

THE LOCAL AND REGIONAL ECONOMIC IMPACTS OF PORT MANATEE

2019



The *right* turn on Tampa Bay

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I. INTRODUCTION AND OVERVIEW

Martin Associates was retained by the Manatee County Port Authority (MCPA) to measure the local and regional economic impacts generated by maritime activity at Port Manatee. Economic impacts generated at the cargo facilities include the impacts generated by containerized cargo (both dry and reefer), breakbulk fruit, petroleum, steel products, dry bulks, fertilizer products and bulk juice.

The study employs methodology and definitions that have been used by Martin Associates to measure the economic impacts of seaport activity at more than 300 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 MCPA. Specific re-spending models have been developed for the Tampa Bay area to reflect the unique economic and consumer profiles of the regional economy. To further underscore the defensibility of the study, standardized impact models, such as the MARAD Port Kit are not used. Instead, the resulting impacts reflect the uniqueness of the individual Port operations, as well as the surrounding regional economy.

1. IMPACT DEFINITIONS

The impacts are measured in terms of:

- Jobs (direct, induced indirect and related users);
- Personal income;
- Business revenue; and
- State and local taxes.

Each impact measurement is described below:

- **Direct, Induced and Indirect jobs** - *Direct jobs* are those that would not exist if activity at MCPA facilities were to cease. Direct jobs created by marine cargo activity at Port Manatee'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), non-union dockworkers, stevedores and customhouse brokers, vessel agents, pilots and tug assist companies, and shippers directly dependent upon the use of Port Manatee, specifically the Florida phosphate and fertilizer industry.

Induced jobs are jobs created in the Tampa Bay 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 Tampa Bay 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 Tampa Bay area as the result of purchases for goods and services by the *firms* directly impacted by Port Manatee activity, including the ship repair facilities, and the firms providing services to cargo operations. 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.

Related shipper/consignee (related user) jobs include jobs with shippers and consignees (exporters and importers) using the marine terminals for shipment and receipt of cargo. The MCPA's shippers and consignees are concentrated with the state's phosphate mining and fertilizer manufacturing industries.

- **Personal income impact** consists of wages and salaries received by those directly employed by Port activity, and includes a respending impact which measures the personal consumption activity in the Tampa Bay area of those directly employed as the result of Port Manatee. Indirect personal income measures the wages and salaries received by those indirectly employed.
- **Business revenue** consists of total business receipts by firms providing services in support of the marine cargo activity and miscellaneous activity at MCPA facilities, film/television activity on Port property, private construction investment on Port property, and the MCPA 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 and local taxes** include taxes paid by individuals as well as firms dependent upon Port Manatee cargo activity.

2. METHODOLOGY

The impacts of Port Manatee were estimated based on telephone and personal interviews with 112 firms in the Tampa Bay area and in-house proprietary data bases. This represents the 98+% of the universe of the marine cargo, tenants and service providers (with the exception of trucking and freight forwarding firms) in the Tampa Bay area, as defined in the "Port Manatee Golden Anniversary Directory 2020 (via Port website)", supplemental lists supplied by the MCPA as well as Martin Associates' in-house databases developed over previous studies for the Port. It is to be emphasized that

a 98+% response rate was achieved from these firms located in the Port directory and Port tenant listings. 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. Each firm was surveyed to provide Martin Associates with detailed employment levels (both full time and part time), annual payroll, local purchases and the residence of the employees. Data collected from MCPA includes: MCPA employment, tonnage, vessel calls, Port revenues and expenditures to estimate the 2019 impacts.

The induced impacts are based on the current expenditure profile of residents in the Tampa Bay area, as estimated by the U.S. Bureau of Labor Statistics, "Consumer Expenditure Survey 2016-2017". This survey indicates the distribution of consumer expenditures over key consumption categories for Tampa Bay 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 respending 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 Tampa Bay 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 Tampa Bay 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.

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 Florida employment in these key service industries to total state of Florida 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 Florida 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 the MCPA's Fiscal Year 2019, and 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 MCPA can use in formulating and guiding the future development of Port facilities.

The 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.

4. SUMMARY OF RESULTS

Exhibit I-1 summarizes the results of the economic impacts of Port Manatee.

Exhibit I-1
Economic Impact of Port Manatee - 2019

CATEGORY	CARGO
JOBS	
DIRECT	3,550
INDUCED	2,905
INDIRECT	2,185
RELATED USER JOBS	<u>18,516</u>
TOTAL JOBS	27,156
PERSONAL INCOME (1,000)	
DIRECT	\$183,077
INDUCED	\$363,664
INDIRECT	\$126,629
RELATED USER INCOME	<u>\$600,685</u>
TOTAL PERSONAL INCOME	\$1,274,055
VALUE OF ECONOMIC ACTIVITY (1,000)	
BUSINESS SERVICES REVENUE	\$873,356
RELATED USER OUTPUT	<u>\$3,062,369</u>
TOTAL VALUE OF ECONOMIC ACTIVIT'	\$3,935,724
LOCAL PURCHASES (1,000)	\$277,710
STATE & LOCAL TAXES (1,000)	
DIRECT, INDUCED AND INDIRECT	\$67,661
RELATED USER TAXES	<u>\$85,474</u>
TOTAL STATE AND LOCAL TAXES	\$153,135

In 2019, Port Manatee created 27,156 jobs in the state of Florida. Of these jobs, 3,550 jobs were directly created, while another 2,905 induced jobs were supported in the Tampa Bay area as the result of local purchases by those directly employed by Port Manatee activity. In addition, there are 2,185 indirect jobs supported in the Tampa Bay area as the result of \$277.7 million of local purchases. In addition, the cargo moving via Port Manatee supported nearly 18,516 jobs throughout the state of Florida. The majority of these jobs are associated with the movement of containerized cargo – including fruit, breakbulk fruit, bulk juice/concentrate and phosphatic fertilizer products through Port Manatee.

The 3,550 direct jobs received \$183.1 million of direct wage and salary income, for average earnings of about \$51,500 per direct employee. As the result of local purchases with this \$183.1 million of direct wages and salaries, an additional \$363.7 million of income and local consumption expenditures were created in the Tampa Bay area. It is this re-spending impact that supported the 2,905 induced jobs.¹ Furthermore, indirect jobholders were paid an annual income of \$126.6 million. Throughout the state, related users generated \$600.7 million in wages. In total, nearly \$1.3 billion of personal income was created as the result of Port Manatee operations.

Local businesses received \$873.4 million of sales revenue from providing services to the marine cargo activity at the marine terminals (*this does not include the value of the cargo moving via the Port*). The cargo activity at the Port created an additional \$3.1 billion of total economic output in the state, the majority of which is created in the state's container, fertilizer, fruit and juice industries and the in-state industries supporting this industry. It is to be emphasized that only the economic activity associated with the raw materials and finished products that moved via the Port is included.

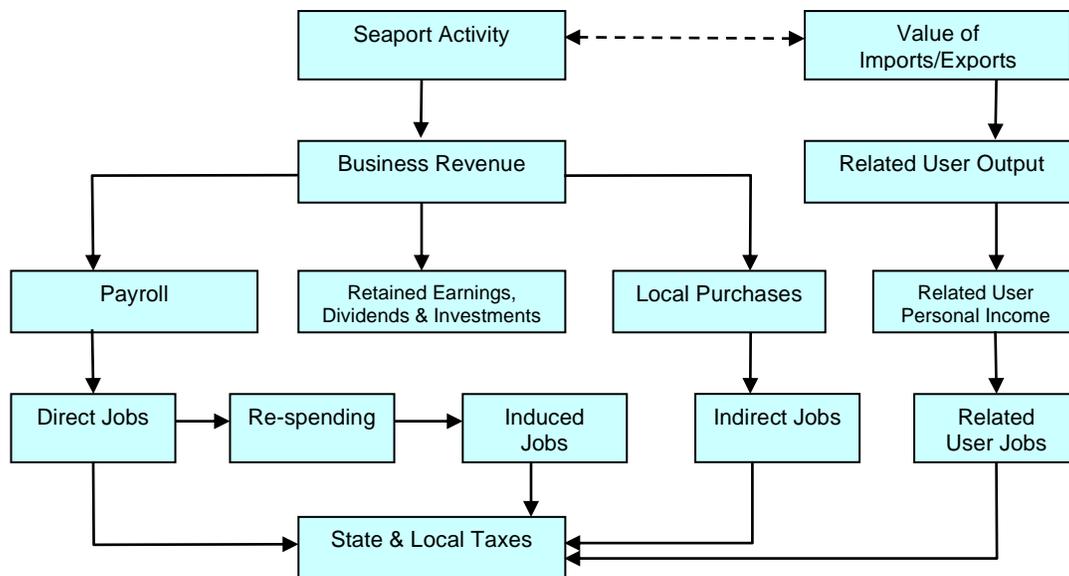
As a result of the activity at Port Manatee, a total of \$153.1 million of state and local tax revenue was generated with nearly \$67.7 million generated by direct, induced and indirect activity with the remaining \$85.5 million supported by related users throughout the state.

¹The 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.

II. ECONOMIC IMPACTS OF MARINE CARGO ACTIVITY

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 Manatee’s public marine terminals generate the four impacts.

Exhibit II-1
Flow of Economic Impacts Generated By Maritime Cargo Activity



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 stock-holders, 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 MCPA by tenants, and wharfage and dockage fees paid to the Port.

The employment impact of seaport activity consists of four levels of job impacts.

- ***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, longshoremens 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 Manatee 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 purchases 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 jobs*** -- jobs with shippers and consignees (exporters and importers) supported in the state's manufacturing and retail and wholesale distribution industries and the in-state industries supporting the movement and distribution of all commodities, primarily containerized cargo fruit imports, breakbulk fruit, bulk juice/concentrate and phosphatic fertilizer industry using the Port terminals for shipment and receipt of cargo

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 Tampa Bay 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, four distinct economic sectors are impacted as a result of activity at the marine terminals. These are the:

- Surface Transportation Sector;
- Maritime Services Sector;
- Non-maritime Tenants and Dependent Shippers/Consignees;
- Related Users of Port Manatee; and
- Manatee County Port Authority.

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.

1.1. The Surface Transportation Sector

The surface transportation sector consists of both the railroad and trucking industries. The trucking firms and railroads are responsible for moving the various cargoes between the marine terminals and the inland origins and destinations. Also included is the pipeline transportation of petroleum products received at the Port.

1.2. The 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; and
- 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/customshouse broker is the major participant in this category. The freight forwarder/customshouse 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 customshouse brokers is most prevalent for containerized and general cargo commodities.

- 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 Port Manatee's marine terminals located within the Port District;
- Bunkering firms - provide fuel to the vessels;
- Marine surveyors - inspect the vessels and the cargo;
- Shipyards/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 - include 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 MCPA 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.

- 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. This involves employees within Customs and Border Patrol, Bureau of Immigration, U.S. Department of Agriculture, U.S. Coast Guard and the Army Corps of Engineers. These services are provided by the government offices located in the Tampa area.

1.3. Non-Maritime Tenants and Dependent Shippers/Consignees

These jobs are with the non-maritime Port tenants and dependent operations such as Air Products, Tropicana, Mayo Fertilizer, Mosaic and Florida Power and Light.

1.4. Related Users of Port Manatee

Related job impacts consist of jobs with related shippers/consignees shipping and receiving cargo through the public marine terminals at Port Manatee. While these impacts are generated by many commodity groups, the majority of these users are attributed to containerized fruit imports, breakbulk fruit and juices as well as the phosphatic fertilizer industry cargo through the Port. Only the respective user's industry activity that can be linked to the movement of cargo (either raw materials or finished products) through Port Manatee is considered in this related user impact - it does not include the value of the cargo itself.

1.5. Manatee County Port Authority

The Manatee County Port Authority includes those individuals employed whose purpose is to oversee port activity at the Port-owned marine terminals.

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 paper 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 Port's marine terminals:

- Containers – Dry and refrigerated;
- Steel/aluminum;
- Forest products;
- Phosphatic fertilizer products;
- Refrigerated breakbulk (fruit);
- Petroleum products;
- Bulk juice;
- Miscellaneous breakbulk cargo;
- Natural Gas (via pipeline);
- Salt and
- Other dry bulk (e.g. aggregates, stone).

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 marine terminals within Port Manatee Port District is estimated. The chapter is organized as follows:

- First, the total employment that is in some way related to the activities at the public 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 marine terminals are described.

It is estimated that 27,156 jobs are directly or indirectly generated by port activities at the marine terminals within Port Manatee. Of the 27,156 jobs:

- 3,550 jobs are directly generated by activities at the public marine terminals and if such activities should cease, these jobs would be discontinued over the short term.
- 2,905 induced jobs are supported by the local purchases of the 3,550 individuals directly generated by port activity at the marine terminals. An additional 2,185 indirect jobs were supported by \$277.7 million of purchases in the local and regional economy by firms providing direct cargo handling and vessel services.
- 18,516 jobs are related to cargo exported and imported via the public marine terminals. These jobs are with related shippers/consignees of Port Manatee.

3.1. DIRECT MARINE CARGO JOB IMPACTS

In 2019, Port Manatee handled about 9.8 million tons of cargo moved via the public marine terminals. As a result of this activity, 3,550 full-time equivalent (FTE) jobs were directly created².

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 Manatee's public marine terminals, then this worker is counted as .5 jobs.

In this section the jobs are analyzed in terms of:

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

3.1.1. Job Impacts by Category

Exhibit II-2 presents the distribution of the 3,550 direct jobs by type. Tenants/dependent users directly dependent upon the movement of cargo via the Port account for 1,322 direct jobs. In addition, there are 743 full-time equivalent truck drivers supported by port activity, followed by jobs with maritime service operations and dockworkers with 481 and 256 jobs respectively.

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

SECTOR	DIRECT JOBS
SURFACE TRANSPORTATION	
RAIL	47
TRUCK	743
MARITIME SERVICES	
TERMINAL EMPLOYEES	168
ILA/DOCKWORKERS	256
TOWING	36
PILOTS	11
AGENTS	43
MARITIME SERVICES	481
WAREHOUSING/CONSOLIDATORS/FORWARDERS	146
GOVERNMENT	58
MARINE CONSTRUCTION/DREDGING	65
BARGE	88
TENANTS/DEPENDENT USERS	1,322
BANKING/INSURANCE/LAW	10
PORT AUTHORITY	76
TOTAL	3,550

3.1.2. Direct Job Impacts by Commodity

Most of the 3,550 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 449) 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	DIRECT JOBS
CONTAINERS	424
STEEL & ALUMINUM	109
FOREST PRODUCTS	109
SALT	40
REEFER BREAKBULK	178
OTHER BREAKBULK	67
FERTILIZER PRODUCTS	888
OTHER DRY BULK	409
PETROLEUM PRODUCTS	482
BULK JUICE	391
NOT ALLOCATED	<u>449</u>
TOTAL	3,550

The movement of phosphatic fertilizer products creates the largest number of direct jobs (888), followed by the movement and distribution of petroleum products (482). Dry and refrigerated containerized cargoes (424) and other fruit-based cargoes such as refrigerated breakbulk and bulk juices also contribute significantly with 178 and 391 jobs respectively.

3.1.3. Distribution of Direct Cargo Jobs by Place of Residence

To underscore the geographic scope of the impacts generated by the public marine terminals, Exhibit II-4 presents the distribution of the 3,550 direct jobs by place of employment. The geographic employment analysis is based on the results of the interviews with 112 firms. As this exhibit indicates, 45.1% of the direct job holders reside in Manatee County, while nearly another 39.4% live in Hillsborough County. Also, approximately 8.3% live in Polk County reflecting the jobs generated by the mines and manufacturing plants involved in the region's phosphatic fertilizer industry.

Exhibit II-4
Distribution of Direct Cargo Jobs by Place of Residence

JURISDICTION	SHARE	DIRECT JOBS
MANATEE COUNTY	45.1%	1,600
HILLSBOROUGH COUNTY	39.4%	1,398
POLK COUNTY	8.3%	296
PINELLAS COUNTY	3.3%	117
SARASOTA COUNTY	1.6%	56
DESOTO COUNTY	0.6%	20
PASCO COUNTY	0.3%	11
OTHER FLA	1.4%	50
OTHER US	0.1%	3
TOTAL	100.0%	3,550

3.2. Induced Jobs

The 3,550 directly employed individuals, due to activity at the public 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, 2,905 jobs in the regional economy were supported. The majority 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.

3.3. Indirect Jobs

In addition to the induced jobs generated by the purchases by directly employed individuals, the firms providing the direct services and employing the 3,550 direct jobs make local purchases for goods and services. These local purchases by the firms dependent upon the public marine facilities generate additional indirect jobs in the local economy. Based on data collection efforts, it is estimated these firms made \$277.7 million of local and in-state purchases in 2019. These direct local purchases created an additional 2,185 indirect jobs in the local economy.

3.1. Related User Jobs

In addition to the 982 direct jobs with dependent related shippers/consignees using Port Manatee, it is estimated that about another 18,516 jobs are supported in Florida with related users that use Port Manatee and also that support the direct users. It is important to emphasize that the related user jobs are supported by the cargo moving only via Port Manatee in 2019, and do not include jobs supported by cargo moving via other ports that are consumed or produced by in-state shippers/consignees and manufacturers.

To estimate jobs with users of Port Manatee, the following methodology was used. First, the values of key cargoes handled at the Port were identified from data supplied by Port Manatee and USA Trade Online (Department of U. S. Census). For example, for the phosphatic fertilizer industry, sulfur, ammonia, phosphate rock and finished products were included. The average value per ton of each commodity was then developed from the USA Trade Online data base. Next, the U.S. Bureau of Economic Analysis prepared a specific run of the RIMS II (Regional Input-Output Modeling System) model for Martin Associates to identify job, output, and income multipliers for the Florida economy. These multipliers were then combined with value per ton of each import and export commodity to estimate the total economic activity and jobs supported by the movement of the raw materials and finished fertilizer products via the Port.

Similarly, for bulk and break bulk cargoes, the associated consuming and producing industries were identified with each commodity. For example, for imported iron and steel products, relationships were developed to convert the dollar value of these imported materials into a dollar value of output in the key consuming industries, which include construction and metal fabrication 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, Census of Manufacturing and Census of Construction. These ratios were then used to convert the dollar value of the imported breakbulk 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 RIMS II model, the value of the breakbulk cargoes (i.e., steel products) moving via the Port and remaining in (or produced in) the state of Florida was converted into related user jobs and associated supporting industries within the state.

Finally, the direct, induced and indirect port sector job impacts associated with each of the cargoes for which related user jobs were estimated were subtracted from the total related jobs (by commodity and cargo type) to avoid double counting, as the related user 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.

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

The 9.8 million tons of cargo handled at the 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. The Manatee County Port Authority 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 shipper/consignee 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 shippers/consignees) 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 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 Florida 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 Florida, 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 (RIMSII).

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 Port Manatee. In 2019, marine cargo activity at the Port generated a total of \$3.9 billion of total economic activity in the state. Of the \$3.9 billion, \$873.4 million 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 port. The remaining \$3.1 billion represents the value of the output to the state of Florida that is created due to the cargo moving via Port Manatee. 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 Port Manatee and are consumed by industries within the state of Florida.

The balance of the discussion focuses on the \$873.4 million of direct business revenue generated from the provision of services to the cargo and vessels handled at Port Manatee.

4.1.1. Revenue Impacts by Economic Sector/Category

Exhibit II-5 presents the total revenue estimated to have been generated by port activity in 2019. This revenue includes the revenue received by firms providing services to the commodity and vessel activity at the terminals, and includes revenue received by trucking firms, stevedores, Port Manatee, 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 user output.

Revenue received by tenants/dependent shippers accounts for \$465 million, while maritime services firms involved in vessel, cargo and dock operation receives about \$126 million, followed by trucking companies that receive \$113 million. Revenue to the terminal operators of \$42.7million includes the revenue received from terminal operations such as stevedoring, storage, and rail and truck loading/discharge.

Exhibit II-5
Direct Revenue Generated by Port Cargo Activity

SECTOR	REVENUE (1,000)
SURFACE TRANSPORTATION	
RAIL	\$10,109
TRUCK	\$112,653
PIPELINE	\$2,403
MARITIME SERVICES	
TERMINAL EMPLOYEES	\$42,700
TOWING	\$1,400
PILOTS	\$925
AGENTS	\$1,015
MARITIME SERVICES	\$126,407
WAREHOUSING/CONSOLIDATORS/FORWARDERS	\$33,401
GOVERNMENT	NA
MARINE CONSTRUCTION/DREDGING	\$26,405
BARGE	\$28,727
TENANTS/DEPENDENT USERS	\$465,260
BANKING/INSURANCE	\$3,000
PORT AUTHORITY	<u>\$18,952</u>
TOTAL	\$873,356

4.1.2. Revenue Impacts by Commodity

Exhibit II-6 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-6
Cargo Revenue Impacts by Commodity

COMMODITY	REVENUE (1000)
CONTAINERS	\$94,779
STEEL & ALUMINUM	\$14,590
FOREST PRODUCTS	\$13,313
SALT	\$6,185
REEFER BREAKBULK	\$28,717
OTHER BREAKBULK	\$13,133
FERTILIZER PRODUCTS	\$219,473
OTHER DRY BULK	\$82,083
PETROLEUM PRODUCTS	\$135,884
BULK JUICE	\$130,086
NOT ALLOCATED	<u>\$135,112</u>
TOTAL	\$873,356

As this exhibit indicates, fertilizer products account for \$219 million, Petroleum products and bulk juice and concentrates account for \$135.9 and \$130.1 million. Containerized cargo accounts for \$94.8 million and breakbulk fruits/juices generate another \$28.7 million.

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 \$183.1 million in personal wage and salary earnings. It is important to emphasize that the average annual earnings of a port-dependent job is about \$51,500. 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.

The impact of the re-spending of this direct income for local purchases is estimated using a personal earnings multiplier. The personal earnings multiplier is based on data supplied by the Bureau of Economic Analysis (BEA), Regional Input-Output Modeling System (RIMS II). The BEA estimates that for every one dollar earned by direct employees generated by activity at the marine terminals, an additional \$1.986 of personal income and consumption expenditures would be created as a result of re-spending the income for purchases of goods and services produced locally. Hence, a personal earnings multiplier of \$2.986 was used to estimate the total income and consumption impact of nearly \$363.7

million, inclusive of the re-spending effect. This additional re-spending of the direct income generates the 2,905 induced job impact.

The 2,185 indirect job holders earned \$126.6 million in indirect wages and salaries, while the 18,516 related users of the cargo moving via the Port received about \$600.7 million of personal income.

Therefore, the total personal income impact and consumption impact created by Port Manatee marine cargo activity is estimated at nearly at \$1.3 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. The 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 cargo terminals. To estimate the per employee tax indices, total taxes received at each governmental level in Florida was developed from the Tax Foundation, which reports total state and local taxes from all sources as a percent of total personal income. In addition, the figures include a proportional estimate of corporate taxes paid by firms.

Exhibit II-7
FY2019 Distribution of State and Local Tax Revenue

TAXES BY CATEGORY (1,000)	STATE	LOCAL	TOTAL
DIRECT, INDUCED & INDIRECT	\$31.8	\$35.9	\$67.7
RELATED USER	<u>\$40.2</u>	<u>\$45.3</u>	<u>\$85.5</u>
TOTAL	\$72.0	\$81.2	\$153.1

Totals may be rounded.

Direct cargo activity generated \$67.7 million of state, county and local taxes. As a result of the economic activity created by the related shipper/consignees an additional \$85.5 million of state and local taxes were generated for a total cargo tax impact of \$153.1 million. The state of Florida receives approximately 53% of the tax revenues, while the local governments received 47% of the tax impact as illustrated in Exhibit II-7.