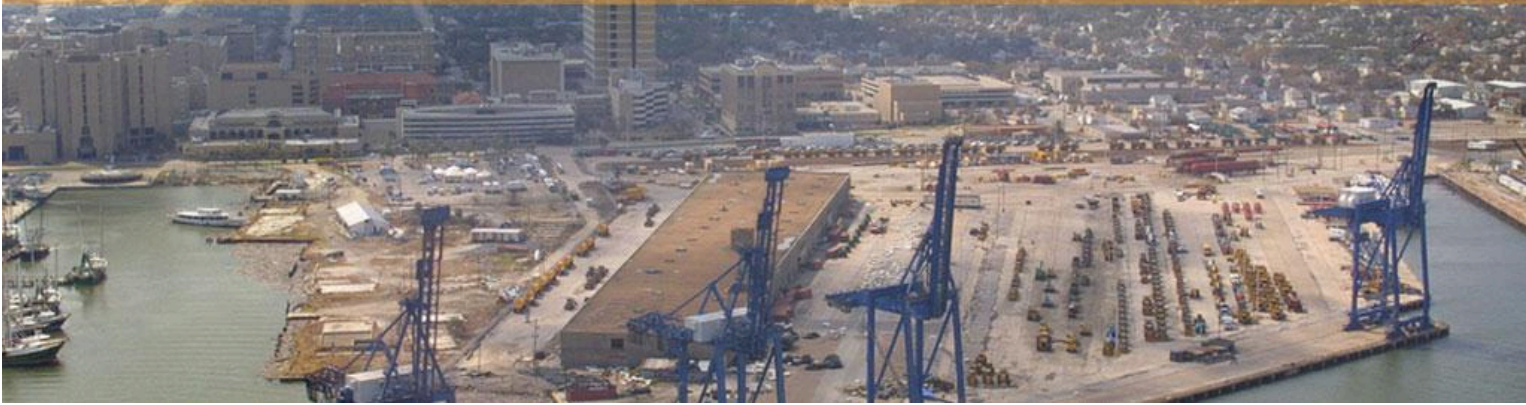


Ports

2013
GRADE **C**



2013 Report Card for America's Infrastructure Findings

The U.S. Army Corps of Engineers estimates that more than 95% (by volume) of overseas trade produced or consumed by the United States moves through our ports. To sustain and serve a growing economy and compete internationally, our nation's ports need to be maintained, modernized, and expanded. While port authorities and their private sector partners have planned over \$46 billion in capital improvements from now until 2016, federal funding has declined for navigable waterways and landside freight connections needed to move goods to and from the ports.

Ports: Conditions & Capacity

Our ports serve as a critical entry point for a majority of imports, and allow U.S. businesses to access global markets and to compete in a global economy.

- Approximately 76 % of America's international exports accessed global markets by water in 2010, valued at over \$460 billion
- Approximately 70 % (by tonnage) of U.S. imports arrived to the U.S. by water in 2010, valued at over \$940 billion

This trade volume is handled by a sizable network of ports and the vessels they serve. Nearly 40,000 privately owned commercial vessels operate in the United States, including tugs, barges, ferries, and lake vessels. Much of the activity is concentrated at a handful of the largest ports in the nation. The top ten U.S. ports accounted for 60% of oceangoing vessel calls.

The United States has over 300 commercial harbors, through which pass 2.3 billion tons of cargo a year, and over 600 smaller harbors. In 2010, 51% of the potential capacity of container years in U.S. ports was fully utilized. The system accommodated over 16,800 annual commercial vessel calls.

While port terminal facilities themselves seem to have benefited from significant new investment and improvements, the connections to the ports – the navigation channels leading to the docks as well as the landside connections – need to be brought to modern standards. The terminals require navigable waterway maintenance and dredging, along with rail and highway connector improvements to function optimally. Without these corresponding improvements, the terminals will see limited benefits in terms of moving additional goods.

While the number of vessel calls has decreased by 7% in the past five years, the average size of vessels calling at U.S. ports increased by 9%. The average size of container ships has been increasing in anticipation of the Panama Canal expansion project, which will allow much larger ships known as post-Panamax ships through the Canal. According to the DOT, the number of port calls in the United States from these ships increased from about 1,700 calls in 2004 to 4,400 in 2009. In addition, trade volume through ocean ports is expected to more than double between 2012 and 2021, and to double again shortly after 2030.

The navigation channels coming into the ports need to be deep enough – in most cases, 45 feet deep – to accommodate the new larger ship sizes. Many port harbors are too shallow for these ships. According to the U.S. Army Corps of Engineers, most West Coast ports are able to accommodate these larger vessels due to their naturally deep harbors. However, in 2010, only five Atlantic ports and one Gulf port could accommodate moderately large vessels (more than 5,000 20-foot equivalent units).

For example, the Port of Savannah needs dredging to deepen its river and harbor to accept the larger container ships that the

TOP 25 CONTAINER PORTS (BY WEIGHT)

PORTS	RANK	EXPORT (THOUSANDS OF TEU'S)	IMPORT (THOUSANDS OF TEU'S)
LOS ANGELES, CA	1	1,681	3,878
LONG BEACH, CA	2	1,385	3,049
NEW YORK, NY	3	1,420	2,623
SAVANNAH, GA	4	1,115	1,055
OAKLAND, CA	5	766	740
NORFOLK, VA	6	714	721
SEATTLE, WA	7	529	888
HOUSTON, TX	8	827	521
CHARLESTON, SC	9	528	548
TACOMA, WA	10	340	496
MIAMI, FL	11	374	309
PORT EVERGLADES, FL	12	331	246
BALTIMORE, MD	13	168	280
NEW ORLEANS, LA	14	203	79
JACKSONVILLE, FL	15	146	93
SAN JUAN, PR	16	65	153
WILMINGTON, NC	17	92	115
PHILADELPHIA, PA	18	42	144
GULFPORT, MS	19	76	105
WILMINGTON, DE	20	24	132
PORTLAND, OR	21	61	69
BOSTON, MA	22	44	80
WEST PALM BEACH, FL	23	87	24
CHESTER, PA	24	37	46
MOBILE, AL	25	47	35

TEUs = twenty-foot equivalent units.

Source:

U.S. Department of Transportation, Maritime Administration, U.S. Waterborne Container Trade by U.S. Custom Ports, based on data provided by Port Import/Export Reporting Service as of August 29, 2011.



The size of container ships will increase with the expansion of the Panama Canal, and U.S. ports need to be ready.

Courtesy of NOAA's National Ocean Service

Panama Canal expansion will make possible. While the upfront cost is substantial, the investment can often pay for itself in reduced shipping costs for private companies and consumers. The Port of Savannah estimates that deepening channels by just six feet would reduce shipping costs by 15 to 20% as larger container ships require less individual trips. Factors such as shallow channels and waterways, inefficient cargo handling at ports, and slow, congested landside connections can all drive up the cost of shipping and the cost passed on to customers. Thus, the demands of the growing numbers and size of ships is often exceeding the capacity of current infrastructure, requiring significant additional investment to maintain current levels of performance at deep water ports. From 2012 to 2020, it is estimated that 75% of the capital investment needs of U.S. ports will be for port expansion, with 25% of needs for rehabilitation of existing assets. After 2040, the majority of investment needs will shift to rehabilitation.

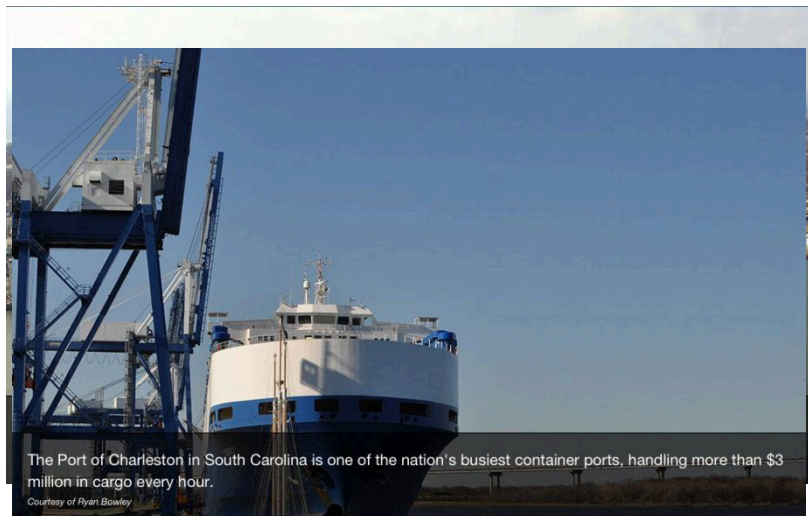
The inadequate connections from the port terminals to the surrounding roads and rail lines is one of the biggest challenges causing delays when moving goods from ports to market. The connecting roads to ports were found to have twice the percentage of mileage with deficient pavement when compared to non-Interstate routes. Connectors to rail terminals had 50% more mileage in the deficient category. Most often, problems were due to poor or nonexistent shoulders, as well as narrow road widths and turn lanes. These roadway functions are even more critical for the large freight trucks that must deliver goods from busy ports to inland destinations.

Better connections and direct links from port terminals to rail networks help relieve congestion on the roads and reduce delays in moving cargo, which keeps prices down. Containers are typically driven from ships to rail yards that can be five miles away, so extending tracks and making rail improvements can save time and fuel. For example, a project to improve rail connections to and from the Port of Mobile, Alabama, is expected to reduce transportation costs by about \$25 per container.

Ports: Investment & Funding

The sources of funding for ports are diverse, with private investment by port authorities and non-port entities contributing significantly to enabling the ports simply to maintain existing conditions.

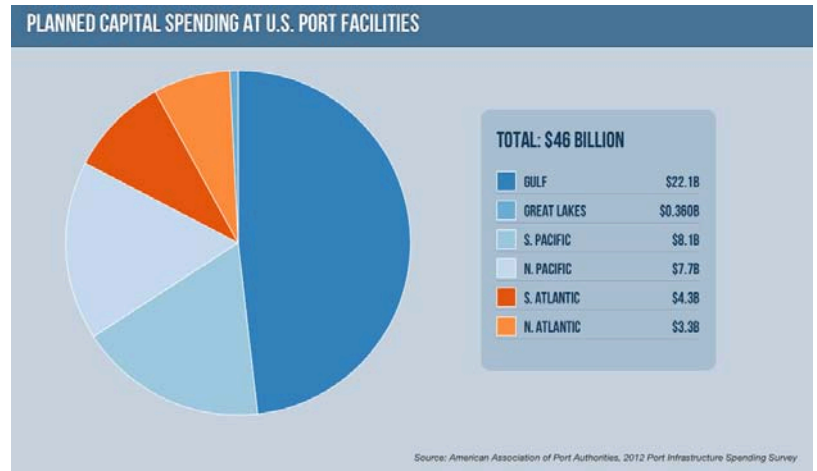
U.S. ports and their private sector terminal partners plan to spend more than \$46 billion over the next five years on port terminal facilities, according to the American Association of Port Authorities. That equates to over \$9 billion per year, of which more than one-third is spending by the port authorities themselves. This number is conservative, and reflects that ports are upgrading harbors, docks, and terminals to compete for business. It includes new construction and modernization, as well as spending on piers, handling equipment, storage facilities, and even road improvements and security measures.



The Port of Charleston in South Carolina is one of the nation's busiest container ports, handling more than \$3 million in cargo every hour.

Courtesy of Ryan Bowley

While this type of local investment makes up the majority of funding for ports, the accommodation of large vessels requires dredging, paid for in large part by the federal government through the Harbor Maintenance Trust Fund overseen by the U.S. Army Corps of Engineers. Federal funding for dredging navigation channels has slowed and decreased, even though the money collected from port users through the Fund is double what is currently spent. For example, the 2012 budget allocated \$758 million for harbor maintenance dredging, while the revenues for 2011 were almost \$1.5 billion. Overall funding for deepwater ports declined 15% from 2010 to 2012, and is expected to increase only briefly in 2013.



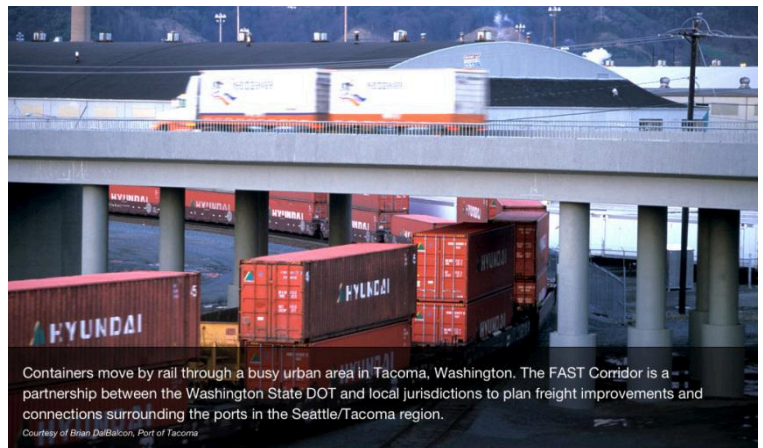
The federal government has also provided some funding through its competitive grant program (Transportation Investment Generating Economic Recovery, or TIGER) since 2009. Over \$350 million was awarded from 2009 to 2012 for at least 26 port or port-connector projects.

In the future, most U.S. ports will require additional investment to accommodate increased vessel sizes and additional freight cargo throughput due to forecast population growth and demographic shifts in population; post-Panamax vessels transiting the 2015 Panama Canal widening; redeployment of existing Panamax vessels to supply chain routes currently serviced by smaller vessels; and shifting of U.S. import trade from the Far East to the India-Indochina region of the world. Significant federal infrastructure investment in addition to what U.S. ports and their private partners are forecast to spend will be required to close the funding gap, provide adequate waterside and landside access to port terminals, and ensure American economic growth and jobs.

Ports: Success Stories

FAST Corridor, Washington

The Seattle metropolitan region boasts two separate port facilities that move hundreds of multi-ton containers through heavily congested areas each day. The Freight Action Strategy for the Everett-Seattle-Tacoma Corridor (FAST Corridor) is a partnership of 26 local cities, counties, ports, federal, state, and regional transportation agencies, railroads, and trucking interests, intent on solving freight mobility problems with coordinated solutions.

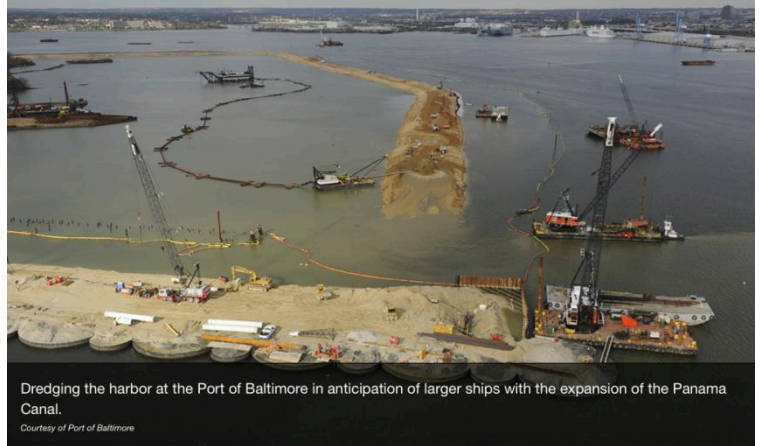


The group has worked together across jurisdictional lines to share information and funding resources — sometimes shifting funds from projects that were delayed to those that were ready to begin — to benefit the program as a whole. Because of this team approach, projects were built which otherwise might never have been completed. Since 1998, the partners have identified and assembled \$568 million of public and private funding to build nine strategic infrastructure improvements that improve connections from the ports to the surrounding Interstate highway system.

Port of Baltimore

With the historic expansion of the Panama Canal set to be complete in 2015, some ports will need to handle much larger cargo ships.

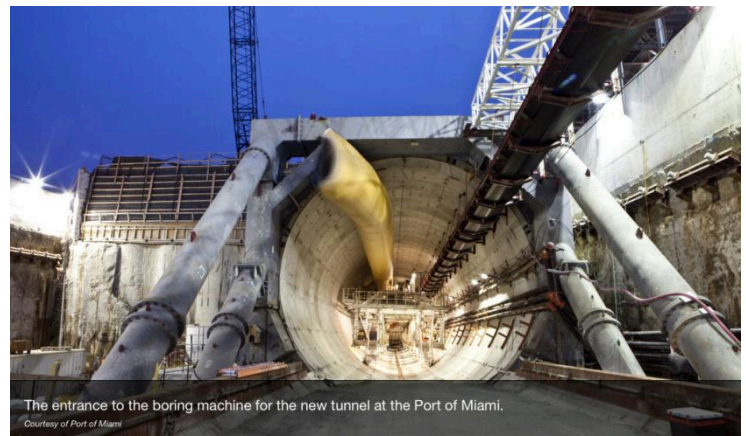
In Baltimore, a 50-year public-private partnership between terminal operator Ports America Chesapeake and the Maryland Port Administration is behind the development of a 50-foot-deep container berth at the Seagirt Marine Terminal. With the addition of four new large cranes, the Port of Baltimore will become the second U.S. East Coast port, following the Port of Virginia, with container-handling infrastructure boasting both a 50-foot-deep channel and a 50-foot berth.



Not only is the project providing — two years ahead of canal expansion completion — a terminal large enough to accommodate many of the largest container vessels that will transit the expanded Panama Canal; it is also generating 5,700 new jobs. With total investment and revenue to the state of Maryland reaching as much as \$1.8 billion over the life of the lease and concession agreement, the project is also poised to generate nearly \$16 million a year in new state tax revenue.

Port of Miami

The Port of Miami is a major center of commerce, providing 176,000 jobs, \$6.4 billion in wages, and \$17 billion in economic output. Nearly 16,000 vehicles, a quarter of which is truck traffic, travel to and from the Port of Miami through downtown streets each weekday. Existing routes restrict the port's ability to grow, increase shipping costs, present safety issues, and limit redevelopment of the northern portion of Miami's Central Business District.



As a result, a new tunnel is being built to link the island-based Port of Miami directly with the Interstate highway system. The technically challenging project is a public-private partnership being made possible through state, county, and city funding and a private-sector concessionaire.

The benefits of the Port of Miami Tunnel include:

- Providing a direct connection from the Port of Miami to highways via Watson Island to I-395;
- Keeping the Port of Miami, the county's second largest economic generator, competitive;
- Making downtown streets safer by reducing congestion on downtown streets

The project is a key component of a larger program to improve the surrounding Interstate system. The tunnel is expected to be open to the public in May 2014.

Ports: Conclusion

With the Panama Canal expansion set to be complete in 2015, our nation's ports need to be ready to take advantage of the opportunities for trade and commerce. While ports themselves have made investments to improve their terminal infrastructure, the connections to roads, rail, and water channels have not received the same attention from the federal government.

Raising the Grades: Solutions that Work Now

- **Target federal investments** to modernize and maintain navigation channels at authorized widths and depths. Restore previous funding levels for the U.S. Army Corps of Engineers
- **Direct funds from the Harbor Maintenance Trust Fund** to their intended purpose – dredging and maintaining the harbors. Currently, about half of those funds go to maintenance
- **Streamline the project approval and delivery process** at the federal level, so that projects take years instead of decades
- **Develop a national freight plan** that prioritizes improvements for road and rail connections and coordinates among multiple agencies and jurisdictions
- **Establish reliable funding mechanisms** for port terminal facility improvements
- **Adopt new technologies**, in partnership with federal agencies, to reduce wait times at docks and boost efficiency for loading and unloading cargo
- **Create a port infrastructure development program** at the federal level, with a comprehensive database of marine terminals at U.S. ports that is up to date and can be used to evaluate the adequacy of connections and identify areas of improvement required to increase the flow of freight



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