

**THE ECONOMIC IMPACTS OF THE
PORT OF PORTLAND
REAL ESTATE TENANTS, 2011**

Prepared for:



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EXECUTIVE SUMMARY

This report 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-1 summarizes the economic impacts generated by the tenants of the Port of Portland Industrial Parks for the year 2011.

Table E-1
Summary of the Economic Impacts of the
Tenants of the Port of Portland Industrial Parks

| | |
|--------------------------------------|---------------------|
| Jobs | |
| Direct | 14,733 |
| Induced | 5,840 |
| Indirect | 10,401 |
| Total | 30,974 |
| Personal Income (1,000) | |
| Direct | \$ 474,666 |
| Re-spending/Consumption | \$ 504,551 |
| Indirect | \$ 506,717 |
| 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 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 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.

I. INTRODUCTION

This report 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 owned 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 Port of Portland's property for which impacts are estimated includes:

- Rivergate development consists of 1,800 acres, including marine terminals 5 and 6. 1,750 acres are sold, leased, or used by the Port. Available for future use, Rivergate has 11.38 acres available for lease, 14.34 acres for sale and 27.5 acres of marine reserve;
- Swan Island, the majority of which is nearly fully developed, consists of 430 acres. There are two warehouses available, 12,000 square feet and 66,150 square feet. Swan Island has excellent access to Interstate 5 and is served by Union Pacific Railroad;
- The Portland International Center is a new development consisting of 458 acres. PIC is adjacent to PDX and Light Rail served.
- Troutdale Industrial Park, which consists of 350 acres. FedEx is currently operating at Troutdale on 78 acres. Port of Portland has two more phases in development stage at Troutdale Industrial Park. Phase II consists of 178 acres and Phase III consists of 35.4 acres to be developed in the future.

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.

With respect to the real estate analysis, the impacts with the tenants of Port of Portland real estate are generated by the demand for the goods and services produced by the firms, and not by activity specific to transportation services provided by the Port of Portland. As a result, the impacts generated by tenants of the Port of Portland real estate holdings are related to the Port of Portland, but not directly dependent upon Port activities. Some of these companies located in these parks are there as a direct result of efforts by the Port of Portland to recruit them, and would likely not have located in

Portland otherwise. Other firms would likely have located in Portland anyway. It is impossible to defensibly quantify which firms are which.

In the remainder of this chapter, the impact structure of the real estate analysis is explained, as is the methodology used in developing the impact.

1. IMPACT STRUCTURE

Economic activity by a firm or industry contributes to the Portland area's 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 I-1 illustrates the flows of economic impacts generated by a firm or industry throughout the region's economy. As this figure shows, economic activity by a firm or industry located on Port of Portland real estate initially creates business revenue. This revenue is in turn used for several purposes:

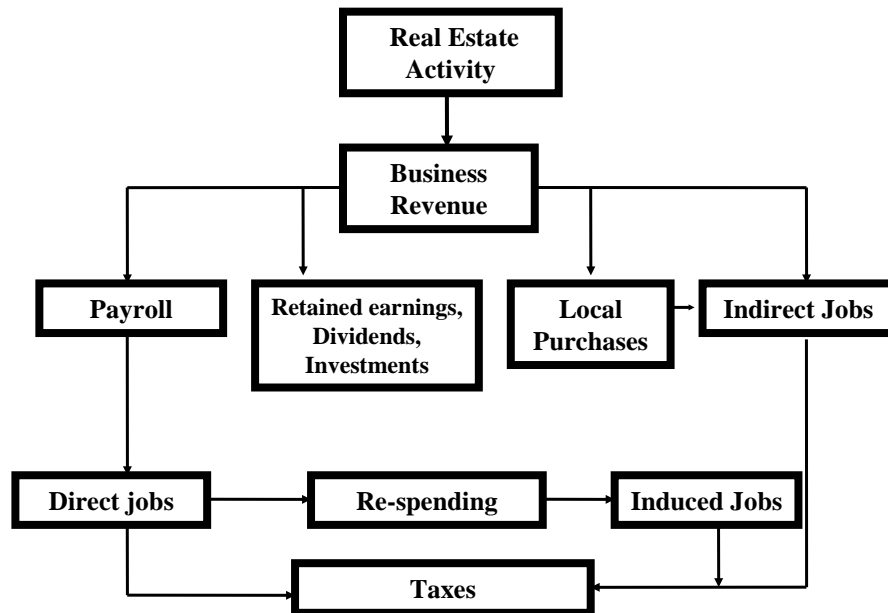
- To hire employees to produce the goods and provide the services;
- To pay stockholders dividends, retire debt, and invest;
- To buy goods from other firms; and
- To pay taxes.

As can be seen from Exhibit I-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.

The definition of each of the impacts, as well as the methodology followed in estimating the impacts for a specific firm in a given industry, are described below.

Exhibit I-1
Flows of Economic Activity throughout the Economy



2. DATA COLLECTION

Martin Associates conducted a telephone survey of all tenants of the Port's industrial parks. The key areas of interest on the survey included the number of employees, revenue, wages and salary data, local purchases data, and square footage occupied by each tenant. This was a 94 percent survey of all 2011 real estate tenants. A total of 362 firms were surveyed by Martin Associates.

3. IMPACT DEFINITIONS

The Port of Portland real estate tenants generate impacts in terms of:

- Direct, Induced and Indirect Jobs;
- Personal Income and Consumption Expenditures, and Indirect income;
- Business Revenue;
- Local Purchases; and
- State and Local Taxes.

Each of these impacts is described in the remainder of this section.

3.1 Employment Impact

The employment impact measures the number of full-time equivalent jobs generated by activity at a given firm. This consists of jobs directly generated by economic activity at the firm, as well as induced jobs, or jobs created in the Portland area, due to the purchase of goods and services by those individuals directly employed. Indirect jobs are those jobs supported in the local economy as the result of purchases by the firms for goods and services.

Direct jobs are those jobs held by employees of a particular firm. These are the number of jobs reported by a firm as paid employees. These direct employees are estimated directly from the two sets of surveys of Port of Portland tenants. It is to be emphasized that firms typically provide very accurate information as to employment. As a result, the direct employment impact generated by a firm is very defensible. Because of this defensibility, the direct employment impact is used to drive the other impacts. The direct jobs do not include jobs generated by seaport and airport activity that are not located in the Port-owned/managed business and industrial parks. These impacts are included in the impact analysis of the Port's other operating divisions.

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 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 region. Based on the fact that most consumption expenditures by consumers are made locally, it is assumed that the majority of the retail purchases made by individuals directly employed by tenants of the Port of Portland are made within the area. Furthermore, the wholesale jobs generated to supply the retail goods and services are also likely to be at the regional level. However, impacts generated at the third level of purchases, i.e., with firms producing the goods and services, are not included, since it is not possible to determine where this production occurs geographically.

Indirect jobs which are created due to the purchases by firms, not individuals, are estimated based on the local purchases of goods and services reported to Martin Associates by the Port's real estate tenants. These local purchases are combined with jobs to sales multipliers for the associated local supplying industries to estimate the indirect impacts. These multipliers are developed for Martin Associates for the Oregon-Washington area by the US Bureau of Economic Analysis, Regional Input-Output Modeling System, (RIMS II). These indirect jobs include local jobs that are supported at all levels of activity in order to deliver the product or service to the tenant.

3.2 Income Impact

The income impact consists of the level of wage and salary earnings associated with the jobs created by manufacturing, construction, retail, wholesale, service, and distribution and transportation activity, and is adjusted to reflect re-spending throughout the economy. The personal income impact is based on salary and annual earnings data provided from the survey conducted by Martin Associates. For each firm, the personal earnings impact is estimated by multiplying the average annual direct employment by the average annual earnings in that firm.

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 are 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.

For this study, the Bureau of Economic Analysis estimates that for every one dollar earned in the State of Oregon, an additional \$0.80 is earned due to the re-spending of wages and salaries in the local economy. This is consistent with a regional marginal propensity to consume of 0.44. This means that for every dollar earned by a Portland area resident, 44 percent, or \$0.44, is spent for local purchases. The income multiplier represents a weighted average of the direct personal income multipliers for the Oregon-Washington region for those industries that are located in the Port's industrial parks. The weights are the share of the direct employment in each industry category.

3.3 Business Revenue Impact

The revenue impact is the value of sales generated by the tenants of the Port of Portland. It is to be emphasized that this revenue impact is not necessarily money that remains within the Portland region. Only three portions of the total revenue impact can be identified as remaining in the Portland economy -- the portion of the revenue paid out in salaries to those directly employed by a Port tenant, the portion of revenue paid in taxes to the local and county governments, and the portion used for local purchases can be traced as remaining in the Portland region.

Revenue estimates per employee were developed for each firm surveyed by Martin Associates. A limited number of firms were reluctant to provide information on revenue, and secondary sources such as the Census reports for manufacturing, retail, wholesale, construction, distribution, and service industries in Oregon were used to estimate revenue per employee ratios. The revenue per employee multiplied by the direct jobs associated with a given firm produces an estimated revenue impact.

3.4 Tax Impact

The state, county and local tax revenues generated by economic activity of tenants of the Port of Portland industrial parks comprise the tax impact. The tax impact is estimated using weighted per capita state and local tax burdens for the States of Washington and Oregon, the weights being the share of employment created by the Port tenants that reside in the respective states. These tax burdens are developed by the Tax Foundation. These state and local tax burdens are then multiplied by the total personal wage and salary impacts (direct, induced and indirect wages and salaries).

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

4. METHODOLOGY

The impacts are estimated from the results of interviews with the 362 tenants of the Port of Portland industrial parks. These tenants represent a wide range of businesses operating in various industry segments of the Portland economy. The individual tenants are first grouped into industry categories and then into industry sectors.

Job, personal wage and salary income, revenue, square footage, etc., data is collected for each individual tenant. This individual firm data is then summed over the firms included in each industry sector.

Typical firm impacts can then be estimated for each industry category. A typical firm profile represents the "average" firm in the industry category. For example, the typical firm employment is based on the total employment of each tenant included in the industry category, divided by the total number of such firms in that sector.

A typical firm profile consists of the following information:

- Average direct employment per firm;
- Average annual earnings per employee (wages and salary);
- Average revenue (gross sales) per employee;
- Average employees per square foot of building space; and
- Average local purchases.

The typical firm profile in a specific industry sector can be used when evaluating the potential impacts or spatial requirements of a new company or firm considering locating on Port property.

The individual firms providing the data are then grouped into the larger industry categories, and these categories, which are defined by Standard Industrial Classification (SIC) codes, are grouped into industry segments. Impacts are estimated by category and by industry segment. It is to be emphasized that at each level of detail, the four types of impacts are estimated:

- Job Impacts:
 - Direct Jobs;
 - Induced Jobs;
 - Indirect Jobs;
- Personal Earnings Impacts:
 - Direct Earnings;
 - Re-spending Effect;
 - Indirect Impacts;
- Business Revenue; and
- Tax Impacts.

5. SUMMARY

Based on activity in 2011, the economic impacts generated by real estate holdings of the Port of Portland are summarized in Table I-1.

Table I-1
Economic Impacts of the Tenants of the
Port of Portland Business and Industrial Parks

| | |
|--------------------------------------|--------------------|
| Jobs | |
| Direct | 14,733 |
| Induced | 5,840 |
| Indirect | 10,401 |
| Total | 30,974 |
| Personal Income (1,000) | |
| Direct | \$474,666 |
| Re-spending/Consumption | \$504,551 |
| Indirect | \$506,717 |
| 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 |

II. RESULTS

The results of the economic impact analysis of real estate tenants of the Port of Portland industrial parks are documented in this chapter. The first section presents the analysis on a sector basis, while the second section analyzes the impacts on an industry basis. The third section of the chapter presents a detailed discussion of the impacts generated by typical firms in each industry. The last section describes the use of the real estate impact model developed as part of this study.

It is to be emphasized that the direct, induced and indirect job impacts and wage and salary income are the major focus of the analysis. This focus is on job impacts, since the direct jobs are typically the most defensible measure of the economic contribution of an industry or firm to the local economy, and these direct job impacts drive the personal income impact as well as the induced job impacts and tax impacts. Furthermore, the induced jobs are driven by earnings and the re-spending of earnings throughout the economy. For example, industries and firms in those industries paying higher salaries will generate a greater induced job impact than firms paying lower salaries. Therefore, the level of induced jobs generated by an industry or typical firm in that industry will reflect the personal earnings impact as well. Finally, the indirect jobs are those supported by the local purchases by the real estate tenants, and if these tenants were not located in Portland, these impacts would not be supported in the local economy.

Finally, as described in the previous chapter, the revenue impact is, in many cases, a national rather than local impact, since only that portion of the revenue paid out in salaries to local residents, used for local purchases, or used for state, county and local tax payments can be isolated to a local level. Other portions of the revenue impact are distributed throughout the country, or perhaps overseas. For example, for facilities in Portland that are branch plants or facilities with parent firms located outside of the region, the portions of revenue used for retained earnings will flow out of the region to company headquarters. Similarly, corporate taxes will be paid by such out-of-county headquarters to the states in which the company is incorporated.

1. TOTAL IMPACTS

In 2011, the tenants of the Port managed business and industrial parks generated 30,974 direct, induced and indirect jobs in the Portland region. Of these total jobs, the tenants directly employed 14,733 residents. These area residents earned \$474.7 million of wages and salaries. A portion of this income was spent on local purchases, in turn generating additional consumption expenditures and income in the Portland area. Using the regional income multiplier of 1.8, the use of the direct earnings of \$474.7 million for local purchases resulted in additional income and consumption expenditures totaling \$504.6 million. This re-spending impact supported the 5,840 induced jobs. As the result of the \$825.7 million of local purchases by the tenants, 10,401 indirect jobs were generated in the local and regional economy. These indirect job holders received \$506.7 million of wages and salaries.

The tenants generated about \$5.3 billion of business sales revenue and \$138.2 million of state and local tax revenues. Of the \$5.3 billion of sales revenue, \$825.7 million was used to purchase goods and services from local vendors, which supported the 10,401 indirect jobs in the local economy.

The tenants provided Martin Associates with a distribution of their employees by place of residence. Based on this analysis, it is important to emphasize the geographic scope of these tenants. The residences of the direct employees across the region are presented in Table II-1. Cities are calculated as subsets of respective counties. About 58% of the direct jobs are held by residents of Portland and Other Multnomah County, while 25% of the direct job holders are residents of Clark County, WA (including Vancouver and Other Clark County)

Table II-1
Distribution of Jobs by Place of Residence

| Jurisdiction | Percentage | Direct Jobs |
|--------------------|------------|-------------|
| Clackamas Co. | 9.5% | 1,399 |
| Other Multnomah Co | 13.7% | 2,018 |
| Portland | 43.9% | 6,465 |
| Washington Co. | 6.9% | 1,016 |
| Other Clark Co. | 9.7% | 1,429 |
| Vancouver | 14.5% | 2,135 |
| Other Cowlitz Co. | 0.0% | 3 |
| Longview | 0.3% | 44 |
| Kelso | 0.1% | 15 |
| Skamania Co. | 0.0% | 3 |
| Other OR | 1.0% | 147 |
| Other WA | 0.4% | 59 |
| Other US | 0.0% | - |
| Total | 100% | 14,733 |

2. ECONOMIC IMPACTS BY INDUSTRY SECTOR

The tenants of the Port of Portland real estate properties are classified into sixteen economic sectors based on NAICS codes. These are the:

- Construction (23);
- Manufacturing (31-33);
- Wholesale Trade (43);
- Retail Trade (44-45);
- Transportation & Warehousing (48-49);
- Information (51);

- Finance & Insurance (52);
- Real Estate & Rental & Leasing (53);
- Professional, Scientific, & Technical Services (54);
- Management of Companies & Enterprises (55);
- Administration & Support & Waste Management & Remediation Services (56);
- Educational Services (61);
- Health Care & Social Assistance (62);
- Accommodations & Food Services (72);
- Other Services (except Public Admin.) (81); and
- Public Administration (92).

Exhibit II-1 summarizes the economic impacts generated by firms in each of the sixteen sectors.

Exhibit II-1
Economic Impacts of Port of Portland Real Estate Tenants
By NAICS code

| NAICS Code | DIRECT JOBS | INDUCED JOBS | INDIRECT JOBS | TOTAL JOBS | DIRECT INCOME \$1,000 | INDUCED INCOME \$1,000 | INDIRECT INCOME \$1,000 | TOTAL INCOME \$1,000 | REVENUE \$1,000 | LOCAL PURCHASES | TAXES (\$1,000) |
|--|---------------|--------------|---------------|---------------|-----------------------|------------------------|-------------------------|----------------------|--------------------|------------------|------------------|
| Construction (23) | 302 | 146 | 59 | 508 | \$17,308 | \$13,946 | \$3,524 | \$34,778 | \$361,177 | \$5,970 | \$3,234 |
| Manufacturing (31-33) | 2,705 | 967 | 1,642 | 5,314 | \$6,375 | \$130,201 | \$105,115 | \$241,691 | \$859,487 | \$174,277 | \$22,477 |
| Wholesale Trade (43) | 2,585 | 1,085 | 752 | 4,422 | \$109,329 | \$88,097 | \$30,949 | \$228,375 | \$1,723,075 | \$54,053 | \$21,239 |
| Retail Trade (44-45) | 610 | 171 | 103 | 884 | \$6,210 | \$5,004 | \$4,799 | \$16,013 | \$179,261 | \$9,427 | \$1,489 |
| Transportation & Warehousing (48-49) | 4,052 | 1,606 | 4,314 | 9,972 | \$149,408 | \$120,394 | \$178,143 | \$447,945 | \$1,308,407 | \$275,004 | \$41,659 |
| Information (51) | 56 | 25 | 32 | 112 | \$2,816 | \$2,269 | \$1,574 | \$6,659 | \$13,693 | \$2,586 | \$619 |
| Finance & Insurance (52) | 16 | 6 | 10 | 32 | \$560 | \$451 | \$474 | \$1,485 | \$5,760 | \$779 | \$138 |
| Real Estate & Rental & Leasing (53) | 180 | 73 | 166 | 420 | \$7,097 | \$5,719 | \$13,429 | \$26,245 | \$80,401 | \$20,708 | \$2,441 |
| Professional, Scientific, & Technical Services (54) | 2,297 | 1,048 | 1,396 | 4,742 | \$116,560 | \$93,924 | \$69,546 | \$280,030 | \$566,765 | \$114,276 | \$26,043 |
| Management of Companies & Enterprises (55) | 240 | 91 | 139 | 471 | \$7,987 | \$6,436 | \$6,948 | \$21,371 | \$59,213 | \$11,417 | \$1,988 |
| Admin & Support & Waste Mgmt & Remediation Services (56) | 411 | 144 | 31 | 585 | \$10,747 | \$8,660 | \$1,616 | \$21,023 | \$38,484 | \$4,286 | \$1,955 |
| Educational Services (61) | 90 | 41 | 7 | 138 | \$4,567 | \$3,679 | \$350 | \$8,596 | \$9,000 | \$960 | \$799 |
| Health Care & Social Assistance (62) | 133 | 49 | 11 | 193 | \$4,015 | \$3,236 | \$675 | \$7,926 | \$10,450 | \$1,023 | \$737 |
| Accommodation & Food Services (72) | 764 | 266 | 1,567 | 2,597 | \$19,632 | \$15,820 | \$83,178 | \$118,630 | \$112,072 | \$136,729 | \$11,033 |
| Other Services (except Public Admin.) (81) | 142 | 52 | 41 | 235 | \$4,191 | \$378 | \$4,919 | \$6,488 | \$5,896 | \$5,748 | \$603 |
| Public Administration (92) | 151 | 70 | 129 | 350 | \$7,864 | \$6,337 | \$4,478 | \$18,679 | \$151 | \$8,481 | \$1,737 |
| SECTOR TOTAL | 14,733 | 5,840 | 10,401 | 30,974 | \$474,666 | \$504,551 | \$506,717 | \$1,485,934 | \$5,333,291 | \$825,724 | \$138,192 |

As this exhibit indicates, the Transportation and Warehousing sector generates the greatest number of direct, induced and indirect jobs. The Transportation and Warehousing sector generates the largest number of direct jobs, but the Construction sector has the greatest impact in terms of indirect jobs reflecting the large amount of local purchases made by firms in this sector. For most sectors, the distribution of the total direct, induced and indirect income impact over the industry sectors corresponds to the distribution of the job impacts.

3. INDUSTRY IMPACTS

In this section, firms in each of the sixteen industry sectors are detailed.

3.1 Construction Tenants

Construction tenants consist of general contractors and specialty trades firms engaged in marine construction/pollution control, plumbing and HVAC contractors and other business in the construction industry. The construction tenants generated 508 direct, induced and indirect jobs.

3.2 Manufacturing

These firms generate 5,314 total jobs. Tenants in manufacturing sector produce everything from truck and trailer parts, auto, recreational vehicles, and marine parts, electron tubes and drainage systems. Manufacturing tenants are heavily based at The Port of Portland's Rivergate and Swan Island Industrial Parks.

3.3 Wholesale Trade

The wholesale trade sector comprises establishments engaged in wholesaling of merchandise. Wholesale trade firms supply goods to retail stores in the Portland-Vancouver metropolitan area as well as the entire Pacific Northwest. The wholesale trade sector is the third largest direct job sector of Port of Portland real estate tenants with 2,585 direct jobs.

3.4 Retail Tenants

Port Industrial Center (PIC) is a major retail complex located off of Interstate-5. Access to I-5 draws consumers from both Washington and Oregon. Carquest, Best Buy, Target and Staples are large employers at PIC. No sales tax in the state of Oregon and access to I-5 has contributed to the Ports ability to draw large retail stores to PIC.

3.5 Transportation and Warehousing

The Transportation and Warehousing accounted for the largest total jobs of all sectors. This sector accounted for 9,972 total jobs. The majority of the direct jobs are with motor freight/trucking and warehousing firms. This sector also includes large distribution centers for major retailers.

3.6 Information

The Information sector includes firms producing and distributing information and cultural products, providing the means to distribute these products as well as data or communications and data processing. This sector accounts for 112 total jobs.

3.7 Finance & Insurance

Finance and Insurance sector comprises firms primarily engaged in financial transactions and/or facilitating financial transactions. Port tenants include bonding agency and a federal credit union.

3.8 Real Estate & Rental & Leasing

The real estate and rental and leasing sector accounted for 420 total jobs. This sector comprises establishments primarily engaged in renting and leasing establishments, equipment, or patents and trademarks. Port tenants in this sector are primarily associated

with tangible goods, such as equipment, rather than those firms based on intangible as in the case with patents and trademarks.

3.9 Professional, Scientific, & Technical Services

This sector comprises firms specializing in professional, scientific, and technical activities. These activities require a high degree of expertise and training. This sector excludes establishments primarily engaged in day-to-day office administrative services.

3.10 Management of Companies and Enterprises

This sector accounted for 471 total jobs. Management of Companies and Enterprises include establishments that hold the interests in companies and enterprises for the purpose of owning an interest or influencing management decisions or oversee and manage a company or enterprise.

3.11 Administrative and Support and Waste Management and Remediation Services

This sector comprises establishments performing routine support activities for the day-to-day operations of other organizations. 585 total jobs were created by this sector, including 411 direct jobs. This sector includes companies providing armored car services to window cleaning.

3.12 Educational Services

Educational services provide instruction and training in a wide variety of subjects. These establishments include schools, colleges, universities and training centers. ITT Technical services located at PIC is the Port's only tenant in this sector.

3.13 Healthcare and Social Assistance

Healthcare and Social Assistance tenants provide health care and social assistance for individuals. Port tenants in the sector include a medical clinic and dentist.

3.14 Accommodation and Food Services

This sector comprises establishments providing customers with lodging and/or preparing meals, snacks, and beverages for immediate consumption. Accommodation and Food service tenants accounted for a total of 2,597 total jobs. The 2,597 total jobs consist of 764 direct, 266 induced and 1,567 indirect jobs. Tenants in this sector are restaurants and hotels primarily located at PIC and Swan Island.

3.15 Other Services (except Public Admin.)

Other Services are tenants engaged in activities such as equipment and machinery repair, promoting or administering religious activities, grant making, advocacy, and

providing dry-cleaning and laundry services, personal care services, death care services, pet care services, photofinishing services, temporary parking services and dating services. This sector accounted for 235 total jobs.

3.16 Public Administration

The government tenants include the Customs and Border Protection and the Marine Corp. and Naval Reserve. No revenue impacts are reported for the public agencies.

4. ECONOMIC IMPACTS OF A "TYPICAL FIRM"

The economic impacts were estimated for a typical firm in each industry within the sixteen industry sectors. Understanding the impact of a typical firm in each industry is key in formulating development plans and to evaluate alternative development scenarios and land use. For example, if a new firm is planning to locate on Port property, it is very important to be able to demonstrate the positive economic contribution such a firm will likely have on the local economy in terms of generating jobs, personal earnings, and tax revenue to local, state and county governments.

Such information is also necessary in order to balance the positive economic benefits against the potential costs of further development. For example, a firm may require additional infrastructure, (e.g. rail extension) or other site improvements that the Port could provide. If the Port did not provide such infrastructure investment, the firm may not have located in the park, and the associated jobs with the firm would not have been generated in the local economy. Only by understanding both the benefits and costs of such Port investment can a rational decision be made as to the justification of the investment. Furthermore, by understanding the economic benefit of typical firms in specific industries competing for a limited number of development sites, it will be possible to identify the type of firm that would likely generate the greatest economic benefit to the community.

In the remainder of this section the economic impacts of a typical firm in terms of direct jobs are described. Furthermore, due to the unique operations of government offices and military recruiting operations, no typical firm data is provided for the government sector.

Finally, it is to be emphasized that these typical firm impacts may be unique to the operation in Portland and therefore, these ratios should be with caution for planning purposes. Exhibit II-2 presents the impacts of a typical firm in each of the sixteen sectors.

Exhibit II-2
Impacts of a Typical Firm

| Industry(NAICs CODE) | Revenue per Jobs | Jobs/Firm | Average Salary \$1,000 | Expenditure/Job \$1,000 |
|--|---------------------|-----------|---------------------------|----------------------------|
| Construction (23) | \$1,196.0 | 37.8 | \$57.3 | \$19.8 |
| Manufacturing (31-33) | \$317.7 | 75.1 | \$28.0 | \$64.4 |
| Wholesale Trade (43) | \$666.7 | 58.7 | \$42.3 | \$20.9 |
| Retail Trade (44-45) | \$293.9 | 27.7 | \$10.2 | \$15.5 |
| Transportation & Warehousing (48-49) | \$322.9 | 92.1 | \$36.9 | \$67.9 |
| Information (51) | \$246.7 | 13.9 | \$50.7 | \$46.6 |
| Finance & Insurance (52) | \$360.0 | 4.0 | \$35.0 | \$48.7 |
| Real Estate & Rental & Leasing (53) | \$446.7 | 90.0 | \$39.4 | \$115.0 |
| Professional, Scientific, & Technical Services (54) | \$246.7 | 109.4 | \$50.7 | \$49.7 |
| Management of Companies & Enterprises (55) | \$246.7 | 80.0 | \$33.3 | \$47.6 |
| Admin & Support & Waste Mgmt & Remediation Services (56) | \$93.8 | 41.1 | \$26.2 | \$10.4 |
| Educational Services (61) | \$100.0 | 90.0 | \$50.7 | \$10.7 |
| Health Care & Social Assistance (62) | \$78.6 | 33.3 | \$30.2 | \$7.7 |
| Accommodation & Food Services (72) | \$146.7 | 36.4 | \$25.7 | \$179.0 |
| Other Services (except Public Admin.) (81) | \$41.7 | 15.7 | \$29.6 | \$40.6 |

Construction firms generate the largest revenue per employee. Professional, Scientific & Technical Services generate the largest jobs per firm. This is primarily due to Daimler Chrysler being listed in the NAICS grouping 54 and the large number of employees at their Swan Island operation. The Construction sector has the highest average salary per employee, \$57,300, followed by Information and Professional, Scientific, and Technical Services each with an average salary of \$50,700. The largest expenditures per job is within the Accommodation and Food Services sector. This is based on the large amount of purchases made by hotel and restaurants specifically in the Portland/Vancouver Metropolitan area. The expenditures per job is greater than the revenue per job for Accommodations and Food Services since these expenditures represent local expenditures made by national chains in the Portland area, and are not necessarily related to the revenue generated by the specific local establishment.

5. THE USE OF THE ECONOMIC IMPACT MODEL

As part of this study, a detailed economic impact model of the Port of Portland real estate tenants has been developed. The purpose of this model is to provide a tool for the Port of Portland to use for such purposes as:

- Analysis of various growth scenarios for particular industries - For example, the model can be used to estimate future jobs, earnings, tax and revenue impacts generated at the firm or industry level of detail under various assumptions as to growth in those industries;
- Alternative land use analysis - If several industrial and retail uses are competing for a given parcel of land or vacant facility, the model can be used to rank each use in terms of economic benefit of a typical firm in each industry competing for the land or facility. This information will allow the Port of Portland to prioritize potential uses of the land or facility in question; and

- Public relations campaign - The results of the model can be used to demonstrate the economic benefit of a particular proposed new tenant. These economic benefits can be used to counteract potential economic costs such as highway congestion, industrial noise and additional demand on utility services.

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

6. DIRECT JOB IMPACTS BY INDUSTRIAL PARK

The following section discusses direct job impacts by Industrial Park. As shown in exhibit II-3, Swan Island, with 7,941 direct jobs, accounts for more than half of the total direct impacts by each park. Rivergate employs 3,451 direct jobs and is closely followed by Portland International Center's 2,516 direct jobs. Lastly, 825 direct jobs are located at the Troutdale Industrial Park. It must be taken into account that the land and composition of each industrial park vary greatly. Troutdale produces the smallest amount of direct jobs; however, over 200 acres of land are still available for development. Swan Island is the third largest industrial park in terms of acreage and produces the greatest number of direct jobs. The two largest employing sectors at all of the Port of Portland industrial parks tenants are transportation and warehousing, and professional, scientific and technical sectors.

Exhibit II-3
Impacts by Industrial Park

| Industrial Park | Direct Jobs |
|------------------------|--------------------|
| Swan Island | 7,941 |
| Rivergate | 3,451 |
| PIC | 2,516 |
| Troutdale | <u>825</u> |
| Total | 14,733 |