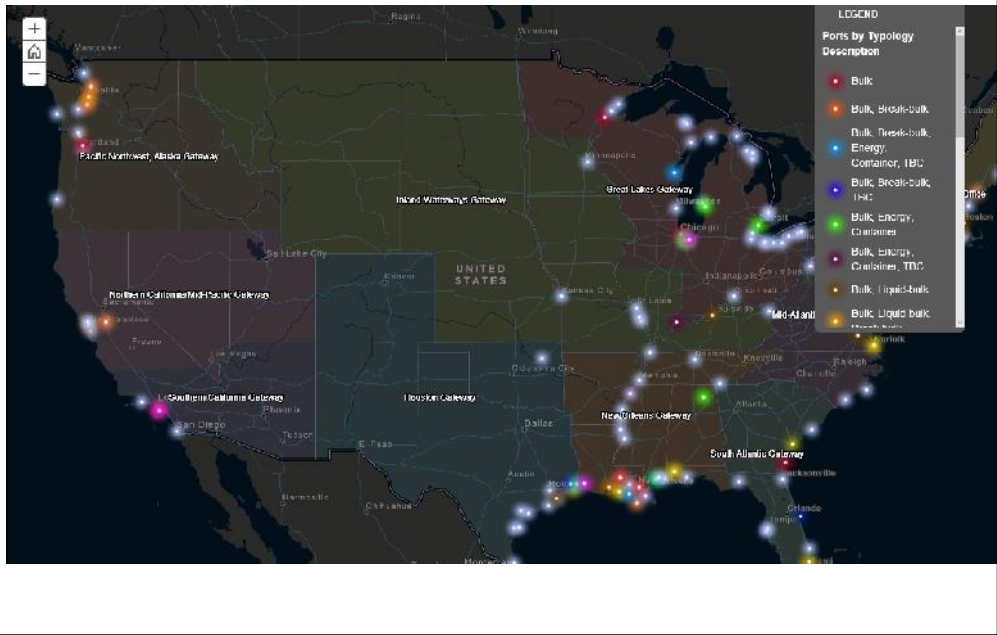
Different cargoes and passengers require different port infrastructure:

- **Space** - handles rockets for refurbishment, drone barges/vessels, proximity to hangar, needs adequate room for operations and possibly a clean room in proximity to the dock.



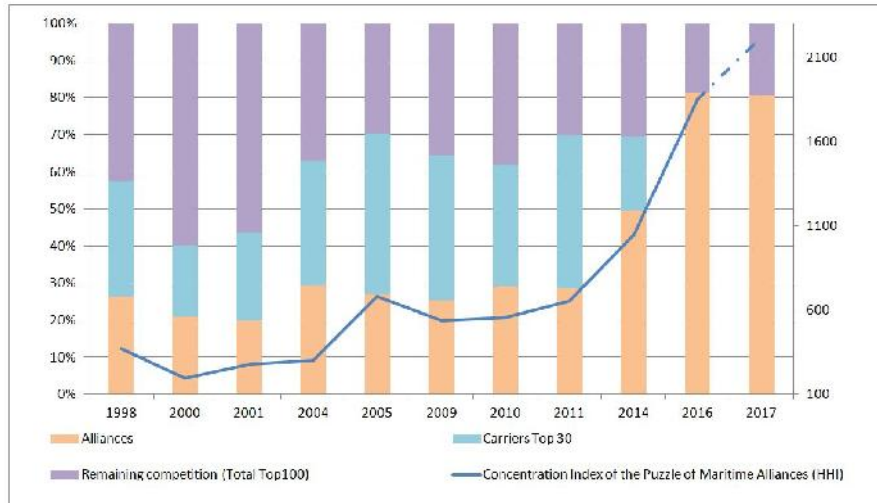
*Space X's drone
barge "Of Course I
Still Love You" at
Port Canaveral,
FL*

Port Typology GIS Project



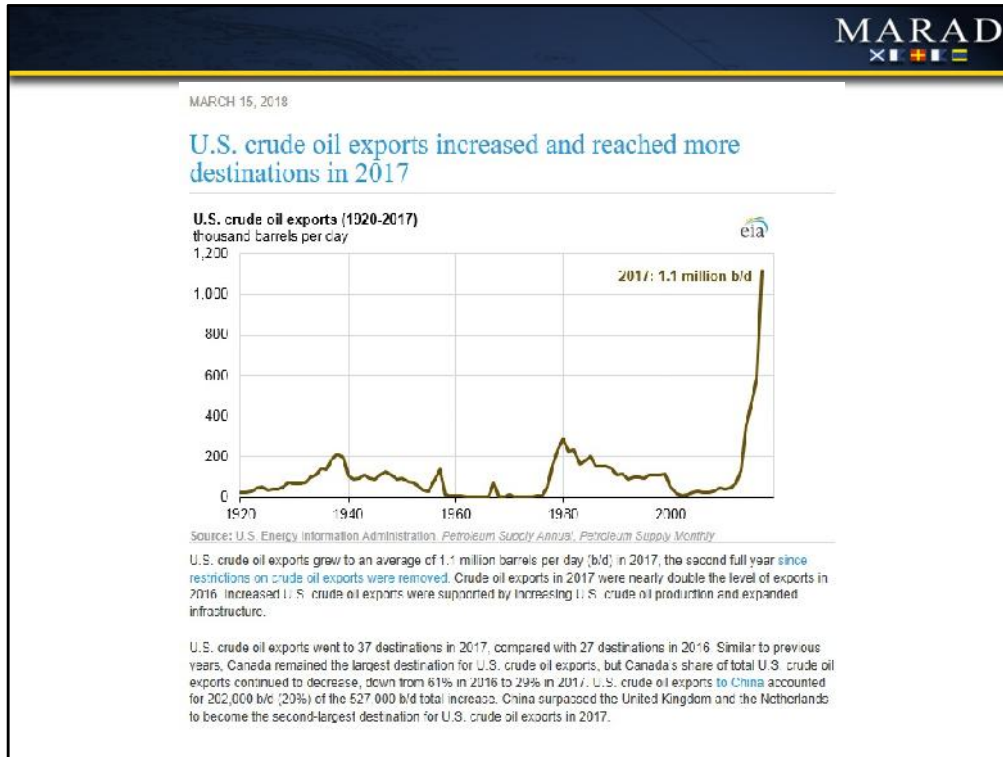
Project type	Average duration actual construction (years)	Cost range (in Millions)
New Dock	2.12	\$2.2 - \$62.6
Dock Improvement	2.42	\$1.6 - \$48.9
New Railyard	2.43	\$3.2 - \$99.1
Rail Improvement	1.73	\$0.4 - \$39.7
Storage Yard	1.52	\$0.1 - \$23.6
Gates & Roads	1.16	\$0.45 - \$23.1
Buildings	1.15	\$0.56 - \$20.6
Equipment	1.55	\$0.73 - \$17.99

Chart by Porteconomics.eu



Largest Containerships Calling U.S. Ports in 2016 (TEU Capacity)





According to an August 20, 2018 article in the Houston Chronicle:

Since Congress repealed the ban on U.S. crude oil exports at the end of 2015, exports have increased as oil prices and U.S. production continue to improve. U.S. oil exports doubled between May 2017 and May 2018 and U.S. oil exports exceeded imports for the first time in April 2018.

U.S. oil exports are currently running at approximately 2 million barrels per day. The Permian Basin accounts for nearly 1/3 of all U.S. oil production and 3 of every 4 barrels of exported U.S. oil move through Texas terminals.

Numerous pipeline and related infrastructure projects are underway to improve the flow of Permian Basin crude oil to Gulf Coast export terminals. A few recently announced projects include:

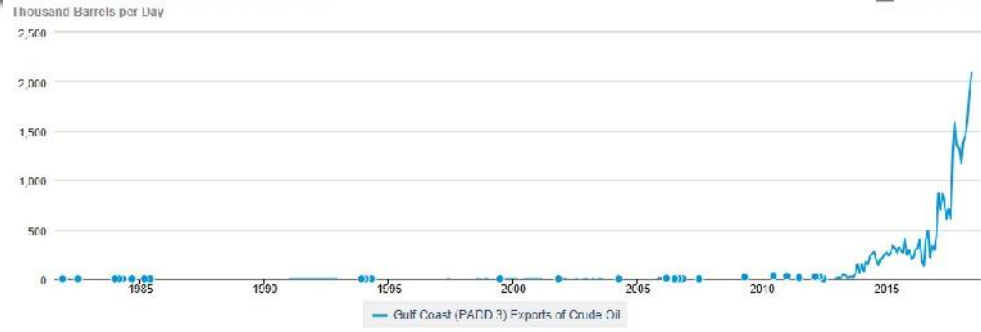
- \$2 billion Magellan pipeline running 600 miles from the Permian Basin to the Gulf Coast;
- Exxon Mobil announced a \$20 billion long term investment in U.S. crude infrastructure expected to create 45,000 jobs;
- Kinder Morgan has announced a 430 mile long \$2 billion Permian Highway Project (PHP) pipeline

Sean Strawbridge, CEO of the Port of Corpus Christi said that the port plans to invest hundreds of millions of dollars to dredge the ship channel and build an export terminal on Harbor Island to accommodate increased oil exports. The Port of Corpus Christi averaged approximately 500,000 barrels a day of oil exports in 2017 and the port expects to quadruple exports to 2 million barrels per day by 2023.

Other companies have announced plans for new oil terminals. Enterprise Product Partners announced it would invest \$1 to \$2 billion in a new Gulf Coast export terminal and Trafigura Group has applied to the Maritime Administration for a license to build a similar project off the coast of Corpus Christi.

Gulf Coast (PADD 3) Exports of Crude Oil

DOWNLOAD



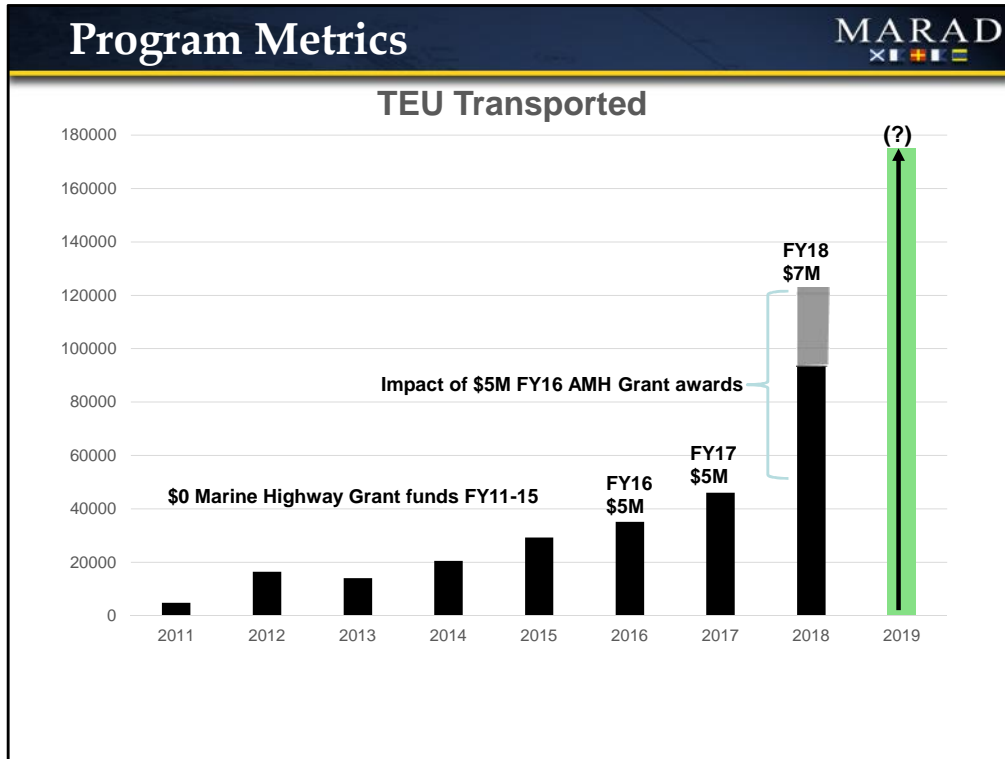
Source: U.S. Energy Information Administration

- International trade growth will increase congestion
- The U.S. moves about 6% of freight by water; Europe moves about 40%
- 29,000 miles of coastal and inland waterways that are operating well below capacity



U.S. Coastal & Inland Waterways





- The Program metrics were fairly flat from 2011 to 2015 when the program budget was zero. In FY16, the Program received an infusion of \$5M to be awarded to our Designated Projects for the development of infrastructure or Jones Act compliant vessels. The awards were made in early 2017 and the equipment was bought that spring and summer. The dramatic impact shows in FY18, when the full impact is felt. Through the end of the 3rd Quarter, the latest information available, the TEU count had risen to over 93,000 and we estimate around 125,000 by the end of the FY.
- The impact will be even greater when the recently announced FY17 grant agreements are signed and the equipment bought. We also have \$7M in FY18 Marine Highway grants that close on October 5th.
- Ultimately, these metrics will be used to determine the return on investment for these grants. The Program is translating TEUs moved into vehicle miles – how many tractor trailer miles we have eliminated. We know from our colleagues at FHWA that a tractor trailer does around \$0.25 per mile in damage to our highways. If the average distance these containers move is even as small as 50 miles, the impact in FY18 will be \$1.6M in road damage savings. On top of that, we can use those mileage figures to determine reductions in traffic accidents and emission reductions as well.

Thank you!

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