ECONOMIC IMPACTS OF THE PORT OF LOS ANGELES

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Prepared for:
Port of Los Angeles

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I. OVERVIEW OF THE ANALYSIS

The Port of Los Angeles retained the services of Martin Associates to evaluate the economic impacts generated by waterborne cargo and cruise activity at the Port, the economic impacts generated by the fish processors and marinas located on Port property, and the Port's non-cargo/cruise related tenants, including restaurants, retail stores and recreational harbor cruises.

The measurement of the economic impacts of the Port of Los Angeles consists of the measurement of the impacts of five distinct types of activity that occurs in the Port of Los Angeles. These activities are:

- *Marine cargo activity*, which includes waterborne cargo moving via the Port of Los Angeles marine terminals;

- *Cruise activity* consists of the Port's cruise business activities. The impacts of the passenger services are limited to the actual waterborne operations and shore-side operations of the passenger vessel operators. Also included are the impacts of cruise passengers on the local visitors industry;

- *Marina activity*, which includes recreational boats that are moored at as well as transient recreational boating activity at the Port-owned marinas, such as Wilmington Marine Service, the Colonial Yacht Anchorage, and the California Yacht Marina;

- *Non-marine cargo real estate tenants and harbor cruises*, which include offices, restaurants, retail stores, industrial and tourism related operations such as the Catalina Express, as well as such miscellaneous tenants as the California Department of General Services and Island Express Helicopters; and

- *Fish processing*, which includes the impacts generated by the fishing activity and processing by the tenants located on Port property.

A major emphasis of the study is its defensibility and realistic assessment of the impacts generated by activity at the Port of Los Angeles. The study is based on interviews with 721 firms providing services to the Port of Los Angeles cargo, cruise, marina, real estate and fish processing business sectors. A greater than 98 percent coverage of the firms in the Los Angeles seaport community has been achieved, underscoring the defensibility of the study. The impacts can be traced back to the company level of detail. The data collected from the interviews were then used to develop operational models of the Port of Los Angeles cargo, cruise marina, real estate and fish processing activity. In addition to the data collected from the interviews, a survey of 900 passengers boarding cruise vessels was conducted to assess impacts of visitors arriving in the Los Angeles area to board the cruise ships.

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 firms participating in each of the lines of business operated by the Port of Los Angeles. Specific re-spending models have been developed for the Los Angeles 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 separately for the Port of Los Angeles' cargo activity, cruise activity, fish processing, marina and real estate 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 Port of Los Angeles cargo, cruise, fish processing, marinas and real estate facilities were to cease. Direct jobs created by marine 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 Longshore and Warehouse Union (ILWU), stevedores and customshouse brokers, vessel agents, pilots and tug assist companies, and shippers directly dependent upon the use of the Port of Los Angeles. Direct employees created by the cruise operations include the jobs with the firms providing the direct vessel services -- tugs, 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 direct impacts generated by the marinas located on Port property as well as the fish processors and non-maritime related port tenants.

  Induced jobs are jobs created in the Los Angeles 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 Los Angeles 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 Los Angeles Area as the result of purchases for goods and services by the *firms* directly impacted by the Port of Los Angeles activity, including the firms providing services to cargo and cruise passenger operations, as well as the Port's non-cargo real estate tenants, marinas and fish processing tenants. 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, insurance and construction.

Related shipper/consignee (related user) jobs -- jobs with shippers and consignees (exporters and importers) using the marine terminals for shipment and receipt of cargo. The majority of the shippers/consignees are associated with the movement of 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 Los Angeles area of those directly employed as the result of the Port of Los Angeles. 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, cruise operations, marina tenants, fish processing tenants and miscellaneous real estate tenants. **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 the Port of Los Angeles cargo, cruise, marina, fish processing and real estate activity.

2. METHODOLOGY

The impacts of the Port of Los Angeles were estimated based on telephone and personal interviews with 721 firms in the Los Angeles area that are either port tenants or firms that provide services to the marine cargo, cruise, marinas, and fish processing activity on Port property. This represents the universe of the marine cargo, cruise, fish processors, marinas on Port property, and mixed use real estate tenants (with the exception of trucking and freight forwarding firms) in the Los Angeles area, as defined in the "Port of Los Angeles Industry Guide", the "Port of Los Angeles Shipping Handbook", the "Marine Exchange of Southern California", as well as lists of tenants and subtenants provided by the Port of Los Angeles. It is to be emphasized that a 100% response rate was achieved from the firms located in these directories 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 surveyed provided Martin Associates with detailed employment levels (both full-time and part-time), annual payroll, local purchases and the residence of where the employees reside.

The induced impacts are based on the current expenditure profile of residents in the Los Angeles 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 Los Angeles 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 Los Angeles 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 Los Angeles 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 California employment in these key service industries to total State of California 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 California 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 calendar year 2006, and computer models for each line of business 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 the Port of Los Angeles can use in formulating and guiding the future development of Port facilities.

3.1 Marine Cargo Sensitivity

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 asses 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 the Los Angeles area hotels prior to or after the cruise, and the share of cruises home porting at the Port versus in-transit calls. 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 marine cargo model can be used to evaluate the economic impact of a marine terminal for use as a cruise terminal versus a cargo terminal.

3.3 Port of Los Angeles Marina Tenants

The marina model can be used to assess the impacts of changes in the composition of the boats moored at each marina, the expenditures of moored boats, the number of moored and transient boats and the characteristics of spending patterns associated with the passengers of transient boats.

3.4 Fish Processing Activity

For fish processing activity on Port property, the impact model can test the sensitivity of the impacts to changes in the number of fish processors located on the terminal, as well as changes in activity levels.

3.5 Non-Maritime Real Estate Sensitivity

The real estate model can be used to assess the potential impacts of new tenants on the local and regional economy

4. SUMMARY OF RESULTS

Exhibit I-1 summarizes the results of the economic impact analysis of the Port of Los Angeles.

Exhibit I-1
Economic Impact of the Port of Los Angeles in the State of California by Line of Business
2006

	MARINE TERMINALS	CRUISE	FISHING	REAL ESTATE	MARINAS	TOTAL
JOBS						
DIRECT	43,398	1,254	806	1,162	705	47,325
INDUCED	60,204	609	370	557	354	62,093
INDIRECT	18,618	649	228	2,053	522	22,071
USER JOBS	943,688	NA	NA	NA	NA	943,688
TOTAL JOBS	1,065,907	2,512	1,404	3,772	1,580	1,075,176
PERSONAL INCOME (millions)						
DIRECT	$2,222.6	$44.6	$20.3	$41.4	$28.6	$2,357.5
RE-SPENDING/CONSUMPTION	$6,944.6	$32.1	$18.1	$29.8	$20.6	$7,045.2
INDIRECT	$844.5	$22.7	$11.5	$101.8	$21.0	$1,001.5
USER INCOME	$35,018.0	NA	NA	NA	NA	$35,018.0
TOTAL INCOME AND CONSUMPTION	$45,029.7	$99.4	$49.9	$173.0	$70.1	$45,422.2
VALUE OF ECONOMIC ACTIVITY (millions)						
BUSINESS SERVICES REVENUE	$7,066.0	$240.5	$83.8	$132.0	$48.2	$7,570.4
USER OUTPUT	$152,749.6	NA	NA	NA	NA	$152,749.6
TOTAL VALUE OF ECONOMIC ACTIVITY	$159,815.6	$240.5	$83.8	$132.0	$48.2	$160,320.0
LOCAL PURCHASES (millions)	$1,945.4	$41.4	$20.0	$183.1	$45.1	$2,235.1
STATE & LOCAL TAXES (millions)						
DIRECT, INDUCED AND INDIRECT	$1,131.3	$11.2	$5.6	$19.6	$7.9	$1,175.7
USER TAXES	$3,957.0	NA	NA	NA	NA	$3,957.0
TOTAL STATE AND LOCAL TAXES	$5,088.4	$11.2	$5.6	$19.6	$7.9	$5,132.7

Totals may not add due to rounding

4.1. Total Los Angeles Area Economic Impacts

In 2006, the Port of Los Angeles supported 1,075,176 jobs in the State of California. Of these jobs, 47,325 jobs are directly created, while another 62,093 induced jobs are supported in the Los Angeles area as the result of local purchases by those directly employed by Port of Los Angeles activity. In addition, there are 22,071 indirect jobs supported in the Los Angeles area as the result of $2.2 billion of local purchases. In addition, the cargo moving via the Port of Los Angeles supports 943,688 jobs throughout the State of California, based on the assumption that about 40% of the

containerized cargo moving via the Port of Los Angeles is consumed or produced in the State. The majority of these jobs are associated with the movement of containerized cargo through the Port of Los Angeles. Another 2.2 million jobs with users throughout the United States are also supported by the containerized cargo moving via the Port of Los Angeles.

The 47,325 direct jobs received $2.4 billion of direct wage and salary income, for an average earnings of $49,815 per direct employee. As the result of local purchases with this $2.4 billion of direct wages and salaries, an additional $7.1 billion of income and local consumption expenditures were created in the Los Angeles Area. It is this re-spending impact that supported the 62,093 induced jobs.[1] The indirect jobs were paid an annual income of $1.0 billion. An additional $35.0 billion of wage and salary income was received by the employees of the users of the Port of Los Angeles. In total, $45.4 billion of personal income was created as the result of Port of Los Angeles operations.

Local businesses received $7.6 billion of direct sales revenue from providing services to the marine cargo activity at the marine terminals, cruise activity, marinas, fish processing tenants, and non-maritime commercial real estate activity. This does not include the value of the cargo moving via the Port. The cargo activity at the Port created an additional $152.7 billion of total economic output in the state, the majority of which is created by the movement of containerized cargo and the state industries supporting the distribution and retail operations associated with the containerized cargo moving via the Port. 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 activity at the Port of Los Angeles, a total of $5.1 billion of state and local tax revenue was generated.

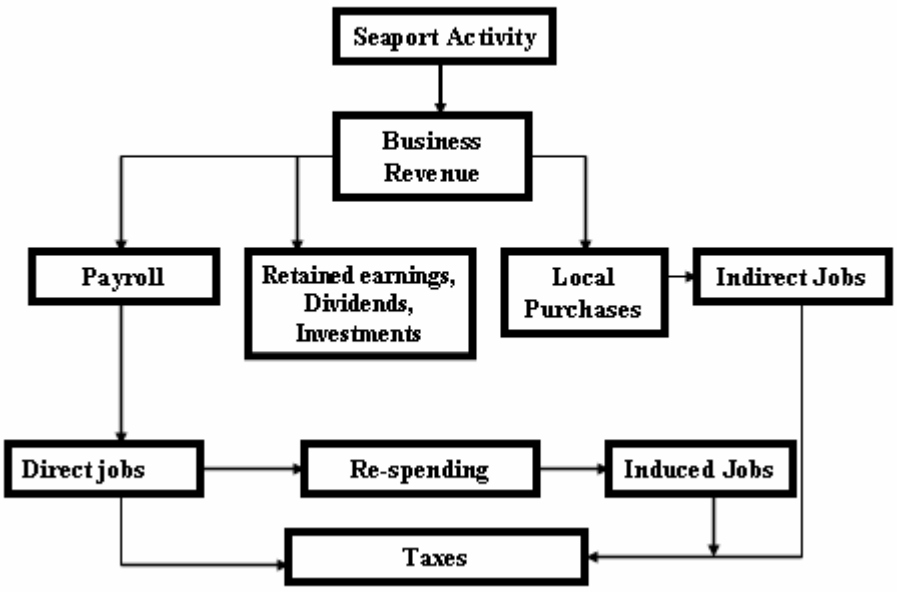
The balance of the report describes the impacts created within each line of business – marine cargo, cruise, marinas, fish processing, and Port real estate tenants.

[1]The induced income impact also includes local consumption expenditures and should not be divided by induced jobs to estimate the average salary per induced job. This would overstate the average salary, since the local consumption expenditures include sales associated with consumption expenditures.

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 of Los Angeles' marine terminals generate the four impacts.

Exhibit II-1
Flow of Economic Impacts Generated By Marine 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 Port of Los Angeles 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, longshoremen and dockworkers, warehousing and distribution center activity, steamship agents, freight forwarders, stevedores, etc. It is to be emphasized that these are classified as directly generated in the sense that these jobs would experience near term dislocation if the activity at Port of Los Angeles 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*** -- 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 shipper/consignee (related user) jobs*** -- jobs with shippers and consignees (exporters and importers) using the marine 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 Los Angeles 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.

The total economic value of the Port's cargo activity is also estimated based on the level of activity in the state's economy that is generated by the consumption of imports and production of exports that move through the Port of Los Angeles.

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;
- Port of Los Angeles Administration; and
- Related Shippers/Consignees.

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 and 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 the Port of Los Angeles's marine terminals located within the Port District;

  - 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 - include members of the International Longshore and Warehouse Union (ILWU), as well as non-ILWU dockworkers that are involved in the loading and unloading of cargo from the vessels, as well as

handling the cargo prior to loading and after unloading;

- Stevedoring firms - manage the longshoremen and cargo-handling activities. Stevedoring services at the Port of Los Angeles terminals are provided by private stevedoring companies;

- Marine Terminal operators - operate the maritime terminals where cargo is loaded and off-loaded and often provide the stevedoring services; and

- Warehouse operators - store cargo after discharge or prior to loading and consolidate cargo units into shipment lots. Also included in this category are the distribution centers in Los Angeles region that handle the imported cargo and then distribute the cargo to end users, such as retail outlets for imported containerized cargo. As part of the warehouse operations are transload operations, whereby marine containers are stripped of their cargo and the cargo is then reloaded into domestic trailers often 53 ft. in length. This provides a greater economy of transporting the imported containerized cargo, since the imported cargo is often relatively low in weight, and often exceeds the physical capacity of a marine container before the contents exceed the weight restrictions of the marine container. By using a larger domestic trailer of 53 ft. in length (marine containers are typically 40 ft.-45 ft. in length) for the inland truck move, the importer can reduce transportation costs.

- Government Agencies

  This service sector involves Federal, state and local government agencies that perform services related to cargo handling and vessel operations at the Port. U.S. Customs, Bureau of Immigration, U.S. Department of Labor, U.S. Department of Agriculture, U.S. Coast Guard, the Army Corps of Engineers, and U.S. Department of Commerce employees are involved. These services are provided by the government offices located in the Los Angeles area.

1.3. Shippers/Consignees Directly Dependent on the Port of Los Angeles Marine Terminals

These jobs are with the petroleum refineries receiving crude oil and shipping petroleum products via the Port; mining operations associated with the borate exported via the Port; and the steel mill consuming the steel slabs imported via the Port.

1.4. Related Shipper/Consignees of the Port of Los Angeles

Related jobs consist of jobs with related shippers/consignees shipping and receiving cargo through the marine terminals at the Port of Los Angeles. The majority of these users are involved with the movement of containerized cargo via the Port. Only the user industry activity that can be linked to the movement of cargo (either raw materials or finished products) through the Port of Los Angeles is considered in this related user impact. Other users include the construction industry using the cement imported via the Port as well as the steel coils, rebar and pipe that moves via the Port's terminals.

1.5. Port of Los Angeles Administration

The Port of Los Angeles Administration includes those individuals employed whose purpose is to oversee port activity at the marine terminals and the real estate tenants.

2. COMMODITIES INCLUDED IN THE ANALYSIS

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

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

- Containers;
- Steel slab;
- Steel coils and shapes;
- Automobiles and RORO cargo;
- Refrigerated breakbulk fruit;
- Miscellaneous breakbulk cargo;
- Scrap;
- Cement/other dry bulk;
- Borate;
- Petroleum and Petroleum products; and
- Other Liquid Bulk.

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.

3. MARITIME CARGO EMPLOYMENT IMPACTS

The employment generated by maritime cargo activity at the marine terminals owned by the Port of Los Angeles is estimated. The chapter is organized as follows:

- First, the total employment that is in some way related to the activities at the 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, ILWU, freight forwarders/customshouse brokers, warehousing, steamship agents, chandlers, surveyors, etc;

    - The direct job impact is estimated for each of the key commodities/commodity groups; and

    - The direct job impact is estimated based on the residency of those directly employed;

- Induced and indirect jobs are estimated; and

- Finally, jobs related to the marine activity at the marine terminals are described.

It is estimated that 1,065,907 jobs are in some way related to the marine cargo activities at the Port of Los Angeles. Of the 1,065,907 jobs:

- 43,398 jobs are directly generated by activities at the marine terminals and if such activities should cease, these jobs would be discontinued over the short term.

- 60,204 jobs (induced jobs) are supported by the local purchases of the 43,398 individuals directly generated by port activity at the marine terminals. An additional 18,618 indirect jobs were supported by $1.9 billion of purchases in the local and regional economy by firms providing direct cargo handling and vessel services.

- 943,688 jobs are related to cargo imported and exported via the marine terminals. These jobs are with related shippers/consignees of the Port of Los Angeles, and are mostly concentrated with jobs involved with containerized cargo moving via the Port of Los Angeles.

3.1. Direct Marine Cargo Job Impacts

In 2006, about 4.7 million containers and 30 million tons of non-containerized cargo moved via the Port of Los Angeles marine terminals, including nearly 4 million tons of steel imports and 15.5 million tons of petroleum. As a result of this activity, 43,398 full-time jobs were directly created[2]. 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 43,398 direct jobs by type of job.

The exhibit indicates that the majority of direct jobs are with trucking operations moving cargo to and from the port facilities, followed by jobs with the warehouse and distribution center operations dependent upon the movement of cargo via the Port. In addition there are 5,014 full-time equivalent jobs with the International Longshore and Warehouse Union generated by the cargo activity at the Port of Los Angeles. The 3,698 jobs with the dependent shippers/consignees are concentrated with the area refineries receiving petroleum via the Port's terminals, as well as with mining employees associated with the borate exports via the Port and the employees of the area steel mill using the imported slab. Another 3,226 rail employees are dependent upon the movement of containers, steel slab, and other bulk cargoes handled at the Port. It is estimated that about 35% of the 4.7 million containers handled at the Port of Los Angeles move inland by rail.

[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 the marine terminals, then this worker is counted as .5 jobs.

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

	DIRECT JOBS
SURFACE TRANSPORTATION	
RAIL	3,226
TRUCK	13,777
MARITIME SERVICES	
TERMINAL EMPLOYEES	1,082
ILWU/DOCKWORKERS	5,014
TUG ASSISTS	114
PILOTS	34
AGENTS	303
MARITIME SERVICES/CHANLDERS/SURVEYORS	673
FREIGHT FORWARDERS/CUSTOMHOUSE BROKERS	2,229
WAREHOUSING/DISTRIBUTION CENTERS	10,663
GOVERNMENT	400
MARINE CONSTRUCTION/DREDGING	1,238
BARGE	192
DEPENDENT SHIPPER/CONSIGNEE/REFINERIES	3,698
BANKING/INSURANCE/LAW	38
PORT AUTHORITY	717
TOTAL	**43,398**

Totals may not add due to rounding

3.1.2. Direct Job Impacts by Commodity

Most of the 43,398 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 2,393 jobs) 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	33,232
STEEL COILS/SHAPES	1,068
STEEL SLABS	1,170
BB REEFER	369
MISCELLANEOUS BREAKBULK	157
SCRAP	834
AUTOS/RO-RO	334
CEMENT/OTHER DRY BULK	414
BORATE	1,110
PETROLEUM	2,265
OTHER LIQUID BULK	52
NOT ALLOCATED	2,393
TOTALS	**43,398**

Totals may not add due to rounding

The movement of containerized cargo creates the largest number of direct jobs, more than 75% of all direct cargo related jobs. The 15.5 million tons of petroleum supports 2,265 direct jobs, the majority of which are with the local refineries that receive the petroleum by pipeline from the port's liquid bulk marine facilities. The nearly 2 million tons of steel slab consumed by a local steel mill operation generates nearly 1,170 direct jobs, while the steel coils and shapes create 1,068 direct jobs, the majority of which are with local trucking firms distributing the steel coils and shapes to local steel distribution service centers, as well as members of the ILWU involved in discharging the steel from the vessels.

3.1.3. Distribution of Direct Cargo Jobs by Place of Residence

To underscore the geographic scope of the impacts generated by the public and private marine terminals, Exhibit II-4 presents the distribution of the 43,398 direct jobs by place of employment. The geographic residency is based on the results of the interviews with 721 firms. As this exhibit indicates, 12.7% of the direct job holders reside in the City of Los Angeles (excluding Wilmington and San Pedro), 16.8% in the City of Long Beach, 13% in San Pedro, and 8.7% in Wilmington. Another 37% reside in other parts of Los Angeles County.

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

JURISDICTION	SHARE	CARGO DIRECT JOBS
City of Los Angeles (excluding San Pedro and Wilmington)	12.66%	5,495
City of Long Beach	16.78%	7,280
San Pedro	13.06%	5,669
Wilmington	8.73%	3,790
Other Los Angeles County	36.97%	16,042
Orange County	7.76%	3,367
Riverside County	1.15%	498
San Bernadino	2.25%	978
Ventura County	0.13%	58
Other	0.51%	220
TOTAL	100.00%	43,398

Totals may not add due to rounding

3.2. Induced Jobs

The 43,398 directly employed individuals due to activity at the public and private marine terminals received wages and salaries, a part of which was used to purchase local goods and services such as food, housing, clothing, transportation services, etc. As a result of these local purchases, 60,204 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 43,398 direct jobs make local purchases for goods and services. These local purchases by the firms' dependent upon the marine cargo activity generate additional local jobs -- indirect jobs. Based on interviews with the 721 firms, these firms made $1.9 billion of local and in-state purchases in 2006. These direct local purchases created an additional 18,618 indirect jobs in the local economy.

3.4. Related Shipper/Consignee Jobs

In addition to the 3,698 direct jobs with shippers/consignees using the Port of Los Angeles, it is estimated that 943,688 jobs are supported in California with shippers/consignees that use the Port of Los Angeles and also that support the direct users. It is important to emphasize that the user jobs are supported by the cargo moving only via the Port of Los Angeles 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 composition of containerized cargo moving via the Port of Los Angeles was developed from data supplied by the US Bureau of Census, Bureau of Trade Statistics. For each of the top 10 commodity imports and exports, an associated consuming or producing industry was identified. The employment to value of output coefficient for the retail sector related to the imported consumer related containerized cargoes was then computed from Bureau of Economic Analysis, Regional Input-Output Model for the State of California. This employment to value of output ratio was estimated at 6.02 jobs per millions of dollars, after adjusted for the retail margin. For imported intermediate containerized cargoes such as electronic components, manufacturing machinery and plastics, appropriate consuming industries were identified and a relationship to convert value of imported intermediate product to value of shipments for the relevant consuming sector was used to estimate the value added of the imported intermediate commodity. For example, for auto imports, the jobs to output ratio for auto manufacturing was identified from the Bureau of Economic Analysis for the State of California. This ratio is 13.96 jobs for every million of auto production in California, and was adjusted by the ratio of the value of the auto parts to total auto production in the State, which is 1.47 (for every dollar of auto parts purchased, another $1.47 of auto production output is generated within the state). This process was repeated for each imported intermediate good. Next, a weighted average job multiplier (and income and output multiplier) for imported containerized cargo was then computed based on the relative volume of each type of imported containerized cargo moving via the Port of Los Angeles. (Gross margin adjustments were made for imported retail consumer goods). Based on this process, the average job multiplier for imported containerized cargo handled at the Port of Los Angeles was 12.37. The average value per ton of imported containerized cargo was then multiplied by the tons of imported containerized cargo handled at the Port, and adjusted to reflect the share of imported containerized cargo consumed in California. This value was then multiplied by the weighted average job multiplier,12.37, developed for the imported containerized cargo. The weighted average income and output multipliers were also used to estimate related user income and related user output for imported containerized cargo (as discussed in the related users income and economic output sections of the report).

For export containerized cargoes, the top 10 exported containerized cargoes were associated with a producing industry, and the appropriate jobs to sales multipliers, as well as income and output multipliers were developed. Weighted average job, income, and output multipliers were then developed for the export containerized cargo, based on the composition of the containerized exports by commodity. The weighted average job coefficient for exported containerized cargo was next

multiplied by the value of the exported containerized cargo moving via the Port to estimate the related jobs with exported containerized cargo.

The share of containerized cargo originating or consumed in California was estimated based on interviews with the terminal operators and trucking companies, actual on-dock intermodal rail movements as reported by each container terminal, and a review of origin/destination data used by the Alameda Corridor Transportation Authority. Overall, it is estimated that 40% of the containerized cargo either originates or is destined in the State of California.

For breakbulk cargoes, the associated consuming and producing industries were identified with each commodity. For example, for imported steel coils and shapes, 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 RIMSII model, the value of the breakbulk cargoes (i.e., steel products), moving via the Port and remaining in (or produced in) the State of California 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 production in California was developed from the RIMSII data. This multiplier was then applied to the direct jobs associated with the movement of the cement via Port of Los Angeles. A similar method was used to estimate the related jobs for the export of borate and for the import of petroleum.

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, distribution center activity, and the trucking and rail activity to move the cargo to and from the Port and the induced and indirect jobs associated with the direct port activity.

Exhibit II-5 shows the related shipper/consignee jobs associated with each key commodity/industry group using the Port of Los Angeles.

Exhibit II-5
Distribution of Related Shipper/Consignee Job Impacts
by Commodity/Industry Group

USER IMPACTS	JOBS
CONTAINERS	888,724
STEEL SLABS/COILS/SHAPES	35,807
BB REEFER	133
CEMENT/BORATE/OTHER BULK	4,346
PETROLEUM	14,677
TOTAL	943,688

Totals may not add due to rounding

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

The cargo handled at the Port of Los Angeles 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 Port of Los Angeles (Harbor 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 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 Los

Angeles 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 California 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 California, 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 the Port of Los Angeles. In 2006, marine cargo activity at the Port generated a total of $159.8 billion of total economic activity in the State. Of the $159.8 billion, $7.1 billion is the direct business revenue received by the firms directly dependent upon the Port and providing maritime services and inland transportation services to the cargo handled at the marine terminals and the vessels calling the port. The remaining $152.7 billion represents the value of the output to the State of California that is created due to the cargo moving via the Port of Los Angeles (excluding the direct business revenue). This includes the value added at each stage of producing an export cargo; the value added at each stage of production for the firms using imported raw materials and intermediate products that flow via the Port of Los Angeles and are consumed by industries within the State; and the value added at each stage of production for the distribution centers and retail operations associated with the import, distribution and sales of imported consumer products such as toys, furniture, apparel, shoes, etc. products that flow via the Port of Los Angeles and are consumed within the State. Exhibit II-6 presents the value of output related to port shippers/consignees that were supported by each cargo moving via the Port in 2006. This includes the $7.1 billion of direct business revenue generated at the Port.

Exhibit II-6
Distribution of Economic Output Created by Port Cargo Activity,
by Key Port Commodity/Industry Group

USER IMPACTS	ECONOMIC VALUE MILLIONS
CONTAINERS	$154,320.0
STEEL SLABS/COILS/SHAPES	$1,469.8
BB REEFER	$177.5
CEMENT/BORATE/OTHER BULK	$191.3
PETROLEUM	$2,346.7
OTHER	$1,310.4
TOTAL	$159,815.6

Totals may not add due to rounding

The balance of the discussion focuses on the $7.1 billion of direct business revenue generated from the provision of services to the cargo and vessels handled at the Port of Los Angeles.

4.1.1. Revenue Impacts by Economic Sector/Category

Exhibit II-7 presents the total revenue estimated to have been generated by port activity in 2006. This revenue includes the revenue received by firms providing services to the commodity and vessel activity at the marine terminals, and includes revenue received by trucking firms, stevedores, Port of Los Angeles Harbor Department, warehouse operators and distribution centers, chandlers, agents, pilots, towing companies, etc. Not included is the revenue from the use/value of the cargo moving via the marine terminals, as this is included in the related shipper/consignee output.

About 29% of the $7.1 billion revenue impact is received by the railroads moving the containerized cargo to inland destinations such as Denver, Chicago, Memphis, St. Louis, and New York. The trucking industry received $1.3 billion from moving the cargo to and from the Port, while terminal operations received slightly less than $1.2 billion from providing services in handling the marine cargo on the terminal as well as on and off the vessels. Marine construction activity including ship repair, dredging and new terminal development and expansion generated $729.3 million of revenue in 2006. The warehousing and distribution center operations received $727.5 million of revenue from cargo moving via the Port, while the freight forwarders received $364.7 million of revenue from the cargo operations at the Port of Los Angeles.

Exhibit II-7
Direct Revenue Generated by Port Cargo Activity

		REVENUE (millions)
SURFACE TRANSPORTATION		
	RAIL	$2,039.9
	TRUCK	$1,334.8
	PIPELINE	$7.4
MARITIME SERVICES		
	TERMINAL OPERATIONS	$1,142.7
	TUG ASSISTS	$30.7
	PILOTS	$6.8
	AGENTS	$5.1
	MARITIME SERVICES/CHANLDERS/SURVEYORS	$209.1
	FREIGHT FORWARDERS/CUSTOMHOUSE BROKERS	$364.7
	WAREHOUSING/DISTRIBUTION CENTERS	$727.5
	GOVERNMENT	NA
	MARINE CONSTRUCTION/DREDGING	$729.3
	BARGE	$46.7
BANKING/INSURANCE/LAW		$9.0
PORT AUTHORITY		$412.1
TOTAL		$7,066.0

Totals may not add due to rounding

4.1.2. Revenue Impacts by Commodity

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

Exhibit II-8
Cargo Revenue Impacts by Commodity

COMMODITY	RVENUE (millions)
CONTAINERS	$5,401.9
STEEL COILS/SHAPES	$122.9
STEEL SLABS	$53.4
BB REEFER	$43.8
MISCELLANEOUS BREAKBULK	$22.9
SCRAP	$60.8
AUTOS/RO-RO	$55.3
CEMENT/OTHER DRY BULK	$34.8
BORATE	$12.4
PETROLEUM	$99.5
OTHER LIQUID BULK	$7.8
NOT ALLOCATED	$1,150.5
TOTALS	**$7,066.0**

Totals may not add due to rounding

As this exhibit indicates containerized cargo generated the largest direct revenue impacts, reflecting the magnitude of containerized cargo handled at the Port of Los Angeles.

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 $2.2 billion in personal wage and salary earnings. It is important to emphasize that the average annual earnings of a port-dependent job is about $51,213. 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 in the Los Angeles Metropolitan Area, an additional $3.13 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 4.13 was used to estimate the total income and consumption impact of nearly $6.9 billion, inclusive of the re-spending effect. This additional re-spending of the direct income generates the 60,204 induced job impact.

The 18,618 indirect job holders earned $844.6 million in indirect wages and salaries. The 943,688 related shippers/consignees of the cargo moving via the Port received about $35.0 billion of personal income.

Therefore, the total personal income impact and consumption impact created by the Port of Los Angeles marine cargo activity is estimated at $45.0 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 marine terminals. To estimate the per employee tax indices, total taxes received at each governmental level in California was developed from the Tax Foundation, which reports total state and local taxes from all sources as a percent of total personal income.

Activity at the marine terminals generated $1.1 billion of state, county and local taxes. The distribution of the $1.1 billion tax impact (excluding the user tax impacts) by type of tax is shown in Exhibit II-9. As a result of the economic activity created by the related shipper/consignees an additional $4.0 billion of state and local taxes were generated. About 63% of the tax receipts are at the state level, with 37% received at the local level.

Exhibit II-9
Distribution of $1.1 Billion Tax Impact by Type of Tax
(Excludes User Tax Impact)
(millions)

TYPE OF TAX	STATE	LOCAL	TOTAL
PROPERTY	$19.1	$277.5	$296.6
SALES/GROSS RECEIPT	$299.9	$106.5	$406.5
INCOME	$322.8	$0.0	$322.8
CORPORATE	$5.2	$0.0	$5.2
LICENSE	$55.6	$0.0	$55.6
OTHER	$10.1	$34.5	$44.6
TOTAL	$712.7	$418.6	$1,131.3

Totals may not add due to rounding

III. ECONOMIC IMPACT OF CRUISE OPERATIONS AT THE PORT OF LOS ANGELES

In 2006, 228 cruise vessel calls were recorded at the Port of Los Angeles and carried about 590,000 embarking passengers. 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 Los Angeles (air/sea passengers) versus the percent of passengers driving to the Port, the local expenditures by air/sea passengers while in hotels either before or after the cruise, and the local purchases by the cruise lines for food, bunkers, 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 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*** - the number of full-time equivalent jobs generated by cruise activity at the Port of Los Angeles. This consists of jobs directly generated by the home porting of cruise vessels as well as induced jobs, or jobs created in the Los Angeles 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 Los Angeles Area visitor industry that supply services to cruise passengers staying in hotels before and after the cruise, as well as those purchasing food and retail items prior to or after the cruise. The value of the cruise tickets is not included as a revenue impact for purposes of this analysis; and

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

2. IMPACT CATEGORIES

The impacts are generated by firms throughout many sectors of the local and regional economy. 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;

- 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 - 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 and Line Handling - Are required in loading and unloading baggage and ship stores and in securing and unsecuring the ship at dock;

- Local Travel Agencies - Local travel agencies will receive a commission from ticket sales to area residents;

- Garbage 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; and

- Visitor Industry - In addition to the impacts generated by direct vessel purchases, passengers from areas not within driving distance will likely 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 Los Angeles Area. Also, these air/sea passengers will take cabs 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 could stay in a local hotel upon arrival, while the departing crew could also stay in a hotel prior to leaving the area.

The economic impact analysis of cruise service at Los Angeles is based on a survey of cruise lines including Princess Lines, RCCL and NCL serving the Port of Los Angeles. The interviews focused on typical expenditure profiles of a vessel while in port, as well as the percent of passengers that are air/sea versus the local passengers. In addition, a passenger survey of 900 cruise passengers over the period of December 8th and 9th, 2006 was conducted to determine local purchases by cruise passengers. A survey of the crew on each vessel call was also undertaken.

3. IMPACT SUMMARY

During the 2006 cruise season, 228 cruises left the Port carrying nearly 600,000 passengers. The economic impact of the cruise vessel calls at the Port of Los Angeles are presented in Exhibit III-1.

Exhibit III-1
Economic Impact of Cruise Operations at the Port of Los Angeles, 2006

	CRUISE
JOBS	
DIRECT	1,254
INDUCED	609
INDIRECT	649
TOTAL JOBS	2,512
PERSONAL INCOME (millions)	
DIRECT	$44.6
RE-SPENDING/CONSUMPTION	$32.1
INDIRECT	$22.7
TOTAL INCOME AND CONSUMPTION	$99.4
BUSINESS SERVICES REVENUE (millions)	$240.5
LOCAL PURCHASES (millions)	$41.4
STATE & LOCAL TAXES (millions)	$11.2

Totals may not add due to rounding

3.1 Job Impacts

The cruise activity at the Port of Los Angeles created 2,512 total jobs for Los Angeles area residents. Of these 2,512 jobs, 1,254 were direct jobs, 609 induced jobs were supported in the Los

Angeles area as the result of the purchases of the 1,254 direct jobs holders, while another 649 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.

3.2 Personal Income and Consumption Impacts

The 1,254 direct job holders received $44.6 million of direct wages and salaries, for an annual salary of $35,587. As the result of the purchases made locally with this income, (which supported the 609 induced jobs in the Los Angeles Area) an additional $32.1 million of local income and consumption expenditures were created in the Los Angeles Area. The income multiplier for the cruise industry as derived from the US Bureau of Economic Analysis is 1.71, which reflects the visitor sector and entertainment sectors of the Los Angeles area economy. The 649 indirectly employed workers were paid $22.7 million, for a total wage and salary income impact of $99.4 million, including the consumption impact.

3.3 Business Revenue Impact

Local businesses supplying food, beverages, and services to the cruise lines received $240.5 million of business revenue. In addition, in order to support the services and goods supplied to the cruise lines by these firms, another $41.4 million of local purchases in the Los Angeles Area were made by those firms providing direct services to the cruise lines. These local purchases supported the 649 indirect jobs in the local economy.

3.4 Tax Revenue Impact

Finally, as the result of cruise activity at the Port of Los Angeles during the 2006 cruise season, $11.2 million of state and local tax revenue was collected.

4. LOCAL ECONOMIC IMPACT OF THE PORT OF LOS ANGELES CRUISE OPERATIONS

An estimate of the local (San Pedro) economic impact of the cruise operations was developed based on an evaluation of the likely geographic location of where the purchases took place. For purchases by a cruise vessel while in port, it was possible to identify which expenditures were made in the San Pedro area. For the impacts generated in the visitors industry, several assumptions were developed. First, based on the cruise passenger survey, it was estimated that about 15% of the cruise passengers stay in hotels prior to or after the cruise. Next, a survey of the two local (San Pedro) hotels was made by the Port of Los Angeles staff to determine the increase in the number of rooms sold that was realized during a weekend when cruise vessels were departing the Port. It was estimated that about 180 addition rooms at the San Pedro area hotels were sold during cruise vessel visits. The 180 rooms represent about 20% of the total hotel rooms that would be demanded by the

cruise passengers in the Los Angeles area, as derived from the cruise passenger survey. The local hotel expenditures and impacts were then estimated based on the 20% assumption. For other purchases for retail and food, it was assumed that 40% of the purchases would be made in the San Pedro area.

Exhibit III-2 summarizes the local impacts generated by the Port of Los Angeles cruise operations for the San Pedro area.[3]

Exhibit III-2
San Pedro Area Economic Impact of Cruise Operations at the Port of Los Angeles, 2006

JOBS	
DIRECT	665
INDUCED	345
INDIRECT	283
TOTAL JOBS	1,294
PERSONAL INCOME (millions)	
DIRECT	$28.3
RE-SPENDING/CONSUMPTION	$20.4
INDIRECT	$9.9
TOTAL INCOME AND CONSUMPTION	$58.6
BUSINESS SERVICES REVENUE (millions)	$102.2
LOCAL PURCHASES (millions)	$18.1
STATE & LOCAL TAXES (millions)	$6.5

Totals may not add due to rounding

4.1 Local Job Impacts

The cruise activity at the Port of Los Angeles created 1,294 total jobs in San Pedro. Of these 1,294 jobs, 665 were direct jobs, 345 induced jobs were supported in the Los Angeles Area as the result of the purchases of the 665 direct jobs holders, while another 283 indirect jobs were supported in area industries that supply services and goods to the San Pedro Area tourism industry catering to the passengers as well as to the chandlers and other local firms supplying services and goods to the vessels while in Port.

4.2 Local Personal Income and Consumption Impacts

3 The estimation of the direct job impacts by place of residency was not developed for the cruise activity at the Port of Los Angeles, since the direct impacts are based on local purchases by cruise lines calling the Port, and these local purchases are converted into jobs using jobs to sales ratios in the supplying industries (from the 2002 Economic Census). Therefore, since the direct job impacts are model driven, no residency data could be developed from the government publication data.

The 665 direct job holders received $28.3 million of direct wages and salaries, for an annual salary of $42,562. As the result of the purchases made locally with this income, (which supported the 345 induced jobs in the Los Angeles Area) an additional $20.4 million of local income and consumption expenditures were created in the San Pedro Area. The 283 indirectly employed workers were paid $9.9 million, for a total wage and salary income impact of $58.6 million, including the consumption impact.

4.3 Business Revenue Impact

Local San Pedro area businesses supplying services to the cruise lines received $102.2 million of business revenue. In addition, in order to support the services and goods supplied to the cruise lines by these local firms, another $18.1 million of local purchases in the San Pedro area were made by those firms providing direct services to the cruise lines. These local purchases supported the 283 indirect jobs in the San Pedro economy.

IV. ECONOMIC IMPACT OF FISH PROCESSING TENANTS

In addition to the marine cargo, and cruise lines of business, the Port of Los Angeles also leases land to fish processing operations. These include Southern Cal Seafood, Qualy Pak Specialty Foods, State Fish Company, Tomich Brothers Fish Co., Western Fish/Harbor Ice & Cold Storage, etc.

The impact analysis of the fish processing tenants are based on a survey of 12 tenants located on Port Property that are involved in the fishing industry.

Exhibit IV-1 summarizes the economic impacts of the fishing industry tenants of the Port of Los Angeles.

Exhibit IV-1
Economic Impacts of the Port of Los Angeles Fishing Industry Tenants

PORT OF LOS ANGELES FISHING TENANTS	IMPACTS
JOBS	
DIRECT	806
INDUCED	370
INDIRECT	228
TOTAL JOBS	1,404
PERSONAL INCOME (millions)	
DIRECT	$20.3
RE-SPENDING/CONSUMPTION	$18.1
INDIRECT	$11.5
TOTAL INCOME AND CONSUMPTION	$49.9
BUSINESS SERVICES REVENUE (millions)	$83.8
LOCAL PURCHASES (millions)	$20.0
STATE & LOCAL TAXES (millions)	$5.6

Totals may not add due to rounding

As summarized in Exhibit IV-1, the fishing industry tenants of the Port of Los Angeles created the following economic impacts:

- 806 direct jobs are generated by these tenants, and as the result of local purchases by these direct employees, another 370 induced jobs are supported in the Los Angeles area economy. Due to $20 million of local purchases, 228 indirect jobs are supported.

- The 806 directly employed workers received $20.2 million of wages and salaries. As the result of the local purchases by these employees, another $18.1 million of income and consumption expenditures were generated, resulting in the induced job impact. This re-spending impact is based on an income multiplier for the fish processing industry in the Los Angeles area as developed by the US Bureau of Economic Analysis, Regional Input-Output Modeling System (RIMS II). The 228 indirect jobholders received $11.5 million of indirect wages and salaries for a total personal income and consumption impact of $50.0 million.

- The Port fishing industry tenants received $83.8 million of revenue. It is estimated that the fishing industry tenants made $20.0 million of local purchases, as identified from the surveys of these tenants. These local purchases supported the 228 local indirect jobs.

- The fishing industry tenants of the Port of Los Angeles generated $5.6 million of state and local taxes.

Exhibit IV-2 shows the distribution of the direct jobs by residency. About one-third of the 806 direct job holders reside in Wilmington, followed by another 25% residing in San Pedro. About 17% reside in Long Beach.

Exhibit IV-2
Distribution of Direct Fishing Industry Jobs by Place of Residency

JURISDICTION	FISHING SHARE	FISHING DIRECT JOBS
City of Los Angeles (excluding San Pedro and Wilmington)	6.57%	53
City of Long Beach	16.74%	135
San Pedro	24.81%	200
Wilmington	31.70%	256
Other Los Angeles County	5.02%	40
Orange County	0.68%	5
Riverside County	0.00%	0
San Bernadino	0.00%	0
Ventura County	8.35%	67
Other	6.13%	49
TOTAL	100.00%	806

Totals may not add due to rounding

V. THE ECONOMIC IMPACT OF RECREATIONAL BOATING AT THE PORT OF LOS ANGELES MARINAS

The third component of the Port of Los Angeles impact analysis is the economic impact generated by the marina tenants at the Port of Los Angeles. These marina and recreational boating supply tenants include the California Yacht Marina, Inc., Cerritos Yacht Anchorage, Colonial Yacht Anchorage, and Westec Marinas-Cabrillo Way Marina, etc. The impacts created by the recreational boating activity include the impacts generated by the vessels moored at each of these marinas. To estimate the impacts, Martin Associates developed a profile and inventory of recreational boats, by size and type, at each Port of Los Angeles marina. There were nearly 3,136 recreational boats moored at the Port's marina tenants. Of these, 2,026 were less than 40 ft. in length, while the balance were over 40 ft. in length

To develop the impact data, Martin Associates conducted interviews with tenants at each marina, including yacht clubs and restaurants, sailing schools, and retail stores. The results of these surveys were used directly in estimating marina tenant impacts. Next, typical annual expenditures by type of moored boats were developed from a survey of recreational boating conducted by the California Department of Boating and Waterways. These annual operating expenses were provided for boats over 40 ft in length as well as those in excess of 40 ft.

The annual purchases per boat are multiplied by the number of boats in the two size categories. The annual purchases by type of boat at each marina are then converted into direct jobs using survey data from suppliers and marina support services firms interviewed by Martin Associates, as well as data derived from the US Economic Census, 2002 for the Los Angeles metropolitan area.

Induced jobs were estimated based on the same methodology as described previously. The income multiplier, as derived from the US Bureau of Economic Analysis for recreational activity in the Los Angeles area is 1.71, and this reflects a combination of the multipliers for various visitor and recreational industry sectors.

Indirect impacts are developed from local purchases data supplied by support services providers and tenants (restaurants, retail, yacht club, sailing schools, etc.)

The impacts are summarized in Exhibit V-1.

Table V-1
Economic Impact of Recreational Boating at the Port of Los Angeles Marinas

PORT OF LOS ANGELES MARINA	IMPACTS
JOBS	
DIRECT JOBS	705
INDUCED	354
INDIRECT	522
TOTAL	1,580
PERSONAL INCOME (millions)	
DIRECT	$28.6
RE-SPENDING/CONSUMPTION	$20.6
INDIRECT	$21.0
TOTAL	$70.1
DIRECT REVENUE (millions)	$48.2
LOCAL PURCHASES (millions)	$45.1
STATE AND LOCAL TAXES (millior	$7.9

Totals may not add due to rounding

In 2006, the recreational boating activity at the Port of Los Angeles marinas generated the following economic impacts.

- 705 direct jobs were created by recreational boating activity at the Port of Los Angeles marinas;
- As a result of purchases by these 705 direct jobs, 354 induced jobs were generated in the local economy;
- As the result of the $45.1 million of local purchases by the firms dependent upon recreational boating activity at Port of Los Angeles marinas, 522 indirect jobs were supported in the local economy;
- The 705 direct jobs holders received $28.6 million of direct wages and salaries. As the result of the re-spending impact, an additional $20.6 million of personal income and local consumption expenditures were generated. The indirect jobholders received $21 million of indirect wages and salaries; and
- $7.9 million of state and local taxes were generated by the Port of Los Angeles marina activity.

About one-quarter of the direct job holders created by the marina activity at the Port of Los Angeles reside in San Pedro, about 16% reside in the City of Wilmington, and 13% reside in the City of Long Beach.

Exhibit V-2
Distribution of Direct Port of Los Angeles Marina Jobs by Place of Residency

JURISDICTION	MARINAS SHARE	MARINAS DIRECT JOBS
City of Los Angeles (excluding San Pedro and Wilmington)	8.07%	57
City of Long Beach	12.84%	90
San Pedro	25.29%	178
Wilmington	15.85%	112
Other Los Angeles County	25.49%	180
Orange County	11.45%	81
Riverside County	0.00%	0
San Bernadino	1.01%	7
Ventura County	0.00%	0
Other	0.00%	0
TOTAL	100.00%	705

VI. ECONOMIC IMPACT OF OTHER PORT OF LOS ANGELES TENANTS

In addition to the marine cargo, cruise, fishing and marina operations of the Port of Los Angeles, the Port also leases land to non-maritime related tenants. This property is leased for office space, retail space, restaurants, City government offices, and other types of tenancies. Essentially, these are tenants of the Port of Los Angeles that are not included in cargo, fishing, marinas, or the cruise lines of business.

With respect to the port tenant analysis, the impacts created by these tenants of the Port of Los Angeles are generated by the demand for the goods and services produced by the tenants, and not by activity specific to transportation services provided by the Port of Los Angeles. In contrast, the capital investments made by the Port in the marine terminals and cruise facilities are essential for the existence of maritime and cruise operations in Los Angeles. As a result, the impacts generated by tenants of the Port's real estate holdings are not as directly dependent upon the Port of Los Angeles and its investment as are the marine cargo and cruise impacts. Some of these companies are located on Port-owned property as a direct result of efforts by the Port of Los Angeles to recruit them, and would likely not have located in Los Angeles otherwise. Other firms would likely have located in Los Angeles regardless of the Port's efforts and infrastructure investment.

The impact analysis of the real estate tenants are based on a survey of 87 tenants and sub tenants not included in other Port operations. Martin Associates developed a separate real estate impact model to estimate the impacts of these tenants on the Los Angeles economy.

Table VI-1 summarizes the economic impacts of the real estate tenants of the Port of Los Angeles.

Economic Impacts of the Port of Los Angeles Real Estate Tenants

IMPACT CATEGORY	IMPACTS
JOBS	
DIRECT	1,162
INDUCED	557
INDIRECT	2,053
TOTAL JOBS	**3,772**
PERSONAL INCOME (millions)	
DIRECT	$41.4
RE-SPENDING/CONSUMPTION	$29.8
INDIRECT	$101.8
TOTAL INCOME AND CONSUMPTION	$173.0
BUSINESS SERVICES REVENUE	$132.0
LOCAL PURCHASES (millions)	$183.1
STATE & LOCAL TAXES (millions)	$19.6

Totals may not add due to rounding

As summarized in Table VI-1, the Port of Los Angeles real estate tenants create the following economic impacts:

- 1,162 direct jobs are generated by these tenants, and as the result of local purchases by these direct employees, another 557 induced jobs are supported in the Los Angeles area's economy. Due to $183.1 million of local purchases, 2,053 indirect jobs are supported. This indirect impact reflects the dependency on the local economy supply infrastructure for port tenants such as business offices.

- The 1,162 directly employed workers received $41.4 million of wages and salaries. As the result of the local purchases by these employees, another $29.8 million of income and consumption expenditures were generated, resulting in the induced job impact. The 2,053 indirect jobholders received $101.8 million of indirect wages and salaries for a total personal income and consumption impact of $173.0 million.

- The Port tenants received nearly $132.0 million of revenue[4]. In addition, $183.1 million of local purchases were made in the local economy by the Port real estate tenants for local purchases, as identified from the surveys of these tenants. These local purchases supported the 557 local indirect jobs.

4 It is to be noted that several of the tenants are departments of the City of Los Angeles and several non-profit operations. As a result, no revenue is recorded for these firms, however, these firms do make local purchases.

- The Port of Los Angeles Real Estate Tenants generated $19.6 million of state and local taxes.

Exhibit VI-2 shows the distribution of the direct jobs created by the real estate tenants. More than 44% of the direct job holders employed by the real estate tenants reside in other portions of Los Angeles County, while 21% reside in San Pedro. Another 12% reside in the City of Long Beach.

Exhibit VI-2
Distribution of Direct Port of Los Angeles Real Estate Tenants Jobs by Place of Residency

JURISDICTION	REAL ESTATE SHARE	REAL ESTATE DIRECT JOBS
City of Los Angeles (excluding San Pedro and Wilmington)	7.01%	81
City of Long Beach	12.10%	141
San Pedro	20.90%	243
Wilmington	7.38%	86
Other Los Angeles County	44.25%	514
Orange County	8.11%	94
Riverside County	0.00%	0
San Bernadino	0.00%	0
Ventura County	0.00%	0
Other	0.25%	3
TOTAL	100.00%	1,162