

ECONOMIC CONTRIBUTIONS *of the* PORT OF WHITMAN COUNTY



PREPARED BY STEVEN PETERSON*

Associate Clinical Professor of Economics, University of Idaho

September 2020



ABOUT THE AUTHOR

Steven Peterson* is a regional economist who has conducted over 150 economic impact assessments in his career on nearly every major industry in the regional economy. Steve was born and raised in the Lewis-Clark Valley and is currently employed at the University of Idaho as a Clinical Associate Professor of Economics.

**This study represents the conclusions of the author and does not represent any other individuals or organizations.*

TABLE OF CONTENTS

4

Key Conclusions

Decisive Contributions

6

Direct Jobs

Direct Job Growth

7

Living Wage Jobs

8

Job Contributions

Contributions by Port Location

9

Economic Contributions

11

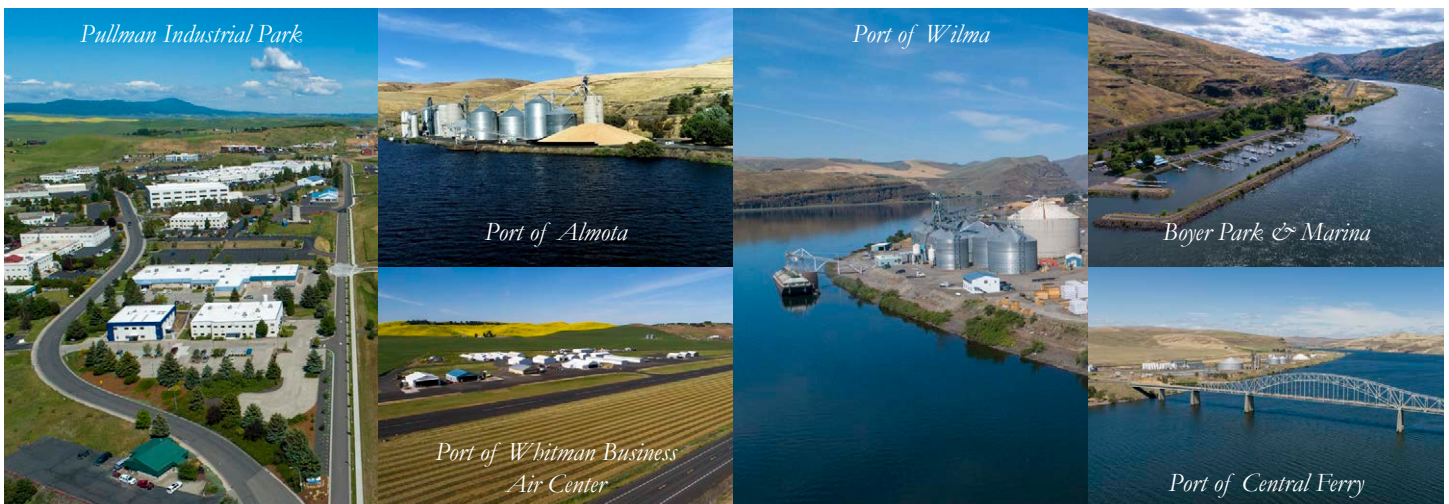
Fiscal Contributions

Methodology

KEY CONCLUSIONS

The Port of Whitman County is arguably the **most impactful** economic development agency in the region.

- In the last 20 years, Whitman County has become the engine of growth for the regional economy after decades of stagnation. Manufacturing growth has increased 322% from 2001 to 2019, versus -7% decline for Washington State, 1% for Idaho, and -22% for the U.S.¹
- The key drivers of Whitman County growth have been the entrepreneurial firms situated in the Port of Whitman County's water-borne ports and industrial parks, increases in other manufacturing and service industries, and rising student enrollments at Washington State University.
- Schweitzer Engineering Laboratories (SEL) alone has increased its Pullman employment by more than 2,000 employees in the two decades.
- The Port of Whitman County (PWC) is a leader in land and infrastructure development (water, wastewater, electrical, gas and fiber optic cable), transportation (water, railroad, airports, highways and telecommunications) and land development consisting of seven commercial, recreational, industrial and technology parks. These include three inland water ports: Wilma, Almota, and Central Ferry. In addition, the PWC has three inland industrial parks: Pullman Industrial Park (West), Pullman Industrial Park (East) and the Port of Whitman Business Air Center in Colfax. The PWC also has an important recreation site at Boyer Park & Marina.
- The PWC is a leader in programs for business attraction, retention and expansion, promotion of business, incubator and entrepreneurial development programs, and collaboration with others.



DECISIVE CONTRIBUTIONS OF THE PORT OF WHITMAN COUNTY

The Port of Whitman County (PWC) Associated Firms and Organizations are responsible for generating over **\$1.35 billion** in output, **\$548 million** added gross regional product to the regional economy, as well as directly and indirectly supporting over **5,369 jobs** annually with average annual salaries and benefits of **\$68,627**. These metrics include the multiplier effects.

Total PWC related contributions as a percentage of the entire Whitman County economyⁱⁱ:

20% jobs

31% output

25% total compensation

23% gross regional product



DIRECT JOBS

The Port of Whitman County conducted a survey of all its tenants and related operations. We estimate there are 3,232 direct jobs associated with the PWC firms and operations, which can be seen in Figure 1. Direct employment has increased 334% cumulatively 1996 to 2019. This can be seen in Figure 1 and Table 1.

Figure 1: Direct jobs 1996-2019

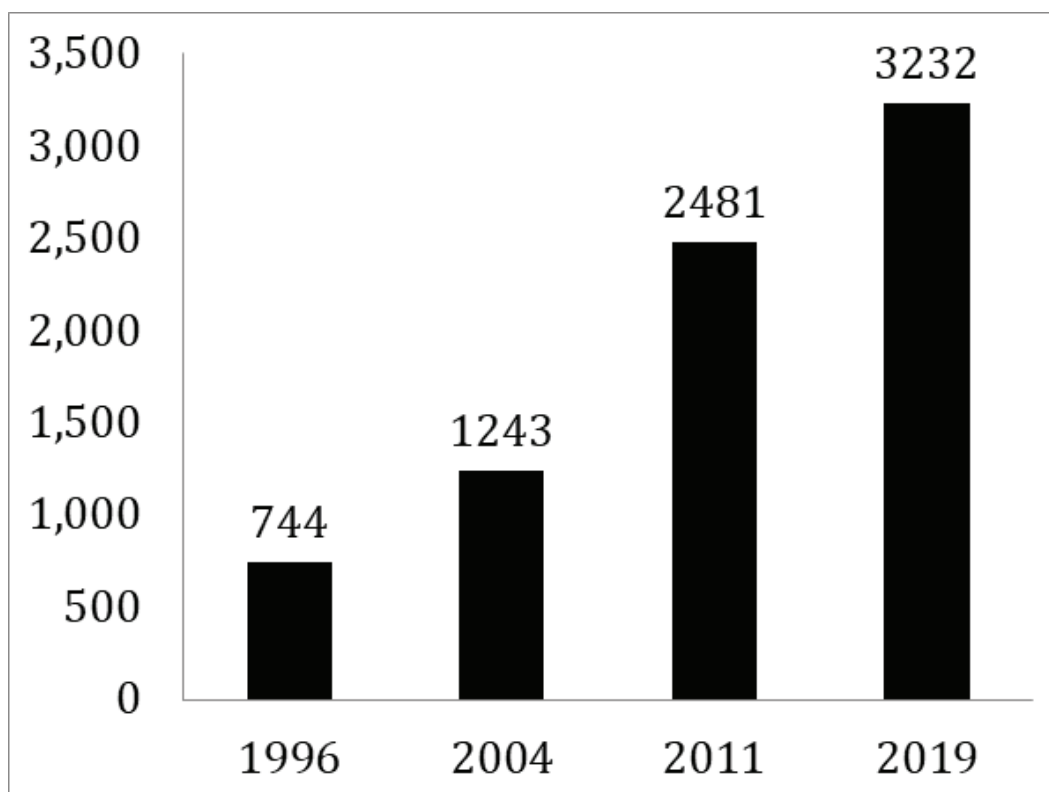
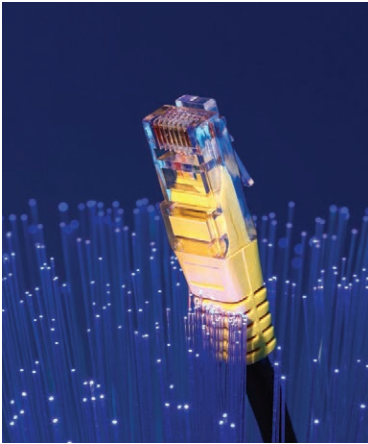


Table 1: Direct jobs by industry

	1996		2004		2011		2019	
Direct Employment	Jobs	%	Jobs	%	Jobs	%	Jobs	%
Grain Storage/Transp.	173	23%	120	10%	117	5%	131	4%
Recreation	46	6%	33	3%	31	1%	28	1%
Agriculture Services	35	5%	15	1%	31	1%	52	2%
Basic Business Serv/Prod.	23	3%	13	1%	66	3%	98	3%
Wood Products	183	25%	168	14%	101	4%	113	3%
High Tech. Services/Manu.	245	33%	846	68%	2065	83%	2,693	83%
Professional Services	36	5%	43	3%	25	1%	18	1%
Port Infrastructure/Telecom.	3	0%	5	0%	45	2%	99	3%
Total	744	100%	1243	100%	2481	100%	3232	100%

DIRECT JOB GROWTH

The fastest growing industries are high technology services and manufacturing, most of which are situated in Pullman Industrial Park (East). The largest company in Pullman Industrial Park (East) is Schweitzer Engineering Laboratories, which provides a sizable majority of the total direct employment (about 2,407 jobs at the time of this study).ⁱⁱⁱ



The Port of Whitman County has been working in telecommunications since 2000.

agriculture-related product and service companies. Employment has been relatively stable over time and not likely to increase. Wood products manufacturing employment (Port of Wilma) has declined but that is likely due to increase in worker productivity as manufacturing processes have changed over time.

The PWC has been focused on assisting the development of value-added agriculture products and these efforts will likely increase job growth in the future. Joseph's Grainery situated in the Port of Whitman County Business Air Center is a good example of a new value-added company.

The other firms in the park provide an additional 309 high-paying jobs, mostly from high-technology companies. They also have a significant impact on the regional economy.

Telecommunications and high-speed fiber installations by the PWC are fast growing and will provide an increasing number of jobs in the future. They will facilitate future home-based telecommuting from rural communities throughout Whitman County and encourage firms to locate in rural towns.

Grain storage and transportation has remained relatively constant since 1996 (after adjusting for methodological differences between the different studies). Agricultural service jobs increased modestly and there has been strong growth in overall basic series and products.

Many of the firms in the water-borne ports are mature



Joseph's Grainery participates in the Port of Whitman County's 2017 Snake River Family Festival at Boyer Park & Marina.

LIVING WAGE JOBS

The PWC businesses and related operations provide living wage jobs. The average compensation package is about \$68,627 including benefits, including jobs created by multiplier effects. The average compensation package of direct jobs ranged from about \$29,000 to \$93,000.

Most of the employment opportunities offered by the firms and related operations of the PWC are desirable, relatively stable and good-paying jobs.

JOB CONTRIBUTIONS

Including the multiplier effects, the PWC firms and operations support 5,369 jobs. About 83.7% of the jobs are from Pullman Industrial Park (East), 7.2% from the Port of Wilma, 3.4% from fiber infrastructure and Port operations, 2.4% from the Port of Central Ferry, 2.3% from tourism and transportation, and 1.1% from all others.

DIVERSITY OF FIRMS AND INDUSTRIES

The majority of the PWC jobs are from high technology manufacturing and service-related employment, however, there is an amazing diversity of firms and industries associated with the PWC. The firms include trucking companies, fertilizer mixing and supply, construction, grain storage, propane supplies, wood products manufacturing, air services, winery, value-added food products, water transportation, landscaping, fiber installation and services, and many others. These industries are stable and recession resilient even in the COVID-19 recession.

HIGH SPEED FIBER INFRASTRUCTURE

The Port of Whitman County has installed 140 miles of fiber, running from Spokane, Washington to Clarkston, Washington, to enhance the telecommunications network throughout the county and the broader region. Modern communications are increasingly the transportation mode of choice for businesses, government, and consumers. As an important form of transportation, fiber communication networks are a central component of the Port of Whitman County's mission. Fiber cable is essential to wireless communications, medical records and health care imaging services, emergency service communications, university research, governmental operations, high technology manufacturing facilities, general business operations, video streaming, and telecommuting.

CONTRIBUTIONS BY PORT LOCATION

Pullman Industrial Park-East
\$1.15 billion in output
4,493 jobs

Port of Wilma
\$87.3 million in output
385 jobs

Port of Central Ferry
\$47 million in output
129 jobs

Fiber Infrastructure/Port Operations
\$37.2 million in output
185 jobs

Tourism and Transportation
\$17.5 million in output
122 jobs

All Others
\$10.1 million in output
56 jobs

PWC TOTAL CONTRIBUTIONS
\$1.352 billion in output
5,369 jobs

By providing rural communities with access to high speed internet and telecommunication services, the Port of Whitman County is providing essential infrastructure for future rural community revitalization. Businesses can locate in rural regions and enjoy small town amenities, yet compete in a global market via the fiber network. Annualized fiber construction in constant dollars is estimated at \$1.4 million since 2002. Gross revenues reached approximately \$1.3 million in 2019. The estimated economic contributions of the fiber infrastructure include construction, operations, and business creation effects. The annual economic contributions of fiber are \$31.5 million in output and 125 jobs, including the multiplier effects.

ECONOMIC CONTRIBUTIONS OF THE PORT OF WHITMAN COUNTY

The total 2019 economic impacts of the Port of Whitman County from all business operations is \$1.35 billion in output (sales), \$547.6 million in gross regional product (a subset of sales), \$368.5 million in total compensation (a subset of gross regional product) and 5,369 jobs. These impacts include the multiplier impacts from backward linkages to the local economy and from the impact of resulting employee and consumer spending (Table 2).

Table 2: Economic Impacts - Port of Whitman County (Including the Multiplier Effects)

	Jobs	Output	GRP*	Total Compensation
Pullman Industrial Parks	4,493	1,153,208,044	441,184,613	325,371,469
Port of Wilma	385	87,250,667	46,552,031	20,395,728
Port of Central Ferry	129	47,017,998	33,095,119	6,938,924
Port of Almota	22	4,966,491	2,638,913	1,207,769
Port of WC Business Air Center	34	5,132,001	2,252,428	1,530,171
Tourism and Transportation	122	17,523,757	7,909,119	5,266,676
Fiber Construction/Operations	125	31,492,360	11,214,321	5,521,154
Port Infrastructure/Operations	60	5,696,699	2,773,920	2,246,290
Grand Total	5,369	1,352,288,017	547,620,464	368,478,181

*Gross Regional Product

Table 3 reports the economic contributions by industry which provides interesting detail on specific impacted sectors of the economy. Table 4 reports the impacts by model composition – direct, indirect, and induced impacts. The direct effects are measured from the actual base expenditures by the PWC firms and operations. Indirect effects measure the backward linkages as PWC firms and operations purchase goods and services from other firms in the regional economy. Induced impacts report the linkages related to employee and consumer spending. The table also reports the average multipliers: Jobs 1.71, total compensation 1.37, GRP 1.51, and output 1.36. To interpret the jobs multiplier: For every direct (base) job, a total of 1.71 jobs are created in the economy.

Table 3: Economic Contributions of the Port of Whitman County by Industry

Industry	Sales	Gross Regional Product	Total Compensation	Jobs
Plant Agriculture	\$615,223	\$256,477	\$109,660	10
Animal Agriculture	\$98,965	\$45,362	\$4,326	1
Logging and Forest Services	\$6,494,633	\$3,818,824	\$3,631,675	88
Mining	\$317,444	\$33,539	\$29,589	1
Utilities	\$7,729,128	\$3,374,203	\$531,787	5
Construction	\$4,687,086	\$2,039,951	\$1,699,843	29
Food Processing	\$2,888,096	\$689,698	\$467,528	14
Wood and Paper Manufacturing	\$34,191,904	\$11,788,358	\$8,075,574	116
Manufacturing	\$863,936,004	\$290,752,749	\$247,737,552	2,722
Wholesale Trade	\$133,097,214	\$84,779,590	\$22,002,819	307
Retail Trade	\$23,868,315	\$14,319,653	\$9,241,033	271
Transportation	\$35,496,612	\$14,505,299	\$11,259,028	247
Publishing and Communication	\$31,982,420	\$8,493,291	\$3,012,034	68
Finance, Insurance, and Real Estate	\$84,464,893	\$46,003,254	\$8,564,841	217
Professional Services	\$32,776,879	\$16,098,949	\$12,926,712	336
Other Services	\$13,011,126	\$8,484,635	\$6,499,580	132
Private Education	\$1,471,577	\$572,548	\$522,978	38
Offices of Physicians, Dentists	\$11,459,695	\$7,031,332	\$6,157,435	92
Home Health Care Services	\$2,127,428	\$1,491,963	\$1,596,624	33
Medical and Diagnostic Labs	\$753,208	\$443,318	\$279,893	4
Private hospitals	\$15,986,343	\$8,667,979	\$7,550,144	87
Nursing and Residential Care	\$3,693,818	\$2,013,014	\$1,842,908	53
Social Services	\$7,291,933	\$3,742,675	\$2,604,556	97
Recreation/Arts	\$3,429,223	\$1,718,531	\$1,211,969	60
Lodging, Food, and Drink	\$16,555,870	\$8,701,494	\$5,412,177	242
State and Local Government	\$10,796,637	\$5,036,791	\$2,789,917	39
Federal Government	\$3,066,342	\$2,716,988	\$2,715,999	60
Total	\$1,352,288,015	\$547,620,465	\$368,478,181	5,369

Table 4: Direct, Indirect, and Induced Contributions

Impact Type	Employment	Total Compensation	GRP	Output
Direct Effect	3,133.00	\$269,790,837	\$363,681,688	\$994,663,271
Indirect Effect	884.9	\$44,572,781	\$74,708,883	\$162,283,162
Induced Effect	1,351.50	\$54,114,563	\$109,229,895	\$195,341,582
Total Effect	5,369.40	\$368,478,181	\$547,620,465	\$1,352,288,015
Avg. Multipliers	1.71	1.37	1.51	1.36

FISCAL CONTRIBUTIONS

The businesses associated with the PWC increase the tax base of the local economy and protect the residents from higher tax rates than they would otherwise have to pay. The total collections from state and local government sum to over \$22.6 million annually. These include the indirect and induced taxes created by the multiplier effects. They do not include direct business tax payments. The PWC tax levy for FY19 was \$1,306,987 and the PWC firms generate \$8,155,985 in regional property taxes. The property tax return to taxpayers is \$6.18 for every levy dollar invested.^{iv}

Fiscal Tax Contributions



Property	\$8,072,180
Sales and Excise	\$11,013,017
Other	\$670,127
Total	\$21,389,608

METHODOLOGY AND TECHNICAL NOTES

- A four-county IMPLAN input-output economic model was created to measure the economic contributions of the PWC on the regional economy: Whitman County and Asotin County in Washington; Latah County and Nez Perce County in Idaho. The regional economy is highly integrated within the four counties, particularly with east-west trade, and commuting flows. There are also important north-south trade and commuting flows. The contribution results were also measured using a Whitman County model separately, to validate and calibrate the results in the four-county model.
- There are fundamentally two steps to each impact component: 1) measuring the shock to the economic system, referred to as the direct effect, and 2) measuring the associated multiplier effects as the direct impacts ripple through the economic supply chains. The direct shocks are entered into an input-output model produced by IMPLAN to calculate the multiplier impacts. The multipliers are broken into two types: business-to-business transactions in the supply chain, referred to as “indirect impacts,” and household-to-business transactions, referred to as “induced impacts.” Total impacts are reported as the sum of the direct, indirect and induced impacts.
- Impacts are reported in five separate ways: 1) output (sales), 2) gross regional product, 3) total compensation, 4) employment, and 5) tax contributions. Output is the broadest measure of impacts but the most accurate is gross regional product (GRP) which is a net measure. GRP can be viewed as a subset of output. Total compensation includes wages, salaries, proprietor’s income and supplements.
- The economic contributions are estimated using base expenditures arising from new monies coming into the regional economy. Since most of the revenues of the firms and operations of the PWC arise from products

and services sold outside the regional economy, they represent base economic activity and are included in the economic contributions. A small number of firms sell products and services within the regional economy (i.e. non-base) and they are not included in the calculation of economic contributions. Some firms have a mix of both base and non-base revenues, and only a portion of their activity (i.e. base) was counted in their economic impacts.

- PWC operations have a nearly \$10 million annual budget. We counted only a portion of those activities (\$3.46 million) in the calculation of economic contributions, specifically funds arising from external grants and some port related revenues that are classified as base. Expenditures arising from tax levies were excluded from the contribution calculations.
- Fiber construction investment dollars originate from out-of-region sources and are considered base activities. Fiber operations are more complicated. They are essential for a modern economy and part of the backbone of basic community infrastructure. The COVID-19 recession has highlighted the need for high speed internet with considerable business and education activities going online through Zoom and other related programs. A portion of these expenditures is base activity and non-base, respectively. An analysis was conducted with the PWC to estimate the portion of firm operations that might not exist without the fiber provided by the PWC. The estimated base activity was included in the economic impacts.
- With-or-without: The “with-or-without” issue poses the question: If the PWC did not exist, would the port-related firms and their respective economic activities still be situated in the region? Would they never have existed at all or would they have left and moved to other communities? To some extent this question is “not knowable.” However, the fact that the PWC plays such an important integrated role, the provision of industrial infrastructure suggests that a portion of this economic activity would have likely moved elsewhere in the absence of the PWC infrastructure. In the mid-1990s Whitman County appears to have been infrastructure constrained. Discussions with community leaders in prior PWC study updates have confirmed land and infrastructure shortages that could have hampered economic development in the absence of the PWC.
- The tax impacts are reported from the Whitman County IMPLAN model instead of the four-county model, because the measurement of tax creation is focused on Whitman County (although the magnitudes were close in both models). These are conservative estimations because the direct business tax payments were not included in the results. Only the indirect and induced taxes created by the multiplier effects were included. The interpretation of taxpayer rate of return should be viewed with caution. It is calculated by taking the property tax payments created by the port firms and operations and dividing it by the Whitman County PWC tax levy. The levy for FY19 was \$1,306,987 and we estimate the PWC firms and operations generate \$8,155,985 in regional property taxes. The return to taxpayers is \$6.18 for every PWC levy dollar invested. This assumes that all the indirect and induced property tax payments can be attributable to the PWC firms and operations... which may or may not be the case (given the with-or without scenario discussed above). Since we did not include the direct tax payments in the calculations (which would have increased the taxpayer return), the estimate is likely to be reasonable. The total taxpayer return is \$16.37 for every tax levy dollar invested (factoring in all state and local taxes of \$21,389,608) and is subject to the same cautions as noted above.

CAVEATS AND LIMITATIONS

- This study represents the analysis and conclusions of the author and does not represent the University of Idaho or any other organization or individual.
- The primary inputs to the analysis was direct labor taken from a survey of PWC firms, tenants and operations. The accuracy of the results is dependent on the surveyed data. Since this is an update of several previous studies of the PWC, the survey is consistent with previous surveys. Survey-level primary firm-level revenue and expenditure data were not available. Those were estimated by secondary data sources.

DATA SOURCES

Bureau of Economic Analysis
Local Area Personal Income and Employment (LPI)
National Income and Product Accounts (NIPA)
GDP by State

Bureau of Labor Statistics
Quarterly Census of Employment and Wages (QCEW)
Current Employment Statistics (CES)
Current Population Survey (CPS)

U.S. Census Bureau
Current Population Survey (CPS)
Population Estimates
U.S. National and State Population Projections
County Business Patterns (CBP)

IMPLAN (IMpact-PLANning) Data
Whitman and Asotin Counties, Washington 2018
Latah and Nez Perce Counties, Idaho

Economic Modeling Specialists Int.
Industry Employment 2020.2
Occupation Employment 2020.2

NOTES

ⁱSource: Economic Modeling Specialists, International (Emsi).

ⁱⁱFor consistency we calculated the economic contributions measured by the four-county model as a percentage of the Whitman County economy. We also estimated the results using the Whitman County model only: jobs (17%), output (29%), total compensation (23%) and gross regional output (22%).

ⁱⁱⁱThis analysis includes firms that both lease land/facilities in the PWC or who have purchased land and facilities from the port.

^{iv}The total taxpayer return is \$16.37 for every tax levy dollar invested (factoring in all state and local taxes). See the section in the methodological section of the report for greater detail.



**Port of
Whitman
County**