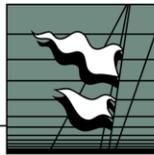


# The Economic Impacts of the Port of Bellingham 2013



**PORT OF BELLINGHAM**  
*Washington State*

**Prepared for the Port of Bellingham  
December 9, 2013**

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## I. EXECUTIVE SUMMARY

The Port of Bellingham retained the services of Martin Associates to evaluate the economic impacts generated by the Port of Bellingham real estate tenants, the Bellingham International Airport, and the Port's Maritime Division. The real estate holdings of the Port of Bellingham consists of 236 tenants, including commercial office buildings, retail tenants, light manufacturing and distribution firms, cold storage, restaurants, a hotel, maritime supply firms, and shipyards/boatyards. The 236 tenants include current listings supplied by the Port of Bellingham, subtenants provided by property managers, and supplemented by tenants previously contacted in the 2008 study. This figure excludes aviation-related tenants at the Bellingham International Airport. The Bellingham International Airport handles a total of 1,128,575 passengers as well as being home to general aviation operations by private as well as corporate aircraft. The Port of Bellingham Maritime Division consists of the Squalicum Harbor and the Blaine Harbor Marinas, as well as the Bellingham Cruise Terminal, which is the southernmost terminus of the Alaskan Marine Highway.

A major emphasis of the study is its defensibility and realistic assessment of the impacts generated by activity at the Port of Bellingham. The study is based on interviews with 311 firms, including real estate tenants and sub tenants, as well as firms and government agencies at Bellingham International Airport. More than 97 percent of the businesses of the Port of Bellingham provided data to Martin Associates through a series of telephone and personal interviews, underscoring the accuracy of the study. The impacts can be traced back to the company level of detail. The data collected from the interviews were then used to develop operational models of the Bellingham real estate holdings, the Bellingham marinas, the Alaska Marine Highway, and the Bellingham International Airport. In addition to the data collected from the interviews, an in-terminal survey of 398 passengers using Bellingham Airport was conducted to assess impacts of visitors using the airport. A similar survey of 216 passengers using the Alaska Marine Highway was conducted to estimate the impact of the passengers' spending patterns on the local economy.

The results of the analysis include a snapshot of the economic impact of the Port of Bellingham in 2013, as well as the development of impact models for each business unit operated by the Port. These models provide the Port of Bellingham with tools to update the economic impacts on an annual basis, as well as to evaluate the sensitivity of the resulting local and regional impacts to changes in underlying factors, and to assess the economic impacts of specific Port of Bellingham capital development projects.

The real estate model can be used to assess the potential impacts of new tenants on the local and regional economy, while the marina model can be used to assess the impacts of the growing service at the Port of Bellingham. The marina model can be used to assess the impacts of changes in the composition of the boats moored at each marina, and the expenditures of moored boats at local and regional marine supply firms and ship and boatyards.

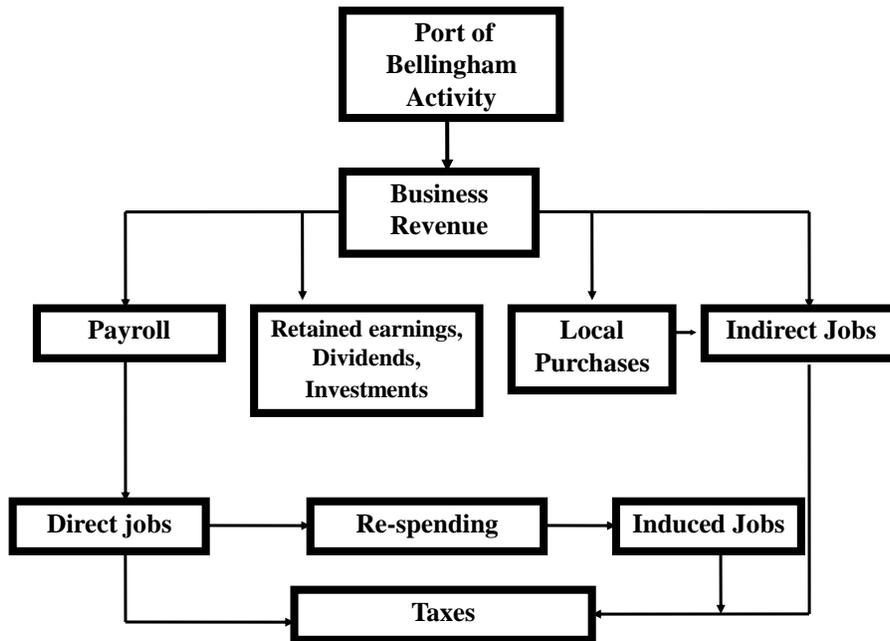
The airport sensitivity model provides a tool to measure the impacts of changes in such factors as passenger levels, flight levels, and new services, and to estimate the impact of capital expansion projects at the airport.

The remainder of this chapter presents an overview of the impact analysis and a summary of the results.

**1. FLOW OF IMPACTS**

Passenger and air cargo activity at an airport, real estate activity, and marina activity contribute to the local and regional economy by generating business revenue to local and national firms providing services to these sectors. These firms, in turn, provide employment and income to individuals, and pay taxes to state and local governments. Exhibit I-1, below, shows how air traffic activity at Bellingham International Airport, local purchases by the marinas and the Alaska Marine Highway passengers, and real estate activity of Port of Bellingham tenants generate impacts throughout the local, state and national economies. As this exhibit indicates, the impact of an airport, marinas and real estate tenants, on a local, state or national economy cannot be reduced to a single number, but instead, the Port activities create several impacts. These are the revenue impact, employment impact, personal income impact, and tax impact. *These impacts are non-additive.* For example, the income impact is a part of the revenue impact, and adding these impacts together would result in double counting. Exhibit I-1 shows graphically how activity of the Port of Bellingham tenants, airport, and marinas generate the four impacts.

Exhibit I-1  
Flow of Economic Impacts Generated by the Port of Bellingham



## 1.1 Business Revenue Impact

At the outset, the Port activity generates business revenue for firms that provide services. This business revenue impact is dispersed throughout the economy in several ways. It is used to hire people to provide the services, to purchase goods and services, to pay for the use of airports and to make Federal, state and local tax payments. The remainder is used to pay stockholders, retire debt, make investments, or is held as retained earnings. It is to be emphasized that the only portions of the revenue impact that can be definitely identified as remaining in the State of Washington are those portions paid out in salaries to Washington employees, for local purchases by individuals and businesses directly dependent on the airport, and in contributions to state and local taxes, as well as Federal taxes. Landing fees and terminal rentals paid by airlines provide for some of the costs of operation of the airport and capital costs of new construction, while leases paid to the Port of Bellingham by real estate tenants as well as moorage fees by recreational boaters generate revenue to the Port of Bellingham.

## 1.2 Employment Impact

The employment impact of the Port of Bellingham operations consist of four levels of job impacts.

- Direct employment impact - jobs directly generated by Port activity. Direct jobs generated by the airport include jobs with airlines, retail concessions, homeland security, fixed base operators, taxis, construction firms, etc. Direct jobs supported by the marina activity include jobs directly involved with operating the Port of Bellingham marinas, as well as jobs supported by the direct purchases by the boat owners including boat repair, equipment, nautical supplies, etc. Finally, for the real estate tenants, the direct jobs include those individuals directly employed by the real estate tenants located on Port property. It is to be emphasized that these are classified as directly generated in the sense that these jobs would experience near term dislocation if the Port of Bellingham facilities were to be closed to cruise and marina activity; air operations at Bellingham were discontinued; and Port of Bellingham real estate tenants were not able to relocate to non-port property, and as a result leave the area. These jobs are, for the most part, local jobs and are held by residents of Whatcom County.
- Induced employment impact - jobs created throughout the local economy because individuals directly employed due to airport and marine activity, and at Port of Bellingham real estate locations spend their wages locally on goods and services such as food, housing and clothing. These jobs are held by residents located throughout the region and state, since they are estimated based on local and regional statewide purchases.

- Air visitor industry employment impact - are service jobs in the community (hotel, restaurant, retail employees) resulting from the purchases by 1,128,575 passengers at Bellingham International Airport.
- Indirect Jobs - are jobs created in the State of Washington due to purchases of goods and services by firms, not individuals. These jobs are estimated directly from local purchases data supplied to Martin Associates by the 311 companies interviewed as part of this study, and include jobs with local office supply firms, maintenance and repair firms, parts and equipment suppliers, etc. It is to be emphasized that special care was taken to avoid double counting, since the current study counts certain jobs as direct, which are often classified as indirect by other approaches.

### **1.3 Personal Earnings Impact**

The personal earnings impact is the measure of employee wages and salaries (excluding benefits) received by individuals directly employed due to airport, real estate, and maritime activity. Re-spending of these earnings throughout the regional economy for purchases of goods and services is also estimated. This, in turn, generates additional jobs -- the induced employment impact. This re-spending throughout the region is estimated using a state personal earnings multiplier, which reflects the percentage of purchases by individuals that are made within a defined region. The re-spending effect varies by region: a larger re-spending effect occurs in regions that produce a relatively large proportion of the goods and services consumed by residents, while lower re-spending effects are associated with regions that import a relatively large share of consumer goods and services (since personal earnings "leak out" of the state for these out-of-state purchases). The direct earnings are a measure of the local impact since those directly employed by airport, real estate or marina activities receive the wages and salaries. The re-spending effect is regional, and defined by Whatcom County.

### **1.4 Tax Impact**

Federal, state and local tax impacts are tax payments to the state and local governments by firms and by individuals whose jobs are directly dependent upon and supported (induced and indirect jobs) by activity at the Port of Bellingham. The tax impacts include state and local taxes collected from all sources, both personal and business taxes, as well as airport specific taxes such as the domestic passenger tax as well as various security tax levies imposed after 9/11. State and local taxes are based on income indices developed by the Tax Foundation and these indices are applied to the direct, induced and indirect personal income impacts.<sup>1</sup>

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<sup>1</sup> The Tax Foundation publishes similar tax indices for state and local tax burdens for each state in the United States.

## 2. TOTAL IMPACT OF THE PORT OF BELLINGHAM

As Table I-1 indicates, the Port of Bellingham International Airport, Maritime Division, as well as Port real estate tenants generated the following economic impacts for the local and regional economy:

*A total of 8,780 jobs are generated and supported by the Port of Bellingham Operations. In comparison, the total employment in Whatcom County in 2012 is 80,400<sup>2</sup>.*

- 5,539 direct jobs are generated by Port of Bellingham operations. As the result of local and regional purchases by those 5,539 *individuals* holding the direct jobs, an additional 2,137 induced jobs are supported in the region. It is estimated from the survey results that more than 90% of the direct jobs are held by residents of Whatcom County—about 60% are held by residents of Bellingham.
- 1,104 indirect jobs were supported by \$144.3 million of local purchases by *businesses* at the Port of Bellingham, including firms supplying services to the tenants at the Port-owned facilities.

*The Port operations generated \$406.4 million in total direct, induced and indirect personal earnings in 2013.*

- \$233.3 million of direct wages and salaries were received by those 5,539 directly spending this income, an additional \$107.5 million of income and consumption expenditures are created in the Bellingham region, primarily Whatcom County.
- The 1,104 indirect job holders received \$65.6 million in wages and salaries.
- The average annual wage for direct job holders is \$42,120.

*Businesses providing services at Bellingham International Airport, as well as real estate tenants, and business activity supported by the Port-owned marinas and cruise terminal received \$1.35 billion of revenue.*

*\$37.7 million of state and local taxes were generated by activity at the Port of Bellingham industrial and commercial properties, marinas and cruise terminal and the Bellingham International Airport. In addition, \$11.5 million of Federal aviation-specific taxes were generated by activity at Bellingham International Airport.*

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<sup>2</sup> State of Washington Quarterly Census of Employment and Wages, 2012

Table I-1

Summary of the Economic Impacts Generated by the Port of Bellingham Maritime Division, Real Estate Division and Bellingham International Airport, 2013

	Real Estate Tenants	Maritime Division	Airport	Total
<b>Jobs</b>				
Direct	4,414	126	999	5,539
Induced	1,738	74	325	2,137
Indirect	<u>910</u>	<u>68</u>	<u>126</u>	<u>1,104</u>
<b>Total</b>	7,062	268	1,450	8,780
<b>Wages/Salaries (1,000)</b>				
Direct	\$205,168	\$4,694	\$23,441	\$233,303
Induced	\$88,828	\$5,276	\$13,363	\$107,467
Indirect	<u>\$58,266</u>	<u>\$2,047</u>	<u>\$5,268</u>	<u>\$65,581</u>
<b>Total</b>	\$352,262	\$12,017	\$42,073	\$406,351
<b>Business Revenue (1,000)</b>	\$1,111,260	\$15,946	\$224,036	\$1,351,242
<b>Local Purchases (1,000)</b>	\$126,256	\$6,875	\$11,256	\$144,387
<b>State/Local Taxes (1,000)</b>	\$32,760	\$1,074	\$3,913	\$37,747
<b>Aviation Taxes (1,000)</b>	NA	NA	\$11,534	\$11,534

Totals may not add due to rounding

The induced wages and salaries impact cannot be divided by induced jobs to estimate average induced earnings per employee, since induced wages and salaries include local consumption expenditures, of which wages and salaries are only a portion of the total.

### 3. COMPARISON WITH OTHER KEY WHATCOM COUNTY EMPLOYERS

The importance of the Port of Bellingham as a regional economic generator is underscored by the fact that 5,526 direct jobs compare to the 2,753 employees with St. Joseph's Hospital/Peace Health, the 1,575 employees of Western Washington University, the 1,200 with the Bellingham School District and 1,100 at the BP Cherry Point Refinery. It is recognized that these employment numbers represent actual employees of St. Joseph's Hospital, Western Washington University, the Bellingham School District, and BP Cherry Point Refinery. However, these comparisons suggest that the Port of Bellingham is a major economic engine in Whatcom County<sup>3</sup>.

<sup>3</sup> Source: Based on data compiled by the Western Washington College of Business and Economics. *Largest Employers in Whatcom County*

## II. THE ECONOMIC IMPACTS OF THE BELLINGHAM MARITIME DIVISION

The impacts generated by the Port of Bellingham Maritime Division consists of marina activity at the Squalicum and Blaine marinas, and the Alaska Marine Highway System.

In the remainder of this chapter the impacts generated by the Bellingham Maritime Division are summarized. Table II-1 summarizes the economic impacts generated by seaport activity.

Table II-1  
Economic Impacts of Port of Bellingham Marine Division

	Marinas	Alaska Marine Highway	Total Maritime Division
<b>Jobs</b>			
<b>Direct</b>	94	32	126
<b>Induced</b>	63	11	74
<b>Indirect</b>	<u>68</u>	<u>NA</u>	<u>68</u>
<b>Total</b>	225	43	268
<b>Wages/Salaries (1,000)</b>			
<b>Direct</b>	\$4,032	\$662	\$4,694
<b>Induced</b>	\$4,935	\$341	\$5,276
<b>Indirect</b>	<u>\$2,047</u>	<u>NA</u>	<u>\$2,047</u>
<b>Total</b>	\$11,013	\$1,004	\$12,017
<b>Business Revenue (1,000)</b>	\$11,795	\$4,151	\$15,946
<b>Local Purchases (1,000)</b>	\$6,875	NA	\$6,875
<b>State/Local Taxes (1,000)</b>	\$980	\$93	\$1,074

Totals may not add due to rounding

The induced wages and salaries impact cannot be divided by induced jobs to estimate average induced earnings per employee, since induced wages and salaries include local consumption expenditures, of which wages and salaries are only a portion of the total.

In 2013, the activity at the Port's Maritime Division facilities generated:

- 126 direct jobs; as the result of purchases in the local and regional economy with the income received by those holding the direct jobs, an additional 74 induced jobs were generated in Whatcom County. As the result of \$6.9 million of local purchases by the firms directly providing services at the Port's Maritime Division facilities, 68 indirect jobs with local supplying firms were also supported in the regional economy. It should be noted that direct job holders providing services to recreational and fishing vessels employed at firms that are also tenants of the Port of Bellingham have been excluded from these impacts to avoid double counting.
- \$4.7 million of personal income was received by those employed directly by activities at the Port of Bellingham Maritime Division facilities. As the result of re-spending this income for purchases of goods and services by those directly employed, an additional \$5.3 million of income and consumption expenditures are generated in the region. A portion of this re-spending impact is used to pay those holding the 74 induced jobs, while another portion is received by the firms providing the goods and services to the individuals directly employed due to marine activity. In addition, those holding the 68 indirect jobs received \$2 million of indirect wages and salaries. In total, \$12 million of wages and salaries were created by the marinas and Alaska Marine Highway System.
- The firms directly dependent upon supplying the services to support the marina activity and the Alaska Marine Highway operations received \$15.9 million of business revenue. Of this revenue, these firms made \$6.9 million of local purchases for goods and services. It is these local purchases that supported 68 indirect jobs in the regional economy.
- A total of \$1.1 million state and local taxes were generated by Port of Bellingham Maritime Division Operations.

## **1. THE ECONOMIC IMPACT OF BOATING AT THE PORT OF BELLINGHAM MARINAS**

The impacts created by the boating activity at the Port's marinas include the impacts generated by the 2,015 commercial fishing and charter boats slips at the Port of Bellingham marinas at Squaticum and Blaine Harbors. To estimate the impacts, Martin Associates developed a profile and inventory of recreational, commercial fishing and charter boats, by size and type, at the Port's marinas.<sup>4</sup>

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<sup>4</sup> It is to be noted that to the extent that commercial fishing boats and charter fishing boats are moored at Port of Bellingham marina slips, then the impact of these local purchases are included in the marina impacts. In addition, some expenditures for the commercial fishing fleet are made by the fish processors tenants of the Port, and, as a result, these expenditures are included in the real estate impacts. Double counting of the impacts is avoided.

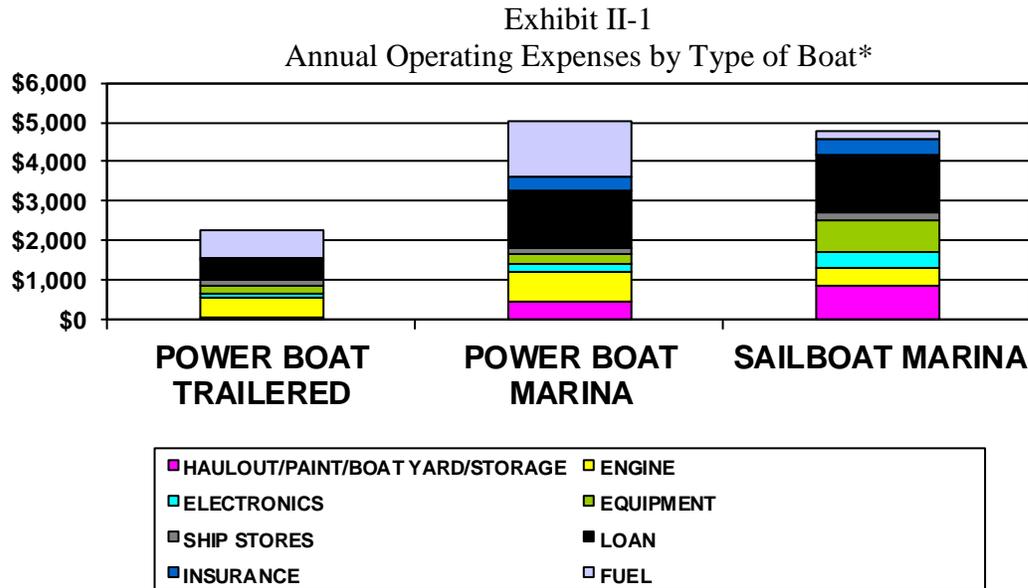
**THE ECONOMIC IMPACTS OF THE PORT OF BELLINGHAM 2013**

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To develop the impact data, Martin Associates conducted interviews with tenants at each marina, including yacht clubs, sailing schools, restaurants, and retail stores. The results of these surveys were used directly in estimating marina tenant impacts.

- Boating 2000: A Survey of Boater Spending In Maryland, University of Maryland Sea Grant Program;
- Interviews with Northwest Marine Trade Association;
- Marine Manufacturers Association;
- The Economic Impact of Michigan’s Recreational Boating Industry, Michigan State University, Ed Mahoney;
- Marine Operators Association of America; and
- Clean Vessel Act, Michigan Boating Survey, 1994-1995.

Based on interviews with the Northwest Marine Trade Association and the University of Maryland Sea Grant authors, it was concluded that the use of expenditure data per type of boat identified in Maryland would be representative of typical annual expenditures per boat in Puget Sound. Exhibit II-1 shows the breakdown of annual purchases by type of boat as developed from the “Boating 2000: A Survey of Boater Spending in Maryland”, Maryland Sea Grant Program, University of Maryland. Expenditure profiles have been adjusted for inflation.



Source: Boating 2000: A Survey of Boater Spending in Maryland, University of Maryland Sea Grant Program – adjusted for 2013 dollars

\*Moorage is not included in the operating expenses as it is included on Port of Bellingham revenue.

These annual purchases per boat are multiplied by the number of boats in each category at each of the Port of Bellingham marinas. The annual purchases by type of boat at each marina are then converted into direct jobs using survey data from suppliers and marina support services

firms interviewed by Martin Associates. Again, it is to be emphasized that the direct impacts of boatyard repair firms and marine supplying firms that are real estate tenants of the Port of Bellingham are subtracted from the marina impacts to avoid double counting.

Indirect impacts are developed from local purchases data supplied by support services providers (from interviews).

In 2013, the activity at the Port's Marinas generated:

- 94 direct jobs. As the result of purchases in the local and regional economy with the income received by those holding the direct jobs, an additional 63 induced jobs were generated in Whatcom County. As the result of \$6.9 million of local purchases by the firms directly providing services at the Port's Marinas, 68 indirect jobs with local supplying firms were also supported in the regional economy.
- \$4 million of personal income was received by those employed directly by activities at the Port of Bellingham Marinas, Squalicum and Blaine Harbors. As the result of re-spending this income for purchases of goods and services by those directly employed, an additional \$4.9 million of income and consumption expenditures are generated in the region. A portion of this re-spending impact is used to pay those holding the 63 induced jobs, while another portion is received by the firms providing the goods and services to the individuals directly employed due to seaport activity. In addition, those holding the 68 indirect jobs received \$2 million of indirect wages and salaries. In total \$11 million of wages and salaries were created by the marinas.
- The firms directly dependent upon supplying the services to support the marina activity received \$11.8 million of business revenue. This excludes the revenue earned by the Port of Bellingham from the slip fees. There were \$6.9 million of local purchases for goods and services made, including purchases by the boat owners. It is these local purchases that supported 68 indirect jobs in the regional economy.
- A total of \$980,000 state and local taxes were generated by Port of Bellingham Marinas.

## **2. ECONOMIC IMPACT OF THE ALASKA MARINE HIGHWAY SYSTEM**

The Bellingham Cruise Terminal is the southernmost port for the Alaska Marine Highway. In 2013, 27,616 passengers embarked and disembarked on the weekly service of the Alaska Marine Highway. To estimate the economic impact of the Alaska Marine Highway Service at Bellingham, Martin Associates developed a disbursement profile of the vessels while at port in Bellingham. While the actual expenditures by the ferry are relatively small in Bellingham, Martin Associates conducted a survey of 216 passengers embarking on the vessel. This survey was used to estimate the typical expenditure patterns of passengers embarking and disembarking the vessel at Bellingham. These expenditure profiles were then combined with

local Economic Census 2007, for the Bellingham Metropolitan area. These expenditure patterns were then used to estimate the direct and induced jobs, wage and salary earnings and business revenue and taxes generated by the passenger activity that occurs, particularly in Fairhaven, prior to embarking the vessel and after disembarking the vessel.<sup>5</sup>

In 2012, 27,616 passengers embarked and disembarked the Alaska Marine Highway at the Bellingham Cruise Terminal<sup>6</sup>.

In 2013, the activity of the Alaska Marine Highway created the following economic impacts:

- 32 direct jobs were supported as the result of purchases in the local and regional economy with the income received by the passengers embarking and debarking at the Bellingham Cruise Terminal, an additional 11 induced jobs were also created due to local purchases of those directly employed.
- \$662,000 of personal income was received by the 32 direct job holders in the Bellingham area. As a result of re-spending this income for purchases of goods and services by those directly employed, an additional \$341,000 of income and consumption expenditures are generated in the region. A portion of this re-spending impact is used to pay those holding the 11 induced jobs, while another portion is received by the firms providing the goods and services to the individuals directly employed due to Alaska Marine Highway activity at Bellingham. In total \$1 million of wages and salaries were created by the Alaska Marine Highway System.
- The firms directly dependent upon supplying the services to support the Alaska Marine Highway operations and its passengers in Bellingham received nearly \$4.2 million of business revenue. This excludes the revenue earned by the Port of Bellingham from the passenger fees. It is to be emphasized that the majority of the revenue generated is from the purchases of retail goods, gasoline, and food by the passengers, both foot passengers and those in autos.
- A total of \$93,000 state and local taxes were generated by Alaska Marine Highway operations at the Port of Bellingham Cruise Terminal.

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<sup>5</sup> In 2012, the Alaska Marine Highway vessels made 64 Port Departures.

<sup>6</sup> Alaska Marine Highway Annual Traffic Volume Report, 2012

### **III. ECONOMIC IMPACT OF THE PORT OF BELLINGHAM REAL ESTATE TENANTS**

The Port of Bellingham leases land to tenants for office and commercial space, retail space, restaurants, light industrial activity and boat building and marine services. Essentially these are tenants of the Port of Bellingham that are not included in the maritime or aviation divisions.

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

The impact analysis of the real estate tenants are based on a 97% response rate of 236 Port of Bellingham tenants plus sub-tenants. The 236 tenants include current listings supplied by the Port of Bellingham, subtenants provided by property managers, and supplemented by tenants previously contacted in the 2008 study. Martin Associates developed a separate real estate impact model to estimate the impacts of these tenants on the Bellingham economy. In addition, the impact model can be used to assess the impacts of potential uses of Port-owned property, including, office, restaurant, retail and industrial uses.

Table III-1 summarizes the economic impacts of the real estate tenants of the Port of Bellingham.

Table III-1  
Economic Impacts of the Port of Bellingham’s Real Estate Tenants

	<b>Real Estate Tenants</b>
<b>Jobs</b>	
Direct	4,414
Induced	1,738
Indirect	<u>910</u>
<b>Total</b>	7,062
<b>Wages/Salaries (1,000)</b>	
Direct	\$205,168
Induced	\$88,828
Indirect	<u>\$58,266</u>
<b>Total</b>	\$352,262
<b>Business Revenue (1,000)</b>	\$1,111,260
<b>Local Purchases (1,000)</b>	\$126,256
<b>State/Local Taxes (1,000)</b>	\$32,760

As summarized in Table III-1, the Port of Bellingham real estate tenants create the following economic impacts:

- 4,414 direct jobs are generated by these tenants, and as the result of local purchases by these direct employees, another 1,738 induced jobs are supported in the Bellingham regional economy. Due to \$126.3 million of local purchases by tenants, 910 indirect jobs are supported. These indirect impacts reflect the dependency of the local economy supply infrastructure upon port tenants such as business offices, industrial firms, boatyards, etc.
- The 4,414 directly employed workers received \$205.2 million of wages and salaries. As the result of the local purchases by these employees, another \$88.8 million of income and consumption expenditures were generated, resulting in the induced job impact. The 910 indirect jobholders received \$58.3 million of indirect wages and salaries for a total personal income impact of \$352.3 million.
- The Port tenants received \$1.1 billion of revenue, of which \$126.3 million was used for local purchases, as identified from the surveys of these tenants. These local purchases supported the 910 local indirect jobs.

**THE ECONOMIC IMPACTS OF THE PORT OF BELLINGHAM 2013**

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- The Port of Bellingham tenants generated \$32.8 million of state and local taxes.

Table III-2 shows the distribution of the direct, induced and indirect impacts by type of tenant. Distribution and logistics tenants generate the greatest number of direct jobs, followed by office tenants. The third largest job generator, miscellaneous manufacturing, includes light manufacturing and industrial tenants. Examples of these tenants include manufacturers of ovens, sanitary service supplies, and marine equipment. Boat services and manufacturing generated the fourth largest total job impact, followed by hotels and restaurant tenants.

**Table III-2  
Distribution of Total Direct, Induced, and Indirect Impacts by Type of Business**

	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
Wholesale Distribution	1,772	693	136	2,601	\$80,527	\$34,864	\$10,437	\$125,828	\$535,770	\$23,184	\$11,702
Office	622	276	236	1,134	\$40,560	\$17,561	\$18,725	\$76,846	\$232,344	\$40,476	\$7,147
Miscellaneous Mfr.	369	134	82	585	\$13,112	\$5,677	\$5,554	\$24,343	\$54,700	\$11,672	\$2,264
Boat Services & Manufacturing	352	143	66	561	\$17,859	\$7,731	\$4,418	\$30,008	\$58,077	\$9,996	\$2,791
Hotels/Restaurants	332	109	126	568	\$7,426	\$3,215	\$4,067	\$14,708	\$15,169	\$8,485	\$1,368
Fish Processing	213	82	16	311	\$9,399	\$4,070	\$806	\$14,275	\$19,977	\$1,640	\$1,328
Lumber/Wood Manufacturing	163	59	58	281	\$5,655	\$2,448	\$3,657	\$11,760	\$62,700	\$7,973	\$1,094
Personal services	139	55	19	213	\$6,426	\$2,782	\$1,412	\$10,620	\$33,103	\$3,490	\$988
Bunkering/Chandlering	128	54	26	207	\$7,250	\$3,139	\$1,653	\$12,042	\$36,367	\$3,368	\$1,120
POB	77	33	34	144	\$4,473	\$1,936	\$1,678	\$8,087	\$28,915	\$3,578	\$752
Government	73	31	0	104	\$4,350	\$1,883	\$0	\$6,233	\$0	\$0	\$580
Boats Sales	68	25	56	150	\$2,588	\$1,120	\$2,883	\$6,591	\$19,617	\$5,615	\$613
Marine Services	52	25	37	114	\$3,900	\$1,689	\$1,816	\$7,405	\$10,239	\$4,227	\$689
Transportation	35	12	12	59	\$1,087	\$470	\$532	\$2,089	\$2,083	\$1,221	\$194
Misc. Retail/Gallery	15	5	6	26	\$488	\$211	\$570	\$1,269	\$2,090	\$1,211	\$118
Apparel and Accessories	4	1	1	6	\$70	\$30	\$58	\$158	\$108	\$120	\$15
<b>Total</b>	<b>4,414</b>	<b>1,738</b>	<b>910</b>	<b>7,062</b>	<b>\$205,168</b>	<b>\$88,828</b>	<b>\$58,266</b>	<b>\$352,262</b>	<b>\$1,111,260</b>	<b>\$126,256</b>	<b>\$32,760</b>

Wholesale distribution includes the total impact of cold storage facilities and subtenants and is not double counted in fish processing. It also includes some trucking operations. Also included in the Real Estate impacts are tenants at the Airport Industrial Park not dependent upon aviation activity. Business categories reporting \$0 revenue are government agencies and operations that generate business income largely outside of the regional economy.

Table III-3 compares the average direct job holder's salary of the Ports Real Estate tenants to the average salary of Whatcom County. Marine Services reported the highest average salary of \$75,000 followed by office tenants with an average salary of \$65,214. The Majority of the Port's Real Estate tenants earn salaries above the county average of \$40,700.

Table III-3  
Average Salary of Port's Real Estate Tenants by Business Type

	Average Wage
Wholesale Distribution	\$45,444
Office	\$65,214
Miscellaneous Mfr.	\$35,549
Boat Services & Manufacturing	\$50,698
Hotels/Restaurants	\$22,345
Fish Processing	\$44,193
Lumber/Wood Manufacturing	\$34,640
Personal services	\$46,078
Bunkering/Chandlery	\$56,641
POB	\$58,466
Government	\$60,000
Boats Sales	\$37,935
Marine Services	\$75,000
Transportation	\$31,310
Misc. Retail/Gallery	\$31,736
Apparel and Accessories	\$18,949
Whatcom County	\$40,700

The majority of direct job holders reside in Whatcom County, as shown in Table III-4. About 60% of the 4,414 direct job holders with the real estate tenants reside in Bellingham.

Table III-4  
Direct Real Estate Employees by Place of Residence

	Share	Direct Jobs
Bellingham	60.38%	2,665
Ferndale	13.42%	592
Blaine	9.06%	400
Lynden	5.17%	228
Other Whatcom Co.	9.78%	432
Other WA	2.17%	96
Other US	0.02%	1
Total		4,414

The real estate tenants occupy port property at seven specific Port owned sites throughout Whatcom County. The distribution of the direct jobs with the real estate tenants by specific Port property are shown in Table III-5.

Table III-5  
Distribution of Real Estate Generated Direct Jobs by Port Site Location

	Direct Jobs
Squalicum	2,682
Bellwether	769
Airport Industrial Park	397
Fairhaven	344
Blaine	120
Shipping Terminal	66
Sumas	36
Total	4,414

As shown in Table III-5, the majority of the direct real estate jobs are held by tenants located in the Squalicum Port Area, followed by Bellwether and the Airport Industrial Park.

## **IV. THE ECONOMIC IMPACTS OF BELLINGHAM INTERNATIONAL AIRPORT**

This chapter presents the results of the economic impact analysis of the air passenger and cargo activity at Bellingham International Airport (BLI). The first section provides an overview of the airport impact structure, Section 2 details the employment impacts, Section 3 provides an overview of the business revenue impacts, Section 4 summarizes the employee earnings impact, state and local taxes and Federal aviation-specific taxes are summarized in Section 5, and visitors industry impacts are presented in Section 6.

### **1. OVERVIEW OF THE AIRPORT IMPACT STRUCTURE**

An airport is a diverse economic system. Passenger and cargo activities generate impacts through various sectors of the economy. These sectors are:

- Airline/airport service sector;
- Freight transportation sector;
- Passenger ground transportation sector;
- Contract construction/consulting services sector; and
- Visitors' industry sector.

The Port refers to BLI operations as “in the fenceline,” to distinguish from real estate activities adjacent to the airport, (the non-aviation real estate tenants). Each of these sectors covers a variety of activities. A discussion of these five sectors is provided below, with a description of the major participants in each.

#### **1.1 Airline/Airport Service Sector**

The airline/airport service sector consists of airlines providing passenger services, and firms (and government) providing support services to the airlines, passengers, and to the airport. This group consists of the following participants; results are extracted from 65 tenant interviews:

- Passenger Airlines;
- Aviation Service Firms (including fixed base operators that supply aircraft parts, fueling, and other ground services to airlines);
- Airport Retail Tenants (i.e., newsstands, retail shops, restaurants, etc.);
- State, city, and Federal government agencies (i.e., Federal Aviation Administration, Post Office, FAA and US Customs, etc.); and

- Port of Bellingham employees that are dedicated to overseeing the activity at the airport. Jobs in this category are typically located on the airport property.

## **1.2 Freight Transportation Sector**

Freight transportation includes freight airlines, freight forwarders, and trucking firms involved in transporting air cargo. The air cargo consists of airfreight and mail transported on dedicated freight airlines and in the cargo section of passenger airlines. Included in this group are air couriers, freight forwarders, and common carrier trucking firms located throughout the Bellingham area. Jobs in this category are located both on and off the airport.

## **1.3 Passenger Ground Transportation Sector**

Passenger ground transportation consists of car rental firms and other ground transportation modes, such as buses, taxis and limousines. This group covers all transportation of individuals to and from Bellingham International Airport and includes both drivers and supporting dispatch and maintenance employees.

## **1.4 Contract Construction and Consulting Sector**

Individuals employed in this group include those providing construction and remodeling work at Bellingham International Airport, as well as architects and engineers providing planning and design services. These services are provided to the airlines as well as to the Port of Bellingham.

## **1.5 Visitor Industry Sector**

Passengers arrive in the Bellingham area vis-à-vis Bellingham International Airport for several purposes, including business, pleasure, and conventions. As a result of these out-of-town residents purchasing lodging, food, and entertainment, jobs are created in the service and retail industries in the area. Also included in this sector are jobs created with local travel agents. The impacts in this sector are based on a detailed passenger survey of 398 passengers conducted on August 21st thru August 23rd, and October 3<sup>rd</sup> and 4<sup>th</sup>, 2013.

## **1.6 Definition of Impacts**

Consistent with measurement of the impacts generated by seaport activity, the four types of impacts estimated are:

- Jobs:
  - Direct jobs are those jobs that would be dislocated if the airport were to close;

- Induced jobs are jobs generated in the Bellingham region by the purchases of goods and services by those directly employed; and
  - Indirect jobs are the result of local purchases by firms directly dependent upon the airport;
- Personal Earnings:
- Direct personal earnings, which consist of wages and salaries received by those directly employed by airport activity;
  - Re-spending effect, which is earnings and consumption created in the local economy as the result of re-spending the direct employee earnings throughout the economy; and
  - Indirect wages and salaries are earned by those indirectly employed by the airport;
- Business revenue, which consists of revenue received by firms providing services to airlines, passengers and air cargo shippers/consignees; and
- Tax impacts include state and county tax impacts, as well as taxes paid to airport specific Federal tax funds.

Table IV-1 summarizes the economic impacts generated by passenger and air cargo activity at Bellingham International Airport.

Table IV-1  
Summary of Economic Impacts Generated by  
Bellingham International Airport

	BLI (On-Site)	BLI (Visitors)	Total
<b>Jobs</b>			
<b>Direct</b>	479	520	999
<b>Induced</b>	176	150	325
<b>Indirect</b>	<u>75</u>	<u>51</u>	<u>126</u>
<b>Total</b>	730	720	1,450
<b>Wages/Salaries (1,000)</b>			
<b>Direct</b>	\$15,029	\$8,413	\$23,441
<b>Induced</b>	\$9,195	\$4,168	\$13,363
<b>Indirect</b>	<u>\$3,782</u>	<u>\$1,487</u>	<u>\$5,268</u>
<b>Total</b>	\$28,005	\$14,068	\$42,073
<b>Business Revenue (1,000)</b>	\$153,691	\$70,345	\$224,036
<b>Local Purchases (1,000)</b>	\$7,790	\$3,466	\$11,256
<b>State/Local Taxes (1,000)</b>	\$2,604	\$1,308	\$3,913
<b>Aviation Taxes (1,000)</b>	\$11,534	NA	\$11,534

Totals may not add due to rounding.

In total, 999 direct jobs were generated by activity at Bellingham International Airport and as a result of local purchases by visitors arriving in the Bellingham area via the airport. As the result of local and regional purchases by these individuals, 325 induced jobs were supported in the local and state economies. As the result of the \$11.3 million of local purchases by firms dependent upon the airport, 126 indirect jobs are also generated in the local economy.

About \$23.4 million of direct earnings were received by the 999 direct employees, and when the re-spending impact and indirect wages and salaries are considered, the total of income and consumption expenditure impact of Bellingham International Airport is estimated at \$42.1 million.

Businesses providing services at the airport, as well as those local visitor industry businesses providing services to the air visitors received \$224 million of total, direct revenue. The state and local governments received \$3.9 million of tax revenue, and \$11.5 million of

Federal aviation-specific tax revenue was generated, a portion of which is received by the Aviation Trust Fund for future airport development nationwide.

The first section of this chapter details the employment impacts generated by activity at Bellingham International Airport. A more detailed discussion is provided for the employment impacts, since the direct job impacts drive the earnings and tax receipts.

## **2. EMPLOYMENT IMPACTS GENERATED BY PASSENGER AND AIR CARGO ACTIVITY AT BELLINGHAM INTERNATIONAL AIRPORT**

In this section, the employment generated by activity at Bellingham International Airport is estimated. Employment impacts with the visitors industry is discussed in Section 6 of this chapter. The section is organized as follows:

- Jobs are estimated in terms of the economic impact sectors, for job categories within each sector, and by type of activity;
- Job impacts are allocated to local jurisdictions based on the residence of those that are dependent upon airport activity;
- Induced jobs are estimated by industry for those industries supplying goods and services to individuals directly dependent on Bellingham International Airport; and
- Indirect jobs are estimated as the result of local purchases by the firms' dependent upon the airport activity.

### **2.1 Job Impacts by Sector**

A total of 730 direct, induced and indirect jobs were created by on-site activity at Bellingham International Airport. Of these jobs:

- 479 direct jobs are dependent upon activity at the airport. These jobs would be discontinued immediately if airport activity ceased. Also, these jobs would be impacted as a result of changes in the number of flights and passenger levels;
- 176 induced jobs are created in the state due to the purchases of goods and services of those directly dependent upon activity at Bellingham International Airport; and
- 75 indirect jobs were supported in the local economy due to purchases by the businesses directly dependent upon the activity at the airport.

Table IV-2 shows the distribution of direct employment within each major sector. Jobs with passenger airlines account for 165 jobs, followed by 43 full-time jobs with taxis, limos and

rental car companies. There are 67 full-time equivalent jobs with government agencies, such as US Customs, the Transportation Security Administration and the Federal Aviation Administration tower. Finally, there are 62 full-time equivalent jobs supported by construction expenditures at Bellingham International Airport. The 20 employees in the Airport Administration are included in the balance of Port of Bellingham operations employment.

Table IV-2  
Direct Job Impacts by Category

<b>Job Category</b>	<b>Direct Jobs</b>
<b>Airline/Airport Services Sector</b>	
<b>Passenger Airlines</b>	165
<b>Government Agencies</b>	67
<b>Airport Administration</b>	20
<b>Retail Concessions</b>	40
<b>General Aviation/FBO's</b>	38
<b>Subtotal</b>	330
<b>Freight Transportation</b>	44
<b>Passenger Ground Transportation Sector</b>	
<b>Rental Cars</b>	10
<b>Cabs/Buses/Limos/Vans</b>	33
<b>Subtotal</b>	43
<b>Construction/Consulting</b>	62
<b>Total</b>	<b>479</b>

## 2.2 Job Impacts by Residency

In order to estimate the local economic impact created by airport activity, data on residency of employees was collected from the interviews with service firms, Port of Bellingham employee records and interviews with the airlines serving Bellingham. The direct job impact of 479 jobs was then allocated based on city and county of residence.

Table IV-3 shows that 64 percent of the direct jobs are held by residents of Bellingham.

Table IV-3  
Distribution of Direct Jobs by Residence

	Direct Jobs Share	
<b>Bellingham</b>	308	64%
<b>Ferndale</b>	34	7%
<b>Lynden</b>	52	11%
<b>Blaine</b>	31	6%
<b>Other Whatcom Co.</b>	11	2%
<b>Other WA</b>	28	6%
<b>Other US</b>	16	3%
<b>Total</b>	<b>479</b>	

### 2.3 Induced Job Impacts

A portion of the personal earnings received by those 479 individuals directly employed due to airport activity is saved; another portion is used to pay Federal, state and local taxes, while another portion is used to purchase goods and services from firms located in Bellingham, as well as out-of-state firms. The purchase of goods and services from firms located in Bellingham creates induced jobs for Bellingham and Washington residents in the firms supplying the goods and services. Furthermore, those individuals supplying the goods and services also receive personal earnings from their employers, and use a portion of it for additional purchases from firms located in Washington. This "trickle-down" effect of an initial expenditure results in a multiplier effect throughout the state economy known as the personal earnings multiplier. A total of \$15 million of wages and salaries were received by the 479 directly employed due to airport activity. As a result of re-spending of this direct income, \$9.2 million of re-spending throughout the region occurred, creating 176 induced jobs for Bellingham area residents.

### 2.4 Indirect Jobs

In addition to these induced jobs created due to purchases by the 479 individuals directly employed due to activity at Bellingham International Airport, additional indirect jobs in the local economy are created as the result of local purchases by the firms directly dependent upon the airport. For example, airlines purchase such items as fuel, catering services, parts and office supplies from local firms, thereby creating jobs in these supplying industries. Similarly, the airport itself purchases such services as contract construction, utilities, and maintenance services from local suppliers, also creating jobs in the local economy. For the most part, the jobs resulting from such purchases are included in the direct job impacts. For example, the 38 jobs with fixed base operators and the 62 jobs with the firms providing construction and consulting services are included as direct job impacts. However, additional purchases are made in the local economy by these directly dependent firms for additional goods and services. Based on the

surveys of the firms' dependent upon the airport, a total of \$7.8 million of additional local purchases were made. These purchases supported the 75 indirect jobs in the local economy.

It is to be emphasized that these indirect jobs are estimated from the survey data provided to Martin Associates by each airport dependent firm. These are only local purchases, and exclude purchases for the goods and services conducted as direct impacts.

### **3. BUSINESS REVENUE IMPACT**

The movement of passengers and air cargo via Bellingham International Airport generates revenue for firms in various sectors of the economy. For example, in the airline/airport service sector, revenue is received by the airlines providing services to enplaning passengers, catering firms providing services to the airlines, and by airport tenants who sell retail merchandise to passengers in the airport. In the freight transportation sector, airlines receive revenue from moving the air cargo to and from the airport and freight forwarders receive revenue from arranging air transportation for the cargo. Similarly, the rental car agencies and the firms providing ground transportation receive revenue from transporting passengers to and from the airport, while contract construction and consulting firms receive revenue from the airport and airlines that have contracted these services. In the visitors industry sector, local service and retail firms receive revenue from passengers staying overnight in the Bellingham area. (These visitor industry revenue impacts are estimated in Section 6 of this chapter.)

In 2012, a total of 570,575 passengers boarded airplanes at Bellingham International Airport. This passenger activity generated \$153.7 million of business revenue to the firms supplying these services. In addition to the \$153.7 million of revenue generated, additional revenue is generated in the local visitors industry as the result of purchases by visitors to the area who used Bellingham International Airport.

### **4. EMPLOYEE EARNINGS IMPACT**

The portion of the \$153.7 million revenue impact paid out in salaries and wages is described in this section. In total, activity at the airport created \$28 million of direct, induced and indirect wages and salaries and local consumption expenditures. A breakdown of the income impact follows.

An estimated total of \$15 million was paid in wages and salaries to the 479 direct employees, representing an average annual salary of \$31,350. This \$15 million employee earnings impact is estimated based on the average wage and salaries for each job category, multiplied by the corresponding job impact in that category. The spending of these employee earnings within the state creates the additional employment estimated as induced jobs, which results in an additional \$9.2 million of personal earnings and purchases.

In addition to the re-spending impact, the 75 indirect jobholders earned \$3.8 million in indirect wages and salaries.

## **5. TAX IMPACTS**

Airport activity generated Federal, state and local tax revenues paid by the total direct, induced and indirect jobholders as well as by the firms providing the services. The air passenger activity at the airport generated about \$2.6 million of state and local tax revenue. In addition, \$11.5 million of Federal aviation-specific taxes were collected from passenger and air freight activity.

## **6. VISITOR INDUSTRY IMPACTS AT THE AIRPORT**

An in-terminal survey of 398 passengers at the Bellingham International Airport was conducted by Martin Associates as part of this study to determine visitor characteristics. Results of the survey indicated that of the 570,575 passengers boarding flights at the airport, about 113,255 are visitors to the area. The remaining passengers are area residents using BLI as their airport of departure, this includes Canadian citizens. Of the visitors, 14% are domestic business passengers while the balance, 86% are traveling on pleasure.<sup>7</sup>

Visitor spending and length of stay patterns vary depending on the type of visitor. Business travelers stay an average of 2.2 days and spend an average of \$142 daily. Personal/Pleasure visitors stay an average of 5.8 days and spend about \$136 per day after adjusting for the percentage of pleasure travelers that stay with friends or relatives. Together, these guests from out-of-town bring \$70.3 million to the Bellingham area each year

### **6.1 Visitor Industry Revenue Impact**

The bulk of visitor dollars is spent on accommodations, restaurants, and retail shopping, in that order. The Bellingham area benefits significantly from this visitor traffic. The 113,255 air visitors to the Bellingham area spent \$70.3 million on local goods and services. About \$48.6 million was spent on hotels, while \$15.03 million was spent on local restaurants. Another \$6.7 million was spent on local entertainment, sightseeing, retail purchases and transportation, excluding the rental cars purchases at the airport.

### **6.2 Visitor Industry Direct Job Impacts**

These direct purchases support direct jobs in these visitor industry sector categories. In total, the \$70.3 million of visitor industry purchases generated 520 direct jobs. The majority of these jobs are held by workers in regional hotels (101 direct jobs) and restaurants (352 direct jobs).

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<sup>7</sup> The distribution of passengers by trip purpose is extrapolated from the sample of passengers surveyed. This is a random sample and can be accepted at the 95% level of confidence +/-5%

### **6.3 Visitor Industry Induced and Indirect Job Impacts**

As the result of local purchases by those 520 directly employed individuals, 150 induced jobs are supported in the Bellingham area economy.

No local purchase data was collected from hotels and other sectors of the visitors industry. Instead, the Bureau of Economic Analysis developed indirect job multipliers for the various sectors of the Bellingham visitors industry. These multipliers were combined with the direct job impacts by visitor industry sector to estimate the indirect impacts. The indirect income is based on personal income indirect coefficients for the respective visitors' industry sectors. Using the indirect job multipliers for the Bellingham visitors industry, it is estimated that \$3.5 million of local purchases were made by the visitor industry firms. These purchases supported 51 indirect jobs.

### **6.4 Visitor Industry Personal Income Impact and State and Local Tax Impact**

The 520 directly employed individuals received wages and salaries totaling \$8.4 million as a result of visitor spending. As a result of purchases for food, clothing, housing, entertainment, and other needs by these directly employed individuals, induced jobs and consumption expenditures are created locally. This re-spending fuels additional economic activity, creating further jobs and income. Of the \$8.4 million in direct income received by 520 direct visitor industry jobs, an additional \$4.2 million is spent before the cycle is exhausted. This spending and re-spending supports 150 induced jobs in the basic industries of housing, food, clothing, transportation, health care and entertainment, as well as business services, social services and education. The indirect jobholders received \$1.5 million in wages and salaries.

It is estimated that \$1.3 million of state and local taxes were generated by the visitors using Bellingham International Airport.

**V. COMPARISON TO 2008 IMPACTS**

**1. TOTAL CHANGES 2008-2013**

Martin Associates was first retained by the Port of Bellingham to conduct their Economic Impact Study in 2008 and as a result, the level of impacts generated by Port activities can be compared over time. While the methodology to measure the economic impacts has remained the same since 2008, the personal income multiplier used to derive local consumption, re-spending and induced employment has changed. There has also been a significant change in the indirect employment and income multipliers. Table V-1 shows the total Port of Bellingham impacts in both 2008 and 2013.

Table V-1  
Summary of the Total Economic Impacts from the Port of Bellingham’s Real Estate, Maritime, and Aviation Operations, 2008 and 2013

	2008 Total Impacts	2013 Total Impacts
<b>Jobs</b>		
<b>Direct</b>	4,084	5,539
<b>Induced</b>	1,881	2,137
<b>Indirect</b>	<u>1,406</u>	<u>1,104</u>
<b>Total</b>	7,371	8,780
<b>Wages/Salaries (1,000)</b>		
<b>Direct</b>	\$168,443	\$233,303
<b>Induced</b>	\$100,765	\$107,467
<b>Indirect</b>	<u>\$66,469</u>	<u>\$65,581</u>
<b>Total</b>	\$335,677	\$406,351
<b>Business Revenue (1,000)</b>	\$891,661	\$1,351,242
<b>Local Purchases (1,000)</b>	\$113,681	\$144,387
<b>State/Local Taxes (1,000)</b>	\$29,875	\$37,747
<b>Aviation Taxes (1,000)</b>	\$5,881	\$11,534

Total jobs increased by 1,409 from 2008 to 2013. Direct jobs increased by 1,455 over this time, while induced jobs, which are driven by the purchases of the direct job holders, increased by 256. However, indirect jobs decreased by 302 jobs over the same period. This is a

result of increased productivity reflected in the decline in the ratio of employees per dollar of revenue earned by companies supporting the firms that employ the direct job holders. This is consistent with the findings of Economic Impact studies conducted by Martin Associates around the country since the economic downturn of 2008. While many firms are beginning to reclaim business lost during the recession, in many cases they have done so without rehiring to pre-recession levels.

Total wages, business revenue, local purchases, state and local taxes and aviation taxes generated by Port activity have all increased over the five year period from 2008 to 2013. The average salary for direct job holders has increased from \$41,245 to \$42,120. The increase in aviation tax receipts correlates to the growth in passengers using BLI, which has doubled since 2008

The following sections of this chapter will discuss the changes to each of the Port of Bellingham's lines of business.

## **2. CHANGES TO REAL ESTATE IMPACTS**

Between 2008 and 2013, the total number of jobs generated by Port of Bellingham real estate tenants grew by 1,055. Direct jobs increased by 1,057 jobs, induced employment increased by 215, while indirect jobs decreased by 217 jobs. The overall gains were driven by growth in offices, (primarily from development of new buildings at Bellwether,) wholesale distribution, miscellaneous manufacturing, personal services, and restaurants/hotels. Exhibit V-2 compares the total impacts from 2013 against those from 2008.

Exhibit V-2

Total Economic Impacts generated by Port of Bellingham's Real Estate Tenants, 2008 and 2013

	2008 Real Estate Impacts	2013 Real Estate Impacts
<b>Jobs</b>		
<b>Direct</b>	3,357	4,414
<b>Induced</b>	1,522	1,738
<b>Indirect</b>	<u>1,128</u>	<u>910</u>
<b>Total</b>	6,007	7,062
<b>Wages/Salaries (1,000)</b>		
<b>Direct</b>	\$146,567	\$205,168
<b>Induced</b>	\$76,947	\$88,828
<b>Indirect</b>	<u>\$58,586</u>	<u>\$58,266</u>
<b>Total</b>	\$282,100	\$352,262
<b>Business Revenue (1,000)</b>	\$777,339	\$1,111,260
<b>Local Purchases (1,000)</b>	\$94,360	\$126,256
<b>State/Local Taxes (1,000)</b>	\$25,107	\$32,760

**3. CHANGES AT BLI**

Since Martin Associates last conducted the Economic Impact Study for the Port of Bellingham, total passengers using Bellingham International Airport have increased by nearly 150%, from 454,500 passengers in 2008 to 1,128,575 passengers in 2013. In addition to the new seasonal Frontier service, Allegiant and Alaska airlines have introduced new routes; of particular interest are several new flights to Maui and Honolulu. This has resulted in an increase in the number of Bellingham-based airline employees and flight crews. The expanded services and growth in passengers have also led to significant gains in visitor impacts to the local and regional economy. In addition to the increase in the volume of passengers, survey results also indicated that visitors are staying longer and spending more while visiting the area. For example, pleasure travelers stayed, on average, 5.8 days in 2013 versus 3.7 days in 2008 and spent an average of \$136 per person per day in 2013 versus \$50 per person per day in 2008. Table V-3 presents the overall changes in the aviation-related economic impacts.

Table V-3

Total Economic Impacts Generated by Port of Bellingham Aviation Operations, 2008 and 2013

	2008 Airport Impacts	2013 Airport Impacts
<b>Jobs</b>		
<b>Direct</b>	571	999
<b>Induced</b>	220	325
<b>Indirect</b>	<u>111</u>	<u>126</u>
<b>Total</b>	901	1,450
<b>Wages/Salaries (1,000)</b>		
<b>Direct</b>	\$15,155	\$23,441
<b>Induced</b>	\$11,634	\$13,363
<b>Indirect</b>	<u>\$3,079</u>	<u>\$5,268</u>
<b>Total</b>	\$29,868	\$42,073
<b>Business Revenue (1,000)</b>	\$100,332	\$224,036
<b>Local Purchases (1,000)</b>	\$7,054	\$11,256
<b>State/Local Taxes (1,000)</b>	\$2,658	\$3,913
<b>Aviation Taxes (1,000)</b>	\$5,881	\$11,534

Table V-4  
Economic Impacts Generated by On-Site Aviation Activity, 2008 and 2013

	2008 BLI (On-Site)	2013 BLI (On-Site)
<b>Jobs</b>		
<b>Direct</b>	264	479
<b>Induced</b>	125	176
<b>Indirect</b>	<u>94</u>	<u>75</u>
<b>Total</b>	484	730
<b>Wages/Salaries (1,000)</b>		
<b>Direct</b>	\$9,329	\$15,029
<b>Induced</b>	\$8,547	\$9,195
<b>Indirect</b>	<u>\$2,666</u>	<u>\$3,782</u>
<b>Total</b>	\$20,542	\$28,005
<b>Business Revenue (1,000)</b>	\$79,136	\$153,691
<b>Local Purchases (1,000)</b>	\$6,218	\$7,790
<b>State/Local Taxes (1,000)</b>	\$1,828	\$2,604
<b>Aviation Taxes (1,000)</b>	\$5,881	\$11,534

Table V-4 shows the change in on-site BLI impacts. Direct jobs increased by 215. The increase in direct jobs is driven by the increase of passenger airlines, primarily based flight crews, and an increase in government agency employment. The Airport administration added 6 jobs from 2008 to 2013. Business revenue generated by companies operating at BLI nearly doubled growing from \$79 million in 2008 to \$154 million in 2013. Aviation taxes also increased significantly between 2008 and 2013, reflecting the increased number of passengers traveling through BLI.

Table V-5  
Economic Impacts Generated by Visitors using BLI, 2008 and 2013

	2008 BLI (Visitors)	2013 BLI (Visitors)
<b>Jobs</b>		
<b>Direct</b>	307	520
<b>Induced</b>	94	150
<b>Indirect</b>	<u>16</u>	<u>51</u>
<b>Total</b>	417	720
<b>Wages/Salaries (1,000)</b>		
<b>Direct</b>	\$5,825	\$8,413
<b>Induced</b>	\$3,087	\$4,168
<b>Indirect</b>	<u>\$414</u>	<u>\$1,487</u>
<b>Total</b>	\$9,326	\$14,068
<b>Business Revenue (1,000)</b>	\$21,196	\$70,345
<b>Local Purchases (1,000)</b>	\$836	\$3,466
<b>State/Local Taxes (1,000)</b>	\$830	\$1,308
<b>Aviation Taxes (1,000)</b>	NA	NA

Bellingham International Airport’s visitor impacts increased significantly between 2008 and 2013. This is a direct reflection of the growth in passengers Bellingham Airport has experienced since 2008. Total jobs generated by visitors using the Bellingham International Airport grew from 417 in 2008 to 720 in 2013. Direct jobs grew from 307 in 2008 to 520 in 2013. Revenue generated by visitors to the area using BLI saw a more than threefold increase from \$21 million to \$70 million. This business revenue is associated with restaurants, hotels, ground transportation, etc. BLI visitors also contribute significant taxes to state and local governments, generating over \$1.3 billion in 2013.

#### 4. MARITIME DIVISION IMPACT COMPARISONS

The economic impact of the Port of Bellingham’s Maritime division decreased from 2008 to 2013. This was driven by a decline in the number of fishing and recreational boat slips from 2,046 in 2008 to 2,015 in 2013 at the Port’s marinas. This is a result of the combined effects of the 2011 Squalicum marina boathouse fire and the Gate 3 F and G realignment project. The boathouse fire resulted in a loss of at least 30 slips, but most likely more. The impacts attributable to the Alaska Marine Highway System increased from 32 total jobs in 2008 to 43

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total jobs in 2013. Port departures increased from 52 in 2008 to 64 in 2012. The same period saw an increase in passengers from 23,665 to 27,616. While the average length of stay for visitors using the AMHS remained unchanged at 1.3 nights, the average expenditures increased from \$64 per person per day in 2008 to \$92 per person per day in 2013. Approximately 50% of these expenditures represent retail purchases by AMHS passengers prior to their departure for Alaska, with the balance primarily going towards nights spent in local hotels and local eating and drinking establishments. Table V-4 presents a comparison of the impacts of the Port of Bellingham's Maritime Division from 2008 to 2013.

Table V-4  
Impacts of Port of Bellingham's Maritime Division, 2008 and 2013

	2008 Maritime Division Impacts	2013 Maritime Division Impacts
<b>Jobs</b>		
<b>Direct</b>	156	126
<b>Induced</b>	139	74
<b>Indirect</b>	<u>167</u>	<u>68</u>
<b>Total</b>	463	268
<b>Wages/Salaries (1,000)</b>		
<b>Direct</b>	\$6,721	\$4,694
<b>Induced</b>	\$12,184	\$5,276
<b>Indirect</b>	<u>\$4,804</u>	<u>\$2,047</u>
<b>Total</b>	\$23,709	\$12,017
<b>Business Revenue (1,000)</b>	\$13,989	\$15,946
<b>Local Purchases (1,000)</b>	\$12,267	\$6,875
<b>State/Local Taxes (1,000)</b>	\$2,110	\$1,074

## APPENDIX A

### 1. SUMMARY OF METHODOLOGY

A detailed methodology and technical report has been prepared under separate cover. The purpose of this section is to provide a summary of the methodological approach used to estimate the economic impacts of the Port of Bellingham.

The methodological approach to this study is designed to provide highly defensible, as well as accurate results. In addition to the Port of Bellingham, this same methodology has been used by Martin Associates in the last 23 years to assess the economic impacts of activity at Port Authorities including:

<i>Seattle</i>	<i>Corpus Christi</i>	<i>Wilmington, DE</i>
<i>Tacoma</i>	<i>Freeport,</i>	<i>Brunswick, GA</i>
<i>Portland, OR</i>	<i>Texas City, TX</i>	<i>Richmond, VA</i>
<i>Vancouver, WA</i>	<i>Baton Rouge</i>	<i>Providence, RI</i>
<i>Olympia, WA</i>	<i>Port Everglades</i>	<i>Montreal</i>
<i>Everett, WA</i>	<i>Palm Beach</i>	<i>Quebec City</i>
<i>Los Angeles</i>	<i>Jacksonville</i>	<i>Prince Rupert, BC</i>
<i>Long Beach</i>	<i>Miami</i>	<i>Halifax</i>
<i>Oakland</i>	<i>Wilmington/Morehead City, NC</i>	<i>Saint John, NB</i>
<i>Sacramento</i>	<i>Virginia Port Authority</i>	<i>18 US Great Lakes Ports.</i>
<i>San Francisco</i>	<i>Baltimore</i>	
<i>Houston</i>	<i>Philadelphia</i>	

Similarly, the airport impact methodology has been used in the last 23 years by Martin Associates to estimate the economic impacts of airport activity for a majority of the major airports in North America, including:

<i>Seattle-Tacoma International Airport</i>	<i>Milwaukee's General Mitchell Int'l Airport</i>
<i>Hartsfield Atlanta Int'l Airport</i>	<i>Toronto's Lester B. Pearson Int'l Airport</i>
<i>Miami Int'l Airport</i>	<i>Baltimore-Washington Int'l Airport</i>
<i>Stapleton Int'l and Denver Int'l Airports</i>	<i>Reagan National and Dulles Int'l Airports</i>
<i>San Francisco Int'l Airport</i>	<i>Portland (OR) Int'l Airport</i>
<i>San Jose Int'l Airport</i>	<i>Oakland Int'l Airport</i>
<i>Sacramento Int'l Airport</i>	<i>Harrisburg Int'l Airport</i>
<i>Minneapolis/St. Paul Int'l Airport</i>	

## 2. DATA COLLECTION

The cornerstone of the Martin Associates' approach is the collection of detailed baseline impact data from firms providing services at the airport and seaport. To ensure accuracy and defensibility, the baseline impact data was collected from personal and telephone interviews with 311 firms in the Bellingham marine, airport and port tenant community. For the most part, multiple interviews were conducted with several persons in each firm. An in-terminal survey of 398 passengers using Bellingham International Airport was also conducted to develop passenger characteristics and a similar passenger survey of 216 passengers using the Alaskan Marine Highway were conducted to serve as input data to estimate the impact of passenger spending on the local and regional economy.

The results of these interviews were then used to develop the baseline direct job, revenue and income impacts for the maritime, airport, and real estate activity, and for the economic sectors and job categories associated with the airport, maritime division and real estate tenants.

This baseline survey data was also used to develop operational models that can be used to update the impacts of the Bellingham marina activity, cruise activity, real estate tenants, and the Bellingham International Airport on an annual basis and to evaluate the impacts of changes in:

- Air passenger volume;
- Number of flights;
- Mix of aircraft (wide body aircraft versus commuter aircraft);
- Number of recreational boats, by type of boat, moored at Port of Bellingham facilities, as well as transient calls at the Port's marinas;
- Local purchases made by recreational boats moored at the Port-owned marinas, as well as transient recreational boating activity at these facilities;
- Number of fishing boats, by type of fishing fleet, using the Port of Bellingham;
- Cruise service at the Port's cruise terminals; and
- New real estate tenants of the Port, by type of activity.

Also, the operational models can be used to evaluate alternative facilities expansion projects and new construction, such as terminal and runway expansion projects at the Airport.

## 3. INDUCED IMPACTS

Induced impacts are those generated by the purchases of the individuals employed as a result of seaport, airport and real estate activity. For example, a portion of the personal earnings received by those directly employed due to activity at the seaport and airport is used for purchases of goods and services, both in-state, as well as out-of-state. These purchases, in turn, create additional jobs in Whatcom County and the State of Washington, which are classified as induced. To estimate these induced jobs, a personal earnings multiplier for the Bellingham

region (Whatcom County) 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 Bellingham region, primarily defined as Whatcom County. A portion of this total personal earnings impact is next allocated to specific local purchases (as determined from consumption data for Bellingham-Seattle residents, as developed from the US Bureau of Labor Statistics, Consumer Expenditure Survey, 2011). These purchases are next converted into retail and wholesale induced jobs in the regional economy.

*Induced jobs are not estimated at lower levels of purchasing rounds (after the wholesale round) since it is not possible to trace with a sufficient degree of accuracy, geographically, where purchases at the remaining levels occur. However, about 80 percent of the consumption will likely occur at the first two rounds of purchases, which are most likely local retail and wholesale purchases.*

#### **4. INDIRECT JOBS**

Indirect jobs are generated in the local economy as the result of purchases by firms that are directly dependent upon activity at the Port's marinas and cruise terminal, Port of Bellingham marinas, Bellingham International Airport, as well as by the real estate tenants of Port of Bellingham. These purchases are for goods such as office supplies and equipment, maintenance and repair services, raw materials, communications and utilities, transportation services and other professional services. To estimate the indirect economic impact, local purchases, by type of purchase, were collected from each of the 311 firms interviewed. These local purchases were then combined with employment to sales ratios in local supplying industries, developed from US Bureau of Economic Analysis, Regional Input-Output Modeling System for the state of Washington and Whatcom County. 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.

#### **5. TAX IMPACTS**

The tax impacts include state and local taxes collected from all sources, both personal and business taxes, as well as airport specific taxes. The state and local per capita income tax burdens (developed by the Tax Foundation for the State of Washington) are applied to the total direct, induced and indirect income impacts to estimate total state and local taxes created by activity at the Port of Bellingham. The aviation specific taxes, such as the air cargo waybill tax, the international departure tax, the domestic passenger tax as well as various security tax levies imposed after 9/11, are estimated based on the specific tax formulas and the relevant passenger or air cargo activity at Bellingham.

**APPENDIX B**  
**COMPARISON OF MARTIN ASSOCIATES VS. WASHINGTON STATE**  
**DEPARTMENT OF TRANSPORTATION ECONOMIC IMPACT**  
**METHODOLOGIES**

In 2012, the Washington State Department of Transportation (WSDOT) retained BERK to conduct a statewide economic impact study of Washington’s 135 public use airports. As part of this study, impact reports were also published for individual airports within the system. This section compares the impacts from WSDOT’s study for Bellingham International Airport with those of the current study by Martin Associates. Every effort has been made to make reasonable comparisons between each study. For instance, WSDOT’s Economic Impact study does not present induced and indirect jobs separately, so in this section the induced and indirect jobs impacts from the Martin Associates study have also been combined, although elsewhere in the report they are separated. Exhibit VI-1 compares both the on-site and visitor impacts from each study.

Exhibit VI-1  
 On-Site and Visitor Impacts as Determined by Martin Associates and WSDOT

	Martin Assoc. On-Site	WSDOT On-Site	Martin Assoc. Visitor	WSDOT Visitor
<b>Jobs</b>				
<b>Direct</b>	479	616	520	994
<b>Induced/Indirect</b>	<u>251</u>	<u>395</u>	<u>200</u>	<u>479</u>
<b>Total</b>	730	1,011	720	1,473
<b>Wages/Salaries (1,000)</b>				
<b>Direct</b>	\$15,029	\$26,300	\$8,413	\$27,500
<b>Induced/Indirect</b>	<u>\$12,976</u>	<u>\$14,700</u>	<u>\$5,655</u>	<u>\$22,300</u>
<b>Total</b>	\$28,005	\$41,000	\$14,068	\$49,800
<b>Business Revenue (1,000)</b>	\$153,691	\$80,300	\$70,345	\$79,000
<b>State/Local Taxes</b>	\$2,604	\$1,979	\$1,308	\$6,834

There are significant differences in the reported levels of economic impacts generated by both on-site activity and visitor spending. There are several key differences between Martin Associates’ methodology and that used in the WSDOT study that account for these discrepancies. For instance, both Martin Associates and WSDOT determine the “population” of

aviation-related firms based largely upon discussion with the airport authority, (the Port of Bellingham,) and supplemented by internet research or information learned during on-site visits.

Martin Associates contacts each of these firms, either in-person or over the phone, to determine the number of employees, average wage, business revenue, and local business expenditures. It is worth emphasizing that Martin Associates achieved a response rate in excess of 95% from aviation-related firms contacted for the 2013 Economic Impact. The direct employment and income are used to calculate induced employment and income using data from the Bureau of Labor Statistics' Consumer Expenditure Survey and the Census Bureau's Economic Census. Indirect jobs and income are calculated using multipliers from the Bureau of Economic Analysis' Regional Input-Output Modeling System based upon the percentage of business revenue that remains in the local economy as re-spending by BLI-dependent firms.

The methodology employed in the WSDOT study relies upon a database of taxable retail sales to estimate Gross Business Income and direct jobs. These estimates are then used with an Impact Analysis for Planning (IMPLAN) model to determine the multiplier effects, (induced/indirect impacts.) In addition, BERK notes that firms were screened using industry classification codes and internet research to determine if a firm was to be considered "aviation-dependent." This is inherently less reliable than Martin Associates' methodology as it relies upon municipal and county level sales tax estimates as opposed to data obtained through direct interviews with relevant firms.

There are also differences in the way that the two studies estimate the visitor impacts. The differences between the induced/indirect methodologies parallel the previous section. In terms of the direct impact, Martin Associates again relies upon collecting data directly. Nearly 400 enplaning passengers were surveyed in the Bellingham International Airport. Martin Associates was able to determine purpose of travel, (area resident using BLI as primary airport, business visitor, or personal visitor,) whether visitors were visiting Bellingham or Whatcom County, (as opposed to other destinations outside of the county or even outside of the country) and how much money visitors spent locally, (defined as within Whatcom County.)

The WSDOT study relied upon the passenger survey conducted by Martin Associates for Sea-Tac International Airport's 2009 Economic Impact Study. The results of this survey were applied to passengers using Bellingham International Airport. They acknowledge that efforts were made to account for differences in spending patterns using county-level sales revenue and visitor spending data, (for example the average hotel room in King County may differ in cost from the average hotel room in Whatcom County). The largest problem with this methodology is the assumption that the average Sea-Tac passenger can also be used to describe the average BLI passenger. For instance the ratio of business and personal visitors to total passengers (including connectors and residents) is much lower at BLI than Sea-Tac. Thus, even by adjusting for spending differences, these visitor expenditures are being applied to an inaccurate proportion of BLI's passengers. Additionally, since no direct passenger survey was conducted, it

is unknown where visitors are spending their money for the duration of their trips. Thus the WSDOT study is forced to assume that they are staying in Washington State and uses a statewide multiplier. The direct approach taken by Martin Associates allows for the isolation of visitor spending within Whatcom County, therefore offering a more accurate picture of the BLI's economic impact to the communities it serves.

Finally, it appears that the state and local tax impacts were calculated using entirely different methodologies that do not lend themselves to useful comparison. The Martin Associates' tax impact is driven by state and local taxes on the income and re-spending of BLI-dependent job holders. Aviation related taxes are also estimated but are presented as a separate figure as they are not necessarily paid to state and local entities. This represents tax receipts on income and re-spending that would not otherwise occur should aviation activity at BLI cease. The focus of the "fiscal impact" presented in the WSDOT study is derived principally from taxes paid on aviation-dependent business revenue. These are tax receipts generated at the firm-level, (aircraft excise tax, business and occupation tax, sales tax, aviation fuel tax, rental car tax, lodging tax, etc.) These would also disappear if aviation activity at BLI ceased, but these figures should not be compared to the state and local tax impact contained in Martin Associates' current study.

**APPENDIX C**  
**ECONOMIC IMPACTS OF THE PORT OF BELLINGHAM’S**  
**ENVIRONMENTAL CLEAN-UP INITIATIVES**

Table VII-1 presents the Economic Impacts projected to be generated by the Port of Bellingham’s proposal to clean up the Whatcom Waterway.

Table VII-1  
 Economic Impact of Port of Bellingham Clean-up Initiatives

<b>Proposed Whatcom Waterway Cleanup*</b>	
<b>Jobs**</b>	
<b>Direct</b>	551
<b>Induced/Indirect</b>	<u>590</u>
<b>Total</b>	1,141
<b>Personal Income (1,000)</b>	
<b>Direct</b>	\$34,148
<b>Re-spending/Indirect</b>	<u>\$22,524</u>
<b>Total</b>	\$56,672
<b>Revenue (1,000)</b>	\$140,000
<b>State/Local Taxes (1,000)</b>	
<b>Direct</b>	\$3,176
<b>Induced/Indirect</b>	<u>\$2,095</u>
<b>Total</b>	\$5,270

\*Future project. Economic Impacts are based upon projected cost

\*\*Full-Time Equivalents that exist temporarily, for the duration of construction. Upon completion, all impacts cease. Totals may not add due to rounding

Using data from the U.S. Bureau of Economic Analysis, Regional Input-Output Modeling System for Whatcom County, it is estimated that the Whatcom Waterway clean-up, should it receive proper permits and be completed as planned, will create 551 full-time equivalent direct jobs and an additional 590 induced and indirect jobs. These jobs will exist only for the duration of the project. It is to be emphasized that one full-time equivalent job is equal to one “person-year” of employment. This does not mean that 551 people will be engaged in the clean-up effort throughout the duration of the project, but rather, as the \$140 million contract value is paid out, it will cumulatively generate 551 jobs. Additionally, it is projected to generate \$5.3 million in state

and local taxes and \$34 million in direct personal income, for an average salary of approximately \$62,000. There will be an additional \$22.5 million in indirect income and re-spending. The direct job holders will be engaged in activities such dredging contaminated sediment from the site of the former Georgia-Pacific pulp and paper plant and transporting these spoils to a disposal site. Given the location of the project, it is likely that many of these jobs may be held by Bellingham residents, but due to the highly specialized nature of this work it can only be assumed that the job holders will be drawn from the region.