THE LOCAL AND REGIONAL ECONOMIC IMPACTS OF THE PORT OF PORTLAND, 2011

Prepared for:



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Summary of the Economic Impacts Created by The Port of Portland

The Port of Portland is a multi-modal port, overseeing both seaport and airport operations. The Port owns and operates marine terminals along the Columbia River, and in addition to the marine terminals owned and operated by the Port of Portland, the Portland Harbor also includes private marine terminals. The Port of Portland also owns and operates the Portland International Airport, and the general aviation airports at Troutdale and Hillsboro¹. The Port of Portland retained the services of Martin Associates to quantify the economic impact of the Port's seaport and airport activities in calendar year 2011. This current study is an update of a series of similar studies conducted by Martin Associates for the Port since 1991. In the previous studies, as well as in this current study, separate studies are conducted for the Port's two lines of business, and have been presented under separate cover. The combined impacts of the maritime and airport activities are presented in the balance of this summary. In addition to the Airport and Seaport operations of the Port of Portland, Martin Associates also has quantified the economic impacts of the Port's Industrial and Business Parks².

The impact analysis is based on a telephone survey of 816 marine, airport and real estate tenants and firms providing services to the marine terminals and airports. Local respending models were also developed to estimate the impact of local purchases by both individuals directly employed by Port operations as well as the firms providing support services to the airport and seaport operations. Also quantified was the economic impact of the marine terminals on shippers and consignees using the marine terminals and air cargo shippers using Portland International Airport.

Economic activity due to the movement of marine cargo, air passengers and cargo and real estate activity at the Port's industrial and business parks contributes to the local and regional economy by providing employment and income to individuals, taxes to state, county and local governments and revenue to local and national firms engaged in producing goods and services. Exhibit E-1 illustrates the flow of economic activity from the airport, maritime and real estate tenant activity at the Port of Portland.

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¹ The Mulino general aviation airport also owned by the Port reported no activity in 2011.

² In the context of this report, firms located within the Port-managed business and industrial parks are referred to as "tenants." The Port does not have a legal landlord relationship with the majority of firms.

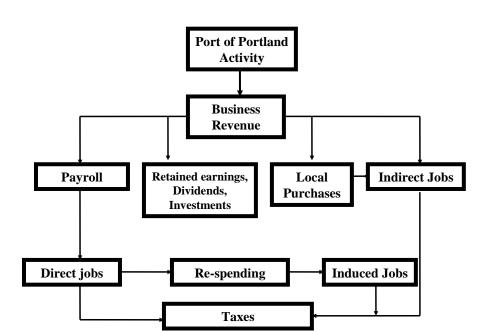


Exhibit E-1 Flow of Economic Activity Throughout the Local Economy

Exhibit E-1 illustrates the flows of economic impacts generated by the seaport, airport and retail estate activity throughout the region's economy. As this figure shows, economic activity at the seaport or airport or a real estate tenant initially creates business revenue. This revenue is in turn used for several purposes:

- To hire employees to produce the goods and provide the services;
- To pay stockholders dividends, retire debt, and invest;
- To buy goods from other firms, creating indirect jobs; and
- To pay taxes.

As can be seen from Exhibit E-1, the flow of economic impacts throughout an economy creates four separate and non-additive types of impacts. These are:

- Employment impact;
- Personal earnings impact;
- Business revenue impact; and
- Tax impact.

Direct jobs are those jobs held by employees of a particular firm, and are measured in terms of full-time equivalent workers. These are the number of jobs reported by a firm as paid employees. These direct employees are estimated directly from the survey of 816 firms.

Those directly employed by firms in a given industry receive wages and salaries. A portion of the wages and salaries is saved; another portion is used to pay personal taxes, while a final portion is used to purchase goods and services. A percentage of these purchases are made in the Portland metropolitan area, while some consumption purchases are made outside the area. These consumption purchases, in turn, generate additional jobs in those firms supplying the goods and services. The *induced jobs* measured in this study are only those generated in the Portland metropolitan area.

Jobs, which are created due to the purchases by <u>firms</u>, not <u>individuals</u>, are classified as *indirect jobs*. These jobs are estimated based on the local purchases made by the Port's real estate tenants and firms directly dependent upon seaport activity.

The *income impact* consists of the level of wage and salary earnings associated with the jobs created by the maritime, aviation and real estate tenants, and is adjusted to reflect re-spending throughout the economy. The personal income impact is, for the most part, based on salary and annual earnings data provided from the survey conducted by Martin Associates. As described above, individuals directly employed by a firm use a portion of their income to purchase goods and services. A portion of these purchases is made from firms located in the Portland area, while another portion is used for out-of-region purchases. Re-spending of income within a geographical region is measured by an income multiplier. The size of the multiplier varies by region depending on the proportion of in-region goods and services purchased by individuals. The higher this percentage, the lower the income leakage out-of-region.³

The *revenue impact* is the measure of direct business revenue received by seaport tenants and service providers and airport tenants and service providers. For the real estate tenants, the gross sales generated by the tenants of the Port's Industrial and Business Parks is counted in the revenue impact. It is to be emphasized that this revenue impact is not necessarily money that remains within the local economy. Only those portions of the revenue paid out in wages and salaries to those directly employed, used by the dependent firms and real estate tenants for local purchases of goods and services, and that portion of revenue paid in taxes to the local and county governments, can be defensibly identified as remaining in the local economy.

The *state*, *county and local tax revenues* are generated by economic maritime activity at the marine terminals; Portland International airport and the General Aviation Airports at Hillsboro and Troutdale; and by the activity of the real estate tenants of the Port of Portland Business and Industrial Parks.

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³ It is to be noted that different income multipliers are used to estimate the induced job impacts and the respending and consumption impacts for seaport activity and real estate activity. The income multipliers, as estimated for Martin Associates by the U.S. Bureau of Economic Analysis for the Portland regional economy, reflect the level of salary associated with each industry group, as well as the leakages of income from the Portland economy for the specific industry sector. Because of the higher direct wages and salaries associated with seaport activity, the direct income multiplier used to measure the impacts of the seaport activity is higher than the direct income multiplier associated with the airport and real estate tenants.

It is to be emphasized that the tenants of Port property are in some cases engaged in seaport, airport and shipyard activity. As a result, the impacts of such tenants have already been attributed to maritime activities at the seaport, passenger and air cargo activity at Portland International Airport and the general aviation reliever airports at Troutdale and Hillsboro. In addition, some tenants of Port-owned business parks ship air and marine cargo through Port facilities and again are accounted for, in part, in the economic impacts attributed to other Port operating divisions. Therefore, even though the impacts measured for the Portland real estate holdings are defined in the same way as for the seaport and airport activity, the real estate impacts cannot be added to the impacts generated by these two other lines of businesses operated by the Port of Portland.

Table E-1A summarizes the economic impacts of the Port of Portland marine and airport activity. The impacts of the real estate tenants are not included in this summary for the reasons just noted. The impacts of the real estate tenants are addressed in a separate section of this summary.

Table E-1A
Summary of the Economic Impacts of the
Port of Portland*
2011

	MARITIME	AVIATION	TOTAL
JOBS			
DIRECT	3,549	10,574	14,122
INDUCED	3,476	4,778	8,255
INDIRECT	<u>2,074</u>	<u>2,147</u>	<u>4,221</u>
TOTAL	9,099	17,499	26,598
PERSONAL INCOME (1,000)			
DIRECT	\$186,848	\$424,490	\$611,338
INDUCED/CONSUMPTION IMPACT	\$457,460	\$453,228	\$910,688
INDIRECT	<u>\$106,391</u>	<u>\$111,156</u>	<u>\$217,548</u>
TOTAL	\$750,699	\$988,873	\$1,739,573
BUSINESS REVENUE (1,000)	\$803,488	\$3,796,894	\$4,600,381
LOCAL PURCHASES (1,000)	\$233,862	\$231,290	\$465,152
STATE AND LOCAL TAXES (1,000)	\$72,087	\$92,180	\$164,266
FEDERAL GOVERNMENT AVIATION - SPECIFIC TAXES (1,000)		\$246,203	\$246,203

^{*}Includes only Port of Portland facilities and excludes impacts generated by visitors using Portland International Airport

However, the impacts of Port of Portland facilities only describe a portion of the impact of the region's maritime and aviation activities. In addition to the Port's marine terminals there are a number of private facilities located within the Portland harbor that generate economic activity. Similarly, the Port's aviation facilities generate visitor industry activity, which contributes to the regional economy. Table E-1B shows the economic impact of the entire Portland harbor and the aviation system, including its visitor industry impacts.

Table E-1B
Summary of the Economic Impacts of the Portland Harbor and Aviation System 2011

	PORTLAND	PORTLAND	
	MARITIME	AVIATION	TOTAL
JOBS			
DIRECT	7,275	33,953	41,228
INDUCED	6,878	12,501	19,379
INDIRECT	<u>3,928</u>	<u>7,283</u>	<u>11,211</u>
TOTAL	18,081	53,737	71,818
PERSONAL INCOME (1,000)			
DIRECT	\$366,663	\$877,431	\$1,244,093
INDUCED/CONSUMPTION IMPACT	\$897,737	\$892,965	\$1,790,703
INDIRECT	<u>\$197,766</u>	<u>\$245,437</u>	<u>\$443,203</u>
TOTAL	\$1,462,166	\$2,015,833	\$3,478,000
BUSINESS REVENUE (1,000)	\$1,518,584	\$5,559,497	\$7,078,080
LOCAL PURCHASES (1,000)	\$429,959	\$449,953	\$879,912
STATE AND LOCAL TAXES (1,000)	\$140,206	\$175,388	\$315,595
FEDERAL GOVERNMENT AVIATION - SPECIFIC TAXES (1,000)		\$246,203	\$246,203

Regional maritime and aviation activity supported 71,818 total jobs in the local economy.

- 41,228 jobs are directly created by marine cargo and airport activity.
- As the result of local purchases by the 41,228 directly employed workers, an additional 19,379 induced jobs are supported in the local economy to provide goods and services to those directly employed.
- 11,211 indirect jobs are also supported in the local economy as the result of the local purchases of goods and services by the firms directly dependent upon the cargo and vessel activity at the Port's marine terminals, as well as passenger and cargo activity at Portland International Airport and the general aviation airports at Troutdale and Hillsboro.
- About 39% of those directly employed reside in Multnomah County, while another 25% reside in Clark County. About 29% of those directly employed live in Portland.

The aviation and marine cargo activity generated \$7.1 billion of business revenue. This revenue impact does not include the value of the cargo moving via the Portland Harbor or the Portland International Airport.

The local businesses made \$880 million of purchases from the local economy, supporting the 11,211 indirect jobs.

Regional maritime and aviation activity generated \$3.5 billion of direct, induced and indirect wages and salaries and consumption activity in the local economy.

A total of \$316 million of state and local tax revenue was supported by the maritime and aviation activity in the region. In addition, the aviation activity generated \$246.2 million of Federal aviation specific taxes.

The balance of this executive summary presents the impacts of the Portland Harbor, Portland International Airport and the general aviation airports at Troutdale and Hillsboro, and the real estate tenants of the Ports Industrial and Business Parks.

I. Summary of the Economic Impacts of the Portland Harbor

The Portland Harbor consists of public marine terminals owned by the Port of Portland and private marine terminals. The Port of Portland's public marine terminals include Terminal 6, which is the primary ocean container terminal on the Columbia River; Terminal 2, which handles breakbulk cargoes and steel; Terminal 4, which handles bulk products, as well as breakbulk cargoes and automobiles; and Terminal 5, which handles grain and mineral bulks. Automobiles and breakbulk are also handled at Terminal 6. Private marine terminals within the Portland Harbor handle grain, petroleum products and dry bulk cargoes such as cement, alumina, sand and gravel and limestone. In calendar year 2011, these public and private marine terminals in the Portland Harbor handled nearly 24 million tons of cargo for exporters and importers located within the metropolitan region, the State of Oregon, as well as throughout the Pacific Northwest and the United States. The economic impacts of the Portland Harbor are presented in Table E-2.

Table E-2 Summary of the Economic Impacts of the Port of Portland Harbor 2011

	2011		
	PUBLIC	PRIVATE	TOTAL
IMPACTS	TERMINALS	TERMINALS	PORTLAND HARBOR
JOBS			
DIRECT	3,549	3,726	7,275
INDUCED	3,476	3,401	6,878
INDIRECT	<u>2,074</u>	<u>1,854</u>	<u>3,928</u>
TOTAL	9,099	8,982	18,081
PERSONAL INCOME (1,000)			
DIRECT	\$186,848	\$179,749	\$366,597
INDUCED	\$457,460	\$440,080	\$897,540
INDIRECT	<u>\$106,391</u>	<u>\$91,352</u>	<u>\$197,744</u>
TOTAL	\$750,699	\$711,182	\$1,461,881
BUSINESS REVENUE (1,000)	\$803,488	\$714,877	\$1,518,364
STATE AND LOCAL TAYES (4 000)			
STATE AND LOCAL TAXES (1,000)	Ć44 F22	¢20.000	ຕໍ່ຄວ ລວດ
OREGON	\$44,522	\$38,808	
WASHINGTON	<u>\$27,565</u>	\$29,312	
TOTAL	\$72,087	\$68,120	\$140,206
LOCAL PURCHASES (1,000)	\$233,862	\$196,097	\$429,959

In calendar year 2011, 18,081 jobs in the Portland metropolitan region and the States of Oregon and Washington were supported by activity in the Portland Harbor. Of the 18,081 jobs:

- 7,275 are direct jobs, in that these jobs are generated by activities at the Port, and if such activities should cease, these jobs would be discontinued over the short term. It is these jobs that are most directly dependent upon the vessel and cargo activity in the Portland Harbor. These jobs are with the International Longshore and Warehouse Union, terminal operators, stevedores, trucking firms, railroads, steamship agents, freight forwarders and customhouse brokers, warehousemen, federal government agencies, towing companies, pilot organizations, and marine construction companies. Sixty-two percent of these jobs are held by residents of the Portland metropolitan region, as defined by the counties of Multnomah, Clark, Washington, Clackamas and Skamania. Forty-seven percent of the direct jobs are held by residents of Multnomah and Clark counties. Activity at the Port of Portland's public marine terminals created about 50 percent of the direct jobs.
- 6,878 are <u>induced</u> jobs, or those jobs supporting the local purchases made by the 7,275 individuals holding the direct jobs due to port activity. Should the direct jobs be lost from the economy, the induced jobs supporting the purchases of the direct jobs would also be lost. These jobs are with local grocery stores, retail outlets, restaurants, transportation services, local government services, schools, hospitals, etc.
- The firms dependent upon the marine activity in the Portland Harbor made \$430.0 million of local purchases for office supplies, equipment, utilities, communications, maintenance and repair services, transportation services, professional services, and goods and services. These purchases supported 3,928 indirect jobs in the Portland metropolitan economy.

Businesses providing maritime services in the Portland Harbor received \$1.5 billion of direct business revenue. The \$1.5 billion of revenue received by the businesses providing the services in the Portland Harbor does not include the value of the cargo moving over the marine terminals, since the value of the cargo is determined by the demand for the cargo, not the use of the marine terminals.

Marine activity also created \$1.5 billion of direct, induced and indirect personal wage and salary income and local consumption expenditures for Portland metropolitan residents. The consumption expenditures are a part of the direct multiplier effect, and measure the local consumption expenditures by those directly employed. The consumption expenditures support the induced jobs. The 7,275 direct job holders received \$366.6 million of direct wage and salary income, for an average salary of \$50,392.

A total of \$140.2 million of state and local tax revenue was generated by maritime activity in the Portland Harbor in calendar year 2011.

Since the 2006 study, the Port has experienced a gain of 517,700 tons. This has been concentrated with grain exports, scrap and containerized cargo. As a result, direct jobs generated by the Portland Harbor marine terminals grew by 707 direct and business revenue grew by \$522.7 million since 2006.

II. Summary of the Economic Impacts of Portland International Airport and the General Aviation Airports

The Port of Portland owns and operates Portland International Airport, as well as the general aviation airports at Troutdale and Hillsboro. The airport impact analysis included the quantification of the economic impacts generated by passenger, freight, military and general aviation activity at Portland International Airport, as well as the general aviation activity at Troutdale and Hillsboro. The impacts are estimated for total airport activity for calendar year 2011. Table E-3 presents the economic impacts of Portland International Airport.

Table E-3
Economic Impacts of Portland International Airport 2011

	AIRPORT	VISITOR	TOTAL
IMPACTS	GENERATED	INDUSTRY	IMPACT
JOBS			
DIRECT	10,077	23,202	33,279
INDUCED	4,505	7,664	12,169
INDIRECT	<u>1,726</u>	<u>5,097</u>	<u>6,823</u>
TOTAL	16,308	35,963	52,271
PERSONAL INCOME (1,000)			
DIRECT	\$400.7	\$450.2	\$850.9
INDUCED	\$427.9	\$437.0	\$864.9
INDIRECT	<u>\$93.4</u>	<u>\$133.3</u>	\$226.7
TOTAL	\$922.0	\$1,020.4	\$1,942.5
BUSINESS REVENUE (1,000)	\$3,725.0	\$1,752.7	\$5,477.7
LOCAL PURCHASES (1,000)	\$194.9	\$217.0	\$411.9
STATE AND LOCAL TAXES (1,000)	\$85.9	\$82.7	\$168.6
FEDERAL GOVERNMENT AVIATION - SPECIFIC TAXES (1,000)	\$246.2	NA	\$246.2

In 2011, passenger and air freight activity at Portland International Airport had the following impacts:

• 16,308 direct, induced and indirect jobs were generated for residents of the Portland area. Of the 16,308, jobs 10,077 were direct jobs, while 4,505 jobs

 $^{^4}$ In 2011, there was no economic activity generated at the third general aviation airport operated by the Port of Portland located in Mulino.

were induced throughout the region to support the purchase of goods and services by the 10,077 directly dependent employees. An additional 1,726 indirect jobs were generated in the local economy due to \$194.9 million of local purchases by firms directly dependent on the airport.

- \$922.0 million of direct, induced and indirect personal income and consumption expenditures were generated in the Portland area as a result of the airport activity in 2011.
- Nearly \$3.7 billion of business sales were generated by airport activity, including \$682.3 million of business revenue generated by air cargo activity.
- The Federal Government received \$246.2 million in airport-specific taxes from activity at Portland International Airport.
- State and local governments received \$85.9 million in tax revenues from airport activity.

In addition to these airport-generated impacts, it is estimated that 35,963 direct, induced and indirect jobs were supported in the Portland area visitor industry due to expenditures by the 3.1 million visitors to the region who arrived via Portland International Airport. The impacts of the visitors are estimated from the results of an ongoing passenger survey conducted at PDX. These visitors, who include both domestic as well as international travelers, spent about \$1.8 billion on area hotels, restaurants, retail stores and entertainment establishments, which in turn generated the jobs in the Portland area visitor industry. As the result of visitors arriving via the airport, \$82.7 million of state and local tax revenues were generated.

In 2011, 213.6 million pounds of air freight (both domestic and international) were enplaned at Portland International Airport. It is estimated that the total value of air cargo shipped via Portland is about \$27.6 billion, which supports nearly 296,000 jobs in the region with the firms producing the air cargo and the firms providing services and parts to those producing firms.

Between 2005 and 2011, total passengers using the airport decreased from 13.9 million passengers in 2005 to 13.7 million passengers in 2011. Enplaned air freight (air cargo excluding mail) fell from 257.5 million pounds in 2005 to 207.3 million pounds in 2011. Direct, induced and indirect jobs fell over the period reflecting the decline in passenger and air cargo activity, as well as the reduced spending of passengers, as well as reduced employment with airport tenants. Direct wage and salary income grew by \$68.3 million over the period while the re-spending impact fell by \$16.1 million reflecting the decline in the personal income multiplier over the period as the savings rate of passengers has increased over time. Business revenue increased from \$3.2 billion in 2005 to about \$3.7 billion in 2011, reflecting the growth in passenger revenue from airline activity and concession revenue. State and local taxes fell by \$1.8 million as a result of the growth direct employees residing Washington State, which has a lower per

capita tax burden than in the State of Oregon. Similarly, airport specific federal tax revenue increased due to the increases in passenger and air cargo revenue due to higher per unit rates per enplaned cargo and enplaned passengers. Enplaned passenger revenue increased by about \$110 per enplaned passenger, on average.

Reflecting the decline in total passengers at PDX between 2005 and 2011, the number of visitors using PDX declined from 3.4 million in 2005 to 3.1 million passengers in 2011. In 2005, 53% of the passengers were non-residents. Therefore the actual number of visitors using PDX actually declined from 3.4 million visitors in 2005 to 3.1 million visitors in 2011. In addition to the decline in the number of air visitors, the composition of the visitors to the Portland area has changed since 2005, as the share of air visitors that are domestic business travelers has fallen from 45.9% in 2005 to 30.1% in 2011, while the share of domestic pleasure travelers has increased from about 54.1% to 69.9%, and business travelers spend an average of \$209 more per trip than do domestic pleasure travelers. Due to the loss of visitors and the changing composition of travelers using PDX, direct and induced jobs created in the visitors industry has also declined over the period.

Despite the contraction of the economic impact of PDX since 2005, it is to be emphasized that the airport activity continues to be a major employment generator in the Portland area, supporting over 52,000 direct, induced and indirect jobs, \$5.5 billion of annual revenue, and \$168.6 million of state and local taxes.

In addition to the economic impacts of Portland International Airport, general aviation activity at the Portland Troutdale Airport and Hillsboro Airport generated economic impacts to the regional economy. These impacts are summarized in Table E-4.

Table E-4
Economic Impacts of Portland Hillsboro and Troutdale General Aviation Airports
2011

	ON-SITE	VISITORS	TOTAL
JOBS			
DIRECT	496	178	674
INDUCED	274	59	332
INDIRECT	<u>421</u>	<u>39</u>	<u>460</u>
TOTAL	1,191	276	1,466
PERSONAL INCOME (1,000)			
DIRECT	\$23,753.9	\$2,785.8	\$26,539.7
INDUCED/LOCAL EXPENDITURES	\$25,362.1	\$2,704.6	\$28,066.7
INDIRECT	\$17,727. <u>5</u>	\$1,023.4	\$18,750.9
TOTAL	\$66,843.5	\$5,513.8	\$73,357.3
BUSINESS REVENUE (1,000)	\$71,888.0	\$9,864.8	\$81,752.8
LOCAL PURCHASES (1,000)	\$36,425.9	\$1,666.6	\$38,092.5
STATE AND LOCAL TAXES (1,000)	\$6,235.6	\$512.0	\$6,747.6

The general aviation activity at the two airports created 1,191 direct, induced and indirect jobs. In addition, 276 direct, induced and indirect jobs were generated by visitors to the Portland area using Troutdale and Hillsboro.

In 2011, \$66.8 million of direct, induced and consumption expenditures, and indirect income was supported by activity at the airports, while the visitors using Troutdale and Hillsboro airports generated another \$6.5 million of direct, induced and indirect income.

Local businesses received \$71.9 million of revenue from services provided at the two airports, while visitor industry businesses such as hotels and restaurants received nearly \$10 million of revenue from the spending of the visitors using the airports.

The airport tenants made \$36.4 million of local purchases supporting the 421 indirect jobs, while the visitor industry firms made \$1.7 million of local purchases.

The activity at the two general aviation airports created \$6.2 million of state and local taxes, while the visitors using the two airports generated an additional \$0.5 million of state and local taxes.

III. Summary of the Economic Impacts of the Real Estate Tenants of the Port's Business and Industrial Parks

This chapter documents the impacts of the real estate tenants of the Port of Portland developed industrial parks. The impacts are measured for the year 2011, and are measured in terms of jobs, personal income, business revenue and taxes generated by economic activity of the firms that are tenants of the Port of Portland developed industrial parks. Impacts are measured for all tenants of Swan Island, Rivergate, Troutdale Industrial Park and Portland International Center, and exclude marine terminals, airport properties and other Port-owned properties not contained in these parks.

The economic impacts generated by these tenants are measured in terms of jobs, personal income, business sales revenue, and state and local taxes. The impacts are measured using a methodology similar to the one that Martin Associates has used to measure the impacts of the marine cargo activity at the Port of Portland and the impacts created by passenger and cargo activity at the Portland International Airport.

Table E-5 summarizes the economic impacts generated by the tenants of the Port of Portland Industrial Parks for the year 2011.

Table E-5
Summary of the Economic Impacts of the
Tenants of the Port of Portland Industrial Parks
2011

JOBS	
DIRECT	14,733
INDUCED	5,840
INDIRECT	<u>10,401</u>
TOTAL	30,974
PERSONAL INCOME (1,000)	
DIRECT	\$474,666
INDUCED	\$504,551
INDIRECT	<u>\$506,717</u>
TOTAL	\$1,485,934
BUSINESS REVENUE (1,000)	\$5,333,291
LOCAL PURCHASES (1,000)	\$825,724
STATE AND LOCAL TAXES (1,000)	\$138,192

The impact analysis is based on a survey of 362 tenants and subtenants. These tenants represent a wide spectrum of economic activity, including construction,

manufacturing, wholesale and retail trade, warehousing and distribution, business services and government agencies.

The tenants of the Port of Portland Industrial Parks generated the following economic impacts to the regional economy:

- 14,733 direct jobs; these are the full-time equivalent jobs held by employees of the real estate tenants;
- 5,840 induced jobs; these induced jobs are with local and regional industries supplying goods and services to the 14,733 directly employed workers;
- 10,401 indirect jobs are supported in the local economy as the result of the local purchases of goods and services by the tenants;
- About 58% of the 14,733 direct jobs are held by residents of the City of Portland and Multnomah County, while another 25% of the jobs are held by residents of Clark County, Washington;
- The 14,733 direct employees earned \$474.7 million in wages and salaries. When the re-spending and consumption effect of this direct income is considered, an additional \$504.6 million of income and regional consumption activity is created. The indirect job holders received \$506.7 million of wages and salaries. The real estate tenant activity created a total wage and salary income impact of \$1.49 billion:
- The real estate tenants received \$5.3 billion of business sales receipts;
- \$138.2 million of state, county and municipal taxes were generated by the non-maritime tenants; and
- Overall, the transportation and warehousing sector, followed by manufacturing and professional, scientific, and technical services account for about two-thirds of the direct, induced and indirect job impacts created by the real estate tenants.

In addition to measuring the baseline impacts of the real estate tenants of the Port of Portland industrial parks, a computerized real estate development model has been developed that will enable the Port to:

- Analyze various growth scenarios for particular industries or groups of industries;
- Evaluate alternative uses of a specific parcel of real estate in terms of local and regional impacts, including the comparison of impacts of maritime versus nonmaritime uses of waterfront land; and

• Demonstrate to the local community the positive economic benefits of a new tenant.

It is to be emphasized that this real estate tenant study is designed to provide a framework that the Port of Portland can use in formulating and guiding the future development of Port-owned real estate. The greater value of the report is in its use and application in evaluating future real estate decisions, rather than its description of the current inventory of economic activity of the Port's real estate holdings.