

THE LOCAL AND REGIONAL ECONOMIC IMPACTS OF THE PORT OF PORTLAND, FISCAL YEAR 2015



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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 Hillsboro. The Port of Portland retained the services of Martin Associates to quantify the economic impact of the Port's seaport and airport activities in fiscal year 2015. 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 different 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 Parks¹.

The impact analysis is based on a telephone survey of 916 marine, airport and real estate tenants and firms providing services to the marine terminals and airports. Local re-sponding 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.

¹ 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

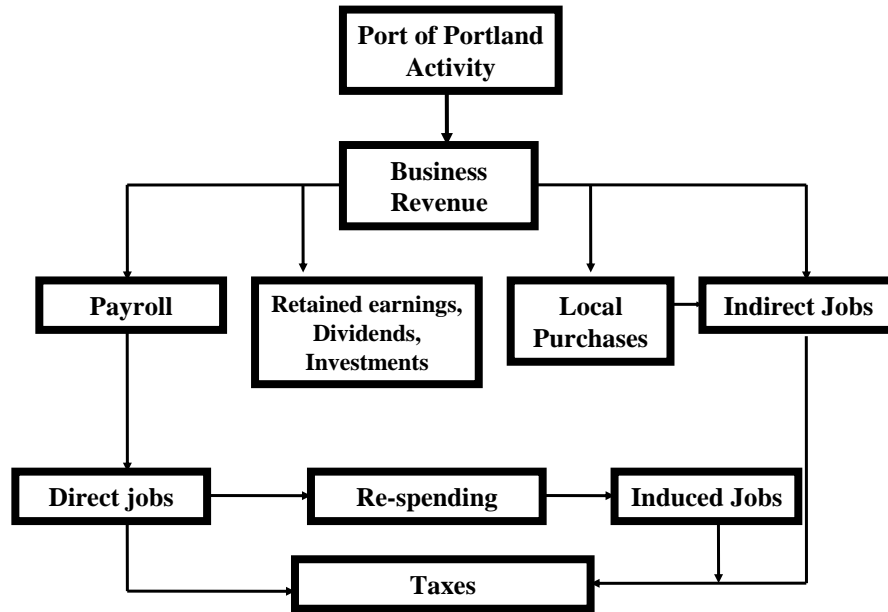


Exhibit E-1 illustrates the flows of economic impacts generated by the seaport, airport and real estate activity throughout the region's economy. As this figure shows, economic activity at the seaport or airport or a real estate tenant initially creates business revenue. This revenue is in turn used 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 916 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 firms, not individuals, 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.²

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.

² It is to be noted that different income multipliers are used to estimate the induced job impacts and the re-spending 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 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*
Fiscal Year 2015

	MARITIME	AVIATION	TOTAL
JOBS			
DIRECT	2,685	11,334	14,019
INDUCED	3,048	5,379	8,427
INDIRECT	<u>1,400</u>	<u>2,749</u>	<u>4,149</u>
TOTAL	7,133	19,462	26,595
PERSONAL INCOME (millions)			
DIRECT	\$165	\$521	\$686
RE-SPENDING/LOCAL CONSUMPTION	\$402	\$479	\$882
INDIRECT	<u>\$62</u>	<u>\$127</u>	<u>\$189</u>
TOTAL	\$629	\$1,127	\$1,756
BUSINESS REVENUE (millions)	\$629	\$5,043	\$5,672
LOCAL PURCHASES (millions)	\$135	\$255	\$390
STATE AND LOCAL TAXES (millions)	\$61	\$112	\$172
FEDERAL GOVERNMENT AVIATION TAXES (millions)		\$309	\$309

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

*Totals may not add due to rounding

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
Fiscal Year 2015

	MARITIME	AVIATION	TOTAL
JOBS			
DIRECT	5,199	74,870	80,069
INDUCED	5,551	29,189	34,740
INDIRECT	<u>3,306</u>	<u>15,153</u>	<u>18,459</u>
TOTAL	14,056	119,212	133,268
PERSONAL INCOME (millions)			
DIRECT	\$295	\$2,131	\$2,425
RE-SPENDING/LOCAL CONSUMPTION	\$720	\$2,062	\$2,782
INDIRECT	<u>\$144</u>	<u>\$463</u>	<u>\$607</u>
TOTAL	\$1,158	\$4,655	\$5,814
BUSINESS REVENUE (millions)	\$1,067	\$10,937	\$12,004
LOCAL PURCHASES (millions)	\$355	\$797	\$1,152
STATE AND LOCAL TAXES (millions)	\$111	\$426	\$537
FEDERAL GOVERNMENT AVIATION TAXES (millions)		\$309	\$309

*Totals may not add due to rounding

Regional maritime and aviation activity supported 133,268 total jobs in the local economy.

- 80,069 jobs are directly created by marine cargo and airport activity.
- As the result of local purchases by the 80,069 directly employed workers, an additional 34,740 induced jobs are supported in the local economy to provide goods and services to those directly employed.
- 18,459 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.

The aviation and marine cargo activity generated \$12.0 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 \$1.2 billion of purchases from the local economy, supporting the 18,459 indirect jobs.

Regional maritime and aviation activity generated \$5.8 billion of direct, induced and indirect wages and salaries and consumption activity in the local economy.

A total of \$537 million of state and local tax revenue was supported by the maritime and aviation activity in the region. In addition, the aviation activity generated \$309 million of federal aviation specific taxes.

The balance of this report 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 break bulk cargoes and steel; Terminal 4, which handles bulk products, as well as break bulk cargoes and automobiles; and Terminal 5, which handles grain and mineral bulks. Automobiles and break bulk 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 fiscal year 2015, these public and private marine terminals in the Portland Harbor handled nearly 21.3 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
Fiscal Year 2015

	PUBLIC TERMINALS	PRIVATE TERMINALS	TOTAL PORTLAND HARBOR
JOBS			
DIRECT	2,685	2,515	5,200
INDUCED	3,048	2,503	5,551
INDIRECT	<u>1,400</u>	<u>1,906</u>	<u>3,306</u>
TOTAL	7,133	6,924	14,057
PERSONAL INCOME (millions)			
DIRECT	\$165	\$130	\$295
RE-SPENDING/LOCAL CONSUMPTION	\$402	\$317	\$720
INDIRECT	<u>\$62</u>	<u>\$82</u>	<u>\$144</u>
TOTAL	\$629	\$530	\$1,158
BUSINESS REVENUE (millions)	\$629	\$438	\$1,067
LOCAL PURCHASES (millions)	\$135	\$221	\$355
STATE AND LOCAL TAXES (millions)	\$61	\$50	\$111

*Totals may not add due to rounding

In fiscal year 2015, 14,057 jobs in the Portland metropolitan region and the states of Oregon and Washington were supported by activity in the Portland Harbor. Of the 14,057 jobs:

- 5,200 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. Fifty-four 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 52 percent of the direct jobs.

- 5,551 are **induced** jobs, or those jobs supporting the local purchases made by the 5,200 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 \$355 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 3,306 **indirect** jobs in the Portland metropolitan economy.

Businesses providing maritime services in the Portland Harbor received \$1.1 billion of direct business revenue. The \$1.1 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 \$1.2 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 5,200 direct job holders received \$295 million of direct wage and salary income, for an average salary of \$56,730.

A total of \$111 million of state and local tax revenue was generated by maritime activity in the Portland Harbor in fiscal year 2015.

Since the 2011 study, the Port has experienced a loss of 3.5 million tons. This has been concentrated with grain exports, scrap, steel slab, petroleum products and containerized cargo. As a result, direct jobs generated by the Portland Harbor marine terminals fell by 2,075 direct jobs and business revenue decreased by \$451 million since 2011.

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 supported 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 fiscal year 2015. Table E-3 presents the economic impacts of Portland International Airport.

Table E-3
Economic Impacts of Portland International Airport
Fiscal Year 2015

	AIRPORT GENERATED	VISITOR INDUSTRY	TOTAL IMPACT
JOB			
DIRECT	10,574	63,281	73,855
INDUCED	5,013	23,716	28,729
INDIRECT	<u>2,169</u>	<u>12,354</u>	<u>14,523</u>
TOTAL	17,756	99,351	117,107
PERSONAL INCOME (millions)			
DIRECT	\$485	\$1,603	\$2,088
RE-SPENDING/LOCAL CONSUMPTION	\$446	\$1,577	\$2,023
INDIRECT	<u>\$100</u>	<u>\$334</u>	<u>\$434</u>
TOTAL	\$1,031	\$3,514	\$4,545
BUSINESS REVENUE (millions)	\$4,929	\$5,870	\$10,799
LOCAL PURCHASES (millions)	\$205	\$539	\$744
STATE AND LOCAL TAXES (millions)	\$102	\$314	\$415
FEDERAL GOVERNMENT AVIATION TAXES (millions)	\$309		\$309

*Totals may not add due to rounding

In fiscal year 2015, passenger and air freight activity at Portland International Airport had the following impacts:

- 17,756 direct, induced and indirect jobs were generated for residents of the Portland area. Of the 17,756, jobs 10,574 were direct jobs, while 5,013 jobs were induced throughout the region to support the purchase of goods and services by the 10,574 directly dependent employees. An additional 2,169 indirect jobs were generated in the local economy due to \$205 million of local purchases by firms directly dependent on the airport.

- \$1.0 billion of direct, induced and indirect personal income and consumption expenditures were generated in the Portland area as a result of the airport activity in fiscal year 2015.
- Nearly \$4.9 billion of business sales were generated by airport activity.
- The federal government received \$309 million in airport-specific taxes from activity at Portland International Airport.
- State and local governments received \$102 million in tax revenues from airport activity.

In addition to these airport-generated impacts, it is estimated that 99,351 direct, induced and indirect jobs were supported in the Portland area visitor industry due to expenditures by the 4.8 million visitors to the region who arrived via Portland International Airport. The impacts of the visitors are estimated from the results of an on-going passenger survey conducted at PDX. These visitors, who include both domestic as well as international travelers, spent about \$5.9 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, \$314 million of state and local tax revenues were generated.

In fiscal year 2015, 208.9 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 \$22.0 billion, which supports nearly 241,924 jobs in the region with the firms producing the air cargo and the firms providing services and parts to those producing firms.

Between calendar year 2011 and fiscal year 2015, total passengers using the airport grew from 13.7 million passengers in calendar year 2011 to 16.1 million passengers in fiscal year 2015. Total air cargo (freight and mail) grew by 30.5 million pounds during the same time period. Total direct, induced and indirect jobs increased over the period reflecting the increase in passenger and air cargo activity. Direct wage and salary income grew by \$84.4 million over the period while the re-spending impact grew by \$18.4 million reflecting the increase in direct jobs generated by the increase in passenger and air cargo activity between calendar year 2011 and fiscal year 2015. The local income multiplier as estimated by the Bureau of Economic Analysis fell from 2.07 in calendar year 2011 to 1.92 in fiscal year 2015. Business revenue increased from \$3.7 billion in calendar year 2011 to about \$4.9 billion in fiscal year 2015, reflecting the growth in passenger revenue from airline activity and concession revenue. Air cargo revenue also increased during this time period from \$682.0 million in calendar year 2011 to \$688.0 million in fiscal year 2015 reflecting the growth in 30.5 million pounds of air cargo over the period. State and local taxes grew by \$15.8 million as a result of the growth in overall passenger and air cargo activity. Similarly, airport specific federal tax revenue grew due to the increases in passenger and air cargo revenue due to the increased volume of passengers and air cargo, as well as a higher per unit rate per enplaned

cargo and enplaned passengers. Enplaned passenger revenue increased by about \$30 per enplaned passenger, on average.

Reflecting the increase in total passengers at Portland International Airport between calendar year 2011 and fiscal year 2015, the number of visitors using Portland International Airport increased from 3.1 million passengers to 4.8 million passengers. Survey data from the on-going in terminal passenger study indicates 70% of the enplaning passengers were non-residents compared to 55% in calendar year 2011. The composition of the visitors to the Portland area has remained fairly constant between calendar year 2011 and fiscal year 2015. The share of air visitors that are domestic business and pleasure travelers has remained nearly the same over the period; about 30% are business travelers and about 70% are pleasure travelers. The number of days spent by visitors has also remained fairly constant between calendar year 2011 and fiscal year 2015. Domestic business travelers spent an average of 4.5 days in fiscal year 2015 compared to 4.2 days in calendar year 2011 and domestic pleasure travelers spent 5.8 days in calendar year 2011 compared to 5.9 days in fiscal year 2015.

The composition of foreign travelers by trip purpose also remained fairly constant over the period. In calendar year 2011, 43% of the foreign travelers were on business and 57% were pleasure travelers. In fiscal year 2015, 45% of the foreign travelers were on business with the balance, 55%, on pleasure. Foreign business travelers spent 6.6 days in calendar year 2011 compared to 6.2 days in fiscal year 2015. In contrast, the number of days spent by foreign pleasure travelers fell from 10.4 days in calendar year 2011 to 7.8 days in fiscal year 2015.

Although the composition of travelers and number of days spent have remained relatively stable, (with the exception of foreign pleasure travelers days spent), between calendar year 2011 and fiscal year 2015, expenditures per day have increased for all travel categories. Domestic business travelers spending per day increased from \$177 per day to \$298 per day, foreign business travelers spending per day increased from \$167 per day to \$374 per day, domestic pleasure travelers spending increased from \$93 per day to \$219 per day and foreign pleasure travelers spending increased from \$111 per day to \$165 per day.

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
Fiscal Year 2015

	AIRPORT GENERATED	VISITOR INDUSTRY	TOTAL IMPACT
JOBS			
DIRECT	760	256	1,016
INDUCED	366	95	461
INDIRECT	<u>580</u>	<u>51</u>	<u>631</u>
TOTAL	1,706	402	2,108
PERSONAL INCOME (millions)			
DIRECT	\$36	\$6	\$42
RE-SPENDING/LOCAL CONSUMPTION	\$33	\$6	\$39
INDIRECT	<u>\$27</u>	<u>\$1</u>	<u>\$29</u>
TOTAL	\$96	\$14	\$110
BUSINESS REVENUE (millions)	\$114	\$25	\$139
LOCAL PURCHASES (millions)	\$51	\$2	\$53
STATE AND LOCAL TAXES (millions)	\$10	\$1	\$11

*Totals may not add due to rounding

The general aviation activity at the two airports created 1,706 direct, induced and indirect jobs. In addition, 402 direct, induced and indirect jobs were generated by visitors to the Portland area using Troutdale and Hillsboro.

In fiscal year 2015, \$96 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 \$14 million of direct, induced and indirect income.

Local businesses received \$114 million of revenue from services provided at the two airports, while visitor industry businesses such as hotels and restaurants received nearly \$25 million of revenue from the spending of the visitors using the airports.

The airport tenants made \$51 million of local purchases supporting the 580 indirect jobs, while the visitor industry firms made \$2 million of local purchases.

The activity at the two general aviation airports created \$10 million of state and local taxes, while the visitors using the two airports generated an additional \$1 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 fiscal year 2015, 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 Reynolds 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 fiscal year 2015.

Table E-5
Summary of the Economic Impacts of the
Tenants of the Port of Portland Industrial Parks
Fiscal Year 2015

	TOTAL IMPACT
JOBS	
DIRECT	15,414
INDUCED	7,841
INDIRECT	<u>8,609</u>
TOTAL	31,864
PERSONAL INCOME (millions)	
DIRECT	\$735
RE-SPENDING/LOCAL CONSUMPTION	\$679
INDIRECT	<u>\$374</u>
TOTAL	\$1,788
BUSINESS REVENUE (millions)	\$7,083
LOCAL PURCHASES (millions)	\$923
STATE AND LOCAL TAXES (millions)	\$177

*Totals may not add due to rounding

The impact analysis is based on a survey of 396 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 supported the following economic impacts to the regional economy:

- 15,414 direct jobs; these are the full-time equivalent jobs held by employees of the real estate tenants;
- 7,841 induced jobs; these induced jobs are with local and regional industries supplying goods and services to the 15,414 directly employed workers;
- 8,609 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 15,414 direct jobs are held by residents of the City of Portland and Multnomah County, while another 24% of the jobs are held by residents of Clark County, Washington;
- The 15,414 direct employees earned \$735 million in wages and salaries. When the re-spending and consumption effect of this direct income is considered, an additional \$679 million of income and regional consumption activity is created. The indirect job holders received \$374 million of wages and salaries. The real estate tenant activity supported a total wage and salary income impact of nearly \$1.8 billion;
- The real estate tenants received \$7 billion of business sales receipts;
- \$177 million of state, county and municipal taxes were supported by the non-maritime tenants; and
- Overall, the transportation and warehousing sector, followed by manufacturing and wholesale trade account for over three quarters 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 non-maritime 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.