

ECONOMIC IMPACT OF THE TEXAS PORTS ON THE STATE OF TEXAS AND THE UNITED STATES, 2018



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SUMMARY

Martin Associates was retained by the Texas Ports Association to estimate the economic impacts generated by marine cargo at the marine terminals within the state of Texas, including marine terminals owned by the 13 public port authorities within the state; the private terminals owned by petroleum and petrochemical companies; the privately owned barge facilities; and the privately owned break bulk and dry bulk facilities located within the defined port districts. It is to be emphasized that the scope of the study is to quantify the economic benefits of the maritime cargo terminals located within the State on the national and the Texas economies, and does not include the measurement of the net impacts of the Texas port system.

The methodology used in this analysis has been developed by Martin Associates and has been used to estimate the economic impacts of seaport activity at public and private marine terminals of more than 600 United States and Canadian ports. Since 1986, Martin Associates has been providing economic impact studies to the majority of the public ports located within the state of Texas, including the Ports of Houston, Brownsville, Corpus Christi, Calhoun Port Authority, Victoria, Beaumont, Port Arthur, Port Orange, Harlingen, Galveston, Texas City, and Freeport. This state-wide study follows the same methodology that Martin Associates has used on all of our port impact studies for the ports in Texas as well as throughout the United States and Canada. The methodology has been used in studies that have been presented before the International Trade Commission, the Council of Economic Advisors, the Federal Reserve Board, the Canadian Justice Department and several U.S. Presidents. We have used this same methodology to estimate the system-wide (United States and Canada) impacts of cargo activity on the Great Lakes-St. Lawrence Seaway Transportation System, as well as for the state of Florida and for the West Coast port region as part of the impact analysis of the West Coast Port Shutdown in 2002, and as part of the 2014-2015 contract negotiations between the Pacific Maritime Association and the International Longshore and Warehouse Union.

The state-wide impacts are measured for the year 2018. The analysis is developed based on port-specific impact analysis and models developed for 13 port districts within the state. These are:

- Port of Beaumont
- Port of Brownsville
- Port of Corpus Christi
- Port Freeport
- Port of Galveston
- Port of Harlingen
- Port of Houston
- Calhoun Port Authority
- Port Mansfield
- Port of Orange
- Port of Port Arthur
- Port of Texas City
- Port of Victoria

Detailed interviews were conducted with the marine terminal operators, service providers, railroads, port tenants, etc. at each of these ports. All firms were contacted by telephone and interviewed to develop the direct impacts and data required to develop the individual port models.

Four types of impacts are measured:

- Jobs
- Employee earnings
- Business revenue
- State and local taxes

With respect to jobs, four types of job impacts are measured. These are direct, induced, indirect and related jobs. The job impacts are defined as follows:

- Direct jobs are those jobs with local firms providing support services to the seaport. These jobs are dependent upon this activity and would suffer immediate dislocation if the seaport activity were to cease. Seaport direct jobs include jobs with railroads and trucking companies moving cargo to and from public and private marine terminals, members of the International Longshoremen's Association (ILA) and non-ILA dockworkers, steamship agents, freight forwarders, ship chandlers, warehouse operators, bankers, lawyers, terminal operators, stevedores, etc.
- Induced jobs are jobs created locally and throughout the regional economy due to purchases of goods and services by those directly employed. These jobs are with grocery stores, the local construction industry, retail stores, health care providers, local transportation services, etc., and would also be discontinued if seaport activity were to cease.
- Indirect jobs are those jobs generated in the local economy as the result of local purchases by the firms directly dependent upon seaport activity. These jobs include jobs in local office supply firms, equipment and parts suppliers, maintenance and repair services, etc.
- Related user employment impact jobs are jobs with firms using the seaport to ship and receive cargo. While the facilities and services provided at the ports and marine terminals are a crucial part of the infrastructure allowing these jobs to exist, they would not necessarily be immediately displaced if marine activity were to cease. The related users include the shippers/consignees who do not have operations on Port property, and therefore could and do use other modes to ship and receive cargo and raw materials. Shippers/consignees that have on-dock facilities or marine terminals associated with the production site are counted as directly dependent.

The employee earnings consist of wages and salaries and include a re-spending effect (local purchases of goods and services by those directly employed), while business revenue consists of total business receipts by firms providing services in support of the marine activity. State and local taxes include taxes paid by individuals, as well as firms dependent upon the seaport activity.

To estimate the economic impacts on the national economy, Martin Associates developed national induced and indirect models, as well as national impact models for the related users sector. This sector consists of the importers and exporters throughout the United States using the public and private marine terminals located within the 13 Texas port districts for containerized cargo; farmers throughout the United States exporting grain via the terminals; importers of steel products located both in Texas as well as throughout the U.S.; and users and manufacturers of the petroleum products and petrochemical products moving via the marine terminals. In addition to the jobs with these exporters and importers that are using the Texas ports, the related user impacts also include the support industries that are involved in providing goods and services to produce a specific export item moving via the port, or that support manufacturers and retailers using imported cargo that moves through the ports. It is important to emphasize that these related impacts are not necessarily generated by the Texas ports, as the employment levels are based on the demand for the goods exported and imported via the port, but at the given point in time in 2018, these jobs with importers and exporters and the industries supporting these exporters and importers are related to the Texas ports, and underscore the far reaching geographical sphere of influence of the Texas ports in 2018. The importance to the United States of the petroleum and petrochemical terminals located within the 13 port districts underscores the vital national importance of the Texas ports in supplying the nation with petroleum and petrochemical products, as well as providing an export outlet for the nation's oil and gas industry.

Exhibit 1 shows the impacts of the cargo operations at the 13 Texas ports on the U.S. economy, while Exhibit 2 presents the economic impacts on the state of Texas. The biggest difference between the economic impacts on the United States vs. Texas is the related economic impacts, as these impacts are with the importers and exporters using the Texas ports marine cargo facilities, and underscore the national economic significance of petroleum and petrochemical terminals at the Texas ports, as well as the value of the terminals handling imported steel used throughout the U.S. The majority of the national related job impacts are associated with the petroleum and chemical terminals, followed by the imported steel through the Texas marine terminals. In addition, the induced and indirect impacts are larger for the nation than for the state, as these induced and indirect impacts and local purchases by individuals and firms reflect the total national impacts, rather than those just for the state. Also, federal, state and local taxes are estimated for the total United States impact of the Texas ports.

Exhibit 1
 Summary of the Economic Impacts of the Texas Ports, United States

IMPACTS	NATIONAL IMPACTS 2018
JOBS	
Direct	128,848
Induced	256,463
Indirect	131,854
Related Users	<u>4,882,360</u>
TOTAL JOBS	5,399,525
PERSONAL INCOME (\$ Millions)	
Direct	\$8,712
Re-Spending/Local Consumption	\$29,827
Indirect	\$5,903
Related User Income	<u>\$241,300</u>
TOTAL PERSONAL INCOME	\$285,741
ECONOMIC REVENUE/OUTPUT (\$ Millions)	
Direct Business Revenue	\$53,635
Related Users Output	<u>\$1,260,585</u>
TOTAL ECONOMIC REVENUE/OUTPUT	\$1,314,221
LOCAL PURCHASES (\$ Million)	\$11,318
FEDERAL, STATE AND LOCAL TAXES (\$ Millions)	
Direct	\$2,610
Re-Spending/Local Consumption	\$6,586
Indirect	\$1,303
Related User Taxes	<u>\$69,414</u>
TOTAL TAXES	\$79,914
TOTAL ECONOMIC VALUE (\$ MILLIONS)	
Direct Business Revenue	\$53,635
Re-Spending and Local Consumption	\$29,827
Related Users Output	<u>\$1,260,585</u>
TOTAL ECONOMIC VALUE	\$1,344,047

Totals may not add due to rounding

Exhibit 2
Summary of the Economic Impacts of the Texas Ports, State of Texas

IMPACTS	STATE OF TEXAS 2018
JOBS	
Direct	128,848
Induced	193,060
Indirect	112,112
Related Users	<u>1,355,392</u>
TOTAL JOBS	1,789,412
PERSONAL INCOME (\$ Millions)	
Direct	\$8,712
Re-Spending/Local Consumption	\$23,621
Indirect	\$5,117
Related User Income	<u>\$65,370</u>
TOTAL PERSONAL INCOME	\$102,821
ECONOMIC REVENUE/OUTPUT (\$ Millions)	
Direct Business Revenue	\$53,635
Related Users Output	<u>\$372,306</u>
TOTAL ECONOMIC REVENUE/OUTPUT	\$425,942
LOCAL PURCHASES (\$ Millions)	\$11,318
STATE AND LOCAL TAXES (\$ Millions)	
Direct	\$662
Re-Spending/Local Consumption	\$1,795
Indirect	\$389
Related User Taxes	<u>\$4,968</u>
TOTAL TAXES	\$7,814
TOTAL ECONOMIC VALUE (\$ MILLIONS)	
Direct Business Revenue	\$53,635
Re-Spending and Local Consumption	\$23,621
Related Users Output	<u>\$372,306</u>
TOTAL ECONOMIC VALUE	\$449,563

Totals may not add due to rounding

In 2018, cargo activity at the public and private marine terminals located at the 13 Texas ports supported 5,399,525 direct, induced, indirect and related jobs in the United States, of which 1,789,412 were supported in the state of Texas:

- 128,848 are **direct** jobs. These jobs are generated by activities at the ports, and if such activities should cease, the jobs would be discontinued over the short term. It is these jobs that are most directly dependent upon the 13 Texas ports. The direct jobs are with the International Longshoremen's Association, terminal operators, dependent shippers/consignees, stevedores, trucking firms, railroads, steamship agents, freight forwarders and customhouse brokers, warehousemen, federal and state government agencies, towing companies, pilot organizations, and marine construction companies, etc.
- 256,463 are **induced** jobs, or those jobs supporting the local and national purchases made by the 128,848 individuals holding the direct jobs due to port activity. Should the direct jobs be lost from the economy, the induced jobs supported by the purchases of the direct jobs would also be lost. Jobs with grocery stores, retail outlets, restaurants, transportation services, government services, schools and hospitals are examples of induced jobs. Of the 256,463 induced jobs, 193,060 were induced jobs held by Texas residents.
- The firms' dependent upon the marine cargo handled at the Texas ports made \$11.3 billion of purchases for office supplies, equipment, utilities, communications, maintenance and repair services, transportation services, professional services and goods and services. These purchases supported 131,854 **indirect** jobs in the national economy, of which 112,112 indirect jobs were supported in the state of Texas.
- In addition to the direct, induced and indirect job impacts, the port activity supports 4,882,360 jobs throughout the United States, of which 1,355,392 related jobs are in the state of Texas. These jobs are considered to be **related** to activities at the port, but the degree of dependence on the port is difficult to estimate and should not be considered as dependent on the port as are the direct, induced and indirect jobs. If the Texas ports were not available to these organizations, they would suffer an economic penalty over the longer term. Such a penalty would vary from a loss of employment opportunities in some cases to an increase in total transportation costs in other cases, which could, in turn, result in employment reductions and corporate relocations. The related jobs and impacts associated with the petroleum and petrochemical products moving via the marine terminals within the 13 Texas port districts are actually more closely dependent upon the petroleum and petrochemical marine terminals at the Texas ports (than other non-petroleum petrochemical cargoes) since these terminals are served by a national network of pipelines and domestic logistics supply chains, and the ability to use other ports where marine terminal infrastructure (for the petroleum and petrochemical facilities) does not exist would result in severe near and mid-term economic dislocations to the U.S. economy.

In 2018, marine cargo activity at the public and private marine terminals at the Texas ports supported a total of nearly \$1.3 trillion of total U.S. economic activity or nearly 6.5% of the U.S. GDP. Of this total economic value, \$449.6 billion of total economic activity was supported in the state of Texas, accounting for 25% of the State GDP.

Martin Associates conducted a similar study to measure the 2015 economic impacts of the Texas ports, both on the State as well as the nation. Between 2015 and 2018, total tonnage handled at the public and private marine terminals grew by 53.4 million tons, primarily driven by the growth in petroleum and petroleum products. Dry Bulk cargo grew by nearly 10 million tons over the period, liquid bulk cargo grew by 5.1 million tons and containerized cargo grew by 1.4 million tons. As a result of the growth in tonnage over the three year period, the total number of jobs in the United States supported by the marine cargo activity at the Texas ports increased by 331,750 jobs since 2015. Total economic value to the United States of the Texas marine cargo activity grew from \$1.2 trillion in 2015 to \$1.3 trillion in 2018.

- Of the nearly \$1.3 trillion of total U.S. economic activity, \$53.6 billion is the direct business revenue received by the firms directly dependent upon the port and providing maritime services and inland transportation services to the cargo handled at the marine terminals and the vessels calling the ports, as well as ship and rig repair and maintenance services. An additional \$1.3 trillion represents the value of the output to the United States that is created due to the cargo moving via the Texas ports public and private marine terminals. This includes the value added at each stage of producing an export cargo, as well as the value added at each stage of production for the firms using imported raw materials and intermediate products that flow via the marine terminals and are consumed within the state. In addition, \$29.8 billion of the re-spending of personal income and local consumption purchases are supported in the U.S. economy. These components are additive and represent independent monetary impacts supported by the cargo and vessel activity. Other dollar value impact measures are not included in the total economic value since they are interdependent. Direct income is not included since it is part of the direct business impact and similarly, local purchases by the firms are from the direct business revenue generated by port activity, and also used to pay indirect income. Finally, taxes are paid by the individuals from the direct, induced, indirect and related income and the direct business revenue and the related output.
- Marine cargo activity supported \$285.7 billion of total personal wage and salary income and local consumption expenditures in the United States. This includes \$44.4 billion of direct, indirect, induced and local consumption expenditures in the U.S., while the remaining \$241.3 billion was received by the related port users throughout the United States. The 128,848 direct job holders received \$8.7 billion of direct wage and salary income, for a direct annual salary of \$67,611.

A total of \$80.0 billion of federal, state, and local tax revenue in the U.S. was supported by maritime activity at the public and private terminals in the state of Texas. Of the \$80.0 billion of federal, state and local tax revenue supported in the U.S., about \$7.8 billion of state and local taxes was supported in the state of Texas.