Overview of Texas Ports and Waterways

Senate Select Committee on Texas Ports
Wednesday, May 04, 2016, 11:30 A.M
E1.012
INTRODUCTION
It is the Texas Department of Transportation’s (TxDOT) mission, through collaboration and leadership, to deliver a safe, reliable and integrated transportation system that enables the movement of people and goods.

The employees and leaders of TxDOT take our roles as public servants seriously. We know that the public and the Texas Legislature have entrusted TxDOT with the state’s resources and we must use those resources in a responsible and efficient manner to meet the following goals:

- 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 preventative maintenance for TxDOT’s system and capital assets to protect our investments;
- Promote Safety – Champion a culture of safety; and
- Value our Employees – Respect and care for the well-being and development of our employees.

Through collaboration and leadership, TxDOT delivers a safe, reliable and integrated transportation system that enables the movement of people and goods. A vast majority of TxDOT’s resources and responsibilities include planning, designing, constructing, improving and maintaining roadways on the state highway system; however, TxDOT is also responsible for providing support, coordination and resources for a broad array of other transportation modes. The additional modes include rail, ports and waterways, general aviation, public transportation, bicycle and pedestrian.

HISTORY OF THE TXDOT MARITIME DIVISION
TxDOT created the Maritime Division in November 2012 to support the development of Texas’ maritime system. The division promotes the development and intermodal connectivity of Texas ports, waterways and marine infrastructure and operations. It also serves as a resource to increase the use of the Gulf Intracoastal Waterway (GIWW) and promote waterborne transportation to maintain Texas’ economic competitiveness.

The division incorporates port and waterway initiatives into TxDOT’s overall transportation system planning, fulfills TxDOT’s responsibilities as the non-federal sponsor of the GIWW as required in Chapter 51, Texas Transportation Code, and supports and facilitates the activities of the Port Authority Advisory Committee (PAAC) as outlined in Chapter 55, Texas Transportation Code. The
division works with a wide range of stakeholders, including port authorities, navigation districts, the U.S. Army Corps of Engineers (USACE), waterway operators and the U.S. Coast Guard to support their initiatives and projects, identify challenges in Texas' maritime system and help create viable solutions.

In the three years since its creation, the Maritime Division has led a number of new initiatives. In 2014, TxDOT introduced two publications, the Texas Port Report and the Master Plan for the Gulf Intracoastal Waterway in Texas, which inventoried and assessed the state's maritime needs. The division also hosted a “Texas Ports Tour” for members of the Texas Transportation Commission (commission) to visit the state's deep and shallow-draft ports. Additionally, TxDOT has worked closely with stakeholders to identify the state's major maritime needs, such as the Brazos River Floodgates, and develop a more robust process for the preparation of the state's biennial Port Capital Program.

PORT AUTHORITY ADVISORY COMMITTEE (PAAC)
Established under Chapter 55, Texas Transportation Code, TxDOT's seven-member PAAC is appointed by the commission and consists of three representatives each for the upper and lower Texas Coasts, with the Port of Houston as a permanent member. The PAAC provides a forum for the exchange of information between the commission, TxDOT and representatives of the port industry in Texas, as well as others who have an interest in ports. The PAAC's advice and recommendations provide the commission and TxDOT with a broad perspective regarding ports and maritime transportation-related matters.

The current PAAC members are:

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>John LaRue, Chair</td>
<td>Executive Director, Port of Corpus Christi</td>
</tr>
<tr>
<td></td>
<td>Lower Coast Representative</td>
</tr>
<tr>
<td>Eduardo A. Campirano</td>
<td>Port Director, Port of Brownsville</td>
</tr>
<tr>
<td></td>
<td>Lower Coast Representative</td>
</tr>
<tr>
<td>Roger Guenther</td>
<td>Executive Director, Port of Houston</td>
</tr>
<tr>
<td></td>
<td>Permanent Member</td>
</tr>
<tr>
<td>Larry Kelley</td>
<td>Deputy Port Director, Port of Port Arthur</td>
</tr>
<tr>
<td></td>
<td>Upper Coast Representative</td>
</tr>
<tr>
<td>Michael Mierzwa</td>
<td>Port Director, Port of Galveston</td>
</tr>
<tr>
<td></td>
<td>Upper Coast Representative</td>
</tr>
<tr>
<td>Jennifer Stastny</td>
<td>Executive Director, Port of Victoria</td>
</tr>
<tr>
<td></td>
<td>Lower Coast Representative</td>
</tr>
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The PAAC currently has a vacancy for an upper coast representative. The Texas Port Association (TPA) has recommended a replacement, and the commission will vote on the appointment on May 26, 2016.

Chapter 55, Texas Transportation Code, requires the PAAC to develop a port mission plan for Texas’ maritime ports and the Port Capital Program, which TxDOT submits to the Governor, Lieutenant Governor and Speaker of the House by December 1 of even-numbered years. The Strategic Mission Plan outlines the economic impact of the Texas port system, describes current activities and future plans, identifies key trends and issues impacting the ports, and develops strategies to address the issues and take advantage of the opportunities.

The Strategic Mission Plan lays the groundwork for the Port Capital Program. The Port Capital Program provides a listing of priority port projects of statewide significance recommended for funding from the Port Access Account Fund, or another General Revenue funding source, if funding becomes available. The PAAC is currently developing the recommendations for the 2017-2018 Port Capital Program. For this biennium, the project selection process includes a dual-phased application and scoring procedure. Projects will be ranked in priority order based on their scores.

TEXAS PORTS AND WATERWAYS
Texas ports and waterways are critical gateways for domestic and international freight. Texas ranks second in the nation for waterborne commerce, moving more than 506 million tons of cargo in 2014. Texas ports also receive more than one-quarter of the total foreign tonnage handled in the United States.

According to a study prepared for the TPA documenting the economic impacts of the Texas ports and maritime industry, seaport activity had a total economic value of $287.1 billion and generated more than $6.5 billion in local and state tax revenue in 2011. More than 112,100 jobs were directly generated by port activity. Texas ports and waterways connect the Gulf of Mexico, one of the world’s most important oil and gas production and refining regions, to statewide, national, and international markets.

TPA is currently in the process of updating the study on the economic impact of the individual ports. Meanwhile, TxDOT is contracting with the Texas A&M Transportation Institute (TTI) to produce a comprehensive statewide economic analysis of the Texas maritime system. The final report is expected to be completed in January 2017. This study will include the development of an economic investment model that will estimate the economic impacts and the return on new investment for port facilities within the Texas maritime system.

TEXAS PORTS
Texas ports can be classified by channel depth as well as by their markets: Comprehensive, Specialized and Niche. Comprehensive Ports, like the Port of Houston, can handle a wide variety of cargo generally at a high volume. Cargo includes dry and liquid bulk products, shipping containers...
and automobiles. Specialized Ports feature all the equipment and facilities needed to handle a specific type of cargo on a large scale. For example, the Port of Texas City can handle liquid bulk, and the Calhoun Port Authority primarily handles chemicals, petrochemicals, aluminum ore and agricultural fertilizer. Finally, Niche Ports provide services that other ports typically do not, such as the Port of Palacios, which serves a large shrimping fleet.

The below tables are lists of the ports, navigation districts, and waterways that make up the Texas maritime system. Tables 1 and 2 display the commercial ports in Texas, both deep-draft and shallow-draft, respectively.

**TABLE 1 - TEXAS DEEP DRAFT COMMERCIAL PORTS:**

<table>
<thead>
<tr>
<th>Ports</th>
<th>Official Name</th>
<th>Classification</th>
<th>Channel Depth (ft.)</th>
<th>Channel Width (ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port of Orange</td>
<td>Orange County Navigation and Port District</td>
<td>Niche</td>
<td>30</td>
<td>200</td>
</tr>
<tr>
<td>Port of Beaumont</td>
<td>Port of Beaumont Navigation District of Jefferson County</td>
<td>Comprehensive</td>
<td>40</td>
<td>400</td>
</tr>
<tr>
<td>Port of Port Arthur</td>
<td>Port of Port Arthur Navigation District</td>
<td>Specialized</td>
<td>40</td>
<td>450</td>
</tr>
<tr>
<td>Port of Houston</td>
<td>Port of Houston Authority</td>
<td>Comprehensive</td>
<td>45</td>
<td>530</td>
</tr>
<tr>
<td>Port of Texas City</td>
<td>Texas City Terminal Railway Company</td>
<td>Specialized</td>
<td>40-45</td>
<td>1200</td>
</tr>
<tr>
<td>Port of Galveston</td>
<td>Board of Trustees of the Galveston Wharves</td>
<td>Comprehensive</td>
<td>45</td>
<td>1200</td>
</tr>
<tr>
<td>Port Freeport</td>
<td>Port Freeport</td>
<td>Comprehensive</td>
<td>45</td>
<td>400</td>
</tr>
<tr>
<td>Calhoun Port Authority</td>
<td>Calhoun Port Authority</td>
<td>Specialized</td>
<td>36</td>
<td>200</td>
</tr>
<tr>
<td>Port of Corpus Christi</td>
<td>Port of Corpus Christi Authority of Nueces County, Texas</td>
<td>Comprehensive</td>
<td>45</td>
<td>300</td>
</tr>
<tr>
<td>Port Isabel</td>
<td>Port Isabel-San Benito Navigation District</td>
<td>Niche</td>
<td>36</td>
<td>200</td>
</tr>
<tr>
<td>Port of Brownsville</td>
<td>Brownsville Navigation District</td>
<td>Specialized</td>
<td>42</td>
<td>250</td>
</tr>
</tbody>
</table>

**TABLE 2 - TEXAS SHALLOW-DRAFT COMMERCIAL PORTS:**

<table>
<thead>
<tr>
<th>Port/Navigation District</th>
<th>Official Name</th>
<th>Classification</th>
<th>Channel Depth (ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cedar Bayou</td>
<td>Cedar Bayou Navigation District, Chambers-Liberty Counties Navigation District</td>
<td>Niche</td>
<td>11</td>
</tr>
<tr>
<td>Port of Bay City</td>
<td>Port of Bay City Authority of Matagorda County, Texas</td>
<td>Niche</td>
<td>12</td>
</tr>
<tr>
<td>Port of Palacios</td>
<td>Matagorda County Navigation District No. 1</td>
<td>Niche</td>
<td>12</td>
</tr>
<tr>
<td>Port of Victoria</td>
<td>Victoria County Navigation District</td>
<td>Specialized</td>
<td>12</td>
</tr>
<tr>
<td>Port of West Calhoun</td>
<td>West Side Calhoun County Navigation District</td>
<td>Niche</td>
<td>12</td>
</tr>
<tr>
<td>Port of Harlingen</td>
<td>Port of Harlingen Authority</td>
<td>Niche</td>
<td>12</td>
</tr>
</tbody>
</table>
Texas ports are also used for fishing and recreational purposes. Table 3 lists the fishing and recreational ports that do not handle commercial cargo.

### TABLE 3 - TEXAS FISHING AND RECREATIONAL PORTS:

<table>
<thead>
<tr>
<th>Port/Navigation District</th>
<th>Official Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port of Sabine Pass</td>
<td>Sabine Pass Port Authority</td>
</tr>
<tr>
<td>Anahuac</td>
<td>Chambers-Liberty Counties Navigation District</td>
</tr>
<tr>
<td>Rockport / Fulton / Cove</td>
<td>Aransas County Navigation District No. 1</td>
</tr>
<tr>
<td>Port of Port Mansfield</td>
<td>Willacy County Navigation District</td>
</tr>
</tbody>
</table>

Table 4 lists the remaining navigation districts. These navigation districts are official political subdivisions of Texas and are not directly affiliated with any specific port.

### TABLE 4 - OTHER NAVIGATION DISTRICTS:

<table>
<thead>
<tr>
<th>Navigation District</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sabine-Neches Navigation District</td>
<td>Non-federal sponsor for the Sabine-Neches Waterway</td>
</tr>
<tr>
<td>Cypress Valley Navigation District</td>
<td>Recreation and conservation</td>
</tr>
<tr>
<td>Galveston County Navigation District No. 1</td>
<td>Owns and operates the Pelican Island Bridge</td>
</tr>
<tr>
<td>Jackson County Navigation District</td>
<td>Manages pipeline easements across Lavaca and Navidad Rivers</td>
</tr>
<tr>
<td>San Patricio County Navigation District</td>
<td>Marina</td>
</tr>
</tbody>
</table>

### HIGHLIGHTS OF THE LARGEST TEXAS PORTS BY TONNAGE

Below are highlights from the largest Texas Ports by tonnage followed by a map of all Texas port locations. In depth information regarding each individual port, including trade statistics and overview of port facilities, is provided in Appendix A: Texas Port Profiles.

**Port of Beaumont**

The Port of Beaumont, which celebrated its centennial in March 2016, ranks 4th in the nation in overall tonnage of cargo processed. The Port of Beaumont recently completed construction of a new state-of-the-art petroleum terminal that can handle 120-car unit trains. When fully developed, the terminal will have the capacity to offload more than 210,000 barrels of crude oil a day.

**Port of Houston**

The Port of Houston ranks first in the nation for foreign waterborne tonnage and second for overall tonnage. It is the 6th largest container port in the United States by total twenty foot equivalent unit (TEU) capacity, handling over 2 million TEUs last year.3 The Houston Ship Channel is the busiest waterway in the United States with more than 8,000 vessel calls annually carrying more than 230 million tons of cargo. It is also the home of the largest petrochemical complex in the nation.

**Port of Galveston**

The Port of Galveston is the leading port on the Gulf of Mexico for roll-on roll-off (RO/RO) vessels, which transport automobiles and other wheeled vehicles. It is also the 4th busiest cruise port in the nation and is currently expanding one of its cruise terminals to accommodate larger cruise ships.
**Port Freeport**
Port Freeport recently signed two global carriers, MSC and Hoegh Autoliners, to long-term contracts. The Freeport Liquefied Natural Gas (LNG) import/export terminal has been approved and is under construction. The Freeport Harbor Channel has received authorization through the Water Resources Reform & Development Act 2014 (WRRDA) to be deepened to 55 feet and the port also has plans to expand its container terminal.

**Port of Victoria**
The Port of Victoria has an important function in the Eagle Ford Shale play. A $1.5 million liquid cargo dock that the port constructed at the beginning of the recent production boom now handles more than one million barrels of crude each month. The Caterpillar plant in Victoria transports both components and finished products by barge on the GIWW and Victoria Barge Canal.

**Port of Corpus Christi**
The Port of Corpus Christi is ranked 6th in the nation for overall tonnage. An LNG export terminal is currently under construction on the La Quinta Channel. The first exports of Texas crude oil that were allowed after the United States recently lifted the ban on exporting crude oil left through the Port of Corpus Christi on December 31, 2015.

**Port of Brownsville**
The Port of Brownsville imports and exports steel and other metal products and hosts a shipyard specializing in constructing and refurbishing offshore drilling rigs. The port is also the nation’s leader in ship recycling. In August 2015, Brownsville opened its state-of-the-art cargo dock, funded in part through a $12 million TIGER grant through the United States (U.S.) Department of Transportation.

**Strategic Ports**
The U.S. Maritime Administration (MARAD) has designated the Port of Beaumont, Port of Port Arthur, and the Port of Corpus Christi, as strategic ports in its National Port Readiness Network, which supports deployment of United States military forces during defense emergencies. The Port of Beaumont handles military equipment shipped to and from Fort Hood and the Red River Army Depot and is recognized as the world’s busiest port of military embarkation.
CHALLENGES FOR TEXAS PORTS

Texas ports are critical engines for both the Texas and national economy and currently have significant needs as well as opportunities for improvement. Maintaining, improving and developing new port infrastructure, including channels, harbors, turning basins, terminals and landside access, are needed to help maintain the economic competitiveness of Texas ports.

Each Texas port is unique and has its own infrastructure challenges, but the one overarching challenge is a lack of sufficient funding for projects. While some ports have the ability to fund waterside infrastructure developments, many Texas ports, particularly the small ports, have difficulty in this area. Channel improvements also have significant positive economic impacts on port regions. However, the federal authorization process can prove burdensome for some ports. Additionally, there is limited federal funding and no dedicated state funding for these projects. The Port of Houston recently spent its own funds to deepen the Bayport and Barbours Cut Channels to allow for larger container ships.

The Harbor Maintenance Tax (HMT) is a federal user fee imposed on shippers, based on the value of goods shipped through U.S. ports. The revenue collected is placed in the Harbor Maintenance Trust Fund (HMTF) to provide funding for maintaining ship channels. Revenues from the tax are about $1.6 billion each year. Historically, much of the revenue collected is not appropriated for harbor maintenance, and Texas ports have received less than 25 percent of the revenue collected in the state. Included in the WRRDA of 2014 was a provision that requires that 100 percent of the revenue collected from the HMTF be used for its designated purpose by 2025. WRRDA also authorized fixed percentages of the HMTF to be allocated to emerging ports, energy intensive ports, and ports that have not received dredging funds over the past six years.

At present, Texas does not provide direct funding for port capital improvements. In 2001, the 77th Texas Legislature created the Port Access Account Fund (PAAF) to fund port studies, port security and transportation and facility projects. If appropriated, PAAF funds would be used for projects identified in the Port Capital Program and approved by the commission. However, funding has not been appropriated to the PAAF.

In addition to funding challenges for port capital improvements and channel improvements, many ports face challenges related to connectivity to other transportation systems. These challenges include new landside roadway and rail infrastructure projects that address port access, port congestion, and local traffic safety issues.

Initially established only for highways and public transportation projects, the Texas Mobility Fund (TMF) was modified by the 83rd Texas Legislature in 2013 to specifically include ports projects as eligible activities. Due to the constitutional limitations of the TMF, any port projects funded by the TMF are limited to publicly accessible projects.
RIDER 48, ARTICLE VII (TXDOT), GENERAL APPROPRIATIONS ACT, 84R, 2015

The 84th Legislature included Rider 48 in the General Appropriations Act, authorizing the use of up to $20 million from the TMF for the 2016-2017 biennium to provide funding for port capital improvement projects selected by the PAAC and approved by the commission. This rider marked the first time that funding for port projects had been included in a state budget, and the Texas port community embraced this new opportunity.

Rider 48 included a signing message from Governor Greg Abbott that recognized the value of ports to the Texas economy but cited concerns regarding the constitutionality of using TMF for port capital projects. As such, TxDOT worked to ensure that all projects selected for the funding were publicly accessible roadways that enhanced port connectivity.

The commission approved the inclusion of nine projects eligible for the Rider 48 funding in the February update to the Unified Transportation Program (UTP). TxDOT districts are now working with the ports to develop Advance Funding Agreements and to program the projects. The approved projects for the Rider 48 funding include:

- Port of Corpus Christi: Widening of the Joe Fulton International Trade Corridor near mile marker 5.
- Port of Galveston: Improvements and repairs to Old Port Industrial Road, 33rd Street, and the intersection of 28th Street and Harborside Drive to improve traffic flow.
- Port of Port Arthur: Widen Lakeshore Drive and make associated improvements to improve traffic flow into the port.
- Port of Victoria: Rehabilitate and widen McCoy Road, Canal Road, and Old Bloomington Road to accommodate heavy truck traffic.
- Port of Freeport: Construct railroad crossing on SH 36, just west of FM 1495 and SH 36 intersection.
- Port of Beaumont: Widen Old Highway 90 and upgrade intersections between I-10 and Port Access Road.
- Port of Palacios: Widen land bridge on SH 35 Business and improve drainage to eliminate flooding issues.
- Calhoun Port Authority: Improve roadway and drainage to south end of FM 1593.
- Port of Port Isabel: Construct a new port access road to divert trucks away from Highway 100/residential area and onto SH 48.

A project for the Port of Houston has been accepted by the PAAC and will be put forward to the commission for consideration in the May update of the UTP. The proposed project is an expansion of Peninsula Street to four lanes, an expansion of Jacintoport Boulevard to five lanes with associated curb, gutter and storm sewer improvements, and the installation of rail gate arms at six rail crossings.
WATERWAYS
In addition to the state’s ports, Texas waterways also play a critical role in Texas’ maritime system. The GIWW is the nation’s third busiest inland waterway, and the 379-mile Texas portion handles 67 percent of the entire GIWW’s traffic. In 2013, 55,999 barges were moved on the Texas portion of the GIWW, carrying 79 million tons of cargo. Petroleum, petroleum products, and chemicals accounted for approximately 91 percent, of that cargo. TxDOT assesses the GIWW biennially in a statutorily required report that will include updated figures and will be submitted to the legislature by December 1, 2016. The GIWW also links together all of the ports along the Texas coast, and provides access to more than 1,000 individual port and terminal facilities. Proper maintenance of the GIWW is critical to ensure that vessels can travel the waterway safely and efficiently.

The Sabine-Neches Waterway links together the Ports of Beaumont, Port Arthur and the Port of Orange. It is the nation’s third largest waterway by cargo volume and moves more than 100 million tons of cargo annually. The Sabine-Neches Waterway is the leading bulk liquid cargo waterway and is projected to be the largest exporter of LNG in the United States. It is currently authorized to be deepened from 40 feet to 48 feet, but funding is not currently available for the deepening project.

GULF INTRACOASTAL WATERWAY (GIWW)
TxDOT was designated as the non-federal sponsor of the GIWW in the 1975 Texas Coastal Waterway Act. In 1983, Texas and the federal government signed a Sponsorship Resolution detailing the non-federal sponsor’s duties, which have been defined in Chapter 51, Texas Transportation Code. TxDOT primarily assists the USACE in the acquisition of land, easements and rights-of-way for the disposal of dredged material. The GIWW stretches 1,100 miles along the Gulf of Mexico from Brownsville, Texas to St. Marks, Florida. The GIWW is federally authorized to be 125 feet wide and 12 feet deep.

Marine transportation along the GIWW provides a safer and more efficient alternative to roadways based upon ton-miles of cargo transported. One liquid cargo barge can transport the same amount of freight as 46 rail cars and 144 trucks. Accidents along the GIWW are infrequent and generally occur at intersections with ship channels where traffic increases and barges and their towboats must cross shipping lanes.

In 2014, TxDOT contracted with TTI to develop the Master Plan for the Gulf Intracoastal Waterway in Texas. The research examined what is needed to restore and sustain the GIWW at its optimum level, as well as TxDOT’s role in working with GIWW stakeholders to realize that goal. The master plan describes the needs, costs, shortfall in federal funding levels, potential funding sources to fill the funding gap, and metrics to enable TxDOT to measure the condition and utility of the GIWW.

The GIWW lacks sufficient federal funding for the necessary dredging. Periodic maintenance dredging, at least with currently available funding, has not been sufficient to maintain the authorized depth of the waterway. Shoaling, the accumulation of sand or sediment in the waterway,
occurs with increasing frequency in certain areas, generally due to weather, leading to inconsistent depths along the length of the GIWW. The size of individual barges and towboats, the volume of traffic, shortage of mooring areas and the cost of dredging have all steadily increased over the life of the GIWW, exacerbating the challenges faced by waterway operators.\textsuperscript{4}

Another impediment to efficient operations along the GIWW is the age and width of its floodgates and locks, which are the Brazos River Floodgates and the Colorado River Locks. These structures are more than 60 years old and are only 75 feet wide. To pass through them, towboat operators must park their tows, separate the barges, move them through the locks individually or in smaller sets, and then lash them back together on the other side. This substantially reduces operating efficiency and causes significant delays at the two structures.

**BRAZOS RIVER FLOODGATES FEASIBILITY STUDY**

The Brazos River Floodgates have been identified as the greatest infrastructure need in terms of safety and efficiency along the entire GIWW. Due to the narrow width of its gate structures and the 45 degree angle alignment of the channel and floodgates, tow operators experience navigational difficulties on the GIWW when crossing the Brazos River. The antiquated structure of the gates is not adequate for modern waterway operations and leads to an additional annual cost of $12 million to the industry in delays and accidents.

TxDOT is funding and managing a feasibility study to develop solutions to navigational restrictions at the Brazos River Floodgates. The study’s contract has been executed and the final report is expected to be completed by April 2019. Upon completion, the study will be submitted to the Assistant U.S. Secretary of the Army, Civil Works.

**EXPANSION OF THE PANAMA CANAL**

The Panama Canal is currently undergoing a major expansion project and is expected to open in June of 2016. The expansion will increase the maximum size of ships able to pass through it as well as the overall volume of freight transported via the canal. The canal expansion project itself involves constructing two new sets of locks, one each on the Pacific and the Atlantic sides of the canal. Each lock will have three chambers, each with three water-reutilization basins. The project also includes deepening Culebra Cut and widening and deepening existing navigation channels in Gatun Lake.

Expansion will allow container ships with nearly triple the current capacity, as well as a new generation of LNG and bulk carriers, to transit the canal. These larger vessels will enable shippers in Texas to more competitively export the state’s energy, chemical and agricultural products worldwide. The existing locks can handle ships up to 106 feet wide, 965 feet long, and 39.5 feet of draft. Once expanded, the Panama Canal will be able to accommodate vessels up to 180 feet wide, 1,400 feet long, and 60 feet of draft. For a container ship, capacity will increase from 4,400 containers to 13,000 TEUs.
One area of the greatest potential opportunities from the Panama Canal expansion is the export of LNG. At current dimensions, only 8 percent of the world’s LNG carriers can use the canal. After expansion, the canal will accommodate approximately 88 percent of existing LNG vessels. Texas currently has two LNG export facilities under construction at Freeport and Corpus Christi. Eight other facilities are awaiting federal approval. Once these facilities are open, Texas will be able to export LNG to Asia through the Panama Canal.

The maritime transportation system in Texas would need to be strengthened to take full advantage of the benefits offered by the Panama Canal expansion. At current depths, Texas ports cannot accommodate the largest vessels transiting the Panama Canal. Fortunately almost all of the state’s deep water ports are engaged in some form of channel deepening and/or widening projects. Texas ports will need to build new infrastructure to meet growing market demands and to improve operational efficiencies, as well as replace aging infrastructure, to remain competitive.

The findings of TxDOT’s Panama Canal Stakeholders Working Group indicated that a few Texas ports will likely experience noticeable increases in cargo volumes, but the increases will most likely not be dramatic. The ultimate effects of the canal’s expansion will not be known for several years. The most likely outcome is that trade patterns with Texas ports will coincide with population increases and economic growth. Texas may be able to capture a share of the markets served by West Coast ports. However, most large ships will likely continue to call on the West Coast.
As Texas’ largest container port, the Port of Houston is most likely to benefit from the Panama Canal expansion. The Port of Houston will be able to bring in larger ships but not the largest of ships transiting the new locks due to the port’s depth limitations. The port recently deepened its channels to the Bayport and Barbours Cut container terminals from 40 to 45 feet to allow containerships carrying 8,000 to 10,000 TEUs. Houston also invested in four super post-Panamax cranes to accommodate these ships. Overall growth of 5 to 6 percent at the Port of Houston is expected. The Port of Houston is the number one U.S. port for raw plastic resin export, accounting for 4.3 million metric tons of raw plastic resin, or 48.2 percent of the nation’s total in 2015. The Port of Houston also exported 2.3 million metric tons of polyethylene (PE) and 1.2 million metric tons of PVC, totalling 74.6 percent and 56.8 percent of the nation’s total, respectively.

Port Freeport has also taken actions to better accommodate larger ships. This includes the purchase of post-Panamax cranes and the Freeport Harbor Channel Improvement Project. Freeport Harbor Channel is currently in the engineering process with USACE to deepen the channel from 45 to 55 feet. If the project is completed, the Port of Freeport will become the deepest port on the U.S. Gulf Coast.

To deepen their harbors, turning basins and channels, port authorities and navigation districts that operate the state’s ports and waterways (other than the GIWW) must first obtain a permit from USACE. Currently, only the Ports of Freeport and Corpus Christi have been authorized to be deepened to greater than 50 feet. However, funding for the projects has not been appropriated.

The Panama Canal expansion represents an opportunity to expand Texas’ position as a global gateway for the nation. As the leading exporting state, Texas is well-positioned to take advantage of the expansion to increase exports to new and existing markets, particularly East Asia. Larger ships will be able to call at Texas ports, though at current channel depths, Texas ports will not be able to accommodate the largest of the New Panamax vessels, which have a draft depth of 49.9 feet. While a few Texas ports will likely experience noticeable growth in cargo volumes, increases are unlikely to be dramatic in the short term.

Trade patterns will most likely coincide with population increases and economic growth. The biggest driver in freight movement through Texas ports in the near future will be the natural gas industry. The export of resins and LNG are expected to be the state’s largest export opportunity. The Panama Canal expansion will likely facilitate this export growth.

CONCLUSION
Each of the state’s ports faces unique challenges based on its location, business model and local economy. However, the single biggest challenge common to all Texas ports is the need for additional funding for capital improvements as well as channel operations and maintenance. TxDOT will continue to work with our state’s ports to identify impediments to their growth and development and help them meet those challenges within the constraints of available funding. Given the
constitutional, statutory and funding restrictions and limitations, TxDOT currently focuses its efforts on improving ports’ access to the landside transportation network. By addressing issues such as highway or interstate access, “last mile” improvements or rail connectivity, TxDOT is working with stakeholders to allow freight to move freely in and out of the state’s ports. TxDOT will also continue to work with members of the PAAC, as well as the state’s port authorities and navigation districts and other maritime stakeholders to identify and prioritize strategic investments of statewide importance. If funds become available, TxDOT will work with the PAAC to address the needs for port infrastructure and other waterside capital improvements.

---

1 The PAAC developed criteria for eligible projects: any seaport in Texas could submit up to 4 projects with a total PAAF grant request not to exceed $20m per port. The port cost share requirement is 25 percent of total project cost. Projects or studies that are based on the transfer of business or cargo from one Texas port to another were not eligible.

TxDOT staff and consultants reviewed projects submitted in Phase 1 to make sure they met the above criteria and are eligible for the program. In Phase 2 the ports are required to submit more thorough applications that include detailed information on the project’s operational impacts, economic impacts, safety impacts, letters of support, detailed cost estimates and design documents.

The PAAC members will score each Phase 2 application (other than their own). Based on their scores the projects will be ranked and the PAAC will adopt the final rank order. Then the list will go to the Transportation Commission for adoption.


3 TEU “twenty foot equivalent unit.” A standard container size that can be loaded and sealed onto ships, railroad cars, trucks, and planes. The dimensions of a TEU are 20 ft (length) × 8 ft (width) × 9 ft (height). The maximum gross mass for dry cargo TEU is 52,910 lb: 47,770 lb (net load) + 5,140 lb (empty container weight).

4 Texas Department of Transportation, 2016-2017 Legislative Appropriations Requests.

"TxDOT is requesting $30 million per year of the biennium in general revenue funds for use in conjunction with federal and local partner funding for dredging and widening navigational channel projects identified in the Water Resources Reform and Development Act, the annual Energy and Water Appropriations Act or other legislation under US Army Corps of Engineers authorized projects."


This project was conducted in cooperation with TxDOT and FHWA. A number of TxDOT, Texas A&M Transportation Institute (TTI), and other personnel assisted with the project. Texas Transportation Commissioners Bill Meadows and Jeff Austin III were the executive sponsors for the Transportation Commission. Led by Harris County Judge Ed Emmett as chair and Cameron County Judge Carlos Cascos as vice chair, the PCSWG held six information-gathering meetings. Representatives from shippers, carriers, ports, metropolitan planning organizations (MPOs), regional mobility authorities (RMAs), public agencies, industry groups, university research institutes, and consultants provided information on local conditions, current and future use of the Panama Canal, other opportunities, and infrastructure needs. TxDOT representatives summarized current roadway projects and future projects at the meetings. A review of previous studies and current plans was also conducted to identify roadway, rail, and port projects that may be impacted by the Panama Canal expansion or increases in global trade.
TABLE OF CONTENTS

- Port of Orange
- Port of Beaumont
- Port of Port Arthur
- Port of Houston
- Port of Texas City
- Port of Galveston
- Port Freeport
- Port of Bay City
- Port of Palacios
- Calhoun Port Authority
- Port of Victoria
- Port of West Calhoun
- Port of Corpus Christi
- Port of Harlingen
- Port of Port Isabel
- Port of Brownsville
PORT AT-A-GLANCE
Port of Orange • Orange, TX

Legal Name: Orange County Navigation and Port District
Draft: Deep
Depth: 30 ft. channel
Width: 200 ft.
Foreign Trade Zone: #117

2014 Tonnage Handled¹

<table>
<thead>
<tr>
<th>0</th>
<th>200,000</th>
<th>400,000</th>
<th>600,000</th>
<th>800,000</th>
<th>1,000,000</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>817,773</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Annual Economic Impact: $ 41.3 million

On-Site Marine Services
- Shipyards that can accommodate new construction and repairs of tugs, barges and offshore petroleum drilling platforms
- Dry dock services for barges and tugs

Connectivity
Rail
- Orange Port Terminal Railway providing switching service to Union Pacific and agreement with BNSF

Roadway Connection
- SH 87
- IH 10

Quick Facts
The Port of Orange is located on the Sabine-Neches Waterway and is linked to the “Golden Triangle” ports which include the Port of Port Arthur, Beaumont and Orange.

The Port of Orange is operating as a successful landlord port, complementing activities at larger ports on the Sabine-Neches Waterway and larger ports in the region. It is also used for lay berthing.

¹ 2016. U.S. Army Corps of Engineers.
UPDATED 4/2016
Port of Orange
1201 Childers Road
Orange, TX 77630
(409) 883-4363
www.portoforange.com

Port Director
Gene Bouillion

Director of Administration and Finance
Lorrie Taylor

Quick Facts
The Port of Orange is located on the Sabine-Neches Waterway and is linked to the “Golden Triangle” ports which include the Port of Port Arthur, Beaumont and Orange.

The Port of Orange is operating as a successful landlord port, complementing activities at larger ports on the Sabine-Neches Waterway and larger ports in the region. It is also used for lay berthing.

Assets
- The mechanical, electrical repair, and fabrication port of ocean-going barges
- 2,300 feet of docking space at a depth of 30 feet
- Four berths
- Eight warehouses (Total of 345,000 square feet)
PORT AT-A-GLANCE

Port of Beaumont • Beaumont, TX

Legal Name: Port of Beaumont Navigation District of Jefferson County, TX
Draft: Deep
Depth: 40 ft. channel
Width: 400 ft.
US Port Ranking1: Total Tonnage: 4th | Foreign Trade: 6th | Domestic Trade: 11th
Foreign Trade Zone: #115

2014 Tonnage Handled1

<table>
<thead>
<tr>
<th>0</th>
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<th>60,000,000</th>
<th>80,000,000</th>
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<tr>
<td></td>
<td>87,283,716</td>
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</tr>
</tbody>
</table>

Foreign Tonnage: 52,937,636 | Domestic Tonnage: 34,346,080

Vessel Calls (annual) including barge/tug calls

Annual Economic Impact: $122.2 million

Direct Jobs 970 | Induced Jobs 730

Top Commodities
- Military equipment
- Forest Products
- Steel
- Crude Oil
- Project Cargo
- Aggregate
- Bulk Grain
- Potash

Connectivity

Rail
- Three Class 1 rail roads:
  - BNSF
  - Kansas City Southern
  - Union Pacific

Roadway Connection
- IH 10
- US 90

Waterways
- Connected with the U.S. inland waterway system

Quick Facts:
The Port of Beaumont is a large cargo port located approximately 84 miles east of Houston in Jefferson County. It is accessible from the Gulf Intracoastal Waterway through the Sabine-Neches Ship Channel, 42 miles upstream from the Gulf of Mexico.

The Port has includes layberths for ships of the Maritime Administration.

The Port recently completed a new state-of-the-art petroleum terminal that can handle 120-car unit trains. The facility is capable of handling all types of US and Canadian crude.

The Port is a military strategic port within the National Port Readiness Network and handles the largest volume of military cargo in the U.S.

1 2016. U.S. Army Corps of Engineers.
UPDATED 4/2016
Quick Facts:
The Port of Beaumont is a large cargo port located approximately 84 miles east of Houston in Jefferson County. It is accessible from the Gulf Intracoastal Waterway through the Sabine-Neches Ship Channel, 42 miles upstream from the Gulf of Mexico.

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The Port is a military strategic port within the National Port Readiness Network and handles the largest volume of military cargo in the U.S.

Assets
- Covered Storage: 620,000 sq. feet
- Open-Air Storage: 90 acres
- Roll-On/Roll-Off Ramp, immediately downstream from Harbor Island Marine Terminal
- 3.5 million bushel grain elevator with a loading capacity of 80,000 bushels per hour
- Rail-to-ship bulk transfer facility; ship loading rate: 10,000 metric tons/day
- East bank facilities feature a 650-foot heavy-duty cargo wharf and state-of-the-art terminal for crude oil transloaded from railcars to barge capable of discharging two 120-car unit trains of crude oil simultaneously
- Recently completed rail improvements expand the port’s capacity, efficiency, and security for switching and operations. Rail improvements within the port enhanced velocity of the interchange while improving air quality and reducing congestion
- Heavy Lift Capabilities include the most powerful Harbor Mobile Crane in the Gulf of Mexico (140-metric ton capacity with 168 full extension reach)
PORT AT-A-GLANCE
Port of Port Arthur • Port Arthur, TX

Legal Name: Port of Port Arthur Navigation District of Jefferson County
Draft: Deep
Depth: 40 ft. channel
Width: 450 ft.
US Port Ranking: Total Tonnage: 20th
Foreign Trade Zone: #116

2014 Tonnage Handled¹

![Graph showing tonnage handled in 2014]

Vessel Calls (annual) including barge/tug calls

Annual Economic Impact: $128 million

Top Commodities
- Forest Products (wood pellets)
- Iron
- Steel
- Dry Bulk
- Bagged Cargo
- Bailed Cargo
- Military Cargo
- Project Cargo

Direct Jobs 1,509 | Induced Jobs 1,132

Connectivity

Rail
- One Class 1 rail line (Kansas City Southern Railroad)
- Provides switching through agreement with Union Pacific

Roadway
- IH 10
- US 90A

Waterway
- Barge service to cities along the Gulf Intracoastal Waterway and the Mississippi, Missouri, Illinois, Ohio and Tennessee River Systems

¹ 2016. U.S. Army Corps of Engineers.
Quick Facts:
The Port of Port Arthur is situated directly on the Gulf Intracoastal Waterway (GIWW) and is located only 19 miles from the Gulf of Mexico.

The Port is a military strategic port within the National Port Readiness Network.

The Port has emerged as a major break-bulk port for forest products, project cargo, steel and military redeployments.

Assets
- Total Dock Length: 3,102 feet
- Total Shed Storage: 48,159 sq. meters
- Open Storage: 68,795 sq. meters of asphalt-paved surface
- Port Rail System: Served by three wharf rail tracks (150 car capacity), two shed tracks (80 car capacity), and six storage yard tracks (140 car capacity)
PORT AT-A-GLANCE
Port of Houston • Houston, TX

Draft: Deep
Depth: 45 ft. channel
Width: 530 ft.
US Port Ranking\(^1\): Total Tonnage: 2\(^{nd}\) | Foreign Trade: 1\(^{st}\) | Domestic Trade: 2\(^{nd}\)
Foreign Trade Zone: #84

Tonnage Handled\(^1\)

- Foreign Tonnage: 165,543,723 | Domestic Tonnage: 73,767,594
- Total Container Cargo\(^2\): 2,130,544 Twenty-foot Equivalent Units (T.E.U.s)

Vessel Calls (annual) including barge/tug calls

Annual Economic Impact\(^3\): $264.9 billion
Direct Jobs: 56,113 | Induced Jobs: 80,451

Top Commodities:
- Chemicals & Minerals
- Food & Drink
- Steel & Metals
- Machinery, Appliances & Electronics
- Hardware & Construction Materials
- Resins & Plastics
- Automotive
- Retail Consumer Goods
- Fabrics including Raw Cotton
- Apparel & Accessories
- Furniture

Connectivity

Rail
- Three Class 1 railroads (BNSF, Union Pacific, TexMex/KCS)
- Gulf Coast Rail District
- Port Terminal Railroad Association

Roadway Connection
- IH 10
- IH 45\(^*\)
- I 610
- BW 8
- SH 3\(^*\)
- SH 225
- SH 146
- US 90\(^*\)
- US 59\(^*\)
- I 69\(^*\)
- SH 288\(^*\)
- US 290\(^*\)
- SH 6\(^*\)
- SH 35\(^*\)
- SH 99\(^*\)

\(^1\) 2016. Port of Houston Authority.
\(^2\) 2015. Port of Houston Authority.
Assets

Houston Region
- 4th largest metropolitan area in the United States with a population of 6.1 million
- Home to the headquarters for 25 Fortune 500 companies
- The 19th strongest economy in the world

National and International Rankings
- 1st U.S. port for foreign waterborne tonnage
- 2nd U.S. port for total tonnage
- 1st U.S. port region for export tonnage
- 1st for petroleum, steel and project cargo in the nation
- 6th ranked U.S. container port by total T.E.U.
- 15th largest port in the world by tonnage

Strategic Location
- Home to a large local market with access to 39.8 million consumers within 500 miles
- Gateway to all U.S. and North America market
- Easy access to Mexico, Caribbean, and Latin America
- Largest petrochemical complex in the nation

Pro-Growth Policies
- Reasonable taxes and government regulation
- Excellent labor environment

Strong Infrastructure
- Houston Ship Channel has 45 foot depth
- Extensive railway access and efficient road and highway system
- World class airport system

1 2016. Port of Houston Authority.
2 2015. Port of Houston Authority.
PORT AT-A-GLANCE

Port of Texas City • Texas City, TX

Legal Name: Texas City Terminal Railway Company
Draft: Deep
Depth: 40-45 ft. channel
Width: 1,200 ft.
US Port Ranking¹: Total Tonnage: 15th

Tonnage Handled¹

<table>
<thead>
<tr>
<th>0</th>
<th>20,000,000</th>
<th>40,000,000</th>
<th>60,000,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>47,884,949</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Loaded Railcar Transits (annual)

29,000

Annual Economic Impact: $919.5 million

Direct Jobs 4,452 | Induced Jobs 4,293

Top Commodities

- Crude petroleum oil
- Refined petroleum products
- Petrochemicals

Connectivity

Rail
- Union Pacific Railroad
- BNSF Railway
- Switching operations terminal at two junctions within 6 miles of the main yard

Roadway Connection
- FM 1764
- SH 146
- IH 45

¹ 2016, U.S. Army Corps of Engineers.
UPDATED 4/2016
PORT AT-A-GLANCE
Port of Galveston • Galveston, TX

Legal Name: Board of Trustees of the Galveston Wharves
Draft: Deep
Depth: 45 ft. channel
Width: 1,200 ft.
US Port Ranking1: Total Tonnage: 52nd | 4th Busiest Cruise Port
Foreign Trade Zone: #36

2014 Tonnage Handled1

<table>
<thead>
<tr>
<th>Tonnage</th>
<th>0</th>
<th>2,000,000</th>
<th>4,000,000</th>
<th>6,000,000</th>
<th>8,000,000</th>
<th>10,000,000</th>
<th>12,000,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>10,669,437</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Foreign Tonnage: 5,144,698 | Domestic Tonnage: 5,524,739

Vessel Calls (annual) including barge/tug calls

2014 Annual Economic Impact: $3.06 billion

Direct Jobs 3,326 | Induced Jobs 3,794

Top Commodities
- Wind Power Equipment
- Agricultural Equipment
- Machinery
- Vehicles
- Fertilizer Products
- Lumber Products
- Bulk Grains
- Linerboard and Paper
- Carbon Black
- Light Fuels

Connectivity
Rail
- Offers two Class 1 rail lines
- Union Pacific
- BNSF
- Switch yards adjacent to the Port’s West End.
- Galveston County Rural Rail District

Roadway Connection
- IH 45

Assets
- Significant Roll-on/Roll-off (RoRo) operation and its matured profile of RoRo operations.
- Vigorous cruise line port operations
- Proximity to the Ports of Houston and Texas City

Quick Facts:
The Port of Galveston is located at the mouth of Galveston Bay along the Upper Texas Coast in Galveston County.

Associated by the public as port terminal for cruises, the Port has historically handled containerized cargo, dry and liquid bulk, break-bulk, roll-on/roll-off cargo, and refrigerated and project cargo.

Commodities arriving at the Port are often destined for Galveston County, Harris County, Fort Bend County, Brazoria County, the state of Texas, as well as Texas’ neighboring states and the United States Midwest region.

UPDATED 4/2016
PORT AT-A-GLANCE
Port Freeport • Freeport, TX

<table>
<thead>
<tr>
<th>Legal Name:</th>
<th>Port Freeport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draft:</td>
<td>Deep</td>
</tr>
<tr>
<td>Depth:</td>
<td>45 ft. channel with 70 ft. berth available</td>
</tr>
<tr>
<td>Width:</td>
<td>400 ft.</td>
</tr>
</tbody>
</table>
| US Port Ranking:
| Total Tonnage:    | 31st                                 |
| Foreign Trade:    | 26th                                 |
| Foreign Trade Zone: | #149                               |

2014 Tonnage Handled:

<table>
<thead>
<tr>
<th>Tonnage</th>
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</thead>
<tbody>
<tr>
<td>22,883,000</td>
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</tbody>
</table>

Total Container Cargo: 126,000 Twenty-foot Equivalent Units (T.E.U.s)

Vessel Calls (annual)
including barge/tug calls

<table>
<thead>
<tr>
<th>Calls</th>
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<tbody>
<tr>
<td>800</td>
</tr>
</tbody>
</table>

Truck Traffic (annual)
public/private

<table>
<thead>
<tr>
<th>Traffic</th>
</tr>
</thead>
<tbody>
<tr>
<td>135,000</td>
</tr>
</tbody>
</table>

Railcar Transits (annual)
public/private

<table>
<thead>
<tr>
<th>Transits</th>
</tr>
</thead>
<tbody>
<tr>
<td>50,000</td>
</tr>
</tbody>
</table>

Annual Economic Impact: $46.2 billion

Direct Jobs 16,400 | Induced Jobs 16,400

Top Commodities

<table>
<thead>
<tr>
<th>Imports</th>
<th>Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregate</td>
<td>Autos</td>
</tr>
<tr>
<td>Chemicals</td>
<td>Chemicals</td>
</tr>
<tr>
<td>Clothing</td>
<td>Clothing</td>
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<tr>
<td>Crude</td>
<td>Foods</td>
</tr>
<tr>
<td>Foods</td>
<td>Paper Goods</td>
</tr>
<tr>
<td>LNG</td>
<td>Resins</td>
</tr>
<tr>
<td>Paper Goods</td>
<td>Rice</td>
</tr>
<tr>
<td>Resins</td>
<td>LNG</td>
</tr>
</tbody>
</table>

Connectivity

<table>
<thead>
<tr>
<th>Rail</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Class 1 rail line (Union Pacific)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Roadway Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>SH 36</td>
</tr>
<tr>
<td>SH 288</td>
</tr>
<tr>
<td>Heavy Weight Corridor</td>
</tr>
</tbody>
</table>

Assets

- Port Freeport includes 186 acres of developed land and approximately 7,000 acres of undeveloped land, 18 operating berths (including private docks) and a 70-foot-deep berthing area
- Two Post-Panamax cranes

Quick Facts

Located just three miles from deep water, Port Freeport is highly accessible.

Port Freeport recently signed two global carriers, MSC and Hoegh Autoliners, to long term contracts.
PORT AT-A-GLANCE
Port of Bay City • Bay City, TX

Legal Name: Port of Bay City Authority of Matagorda County, Texas
Draft: Shallow
Depth: 12 ft. channel
Width: 200 ft.

Tonnage Handled

<table>
<thead>
<tr>
<th>Tonnage (in thousands)</th>
<th>2,014,623</th>
</tr>
</thead>
</table>

Assess
- Approximately 300 acres of land available for industrial development
- Terminal in a turning basin with a modern concrete dock
- Metal terminal shed located on the dock
- Liquid cargo dock with valves and pipeline connections
- The Port Turning Basin and Terminal Facility are located 15 miles upriver from the Colorado River Locks.
- Recreational harbor located in Matagorda along the GIWW with additional land adjacent to the harbor
  - Current plans to develop the additional land into a barge terminal
  - The Port has plans and required permit, but the project requires approximately $25 million for construction

Connectivity

Roadway Connection
- FM 3057
- FM 2668
- SH 60

Quick Facts
Matagorda Harbor is located on the Intracoastal Waterway at Texas mile 440, near superb bay and offshore fishing locations.

The Port provides slips for approximately 260 pleasure boats, with limited slips and bulkhead space available for transient boats and there is short term commercial dockage available for crew changes and loading of supplies for commercial barge traffic.

Matagorda Harbor is operated by the Port of Bay City Authority. Matagorda Harbor opened in 1990 as part of the Mouth of the Colorado River Project, a joint project by the U.S. Army Corps of Engineers and the Port of Bay City Authority.
PORT AT-A-GLANCE
Port of Palacios • Palacios, TX

Legal Name: Matagorda County Navigation District No. 1
Draft: Shallow
Depth: 12 ft. channel
Width: 400 ft.

Assets
- 4 Turning basins with 13,000 linear feet of dock
- 2 Recreational marinas with 55 slips
- Over 800 acres of developable land owned by the Port

Annual Economic Impact: $41.2 million

Direct Jobs 541 | Induced Jobs 43

Top Industries
- Shrimping
- Fishing
- Manufacturing and fabrication of tugboats and barges
- Commercial shipyards

Connectivity
- SH 35

Quick Facts
The Port of Palacios is located on the Upper Gulf Coast approximately 110 miles south of Houston in Matagorda County.

Traditionally, Palacios’ chief industry has been shrimping.

Fishing, tourism and shipbuilding, including barges, tugs and commercial and recreational boats of various sizes and configurations are increasing.

The Port also provides a safe harbor for commercial fishermen from the three counties around Matagorda Bay: Matagorda, Jackson and Calhoun.
## PORT AT-A-GLANCE

**Calhoun Port Authority • Point Comfort, TX**

<table>
<thead>
<tr>
<th>Legal Name:</th>
<th>Calhoun Port Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draft:</td>
<td>Deep</td>
</tr>
<tr>
<td>Depth:</td>
<td>36 ft. channel</td>
</tr>
<tr>
<td>Width:</td>
<td>200 ft.</td>
</tr>
<tr>
<td>US Port Ranking:¹</td>
<td>Total Tonnage: 48th</td>
</tr>
<tr>
<td>Foreign Trade Zone:</td>
<td>#155</td>
</tr>
</tbody>
</table>

### 2014 Total Tonnage¹

```
0  5,000,000 10,000,000 15,000,000
11,257,626
```

**Foreign Tonnage:** 7,943,624  |  **Domestic Tonnage:** 3,323,002

- **Vessel Calls (annual)** including barge/tug calls: 243 Ships, 790 Barges
- **Truck Traffic (annual)** public/private: 500
- **Railcar Transits (annual)** public/private: 1,000

### Top Commodities

- Chemicals
- Fertilizers
- Petroleum Products
- Bauxite

### Connectivity

#### Rail
- Point Comfort & Northern Railway
- Gulf Coast Rural Rail District

#### Roadway Connection
- US 59
- US 87
- SH 35
- SH 172

### Quick Facts:

The port plays a vital role in supporting Texas chemical manufacturing industries and in building a stable economic foundation for Calhoun County. It is served by the Matagorda Ship Channel and the Gulf Intracoastal Waterway.

A key part of this mix is the production of high-value chemicals by area industries for export to markets around the world.

### Annual Economic Impact:

$7 billion

### Direct Jobs

5,300

### Induced Jobs

4,590

1 2016. U.S. Army Corps of Engineers.

UPDATED 4/2016
Quick Facts:
The port plays a vital role in supporting Texas chemical manufacturing industries and in building a stable economic foundation for Calhoun County. It is served by the Matagorda Ship Channel and the Gulf Intracoastal Waterway.

A key part of this mix is the production of high-value chemicals by area industries for export to markets around the world.

Assets
- Three liquid cargo docks
- One dry bulk dock
- One general cargo dock
- 25,000 sq. ft. dockside warehouse and transit shed
- Open storage areas
- Barge dock with outloading conveyor
- Liquid cargo barge terminal with six slips
- Multi-purpose dock for project cargoes, heavy equipment, roll-on/roll-off, and dry bulk shipments
PORT AT-A-GLANCE
Port of Victoria • Victoria, TX

Legal Name: Victoria County Navigation District
Draft: Shallow
Depth: 12 ft. channel
Width: 125 ft.
U.S. Port Ranking1: Total Tonnage: 70th
Foreign Trade Zone: #155

Tonnage Handled2

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<tbody>
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<td></td>
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</tr>
<tr>
<td></td>
<td>6,986,985</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Vessel Calls (annual) including barge/tug calls: 5,711
Railcar Transits (annual) public/private: 351,161 tons frac sand

Annual Economic Impact: $6.6 billion
Direct Jobs | Induced Jobs 21,000

Top Commodities
- Crude Oil
- Condensate
- Chemicals
- Agricultural Products
- Frac Sand

Connectivity
Rail
- Service provided by Union Pacific and BNSF
Roadway Connection
- IH 69 (US 59)
- Heavy Weight Corridor

Assets
- New Industrial Park with multi-modal access
- New fleeting area that will provide a safe place for tow operators to tie off
- Center for chemical, construction, steel fabrication and agribusiness industries offering access to all transportation modes.
- New lighting system that allows for 24-hour cargo operations

Quick Facts:
The Port of Victoria is located approximately 80 miles northeast of Corpus Christi and recent expansions should significantly increase the tonnage operated by the port.

The Victoria Barge Canal is linked to the Gulf Intracoastal Waterway.

The Port is a major player in the Eagle Ford Shale formation. It handles several unit trains of frac sand and millions of barrels of oil per month.
PORT AT-A-GLANCE
Port of West Calhoun • Seadrift, TX

Legal Name: West Side Calhoun County Navigation District
Draft: Shallow
Depth: 12 ft. channel

Port Facilities
- Berths for commercial seafood productions and oil and gas exploration
- The waterway is used for barge shipments of industrial products including petroleum coke and chemicals

Connectivity
Highway
- SH 35
- SH 185

Quick Facts:
The West Side Calhoun County Navigation District was formed on July 8, 1946 and was approved for $125,000 bond issue for the building of the Victoria Barge Canal.

The District operates the Port of West Calhoun, which is linked to the Gulf Intracoastal Waterway via the Victoria Barge Canal.
## PORT AT-A-GLANCE

**Port Corpus Christi • Corpus Christi, TX**

<table>
<thead>
<tr>
<th><strong>Legal Name:</strong></th>
<th>Port of Corpus Christi Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Draft:</strong></td>
<td>Deep</td>
</tr>
<tr>
<td><strong>Depth:</strong></td>
<td>45 ft. channel</td>
</tr>
<tr>
<td><strong>Width:</strong></td>
<td>300 ft.</td>
</tr>
<tr>
<td><strong>US Port Ranking</strong></td>
<td>Total Tonnage: 6th</td>
</tr>
<tr>
<td><strong>Foreign Trade Zone:</strong></td>
<td>#122</td>
</tr>
</tbody>
</table>

### 2015 Tonnage Handled

![Graph showing 2015 Tonnage Handled](image)

- **Vessel Calls (annual) including barge/tug calls:** 7,600
- **Railcar Transits (annual) public/private:** 18,803

### Annual Economic Impact

- **$13.1 billion**

### Direct Jobs

- **13,746**

### Induced Jobs

- **15,607**

### Top Commodities

- Crude Oil
- Petrochemicals
- Petroleum Coke
- Grain

### Connectivity

#### Rail

- Direct access to three Class - 1 railroads:
  - BNSF
  - Kansas City Southern
  - Union Pacific

#### Roadway Connection

- IH 37
- SH 35
- US 181
- Heavy Weight Corridor

---

*Quick Facts:*
The Port Corpus Christi has been generating business and jobs in South Texas since its opening 1926.

The Port has direct access to the Gulf Intracoastal Waterway.

The Port is a military strategic port within the National Port Readiness Network.

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*2016. Port of Corpus Christi.*

*UPDATED 4/2016*
Assets
- Covered Storage: 620,000 sq. ft.
- 125+ acres of open storage and fabrication sites
- 12 public oil docks
- Heavy lift capabilities
- 295,000 sq. ft.+ of covered dockside storage
- Direct vessel-to-rail discharge capabilities
- La Quinta Trade Gateway Terminal:
  - Located on a 1,100 acre greenfield site
  - Provides state-of-the-art multi-purpose dock and container facility
  - 180 acres of container/cargo storage
- Foreign Trade Zone #122 received approval to reorganize under the Alternative Site Framework. New program now includes six counties within its service area: Aransas, Bee, Jim Wells, Kleberg, Nueces and San Patricio
- New Harbor Bridge will provide 205 ft. clearance for larger, modern ocean vessels

Quick Facts:
The Port Corpus Christi has been generating business and jobs in South Texas since its opening 1926.
The Port has direct access to the Gulf Intracoastal Waterway.
The Port is a military strategic port within the National Port Readiness Network.
Quick Facts:
The Port of Harlingen is a shallow draft barge port located in the geographic center of the lower Rio Grande Valley four miles east of the city of Harlingen, Texas. The Port is connected to the Gulf Intracoastal Waterway by means of the Harlingen Channel.

The Port exports 100 percent of the sugar produced in the Rio Grande Valley. The Port also imports critical Valley resources, such as 90 percent of fertilizer used by South Texas farmers and 70 percent of the refined petroleum products for the South Texas region.

Assets:
- 650' (195m) general dry/liquid cargo wharf and 100' (30m) dry bulk wharf
- Five smaller docks (50' X 25' or 7.5m X 15m) located near the turning basin and extend into the Harlingen Channel
- Over 150 acres of open storage

# PORT AT-A-GLANCE

**Port of Harlingen • Harlingen, TX**

<table>
<thead>
<tr>
<th><strong>Legal Name:</strong></th>
<th>Port of Harlingen Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Draft:</strong></td>
<td>Shallow</td>
</tr>
<tr>
<td><strong>Depth:</strong></td>
<td>12ft. channel</td>
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<tr>
<td><strong>Width:</strong></td>
<td>125ft.</td>
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</table>

**Tonnage Handled**

<table>
<thead>
<tr>
<th>Tonnage Handled</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
<tr>
<td>200,000</td>
</tr>
<tr>
<td>400,000</td>
</tr>
<tr>
<td>600,000</td>
</tr>
<tr>
<td>800,000</td>
</tr>
<tr>
<td>1,000,000</td>
</tr>
</tbody>
</table>

**Vessel Calls (annual) including barge/tug calls**

- 218

**Truck Traffic (annual) public/private**

- 939

**Railcar Transits (annual) public/private**

- 161

**Annual Economic Impact:** $19.3 million

**Direct Jobs** 40 | **Induced Jobs** 44

**Top Commodities**

- Liquid Fertilizer
- Sand
- Aggregates
- Gasoline
- Diesel
- Ethanol
- Raw Sugar
- Cotton
- Sorghum
- Corn

**Connectivity**

**Rail**

- Union Pacific Railroad

**Roadway Connection**

- IH 69
- US 77
- US 83

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1 Texas Port Report, Texas Department of Transportation, June, 2014, pg. 5

UPDATED 4/2016
PORT AT-A-GLANCE
Port of Port Isabel • Port Isabel, TX

Legal Name: Port of Isabel/San Benito Navigation District
Draft: Deep
Depth: 36 ft. channel
Width: 200 ft.

Tonnage Handled

0 20,000 40,000 60,000

Vessel Calls (annual) including barge/tug calls

Truck Traffic (annual) public/private

Annual Economic Impact: $85.6 million
Direct Jobs 605 | Induced Jobs 343

Top Commodities
- Pipe for offshore oil and gas
- Sand
- Aggregate

Connectivity
Roadway
- SH 100
- IH 69 (US 59)
Waterway
- Barge lines serve the port via Gulf Intracoastal Waterway
Air
- Service at the Brownsville/South Padre Island International Airport

Quick Facts:
The Port of Port Isabel is a deep water port that serves oil service vessels, various seafood processors, and boat construction and repair companies.

Waters interfacing with the Port include the Brownsville Ship Channel, Gulf Intracoastal Waterway (GIWW), Gulf of Mexico and Port Isabel Channel.

Port of Port Isabel
250 Industrial Drive
Port Isabel, TX 78578
(956) 943-7826
www.portofportisabel.com

Port Director
Steve Bearden
Assets

- 726 acres of waterfront land
- Storage: 45 acres open
- 5 docks (2 cargo, 1 roll-on/roll-off, 2 oil)
- 1,150 feet of deepwater docks
- 2,100 feet of deepwater frontage available

Quick Facts:
The Port of Port Isabel is a deep water port that serves oil service vessels, various seafood processors, and boat construction and repair companies.

Waters interfacing with the Port include the Brownsville Ship Channel, Gulf Intracoastal Waterway (GIWW), Gulf of Mexico and Port Isabel Channel.
PORT AT-A-GLANCE

Port of Brownsville • Brownsville, TX

Legal Name: Brownsville Navigation District
Draft: Deep
Depth: 42 ft. channel
Width: 250 ft.
US Port Ranking1: Total Tonnage: 67th
Foreign Trade Zone: #62

Tonnage Handled1

<table>
<thead>
<tr>
<th>Tonnage</th>
<th>0</th>
<th>2,000,000</th>
<th>4,000,000</th>
<th>6,000,000</th>
<th>8,000,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Tonnage: 4,334,153</td>
<td>Domestic Tonnage: 2,814,883</td>
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</tbody>
</table>

Vessel Calls (annual) including barge/tug calls: 1,140
Truck Traffic (annual) public/private: 36,557
Railcar Transits (annual) public/private: 36,082

Annual Economic Impact: $2 billion
Direct Jobs & Induced Jobs 11,230

Top Commodities
- Steel products
- Iron Ore
- Petro Products
- Lubricants
- Limestone
- Asphalt
- Aluminum
- Minerals

Connectivity
Rail
- 3 rail lines:
  - Union Pacific via terminal operator
  - BNSF via terminal operator
  - Kansas City Southern de Mexico into Mexico only
Roadway Connection
- IH 69
- Heavy Weight Corridor

Assets
- Approximately 40,000 acres of land available for development
- Storage: 635,000 sq. ft. of covered storage and 3+ million sq. ft. of open storage
- 20 docks (15 cargo, 5 liquid)

Quick Facts:
The Port of Brownsville is located at the southernmost tip of Texas at the end of a 17-mile channel that meets the Gulf of Mexico at the Brazos Santiago Pass.

The Port sustains a vital ship recycling industry that works on 80 percent of the ships recycled in the U.S.

1. 2016. Port of Brownsville.

UPDATED 4/2016