

PORTS & WATERWAYS

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**2019-2020
EDUCATIONAL
SERIES**

PORTS & WATERWAYS

OVERVIEW

Texas ports and waterways are critical gateways for domestic and international freight. The State of Texas ranks second in the nation in total waterborne commerce. The United States Army Corps of Engineers' most recent economic impact data shows that in 2016 more than 496 million tons of cargo moved through Texas ports. Texas ports handle more than 20 percent of all tonnage in the United States.

Texas ports are vital components of the state economy. According to an economic impact analysis prepared for the Texas Ports Association in 2016, approximately 116,175 Texas jobs are directly related to seaport operations. In total, 1.6 million jobs are generated from economic activity dependent on the state's ports. These jobs generate more than \$92 billion in personal income and local consumption, while the port industry contributes \$6.9 billion annually in state and local tax revenues.



Ten Texas ports are designated as foreign trade zones. The United States government considers foreign trade zones to be outside United States customs territory, and merchandise may be brought into an foreign trade zones without formal customs entry, import quotas or most other import restrictions. Texas' largest international trading partners are South America, Northern Europe and Central America. Venezuela and Brazil account for more than 50 percent of the waterborne trade with Texas.

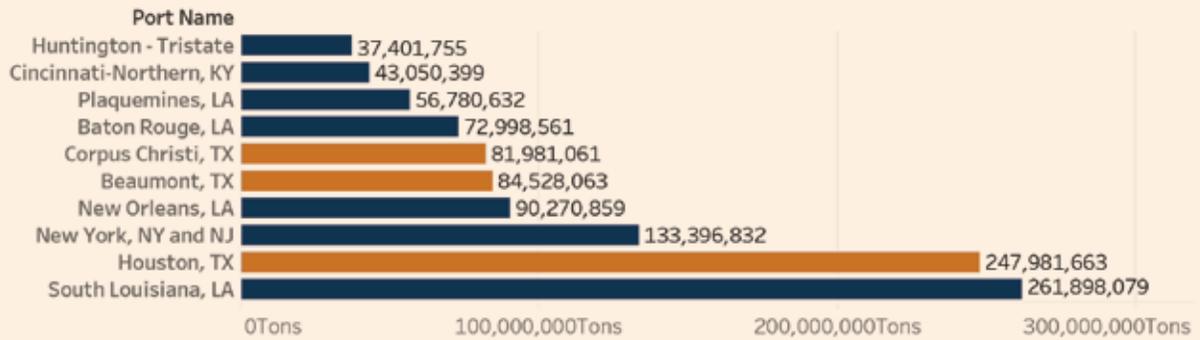
The petrochemical sector dominates international waterborne imports and exports in Texas. Other cargo includes machinery, chemicals and electronics. Texas is well positioned for long-term export growth as these markets continue to rebound, in part because of the termination of the crude oil export ban and the expansion of the Panama Canal.

In June 2016, the highly anticipated Panama Canal expansion project was completed. The expansion project included construction of two new sets of locks that allow larger container ships, bulk vessels, liquefied natural gas tankers and a new fleet of liquefied petroleum gas vessels to transit the canal. These larger vessels enable shippers to more competitively export Texas' energy, chemical and agricultural products worldwide. One of the greatest

opportunities from the canal expansion is the export of liquefied natural gas. Previously, only eight percent of the world's liquefied natural gas carriers could use the canal. As a result of the expansion, the canal can accommodate approximately 88 percent of existing liquefied natural gas vessels. Texas currently has two liquefied natural gas export facilities under construction at Freeport and Corpus Christi. Several other liquefied natural gas export facilities are awaiting federal approval.

Another important aspect of Texas' maritime trade is the volume of its intrastate movements, which occur mostly along the Gulf Intracoastal Waterway. Texas leads the nation in intrastate maritime commerce with more than 75 million tons of cargo shipped between Texas ports in 2016. Cargo carried on Texas' waterways, including the Gulf Intracoastal Waterway, reduces congestion on the state's highway and rail systems, decreasing maintenance costs and extending their life. In addition, water transportation is the most fuel-efficient mode of transportation, producing the smallest amount of air pollutants per ton of cargo carried. Waterborne transportation is also the safest mode for freight movement and utilizing waterways can reduce the risks associated with transporting hazardous materials.

Top 10 United States Ports in Total Tonnage (Calendar Year 2016)



Source: United States Army Corps of Engineering

TEXAS PORTS

Maritime transportation and port facilities are important parts of Texas' transportation system. The state is home to 11 deep-draft ports, with channels at least 30-feet deep, and six shallow-draft commercial ports (see *Texas Ports Map on page 5*). Ten of the state's ports rank among the top 100 United States ports in total tonnage, with three of those ranking in the top 20. In terms of tonnage, Port Houston handles more imports, exports and total international cargo than any other United States port. Additionally, Port Houston handled more than 1.8 million twenty-foot equivalent units in 2016, more than two-thirds of all containerized cargo on the United States Gulf Coast. This figure includes 4.6 million tons of raw plastic resin, making Houston the top United States port for resin export. Port Houston anticipates that the newly expanded Panama Canal will allow for a significant increase in the export of raw plastic resin to Asia and the Middle East.

The Port of Beaumont ranks fifth in total tonnage and serves as the number one military outload port in the world. The Port of Corpus Christi, an energy hub, ranks sixth, while the Port of Texas City, a privately owned facility, ranks fifteenth. The Port of Galveston is the fourth busiest cruise embarkation port in the United States with more than 1.8 million cruise passengers in 2017.

Texas ports finance their capital improvements through various mechanisms such as internal revenue generated from their operations, local taxing authority and bonds. Since 2010, Texas ports have invested more than \$1.1 billion for capital improvement projects necessary to meet the needs of future and existing customers. Many of the ports are heavily leveraged and will have to reduce infrastructure investments in the coming years to maintain appropriate revenue-to-debt ratios. Smaller ports that do not generate much revenue have infrastructure and dredging needs that are not currently being met, despite these ports' critical importance to their regional economies.

GULF INTRACOASTAL WATERWAY

The Gulf Intracoastal Waterway is a 1,100-mile-long, man-made, shallow draft, protected waterway that connects ports along the Gulf of Mexico from Brownsville, Texas to St. Marks, Florida. As the nation's third busiest inland waterway, the Gulf Intracoastal Waterway is an essential component of the nation's transportation network. The Texas segment of the main channel covers 379 miles of Texas' coastline and handles nearly 72 percent of the Gulf Intracoastal Waterway's total traffic.

Originally constructed to handle dry bulk commodity trade between ports and to facilitate defense traffic during World War II, the Gulf Intracoastal Waterway has become an integral component of the extensive supply chains of Texas petrochemical and manufacturing industries. The importance of the Gulf Intracoastal Waterway to the Texas economy is reflected in its high levels of vessel traffic. In 2016, 80 million tons were moved on the waterway, 91 percent of which were petroleum and chemical products.

The Gulf Intracoastal Waterway is part of the Marine Highway System, which consists of navigable waterways designated by the United States Maritime Administration. To receive the Marine Highway designation, the routes must demonstrate the ability to provide additional capacity to relieve congested landside routes serving freight and passenger movements. In June 2016, the Texas segment of the Gulf Intracoastal Waterway was designated by the United States Department of Transportation as the Marine Highway 69 (or "M-69") corridor. This designation makes Marine Highway projects along the Gulf Intracoastal Waterway eligible for federal funding with the aim of increasing waterborne transportation and simultaneously improving mobility on I-69 and other highways along the Texas Gulf Coast by reducing truck traffic.





Though designed to be 125 feet wide and 12 feet deep, the Gulf Intracoastal Waterway is not being maintained to those dimensions due to insufficient federal funding. Although there has been a rapid escalation in dredging costs over the last few decades, the United States Army Corps of Engineers budget has not increased to offset these costs, and projects are being deferred or downsized. As a result, the operating depth is only nine feet and carriers have to load barges at less than their rated capacities to ensure that barges do not scrape bottom at any point during transit. This practice raises the cost of shipping goods on the Gulf Intracoastal Waterway on a per-unit basis because additional trips are required to move freight.

Additionally, outdated structures along the waterway present navigational challenges. The Brazos River Floodgates, near Freeport, present by far the greatest challenge in terms of safety and efficiency along the entire Gulf Intracoastal Waterway. Navigational difficulties for tow operators, due to the narrow width of the lock and gate structures and the proximity of the structures to the river, account for most of the problems at the floodgates. The narrow structures force tows to stop and break down their barges, meaning operators must move barges one at a time, making multiple trips across the river to get the entire tow through the floodgates. This results in significant time delays.

The additional annual operating costs as a result of the time delays created when tow operators break up their tows to accommodate the facility is \$11.4 million. Each year, an average of 36 accidents occur at the Brazos River Floodgates. If the cost of damages to the floodgates due to strikes by towboats and barges is added, the total annual cost due to the inefficient design of the floodgate is nearly \$12.2 million.

TxDOT SUPPORT FOR TEXAS PORTS & WATERWAYS

Given the importance of Texas ports and waterways to the state's economy and overall transportation system, TxDOT, works to promote the development and intermodal connectivity of Texas ports, waterways and marine infrastructure and operations. TxDOT also serves

as a resource to increase the use of the Gulf Intracoastal Waterway and promote waterborne transportation to maintain Texas' economic competitiveness.

Non-Federal Sponsor of the Gulf Intracoastal Waterway

Maintenance of the Gulf Intracoastal Waterway is the responsibility of the United States Army Corps of Engineers. In 1975, the Texas Coastal Waterway Act named TxDOT the official non-federal sponsor of the Gulf Intracoastal Waterway. As such, TxDOT's primary responsibility is the provision of lands, easements, rights of way, relocations and necessary disposal areas for maintenance and operation of the Gulf Intracoastal Waterway. TxDOT is required to provide the real estate for placement areas that will accommodate the ongoing needs of the United States Army Corps of Engineers' dredging program.

Federal law requires TxDOT to cooperate with the United States Army Corps of Engineers, other federal and state agencies, navigation districts, port authorities, counties and other appropriate entities. TxDOT has the following responsibilities:

- Evaluate, plan, maintain, preserve, enhance and improve the Gulf Intracoastal Waterway.
- Evaluate and select of sites for the disposal of dredged material.
- Coordinate with the United States Army Corps of Engineers and other federal and state agencies for environmental impact studies.
- Host public meetings on Texas ports and waterways.

TxDOT, with its commitment to addressing navigation issues on the waterways, has partnered with the Galveston District of the United States Army Corps of Engineers to conduct a feasibility study for the Brazos River Floodgates and the Colorado River Locks near Matagorda. The study identifies solutions to improve safety and navigation efficiency on the Gulf Intracoastal Waterway at these two locations. The United States Army Corps of Engineers is lead this study

Texas Ports Map



while TxDOT provides the engineering, environmental and economic analyses for the Brazos River Floodgates. The study separately assesses the Brazos River Floodgates and the Colorado River Locks, but will integrate the results into one Feasibility Report and Environmental Impact Statement.

The report will be presented to the Assistant Secretary for the Army, Civil Works for final approval in the summer of 2019. Upon approval by the Assistant Secretary for the Army and transmittal of the report to Congress, both structures will be eligible for federal construction authorization and funding to address the navigational difficulties and safety issues concerning the structures.

In addition, TxDOT continuously evaluates the impact of the Gulf Intracoastal Waterway on the state and reports this impact to the Texas Legislature. The most recent Gulf Intracoastal Waterway Legislative Report is available on the TxDOT website (www.txdot.gov), keyword search “Gulf Intracoastal Waterway”.

PORT AUTHORITY ADVISORY COMMITTEE

TxDOT’s Port Authority Advisory Committee advises the Texas Transportation Commission and TxDOT on matters relating to port authorities and provides a forum for the exchange of information between the Texas Transportation Commission, TxDOT and representatives of the Texas maritime port industry. The Port Authority Advisory Committee regularly updates plans and establishes goals, strategies and objectives to address the forecasted needs and identifies port capital improvement projects requiring immediate investment.

The Port Authority Advisory Committee consists of seven members appointed by the Texas Transportation Commission and two other members, one appointed by the Speaker of the House and one by the Lieutenant Governor.



SCAN WITH SMART PHONE

Find a current map and other resources at www.txdot.gov keyword search “Port Authority Advisory Committee”.

Of the Texas Transportation Commission appointments, one member represents Port Houston, three members represent ports along the upper Texas coast and three members represent ports along the lower Texas coast. With the exception of the Port Houston representative, which has a permanent seat, Port Authority Advisory Committee members serve staggered three-year terms at the discretion of the Texas Transportation Commission.

PORT REPORTS

State law requires the Port Authority Advisory Committee to develop a port mission plan for Texas’ maritime ports and a Port Capital Program, which TxDOT submits to the Governor, Lieutenant Governor and Speaker of the House by December of even-numbered years. The Texas Ports Mission Plan, outlines the trends and issues impacting Texas ports at a system-wide level, identifies the key challenges and opportunities and provides critical strategies that the state and the ports must pursue to improve their competitive position. The 2020-2021 Texas Ports Mission Plan comprises three distinct reports focused on different types of port infrastructure:

- The Port Capital Program.
- The Ship Channel Improvement Report.
- The Port Connectivity Report.

By bringing together these three components, the Texas Ports Mission Plan will provide a more comprehensive assessment of the challenges and opportunities for ports on public roadways, within the ship channels and “inside the gates” at each port.

The Port Capital Program provides a listing of high priority port projects of statewide significance recommended for funding, if funding from an eligible source becomes available.





STATE FUNDING FOR MARITIME PORTS

At present, the State of Texas does not provide direct funding for port capital improvements. However in 2017, the Texas Legislature included Rider 45 in the General Appropriations Act, authorizing the use of up to \$20 million per year for the 2018-2019 biennium from the Texas Mobility Fund or other eligible fund sources to provide funding for port roadway connectivity projects selected by the Port Authority Advisory Committee and approved by the Texas Transportation Commission. Twelve port connectivity projects were selected to receive funding.

Senate Bill 28, passed in the 85th Legislative Session (2017), established the Ship Channel Improvement Revolving Fund. The bill required the Texas Transportation Commission to establish a revolving loan program to finance qualified projects for navigation districts to deepen or widen ship channels, provided that the project is authorized by the United States Congress and meets other standards provided by the Texas Transportation Commission rule. However, the legislature did not appropriate money to capitalize the fund.

The 2020-2021 Texas Port Capital Program, which will be integrated into the Texas Ports Mission Plan, will identify the state's maritime needs by outlining capital projects, plans or studies that enhance international trade; promote cargo growth and cruise passenger movement; enhance security; increase maritime port revenues; provide an economic benefit to the state; or connect maritime ports to another transportation mode. All public maritime ports and navigation districts in Texas are eligible to apply for inclusion in the Port Capital Program. The most recent report is available on the TxDOT website (www.txdot.gov), keyword search "Maritime".

The Ship Channel Improvement Report will identify and summarize projects that have been congressionally authorized and are therefore eligible for the newly created Ship Channel Improvement Revolving Fund. Project details will include current and proposed depths, channel improvement features (i.e. widening, turning basins), design vessels and key commodities targeted by improvements and project benefits.

The Port Connectivity Report aims to develop a more comprehensive understanding of landside road and rail connectivity needs at Texas ports. The study will document existing port connections, assess system demand, and identify mobility needs and opportunities to improve multi-modal port connectivity. The study will also identify funding and financing options, as well as identify corridors for consideration as part of the Rural and Urban Freight Corridor Program outlined in the Fixing America's Surface Transportation (or "FAST") Act and projects eligible for the federal grant programs.

In comparison, other states along the Gulf of Mexico and East and West Coasts are actively funding ports to improve their competitiveness. Competition among ports for new tenants and enhanced business opportunities is intense. Many of the ports competing with Texas receive state government-funded subsidies to attract new tenants and have access to grants or low interest loans for their capital improvement projects.

These programs, established by each state's legislature, make revenue available through various programs such as economic development funds, general revenue, tax incentives or transportation programs. This revenue has been used to subsidize channel deepening and widening projects, dock side infrastructure, warehouses, cruise terminals, security enhancements and intermodal transportation projects to reduce congestion. These subsidized port enhancements are a competitive advantage for non-Texas ports.



TEXAS DEPARTMENT OF TRANSPORTATION



VALUES:

People

People are the Department's most important customer, asset, and resource. The well-being, safety, and quality of life for Texans and the traveling public are of the utmost concern to the Department. We focus on relationship building, customer service, and partnerships.

Accountability

We accept responsibility for our actions and promote open communication and transparency at all times.

Trust

We strive to earn and maintain confidence through reliable and ethical decision-making.

Honesty

We conduct ourselves with the highest degree of integrity, respect, and truthfulness.

VISION:

A forward-thinking leader delivering mobility, enabling economic opportunity, and enhancing quality of life for all Texans.

MISSION:

Through collaboration and leadership, we deliver a safe, reliable, and integrated transportation system that enables the movement of people and goods.

GOALS AND OBJECTIVES:

- **Deliver the Right Projects** – Implement effective planning and forecasting processes that deliver the right projects on-time and on-budget.
- **Focus on the Customer** – People are at the center of everything we do.
- **Foster Stewardship** – Ensure efficient use of state resources.
- **Optimize System Performance** – Develop and operate an integrated transportation system that provides reliable and accessible mobility, and enables economic growth.
- **Preserve our Assets** – Deliver preventive maintenance for TxDOT's system and capital assets to protect our investments.
- **Promote Safety** – Champion a culture of safety.
- **Value our Employees** – Respect and care for the well-being and development of our employees.



This document is part of an educational series on transportation issues produced by the Texas Department of Transportation. This document, the full Educational Series and other helpful resources can be found online at www.txdot.gov keyword search "State Legislative Affairs".