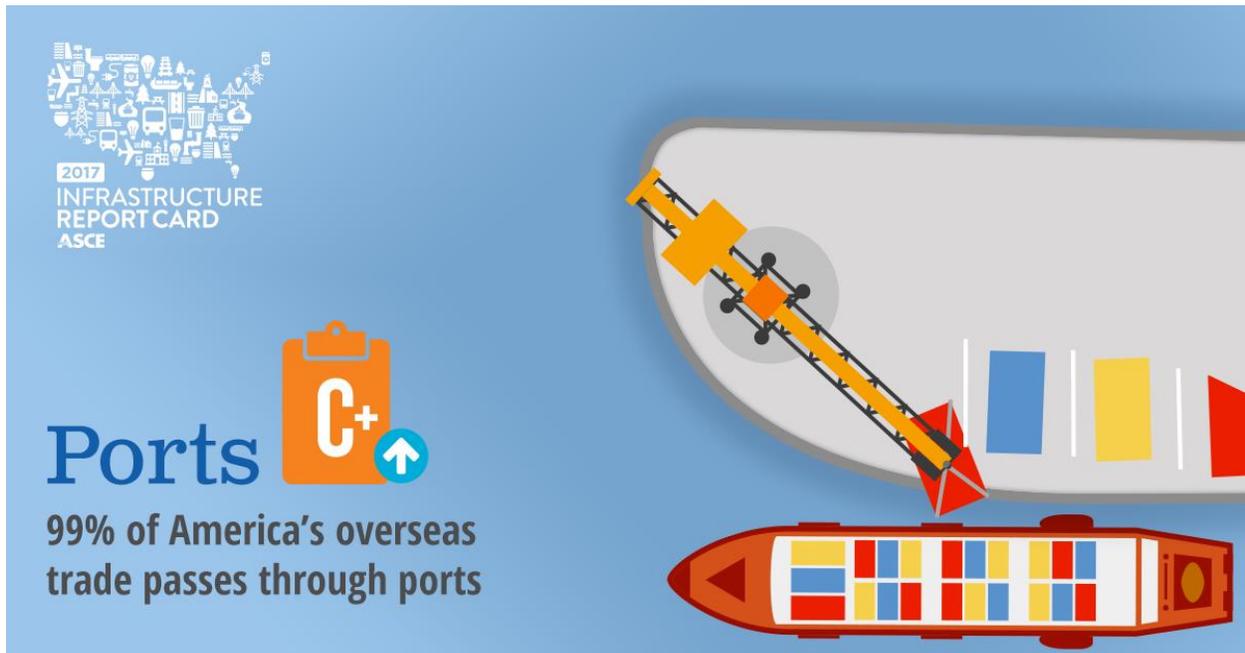




## 2017 INFRASTRUCTURE REPORT CARD



### Ports



99% of America's overseas trade passes through ports

#### OVERVIEW

The United States' 926 ports are essential to the nation's competitiveness, serving as the gateway through which 99% of overseas trade passes. Ports are responsible for \$4.6 trillion in economic activity — roughly 26% of the U.S. economy. As ships get bigger, congestion at landside connections to other components of the freight network increasingly hinders ports' productivity. Similarly, on the water side, larger ships require deeper navigation channels, which only a few U.S. ports currently have. To remain competitive globally and with one another, ports have been investing in expansion, modernization, and repair.

#### CAPACITY & CONDITION

The first recorded international commerce in the New World was in 1565 when English soldiers traded guns and ammunition to the French for food in what we now know as Jacksonville, Florida. From this auspicious beginning, America's coastal settlements grew and with them, its ports. Today, the United States has more than 926 coastal, Great Lakes, and inland harbors. U.S. ports and terminals handled more than 82,000 vessels in 2015. Ports serve as the gateway through which 99% of America's overseas trade passes through and were responsible for \$4.6 trillion in economic activity in 2014—roughly 26% of the nation's economy—making them essential to U.S. competitiveness. Nearly \$1.75 trillion worth of cargo moved through seaports in 2013. The top 10 U.S. ports accounted for 78% of U.S. foreign waterborne trade in 2015. The movement of goods through ports supports 23.1 million jobs, and provides \$321.1 billion in tax revenue to federal, state, and local governments.

Inside a port's gates, cranes load containers on and off ships, cooled warehouses store perishable items, and an operations center ensures efficient transport. By maintaining a port's facilities, its lifespan can be greatly extended. There are ports, such as the Ports of Virginia, with facilities built during World War I



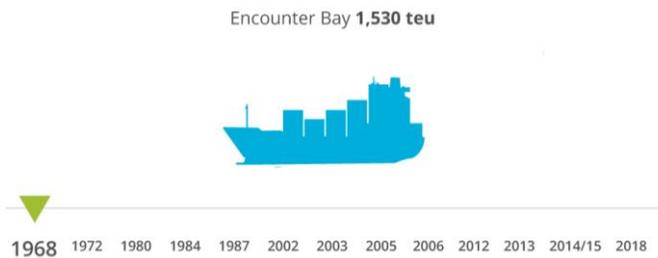
# 2017 INFRASTRUCTURE REPORT CARD

that are still in use after extensive modernization. Operating equipment must be frequently upgraded due to usage and technical advancement, but most other aspects of ports have long service lives. However, major U.S. ports are experiencing greater change due to larger vessels, requiring the ports to adjust equipment, berth depths, terminal layout, and cargo handling operations on a more frequent basis than in the past.

Ports are part of the greater freight network, with roadways and rail lines playing an important role in ports' success. The freight network is only as strong as its weakest link and congestion on these landside connections hinders productivity for ports. In a survey of ports, a third indicated that this congestion over the past 10 years caused port productivity to decrease by 25% or more. To improve freight movement, the federal Fixing America's Surface Transportation (FAST) Act requires states to have state freight plans.

Meanwhile, on the water side, larger ships need deeper navigation channels—typically 45 feet deep or more—to be able to access a port. The Panama Canal Expansion allows ships that can carry 13,000 TEU (twenty foot equivalent units) to reach East Coast ports, however only a few of the nation's existing ports are currently able to accommodate ships this large. As ships continue to grow, the majority of existing port infrastructure will not be able to accommodate these larger vessels. Ports need to add cranes to ensure they can reach the cargo on wider ships, increase the size of the container yard to hold cargo, and supply sufficient power to pull ships into port.

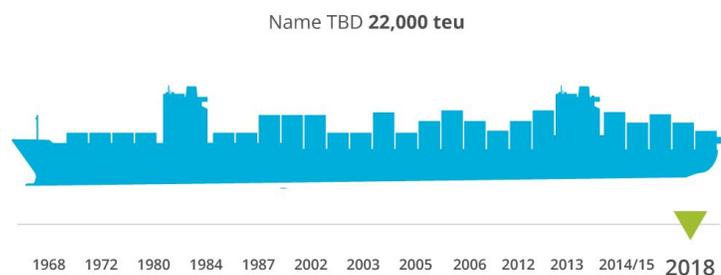
## Container Ship Size Through the Years



## Container Ship Size Through the Years



## Container Ship Size Through the Years



## FUNDING & FUTURE NEED

Despite the national significance of ports, most port-related investments are limited to state or local appropriations. If there are multiple ports within a state, they often compete for the same funding resources if any funding programs exist at all. For example, Florida, Louisiana, and Texas are home to many local ports competing for a limited amount of available state project funding.



## 2017 INFRASTRUCTURE REPORT CARD

Grants, specifically the Transportation Investment Generating Economic Recovery (TIGER) competitive grant program, represent the primary source of federal port investment. Since the program's inception in 2009, 11% of the program's funding has been awarded to 48 port projects. The Fixing America's Surface Transportation (FAST) Act of 2015 created a national freight program with a new \$4.5 billion competitive grant program, which will fund eligible port-related projects. The Water Resources Reform and Development Act (WRRDA) of 2014 also authorized port-related projects, however only two of the 34 authorized projects were appropriated in the last federal appropriations cycle.

The federal Harbor Maintenance Trust Fund (HMTF), designed to pay for dredging in harbors, has a balance of \$8.41 billion. The fund collects its revenue through a 0.125% user fee on the value of the cargo in imported containers. Typically, that comes to about \$15 per container box. Despite the significant dredging needs at the majority of U.S. ports, the fund's balance has often been used for other purposes including federal deficit offsets and as a result has not been appropriated for its designated purpose. WRRDA included provisions designed to encourage the use of the funds for their designated purpose. To restore full channel depths and widths, it is estimated it will take at least five years of the U.S. Army Corps (USASCE) of Engineers receiving full HMTF revenues.

To remain competitive globally and with one another, ports have been investing in their facilities, and plan to spend \$154.8 billion from 2016 to 2020 on expansion, modernization, and repair. However, connections to these ports are in need of modernization, including roads, rail, and inland waterways on the landside, and navigation channels on the water side. Landside connections are scheduled to receive only \$11 billion in new federal funding for freight improvements through 2020, yet baseline projected needs total \$29 billion.

### PUBLIC SAFETY AND RESILIENCE

Natural disasters, terrorist attacks, and other crises at seaports result in billions of dollars in damage and the loss of long-term economic activity. As a result, ports face a balancing act of efficiently moving goods while also maintaining secure facilities. Many different agencies and groups, including the U.S.

Department of Homeland Security (DHS), U.S. Coast Guard, and Transportation Security Administration (TSA), are responsible for keeping ports secure. As an entry point for goods from other countries, especially foodstuffs, containers are screened by the TSA upon arrival to a port. A division within DHS is developing the Port Security Risk and Resource Management System (PortSec) to assess and reduce risks to ports.

DHS and other federal agency programs support port resiliency against such events through information sharing and grants for projects to enhance resiliency. These programs help ports create effective disaster implementation plans and exercises for restoring normal operations.

### RECOMMENDATIONS

- Increase overall investment into the freight program, to ensure ports can effectively distribute and receive goods as ships continue to grow in size.



## 2017 INFRASTRUCTURE REPORT CARD

- Appropriate funds to the congressionally-authorized projects to ensure that projects crucial to freight movement are completed in a timely manner.
- Ensure that ports have a seat at the table as states create and execute freight plans.
- Adopt new technologies to reduce wait times at docks, boost efficiency, and increase security.
- Improve freight and landside connections to strengthen the entire freight system and reduce congestion that is costly to the economy when moving goods.

### DEFINITIONS

**TEU** – (Twenty Foot Equivalent Unit) is the unit of the capacity of a container ship, which is approximately half a semi-truck’s load.

**Dredging** — To excavate or deepen the bed of a harbor, river, or other area of water by scooping out sediment and moving it to a different location. This technique is often used to keep waterways navigable.

### SOURCES

American Association of Port Authorities, [2015 Port Surface Freight Infrastructure Survey](#), April 2015

American Association of Port Authorities, [2016-2020 Port Planned Infrastructure Investment Survey](#), April 2016

American Association of Port Authorities & American Association of State Highway & Transportation Officials [The State of Freight II—Implementing the FAST Act and Beyond](#), November 2016

Boston Globe, [How we’ve improved national security since 9/11. And how we haven’t.](#), September 2016

Brookings, [FAST Act Ushers New Era for U.S. Freight Policy](#), December 2015

Congressional Revenue Service, [Army Corps Fiscal Challenges: FAQ](#), December 2011

Congressional Research Service, *Army Corps of Engineers: [Water Resource Authorizations, Appropriations, and Activities](#)* CRS Report R41243, February 2016

Department of Homeland Security, [Protecting our Nation’s Ports: Port Security Risk and Resource Management System](#)

Transportation Security Administration, [TSA provides support to Coast Guard to secure U.S. ports](#), August 2016

U.S. Census Bureau, [U.S. Merchandise Trade, Selected Highlights \(Report FT 920\)](#), February 2014

U.S. Department of Transportation Maritime Administration, [2015 Vessel Calls in U.S. Ports, Selected Terminals and Lightering Areas](#), 2015