

MTS FACT SHEET



Marine Transportation System

Components and Functions

The U.S. Marine Transportation System (MTS), the waterborne element of the National Transportation System, is complex, decentralized, and made up of an array of interdependent components, including ports, terminals, vessels, channels, connectors and those that use them. It is a highly interdependent system with thousands of aids to navigation, hundreds of bridges, over 25,000 miles of navigable waterways, 236 locks at 192 locations, and 8,214 U.S. waterway facilities (Table 1).

The U.S. is blessed with an abundance of navigable rivers, lakes, seaways, and coasts — as a result, the MTS was critical to the start of our nation and today remains the backbone of the country’s commerce, carrying 73.5 percent by weight and 46.6 percent by value of U.S. International merchandise in 2012.^{xiii}

Marine transportation touches virtually every aspect of American life—from the clothes we wear, to the cars we drive, to the oil and natural gas used to heat and cool our homes. The MTS supplies the food and materials that American citizens expect to find on the shelves of their supermarkets and shopping centers. The U.S. Census Bureau has predicted that the U.S. population will increase 31 percent between 2015 and 2060^{xv}—and the MTS will need to be able to accommodate a corresponding increase in port calls to support our way of life.

The MTS annually serves 106 million ferry passengers, 32.3 million recreational boating households, and almost 11 million cruise ship passengers (Table 1). Moreover, according to the Bureau of Labor Statistics in 2013, deep sea, coastal, Great Lakes, and inland water transportation generated over \$4 billion in annual wages to over 66,300 employees.^{xiv}

When compared with other transportation modes, marine transportation is a safe, competitive, efficient and environmentally sound means of moving people and cargo. For example, a typical tow of 15 barges can take over 1,000 trucks off of the roads, and move a ton of freight almost 600 miles on a gallon of fuel.^{xvi} Waterborne commerce has the smallest carbon footprint of any surface transportation mode and has the capacity to relieve rail and road congestion as well as alleviate road maintenance and repair.

The MTS is vital to national security and military mobility. The MTS enables most U.S. military power to move around the world by ship, providing logistical support for the rapid deployment of American forces and materials. The MTS is also vital to the re-opening of ports, channels, and supply chains following extreme events.

Miles of coastline	12,380 ⁱ
Miles of commercially navigable waterways (2011)	25,320 ⁱⁱ
U.S. Waterway facilities (2013)	8,214 ⁱⁱⁱ
U.S. Merchant Mariners (active) (2013)	
Captains, mates, and pilots	30,290 ^{iv}
Engineers	9,930 ^{iv}
Lock chambers at 192 sites (2014)	236 ^v
Vessel calls at U.S. ports (2011)	68,036 ^{vi}
Total U.S. waterborne commerce (short tons) (2012)	2.3 billion ⁱⁱⁱ
U.S. foreign waterborne commerce (short tons) (2012)	1.4 billion ⁱⁱⁱ
Passenger ferry passengers (2007)	106 million ^{vii}
Household participation in recreational boating (2012)	32.3 million ^{viii}
Fishing vessels (2006)	82,047 ^{ix}
Jobs impacted by recreational fishing (2011)	455,000 ^x
Cruise passengers, North America (2011)	10.9 million ^{xi}
Federal Aids to Navigation (2014)	48,600 ^{xii}

For more facts about the MTS, go to www.CMTS.gov

Cover photo courtesy of NOAA

MTS FACT SHEET

Challenges

The MTS is at a crossroad, with segments of the system showing signs of strain, as operational and maintenance challenges, and system chokepoints increase. Generally, the MTS physical infrastructure is fragile and at risk. The capacity of many ports faces an uncertain future to be able to service and supply larger and larger ships made possible in part by the impending expansion of the Panama Canal in 2015. Today's largest container vessels are more than 200 percent larger than 5,000 TEU PANAMAX vessels while the American Association of Port Authorities reports that even the nation's 59 busiest ports on an average have authorized channel dimensions available just 35 percent of the time.^{xvii} This situation negatively impacts navigational safety and efficiency, increasing costs to consumers and reducing competitiveness of U.S. exports.

An overburdened MTS increases the possibility of systematic supply-chain disruptions and delays, potentially resulting in losses to the U.S. economy and increased costs to the consumer. For example, the Congressional Budget Office estimates that a one week shut down of the container ports of Los Angeles and Long Beach may result in losses of \$65 million to \$150 million per day.^{xviii}

The expected increase of vessel traffic will place burdens on both waterway management and port safety and security services, and raise the risk of accidents. In conjunction with international authority, state, local, industry, and other public partners, the Federal Government is responsible for insuring the safety and security of the MTS. In 2012, the U.S. Coast Guard conducted more than 10,000 Port State Control and Security examinations on foreign flagged vessels, completed over 25,575 container inspections, over 9,100 fishing vessel and 1,500 towing vessel examinations.^{xix}

As waterborne trade increases, stresses to sensitive marine and freshwater environments and protected species will continue, especially near ports. There is a clear relationship between MTS efficiency and safety and environmental protection. The more that is able to be done to make the MTS safer and more efficient, for example through the use of emerging navigational technologies, there will be a corresponding decrease in the risk to the environment.

Federal expenditures to maintain and improve MTS infrastructure is not keeping pace with its use and importance to the U.S. economy. Federal investments in MTS infrastructure have been relatively flat for years. Unless new and innovative financing is instituted, the U.S. will fall further and further behind other countries in the global competitive market place. Sharing and coordinating Federal agency infrastructure funding priorities has never been more important to ensure that the MTS is supported for future needs.

Sources

- i. Central Intelligence Agency. *World Factbook: United States*. Available at: <https://www.cia.gov/library/publications/the-world-factbook/geos/us.html> (as of August 2014).
- ii. U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics. *2013 Pocket Guide to Transportation*. Available at: http://www.rita.dot.gov/bts/publications/pocket_guide_to_transportation/2013 (as of August 2014).
- iii. U.S. Department of Defense, U.S. Army Corps of Engineers, Navigation Data Center. *U.S. Waterway System: Transportation Facts and Information (Fact Card 2013)*. Available at: <http://www.navigationdatacenter.us/factcard/factcard13.pdf> (as of August 2014).
- iv. U.S. Department of Labor, Bureau of Labor Statistics. *Occupational Employment Statistics, May 2013*. Available at: http://www.bls.gov/oes/current/oes_stru.htm#53-00 (as of August 2014).
- v. U.S. Department of Defense, U.S. Army Corps of Engineers, Navigation Data Center. *Lock Characteristics General Report*. Available at: www.navigationdatacenter.us/lpms/pdf/lkgenrl.pdf (as of August 2014).
- vi. U.S. Department of Transportation, Maritime Administration. *Vessel Calls Snapshots, 2011*. Available at: http://www.marad.dot.gov/documents/Vessel_Calls_at_US_Ports_Snapshot.pdf (as of August 2014).
- vii. U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics. *Highlights of the 2008 National Census of Ferry Operators*. Available at: http://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/special_reports_and_issue_briefs/special_report/2010_12_01/html/entire.html (as of August 2014).
- viii. U.S. Department of Homeland Security, United States Coast Guard. *2012 National Recreation Boating Survey*. Available at: <http://www.uscgboating.org/assets/1/AssetManager/2012survey%20report.pdf> (as of August 2014).
- ix. U.S. Department of Homeland Security, U.S. Coast Guard. *2006 Commercial Fishing Vessel Count by State/Jurisdiction and Federally-Documented by the U.S. Coast Guard*. Available at: <http://goo.gl/eOB4jT> (as of September 2014).
- x. U.S. Department of Commerce, National Oceanic Atmospheric Administration, National Marine Fisheries Service, *Fisheries Economics of the U.S. 2011*. Available at: <https://www.st.nmfs.noaa.gov/Assets/economics/documents/feus/2011/FEUS%202011%20National%20Overview.pdf> (as of September 2014).
- xi. U.S. Department of Transportation, Maritime Administration. *North American Cruise Statistical Snapshot, 2011*. Available at: http://www.marad.dot.gov/documents/North_American_Cruise_Statistics_Quarterly_Snapshot.pdf (as of August 2014).
- xii. Mike Sollosi, Chief, Office of Navigation Systems, U.S. Coast Guard, U.S. Department of Homeland Security (Personal Communication, 21 August 2014). Number given includes 10,000-14,000 river buoys.
- xiii. U.S. Department of Transportation, Bureau of Transportation Statistics and Federal Highway Administration. *2013 Freight Facts and Figures*. Available at: http://www.ops.fhwa.dot.gov/freight/freight_analysis/nat_freight_stats/docs/13factsfigures/index.htm (as of August 2014).
- xiv. U.S. Department of Labor, Bureau of Labor Statistics. *May 2013 National Industry-Specific Occupational Employment and Wage Estimates, NAICS 48300, Water Transportation*. Available at: http://www.bls.gov/oes/current/naics3_483000.htm (as of August 2014).
- xv. U.S. Department of Commerce, U.S. Census Bureau. *2012 National Population Projections*. Available at: <http://www.census.gov/population/projections/data/national/2012/summarytables.html> (as of September 2014).
- xvi. National Waterways Foundation and the Texas Transportation Institute. *Waterways: Working for America*. Available at: <http://www.nationalwaterwaysfoundation.org/study/Work4America.pdf> (as of August 2014).
- xvii. American Association of Port Authorities. *Government Relations Priorities: Water Resources*, March 2013. Available at: http://www.aapa-ports.org/files/Water%20Resources%202013_1363709492636_1.pdf (as of August 2014).
- xviii. Congressional Budget Office. *The Economic Costs of Disruptions in Container Shipments* (March 2006). Available at: http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/71xx/doc7106/03-29-container_shipments.pdf (as of August 2014).
- xix. U.S. Department of Homeland Security, U.S. Coast Guard. *USCG 13 Posture Statement* (April 2013). Available at: http://www.uscg.mil/budget/docs/2013_Posture_Statement.pdf (as of August 2014).