

2022 Economic Impact of Marine Cargo Activity at the Houston Ship Channel:

Executive Summary

Conducted by Martin Associates
www.johncmartinassociates.com

April 7, 2023

Overview of the Houston Ship Channel

The Houston Ship Channel consists of public marine terminals owned by the Port of Houston Authority (PHA) as well as private marine terminals located along the Houston Ship Channel. The public marine terminals include the Houston Public Grain Elevator #2, the Fentress Bracewell Barbours Cut Container Terminal, the Bayport Container Terminal, the Bulk Materials Handling Plant, Jacintoport, the Care Terminal, the PHA Terminals in the Houston Turning Basin and the Woodhouse Terminal. Private terminals include the petroleum refineries, general cargo terminals, (e.g., Manchester Terminal, Greensport Terminal, etc.), the petrochemical plants and the dry bulk/fertilizer terminals.



Prepared by:
Martin Associates



PORT HOUSTON™

Economic Impact Analysis Methodology

Martin Associates was retained by the Port of Houston Authority of Harris County, Texas (PHA) to measure the local and regional economic impacts generated by cargo and vessel activity at the Port of Houston Authority's marine terminals as well as the impacts generated at the private marine terminals along the Houston Ship Channel.

The impacts are measured for the year 2022 and separate economic impact models have been developed to measure the impacts generated by the PHA facilities and the impacts generated by the total marine cargo and vessel activity at both the public and private marine terminals. These economic models can be used to estimate annual updates, as well as to test the sensitivity of the impacts to changes in such factors as marine cargo tonnage levels, labor productivity and work rules, new marine facilities development and expansion and the impacts of

harbor and channel deepening. The models can also be used to compare the economic impacts of marine activity.

For the most part, the same methodology has been used to estimate the 2022 economic impacts as was used to estimate the economic impacts of the Houston Ship Channel in 2018. Therefore, the results of this study can be directly compared to those of the earlier study, which measures the economic impacts of activity in 2018.

The study is based on interviews with nearly 1,000 firms providing services to the cargo and vessels handled at the PHA's marine terminals and the private terminals along the Houston Ship Channel. The data collected from the interviews was then used to develop operational models of the PHA public and private marine terminals.

2022 Economic Impact of the Houston Ship Channel - Summary of Results

1,540,417 jobs supported
by Port activity

- Direct Jobs: 78,308
- Induced Jobs: 138,161
- Indirect Jobs: 68,787
- Related Jobs: 1,255,160

\$439.2 billion of total
economic value - 18.6% of
State GDP

- \$29.6 billion of direct business revenue
- \$20.3 billion of re-spending of direct income and local consumption purchases
- \$389.3 billion of output supported with related port users

\$10.6 billion of state
and local taxes

- \$2.6 billion of direct, induced and indirect state and local taxes
- \$8.0 billion of state and local taxes with related exporters and importers supported by port activity

2022 Houston Ship Channel Economic Impact Results

The public and private marine terminals at the Houston Ship Channel supported 1,540,417 direct, induced, indirect and related jobs in the state of Texas in 2018. Of these 1,540,417 jobs, 78,308 **direct jobs** are generated by the marine cargo and vessel activity, of which 72 percent reside in Harris County. The cargo activity at the PHA facilities creates about 30,161 direct jobs. In addition, there are nearly 48,148 direct jobs created by the movement of cargo at the private terminals.

As the result of local and regional purchases by those 78,308 individuals holding the direct jobs, an additional **138,161 induced jobs** are supported in the regional economy. An additional **68,787 indirect jobs** were supported by \$7.2 billion of local purchases by businesses supplying services at the marine terminals and by businesses dependent upon the marine terminals.



Jobs related to the marine cargo imported and exported via the public and private marine terminals accounted for 1,255,160 jobs. These jobs with Texas importers and exporters are considered to be related to activities at the public and private marine terminals, but the degree of dependence on these terminals is less direct than the direct, induced and indirect impacts. These jobs include the portion of jobs at

importing and exporting firms that are directly associated with the cargo moved via the Houston Ship Channel marine terminals, but not generated by the actual port operations. It is the demand for the product that generates employment and other impacts with the shippers/consignees.

The **total economic value to the state of Texas** resulting from the marine cargo activity at the public and private marine terminals in 2022 is estimated at **\$439.2 billion**. This consists of the direct business revenue of \$29.6 billion, the re-spending and local consumption impact of \$20.3 billion and the related user output of \$389.3 billion. This dollar value represents the sphere of influence of the public and private marine terminals in 2022 and accounts for 18.6 percent of the \$2.4 trillion Gross Domestic Product (GDP) for the state of Texas.

Direct wages and salaries of \$6.5 billion were received by 78,308 directly employed, resulting in an average annual salary of \$83,613. This salary compares to an average statewide salary of \$54,230. As the result of re-spending this income, an additional \$20.3 billion of income and consumption expenditures were created. The 68,787 indirect job holders received \$2.8 billion of indirect wages and salaries. An additional \$92.5 billion was received by related port users. In total, **about \$122.1 billion of total personal wages and salaries** were supported by maritime activity at the public and private terminals located at the Houston Ship Channel. State and local taxes supported by activity at the marine terminals totaled nearly **\$10.6 billion**, which includes \$2.6 billion of direct, induced, and indirect state and local tax revenue as well as nearly \$8.0 billion of state and local taxes that were supported by the economic activity of related users of the cargo moving through the port.

2022 Houston Ship Channel Economic Impact Results – Houston Ship Channel Authority Terminals

Of the 1,540,417 jobs held by Texas residents that are related to marine cargo and vessel activity at the Houston Ship Channel, **979,495 jobs are supported by activity at the Houston Ship Channel Authority terminals.** Of these 979,495 total jobs, **30,161 direct jobs are generated by marine cargo activity at the PHA terminals.** As the result of local purchases by these 30,161 directly employed individuals, an additional 52,705 induced are generated in the local economy.

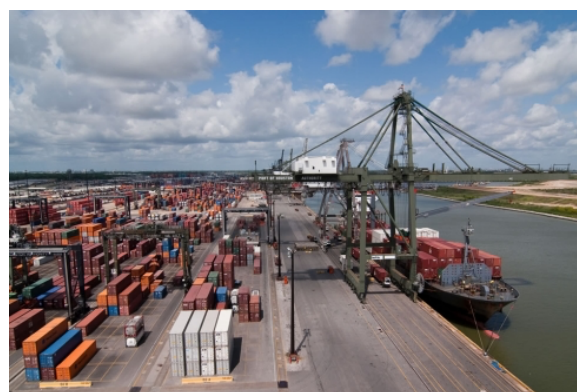


About \$2.8 billion of local purchases by firms providing services to the PHA marine terminals supported an additional **26,494 indirect jobs.** The balance, 870,135 jobs are classified as related jobs and are with importers and exporters and supporting firms using the Houston Ship Channel terminals in 2022.

In 2022, marine cargo activity at the PHA terminals supported a total of **\$262.0 billion of total economic value in the state of Texas.** Of the \$262.0 billion, \$9.0 billion is the direct business revenue received by the firms directly dependent upon the marine cargo activity at the PHA terminals. An additional **\$245.2 billion represents the value of the output to the state of Texas** that is supported by the cargo moving

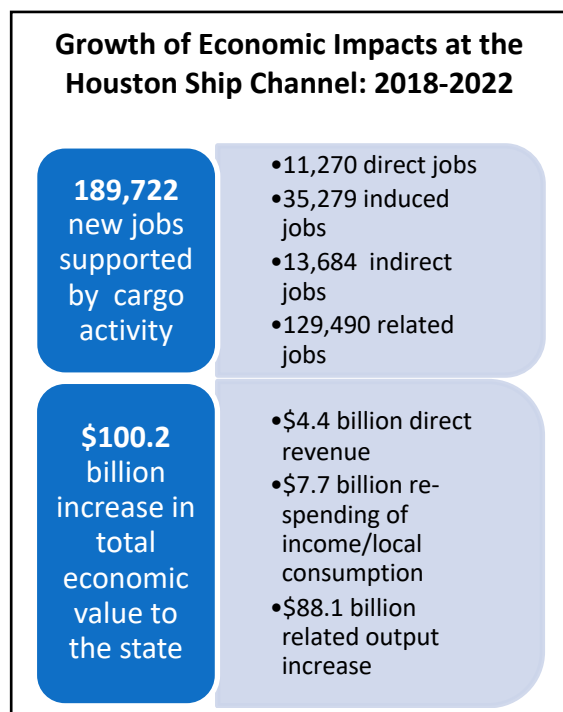
via the Houston Ship Channel marine terminals. This includes the value added at each stage of producing an export cargo, as well as the value added at each stage of production for the firms using imported raw materials and intermediate products that flow via the marine terminals and are consumed within the state. The remainder, \$7.7 billion, represents the personal re-spending and local personal consumption impact.

Marine cargo activity at the PHA owned, leased, or affiliated facilities **supported \$81.3 billion of total personal wage and salary income and local consumption expenditures for Texas residents.** This includes \$11.3 billion of direct, indirect and re-spending and local consumption expenditures, while the remaining \$70.0 billion was received by the related port users as personal income.



A total of \$984.0 million of direct, induced, and indirect state and local tax revenue was generated by maritime activity at the public terminals along the Houston Ship Channel. In addition, \$6.1 billion of state and local taxes was supported due to the economic activity of the **related users** of the cargo moving via the public marine terminals.

2018 vs. 2022 Impact Marine Cargo Comparison



Between 2018 and 2022 total cargo handled at the public and private terminals at the Houston Ship Channel increased by 17.3 million tons. The

gain in cargo over the period was with bulk cargo, primarily petroleum and liquid bulk cargoes, as well as containerized and break-bulk cargo. As the result of the overall growth in cargo, direct jobs increased by 11,270 new jobs since 2018. Induced jobs grew by 35,279 jobs, reflecting the growth in the direct jobs, as well as the increase in the average direct income from \$69,123 in 2018 to \$82,689 in 2022. This growth in average income resulted in an increase in the re-spending impact. When direct, induced, and indirect jobs are considered, the port activity at the public and private marine terminals increased by about 60,232 jobs primarily due to the growth in jobs associated with the growth in bulk and containerized cargo. Jobs with importers and exporters using the public and private marine terminals grew by 129,490 jobs, also reflecting the growth in containerized cargo. The total economic value in the state of Texas supported by the marine cargo activity at the Houston Ship Channel grew by nearly \$100.2 billion and state and local taxes supported by the marine cargo activity grew by \$5.0 billion since 2018.

Conclusion

The public and private marine terminals at the Houston Ship Channel continue to be an economic engine for the Houston area, Harris County, and the state of Texas. The importance of the port's public and private marine terminals to the state is underscored by the fact that the total value of the economic impact of the public and private marine terminals is measured at \$439.2 billion, 18.6 percent of the State's Gross Domestic Product. Furthermore, the marine cargo activity at the Houston Ship Channel public and private marine terminals supported 1,540,417 jobs in the state of Texas.