

The Local and Regional Economic Impacts of the Port of Vancouver Non- Maritime Real Estate Tenants, 2018



Port of Vancouver USA

Prepared for:

PORT OF VANCOUVER

3103 NW Lower River Road

Vancouver, WA 98660

(360) 693-3611



MARTIN
ASSOCIATES

Prepared by:

MARTIN ASSOCIATES

941 Wheatland Avenue, Suite 203

Lancaster, PA 17603

(717) 295-2428

August 1, 2019

Table of Contents

EXECUTIVE SUMMARY	1
1. IMPACT STRUCTURE.....	4
2. DATA COLLECTION.....	6
3. IMPACT DEFINITIONS.....	6
3.1 Employment Impact	6
3.2 Income Impact.....	7
3.3 Business Revenue Impact.....	8
3.4 Tax Impact.....	8
4. METHODOLOGY	9
1. TOTAL NON-MARITIME REAL ESTATE IMPACTS	11
2. ECONOMIC IMPACTS BY INDUSTRY SECTOR	13
3. COMPARISON WITH 2014 REAL ESTATE IMPACT	15

EXECUTIVE SUMMARY

The purpose of this report is to quantify the economic contribution of the non-maritime tenants of the Port of Vancouver to the local and regional economies. The analysis includes all non-maritime tenants including industrial tenants, warehousing and distribution tenants, and miscellaneous tenants leasing land from the Port.

The economic impacts supported 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 marine terminals owned by the Port of Vancouver. Port tenants directly impacted by the marine cargo activity were included in the seaport impact analysis.¹

Table E-1 summarizes the economic impacts supported by the non-maritime tenants of the Port of Vancouver for the year 2018.

Table E-1
Summary of the Economic Impacts of the
Non-Maritime Tenants

	2018 IMPACTS
JOBS	
DIRECT	1,452
INDUCED	787
INDIRECT	<u>1,946</u>
TOTAL	4,186
PERSONAL INCOME (\$1,000)	
DIRECT	\$61,848
RE-SPENDING/LOCAL CONSUMPTION	\$67,110
INDIRECT	<u>\$78,494</u>
TOTAL	\$207,453
BUSINESS REVENUE (\$1,000)	\$462,851
LOCAL PURCHASES (\$1,000)	\$348,093
STATE/LOCAL TAXES (\$1,000)	\$19,748

The impact analysis is based on a survey of 33 tenants. These tenants represent a wide spectrum of economic activity, including manufacturing plants, offices, banquet operations, offices, and warehousing and distribution.

¹ The Local and Regional Economic Impacts of the Port of Vancouver, xxxxxx, 2019, prepared by Martin Associates.

The non-maritime tenants of the Port of Vancouver supported the following economic impacts to the regional economy:

- 1,452 direct jobs. These are the full-time equivalent jobs held by employees of the Port's non-maritime tenants;
- 787 induced jobs. These induced jobs are with local and regional industries supplying goods and services to the 1,452 directly employed workers;
- 1,946 indirect jobs are supported in the local economy as the result of the local purchases of goods and services by the tenants;
- Nearly eighty percent of the 1,452 direct jobs are held by residents of the City of Vancouver and Clark County, while another twenty percent of the jobs are held by residents of Multnomah County;
- The 1,452 direct employees earned \$61.8 million in wages and salaries. When the re-spending effect of this direct income is considered, an additional \$67.1 million of income and regional consumption activity is created. The indirect job holders received \$78.5 million of wages and salaries. The tenant activity created a total wage and salary income impact of \$207.5 million;
- The non-maritime tenants received \$462.9 million of business sales receipts;
- \$19.7 million of state, county and municipal taxes were supported by the non-maritime tenants;
- Overall, the industrial sector accounts for 69% of the jobs, and 66% of the wages and salaries and tax revenue created by the non-maritime tenants. The industrial sector accounts for roughly 70% of the total business revenue created.

In addition to measuring the baseline impacts of the Port of Vancouver non-maritime tenants, 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 Vancouver 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

Martin Associates was retained by the Port of Vancouver to measure the economic impacts generated by tenants of the real estate holdings of the Port. The impacts are measured for the year 2018, and are measured in terms of jobs, personal income, business revenue and taxes supported by activity of the firms that are tenants of the Port- owned real estate. Impacts are measured for all Port tenants, including:

- Industrial tenants such as Cadet Manufacturing, Farwest Steel, Great Western Malting, Simon Metals and Hydro Extrusions;
- Warehousing and distribution tenants include Food Express Inc., Northwest Packing, and Boise Cascade Building Distribution;
- Miscellaneous tenants include Warehouse 23, Andersen Dairy and two small offices.

The real estate impacts exclude the impacts generated by the Port's tenants that are shipping or receiving cargo via the marine terminals, as these impacts have been quantified in the Port of Vancouver Seaport Economic Impact Study, also prepared by Martin Associates.²

With respect to the real estate analysis, the impacts created by the non-maritime tenants of the Port of Vancouver are supported 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 Vancouver. In contrast, the capital investments made by the Port in the marine terminals (warehouses, back land open storage, cranes, wharves, and surface transportation access corridors to terminals etc.) are essential for the existence of commercial marine operations in Vancouver. As a result, the impacts supported by tenants of the Port of Vancouver real estate holdings are not as directly dependent upon the Port of Vancouver and its investments as are the seaport impacts. Some of these companies are located on Port-owned property as a direct result of efforts by the Port of Vancouver to recruit them, and would likely not have located in Vancouver otherwise. Other firms would likely have located in Vancouver regardless of the Port's efforts and infrastructure investment.

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 Vancouver'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.

² “The Local and Regional Economic Impacts of the Port of Vancouver”, August 11, 2010, prepared by Martin Associates.

Exhibit I-1
Flow of Economic Activity throughout the Local Economy

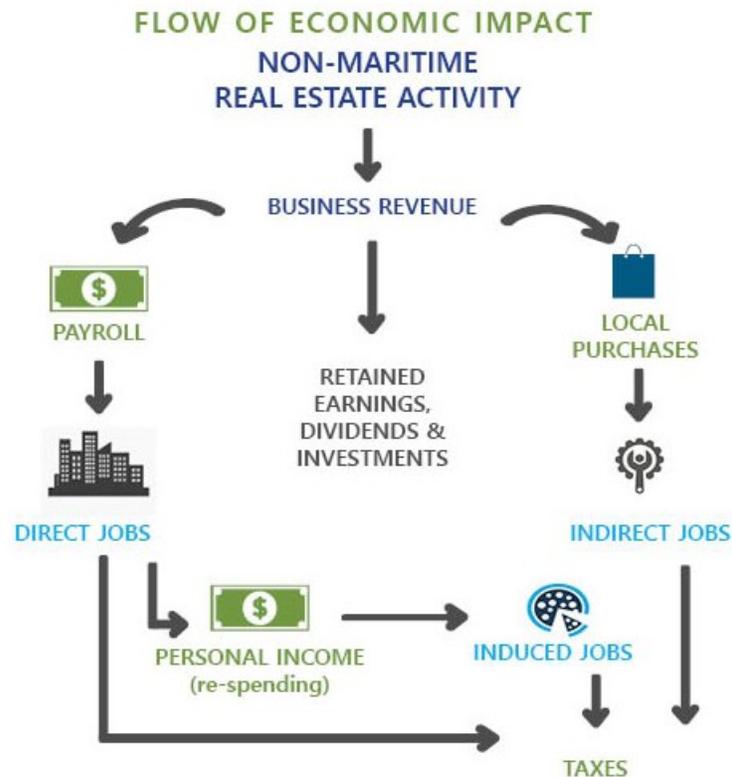


Exhibit I-1 illustrates the flow of economic impacts supported by a firm or industry throughout the region's economy. As this figure shows, economic activity by a firm or industry located on Port of Vancouver real estate initially creates business revenue. This revenue is in turn used for several purposes:

- 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;
- 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.

2. DATA COLLECTION

Martin Associates conducted a telephone survey of 33 non-maritime tenants of the Port of Vancouver. The focus of the telephone survey conducted by Martin Associates was to collect data at the firm level regarding revenue, wages and salary data, and expenditure profiles.

These tenants represent three industry sectors:

- Industrial and Manufacturing Sector;
- Warehousing and Distribution Sector; and
- Miscellaneous.

3. IMPACT DEFINITIONS

The Port of Vancouver real estate tenants create impacts in terms of:

- Direct, Induced and Indirect Jobs;
- Personal Income and Consumption Expenditures;
- Business Revenue;
- 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 supported by activity at a given firm. This consists of jobs directly supported by economic activity at the firm, as well as induced jobs, or jobs created in the Vancouver area, due to the purchase of goods and services by those individuals directly employed.

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 survey of Port of Vancouver tenants. It is to be emphasized that firms typically provide very accurate information as to employment. As a result, the direct employment impact supported 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 activity. These impacts are included in the impact analysis of the Port's marine terminals.

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 Vancouver metropolitan area, while some consumption purchases are made outside the area.

These consumption purchases, in turn, support additional jobs in those firms supplying the goods and services. The induced jobs measured in this study are only those supported in the Vancouver metropolitan area, which includes:

- The cities of Vancouver and Portland;
- Clark County, Multnomah County (OR), Skamania County, Cowlitz County, Washington County (OR), and Clackamas County.

Based on the fact that most consumption expenditures are made locally, it is assumed that the majority of the retail purchases made by individuals directly employed by tenants of the Port of Vancouver 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 created 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.

To estimate these induced jobs, a personal earnings multiplier for the Vancouver/Portland Metropolitan Area was developed from data provided by the Bureau of Economic Analysis, Regional Input-Output Modeling System. This income multiplier is used to estimate the total personal earnings generated in the local economy primarily defined as area consisting of the above noted counties and cities. A portion of this total personal earnings impact is next allocated to specific local purchases (as determined from consumption data for Vancouver residents, as developed from the U.S. Bureau of Labor Statistics, Consumer Expenditure Survey, 2016-2017). These purchases are next converted into retail and wholesale induced jobs in the regional economy.

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. Actual local expenditures by the Port's tenants were collected as part of the interview process. These local purchases were then used to estimate the indirect jobs and indirect income impacts. To estimate the indirect economic impact, local purchases, by type of purchase, were collected from each of the tenants interviewed. These local purchases were then combined with employment to sales ratios in local supplying industries, developed from U.S. Bureau of Economic Analysis, Regional Input-Output Modeling System for the Vancouver/Portland Metropolitan Area. These job to sales ratios capture the numerous spending rounds associated with the supply of goods and services. Special care has been exercised to avoid double counting the indirect impacts, and to specifically include only the expenditures by the directly dependent firms that are, in fact, local.

3.2 Income Impact

The income impact consists of the level of wage and salary earnings associated with the jobs created by the 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. For firms unwilling to provide salary data, published data from the U.S Bureau of Census was used as an estimate. It is to be emphasized that in all cases the survey data correlated very closely with the Census data averages. 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 is made from firms located in the Vancouver 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 Vancouver/Portland Metropolitan Area, an additional \$1.08 is earned due to the re-spending of wages and salaries in the local economy.

3.3 Business Revenue Impact

The revenue impact is the measure of gross sales generated by the tenants of the Port of Vancouver. It is to be emphasized that this revenue impact is not necessarily money that remains within the Vancouver local economy. Only those portions of the revenue paid out in wages and salaries to those directly employed, used by the 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.

Revenue estimates per employee were developed for each firm surveyed by Martin Associates. 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 supported by economic activity of tenants of the Port of Vancouver real estate holdings 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 33 tenants of the Port of Vancouver. These tenants represent a wide range of businesses operating in various industry segments of the Vancouver economy. The individual tenants are then first grouped into industry sectors.

Job, personal wage and salary income, revenue, 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 sector, 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; 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 sectors. Impacts of tenants, by industry sector, are then estimated based on the individual survey results.

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.

The study results follow in the next chapter.

II. RESULTS

The results of the economic impact analysis of real estate holdings of the Port of Vancouver are documented in this chapter. The first section describes the total impacts generated by the tenants. The second section describes the impacts by each industry sector. 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 and induced job impacts 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, 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 and paid to state, county and local governments in the form of taxes and fees can be isolated to a regional level. Other portions of the revenue impact are distributed throughout the country. For example, facilities in Vancouver 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-region headquarters to the states in which the company is incorporated.

To the extent that the local companies use a portion of the revenue for purchases of goods and services provided by local firms, then this portion will remain in the region and generate indirect jobs. These indirect job impacts or jobs generated by the purchases by firms in the region are measured based on the survey results. The types of purchases are associated with the industries supplying the goods and services. The local employment to sales multipliers for these supplying industries were developed for the Vancouver-Portland Metropolitan Region by the Bureau of Economic Analysis, Regional Input-Output Modeling System. The local purchases are then multiplied by the respective coefficients to estimate the indirect jobs and wages and salaries associated with each industry.

1. TOTAL NON-MARITIME REAL ESTATE IMPACTS

The economic impacts created by the non-maritime real estate tenants of the Port of Vancouver are summarized in Exhibit II-1.

Exhibit II-1
Economic Impacts of the Non-Maritime Real Estate Tenants

	2018 IMPACTS
JOBS	
DIRECT	1,452
INDUCED	787
INDIRECT	<u>1,946</u>
TOTAL	4,186
PERSONAL INCOME (\$1,000)	
DIRECT	\$61,848
RE-SPENDING/LOCAL CONSUMPTION	\$67,110
INDIRECT	<u>\$78,494</u>
TOTAL	\$207,453
BUSINESS REVENUE (\$1,000)	\$462,851
LOCAL PURCHASES (\$1,000)	\$348,093
STATE/LOCAL TAXES (\$1,000)	\$19,748

As this exhibit shows, the non-maritime tenants of the Port of Vancouver supported 4,186 direct, induced and indirect jobs in the Vancouver region. Of these total jobs, the tenants directly employed 1,452 individuals.

The 1,452 directly employed individuals earned \$61.8 million of wages and salaries, for an average salary of \$42,595. A portion of this income was spent on local purchases, in turn supporting additional consumption expenditures and income in the Vancouver region. The personal income multiplier used to estimate this re-spending impact is based on data developed by the Bureau of Economic Analysis, Regional Input-Output Division. The personal income multiplier is derived from the underlying marginal propensity to consume, which is the measure of the percentage of income received that is used for local purchases of goods and services. For example, the 2.08 personal income multiplier used in this study is based on the fact that for every dollar earned, about 48% is used for local consumption. This re-spending effect occurs as follows. For one dollar of income received, about 48 percent, or \$0.48, is used to purchase local goods and services. The balance is saved, and/or used for purchases of goods and services produced outside the region. The \$0.48 received by those providing the goods and services represents the second round of income. Of that

\$0.48, 48% (or \$0.23) is again used for local purchases. Of the \$0.23 received as income, another 48% is used for re-spending at the next round of purchases. These successive rounds of re-spending will continue until the sum of the purchases equal to nearly \$1.08. Hence, for every one dollar earned, another \$1.08 of personal income and consumption expenditures occur throughout the region for which the multiplier is defined.

Using the income multiplier, the use of the direct earnings for local purchases resulted in additional income and consumption expenditures totaling \$67.1 million. These local purchases supported the 787 induced jobs in the region.

The real estate tenants reported \$462.9 million of direct business sales. Part of this revenue is also used to purchase goods and services from other local firms. The non-maritime tenants identified \$348.1 million of purchases from other local businesses. These local purchases include purchases for goods and parts, office supplies, communication services and utilities, contract services, transportation services, and maintenance and repair services. These local purchases supported 1,946 indirect jobs in the local economy.

Finally, the tenants also generated about \$19.7 million of state and local tax revenues.

A very important indicator of the contribution of the tenant activity to the local economy is where the employees of the tenants reside. Exhibit II-2 shows that more than three-quarters of those directly employed by the Port's non-maritime tenants live in the City of Vancouver and Clark County.

Exhibit II-2
Distribution of Direct Jobs by
Place of Residence

JURISDICTION	PERCENT	DIRECT JOBS
VANCOUVER	38.24%	555
OTHER CLARK COUNTY	39.60%	575
PORTLAND	11.45%	166
OTHER MULTNOMAH COUNTY	10.08%	146
OTHER WA	0.21%	3
OTHER OR	0.42%	6
TOTAL	100.00%	1,452

2. ECONOMIC IMPACTS BY INDUSTRY SECTOR

In this section, the economic impacts supported by Port of Vancouver non-maritime real estate tenants in each of the industry sectors are discussed. Exhibit II-4, on the following page, summarizes the economic impacts generated by industry sector.

The industrial sector consists of 69% of the total jobs impacts and consists of 12 firms, such as Cadet Manufacturing, Farwest Steel, Great Western Malting, Simon Metals, and Hydro Extrusions.

The warehousing and distribution sector consists of 14 tenants not included in the seaport sector. Northwest Packing, Food Express and Boise Cascade Building Products Distribution are the major tenants in this sector. The employment with the tenants in this sector account for 27% of the total non-maritime real estate tenant jobs.

Miscellaneous tenants consist of Warehouse 23, Andersen Dairy and two small offices. On average, these tenants account for about 4% of the total job impacts.

In terms of total economic contribution to the region, measured by total direct, induced and indirect income divided by direct jobs, the industrial sector creates the largest total economic impact per direct job, followed by the warehousing/distribution sector. This comparison is presented in Exhibit II-3.

Exhibit II-3
Total Local Economic Impact per Direct Job

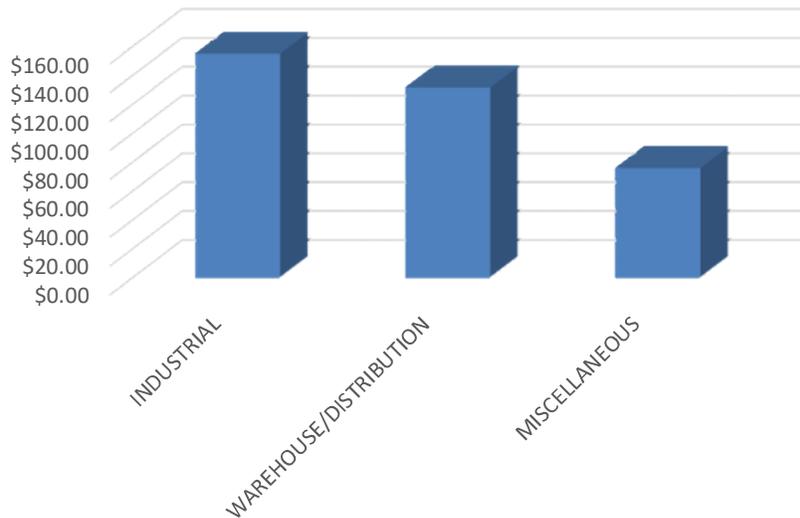


Exhibit II-4
 Economic Impacts of Port of Vancouver
 Non-Maritime Real Estate Tenants

	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 (\$1,000)	TAXES (\$1,000)
INDUSTRIAL	883	498	1,501	2,883	\$40,530	\$43,978	\$52,999	\$137,507	\$322,716	\$288,102	\$13,090
WAREHOUSE/DISTRIBUTION	474	243	434	1,151	\$18,067	\$19,604	\$25,006	\$62,677	\$134,965	\$58,923	\$5,967
MISCELLANEOUS	<u>95</u>	<u>46</u>	<u>11</u>	<u>152</u>	<u>\$3,251</u>	<u>\$3,527</u>	<u>\$490</u>	<u>\$7,268</u>	<u>\$5,170</u>	<u>\$1,068</u>	<u>\$692</u>
TOTAL	1,452	787	1,946	4,186	\$61,848	\$67,110	\$78,494	\$207,453	\$462,851	\$348,093	\$19,748

3. COMPARISON WITH 2014 REAL ESTATE IMPACTS

Between 2014 and 2018, the number of total jobs supported by the non-maritime tenants increased by 615 jobs. Direct jobs grew by 153 jobs and induced jobs increased by 180 jobs. Over the same period the local purchases by the non-maritime tenants grew by nearly \$51 million, resulting in a growth of 281 indirect job holders. Exhibit II-5 compares the economic impacts created by the non-maritime real estate tenants.

Exhibit II-5
Comparison of Non-Maritime Real Estate Tenants
2014-2018

	2018 IMPACTS	2014 IMPACTS	CHANGE
JOBS			
DIRECT	1,452	1,299	153
INDUCED	787	607	180
INDIRECT	<u>1,946</u>	<u>1,665</u>	<u>281</u>
TOTAL	4,186	3,571	615
PERSONAL INCOME (\$1,000)			
DIRECT	\$61,848	\$50,603	\$11,245
RE-SPENDING/LOCAL CONSUMPTION	\$67,110	\$48,275	\$18,835
INDIRECT	<u>\$78,494</u>	<u>\$61,310</u>	<u>\$17,184</u>
TOTAL	\$207,453	\$160,188	\$47,265
BUSINESS REVENUE (\$1,000)	\$462,851	\$362,118	\$100,733
LOCAL PURCHASES (\$1,000)	\$348,093	\$297,138	\$50,955
STATE/LOCAL TAXES (\$1,000)	\$19,748	\$15,058	\$4,690