

**THE LOCAL AND REGIONAL
ECONOMIC IMPACTS OF PORT EVERGLADES**

**September 13, 2007
Final Report**

**Prepared for:
BROWARD COUNTY'S PORT EVERGLADES DEPARTMENT**

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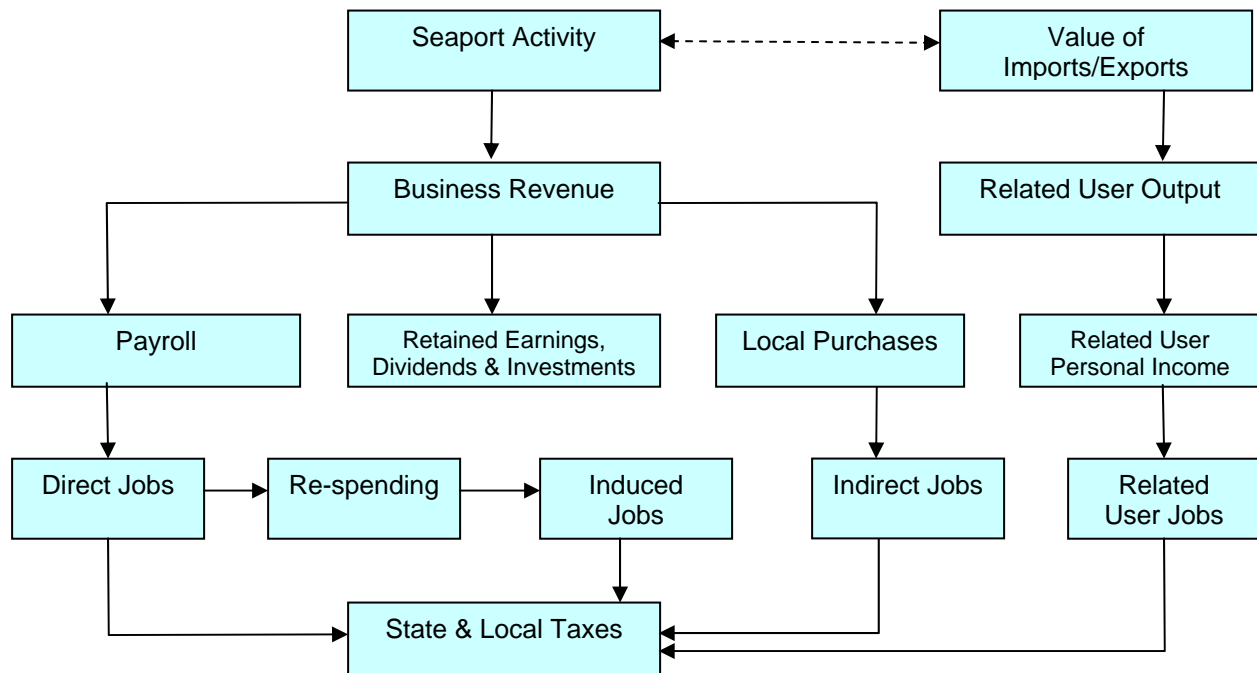
EXECUTIVE SUMMARY

Martin Associates was retained by the Broward County Port Everglades Department to measure the local, regional and state economic impacts generated by maritime activity at the maritime container, break bulk, liquid bulk and dry bulk cargo terminals as well as cruise terminals at Port Everglades. Economic impacts generated at the cargo facilities include the impacts generated by containerized cargo (both dry and reefer), petroleum, steel products, cement, lumber and plywood, RO/RO cargo such as previously owned vehicles (POV's) and yachts, and other dry bulk cargo such as aggregates. In addition to the economic impacts generated by the cargo activity at the seaport terminals, Martin Associates has also quantified the economic impacts of the cruise industry at Port Everglades.

This study focuses on impacts generated in the fiscal year 2006. Impacts are estimated in terms of jobs, personal earnings, business revenue, and state and local taxes. In addition to the baseline impact estimates, computer models specific to each terminal operation have been prepared that can be used in evaluating the sensitivity of impacts to changes in tonnage, labor productivity, labor work rules, commodity mix, inland origins/destinations of commodities and vessel size.

Exhibit E-1 on the following page graphically demonstrates how seaport activity impacts the local and regional economies. As this exhibit indicates, the ocean cargo and vessel activity initially generate business revenue to the firms supplying maritime services. This revenue is used to purchase employment (direct jobs) to provide the services, to pay stockholders and for retained earnings, and to purchase goods and services from local firms, as well as national and international firms (creating indirect jobs with these firms). Businesses also pay taxes from the business revenue.

Exhibit E-1 Flow of Economic Impacts of Seaport Activity through the Economy



The employees hired by the firms receive wages and salaries (personal income), a portion of which is saved, while another portion is used to buy goods and services such as food, housing, clothing, health care, etc. These purchases create a re-spending impact throughout the economy, known as the personal income multiplier. As a result of these local purchases, additional jobs (known as induced jobs) are created in the local economy. Finally, taxes are paid by individuals employed with the firms providing the services to the seaport terminals.

As demonstrated by this chart, four categories of impacts are measured:

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

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

- Direct jobs are those jobs with local firms providing support services to the seaport. These jobs are dependent upon this activity and would suffer immediate dislocation if the seaport activity were to cease. Seaport direct jobs include jobs with railroads and trucking companies moving cargo to and from Port Everglades’ maritime terminals, members of the International Longshoremen's Association (ILA) and Teamster’s Union, steamship agents, freight forwarders, ship chandlers, warehouse operators, bankers, lawyers, terminal

operators, stevedores, etc.

- Induced jobs are jobs created locally and throughout the regional economy due to purchases of goods and services by those directly employed. These jobs are with grocery stores, the local construction industry, retail stores, health care providers, local transportation services, etc., and would also be discontinued if seaport activity were to cease.
- Indirect jobs are those jobs generated in the local economy as the result of local purchases by the firms directly dependent upon seaport activity. These jobs include jobs in local office supply firms, equipment and parts suppliers, maintenance and repair services, etc.
- Related user jobs are with manufacturing and distribution firms -- such as steel fabrication firms using the steel imported through the seaport terminals. Related jobs are not dependent upon the seaport marine terminals to the same extent as are the direct, induced and indirect jobs. For example, these firms can and do use other ports. It is the demand for the final product, i.e. steel products, which creates the demand for the employment with these shippers/consignees, not the use of a particular seaport or maritime terminal.

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

The study is based on interviews with 235 firms providing services to the cargo and vessels handled at Port Everglades' cargo and cruise terminals. These 235 firms represent 99 percent of the firms in the Port Everglades seaport community, underscoring the defensibility of the study. Furthermore, the impacts can be traced back to the individual firm. The data collected from the interviews was then used to develop operational models of the terminals located at Port Everglades.

The economic impacts generated by the cargo and cruise terminals are summarized in Exhibit E-2.

	CARGO	CRUISE	TOTAL
JOBS			
DIRECT	5,984	4,997	10,982
INDUCED	6,742	3,278	10,021
INDIRECT	3,362	3,163	6,525
RELATED USER JOBS	<u>160,676</u>	NA	<u>160,676</u>
TOTAL JOBS	176,765	11,438	188,203
PERSONAL INCOME (1,000)			
DIRECT	\$265,247	\$129,108	\$394,355
INDUCED	\$779,799	\$298,100	\$1,077,899
INDIRECT	\$149,811	\$99,697	\$249,507
RELATED USER INCOME	<u>\$4,680,533</u>	NA	<u>\$4,680,533</u>
TOTAL PERSONAL INCOME	\$5,875,389	\$526,905	\$6,402,294
VALUE OF ECONOMIC ACTIVITY (1,000)			
BUSINESS SERVICES REVENUE	\$740,498	\$1,264,665	\$2,005,163
RELATED USER OUTPUT	<u>\$14,845,943</u>	NA	<u>\$14,845,943</u>
TOTAL VALUE OF ECONOMIC ACTIVITY	\$15,586,441	\$1,264,665	\$16,851,106
LOCAL PURCHASES (1,000)			
	\$281,252	\$139,282	\$420,534
STATE & LOCAL TAXES (1,000)			
DIRECT, INDUCED AND INDIRECT	\$109,927	\$48,541	\$158,468
RELATED USER TAXES	<u>\$430,609</u>	NA	<u>\$430,609</u>
TOTAL STATE AND LOCAL TAXES	\$540,536	\$48,541	\$589,077

* Totals may not add due to rounding.

The vessel and cargo activity at the cargo and cruise facilities at Port Everglades generated the following impacts in the regional economy in FY2006:

- **188,203 jobs in Florida are in some way related to the cargo and cruise activity at Port Everglades. Of the 188,203 total jobs:**
 - **10,982 direct jobs** are generated by the ocean cargo and cruise activity.
 - As the result of local and regional purchases by those 10,982 individuals holding the direct jobs, an additional **10,021 induced jobs** are supported in the regional economy.
 - **6,525 indirect jobs** were supported by \$420.5 million of local purchases by businesses supplying services at the cargo and cruise terminals and by businesses dependent upon Port Everglades for the shipment and receipt of cargo.

- The cargo moving via Port Everglades supports **160,676 related user jobs** with exporters and importers located throughout the State of Florida. The majority of these jobs with exporters and importers are associated with the movement of containerized commodities.
- **Approximately \$6.4 billion of wages and salaries were generated by Port Everglades cargo and cruise activity in FY2006.**
 - **\$394.4 million of direct wages and salaries** were received by those 10,982 directly employed.
 - As the result of re-spending this direct job holder income, an **additional \$1,077.9 billion of income and consumption expenditures were created** and supported the 10,021 induced jobs.
 - The 6,525 indirect job holders received **\$249.5 million of indirect wages and salaries.**
 - The 160,676 related user job holders generated **\$4,680.5 billion in personal income.**
- **The FY2006 cargo and cruise activity at Port Everglades generated \$16.85 billion in economic value to the State of Florida.**
 - Businesses providing services to the cargo and cruise terminals received **\$2.0 billion of revenue.**
 - In addition, the cargo activity at the Port created an additional **\$14.8 billion of total economic output** in the state, the majority of which is created by the movement of containers, and the in-state industries supporting these industries.
- Local businesses and suppliers to the cargo and cruise industries at Port Everglades made **\$420.5 million of local purchases.**
- **\$589.1 million of state and local taxes** were generated by activity at the cargo and cruise terminals, including **\$430.6 million generated by the related users** throughout the state.

I. INTRODUCTION AND SUMMARY

Martin Associates was retained by the Broward County Port Everglades Department to measure the local, regional and state economic impacts generated by maritime activity at the container, break bulk, liquid bulk and dry bulk cargo terminals as well as cruise terminals at Port Everglades. Economic impacts generated at the cargo facilities include the impacts generated by containerized cargo (both dry and reefer), petroleum, steel products, cement, lumber and plywood, RO/RO cargo such as previously owned vehicles (POV's) and yachts, and other dry bulk cargo such as aggregates. In addition to the economic impacts generated by the cargo activity at the seaport terminals, Martin Associates has also quantified the economic impacts of the cruise industry at Port Everglades

The study employs methodology and definitions that have been used by Martin Associates to measure the economic impacts of seaport activity at more than 250 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 Port's tenants and the firms providing cargo and cruise services at Port Everglades. Specific re-sponding models have been developed for the Fort Lauderdale 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.

At the outset, it is important to note that this study uses a different methodology than previous studies and may be difficult to directly compare to results of economic impact studies previously completed for Port Everglades by other consultants.

1. IMPACT DEFINITIONS

The impacts are measured separately for the Port's cargo activity and cruise activity.

The impacts are measured in terms of:

- Jobs [direct, induced, indirect and related shipper/consignee (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 the Port's cargo and cruise facilities were to cease. Direct jobs created by maritime cargo activity at the Port'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) and Teamsters Union, stevedores and customhouse brokers, vessel agents, pilots and tug assist companies. Direct employees created by the cruise operations include the jobs with the firms providing the direct vessel services –chandlers, pilots, longshoremen, line handlers, local advertising firms, caterers, liquor wholesalers, linen companies, security firms, waste disposal firms, parking, local transportation -- as well as the firms providing services to the passengers on the vessels -- hotels, taxi cabs, restaurants and tour packages. Also included are impacts generated at Fort Lauderdale-Hollywood International Airport due to the cruise passengers arriving via air.

Induced jobs are jobs created in the Fort Lauderdale 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 Fort Lauderdale 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 Fort Lauderdale area as the result of purchases for goods and services by the *firms* directly impacted by Port Everglades activity, including the tenants, terminal operators and the firms providing services to cargo – which includes containerized cargo, petroleum, general cargo, RO/RO and dry bulks and cruise passenger 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 are jobs with shippers and consignees (exporters and importers) using the seaport terminals for shipment and receipt of cargo. The majority Port Everglades shippers and consignees impacts involve the import and export of ocean containerized cargo.

- **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 Fort Lauderdale area of those directly employed as the result of Port Everglades cargo and cruise activity. 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 ocean cargo and cruise activity. **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 Everglades cargo, cruise, and ship repair activity.

2. METHODOLOGY

The impacts of Port Everglades were estimated based on telephone and personal interviews with 235 firms in the Fort Lauderdale area. This represents the universe of the ocean cargo, and cruise related businesses (with the exception of trucking and freight forwarding firms) in the Fort Lauderdale area, as defined in the “Port Everglades Facilities Guide & Directory 2006”, “Port Everglades Department FTZ Tenant Directory” as well as the “Florida Customs Brokers and Forwarders Association Member Directory”. It is to be emphasized that a 99% 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 (cargo and cruise). Each firm surveyed provided Martin Associates with detailed employment levels (both full time and part time), annual payroll, local purchases and the residence of the employees.

The induced impacts are based on the current expenditure profile of residents in the Fort Lauderdale 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 Fort Lauderdale area residents. The consumption categories are:

- Housing;
- Food at Restaurants;
- Food at Home;
- Entertainment;
- Health Care;
- Home Furnishings; and
- 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 Fort Lauderdale 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 Fort Lauderdale 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 MODELS

The impacts are measured for fiscal year 2006, and computer models for both cargo and cruise operations have 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 Port Everglades can use in formulating and guiding the future development of Port facilities.

3.1. Maritime Cargo Sensitivity

The cargo impact model is designed to test the sensitivity of impacts to changes in such factors as maritime tonnage levels, seaport productivity and work rules, new seaport facilities development, inland distribution patterns of ocean 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 maritime terminal versus other non-cargo land uses. Finally, the maritime 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.

3.2. Cruise Activity

The cruise service impact model provides a tool by which the Port can evaluate changes in the types of cruises being offered, the size of vessels deployed, the number of passengers per cruise, the share of passengers staying overnight in Fort Lauderdale area hotels prior to or after the cruise, and the number of one day, overnight and multi-day (conventional) cruises. The cruise model can also be used to quantify the potential impact of new services, by size of vessel and type of cruise.

Finally, the cruise impact model along with the maritime cargo model can be used to evaluate the economic impact of a maritime terminal for use as a cruise terminal versus a cargo terminal.

4. SUMMARY OF RESULTS

Exhibit I-1 provides a breakdown by cargo and cruise results for the economic impact analysis of Port Everglades.

Exhibit I-1 Economic Impact of Port Everglades Cargo and Cruise Activity Fiscal Year 2006*

	CARGO	CRUISE	TOTAL
JOBS			
DIRECT	5,984	4,997	10,982
INDUCED	6,742	3,278	10,021
INDIRECT	3,362	3,163	6,525
RELATED USER JOBS	<u>160,676</u>	NA	<u>160,676</u>
TOTAL JOBS	176,765	11,438	188,203
PERSONAL INCOME (1,000)			
DIRECT	\$265,247	\$129,108	\$394,355
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RELATED USER INCOME	<u>\$4,680,533</u>	NA	<u>\$4,680,533</u>
TOTAL PERSONAL INCOME	\$5,875,389	\$526,905	\$6,402,294
VALUE OF ECONOMIC ACTIVITY (1,000)			
BUSINESS SERVICES REVENUE	\$740,498	\$1,264,665	\$2,005,163
RELATED USER OUTPUT	<u>\$14,845,943</u>	NA	<u>\$14,845,943</u>
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LOCAL PURCHASES (1,000)			
	\$281,252	\$139,282	\$420,534
STATE & LOCAL TAXES (1,000)			
DIRECT, INDUCED AND INDIRECT	\$109,927	\$48,541	\$158,468
RELATED USER TAXES	<u>\$430,609</u>	NA	<u>\$430,609</u>
TOTAL STATE AND LOCAL TAXES	\$540,536	\$48,541	\$589,077

*Totals may be rounded.

In Fiscal Year 2006, Port Everglades supported 188,203 jobs in the State of Florida. Of these jobs, 10,982 jobs are directly created, while another 10,021 induced jobs are generated in the Fort Lauderdale area as the result of local purchases by those directly employed by Port Everglades activity. In addition, there are 6,525 indirect jobs supported in the Fort Lauderdale area as the result of \$420.5 million of local purchases. In addition, the cargo moving via Port Everglades supports

160,676 jobs throughout the State of Florida. The majority of these jobs are associated with the movement of containerized cargo at Port Everglades.

The 10,982 direct jobs received \$394.4 million of direct wage and salary income, for average earnings of \$35,910 per direct employee. As the result of local purchases with this \$394.4 million of direct wages and salaries, an additional \$1.1 billion of income and local consumption expenditures were created in the Fort Lauderdale area. It is this re-spending impact that supported the 10,021 induced jobs.¹ The indirect jobs holders received \$249.5 million. In total, \$6.4 billion of personal income was created as the result of Port Everglades operations, including the nearly \$4.7 billion received by those employed with the related users of the Port.

Local businesses received \$2.0 billion of sales revenue from providing services to the ocean cargo activity and cruise activity. This does not include the value of the cargo moving via the Port. The cargo activity at the Port created an additional \$14.8 billion of total economic output in the state, the majority of which is created in the state's retail and wholesale and distribution industries and the in-state industries supporting the movement and distribution of containerized cargo imports and exports. 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.

As a result of the cargo and cruise activity at Port Everglades, a total of \$589.1 million of state and local tax revenue was generated.

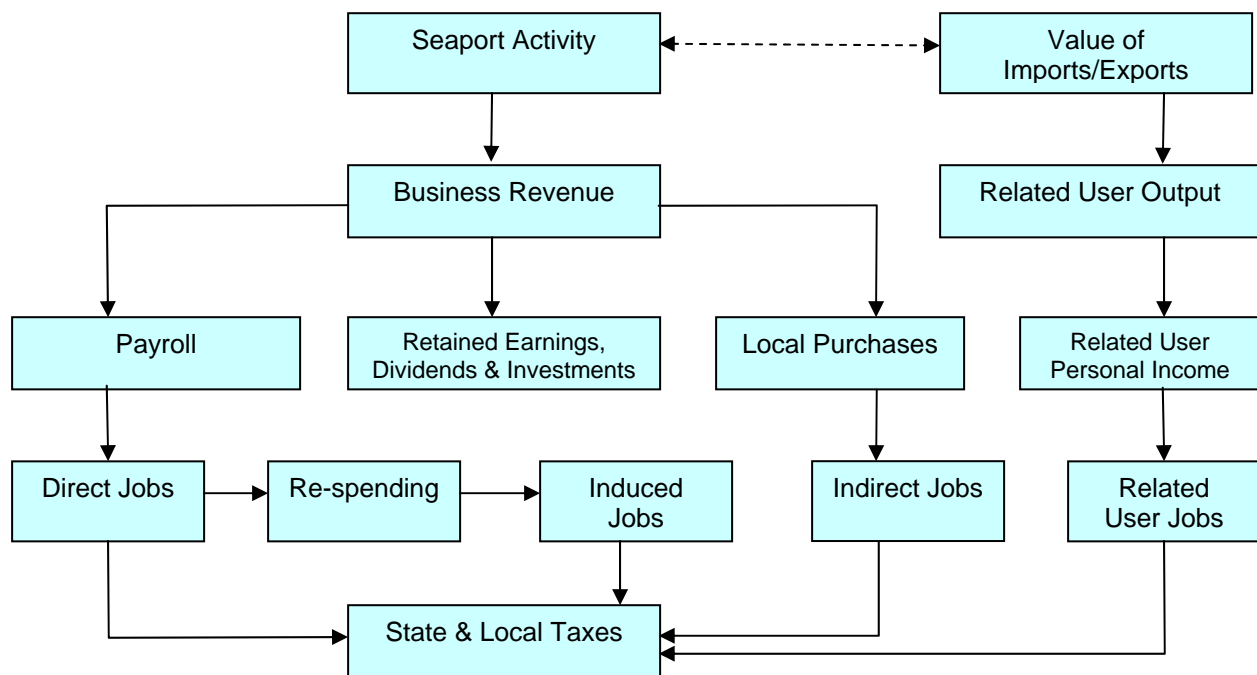
The balance of the report describes the impacts created by maritime cargo and cruise service at Port Everglades.

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 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 Fort Lauderdale area. Hence, the average salary would be overestimated.

II. ECONOMIC IMPACTS OF MARITIME 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 seaport 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 seaport 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 Everglades’ maritime terminals generates the four impacts.

Exhibit II-1 Flow of Economic Impacts Generated by Maritime 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 Port Everglades 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 ocean cargo include jobs with railroads and trucking companies moving cargo between inland origins and destinations and the seaport 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 Everglades maritime 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.
- **Related shipper/consignee (related user) jobs** -- jobs with shippers and consignees (exporters and importers) using the seaport 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 Fort Lauderdale area. 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 seaport terminals.

1. IMPACT STRUCTURE

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 seaport terminals. These are the:

- Surface Transportation Sector;
- Maritime Services Sector;
- Port Everglades Department; and
- Related Shippers/Consignees Sector.

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 seaport terminals and the inland origins and destinations. Also included is the pipeline transportation of petroleum products received at the Port and destined for airports within the region.

1.2. The Maritime Services Sector

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

- Maritime Cargo 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:

- Maritime Cargo 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.

- 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, for ship supplies as well as payment of various expenses including Port Everglades Department charges. 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 Everglades's maritime terminals;
- Bunkering firms - provide fuel to the vessels;
- Marine surveyors - inspect the vessels and the cargo; and
- 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 & dockworkers - include members of the International Longshoremen's Association (ILA), as well as non-ILA dockworkers (e.g. Teamsters Union) 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 Port Everglades are provided by private stevedoring companies;
 - Cargo terminal operators - are stevedoring firms who operate the maritime terminals, track cargo movement and provide security where cargo is loaded and off-loaded, as well as the petroleum terminal and pipeline operators which includes petroleum tank farm operations;
 - Warehouse operators - store cargo after discharge or prior to loading and consolidate cargo units into shipment lots. In many cases the freight forwarders and consolidators are also involved in warehousing activity.
 - FTZ Operators - operate facilities in the Port Everglades Foreign Trade Zone.
- 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. Department of Homeland Security (DHS) [which includes Customs and Border Protection (CBP), US Immigration and Customs Enforcement (ICE) and U.S. Coast Guard], U.S. Department of Labor, U.S. Department of Agriculture and the U.S. Army Corps of Engineers are involved. These services are provided by the government offices located in the Fort Lauderdale area. The Broward County Sheriff's Office (BSO) and Florida Department of Law Enforcement (FDLE) as well as fire/rescue department are also included in this group.

1.3. Related Shipper/Consignees of Port Everglades

Related jobs consist of jobs with related shippers/consignees shipping and receiving cargo through the public and private cargo terminals at Port Everglades. The majority of these users are attributed to containerized cargo through the Port. Only the user industry activity that can be linked to the movement of cargo (either raw materials or finished products) through Port Everglades is considered in this related user impact.

1.4. Port Everglades Department

The Port Everglades Department includes those individuals employed by Broward County

whose purpose is to oversee port activity at the port's cargo and cruise terminals. The seaport department provides basic infrastructure, establishes usage rules and tariff rates, markets the seaport facilities, and negotiates long-term agreements and leases. The port's Operations division control berthing and provides line handling. The Port Everglades Department operates from user fees and not taxes.

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, automobiles and RO/RO require a large amount of paved, open storage space, while certain types of break bulk cargoes such as steel coil, lumber and plywood may 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 cargo terminals:

- Containers (dry and refrigerated);
- Steel Coils;
- Steel Rebar;
- Lumber/Plywood;
- Automobiles, RO/RO, and Yachts;
- Cement;
- Other Dry Bulk; and
- Petroleum Products.

It should be emphasized that commodity-specific impacts are not estimated for each of the economic sectors described in the last section. Specific impacts could not be allocated by individual commodities with any degree of accuracy for maritime construction, ship repair, or the state and Federal government due to the fact that it is difficult to estimate the percentage of resources that are dedicated to one commodity over another. For example, maritime construction may occur at a terminal that is multi-use and cannot be attributed to a specific commodity. Similarly, law enforcement and security operations of BSO cannot be attributed to a single commodity.

3. MARITIME CARGO EMPLOYMENT IMPACTS

The employment generated by maritime cargo activity at Port Everglades is estimated.

- First, the total employment that is in some way related to the activities at cargo terminals is estimated from interview process of 235 service providers and tenants as described in the methodology;
- 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/customshouse brokers/warehouse and consolidators, 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 maritime activity at the cargo terminals are described.

It is estimated that 188,203 jobs are directly or indirectly generated by port activities at the cargo terminals within Port Everglades Jurisdictional Boundary (PJB). Of the 188,203 jobs:

- 5,984 jobs are directly generated by activities at the cargo terminals and if such activities should cease, these jobs would be discontinued over the short term.
- 6,742 jobs (induced jobs) are supported by the local purchases of the 5,984 individuals directly generated by port activity at the cargo terminals. An additional 3,362 indirect jobs were supported by \$281.3 million of purchases in the local and regional economy by firms providing direct cargo handling and vessel services.
- 160,676 jobs are related to cargo exported and imported via the cargo terminals. These jobs are with related shippers/consignees of Port Everglades, and are mostly concentrated with jobs in the movement of containerized cargo through Port Everglades.

3.1. Direct Maritime Cargo Job Impacts

In FY2006, about 27 million tons of waterborne cargo moved via Port Everglades. As a

result of this activity, 5,984 full-time jobs were directly created². 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.

These distributions are developed in more detail below.

3.1.1. Job Impacts by Category

Exhibit II-2 presents the distribution of the 5,984 direct jobs by type of job. The exhibit indicates that the majority of direct jobs are with trucking jobs moving cargo to and from the terminals, followed by ILA and dockworkers, and then terminal operators.

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

DIRECT JOBS	
SURFACE TRANSPORTATION	
RAIL	193
TRUCK	2,611
MARITIME SERVICES	
TERMINAL EMPLOYEES	629
ILA/DOCKWORKERS	648
TOWING	47
PILOTS	30
AGENTS	75
MARITIME SERVICES	325
WAREHOUSING/CONSOLIDATORS/FORWARDERS	447
GOVERNMENT	393
MARINE CONSTRUCTION/DREDGING	118
BARGE	21
FTZ	198
BANKING/INSURANCE/LAW	35
PORT EVERGLADES DEPARTMENT	214
TOTAL	5,984

3.1.2. Direct Job Impacts by Commodity

Most of the 5,984 jobs considered to be generated by port activity can be associated with the

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 Everglades cargo terminals, then this worker is counted as .5 jobs.

handling of specific commodities or commodity groups. Certain employment categories such as government employees and employees with maritime construction and ship repair cannot be identified with a specific commodity. As a result, employment in these groups (which totaled 996) 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

DIRECT JOBS	
CONTAINERS	2,435
REEFER	228
COILS	9
LUMBER/PLYWOOD	54
REBAR	138
RO/RO	103
CEMENT	348
OTHER DRY BULK	76
PETROL PRODUCTS	1,597
NOT ALLOCATED	<u>996</u>
TOTAL	5,984

The movement of containerized cargo (including reefer containers) creates the largest number of direct jobs, followed by the movement and distribution of finished petroleum products. The majority of the remaining direct jobs is supported by the movement of cement and rebar.

3.1.3. Distribution of Direct Cargo Jobs by Place of Residency

To underscore the geographic scope of the impacts generated by the cargo terminals, Exhibit II-4 presents the distribution of the 5,984 direct jobs by place of residency. The geographic employment analysis is based on the results of the interviews with 235 firms. As this exhibit indicates, about 70% of the direct job holders reside in Broward County, followed by about 25% residing in Miami-Dade County.

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

JURISDICTION	SHARE	DIRECT JOBS
Broward County	69.5%	4,161
Miami-Dade County	25.6%	1,531
Palm Beach County	2.7%	162
Collier County	0.2%	11
Hendry County	0.2%	13
Other FL	1.1%	64
Other US	0.7%	44
TOTAL	100.0%	5,984

Exhibit II-5 shows the distribution of the residency of the direct jobs within Broward County. Of those residing in Broward County, about 40% reside in Fort Lauderdale, followed by 11.3% residing in Sunrise, 7.92% in Lauderhill, and 7.85% reside in Lauderdale Lakes.

Exhibit II-5 Distribution of Direct Jobs by Jurisdiction within Broward County

BROWARD COUNTY JURISDICTION	SHARE	DIRECT JOBS
Ft. Lauderdale	40.3%	1,677
Sunrise	11.3%	471
Lauderhill	7.9%	330
Lauderdale Lakes	7.9%	327
Hollywood	7.3%	302
Pompano Beach	5.4%	226
Pembroke Pines	2.7%	111
Plantation	2.4%	100
Coral Springs	2.0%	85
Hallendale Beach	1.9%	77
Weston	1.5%	64
Davie	1.5%	63
Dania Beach	1.5%	61
Miramar	1.3%	53
Margate	1.0%	43
Cooper City	0.9%	36
Deerfield Beach	0.8%	32
Tamarac	0.8%	31
Oakland Park	0.6%	25
Coconut CK	0.4%	15
N. Lauderdale	0.3%	14
Other	0.4%	19
Total	100.0%	4,161

3.2. Induced Jobs

The 5,984 directly employed individuals due to activity at the cargo 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, 6,742 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 5,984 direct jobs make local purchases for goods and services. These local purchases by the firms dependent upon the cargo facilities generate additional local jobs -- indirect jobs. Based on interviews with the 235 firms, these firms made \$281.3 million of local and in-state purchases in 2006. These direct local purchases created an additional 3,362 indirect jobs in the local economy.

3.4. Related User (Shipper/Consignee) Jobs

It is estimated that about 160,676 jobs are supported in Florida with shippers/consignees that use Port Everglades. It is important to emphasize that the user jobs are supported by the cargo moving only via Port Everglades in 2006, 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 the related user impact for containerized cargo, the average value per ton of each containerized imports and exports was estimated using U.S. Maritime Administration, Foreign Trade Statistics. The employment to value of output coefficient for the retail sector related to the exported and imported containerized cargoes was then computed from Bureau of Economic Analysis, Regional Input-Output Model for the State of Florida. To estimate the related containerized cargo jobs, the average value per ton of containerized cargo was multiplied by the tons handled at the Port. The job coefficient was next multiplied by the value of the containerized cargo moving via the Port to estimate the related jobs with exported and imported containerized cargo. The value was reflected to reflect retail margins.

For breakbulk cargoes, the associated consuming and producing industries were identified with each commodity. For example, for imported iron and steel products, and lumber and plywood, 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 and bulk cargoes, including petroleum 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 Bureau Of Economic Analysis, Regional Input-Output Modeling System (RIMSII) model, the value of the

breakbulk and bulk cargoes (i.e., steel products, and lumber/plywood, petroleum) moving via the Port and remaining in (or produced in) the State of Florida was converted into related shipper/consignee jobs with these users and associated supporting industries within the state.

For cement, the final demand job multiplier for cement prosecution in Florida was developed from the RIMSII data. This multiplier was then applied to the direct jobs associated with the movement of the cement via Port Everglades.

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.

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

The 27 million tons of cargo handled at the cargo 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 seaport terminals and distributing the imported commodities inland after receipt at the cargo 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 Port Everglades Department 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 seaport 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 seaport 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 Fort Lauderdale area providing goods and services to the economic 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 Everglades. In 2006, maritime cargo activity at the Port generated a total of \$15.6 billion of total economic activity in the state. Of the \$15.6 billion, \$740.5 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 maritime terminals and the vessels calling the port. The remaining \$14.8 billion represents the value of the output to the State of Florida that is created due to the cargo moving via Port Everglades. 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 Everglades and are consumed by industries within the State of Florida. The balance of the discussion focuses on the \$740.5 million of direct business revenue generated from the provision of services to the cargo and vessels handled at Port Everglades.

4.1.1. Revenue Impacts by Economic Sector/Category

Exhibit II-6 presents the total revenue estimated to have been generated by port activity in 2006. This revenue includes the revenue received by firms providing services to the commodity and vessel activity at the cargo terminals, and includes revenue received by trucking firms, stevedores, Port Everglades Department, chandlers, agents, pilots, towing companies, etc. Not included is the revenue from the use/value of the cargo moving via the maritime terminals, as this is included in the related shipper/consignee output.

The warehousing/consolidation and freight forwarding/brokerage operation receives the largest revenue impact, followed by trucking operations and then terminal operations.

Exhibit II-6 Direct Revenue Generated By Port Cargo Activity

		REVENUE (1,000)
SURFACE TRANSPORTATION		
	RAIL	\$155
	TRUCK	\$158,030
	PIPELINE	\$1,581
MARITIME SERVICES		
	TERMINAL EMPLOYEES	\$109,356
	TOWING	\$24,040
	PILOTS	\$4,962
	AGENTS	\$6,377
	MARITIME SERVICES	\$66,666
	WAREHOUSING/CONSOLIDATORS/FORWARDERS	\$189,343
	GOVERNMENT	NA
	MARINE CONSTRUCTION/DREDGING	\$41,284
	BARGE	\$1,328
	FTZ	\$53,010
BANKING/INSURANCE		\$4,935
PORT EVERGLADES DEPARTMENT		\$79,431
TOTAL		\$740,498

4.1.2. Revenue Impacts by Commodity

Exhibit II-7 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 seaport terminals is not included, since product value is determined by the demand for the product, not the use of the cargo terminals.

Exhibit II-7 Cargo Revenue Impacts by Commodity

COMMODITY	REVENUE (1000)
CONTAINERS	\$283,484
REEFER	\$75,145
COILS	\$1,334
LUMBER/PLYWOOD	\$4,036
REBAR	\$5,937
RO/RO	\$21,236
CEMENT	\$27,125
OTHER DRY BULK	\$4,037
PETROL PRODUCTS	\$131,710
NOT ALLOCATED	\$186,455
TOTAL	\$740,498

As this exhibit indicates containerized cargo generated the largest direct revenue impacts, followed by petroleum products.

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 \$265.3 million in personal wage and salary earnings. It is important to emphasize that the average annual earnings of a port-dependent job is about \$44,326. 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 cargo terminals, an additional \$2.94 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 \$3.94 was used to estimate the total income and consumption impact of nearly \$1.05 billion, inclusive of the re-spending effect. This additional re-spending of the direct income generates the 6,742 induced job impacts.

The 3,362 indirect job holders earned \$149.8 million in indirect wages and salaries. The 160,676 related shipper/consignees of the cargo moving via the Port received about \$4.7 billion of personal income.

Therefore, the total personal income impact and consumption impact created by Port Everglades ocean cargo activity is estimated at nearly \$6.0 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 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.

Cargo activity generated \$109.9 million of state, county and local taxes. As a result of the economic activity created by the related shipper/consignees an additional \$430.6 million of state and local taxes were generated. The State of Florida receives approximately 57% of the tax revenues, while the local governments received 43% of the tax impact as illustrated in Exhibit II-8.

Exhibit II-8 Distribution of State and Local Taxes

TAXES BY CATEGORY (1,000)	STATE	LOCAL	TOTAL
DIRECT, INDUCED & INDIRECT	\$ 62.2	\$ 47.7	\$ 109.9
RELATED USER	\$ 243.8	\$ 186.8	\$ 430.6
TOTAL	\$ 306.1	\$ 234.5	\$ 540.5

III. ECONOMIC IMPACTS OF CRUISE SERVICE AT PORT EVERGLADES

In 2006, about 1,800 cruise vessel calls were recorded at Port Everglades, carrying approximately 1.6 million embarking passengers. It is important to note that these are all cruise calls by homeported vessels in contrast to in-transit calls. The key difference between an in-transit call and a homeport call is the fact that a vessel home porting will take on passengers and supplies at Port Everglades, while a vessel making an intermediate in-transit call typically does not take on or discharge passengers and neither does the vessel take on supplies from local chandlers and caterers, as well as use local services such as advertising, maintenance and repair, linen services, etc. Hence, a call by a homeported vessel will generate a greater economic impact than an in-transit call. Also included in the passenger and vessel call counts are daily and overnight cruises to the Bahamas as well as daily gaming sails. These daily/overnight sails account for about 40% of the embarkations.

To measure the economic impact of the cruise service, Martin Associates developed a cruise impact model. The model can be used to test the sensitivity of the impacts to changes in the percent of passengers flying into Fort Lauderdale versus the percent of passengers driving to the Port, the share of passengers staying in hotels prior to and after the cruise, the local expenditures by passengers while in hotels either before or after the cruise, and the local purchases by the cruise lines for food, liquor, and other supplies and services. The impact of changes in the mix of the size of vessels and the number of cruises by size of vessel and itinerary can also be evaluated using the model.

1. ECONOMIC IMPACT STRUCTURE

Cruise service related to the home porting of a vessel contributes to the local and regional economies by providing employment and income to individuals, tax revenues to local and state governments, and revenue to businesses engaged in providing operational services and supplies to the vessels and passengers. The flow of cruise industry-generated economic impacts throughout an economy creates four separate and non-additive types of impacts. These four types of impacts are:

- **Employment Impact** – represents the number of full-time equivalent jobs generated by cruise activity at Port Everglades. This consists of jobs directly generated by the home porting of cruise vessels as well as induced jobs, or jobs created in the Fort Lauderdale area due to the purchase of goods and services by those individuals directly dependent upon cruise activity.
- **Income Impact** - the level of earnings associated with the jobs created by cruise activity, and adjusted to reflect respending throughout the economy.
- **Revenue Impact** - the sales generated by firms engaged in supplying services and materials to the vessels while in port, as well as firms in the Fort Lauderdale area visitor industry that supply services to cruise passengers staying in hotels before and after the cruise. The value of the cruise tickets is not included as a revenue impact except for those cruise services

based in Fort Lauderdale that provide the daily/non-conventional cruises. These cruise vessels include the Sea Escape, Discovery and the Imperial Majesty.

- **Tax Impacts** – includes the state and local tax revenues generated by cruise activity. These are taxes paid by individuals directly dependent upon the cruise activity.

The methodology used to estimate these impacts is described in the following section.

2. ECONOMIC IMPACT OF HOMEPORT CALLS

Homeport activity at Port Everglades affects two sectors of the local and regional economy:

- Maritime Service Sector; and
- Visitor Industry Sector.

Separate impacts are estimated for each of the various economic categories supplying goods and services to the cruise ships and passengers. A discussion of each of the impact categories is provided below.

The typical expenditure profile of a cruise line while in port provides an understanding of the types of firms involved in providing goods and services to the vessel and its passengers. These expenditure categories are:

- **Food and Beverage** - This category includes wholesale food and liquor distributors. It is to be emphasized that in some cases the non-perishable food brought on board at the beginning of a cruise is not necessarily purchased locally, but based on contractual relationships and is trucked in from out of the area. Similarly, in some cases, liquor is purchased from in-bound warehouses, and not from local distributors. Interviews with the cruise operators identified the amount spent locally.
- **Logo Items** - These items are typically purchased under contract and are trucked into the port of embarkation. Therefore, no local impact is estimated.
- **Flowers** - Local wholesale flower distributors supply flowers for each cruise.
- **Public Relations and Advertising** - Contracts are usually developed with local advertising firms to promote the cruise. This is especially the case for the local cruises providing daily cruise services.
- **Parking** - Local parking management companies provide parking services for the passengers.
- **Taxis/buses** - Local taxis and buses provide transportation between the airport and the ship or between the hotel and the ship for air/sea passengers.

- Security - Security services are hired while the ship is in port.
- Linen services - Contracts are developed with local laundries for linen and laundry services.
- Pilots – State licensed and locally based operators guide the cruise ships into the terminal.
- Tugs - Tug services are required for certain cruise ships to assist in docking and undocking. However, most cruise vessels require minimal, if any, tug assists.
- Stevedoring - Required in loading and unloading baggage and ship stores.
- Linehandling – (Provided the Port Everglades Department) securing and unsecuring the vessel to the dock
- Local and Regional Travel Agencies - Local travel agencies will receive a commission from ticket sales to area residents.
- Waste Disposal - Solid waste and other refuse that cannot be discharged at sea will be disposed by local refuse collectors.
- Bunkers - Fuel will be purchased from local bunkering companies.
- Water- Most cruise ships manufacture water at sea, but will still purchase some water locally prior to departure.
- Visitor Industry - In addition to the impacts generated by direct vessel purchases, 43.3% of the multi-day cruise passengers stay in hotels either before or after the cruise. These individuals will typically purchase incidental retail items before or after the cruise and eat in local hotel restaurants while in the Fort Lauderdale area. Also, these air/sea passengers will take cabs/buses from the airport to the hotel or ship, as well as taxis between the hotel and the ship and throughout the city. In addition to passengers impacting the local visitor industry, the ship's crew will also impact the local industry. For example, the crew will likely purchase personal incidentals while in port. Also, a portion of the crew could be rotated on each sailing. The new crew may stay in a local hotel upon arrival, while the departing crew may also stay in a hotel prior to leaving the area. The crews of the daily sails are treated as based in Fort Lauderdale.

In addition, the passengers arriving via the Fort Lauderdale-Hollywood International Airport also generate impacts on site at the airport, including jobs with airlines (ticket agents, baggage, concessions, taxis, security, etc.). To estimate the impact on the Airport, Martin Associates used average impact ratios developed from our numerous airport impact studies conducted for such airports as Miami International Airport, Atlanta Hartsfield International Airport, Washington Dulles

and Reagan National Airports, Baltimore-Washington International Airport, San Francisco International Airport, and Seattle-Tacoma International Airport.

The economic impact analysis of cruise service at Port Everglades is based on a telephone survey of cruise lines calling the Port, including Carnival Cruise Lines, Royal Caribbean International, Princess Cruise Lines and Holland America Line currently serving Port Everglades. In addition interviews were conducted with the three operators of the daily cruise services – Sea Escape, Discovery, and the Imperial Majesty. Data was also collected from the Port Everglades Department as well as in-house data bases. While budgetary constraints of the project did not allow for detailed passenger surveys, which Martin Associates typically conducts as part of the cruise impact studies at other ports, we were able to use the preliminary results of an origin and destination survey conducted as part of the Broward County People Mover PD&E study conducted by Lea+Elliott, Inc. to better calibrate the cruise service model.

The interviews of cruise lines focused on typical expenditure profiles of a vessel while in port as well as the percent of crew that are rotated on/off during each sailing. Incidental expenses by crew while in port were also estimated from the interviews as well as in-house data. The percent of passengers that are air/sea versus drive-in, the percent of visitor versus local passengers, and the share of passengers spending a pre/post night in Fort Lauderdale were developed from the preliminary results of the Lea+Elliott, Inc. Broward County People Mover PD&E Study which entailed a survey of nearly 3,000 Port Everglades passengers conducted between February 26, 2007 and March 11, 2007. The price of the land-side portion of those staying in Fort Lauderdale was determined from the interviews with Fort Lauderdale Convention and Visitors Bureau and recent surveys of cruise passengers at other ports to estimate local visitor industry impacts.

The induced impacts are based on the current expenditure profile of residents in the Fort Lauderdale 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 Fort Lauderdale area residents. The consumption categories are:

- Housing;
- Food at Restaurants;
- Food at Home;
- Entertainment;
- Health Care;
- Home Furnishings; and
- 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 Fort Lauderdale 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 Fort Lauderdale 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.

The cruise service impact model provides a tool by which the Port can evaluate changes in the types of cruises being offered, the size of vessels deployed, the number of passengers per cruise, the share of passengers staying overnight in Fort Lauderdale area hotels prior to or after the cruise, and the number of one day cruises and multi-day cruises. The cruise model can also be used to quantify the potential impact of new services, by size of vessel and type of cruise. Finally, the cruise impact model along with the maritime cargo model can be used to evaluate the economic impact of a seaport terminal for use as a cruise terminal versus a cargo terminal.

3. CRUISE SERVICE IMPACT MODEL

In order to assess the economic impacts of potential cruise business at Port Everglades, Martin Associates developed a spreadsheet framework, which can be used to assess the impacts of changes in such factors as:

- Number of cruise vessel calls;
- Number of passengers;
- Passenger characteristics:
 - Local expenditures;
 - Local residents versus tourists;
 - Length of pre/post night stay in Fort Lauderdale area;
- Size of crew; and
- Size of vessel.

This model will estimate the impacts of current cruise operations at Port Everglades.

4. PORT EVERGLADES CRUISE OPERATIONS FY2006

During the FY 2006 cruise season, 1,757 cruises called the Port carrying about 3.24 million total embarking and debarking passengers, or about 1.6 million actual individual passengers. The cruise operations at Port Everglades are divided into conventional multi-day cruises as well as daily cruise operations. Exhibit III-1 illustrates the FY2006 cruise season by type of cruise and cruise line.

Exhibit III-1 Cruise Calls and Passengers by Cruise Line

CRUISE LINE	CALLS	PASSENGERS
MULTI-DAY		
PRINCESS	136	693,218
ROYAL CARIBBEAN	104	492,779
HOLLAND AMERICA	99	296,732
CELEBRITY	49	182,848
CARNIVAL CRUISE LINE	47	255,921
COSTA	45	229,535
MSC	25	67,083
RADISSON	20	20,725
CUNARD/SEABOURN	13	7,905
CRYSTAL CRUISES	8	11,594
OCCASIONAL	12	13,407
MULTI-DAY SUBTOTAL	558	2,271,747
DAILY		
IMPERIAL MAJESTY	166	187,937
SEAESCAPE	695	474,994
DISCOVERY	338	304,476
DAILY SUBTOTAL	1,199	967,407
TOTAL	1,757	3,239,154

Source: Port Everglades Department

Based on the preliminary results of the passenger study conducted by Lea+Elliott, Inc., approximately 43% of the Port Everglades cruise passengers arrived to the port from a hotel. Nearly 32% arrived directly from an airport (97% from Fort Lauderdale-Hollywood International Airport), while 25% originated from a private residence. Of those 43% of passengers that stayed in a hotel, approximately 83% arrived in the Fort Lauderdale area via air, while 17% arrived by other modes.

Exhibit III-2 Origin of Port Everglades Cruise Passengers

ORIGIN	PERCENT	PERCENT OF HOTEL
HOTEL	43.3%	
TRAVELED BY AIR		35.9%
OTHER (NOT BY AIR)		7.4%
FORT LAUDERDALE- HOLLYWOOD INT'L AIRPORT	30.6%	
MIAMI INTERNATIONAL AIRPORT	1.0%	
RESIDENCE	25.2%	
TOTAL	100.0%	43.3%

Source: Lea+Elliott, Inc.

As illustrated in Exhibit III-3, approximately 27% of the cruise passengers arrived to the cruise terminal by taxi, while 20.5% and 17.7% arrived by hotel shuttle and personal car respectively.

Exhibit III-3 Mode of Access by Cruise Passengers

MODE OF ACCESS	PERCENT
TAXI	26.95%
HOTEL SHUTTLE	20.51%
PERSONAL VEHICLE	17.67%
CRUISE BUS	12.27%
SHUTTLE	5.51%
RENTAL CAR	4.52%
BUS	5.36%
DROPPED OFF	5.01%
OTHER	2.19%
TRIRAIL	0.01%
TOTAL	100.0%

Source: Lea+Elliott, Inc.

5. ECONOMIC IMPACTS OF PORT EVERGLADES

The economic impact of the 1,757 cruise vessel calls in FY2006 at Port Everglades is presented in Exhibit III-4

Exhibit III-4 Economic Impact of Cruise Operations at Port Everglades

CATEGORY	CRUISE	AIRPORT	TOTAL
JOBS			
DIRECT	4,433	564	4,997
INDUCED	3,114	164	3,278
INDIRECT	1,764	1,398	3,163
TOTAL	9,311	2,127	11,438
PERSONAL INCOME (1,000)			
DIRECT	\$ 116,832	\$ 12,276	\$ 129,108
RE-SPENDING	\$ 285,705	\$ 12,395	\$ 298,100
INDIRECT	\$ 58,224	\$ 41,473	\$ 99,697
TOTAL	\$ 460,761	\$ 66,144	\$ 526,905
BUSINESS REVENUE (1,000)	\$ 674,223	\$ 590,442	\$ 1,264,665
LOCAL PURCHASES (1,000)	\$ 63,100	\$ 76,182	\$ 139,282
STATE/LOCAL TAXES (1,000)	\$ 42,390	\$ 6,151	\$ 48,541

6. JOB IMPACTS

The cruise activity at Port Everglades created 11,438 total jobs for Fort Lauderdale area residents. Of these 11,438 jobs, 4,997 were direct jobs, 3,278 jobs were supported in the Fort

Lauderdale area as the result of the purchases of the 4,997 direct jobs holders, while another 3,163 indirect jobs were supported in local industries that supply services and goods to the tourism industry catering to the passengers as well as to the chandlers and other firms supplying services and goods to the vessels while in Port.

7. PERSONAL INCOME IMPACT

The 4,997 direct job holders received \$129.1 million of direct wages and salaries, for an annual salary of \$25,840. As the result of the purchases made locally with this income, (which supported the 3,278 induced jobs in the Fort Lauderdale area) an additional \$298.1 million of local income and consumption expenditures were created in the Fort Lauderdale area. The 3,163 indirectly employed workers were paid \$99.7 million, for a total wage and salary income impact of \$526.9 million, including the consumption impact.

8. BUSINESS REVENUE

Local businesses supplying food, beverages, and services to the cruise lines and the services supplied at the Fort Lauderdale-Hollywood International Airport received \$1.26 billion of business revenue. In addition, in order to support the services and goods supplied to the cruise lines by these firms, another \$139.3 million of local purchases in the Fort Lauderdale area were made by those firms providing direct services to the cruise lines. These local purchases supported the 3,163 indirect jobs in the local economy.

9. TAX REVENUE

Finally, as the result of cruise activity at Port Everglades during the 2006 cruise season, \$48.5 million of state and local tax revenue was collected. Exhibit III-5 presents the breakdown of state and local taxes.

Exhibit III-5 Distribution of State and Local Taxes

TAXES BY CATEGORY (1,000)	STATE	LOCAL	TOTAL
CRUISE	\$ 24.0	\$ 18.4	\$ 42.4
AIRPORT	\$ 3.5	\$ 2.7	\$ 6.2
TOTAL	\$ 27.5	\$ 21.1	\$ 48.5