

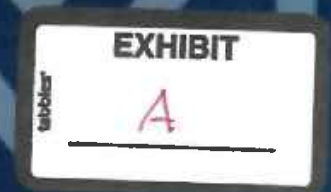


ALABAMA
PORT AUTHORITY
PORT OF MOBILE

Alabama Port Authority 2021 Economic Impact

Economic Impact Study Report

Conducted by:



October 2022

Table of Contents

I. INTRODUCTION AND SUMMARY	3
1. IMPACT DEFINITIONS	4
2. METHODOLOGY	6
3. ECONOMIC IMPACT MODEL	7
4. SUMMARY OF RESULTS	8
4.1. Total Mobile Area Economic Impacts	9
II. ECONOMIC IMPACTS OF MARINE CARGO ACTIVITY	12
1. IMPACT STRUCTURE	14
1.1. The Surface Transportation Sector	15
1.2. The Maritime Services Sector	15
1.3. Dependent Shippers/Consignees	17
1.4. Related Shipper/Consignees using the Marine Terminals in the Mobile Harbor	17
1.5. Alabama State Port Authority (ASPA)	18
2. COMMODITIES INCLUDED IN THE ANALYSIS	18
3. MARITIME CARGO EMPLOYMENT IMPACTS	19
3.1. Direct Marine Cargo Job Impacts	20
3.1.1. Job Impacts by Category	20
3.1.2. Direct Job Impacts by Commodity	22
3.1.3. Distribution of Direct Cargo Jobs by Place of Residence	23
3.2. Induced Jobs	23
3.3. Indirect Jobs	24
3.4. Related User (Shipper/Consignee) Jobs	24
4. TOTAL ECONOMIC OUTPUT, BUSINESS REVENUE, INCOME AND TAX IMPACTS	25
4.1. Revenue Impact – Total Economic Activity	26
4.1.1. Revenue Impacts by Economic Sector/Category	27
4.1.2. Revenue Impacts by Commodity	29
5. PERSONAL EARNINGS IMPACT	30
6. TAX IMPACTS	30
III. COMPARISON OF IMPACTS 2021-2019	31
1. Change in Tonnage by Commodity, Harborwide	31
2. Change in Economic Impacts Harborwide	32
3. Change in Direct Jobs by Commodity	33
4. Change in Direct Jobs by Category	34

I. Introduction & Summary

Alabama Port Authority 2021 Economic Impact Study Report

The Port of Mobile consists of public marine terminals owned by the Alabama State Port Authority, as well as privately owned marine terminals. The public marine terminals include the McDuffie Coal Terminal, ASPA General Cargo Docks, Pinto Terminal, Mobile Middle Bay Port, Marine Liquid Bulk Terminal, the APM Container Terminal, and the Bulk Material Handling Plant. These terminals handle coal, containerized cargo, steel slab and steel products, forest products including pulp, paper and lumber, dry bulk cargo and liquid bulk cargo. The private marine terminals include Alabama BulkTerminal, VertexEnergy, ZenithEnergy, WorldPointTerminals, RadcliffEnergy, CoreIndustries, Vulcan Materials, Holcim, Millard Marine, Bayou Concrete, Martin Marietta, Cooper Marine, and Mobile Marine Terminal. These private terminals handle liquid bulk cargoes, lumber products, coal, and dry bulk cargoes such as limestone and iron ore.

In 2021, the public and private marine terminals located in the Mobile Harbor and included in this impact study handled more than 41.7 million tons of international and domestic cargo for exporters and importers located within the state of Alabama, as well as throughout the United States. It is the purpose of this study to quantify the economic impacts generated by the cargo and vessel activity at the public and private terminals.

The study employs methodology and definitions that have been used by Martin Associates to measure the economic impacts of seaport activity at more than 500 ports in the United States and Canada, and at the leading airports in the United States. It is to be emphasized that only measurable impacts are included in this study. In order to ensure defensibility, the Martin Associates' approach to economic impact analysis is based on data developed through an extensive interview and telephone survey program of the firms participating in each of the lines of business operated by the ASPA. Specific re-spending models have been developed for the Mobile Area to reflect the unique economic and consumer profiles of the regional economy. The resulting impacts reflect the uniqueness of the individual Port operations, as well as the surrounding regional economy.

I. Introduction & Summary

Alabama Port Authority 2021 Economic Impact Study Report

1. IMPACT DEFINITIONS

Impacts measured in terms of:

- Employment - direct, induced, and indirect jobs
- Personal income - direct, re-spending and local consumption, and indirect income
- Business revenue
- State and local taxes
- Impacts are also measured for the users of the public and private marine terminals

EMPLOYMENT IMPACT

- Direct jobs are those that would not exist if activity at Port of Mobile cargo facilities were to cease. Direct jobs created by marine cargo activity at the Port of Mobile's terminals are those jobs with the firms directly providing cargo handling and vessel services, including trucking companies, terminal operators and stevedores, members of the International Longshoremen's Association (ILA), stevedores and customhouse brokers, vessel agents, pilots, and tug assist companies. In addition, direct jobs include jobs with local steel operations such as ArcelorMittal/Nippon Steel and SSAB, users of imported steel and plastics such as Hyundai Motor Manufacturing Alabama, as well as coal-related operations with Warrior Met Coal.
- Induced jobs are jobs created in the Mobile Area by the purchases of goods and services by those individuals directly employed by each of the Port's lines of business. These jobs are based on the local purchase patterns of Mobile area residents. The induced jobs are jobs with grocery stores, restaurants, health care providers, retail stores, local housing/construction industry, and transportation services, as well as with wholesalers providing the goods to the retailers.
- Indirect jobs are created throughout the Mobile Area as the result of purchases for goods and services by the firms directly impacted by the Port of Mobile activity. The indirect jobs are measured based on actual local purchase patterns of the directly dependent firms, and occur with such industries as utilities, office supplies, contract service providers, maintenance and repair, and construction.

I. Introduction & Summary

Alabama Port Authority 2021 Economic Impact Study Report

EMPLOYMENT IMPACT CONTINUED

- Related User (shipper/consignee) jobs -- jobs with shippers and consignees (exporters and importers) using the marine terminals for shipment and receipt of cargo. The Port of Mobile's shippers and consignees are concentrated with the state's auto manufacturing, retail distribution, and steel manufacturing, as well as paper/pulp manufacturing industries and chemical industries. In addition, containerized cargo moving via the Port's container terminal is consumed by the pulp and paper industry, as well as the regional auto manufacturers and in local and regional retail and wholesale outlets. Containerized cargo exports include exports of pulp and forest products, including paper and paper board, cotton, and fabric, as well as aerospace parts.

PERSONAL INCOME IMPACT

- Personal Income Impact consists of wages and salaries received by those directly employed by Port activity and includes a re-spending impact which measures the personal consumption activity in the Mobile Area of those directly employed as the result of the Port of Mobile. Indirect personal income measures the wages and salaries received by those indirectly employed.

BUSINESS REVENUE

- Business Revenue consists of total business receipts by firms providing services in support of the marine cargo activity at Port of Mobile facilities, private construction investment on Port property, and the ASPA administrative operations*. Local purchases for goods and services made by the directly impacted firms are also measured. These local purchases by the dependent firms create the indirect impacts.

STATE & LOCAL TAXES

- State and local taxes include taxes paid by individuals as well as firms dependent upon the Port of Mobile cargo and ship repair activity.

*Business revenue earned by the dependent shippers/consignees is not included in the impacts since this revenue is driven by the sales of the products produced by the industries using the port facilities and reported at the headquarters level. Only the local impacts of direct, induced, and indirect jobs, personal income, local purchases and state and local taxes are included in the impacts attributed to the Port of Mobile.

I. Introduction & Summary

Alabama Port Authority 2021 Economic Impact Study Report

2. METHODOLOGY

The impacts of the Port of Mobile were estimated based on interviews with identified firms in the Mobile Area as defined in the “Port of Mobile Directory” as well internal contacts from ASPA staff, and the use of the data base developed by Martin Associates as part of the 2016 detailed economic impact study for the Port of Mobile, as well as the 2019 update. The direct impacts are measured at the firm level of detail and aggregated to develop the impacts for each of the Port’s lines of business. The firms surveyed provided Martin Associates with employment levels (both full time and part time), annual payroll, local purchases, and the residence of where the employees reside.

The induced impacts are based on the current expenditure profile of residents in the Mobile Area, as estimated by the U.S. Bureau of Labor Statistics, “Consumer Expenditure Survey”. This survey indicates the distribution of consumer expenditures over key consumption categories for Mobile Area residents.

The consumption categories are:

- Housing
- Food at Restaurants
- Food at Home
- Entertainment
- Health Care
- Home Furnishings
- Transportation Equipment and Services

The estimated consumption expenditure generated as a result of the responding impact is distributed across these consumption categories. Associated with each consumption category is the relevant retail and wholesale industry. Jobs to sales ratios in each industry are then computed for the Mobile Area, and induced jobs are estimated for the relevant consumption categories. It is to be emphasized that induced jobs are only estimated at the retail and wholesale level, since these jobs are most likely generated in the Mobile Area. Further levels of induced jobs are not estimated since it is not possible to defensibly identify geographically where the subsequent rounds of purchasing occur.

I. Introduction & Summary

Alabama Port Authority 2021 Economic Impact Study Report

2. METHODOLOGY CONTINUED

The “Consumer Expenditure Survey” does not include information to estimate the job impact with supporting business services, legal, social services, state and local governments, and educational services. To estimate this induced impact, a ratio of state of Alabama employment in these key service industries to total state of Alabama employment is developed. This ratio is then used with the direct and induced consumption jobs to estimate induced jobs with business/financial services, legal, educational, governmental, and other social services. The indirect impacts are estimated based on the local purchases by the directly dependent firms, combined with indirect job, income, and revenue coefficients for the supplying industries in the state of Alabama as developed for Martin Associates by the U.S. Bureau of Economic Analysis, Regional Input/Output Modeling System.

3. ECONOMIC IMPACT MODEL

The impacts are measured for calendar year 2021, and a computer model has been developed to test the sensitivity of the impacts to changes in economic conditions and facility utilization. It is to be emphasized that this study is designed to provide a framework which the ASPA can use in formulating and guiding the future development of Port facilities.

This cargo impact model is designed to test the sensitivity of impacts to changes in such factors as marine tonnage levels, seaport productivity and work rules, new marine facilities development, inland distribution patterns of marine cargo, number of vessel calls and the introduction of new ocean carrier service.

The cargo impact model can also be used to assess the impact of developing a parcel of land as a marine terminal versus other non-cargo land uses. Finally, the marine cargo impact model can be used to assess the economic benefits of increased maritime activity due to infrastructure development and the opportunity cost of not undertaking specific maritime investments such as dredging, new terminal development or warehouse development.

I. Introduction & Summary

Alabama Port Authority 2021 Economic Impact Study Report

4. SUMMARY OF RESULTS

Exhibit I-1 | Economic Impact of the Port of Mobile Cargo Activity 2021

	PUBLIC TERMINALS	PRIVATE TERMINALS	TOTAL ASPA HARBORWIDE
JOBS			
DIRECT	16,458	4,562	21,020
INDUCED	14,688	4,197	18,885
INDIRECT	8,452	2,343	10,795
RELATED USER JOBS	<u>220,612</u>	<u>41,584</u>	<u>262,196</u>
TOTAL	260,210	52,686	312,896
PERSONAL INCOME (1,000)			
DIRECT	\$974,023	\$275,492	\$1,249,515
INDUCED/LOCAL CONSUMPTION	\$2,027,039	\$573,326	\$2,600,365
INDIRECT	\$548,517	\$152,051	\$700,568
USER INCOME (1,000)	<u>\$12,587,194</u>	<u>\$2,133,104</u>	<u>\$14,720,298</u>
TOTAL	\$16,136,773	\$3,133,973	\$19,270,745
REVENUE IMPACT (1,000)			
BUSINESS REVENUE	\$2,925,398	\$1,475,692	\$4,401,089
RELATED USER OUTPUT	<u>\$68,837,770</u>	<u>\$9,110,066</u>	<u>\$77,947,836</u>
TOTAL	\$71,763,167	\$10,585,758	\$82,348,925
LOCAL PURCHASES (1,000)	\$846,500	\$234,653	\$1,081,153
STATE AND LOCAL TAXES (1,000)			
DIRECT, INDUCED AND INDIRECT	\$369,158	\$110,114	\$479,272
RELATED USER STATE AND LOCAL TAXES	<u>\$1,309,075</u>	<u>\$241,329</u>	<u>\$1,550,404</u>
TOTAL	\$1,678,233	\$351,444	\$2,029,676

I. Introduction & Summary

Alabama Port Authority 2021 Economic Impact Study Report

4.1 Total Mobile Area Economic Impacts

In 2021, 312,896 jobs in the state of Alabama were in some way related to the cargo and vessel activity at the public (ASPA) and private marine terminals at the Port of Mobile. Of these jobs, the cargo activity moving via the ASPA marine terminals supported 262,196 total jobs. Of the 312,896 total jobs related to the Mobile Harbor cargo and vessel activity, 21,020 jobs are directly created, while another 18,885 induced jobs are supported by the local purchases made by these direct job holders. In addition, there are 10,795 indirect jobs supported in the Mobile Area as the result of nearly \$1.1 billion of local purchases. The cargo moving via the Port of Mobile supports 262,196 jobs with exporters and importers located throughout the state of Alabama. The majority of these jobs with exporters and importers are associated with the movement of containers, followed by the handling of steel slab and steel products, and pulp and other forest products through the Port of Mobile's public and private marine terminals.

In total, nearly \$19.3 billion of personal income and consumption expenditures were related to the cargo activity handled at the Port of Mobile public and private operations. The 21,020 direct jobs received \$1.2 billion of direct wage and salary income, for an average earning of \$59,444 per direct employee. As the result of local purchases with this \$1.2 billion of direct wages and salaries, an additional \$2.6 billion of income and local consumption expenditures were created in the Mobile Area. It is this re-spending impact that supported the 18,885 induced jobs.* The indirect jobs holders received \$700.6 million in wages and salaries. In addition, the 262,196 related user jobs received \$14.7 billion in personal income.

Local businesses received \$4.4 billion of sales revenue from providing services to the marine cargo and vessel activity, of which \$2.9 billion was generated by activity at ASPA facilities. This does not include the value of the cargo moving via the Port. The cargo activity at the Port supported an additional \$78 billion of total economic output in the state, the majority of which is created in the state's auto industry, lumber and forest products manufacturing industries, steel production operations, the retail and wholesale industry, and the in-state industries supporting these industries. It is to be emphasized that only the economic activity associated with the raw materials and finished products that move via the Port is included.

*The induced income impact also includes local consumption expenditures and should not be divided by induced jobs to estimate the average salary per induced job. This would overstate the average salary for induced jobs.

I. Introduction & Summary

Alabama Port Authority 2021 Economic Impact Study Report

4.1 Total Mobile Area Economic Impacts Continued

As a result of the activity at the Port of Mobile, a total of \$2 billion of state and local tax revenue was related to the cargo activity at the Port of Mobile.

The total economic value of the marine cargo and vessel activity at the Port of Mobile including the revenue and value added at each stage of moving an export to the Port or an import from the marine terminals is estimated at \$85 billion.

Of the \$85 billion-dollar economic value, businesses providing direct services to the marine terminals received \$4.4 billion of direct business revenue, \$2.6 billion of local re-spending and consumption expenditures were generated and the balance, \$78 billion, is the total economic value (less the direct business revenue) of moving the export cargo from production stage to export. This includes the revenue and value added at each stage of production, including support firms providing goods and services during the production of the export. The total economic value with users of import cargo includes the economic value of the imported cargo moving through the seaport to final consumption either by individuals or industry. This includes only the retail and wholesale margins of the cargo itself, and the value of the services added at each stage of use of an imported intermediate product or a final consumer commodity. It is to be emphasized that the \$78 billion of economic value would not disappear from the U.S. economy should the cargo move through another port, as it is the demand for the export and import cargo that drives the value of the cargo and generates the user economic value. If the cargo were to move to another port, the logistics cost of moving the imports and exports would increase, but the value would still be generated in other regions and/or other states due to the demand for the export and import products; however, the \$4.4 billion of direct business revenue and the \$2.6 billion of re-spending and local consumption expenditures would be lost from the local economy. The related economic value demonstrates at a given point of time, the magnitude of the influence of the Port of Mobile public and private marine terminals.

I. Introduction & Summary

Alabama Port Authority 2021 Economic Impact Study Report

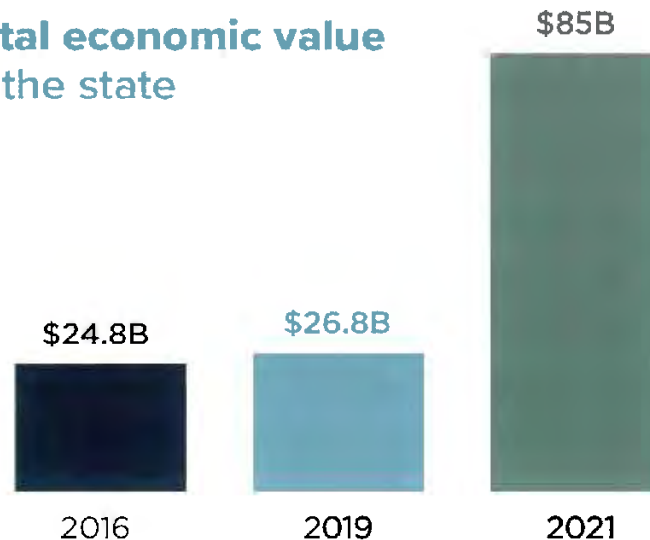
4.1 Total Mobile Area Economic Impacts Continued

The last economic impact study update conducted for the Port of Mobile was conducted by Martin Associates using 2019 cargo data. Since this update, total tonnage grew by about 5.9 million tons. The overall growth in tonnage over the past three years is driven by growth in liquid bulk, containers, and forest products, offsetting the decrease in coal. As a result of the growth in cargo, direct, induced, and indirect jobs grew over 2,100 jobs since 2019. Total economic value of the Mobile Harbor increased from \$26.8 billion to \$85 billion, driven primarily by the dramatic increase in containerized cargo used in the auto industry as well as in retail.

In order to continue to grow the economic contribution of the Port of Mobile, it is critical that the Port continue to invest in facility and infrastructure development and aggressively market the logistical cost advantage of the Port's marine terminals, navigation channels, and surface transportation access to serve the Southeastern and Midwest regions of the United States.

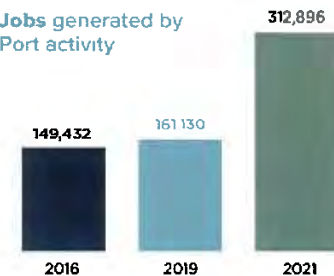
\$85B Total economic value to the state

Resulting from the marine cargo activity at the public and private marine terminals



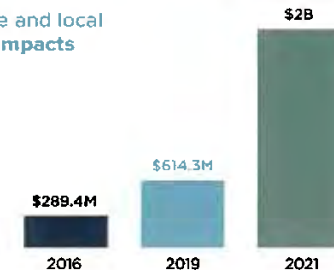
312K+ Jobs generated by Port activity

Direct, induced, indirect, and related jobs in the state of Alabama



\$2B State and local tax impacts

Direct, induced, and indirect tax revenue, plus taxes supported by economic activity of related users of cargo moving through the port

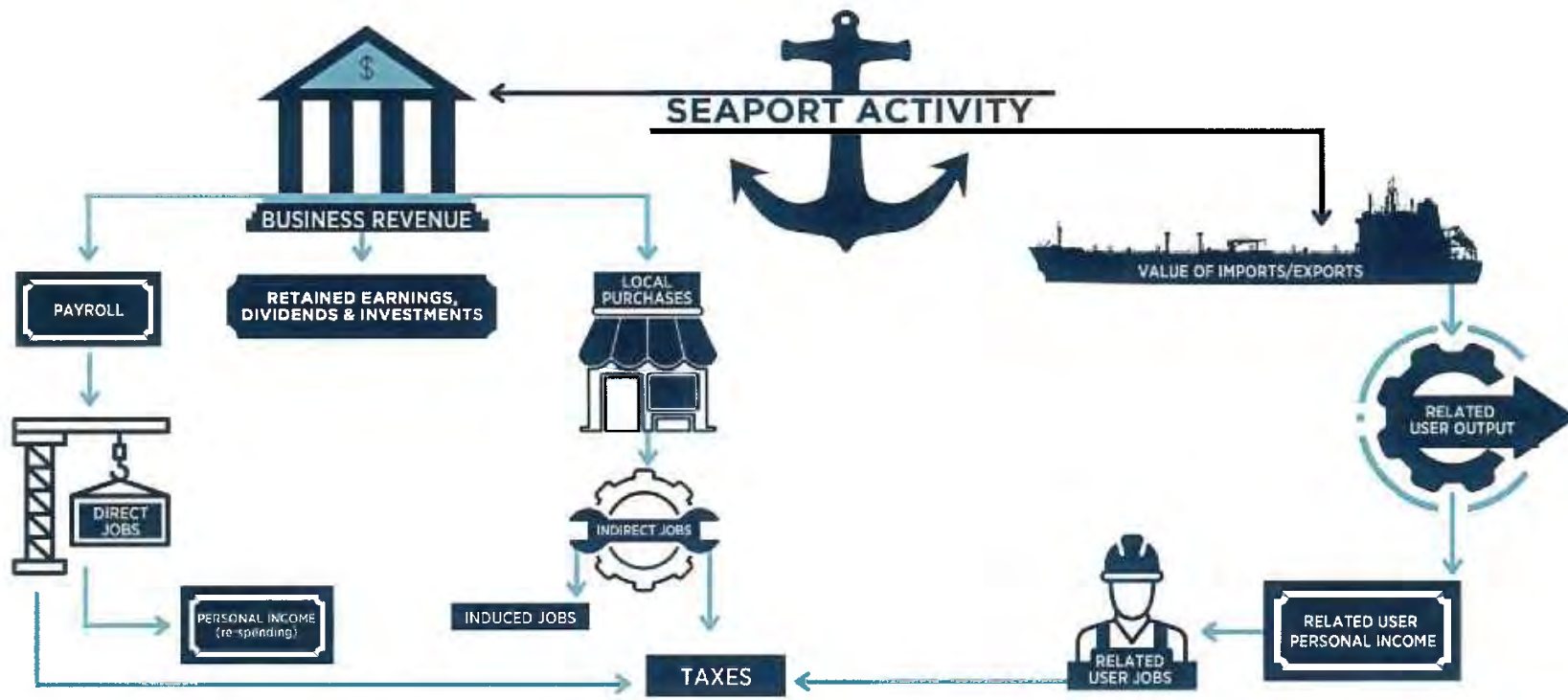


II. Economic Impacts of Marine Cargo Activity

Alabama Port Authority 2021 Economic Impact Study Report

Waterborne cargo activity at a seaport contributes to the local and regional economy by generating business revenue to local and national firms providing vessel and cargo handling services at the marine terminals. These firms, in turn, provide employment and income to individuals, and pay taxes to state and local governments. Exhibit II-1 shows how activity at marine terminals generates impacts throughout the local, state, and national economies. As this exhibit indicates, the impact of a seaport on a local, state, or national economy cannot be reduced to a single number, but instead, the seaport activity creates several impacts. These are the revenue impact, employment impact, personal income impact and tax impact. These impacts are non-additive. For example, the income impact is a part of the revenue impact and adding these impacts together would result in double counting. Exhibit II-1 shows graphically how activity at Port of Mobile's public and private marine terminals generate the four impacts.

Exhibit II-1 | Flow of Economic Impacts Generated by Marine Activity



II. Economic Impacts of Marine Cargo Activity

Alabama Port Authority 2021 Economic Impact Study Report

At the outset, activity at the port generates business revenue for firms which provide services. This business revenue impact is dispersed throughout the economy in several ways. It is used to hire people to provide the services, to purchase goods and services, and to make Federal, state, and local tax payments. The remainder is used to pay stockholders, retire debt, make investments, or is held as retained earnings. It is to be emphasized that the only portions of the revenue impact that can be definitely identified as remaining in the local economy are those portions paid out in salaries to local employees, for local purchases by individuals and businesses directly dependent on the seaport, in contributions to state and local taxes, in lease payments to the ASPA by tenants, and wharfage and dockage fees paid to the Port.

EMPLOYMENT IMPACT OF SEAPORT ACTIVITY - FOUR LEVELS

- **Direct employment impact:** jobs directly generated by seaport activity. Direct jobs generated by marine cargo include jobs with railroads and trucking companies moving cargo between inland origins and destinations and the marine terminals, longshoremen and dockworkers, steamship agents, freight forwarders, stevedores, etc. It is to be emphasized that these are classified as directly generated in the sense that these jobs would experience near-term dislocation if the activity at Port of Mobile marine terminals were to be discontinued.
- **Induced employment impact:** jobs created throughout the local economy because individuals directly employed due to seaport activity spend their wages locally on goods and services such as food, housing, and clothing. These jobs are held by residents located throughout the region since they are estimated based on local and regional purchases.
- **Indirect jobs:** are jobs created locally due to purchases of goods and services by firms, not individuals. These jobs are estimated directly from local purchase data supplied to Martin Associates by the companies interviewed as part of this study and include jobs with local office supply firms, maintenance, and repair firms, parts, and equipment suppliers, etc. It is to be emphasized that special care was taken to avoid double counting since the current study counts certain jobs as direct (i.e., trucking jobs, jobs with railroads, jobs with insurance companies and admiralty law firms, etc.), which are often classified as indirect by other approaches, notably the input/output model approach.
- **Related User (shipper/consignee) jobs --** jobs with shippers and consignees (exporters and importers) using the marine terminals for shipment and receipt of cargo. The Port of Mobile's shippers and consignees are concentrated with the state's auto manufacturing, steel production, forest product manufacturing and retail distribution. It is important to note that these shippers/consignees also use other ports and are not completely dependent upon the Port of Mobile. The level of employment with these firms is driven by the demand for the firms' products, not because the Port of Mobile is used. Therefore, these related jobs are not dependent upon port activity, and their degree of dependence on the Port of Mobile is much less than the other components of the job impact.*

II. Economic Impacts of Marine Cargo Activity

Alabama Port Authority 2021 Economic Impact Study Report

The personal earnings impact is the measure of employee wages and salaries (excluding benefits) received by individuals directly employed due to seaport activity. Re-spending of these earnings throughout the regional economy for purchases of goods and services is also estimated. This, in turn, generates additional jobs -- the induced employment impact. This re-spending throughout the region is estimated using a regional personal earnings multiplier, which reflects the percentage of purchases by individuals that are made within the Mobile region. The re-spending effect varies by region -- a larger re-spending effect occurs in regions that produce a relatively large proportion of the goods and services consumed by residents, while lower re-spending effects are associated with regions that import a relatively large share of consumer goods and services (since personal earnings "leak out" of the region for these out-of-regional purchases). The direct earnings are a measure of the local impact since they are received by those directly employed by seaport activity.

Tax impacts are payments to the state and local governments by firms and by individuals whose jobs are directly dependent upon and supported (induced jobs) by activity at the marine terminals.

1. IMPACT STRUCTURE

The four types of economic impacts are created throughout various business sectors of the state and local economies. Specifically, several distinct economic sectors are impacted as a result of activity at the marine terminals. These are the:

- Surface Transportation Sector
- Maritime Services Sector
- Dependent Shippers/Consignees
- Related User
- Alabama State Port Authority (ASPA)

Within each sector, various participants are involved. Separate impacts are estimated for each of the participants. A discussion of each of the economic impact sectors is provided below, including a description of the major participants in each sector.

II. Economic Impacts of Marine Cargo Activity

Alabama Port Authority 2021 Economic Impact Study Report

1.1 Surface Transportation Sector

The surface transportation sector consists of the railroad, inland waterway towing, and trucking industries. The trucking firms, railroads, and inland barge operators are responsible for moving the various cargoes between the marine terminals and the inland origins and destinations. Rail's direct service into the port includes five Class I carriers (BNSF, CN/IC, CSXT, NS, and KCS) and three short lines (Alabama & Gulf Coast Railroad, CG Railway, and Alabama/Mississippi Export Railroad). Highway access into the port is via Interstates 10 and 165 and U.S. Highways 43, 90, and 98. Also included in the Port's surface transportation structure is the interstate and intrastate pipeline transportation of petroleum products received at the Port. The primary inland waterway operators include Parker Towing, Cooper Marine and Timberlands, and American Commercial Barge Lines, servicing federal inland and Intracoastal channels in Alabama, Florida, Mississippi, and Tennessee.

1.2 Maritime Services Sector

This sector consists of numerous firms and participants performing functions related to the following maritime services:

- Cargo Marine Transportation
- Vessel Operations
- Cargo Handling
- Federal, State, and Local Government Agencies

A brief description of the major participants in each of these four categories is provided below:

Cargo Marine Transportation

- Participants in this category are involved in arranging for inland and water transportation for export or import freight. The freight forwarder/customhouse broker is the major participant in this category. The freight forwarder/customhouse broker arranges for the freight to be delivered between the terminals and inland destinations, as well as the ocean transportation. This function performed by freight forwarders and customhouse brokers is most prevalent for containerized and general cargo commodities.

II. Economic Impacts of Marine Cargo Activity

Alabama Port Authority 2021 Economic Impact Study Report

1.2 Maritime Services Sector Continued

Vessel Operations

- This category consists of several participants. The steamship agents provide a number of services for the vessel as soon as it enters the port; the agents arrange for pilot services and towing, for medical and dental care of the crew, and for ship supplies. The agents are also responsible for vessel documentation. In addition to the steamship agents arranging for vessel services, those providing the services include:
 - Chandlers - supply the vessels with ship supplies (food, clothing, nautical equipment, etc.)
 - Towing firms - provide the tug service to guide the vessel to and from port
 - Pilots - assist in navigating the vessels to and from the Port of Mobile's marine terminals located within the Mobile Harbor
 - Bunkering firms - provide fuel to the vessels
 - Marine surveyors - inspect the vessels and the cargo
 - Ship Repair/marine construction firms - provide repairs (either emergency or scheduled) as well as marine pier construction and dredging.

Cargo Handling

- This category involves the physical handling of the cargo at the terminals between the land and the vessel. Included in this category are the following participants:
 - Longshoremen/Dockworkers - includes members of the International Longshoremen's Association (ILA), as well as non-ILA dockworkers that are involved in the loading and unloading of cargo from the vessels, as well as handling the cargo prior to loading and after unloading;
 - Stevedoring firms - manage the longshoremen and cargo-handling activities. Stevedoring services at the Port of Mobile terminals are provided by private stevedoring companies;
 - Marine Terminal Operators - are often stevedoring firms who operate the maritime terminals where cargo is loaded and off-loaded
 - Warehouse Operators - store cargo after discharge or prior to loading and consolidate cargo units into shipment lots.

II. Economic Impacts of Marine Cargo Activity

Alabama Port Authority 2021 Economic Impact Study Report

1.2 Maritime Services Sector Continued

Government Agencies

- This service sector involves Federal, state, and local government agencies that perform services related to cargo handling and vessel operations at the Port. U.S. Customs and Border Protection, U.S. Department of Agriculture, U.S. Coast Guard, the Army Corps of Engineers, U.S. Department of Commerce, and Alabama Department of Environmental Management employees are involved. These services are provided by government offices located in the Mobile area.

1.3 Dependent Shippers/Consignees

Dependent shippers and consignees are those importers and exporters that have located near the marine terminals to utilize the marine terminals for the import of raw and intermediate products and the export of raw, intermediate or finished products. These products include steel slab, coal, and steel products, as well as liquid bulk cargoes. The dependent shippers/consignees differ from related users (described in the following section) since the location of the dependent shippers/consignees was driven by port location, and the Port facilities are integral in the production and logistics operations of the dependent shippers/consignees.

1.4. Related Shipper/Consignees using the Marine Terminals in the Mobile Harbor

Related job impacts consist of jobs with related shippers/consignees shipping and receiving cargo through the public and private marine terminals located in the Mobile Harbor. Most of these users are with the state's auto manufacturing, retail distribution, steel manufacturing and forest product manufacturing industries (including support industries). Only the user industry activity that can be linked to the movement of cargo (either raw materials or finished products) through the Port of Mobile is considered in this related user impact. In addition, the related user impacts include the impacts of the supporting industries required to produce the export cargo moving through the Port of Mobile as well as the supporting industries providing value added to the imported raw and semi-finished cargo imported by Alabama industries through the Port of Mobile's private and public marine terminals. It is important to emphasize that the related user impact only provides a snapshot of the influence of the Mobile Harbor at a given point of time, as these importers and exporters can and do use other ports for the import and export of cargo. The degree of dependency on the marine terminals separates the related users from the dependent shippers/consignees who are directly dependent on the use of the Port of Mobile's public and private marine terminals.

II. Economic Impacts of Marine Cargo Activity

Alabama Port Authority 2021 Economic Impact Study Report

1.5. Alabama State Port Authority (ASPA)

The Alabama State Port Authority includes those individuals employed whose purpose is to oversee port activity at the ASPA-owned marine terminals, including McDuffie Coal Terminal, ASPA General Cargo Docks, Mobile Middle Bay Port, Pinto Terminal, the APM Container Terminal, the Marine Liquid Bulk Terminal, and the automotive logistics terminal.

2. COMMODITIES INCLUDED IN THE ANALYSIS

A major use of an economic impact analysis is to provide a tool for port development planning. As a port grows, available land and other resources for port facilities become scarce, and decisions must be made as to how to develop the land and utilize the resources in the most efficient manner. Various types of facility configurations are associated with different commodities. For example, containers and automobiles require a large amount of paved, open storage space, while certain types of break bulk cargoes such as pulp, paper and lumber require covered storage. Perishable commodities require temperature-controlled warehouses, and some dry bulk cargo requires covered storage and special dust removing equipment, while tank farms are needed to store liquid bulk cargo.

An understanding of the commodity's relative economic value in terms of employment and income to the local community, the cost of providing the facilities, and the relative demand for the different commodities is essential in making future port development plans. Because of this need for understanding relative commodity impacts, economic impacts are estimated for the following commodities handled at the public and private marine terminals:

- Containers
- Reefer Breakbulk
- Steel (slab & steel products)
- Lumber/Plywood/Veneer
- Pulp
- Paper/Kraft Liner Board
- Aluminum
- Coal
- Grain
- Pig Iron
- Other Dry Bulk (limestone, aggregates, iron ore, copper)
- Liquid Bulk (chemicals and petroleum)
- Other Breakbulk / Not otherwise specified (NOS), including RoRo equipment and project cargo

II. Economic Impacts of Marine Cargo Activity

Alabama Port Authority 2021 Economic Impact Study Report

2. COMMODITIES INCLUDED IN THE ANALYSIS CONTINUED

It should be emphasized that commodity-specific impacts are not estimated for each of the economic sectors described in the last section. Specific impacts by commodity could not be allocated to individual commodities with any degree of accuracy for marine construction, ship repair, or the state and Federal government. In addition, taxes have not been displayed by specific commodity since these tax impacts will reflect the same distribution over commodities as the employment impact.

3. MARITIME CARGO EMPLOYMENT IMPACTS

The employment generated by maritime cargo activity at the public and private marine terminals within the Port of Mobile is estimated. The chapter is organized as follows:

- First, the total employment that is in some way related to the activities at the public and private marine terminals is estimated
- Second, the subset of total employment that is judged to be totally dependent (i.e., direct jobs) on port activity is analyzed as follows:
 - The direct job impact is estimated by detailed job category, i.e., trucking, ILA /dockworkers, freight forwarders/customhouse brokers, steamship agents, chandlers, surveyors, etc.
 - The direct job impact is estimated for each of the key commodities/commodity groups
 - The direct job impact is estimated based on the residency of those directly employed
- Induced and indirect jobs are estimated
- Finally, jobs related to the marine activity at the public and private marine terminals are described.

It is estimated that 312,896 jobs are influenced by port activities at the public and private marine terminals within the Port of Mobile. Of these jobs, 260,016 jobs are related by cargo activity at the ASPA facilities.

II. Economic Impacts of Marine Cargo Activity

Alabama Port Authority 2021 Economic Impact Study Report

3. MARITIME CARGO EMPLOYMENT IMPACTS CONTINUED

Of the 312,896 jobs:

- 21,020 jobs are directly generated by activities at the public and private marine terminals and if such activities should cease, these jobs would be discontinued over the short term.
- 18,885 jobs (induced jobs) are supported by the local purchases of the 21,020 individuals directly generated by port activity at the marine terminals. An additional 10,795 indirect jobs were supported by nearly \$1.1 billion of purchases in the local and regional economy by firms providing direct cargo handling and vessel services.
- 262,196 jobs are related to cargo exported and imported via the public and private marine terminals. These jobs are with related shippers/consignees using the public and private marine terminals located in the Mobile Harbor and are mostly concentrated with jobs in the state's steel production, auto manufacturing, forest products and retail industry sectors.

3.1. Direct Marine Cargo Job Impacts

In 2021, more than 41.7 million tons of waterborne cargo moved via the public and private marine terminals considered in the analysis. As a result of this activity, 21,020 full-time jobs were directly created.* The cargo activity at the ASPA facilities generated 16,458 direct jobs of these 21,020 total direct jobs. In this section the jobs are analyzed in terms of:

- Distribution by job category
- Distribution by commodity group
- Distribution by county and state of residency

These distributions are developed in more detail below.

1.3.1.1. Job Impacts by Category

Exhibit II-2 presents the distribution of the 21,020 direct jobs by type of job. The exhibit indicates that the majority of direct jobs are dependent shippers/consignees, followed by direct jobs with the area shipyards and marine construction firms. In addition, over 3,000 jobs are supported in the trucking industry moving cargo to and from the Port and over 1,200 jobs at the terminals. The direct employment impact by job category of the cargo moving via the ASPA terminals and the private terminals are presented separately in Exhibit II-2.



*Jobs are measured in terms of full-time worker equivalents. If a worker is employed only 50 percent of the time by activity at Port of Mobile's public and private marine terminals, then this worker is counted as .5 jobs.

II. Economic Impacts of Marine Cargo Activity

Alabama Port Authority 2021 Economic Impact Study Report

1.3.1.1. Job Impacts by Category Continued

Exhibit II-2 | Cargo Employment Impacts by Sector and Job Category

EMPLOYMENT IMPACT CATEGORY	PUBLIC TERMINALS	PRIVATE TERMINALS	TOTAL ASPA HARBORWIDE
SURFACE TRANSPORTATION			
RAIL	1,048	58	1,106
TRUCK	2,287	811	3,099
SUBTOTAL	3,335	870	4,205
MARITIME SERVICES			
TERMINALS	370	854	1,224
ILA*	727		727
TOWING	21	33	54
PILOTS	13	19	32
AGENTS	102	152	255
SURVEYORS/CHANDLERS/MARITIME SERVICES	332	339	672
FORWARDERS	401	81	482
WAREHOUSE&CONTAINER REPAIR	631	168	799
GOVERNMENT	93	65	158
SHIPYARD/MARITIME CONSTRUCTION	2,193	1,491	3,684
BARGE	234	64	298
SUBTOTAL	5,116	3,268	8,384
ALABAMA STATE PORT AUTHORITY	504		504
DEPENDENT SHIPPERS/CONSIGNEES	7,502	425	7,927
TOTAL	16,458	4,562	21,020

*includes line handling

II. Economic Impacts of Marine Cargo Activity

Alabama Port Authority 2021 Economic Impact Study Report

3.1.2. Direct Job Impacts by Commodity

Most of the 21,020 jobs considered to be generated by port activity can be associated with the handling of specific commodities or commodity groups. Certain employment categories such as government employees and employees with marine construction and ship repair cannot be identified with a specific commodity. As a result, employment in these three groups (which totaled 4,950) was not allocated to commodity groups. Exhibit II-3 presents the relative employment impacts in terms of commodity groups.

Exhibit II-3 | Distribution of Direct Cargo Job Impact by Commodity

COMMODITY	TOTAL ASPA HARBORWIDE JOBS
CONTAINERS	3,425
REEFER BREAKBULK	161
STEEL SLAB	2,755
LUMBER/PLYWOOD	821
PULP	881
ALUMINUM	6
STEEL PRODUCTS	3,617
COAL	2,092
PAPER	61
GRAIN	109
OTHER DRY BULK	440
PIG IRON	74
LIQUID BULK	1,183
OTHER BREAKBULK	445
NON-ALLOCATED JOBS	<u>4,950</u>
TOTALS	21,020

Findings:

The movement of steel products and steel slab combined creates the largest number of direct jobs, followed by containers and coal. The majority of the remaining direct jobs are supported by the movement of liquid bulk, pulp, lumber/plywood, dry bulk, and breakbulk.

II. Economic Impacts of Marine Cargo Activity

Alabama Port Authority 2021 Economic Impact Study Report

3.1.3. Distribution of Direct Cargo Jobs by Place of Residence

To underscore the geographic scope of the impacts generated by the public and private marine terminals, Exhibit II-4 presents the distribution of the 21,020 direct jobs by place of residency. As this exhibit indicates, 42% of the direct job holders reside in Mobile City, while another 39% of the direct job holders reside in Mobile County (excluding City of Mobile). This highlights the localized impacts of the cargo activity handled at the public and private marine terminals located at the Port of Mobile.

Exhibit II-4 | Distribution of Direct Cargo Jobs by Place of Residence (ASPA Terminals and Private Terminals)

	SHARE	DIRECT JOBS
MOBILE CITY	42%	8,775
MOBILE COUNTY	39%	8,291
BALDWIN COUNTY	13%	2,733
OTHER ALABAMA	3%	815
OTHER US	1%	406
TOTAL	100%	21,020

3.2. Induced Jobs

The 21,020 directly employed individuals due to activity at the public and private marine terminals received wages and salaries, a part of which was used to purchase local goods and services such as food, housing, clothing, transportation services, etc. As a result of these local purchases, 18,885 jobs in the regional economy were supported. Of the 18,885 induced jobs, 14,688 jobs are supported by the local purchases of the 16,458 directly generated jobs dependent upon the activity at the ASPA facilities. Most of the induced jobs are with local and regional private sector social services, business services, educational services, and state and local government agencies, followed by jobs in the food and restaurant sector and then jobs in the construction and home furnishings sector.

II. Economic Impacts of Marine Cargo Activity

Alabama Port Authority 2021 Economic Impact Study Report

3.3. Indirect Jobs

In addition to the induced jobs generated from the purchases by directly employed individuals, the firms providing the direct services and employing the 21,020 direct jobs make local purchases for goods and services. These local purchases made by the firms dependent upon the public and private marine facilities generate additional local jobs -- indirect jobs. Based on interview estimates, these firms made nearly \$1.1 billion of local and in-state purchases in 2021. These direct local purchases created an additional 10,795 indirect jobs in the local economy, of which the cargo activity at the ASPA terminals created \$846.5 million of local purchases and 8,452 indirect jobs.

3.4. Related User (Shipper/Consignee) Jobs

It is estimated that about 262,196 jobs are supported in Alabama with shippers/consignees that use the Port of Mobile's public and private marine terminals. The cargo activity at the ASPA terminals created most of these statewide impacts with users, accounting for 220,612 user jobs.

It is important to emphasize that the related user jobs are supported by the cargo moving only via the Port of Mobile in 2021, and do not include jobs supported by cargo moving via other ports that are consumed or produced by in-state shippers/consignees and manufacturers. For example, for imported steel slab, iron and steel products, pulp and containerized cargo, relationships were developed to convert the dollar value of these imported materials into a dollar value of output in the key consuming industries. Relationships between the values of inputs to the value of outputs in these industries were estimated using data from the U.S. Bureau of Census, Annual Survey of Manufactures. These ratios were then used to convert the dollar value of the imported cargoes into a dollar value of output in the consuming industries in the state. Using the respective jobs to value of output multipliers for these industries from the RIMSII model, the value of the cargoes (i.e., steel slab, pulp, and containerized cargo) moving via the Port and remaining in (or produced in) the state of Alabama was converted into related shipper/consignee jobs with these users and associated supporting industries within the state. A similar method was used to estimate the user impacts associated with exported cargo, such as containerized cargo, steel products (i.e., coils), and coal. These related user jobs associated with exports also include the support industry activity to deliver the specific tonnage of an export product to the Port of Mobile.

II. Economic Impacts of Marine Cargo Activity

Alabama Port Authority 2021 Economic Impact Study Report

3.4. Related User (Shipper/Consignee) Jobs Continued

Finally, the direct, induced and indirect port sector job impacts associated with each of the cargoes for which related shipper/consignee jobs were estimated, were subtracted from the total related jobs (by commodity and cargo type) to avoid double counting, as the related shipper/consignee jobs include job impacts at each stage of handling the imported and exported cargo, such as the port activity and the trucking and rail activity to move the cargo to and from the Port and the induced and indirect jobs associated with the direct port activity. Exhibit II-5 shows the related shipper/consignee jobs associated with each key commodity/industry group using the Port of Mobile's public and private marine terminals.

Exhibit II-5 | Distribution of Related Shipper/Consignee Job Impacts By Commodity (ASPA and Private Terminals)

COMMODITY	USER JOBS
STEEL PRODUCTS/SLAB	43,972
CONTAINERIZED CARGO	165,643
FOREST PRODUCTS	50,052
REFRIGERATED PRODUCTS	1,663
GRAIN	791
ALUMINUM	74
TOTAL	262,196

4. TOTAL ECONOMIC OUTPUT, BUSINESS REVENUE, INCOME AND TAX IMPACTS

More than 41.7 million tons of cargo handled at the private and public marine terminals included in the study generated revenue for firms in each of the economic sectors. For example, revenue is received by the railroads, the trucking companies, and pipelines within the surface transportation sector as a result of moving export cargo to the marine terminals and distributing the imported commodities inland after receipt at the marine terminals. The firms in the maritime services sector receive revenue from arranging for transportation services, cargo handling, providing services to vessels in port and repairs to vessels calling the port facilities.

II. Economic Impacts of Marine Cargo Activity

Alabama Port Authority 2021 Economic Impact Study Report

4. TOTAL ECONOMIC OUTPUT, BUSINESS REVENUE, INCOME AND TAX IMPACTS CONTINUED

The ASPA receives revenue from terminal leases and port charges such as wharfage and dockage assessed on cargo and vessels. In addition, revenue is received by shippers/consignees from the sales of cargo shipped or received via the marine cargo terminals and from the sales of products made with raw materials received through the terminals. Since this chapter is concerned with the revenue generated from providing maritime services, the related user revenue (i.e., the value of the cargo shipped or received through the marine terminals, as well as the value of the products produced by the port-dependent related users) will be excluded from the remaining discussion.

The revenue generated by port activity consists of many components. For example, gross revenue is used to pay employee salaries and taxes, it is distributed to stockholders of the companies providing the vessel and cargo handling services, and it is used for the purchases of equipment and maintenance services. Of these components, only three can be isolated geographically with any degree of accuracy. These are the personal income component of revenue, which can be traced to geographic locations based on the residence of those receiving the income, the payment of state and local taxes, and the local purchases made by firms dependent upon the maritime activity. The balance of the revenue is distributed in the form of payments to firms located outside the Mobile region providing goods and services to the five sectors and for the distribution of company profits to shareholders. Many of these firms and owners are located outside of the state of Alabama and thus, it is difficult to trace the ultimate location of the distributed revenue (other than personal income, taxes, and local purchases). The value of output created by in-state related shippers/consignees of the Port is attributed to the state of Alabama, and the local purchases from other firms within the state are also included in this user output measure, as defined by the in-state output coefficients (for the user industries) developed from the U.S. Bureau of Economic Analysis, Regional Input-Output Modeling System (RIMS II).

4.1. Revenue Impact – Total Economic Activity

The revenue impact is a measure of the total economic activity in the state that is generated by the cargo moving via the Port of Mobile. In 2021, marine cargo activity generated a total of \$85 billion of total economic activity in the Mobile regional economy and the state of Alabama. Of the \$85 billion, \$4.4 billion is the direct business revenue received by the firms directly dependent upon the cargo moving via the marine terminals. These firms provide the maritime services and inland transportation services to the cargo handled at the marine terminals and the vessels calling the terminals. As the result of the re-spending of the personal income and the local consumption expenditures and other \$2.6 billion of income and local consumption expenditures are generated.

II. Economic Impacts of Marine Cargo Activity

Alabama Port Authority 2021 Economic Impact Study Report

4.1. Revenue Impact – Total Economic Activity Continued

The remaining \$78 billion represents the value of the output to the state of Alabama that is created due to the cargo moving via the seaport 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 Port of Mobile marine terminals and are consumed and produced by industries within the state.

Exhibit II-6 presents the value of output (\$78 billion) related to port shippers/consignees that were supported by each cargo moving via the Port in 2021. The ASPA terminals accounted for about \$69 billion of this total output impact.*

Exhibit II-6 | Distribution of Economic Output Created by Port Cargo Activity, by Key Port Commodity (ASPA and Private Terminals)

COMMODITY	VALUE OF OUTPUT
STEEL PRODUCTS/SLAB	\$14,818
CONTAINERIZED CARGO	\$50,906
FOREST PRODUCTS	\$10,970
COAL	\$306
REFRIGERATED PRODUCTS	\$405
GRAIN	\$520
ALUMINUM	\$23
TOTAL	\$77,948

The balance of the discussion focuses on the \$4.4 billion of direct business revenue generated from the provision of services to the cargo and vessels handled at the Port of Mobile.

4.1.1. Revenue Impacts by Economic Sector/Category

Exhibit II-7 presents the total revenue estimated to have been generated by port activity in 2021. Of the \$4.4 billion of revenue, \$2.9 billion was created by cargo moving over the ASPA marine terminals. This revenue includes the revenue received by firms providing services to the commodity and vessel activity at the public and private terminals and includes revenue received by trucking firms, stevedores, ASPA, chandlers, agents, pilots, towing companies, etc. Not included is the revenue from the use/value of the cargo moving via the marine terminals, as this is included in the related shipper/consignee output.



*Related revenue for coal is included, but employment is included in direct shipper/consignee impact. The inclusion of revenue as a related revenue is due to the fact that the revenue of the dependent shippers/consignees is not included in the direct revenue impact. The related jobs with coal are dependent on the use of the Port of Mobile terminals for export.

II. Economic Impacts of Marine Cargo Activity

Alabama Port Authority 2021 Economic Impact Study Report

4.1.1. Revenue Impacts by Economic Sector/Category Continued

Business revenue earned by the dependent shippers/consignees is not included in the impacts since this revenue is driven by the sales of the products produced by the industries using the port facilities and reported at the headquarters level. Only the local impacts of direct, induced, and indirect jobs, personal income, local purchases and state and local taxes are included in the impacts attributed to the Port of Mobile.

In terms of revenue generated by type of activity, the greatest revenue impact is with the local shipyards and marine construction industry, followed by revenue generated by rail operations, and then terminal operations.

Exhibit II-7 | Direct Revenue Generated by Port Cargo Activity by Impact Category (\$1,000)

REVENUE IMPACT CATEGORY	PUBLIC TERMINALS	PRIVATE TERMINALS	TOTAL ASPA HARBORWIDE
SURFACE TRANSPORTATION			
RAIL	\$370,754	\$56,947	\$427,701
TRUCK	<u>\$377,259</u>	<u>\$173,161</u>	<u>\$550,420</u>
SUBTOTAL	\$748,013	\$230,108	\$978,121
MARITIME SERVICES			
TERMINAL OPERATIONS	\$272,272	\$2,719	\$274,992
TOWING	\$139,634	\$154,250	\$293,884
PILOTS	\$7,550	\$11,674	\$19,225
AGENTS	\$3,215	\$4,964	\$8,179
SURVEYORS/CHANDLERS/MARITIME SERVICES	\$86,280	\$87,302	\$173,581
FORWARDERS	\$68,050	\$13,665	\$81,715
WAREHOUSE&CONTAINER REPAIR	\$62,105	\$16,578	\$78,683
GOVERNMENT	\$34,318	\$24,103	\$58,421
SHIPYARD/MARITIME CONSTRUCTION	\$1,324,968	\$916,969	\$2,241,937
BARGE	<u>\$27,337</u>	<u>\$13,360</u>	<u>\$40,697</u>
SUBTOTAL	\$2,025,729	\$1,245,584	\$3,271,313
ALABAMA STATE PORT AUTHORITY	\$151,655	N/A	\$151,655
TOTAL	\$2,925,398	\$1,475,692	\$4,401,089



*Related revenue for coal is included, but employment is included in direct shipper/consignee impact. The inclusion of revenue as a related revenue is due to the fact that the revenue of the dependent shippers/consignees is not included in the direct revenue impact. The related jobs with coal are dependent on the use of the Port of Mobile terminals for export.

II. Economic Impacts of Marine Cargo Activity

Alabama Port Authority 2021 Economic Impact Study Report

4.1.2. Revenue Impacts by Commodity

Exhibit II-8 shows the direct revenue impact by commodity. It is to be emphasized that the revenue received by shippers/consignees from the sales of the products (value of the commodities) moving via the marine terminals is not included, since product value is determined by the demand for the product, not the use of the marine terminals.

Exhibit II-8 | Cargo Revenue Impacts by Commodity

COMMODITY	HARBORWIDE (\$1,000)
CONTAINERS	\$497,637
REEFER BREAKBULK	\$11,919
STEEL SLAB	\$187,045
LUMBER/PLYWOOD	\$215,423
PULP	\$50,536
ALUMINUM	\$1,446
STEEL PRODUCTS	\$100,510
COAL	\$358,033
PAPER	\$9,178
GRAIN	\$35,252
OTHER DRY BULK	\$112,973
PIG IRON	\$57,364
LIQUID BULK	\$118,860
OTHER BREAKBULK	\$102,999
NON-ALLOCATED REVENUE	<u>\$2,541,914</u>
TOTALS	\$4,401,089

Findings:

As this exhibit indicates, containers generated the largest direct revenue impact, reflecting the volume handled at the Port of Mobile, followed by coal.

II. Economic Impacts of Marine Cargo Activity

Alabama Port Authority 2021 Economic Impact Study Report

5. PERSONAL EARNINGS IMPACT

The income impact is estimated by multiplying the average annual earnings (excluding benefits) of each port participant, i.e., truckers, steamship agents, pilots, towing firm employees, longshoremen, warehousemen, etc., by the corresponding number of direct jobs in each category. The individual annual earnings in each category multiplied by the corresponding job impact resulted in \$1.2 billion in personal wage and salary earnings. It is important to emphasize that the average annual earnings of a port-dependent job are about \$59,444. These relatively high-paying jobs will have a much greater economic impact in the local economy through stimulating induced jobs than will a job paying lower wages.

Based on data developed by the U.S. Bureau of Economic Analysis, it is assumed that for every one dollar earned by Port of Mobile area residents because of jobs directly generated by activity at the marine terminals, an additional \$2.08 of income would be created from re-spending the income for purchases of Mobile Area-produced goods and services. This re-spending generated an additional \$2.6 billion of local personal income and consumption expenditures with local businesses and service providers. This additional re-spending of the direct income generates the induced job impact, 18,885 jobs, described in the previous chapter. It is to be emphasized that the \$2.6 billion of re-spending and consumption impact includes consumption expenditures by those directly employed. Therefore, the \$2.6 billion of re-spending and consumption impact cannot be divided by the 18,885 induced job holders to estimate an average induced salary, as this would result in an overestimation of induced wages and average salary income per induced job.

The 10,795 indirect job holders earned \$700.6 million in indirect wages and salaries. The 262,196 related shippers/consignees of the cargo moving via the Port received about \$14.7 billion of personal income.

Therefore, the total personal income impact and consumption impact related to the Port of Mobile marine cargo activity is estimated at nearly at \$19.3 billion, of which the cargo activity at the ASPA facilities created about \$16.1 billion.

6. TAX IMPACTS

State and local tax impacts are based on per-employee tax burdens, which are developed at the county, local and state jurisdictional levels. These tax per-employee burdens are essentially tax indices that are used to allocate total taxes at each level of government to economic activity generated by the marine terminals. To estimate the per-employee tax indices, total taxes received at each governmental level in Alabama were developed from the Tax Foundation, which reports total state and local taxes from all sources as a percent of total personal income.

Activity at the public and private marine terminals generated \$479.3 million in the state, county, and local taxes. The state of Alabama received \$297.5 million of the tax revenue, while local governments received \$181.8 million. The activity at the ASPA facilities generated \$369.2 million of the \$479.3 million direct, induced, and indirect tax impact. As a result of the economic activity created by the related shipper/consignees, an additional \$1.6 billion of state and local taxes were generated.

III. COMPARISON OF IMPACTS 2019-2021

Alabama Port Authority 2021 Economic Impact Study Report

The last economic impact study update for the Port of Mobile was conducted by Martin Associates using 2019 cargo data.* From an operational perspective, total tonnage grew by about 5.9 million tons between 2019 and 2021. The overall growth in tonnage over the past two years (2021 to 2019) was driven by growth in liquid bulk, containers, and forest products; offsetting the decrease in coal exports during this period. Exhibit III-1 presents the changes in tonnage harbor-wide.

Exhibit III-1 | Change in Tonnage by Commodity, Harborwide, 2021-2019

	2021 HARBORWIDE (\$1,000 TONS)	2019 HARBORWIDE (\$1,000 TONS)	TOTAL CHANGE (\$1,000 TONS)
CONTAINERS	4,539	2,027	2,512
REEFER BREAK BULK	103	83	21
STEEL SLAB	3,378	3,782	-404
LUMBER/PLYWOOD	2,748	576	2,173
PULP	791	704	87
ALUMINUM	24	53	-29
STEEL PRODUCTS	1,734	1,567	167
COAL	12,243	17,088	-4,844
PAPER	147	114	33
GRAIN	569	273	295
OTHER DRY BULK	2,892	2,532	360
PIG IRON	1,036	960	76
LIQUID BULK	10,658	5,907	4,751
OTHER BREAK BULK	<u>884</u>	<u>187</u>	<u>697</u>
TOTALS	41,747	35,853	5,894

Findings:

As a result of the growth in cargo, direct, induced, and indirect jobs generated by cargo and vessel activity grew by 2,186 jobs. Exhibit III-2 shows the change in impacts between 2021 and 2019.



*No detailed surveys of terminal operators, tenants or service providers were conducted as part of the 2019 interim update, as the update was based solely on tonnage levels. The underlying model structure used in the 2019 interim update was based on 2012 Economic Census data used to develop the induced and indirect models which were developed as part of the comprehensive 2015 Economic Impact Study conducted for the Port by Martin Associates. The current model is based on the most recent Economic Census data, 2017, as well as 2021 data from the U. S Bureau of Economic Analysis RIMS (data), as well as the comprehensive surveys conducted as part of this current study.

III. COMPARISON OF IMPACTS 2019-2021

Alabama Port Authority 2021 Economic Impact Study Report

Direct jobs increased by 1,839 jobs since 2019. Indirect and induced jobs grew modestly, reflecting the lower jobs to revenue ratios reported in the 2017 Economic Census as well as the 2021 RIMS data, reflecting an increase in productivity since the 2012 Economic Census and 2015 RIMS data (used in the 2019 interim update). Direct, induced, and indirect state and local taxes generated by Port activity grew by \$206.2 million, while direct business revenue increased by \$1.1 billion, reflecting the growth in cargo activity.

Exhibit III-2 | Change in Economic Impacts Harborwide, 2021-2019

JOBS	2021	2019	CHANGE
DIRECT	21,020	19,181	1,839
INDUCED	18,885	18,826	59
INDIRECT	<u>10,795</u>	<u>10,506</u>	<u>289</u>
TOTAL	50,700	48,513	2,186
PERSONAL INCOME (\$1,000)			
DIRECT	\$1,249,515	\$1,018,088	\$231,426
RE-SPENDING/LOCAL CONSUMPTION	\$2,600,365	\$1,804,155	\$796,210
INDIRECT	<u>\$700,568</u>	<u>\$467,653</u>	<u>\$232,916</u>
TOTAL	\$4,550,448	\$3,289,896	\$1,260,552
BUSINESS REVENUE (\$1,000)	\$4,401,089	\$3,286,621	\$1,114,468
STATE AND LOCAL TAXES (\$1,000)	\$479,272	\$273,061	\$206,211
LOCAL PURCHASES (\$1,000)	\$1,081,153	\$822,154	\$258,999
RELATED USER IMPACTS			
USER JOBS	262,196	112,616	149,580
TOTAL VALUE OF OUTPUT (\$1,000)	\$77,947,836	\$21,667,105	\$56,280,731
USER INCOME (\$1,000)	\$14,720,298	\$4,110,670	\$10,609,628
USER STATE AND LOCAL TAXES	\$1,550,404	\$341,186	\$1,209,218

III. COMPARISON OF IMPACTS 2019-2021

Alabama Port Authority 2021 Economic Impact Study Report

Exhibit III-3 presents the changes in job impacts by commodity between 2021 and 2019. The largest job increases were recorded for containerized cargo, lumber/plywood, and steel products.

Exhibit III-3 | Change in Direct Jobs by Commodity, 2021-2019

COMMODITY	2021 HARBORWIDE DIRECT JOBS	2019 HARBORWIDE DIRECT JOBS	TOTAL CHANGE DIRECT JOBS
CONTAINERS	3,425	1,008	2,417
REEFER BREAK BULK	161	109	52
STEEL SLAB	2,755	2,785	-30
LUMBER/PLYWOOD	821	158	663
PULP	881	673	208
ALUMINUM	6	11	-5
STEEL PRODUCTS	3,617	3,160	456
COAL	2,092	2,521	-429
PAPER	61	43	18
GRAIN	109	66	43
OTHER DRY BULK	440	438	2
PIG IRON	74	83	-9
LIQUID BULK	1,183	1,098	85
OTHER BREAK BULK	445	301	144
NON-ALLOCATED	<u>4,950</u>	<u>6,726</u>	<u>-1,776</u>
TOTAL	21,020	19,181	1,839

III. COMPARISON OF IMPACTS 2019-2021

Alabama Port Authority 2021 Economic Impact Study Report

The change in direct jobs by type of job is shown in Exhibit III-4. As shown in this exhibit, non-allocated jobs declined with local shipyard and marine construction sectors at Mobile. This is attributed to a reduction of operations at some shipyards and changes in ownership such as Alabama Shipyard. Some terminals are also under new ownership such as Vertex Energy, Zenith Energy, and W&T Offshore.*

Exhibit III-4 | Change in Direct Jobs by Category

IMPACT CATEGORY

	2019 HARBORWIDE	2021 HARBORWIDE	TOTAL CHANGE
SURFACE TRANSPORTATION			
RAIL	1,106	339	768
TRUCK	<u>3,099</u>	<u>1,279</u>	<u>1,820</u>
SUBTOTAL	4,205	1,618	2,587
MARITIME SERVICES			
TERMINALS	1,224	1,482	-258
ILA*	727	461	266
TOWING	54	46	8
PILOTS	32	26	6
AGENTS	255	116	139
SURVEYORS/CHANDLERS/MARITIME SERVICES	672	434	238
FORWARDERS	482	283	199
WAREHOUSE&CONTAINER REPAIR	799	423	376
GOVERNMENT	158	136	22
SHIPYARD/ MARINE CONSTRUCTION	3,684	5,598	-1,914
BARGE	<u>298</u>	<u>417</u>	<u>-119</u>
SUBTOTAL	8,384	9,421	-1,037
ALABAMA STATE PORT AUTHORITY	504	500	4
DEPENDENT SHIPPERS/CONSIGNEES	7,927	7,642	285
TOTAL	21,020	19,181	1,839

*includes line handling

Findings:

In order to continue to grow the economic contribution of the Port of Mobile, it is critical that the Port continues to invest in facility and infrastructure development and aggressively market the logistical cost advantage of the Port's marine terminals, navigation channels, and surface transportation access to serve the Southeastern region of the United States.



ALABAMA
PORT AUTHORITY
PORT OF MOBILE

MEDIA CONTACT:

Maggie Oliver, Vice President, Communications & Federal Affairs
maggie.oliver@alports.com | 251.441.8130
ALports.com

Conducted by:



October 2022