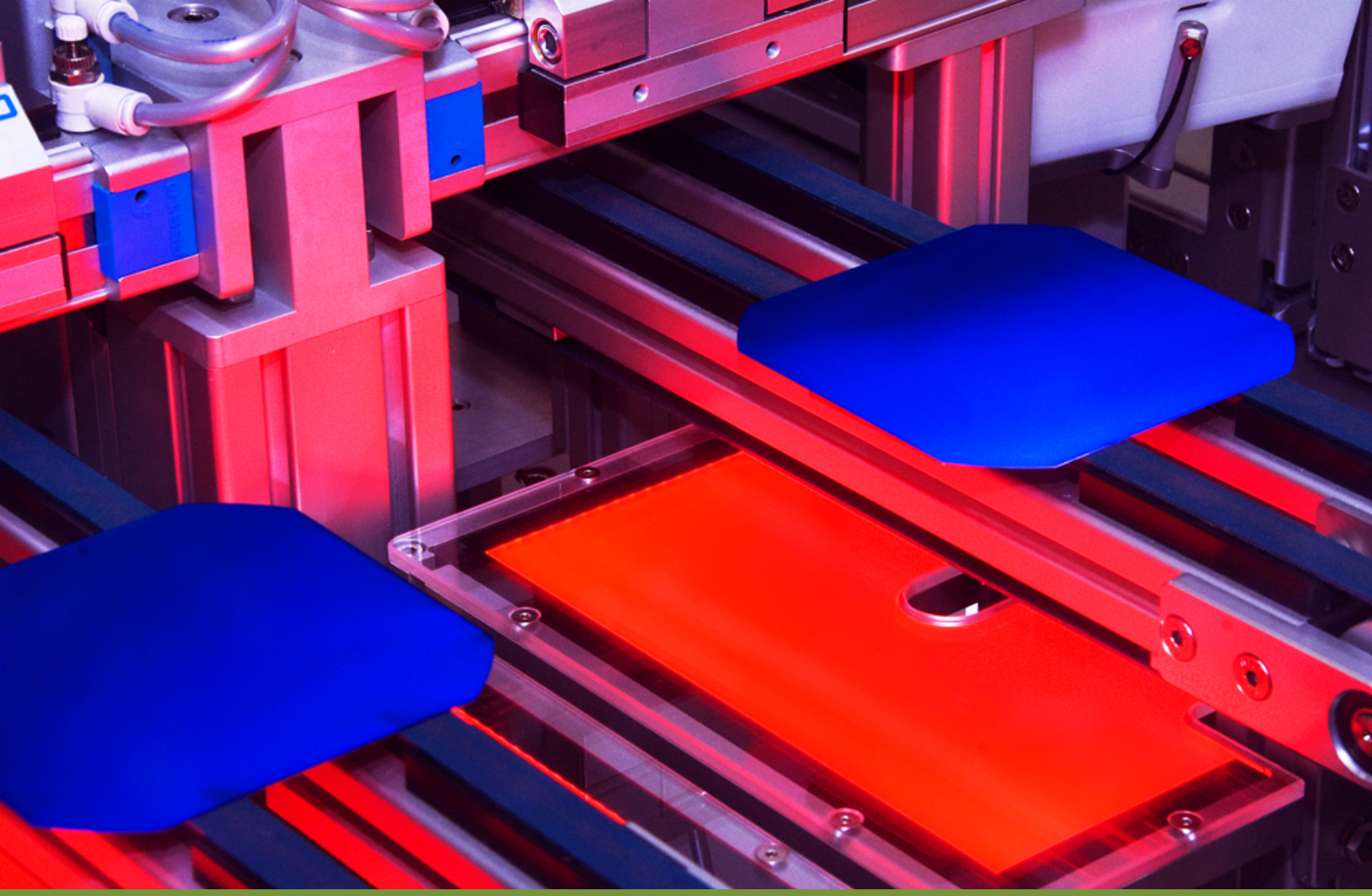

Oregon Manufacturing Extension Partnership: Economic Impact Analysis
January 2019 Update

NeRC
Northwest Economic Research Center
College of Urban and Public Affairs

January 2019

Portland State
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ACKNOWLEDGEMENTS

This report was researched and produced by the Northwest Economic Research Center (NERC) with support from Oregon Manufacturing Extension Partnership (OMEP).

OMEP is a non-profit organization that aims to help Oregon manufacturers respond to the challenges of competing in an increasingly global economy. They work with owners, executives, managers and operators to assess company needs in all areas.

Every client requires a customized approach focusing on their specific obstacles to growth. Entry points range from creating improved flow on the production line, to speeding sales order processing, to training the workforce on problem solving approaches, to developing a strategy to enter new markets. Whatever the need, OMEP offers the tools, expertise, and the flexibility to engage with manufacturers at all levels.

NERC is based at Portland State University in the College of Urban and Public Affairs. The Center focuses on economic research that supports public-policy decision-making, and relates to issues important to Oregon and the Portland Metropolitan Area. NERC serves the public, nonprofit, and private sector economic analysis. Dr. Tom Potiowsky is the NERC's Senior Adviser, and the former Chair of the Department of Economics at Portland State University. Dr. Jenny H. Liu is NERC's Assistant Director and Associate Professor in the Toulan School of Urban Studies and Planning. This report was researched and written by Emma Willingham with assistance from Hoang The Nguyen.

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EXECUTIVE SUMMARY

The Hollings Manufacturing Extension Partnership (MEP), founded in 1988, is a network of non-profit agencies staffed by industry professionals and consultants. Historically, MEP has sought to increase the competitiveness of small to mid-size enterprises (which as a group comprise 99% of all U.S. manufacturing firms) by providing expert guidance and access to resources. In recent years, the severe economic recession sparked increased interest in the strength of the manufacturing sector, due to its longtime status as one of the major drivers of the domestic economy. Oregon Manufacturing Extension Partnership (OMEP), the Oregon branch of MEP, works to provide data-driven analysis and consulting services within the state, improving productivity and competitiveness on both a local and international scale.

The Northwest Economic Research Center has provided five previous analyses of OMEP's contribution to regional manufacturing, using data collected from participating firms to estimate OMEP's impact on output, employment, and tax revenues. This fifth report carries the analysis forward into 2017. The survey data consists of firm-level estimates of OMEP contributions to sales, employment, investment, and new product development (relative to expected production levels without OMEP). NERC used the industry-standard modelling software package IMPLAN, which produces estimates of the total impact of OMEP across multiple sectors, considering both direct and indirect effects.

Figure 1 shows the employment impacts of OMEP's services to manufacturers since 2002. The number of jobs directly created or retained by the Extension's activity peaked during the challenging years of the recent recession and tapered over the recovery, before rebounding in 2017 to levels comparable to those observed in the late 2000s.

The same pattern can be seen in OMEP's impact to production (output) in Oregon (Figure 2 and Table 1). Note that the economy-wide indirect and induced effects considerably exceed the direct payroll impacts to OMEP's clients in several years (i.e., total effects are greater than double the direct effects).

Figure 1: Oregon Employment Impacts (2002-2017)

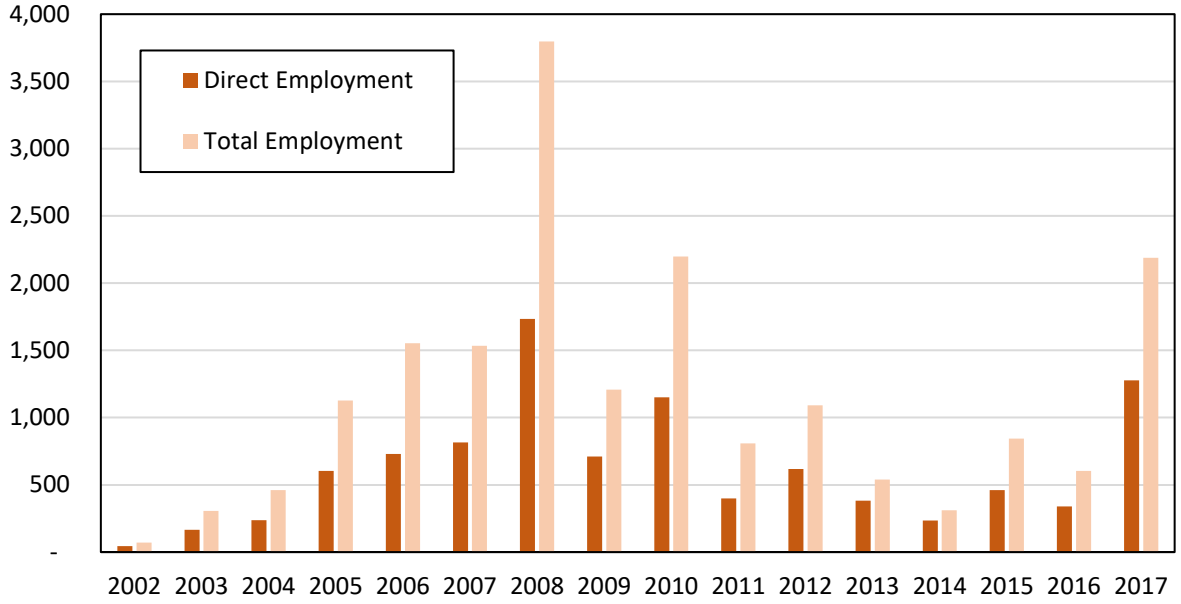
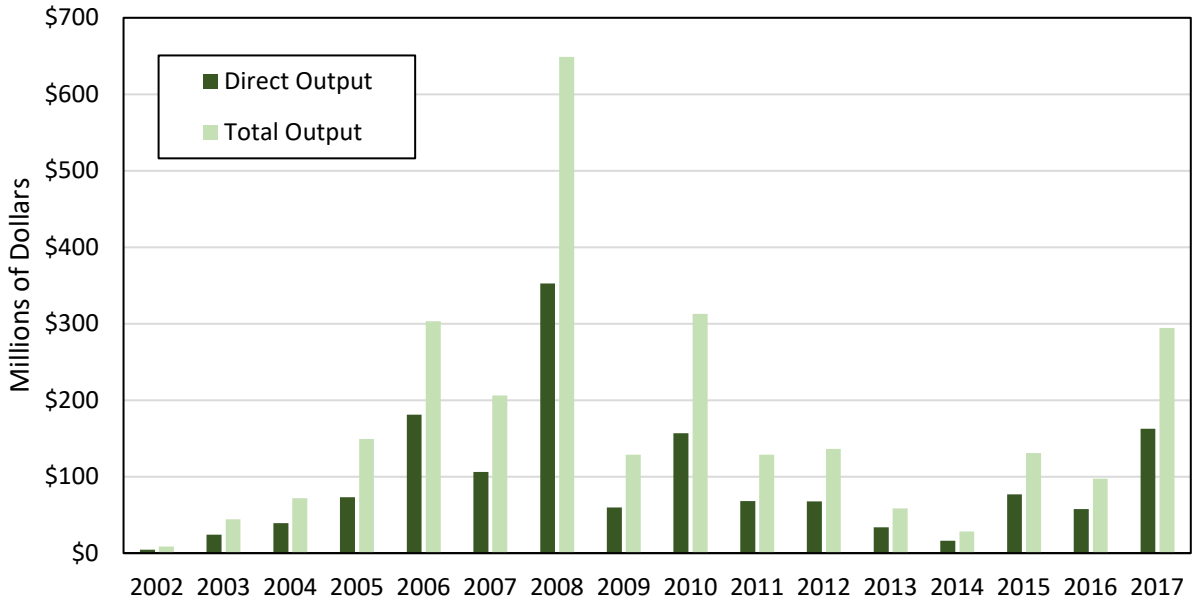


Figure 2: Oregon Output[1] Impacts (2002-2017)[2]



[1] All monetary figures are expressed in dollars for the year in which they were calculated (the IMPLAN event year).
[2] Reminder: The output detailed here is IMPLAN output, which is a gross measure that most likely overestimates output relative to traditional GDP.

Explicit values for employment and output impacts for 2002-2017 can be found in Table 1, below.

Table 1: Total Economic Impacts[3] (2002-2017)

Year	Direct Employment	Total Employment	Direct Output	Total Output
2002	43	72	$4,515,257	$8,619,547
2003	165	305	$24,330,544	$44,081,732
2004	238	460	$39,089,399	$71,696,374
2005	603	1,127	$73,236,188	$149,458,398
2006	729	1,554	$180,864,568	$303,200,581
2007	815	1,533	$106,171,576	$206,165,213
2008	1,734	3,798	$352,626,543	$648,812,668
2009	711	1,207	$59,546,626	$128,741,542
2010	1,151	2,197	$156,844,449	$313,022,215
2011	399	808	$68,032,123	$128,673,371
2012	618	1,092	$67,784,248	$136,235,270
2013	383	540	$33,741,798	$58,309,047
2014	234	312	$16,048,056	$28,268,072
2015	460	844	$76,753,855	$130,881,010
2016	338	603	$57,469,242	$97,395,956
2017	1,276	2,189	$162,778,675	$294,366,448

Table 2 breaks statewide impacts into rural and urban areas of Oregon. Naturally, the distribution of direct and total effects reflects the concentration of manufacturing activity and population in urban areas of the state. Note that, while impacts in rural communities are quantitatively smaller than impacts in urban areas, said impacts are large in relative terms. In 2017, the marked increase from the previous year is due to much higher impacts in urban areas—notable increased impacts occurred in Clackamas, Deschutes, and Multnomah counties (see *Appendix A*, p. 51, for impacts by county in 2017, and Urban Oregon on p. 36 for urban area impacts in 2016 and prior years).

Table 2: Total Economic Impacts[4] in 2017

Impact Type	Employment	Labor Income	Total Value Added	Output
Oregon	2,189	$99,911,889	$150,837,565	$294,366,448
Rural	79	$1,496,721	$2,139,161	$5,478,204
Urban	2,110	$98,415,168	$148,698,405	$288,888,244

[3] All monetary figures are reported in 2017 USD.
[4] See the footnote on page 25 for an explanation of why the rural and urban numbers do not sum to the Oregon total.

While a complete accounting of total OMEP contribution to the local and national economy is not possible given data limitations, we find clear evidence that OMEP continues to provide substantial benefit to the manufacturing sector in Oregon by assisting small- to mid-sized manufacturers and creating a significant aggregate effect. Our estimates in this report can be considered conservative, as many OMEP projects will prove valuable over the longer run, and our analysis is restricted in terms of the timespan addressed. OMEP's services facilitated an additional $294 million in output over 2017 alone, accompanied by a $7.2 million boost to state tax revenues and a labor income increase just shy of $100 million.

OMEP's contributions to the local economy are a function of the number of consultants that they employ and the amount of funding available to support firms with the resources appropriate to their unique situations (for example, process analysis, e-Value stream mapping, and marketing strategy implementation). The allocation of state funding, which OMEP receives, requires the constant assessment and balance of priorities. That said, the relatively large size of the manufacturing sector in Oregon, paired with strong public and legislative support, indicate the continuing need and strong demand for OMEP's services.

INTRODUCTION

The manufacturing sector is one of the most important sectors of a strong economy – thanks to a powerful multiplier effect in comparison to other sectors, manufacturing creates many additional jobs. In addition, the sector produces profitable output, and attracts significant foreign investment. If the US manufacturing sector were a country, it would have the eighth largest economy in the world as of 2014.[5]

In recent decades, this sector has lost some of its global market share; many manufacturers have moved overseas. However, the sector has rebounded following lows during the recent recession, and in 2013, the US exported more manufactured goods than ever before, with said goods comprising 88% of overall exports. That same year, the sector produced 12.4% of the U.S. GDP. While 97% of exporting manufacturers were small to midsize firms, they contributed 20% of exported goods, indicating that big manufacturers retain a strong market share overseas, likely due to strong economies of scale. The pressures facing the industry are unique and numerous: complex tax structure, a skilled labor force (and resultant higher labor expense), and international competition combine with pro-cyclical demand to form an environment that can be difficult to navigate efficiently, especially for smaller-scale manufacturers. While falling global trade and prices have resulted in a nominal drop in US exports in years since, in real terms the trend is flat. [6]

In Oregon, manufacturing makes up a larger share of employment than the national average—10.2%, compared to 8.5% of U.S. jobs. Following the recent recession, manufacturing employment is rebounding even more rapidly than in the nation as a whole, with 18.7% growth to the nation's 8.6% increase since the low in February and March of 2010. However, while there were nearly 189,000 manufacturing jobs in the state as of September 2017, that value falls short by 16,200 jobs when compared to the June 2006 pre-recession peak.[7]

Given the importance of the sector to overall economic health (as evidenced by the high multiplier effect), the federal government has taken numerous measures to assist manufacturers, especially since the recent recession. An important component of this aid is the Hollings Manufacturing Extension Partnership (MEP), a US Department of Commerce program that has worked to grow and improve the U.S. manufacturing sector since 1988. With offices in every state, MEP seeks to connect small- and medium-sized manufacturing firms with resources to facilitate better competitiveness, investment, and productivity.

[5] "Facts about Manufacturing." The Manufacturing Institute et. Al. Retrieved from TheManufacturingInstitute.org.
[6] "U.S. Export Fact Sheet." (October 3 2014, April 5 2016, February 7 2017). International Trade Administration, U.S. Department of Commerce. Retrieved from Trade.gov.
[7] Bechtold, Felicia. (November 3, 2017.) "Made in Oregon: A Profile of the State's Manufacturing Sector." Retrieved from QualityInfo.org.

The Oregon Manufacturing Extension Partnership works to implement MEP goals at the state level by providing consulting services to business owners in order to improve their global competitiveness. OMEP consultants work to provide business owners with a better understanding of their own manufacturing process; and methods to cut costs, increase sales, and enhance productivity.

Specific strategies that an OMEP consultant might recommend include:

- Training for employees and managers
- Structural reorganization
- Changes to the corporate image
- Enhanced organizational communication
- Modification of processes to minimize waste and redundancy
- Improved factory layout
- Production capacity improvement
- Reduction of lead times

DATA DESCRIPTION AND SURVEY METHODOLOGY

In order to quantify the economic impact of OMEP's work with Oregon manufacturers, a third party surveys participating firms. Participants are asked to quantify the changes in economic activity associated with their work with OMEP consultants. The economic input-output software used to calculate the total economic impacts of OMEP's work (IMPLAN) uses new economic activity as inputs. The estimated impacts (reported in a later section) that are produced by IMPLAN assume that the activity being modeled is new activity above an expected baseline. In most cases, the participating firms would continue to operate without OMEP's assistance. The goal of the study is to isolate the firm activity that would *not* exist without this assistance.

Survey respondents take the survey online, and are told that it should take approximately 15 minutes to complete. The questions are a mix of multiple choice and short fill-in-the-blank. Respondents are asked to report general information on their firm and activity, including overall sales and employment. Respondents are then asked questions about the outcomes of services they received, and if the outcomes led to increases in sales or employment. If respondents indicate an increase in sales or employment, they are asked to write in the amount.

Respondents report on:

- Increased Sales
- Retained Sales
- Cost Savings
- Plant Equipment Investments
- Information Systems Investments
- Workforce Practices Investment
- New Products and Processes (and associated sales)
- Savings from Avoided Investments
- Job Creation
- Job Retention

Economic impact models are generally ill-equipped to forecast future activity due to investment (or avoided investment). We report the sums of the reported investment changes, but are not estimating their long-term impacts. When estimating the total economic impacts of OMEP's work, we consider increased sales, retained sales, cost savings, new products and processes, and job creation and retention. These economic impacts are simpler to quantify and their connection to specific OMEP interventions is easier to establish.

A potential shortcoming of the analysis is our reliance on self-reported impacts. Firms fill out the surveys after working with OMEP, and do not receive any difference in service due to survey responses. There is no incentive for respondents to inflate or deflate survey responses. Additionally, the survey is conducted by an outside, third party. However, even without incentives to report or collect inaccurate results, there is still the risk of respondents reporting incorrect data due to confusion or error. Some firms credit OMEP's intervention with saving the firm, and attribute most or all of their ongoing activity to OMEP.

DESCRIPTION OF IMPLAN

When conducting economic impact studies, it is important to differentiate between new economic activity, and economic activity that may just be replacing already existing activity. If expansion for one firm occurs at the expense of another, then no actual growth has been created. The survey questions ask respondents to break out this new activity, allowing us to consider only outcomes above the level of activity expected with no OMEP intervention.

IMPLAN models are constructed using Social Accounting Matrices (SAM) based on spending and purchasing data from the Bureau of Economic Analysis (BEA) supplemented by data from other publicly available sources. SAMs are constructed to reflect the actual industry interactions in a region, and include government activities that are not traditionally reflected in this type of economic analysis.

SAMs create a map showing how money and resources flow through the economy. In a simulation, new economic activity is assumed to occur in an industry or group of industries. Based on past spending and purchasing activity, IMPLAN simulates the purchasing and spending necessary for this new economic activity to occur. IMPLAN tracks this new economic activity as it works its way through the economy. Also included in SAMs are household and government behavior. In addition to following purchasing and spending through the private sector, IMPLAN also estimates the impact of changes in disposable income and tax revenue.

A production function is constructed for each industry, reflecting its connections to other industries. Economic changes or events are propagated through this process as new economic activity motivates additional economic activity in other parts of the supply chain, and through changes in spending habits.

IMPLAN Impacts

The impact summary results are given in terms of employment, labor income, total value added, and output:

Employment represents the number of annual, 1.0 FTE jobs. These job estimates are derived from industry wage averages.

Labor Income is made up of total employee compensation (wages and benefits) as well as proprietor income. Proprietor income is profits earned by self-employed individuals.

Total Value Added is made up of labor income, property type income, and indirect business taxes collected on behalf of local government. This measure is comparable to familiar net measurements of output like gross domestic product.

Output is a gross measure of production. It includes the value of both intermediate and final goods. Because of this, some double counting will occur. Output is presented as a gross measure because IMPLAN is capable of analyzing custom economic zones. Producers may be creating goods that would be considered intermediate from the perspective of the greater national economy, but may leave the custom economic zone, making them a local final good.

IMPLAN breaks out analysis results into three types: direct, indirect, and induced.

- **Direct Impacts**: These are defined by the modeler, and placed in the appropriate industry. They are not subject to multipliers. In this case, purchasing, employment, and wage data were collected from the sources described above and placed into the appropriate industry.

- **Indirect Impacts**: These impacts are estimated based on national purchasing and sales data that model the interactions between industries. This category reflects the economic activity necessary to support the new economic activity in the direct impacts by other firms in the supply chain.

- **Induced Impacts**: These impacts are created by the change in wages and employee compensation. Employees change purchasing decisions based on changes in income and wealth.

IMPLAN RESULTS

The following bar graphs summarize the employment and output impacts of OMEP projects over the period 2002-2016 (Figures 1 and 2, presented again below). Impact is a function of the number of consultants working with manufacturers and the funding support available to them. The type of industry contributes to impact as well; manufacturers that produce medical and healthcare devices typicaly report more significant growth in revenue following their partnership with OMEP, for example. There is considerable variability in OMEP's total impact from year to year, due in part to large-impact projects.

As observed in previous editions of this report, 2008 was a big year for OMEP—many new projects were implemented, and as a result, employment and output contributions are markedly higher. However, estimated impacts for the most recent year, 2017, are approaching levels observed in 2010.

Figure 1: Oregon Employment Impacts (2002-2017)

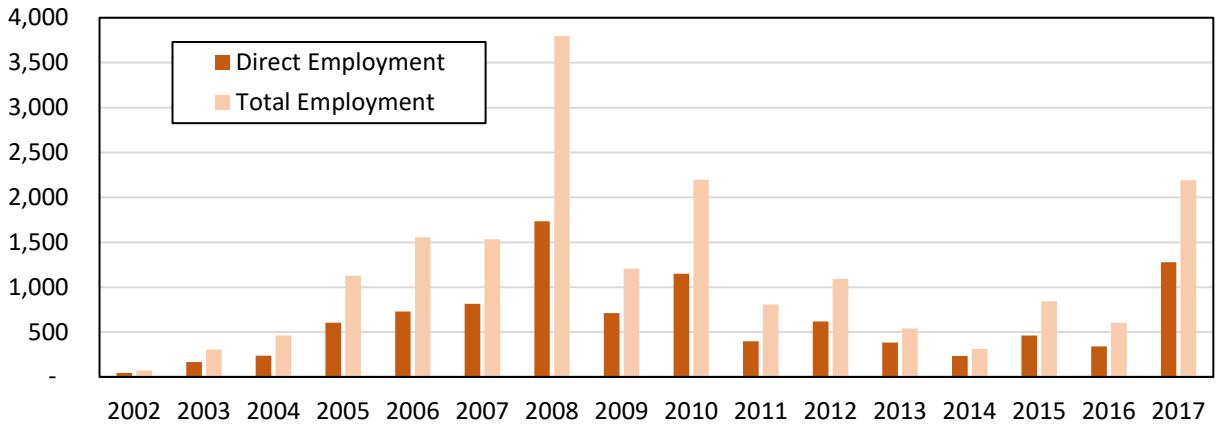
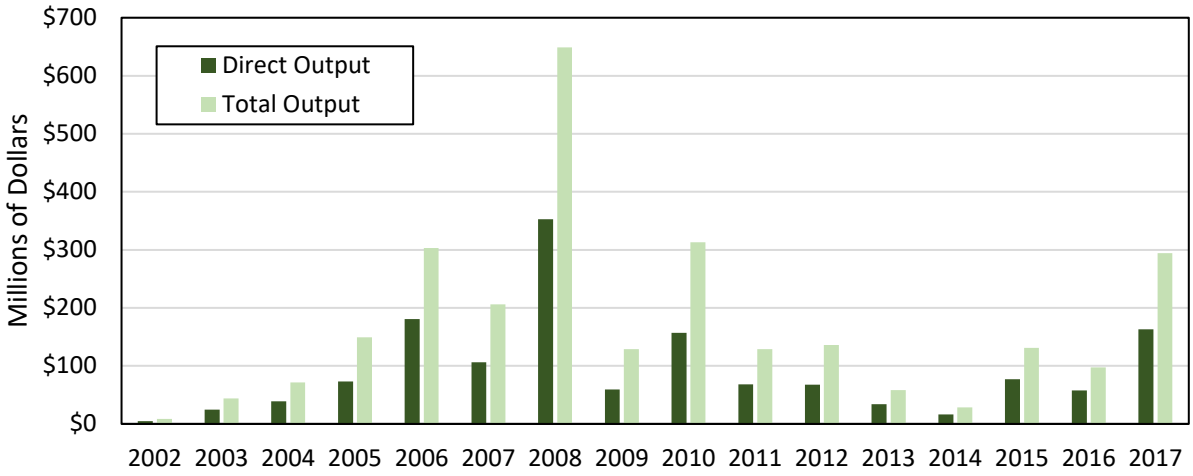


Figure 2: Oregon Output Impacts (2002-2017)[8]



[8] A reminder that the output detailed here is IMPLAN output, which is a gross measure that is higher than relative traditional measures of Gross Regional Product. The latter is more accurately reflected by Total Value Added.

Statewide Impacts

In 2017, OMEP's direct support of 1,276 jobs (up from 603 in 2016) in the state contributed to 2,189 jobs supported in total. The associated total economic output associated with this work exceeded $294 million (a large increase from the estimated value of $97 million in 2015).

Table 3: 2017 Impacts – Oregon

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	1,276	$54,897,399	$78,538,106	$162,778,675
Indirect Effect	450	$24,431,245	$37,000,314	$69,660,017
Induced Effect	463	$20,583,245	$35,299,145	$61,927,756
Total Effect	**2,189**	**$99,911,889**	**$150,837,565**	**$294,366,448**

Table 4 shows the top ten most-affected industries based on total employment impacts. Wooden kitchen cabinet and countertop manufacturing experienced the greatest impact to employment, while wholesale trade saw the largest increase in output and motor vehicle and parts dealers enjoyed top labor income gains.

Table 4: 2017 Industries Affected – Oregon

Sector	Description	Employment	Labor Income	Value Added	Output
368	Wood kitchen cabinet and countertop manufacturing	214	$8,392,970	$9,145,848	$26,057,011
395	Wholesale trade	143	$12,034,766	$21,420,436	$33,279,928
380	Surgical appliance and supplies manufacturing	125	$4,779,537	$9,689,294	$23,692,843
108	Breweries	95	$218,183	$766,312	$3,262,839
100	Other snack food manufacturing	78	$1,523,883	$4,122,800	$18,987,985
195	Other plastics product manufacturing	77	$2,508,685	$3,224,506	$10,918,266
465	Business support services	72	$3,639,986	$3,553,459	$5,734,760
396	Retail - Motor vehicle and parts dealers	61	$12,427,524	$16,035,772	$4,734,823
501	Full-service restaurants	54	$1,044,186	$1,020,486	$1,943,572
10	All other crop farming	52	$1,001,236	$1,483,184	$2,045,862

Any increase in economic activity, labor income, or hiring has indirect effects on public tax revenues. Table 5 details the increased tax revenue at all levels of government due to OMEP projects in 2016. Combining impacts at the local, state, and federal level, OMEP projects resulted in a $9.2 million increase in tax revenue.

Table 5: 2017 Tax Impact – Oregon

	Total
Oregon	
State Personal and Corporate Income Taxes	$3,557,030
Other State Taxes, fees, and licenses	$3,655,897
Total	$7,212,927
Local Governments	
Property Taxes	$4,796,333
Other Local Taxes, Fees, and Licenses	$103,186
Total	$4,899,519
Federal Government[9]	
Federal Personal and Corporate Income Taxes	$9,609,372
Social Insurance and Excise Taxes	$13,285,107
Total	$22,894,479
TOTAL	**$35,006,925**

[9] Note that the Tax Cuts and Jobs Act, passed in 2017, constituted a significant revision to US federal tax code and is not yet incorporated into IMPLAN. These estimates reflect previous, but not current, policy.

Impacts in Previous Years

Statewide impacts, industries affected, and tax revenue increases for the fiscal years 2011-2012, 2012-2013 (third quarter of first year through second quarter of second year) are presented below, along with impacts estimated for the 2013-2016 calendar years. Results are presented in reverse chronological order.

2016 Calendar Year Impacts

Table 6: 2016 Impacts – Oregon

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	338	$14,204,806	$19,370,606	$57,469,242
Indirect Effect	135	$7,916,057	$11,979,386	$22,655,079
Induced Effect	129	$5,740,862	$9,844,730	$17,271,635
Total Effect	**603**	**$27,861,726**	**$41,194,722**	**$97,395,956**

Table 7: 2016 Industries Affected – Oregon

Sector	Description	Employment	Labor Income	Value Added	Output
249	Machine shops	38	$1,633,160	$1,827,300	$4,132,301
368	Wood kitchen cabinet and countertop manufacturing	29	$1,385,664	$1,509,963	$4,301,964
395	Wholesale trade	28	$1,752,262	$3,118,815	$4,845,557
130	Apparel accessories and other apparel manufacturing	23	$1,782,592	$2,171,210	$8,489,333
364	Boat building	20	$1,476,629	$1,460,000	$3,390,690
380	Surgical appliance and supplies manufacturing	17	$290,258	$588,425	$1,438,851
369	Upholstered household furniture manufacturing	17	$181,272	$207,851	$940,854
255	Plumbing fixture fitting and trim manufacturing	17	$236,380	$525,566	$2,298,163
195	Other plastics product manufacturing	15	$1,233,081	$1,584,925	$5,366,599
139	Wood windows and door manufacturing	12	$144,710	$199,002	$643,274

Table 8: 2016 Tax Impact – Oregon

	Total
Oregon	
State Personal and Corporate Income Taxes	$991,096
Other State Taxes, fees, and licenses	$840,877
Total	$1,831,973
Local Governments	
Property Taxes	$1,056,656
Other Local Taxes, Fees, and Licenses	$28,825
Total	$1,085,481
Federal Government	
Federal Personal and Corporate Income Taxes	$2,656,956
Social Insurance and Excise Taxes	$3,602,419
Total	$6,259,375
TOTAL	**$9,176,829**

2015 Calendar Year Impacts

Table 9: 2015 Impacts – Oregon

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	460	$19,981,399	$28,108,783	$76,753,855
Indirect Effect	191	$10,639,400	$16,244,047	$30,390,200
Induced Effect	193	$7,947,244	$13,629,999	$23,736,955
Total Effect	**844**	**$38,568,042**	**$57,982,829**	**$130,881,010**

Table 10: 2015 Industries Affected - Oregon

Sector	Description	Employment	Labor Income	Value Added	Output
395	Wholesale trade	79	$4,387,517	$7,809,253	$12,730,335
300	Scales, balances, and miscellaneous general purpose machinery manufacturing	60	$3,083,751	$3,701,105	$13,065,091
403	Retail - Clothing and clothing accessories stores	47	$2,971,025	$4,889,734	$8,369,966

271	All other industrial machinery manufacturing	43	$3,042,747	$3,551,964	$11,716,297
195	Other plastics product manufacturing	35	$2,109,145	$2,710,962	$9,283,483
236	Handtool manufacturing	33	$1,468,151	$2,000,621	$4,507,367
470	Other support services	24	$1,220,243	$1,159,112	$2,205,805
371	Other household non-upholstered furniture manufacturing	23	$274,095	$369,721	$2,667,100
440	Real estate	20	$288,796	$2,834,873	$3,884,493
141	Other millwork, including flooring	20	$919,511	$1,292,715	$3,607,340

Table 11: 2015 Tax Impact - Oregon

	Total
Oregon	
State Personal and Corporate Income Taxes	$1,377,609
Other State Taxes, fees, and licenses	$1,367,341
Total	**$2,744,950**
Local Governments	
Property Taxes	$1,781,184
Other Local Taxes, Fees, and Licenses	$39,749
Total	**$1,820,933**
Federal Government	
Federal Personal and Corporate Income Taxes	$3,695,771
Social Insurance and Excise Taxes	$5,177,362
Total	**$8,873,133**
TOTAL	**$13,439,016**

2014 Calendar Year Impacts

Table 12: 2014 Impacts – Oregon

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	234	$4,475,989	$5,950,619	$16,048,056
Indirect Effect	36	$2,045,132	$3,300,707	$6,757,503
Induced Effect	42	$1,767,308	$3,159,981	$5,462,514
Total Effect	**312**	**$8,288,430**	**$12,411,306**	**$28,268,072**

Table 13: 2014 Industries Affected - Oregon

Sector	Description	Employment	Labor Income	Value Added	Output
99	Wood windows and doors and millwork manufacturing	107	$226,969	$245,365	$822,304
219	Special tool, die, jig, and fixture manufacturing	30	$278,950	$267,873	$649,215
149	Other plastics product manufacturing	23	$309,944	$491,499	$1,426,843
68	Seasoning and dressing manufacturing	14	$4,387	$5,877	$43,174
305	Surgical and medical instrument, laboratory and medical instrument manufacturing	11	$1,597,828	$2,363,561	$5,274,737
187	Ornamental and architectural metal products manufacturing	10	$1,425,164	$1,674,195	$5,054,092
105	Paper mills	10	$23,562	$49,012	$192,625

Table 14: 2014 Tax Impact - Oregon

	Total
Oregon	
State Personal and Corporate Income Taxes	$286,422
Other State Taxes, fees, and licenses	$302,203
Total	**$588,625**
Local Governments	
Property Taxes	$344,710
Other Local Taxes, Fees, and Licenses	$7,900
Total	**$352,610**
Federal Government	
Federal Personal and Corporate Income Taxes	$661,822
Social Insurance and Excise Taxes	$1,003,679
Total	**$1,665,501**
TOTAL	**$2,606,736**

2013 Calendar Year Impacts

Table 15: 2013 Impacts

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	383	$5,079,397	$7,186,701	$33,164,467
Indirect Effect	89	$5,042,410	$7,616,807	$15,800,225
Induced Effect	68	$2,746,032	$4,909,312	$8,346,673
Total Effect	**540**	**$12,867,838**	**$19,712,821**	**$57,311,364**

Table 16: 2013 Industries Affected

Sector	Description	Employment	Labor Income	Output
311	Food Manufacturing	122	$1,979,038	$20,365,333
337	Furniture and Related Product Manufacturing	91	$285,971	$990,286
321	Wood Product Manufacturing	51	$1,127,697	$3,963,840
332	Fabricated Metal Product Manufacturing	30	$181,517	$1,006,176
327	Nonmetallic Mineral Product Manufacturing	27	$180,087	$600,414

Table 17: 2013 Tax Impact

	Total
Oregon	
State Personal and Corporate Income Taxes	$444,607
Other State Taxes, fees, and licenses	$537,331
Total	**$981,938**
Local Governments	
Property Taxes	$630,809
Other Local Taxes, Fees, and Licenses	$12,194
Total	**$643,003**
Federal Government	
Federal Personal and Corporate Income Taxes	$1,039,877
Social Insurance and Excise Taxes	$1,648,553
Total	**$2,688,430**
TOTAL	**$4,313,371**

2012-2013 Fiscal Year Impacts

Table 18: 2012-2013 Impacts

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	376	$17,712,676	$20,107,082	$38,836,020
Indirect Effect	107	$5,764,437	$8,915,653	$18,501,639
Induced Effect	158	$6,337,269	$11,329,403	$19,262,258
Total Effect	**641**	**$29,814,382**	**$40,352,139**	**$76,599,917**

Table 19: 2012-2013 Industries Affected

Sector	Description	Employment	Labor Income	Output
311	Food Manufacturing	174	$6,433,548	$23,005,098
321	Wood product manufacturing	52	$2,592,030	$4,186,637
327	Nonmetallic Mineral Product manufacturing	47	$2,538,229	$20,780
326	Plastics and rubber products manufacturing	27	$1,502,901	$1,017,198
722	Food services and drinking places	21	$455,259	$1,223,873
332	Fabricated Metal Product Manufacturing	20	$1,175,470	$1,811,708
42	Wholesale trade	15	$1,272,766	$2,929,275

Table 20: 2012-2013 Tax Impact

	Total
Oregon	
State Personal and Corporate Income Taxes	$989,224
Other State Taxes, fees, and licenses	$927,025
Total	$1,916,249
Local Governments	
Property Taxes	$1,007,528
Other Local Taxes, Fees, and Licenses	$28,190
Total	$1,035,718
Federal Government	
Federal Personal and Corporate Income Taxes	$2,122,549
Social Insurance and Excise Taxes	$3,757,446
Total	$5,879,995
TOTAL	**$8,831,962**

2011-2012 Fiscal Year Impacts

The 2011-2012 period had a total employment impact just over twice as large as 2012-2013. As stated in the 2015 version of this report, the difference can be traced back to a handful of large impact firms. It is difficult to draw lessons from what appears to be normal variation. The following tables cover the period from the third quarter of 2011 through the second quarter of 2012.

Table 21: 2011-2012 Impacts

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	584	$47,865,395	$59,861,874	$119,278,034
Indirect Effect	296	$15,548,733	$24,864,806	$49,444,032
Induced Effect	427	$17,162,197	$30,683,363	$52,166,028
Total Effect	**1,307**	**$80,576,325**	**$115,410,043**	**$220,888,094**

Table 22: 2011-2012 Industries Affected

Sector	Description	Employment	Labor Income	Output
321	Wood product manufacturing	113	$5,364,648	$2,615,439
332	Fabricated Metal Product Manufacturing	106	$6,169,270	$17,314,400
336	Transportation equipment manufacturing	90	$4,739,665	$12,780,797
722	Food services and drinking places	58	$1,287,720	$3,461,776
42	Wholesale trade	37	$3,080,307	$7,089,337
531	Real estate	37	$456,996	$5,012,364
331	Primary metal manufacturing	30	$2,487,555	$1,237,730
337	Furniture and related product manufacturing	25	$1,224,287	$7,097,772
621	Ambulatory health care services	24	$1,805,028	$2,964,088

Table 23: 2011-2012 Tax Impact

	Total
Oregon	
State Personal and Corporate Income Taxes	$2,734,885
Other State Taxes, fees, and licenses	$2,601,675
Total	$5,336,560
Local Governments	
Property Taxes	$2,865,031
Other Local Taxes, Fees, and Licenses	$76,437
Total	$2,941,468
Federal Government	
Federal Personal and Corporate Income Taxes	$6,138,918
Social Insurance and Excise Taxes	$9,964,380
Total	$16,103,298
Total	**$24,381,326**

Rural/Urban Breakdown

We have also broken out results into rural and urban impacts, using the U.S. Census Bureau's definition of rural and urban areas, at the town level. That is, if a town has greater than 2,500 residents, the area is classified as urban, while all other areas are urban. This is a change from previous reports, where counties were classified as rural or urban in entirety, based on the location where the firm in question was located. The new approach allows for a clearer presentation, and is more straightforward in its classification. For a more detailed look at impacts by county, see *Appendix A.*[10]

Rural Oregon

The following tables summarize OMEP's 2017 impacts in rural Oregon. As noted previously, while the figures are small when compared to those observed in urban areas, they are large in relative terms. OMEP's contributions in rural areas can be seen as comparable to those observed in urban areas, when total size of the two groups is taken into consideration.

Table 24: 2017 Impacts – Rural Oregon

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	63	$657,121	$802,785	$3,070,032
Indirect Effect	9	$531,266	$807,665	$1,480,577
Induced Effect	7	$308,334	$528,710	$927,595
Total Effect	**79**	**$1,496,721**	**$2,139,161**	**$5,478,204**

[10] Careful readers will note that the sum of the Total Impacts for the urban and rural areas does not equal the Oregon total. This is because there is leakage in the smaller models; activity in rural areas leads to some increase in activity in the urban areas, and vice versa. In the rural and urban models, this leakage is not captured by either model. All of this activity is captured by the full Oregon model, leading to higher indirect and induced impacts.

Table 25: 2017 Industries Affected – Rural Oregon

Sector	Description	Employment	Labor Income	Value Added	Output
78	Confectionery manufacturing from purchased chocolate	28	$17,595	$24,899	$172,232
130	Apparel accessories and other apparel manufacturing	27	$552,804	$673,319	$2,632,646
141	Other millwork, including flooring	4	$49,379	$69,420	$194,633
449	Architectural, engineering, and related services	2	$52,410	$49,511	$99,548
105	All other food manufacturing	2	$246	$294	$1,824
395	Wholesale trade	2	$126,470	$225,101	$349,729
461	Management of companies and enterprises	1	$88,574	$101,269	$167,110
501	Full-service restaurants	1	$14,807	$14,471	$27,562
440	Real estate	1	$8,956	$87,909	$124,051
502	Limited-service restaurants	1	$10,820	$24,384	$44,899

Table 26: 2017 Tax Impact – Rural Oregon

	Total
Oregon	
State Personal and Corporate Income Taxes	$53,009
Other State Taxes, fees, and licenses	$48,986
Total	$101,995
Local Governments	
Property Taxes	$62,820
Other Local Taxes, Fees, and Licenses	$1,552
Total	$64,372
Federal Government	
Federal Personal and Corporate Income Taxes	$136,577
Social Insurance and Excise Taxes	$192,269
Total	$328,846
Total	**$495,213**

Rural Impacts in Previous Years

The following tables provide IMPLAN estimates of OMEP's impacts in rural Oregon, again for the 2015, 2014 and 2013 calendar years followed by the 2012-2013 and 2011-2012 fiscal years (third quarter of the first year through the second quarter of the second year).

2016 Calendar Year

Table 27: 2016 Impacts – Rural Oregon

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	42	$1,800,424	$2,184,904	$8,551,739
Indirect Effect	24	$1,452,147	$2,220,257	$4,030,135
Induced Effect	19	$843,899	$1,447,048	$2,538,780
Total Effect	**85**	**$4,096,470**	**$5,852,209**	**$15,120,654**

Table 28: 2016 Industries Affected – Rural Oregon

Sector	Description	Employment	Labor Income	Value Added	Output
130	Apparel accessories and other apparel manufacturing	23	$1,782,576	$2,171,190	$8,489,254
126	Cut and sew apparel contractors	9	$16,177	$11,118	$41,189
94	Bread and bakery product, except frozen, manufacturing	8	$1,277	$1,541	$3,860
395	Wholesale trade	4	$363,215	$646,479	$1,004,405
145	All other miscellaneous wood product manufacturing	2	$144	$216	$589
461	Management of companies and enterprises	2	$246,413	$281,730	$464,898
501	Full-service restaurants	2	$40,434	$39,517	$75,262
440	Real estate	2	$24,469	$240,193	$338,944
502	Limited-service restaurants	1	$30,134	$67,907	$125,040
460	Marketing research and all other miscellaneous professional, scientific, and technical services	1	$55,810	$51,574	$93,576

Table 29: 2016 Tax Impact – Rural Oregon

	Total
Oregon	
State Personal and Corporate Income Taxes	$145,017
Other State Taxes, fees, and licenses	$138,175
Total	$283,192
Local Governments	
Property Taxes	$178,416
Other Local Taxes, Fees, and Licenses	$4,249
Total	$182,665
Federal Government	
Federal Personal and Corporate Income Taxes	$372,794
Social Insurance and Excise Taxes	$526,663
Total	$899,457
Total	**$1,365,314**

2015 Calendar Year

Table 30: 2015 Impacts – Rural Oregon

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	106	$5,234,417	$8,250,912	$19,372,914
Indirect Effect	54	$2,781,827	$4,590,185	$8,521,408
Induced Effect	50	$2,080,228	$3,567,425	$6,212,965
Total Effect	**210**	**$10,096,472**	**$16,408,523**	**$34,107,286**

Table 31: 2015 Industries Affected – Rural Oregon

Sector	Description	Total Employment	Total Labor Income	Total Value Added	Total Output
403	Retail - Clothing and clothing accessories stores	45	$2,922,761	$4,810,300	$8,233,995
141	Other millwork, including flooring	20	$916,154	$1,287,996	$3,594,171
454	Management consulting services	14	$517,354	$527,459	$923,195
94	Bread and bakery product, except frozen, manufacturing	9	$92,667	$111,866	$278,941
440	Real estate	8	$113,159	$1,110,786	$1,522,058
511	Dry-cleaning and laundry services	5	$49,446	$55,777	$84,351
395	Wholesale trade	5	$393,797	$700,911	$1,142,598
356	Other motor vehicle parts manufacturing	5	$703,295	$1,412,145	$6,004,312
90	Meat processed from carcasses	5	$16,068	$20,864	$162,320
195	Other plastics product manufacturing	4	$63,639	$81,798	$280,110

Table 32: 2015 Tax Impact – Rural Oregon

	Total
Oregon	
State Personal and Corporate Income Taxes	$371,934
Other State Taxes, fees, and licenses	$301,754
Total	$673,688
Local Governments	
Property Taxes	$378,064
Other Local Taxes, Fees, and Licenses	$10,432
Total	$388,496
Federal Government	
Federal Personal and Corporate Income Taxes	$1,073,399
Social Insurance and Excise Taxes	$1,314,726
Total	$2,388,125
TOTAL	**$3,450,309**

2014 Calendar Year

Table 33: 2014 Impacts – Rural Oregon

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	122	$460,181	$611,424	$2,415,915
Indirect Effect	4	$198,680	$308,343	$603,238
Induced Effect	3	$131,293	$245,905	$417,193
Total Effect	**129**	**$790,154**	**$1,165,672**	**$3,436,345**

Table 34: 2014 Industries Affected – Rural Oregon

Sector	Description	Employment	Labor Income	Value Added	Output
99	Wood windows and doors and millwork manufacturing	107	$236,327	$254,204	$805,988
107	Paperboard container manufacturing	5	$9,516	$11,773	$55,676
260	Lighting fixture manufacturing	4	$113,448	$200,605	$999,250
53	Frozen food manufacturing	3	$6,119	$8,652	$54,256
103	All other miscellaneous wood product manufacturing	3	$101,789	$143,953	$527,880

Table 35: 2014 Tax Impact – Rural Oregon

	Total
Oregon	
State Personal and Corporate Income Taxes	$26,304
Other State Taxes, fees, and licenses	$26,704
Total	$53,008
Local Governments	
Property Taxes	$28,965
Other Local Taxes, Fees, and Licenses	$725
Total	$29,690
Federal Government	
Federal Personal and Corporate Income Taxes	$60,907
Social Insurance and Excise Taxes	$100,691
Total	$161,868
TOTAL	**$244,566**

2013 Calendar Year

Table 36: 2013 Impacts – Rural Oregon

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	182	$1,649,471	$2,017,610	$6,151,500
Indirect Effect	11	$502,160	$755,339	$1,582,318
Induced Effect	11	$401,412	$755,905	$1,260,744
Total Effect	**204**	**$2,553,043**	**$3,528,854**	**$8,994,562**

Table 37: 2013 Industries Affected – Rural Oregon

Sector	Description	Employment	Labor Income	Output
337	Furniture and Related Product Manufacturing	91	$238,093	$990,007
321	Wood Product Manufacturing	50	$1,187,276	$3,812,128
332	Fabricated Metal Product Manufacturing	30	$161,398	$1,000,090
326	Plastics and Rubber Products Manufacturing	8	$8,940	$50,337
334	Computer and Electronic Product Manufacturing	3	$66,053	$335,006
722	Food Services and Drinking Places	2	$39,758	$111,813

Table 38: 2013 Tax Impact – Rural Oregon

	Total
Oregon	
State Personal and Corporate Income Taxes	$82,786
Other State Taxes, fees, and licenses	$82,760
Total	$165,546
Local Governments	
Property Taxes	$88,352
Other Local Taxes, Fees, and Licenses	$2,336
Total	$90,688
Federal Government	
Federal Personal and Corporate Income Taxes	$181,879
Social Insurance and Excise Taxes	$327,915
Total	$509,794
Total	**$766,028**

2012-2013 Fiscal Year

Table 39: 2012-2013 Impacts – Rural Oregon

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	140	$6,930,380	$7,556,970	$11,680,000
Indirect Effect	18	$836,138	$1,328,721	$2,736,213
Induced Effect	41	$1,448,909	$2,728,911	$4,551,217
Total Effect	**199**	**$9,215,427**	**$11,614,603**	**$18,967,430**

Table 40: 2012-2013 Industries Affected – Rural Oregon

Sector	Description	Employment	Labor Income	Output
311	Food manufacturing	63	$2,302,320	$3,197,303
321	Wood product manufacturing	51	$2,511,599	$3,894,930
332	Fabricated Metal Product Manufacturing	20	$1,173,386	$1,800,173
339	Miscellaneous manufacturing	6	$909,857	$2,909,784
722	Food services and drinking places	6	$118,883	$334,342
531	Real estate	3	$27,075	$355,146
621	Ambulatory health care services	3	$185,078	$310,328
622	Hospitals	2	$154,692	$310,491

Table 41: 2012-2013 Tax Impact – Rural Oregon

	Total
Oregon	
State Personal and Corporate Income Taxes	$289,144
Other State Taxes, fees, and licenses	$235,348
Total	$524,492
Local Governments	
Property Taxes	$230,108
Other Local Taxes, Fees, and Licenses	$8,391
Total	$238,499
Federal Government	
Federal Personal and Corporate Income Taxes	$593,150
Social Insurance and Excise Taxes	$1,136,231
Total	$1,729,381
Total	**$2,492,372**

2011-2012 Fiscal Year

Table 42: 2011-2012 Impacts – Rural Oregon

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	319	$18,129,110	$20,424,489	$37,292,819
Indirect Effect	51	$2,295,909	$3,649,887	$7,280,247
Induced Effect	107	$3,806,469	$7,165,379	$11,952,196
Total Effect	**477**	**$24,231,488**	**$31,239,755**	**$56,525,262**

Table 43: 2011-2012 Industries Affected – Rural Oregon

Sector	Description	Employment	Labor Income	Output
321	Wood product manufacturing	133	$6,503,965	$5,217,577
336	Transportation equipment manufacturing	90	$4,739,731	$12,779,681
332	Fabricated Metal Product Manufacturing	32	$1,691,747	$3,765,602
339	Miscellaneous manufacturing	22	$2,835,414	$9,067,847
311	Food manufacturing	15	$509,214	$4,094,436
722	Food services and drinking places	15	$311,195	$875,194
333	Machinery manufacturing	14	$979,572	$311,693
531	Real estate	7	$73,084	$958,651

Table 44: 2011-2012 Tax Impact – Rural Oregon

	Total
Oregon	
State Personal and Corporate Income Taxes	$764,769
Other State Taxes, fees, and licenses	$633,406
Total	$1,398,175
Local Governments	
Property Taxes	$616,665
Other Local Taxes, Fees, and Licenses	$22,014
Total	$638,679
Federal Government	
Federal Personal and Corporate Income Taxes	$1,601,251
Social Insurance and Excise Taxes	$3,203,468
Total	$4,804,719
Total	**$6,841,573**

Urban Oregon

The following tables summarize OMEP's 2017 impacts in urban Oregon.

Table 45: 2017 Impacts – Urban Oregon

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	1,213	$54,240,277	$77,735,321	$159,708,643
Indirect Effect	442	$23,899,978	$36,192,648	$68,179,440
Induced Effect	456	$20,274,912	$34,770,435	$61,000,161
Total Effect	**2,110**	**$98,415,168**	**$148,698,405**	**$288,888,244**

Table 46: 2017 Industries Affected – Urban Oregon

Sector	Description	Employment	Labor Income	Value Added	Output
368	Wood kitchen cabinet and countertop manufacturing	214	$8,392,907	$9,145,779	$26,056,815
395	Wholesale trade	141	$11,908,296	$21,195,335	$32,930,199
380	Surgical appliance and supplies manufacturing	125	$4,779,507	$9,689,232	$23,692,692
108	Breweries	95	$217,992	$765,639	$3,259,975
100	Other snack food manufacturing	78	$1,523,546	$4,121,889	$18,983,790
195	Other plastics product manufacturing	77	$2,508,327	$3,224,045	$10,916,706
465	Business support services	71	$3,629,848	$3,543,562	$5,718,787
396	Retail - Motor vehicle and parts dealers	61	$12,421,166	$16,027,569	$4,724,090
501	Full-service restaurants	54	$1,029,378	$1,006,015	$1,916,010
10	All other crop farming	51	$995,545	$1,474,754	$2,034,234

Table 47: 2017 Tax Impact – Urban Oregon

	Total
Oregon	
State Personal and Corporate Income Taxes	$3,524,718
Other State Taxes, fees, and licenses	$3,606,912
Total	$7,131,630
Local Governments	
Property Taxes	$4,733,512
Other Local Taxes, Fees, and Licenses	$101,634
Total	$4,835,146
Federal Government	
Federal Personal and Corporate Income Taxes	$9,472,794
Social Insurance and Excise Taxes	$13,092,837
Total	$22,565,631
TOTAL	**$34,532,407**

Urban Impacts in Previous Years

The following section provides data identical to that above, considering urban areas rather than rural ones.

2016 Calendar Year

Table 48: 2016 Impacts – Urban Oregon

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	296	$12,404,382	$17,185,703	$48,917,503
Indirect Effect	112	$6,463,911	$9,759,129	$18,624,943
Induced Effect	110	$4,896,963	$8,397,681	$14,732,856
Total Effect	**518**	**$23,765,256**	**$35,342,512**	**$82,275,302**

Table 49: 2016 Industries Affected – Urban Oregon

Sector	Description	Employment	Labor Income	Value Added	Output
249	Machine shops	38	$1,632,450	$1,826,506	$4,130,505
368	Wood kitchen cabinet and countertop manufacturing	29	$1,385,492	$1,509,775	$4,301,431
395	Wholesale trade	24	$1,389,047	$2,472,336	$3,841,152
364	Boat building	20	$1,476,397	$1,459,772	$3,390,159
380	Surgical appliance and supplies manufacturing	17	$290,176	$588,258	$1,438,443
369	Upholstered household furniture manufacturing	17	$181,199	$207,768	$940,478
255	Plumbing fixture fitting and trim manufacturing	17	$236,376	$525,556	$2,298,118
195	Other plastics product manufacturing	15	$1,232,120	$1,583,689	$5,362,415
139	Wood windows and door manufacturing	12	$144,385	$198,556	$641,833
100	Other snack food manufacturing	12	$54,202	$146,641	$675,370

Table 50: 2016 Tax Impact – Urban Oregon

	Total
Oregon	
State Personal and Corporate Income Taxes	$851,682
Other State Taxes, fees, and licenses	$702,702
Total	$1,554,384
Local Governments	
Property Taxes	$878,238
Other Local Taxes, Fees, and Licenses	$24,577
Total	$902,815
Federal Government	
Federal Personal and Corporate Income Taxes	$2,284,161
Social Insurance and Excise Taxes	$3,075,754
Total	$5,359,915
TOTAL	**$4,935,429**

2015 Calendar Year

Table 51: 2015 Impacts – Urban Oregon

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	352	$14,686,047	$19,786,739	$57,146,309
Indirect Effect	137	$7,824,703	$11,605,922	$21,777,441
Induced Effect	142	$5,842,662	$10,020,802	$17,451,247
Total Effect	**631**	**$28,353,413**	**$41,413,463**	**$96,374,997**

Table 52: 2015 Industries Affected – Urban Oregon

Sector	Description	Employment	Labor Income	Value Added	Total Output
395	Wholesale trade	74	$3,987,052	$7,096,473	$11,568,390
300	Scales, balances, and miscellaneous general purpose machinery manufacturing	60	$3,083,715	$3,701,063	$13,064,939
271	All other industrial machinery manufacturing	42	$2,981,710	$3,480,713	$11,481,272
236	Handtool manufacturing	33	$1,467,823	$2,000,174	$4,506,361
195	Other plastics product manufacturing	31	$2,045,469	$2,629,118	$9,003,213
470	Other support services	24	$1,183,141	$1,123,868	$2,138,737
371	Other household nonupholstered furniture manufacturing	23	$274,092	$369,717	$2,667,072
80	Frozen specialties manufacturing	15	$40,130	$46,840	$271,951
440	Real estate	12	$175,030	$1,718,128	$2,354,269
461	Management of companies and enterprises	12	$1,571,637	$1,796,893	$2,858,289

Table 53: 2015 Tax Impact – Urban Oregon

	Total
Oregon	
State Personal and Corporate Income Taxes	$1,001,577
Other State Taxes, fees, and licenses	$1,062,019
Total	$2,063,596
Local Governments	
Property Taxes	$1,398,642
Other Local Taxes, Fees, and Licenses	$29,195
Total	$1,427,837
Federal Government	
Federal Personal and Corporate Income Taxes	$2,612,193
Social Insurance and Excise Taxes	$3,846,697
Total	$6,458,890
TOTAL	$9,950,323

2014 Calendar Year

Table 54: 2014 Impacts – Urban Oregon

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	112	$3,766,470	$5,035,245	$13,214,409
Indirect Effect	28	$1,731,259	$2,717,844	$5,243,460
Induced Effect	34	$1,533,208	$2,657,501	$4,542,019
Total Effect	174	$7,030,937	$10,410,589	$22,981,389

Table 55: 2014 Industries Affected – Urban Oregon

Sector	Description	Employment	Labor Income	Value Added	Output
219	Special tool, die, jig, and fixture manufacturing	30	$299,379	$288,861	$649,111
149	Other plastics product manufacturing	23	$320,439	$500,982	$1,431,581
68	Seasoning and dressing manufacturing	14	$4,444	$5,889	$42,978
305	Surgical and medical instrument, laboratory and medical instrument manufacturing	11	$1,592,962	$2,360,695	$5,275,637
187	Ornamental and architectural metal products manufacturing	10	$1,424,864	$1,673,287	$5,041,483

Table 56: 2014 Tax Impact – Urban Oregon

	Total
Oregon	
State Personal and Corporate Income Taxes	$247,285
Other State Taxes, fees, and licenses	$239,233
Total	$486,518
Local Governments	
Property Taxes	$270,314
Other Local Taxes, Fees, and Licenses	$6,856
Total	$277,170
Federal Government	
Federal Personal and Corporate Income Taxes	$721,083
Social Insurance and Excise Taxes	$1,111,420
Total	$1,832,503
TOTAL	**$2,596,191**

2013 Calendar Year

Table 57: 2013 Impacts – Urban Oregon

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	112	$3,766,470	$5,035,245	$13,214,409
Indirect Effect	28	$1,731,259	$2,717,844	$5,243,460
Induced Effect	34	$1,533,208	$2,657,501	$4,542,019
Total Effect	174	$7,030,937	$10,410,589	$22,981,389

Table 58: 2013 Industries Affected – Urban Oregon

Sector	Description	Employment	Labor Income	Value Added	Output
219	Special tool, die, jig, and fixture manufacturing	30	$299,379	$288,861	$649,111
149	Other plastics product manufacturing	23	$320,439	$500,982	$1,431,581
68	Seasoning and dressing manufacturing	14	$4,444	$5,889	$42,978
305	Surgical and medical instrument, laboratory and medical instrument manufacturing	11	$1,592,962	$2,360,695	$5,275,637
187	Ornamental and architectural metal products manufacturing	10	$1,424,864	$1,673,287	$5,041,483
105	Paper mills	10	$19,154	$42,237	$171,894

Table 59: 2013 Tax Impact – Urban Oregon

	Total
Oregon	
State Personal and Corporate Income Taxes	$247,285
Other State Taxes, fees, and licenses	$239,233
Total	$486,518
Local Governments	
Property Taxes	$270,314
Other Local Taxes, Fees, and Licenses	$6,856
Total	$277,170
Federal Government	
Federal Personal and Corporate Income Taxes	$565,082
Social Insurance and Excise Taxes	$835,571
Total	$1,400,653
TOTAL	**$2,164,341**

2012-2013 Fiscal Year

Table 60: 2012-2013 Impacts – Urban Oregon

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	235	$10,751,728	$12,517,477	$27,111,020
Indirect Effect	64	$3,964,956	$5,890,524	$11,419,398
Induced Effect	96	$4,085,579	$7,108,444	$11,941,803
Total Effect	**395**	**$18,802,263**	**$25,516,445**	**$50,472,221**

Table 61: 2012-2013 Industries Affected – Urban Oregon

Sector	Description	Total Employment	Total Labor Income	Total Output
311	Food Manufacturing	116	$4,115,970	$20,779,276
327	Nonmetallic mineral product manufacturing	47	$2,538,151	$20,495
326	Plastics and rubber products manufacturing	27	$1,501,421	$1,008,686
332	Fabricated metal product manufacturing	13	$843,199	$2,080,681
722	Food services and drinking places	13	$291,749	$759,587
531	Real estate	10	$130,817	$1,315,206
551	Management of companies and enterprises	10	$984,328	$1,969,582
42	Wholesale trade	9	$849,110	$1,852,753
322	Paper manufacturing	8	$371,514	$391,992

Table 62: 2012-2013 Tax Impact – Urban Oregon

	Total
Oregon	
State Personal and Corporate Income Taxes	$ 635,351
Other State Taxes, fees, and licenses	$564,676
Total	$1,200,027
Local Governments	
Property Taxes	$613,924
Other Local Taxes, Fees, and Licenses	$18,104
Total	$632,028
Federal Government	
Federal Personal and Corporate Income Taxes	$1,363,493
Social Insurance and Excise Taxes	$2,364,566
Total	$3,728,059
TOTAL	**$5,560,114**

2011-2012 Fiscal Year

Table 63: 2011-2012 Impacts – Urban Oregon

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	245	$28,359,844	$37,915,724	$79,699,882
Indirect Effect	185	$10,427,311	$16,371,351	$30,720,943
Induced Effect	253	$10,792,716	$18,781,771	$31,550,102
Total Effect	**683**	**$49,579,871**	**$73,068,845**	**$141,970,927**

Table 64: 2011-2012 Industries Affected – Urban Oregon

Sector	Description	Total Employment	Total Labor Income	Total Output
332	Fabricated Metal Product Manufacturing	87	$5,033,471	$16,098,982
722	Food services and drinking places	36	$835,556	$2,175,423
331	Primary metal manufacturing	29	$2,478,176	$1,154,753
531	Real estate	25	$340,062	$3,418,903
337	Furniture and related product manufacturing	25	$1,265,254	$7,096,093
42	Wholesale trade	22	$1,996,706	$4,356,800
311	Food manufacturing	20	$773,778	$128,397
523	Securities, commodity contracts, and other financial investments and related activities	14	$401,577	$1,916,717
621	Ambulatory health care services	14	$1,081,819	$1,736,532

Table 65: 2011-2012 Tax Impact – Urban Oregon

	Total
Oregon	
State Personal and Corporate Income Taxes	$1,742,800
Other State Taxes, fees, and licenses	$1,584,579
Total	$3,327,379
Local Governments	
Property Taxes	$1,760,775
Other Local Taxes, Fees, and Licenses	$48,329
Total	$1,809,104
Federal Government	
Federal Personal and Corporate Income Taxes	$3,980,583
Social Insurance and Excise Taxes	$5,833,908
Total	$9,814,491
TOTAL	**$14,950,974**

OTHER MANUFACTURING BENEFITS

In addition to providing services related to labor and output decisions, OMEP assists participating firms with the planning and implementation of longer-term investments. Such investments do not lend themselves to short-term impact analysis, but can have strong impacts over time. Table 57 shows investments facilitated and unnecessary investments avoided with OMEP's assistance.

Table 57: 2017 Other Benefits

	Plant Equipment	Information Systems	Workforce Practices	Other Areas	Saved Investments
Oregon	**$25,983,064**	**$1,832,920**	**$3,580,954**	**$1,085,500**	**$4,891,300**
Rural	$540,000	$85,000	$70,000	$10,000	$30,000
Urban	$24,072,788	$1,747,920	$3,510,954	$1,704,000	$4,828,883

The general magnitude of the overall impact of investment activity is well documented. More detailed surveys could allow a detailed, longer-term analysis of OMEP's role in such impacts in Oregon in the future.

Other Benefits in Previous Years

Below, other benefits estimated from the 2013-2016 calendar years and 2012-2013 and 2011-2012 fiscal years are shown.

Table 58: 2016 Other Benefits

	Plant Equipment	Information Systems	Workforce Practices	Other Areas	Saved Investments
Oregon	**$25,983,064**	**$1,450,800**	**$1,496,900**	**$1,085,500**	**$4,891,300**
Rural	$275,000	$476,200	$119,000	$0	$157,500
Urban	$25,708,064	$974,600	$1,377,900	$1,085,500	$4,733,800

Table 59: 2015 Other Benefits

	Plant Equipment	Information Systems	Workforce Practices	Other Areas	Saved Investments
Oregon	**$24,612,788**	**$1,832,920**	**$3,580,954**	**$1,714,000**	**$4,858,883**
Rural	$5,346,000	$245,200	$167,000	$87,000	$830,000
Urban	$10,120,995	$182,400	$1,657,790	$1,357,800	$2,165,719

Table 60: 2014 Other Benefits

	Plant Equipment	Information Systems	Workforce Practices	Other Areas	Saved Investments
Oregon	**$1,795,500**	**$873,000**	**$368,000**	**$127,500**	**$567,500**
Rural	$1,075,000	$513,000	$61,000	$0	$60,000
Urban	$720,500	$360,000	$327,000	$127,500	$507,500

Table 61: 2013 Other Benefits

	Plant Equipment	Information Systems	Workforce Practices	Other Areas	Saved Investments
Oregon	**$11,414,000**	**$815,750**	**$693,860**	**$73,000**	**$871,001**
Rural	$1,426,000	$673,750	$262,860	$55,000	$148,001
Urban	$9,488,000	$142,000	$431,000	$18,000	$223,000

Table 62: 2012-2013 Other Benefits

	Plant Equipment	Information Systems	Workforce Practices	Other Areas	Saved Investments
Oregon	**$11,201,000**	**$713,000**	**$755,000**	**$122,000**	**$924,000**
Rural	$3,717,000	$600,000	$242,000	$100,000	$677,000
Urban	$7,484,000	$113,000	$513,000	$22,000	$247,000

Table 63: 2011-2012 Other Benefits

	Plant Equipment	Information Systems	Workforce Practices	Other Areas	Saved Investments
Oregon	**$8,440,600**	**$3,451,100**	**$2,143,320**	**$8,454,700**	**$1,774,500**
Rural	$6,490,800	$3,229,600	$1,463,520	$8,308,000	$1,315,000
Urban	$1,949,800	$221,500	$679,800	$146,700	$459,500

CONCLUSION

While a complete accounting of total OMEP contribution to the local and national economy is not possible given data limitations, we find clear evidence that OMEP continues to provide substantial benefit to the manufacturing sector within Oregon, and to the national economy. While large manufacturers are more visible to the general public, the data underlying these results illuminates the contributions that small- to mid-size firms provide. Enhancing the health of such smaller businesses, particularly in ways that allow them to increase their employment, creates a notable aggregate effect. We are confident that, as our analysis is limited in timespan, the real impact is much greater than the explicit estimates given in this report. Investments, for example, will yield dividends over the long run that are not represented. Even absent long-term analysis, the figures above present a sizeable low-end estimate: OMEP's services facilitated an additional $294 million in output over 2017 alone, accompanied by a $7.2 million boost to state tax revenues and a $99.9 million increase in labor income.

OMEP's efficacy is highlighted by its continuing work with sectors identified by state and local agencies as key to Oregon's economic success, indicating the Extension's sensitivity to regional attributes and specialization.[11] As noted previously, OMEP's contributions to the local economy are a function of the number of consultants that they employ and the amount of funding available to support firms with the resources appropriate to their unique situations (for example, process analysis, e-Value stream mapping, and marketing strategy implementation). Of course, funding for this type of work is provided in part by the state, meaning that decisions to increase funding must be balanced with other priorities. That said, the relatively large size of the manufacturing sector in Oregon, paired with strong public and legislative support, indicate the continuing need and strong demand for OMEP's services.

[11] Business Oregon and Greater Portland Inc., two local agencies that work to enhance the industrial climate in the state, identify manufacturing as a key growth industry. Specifically, the agencies emphasize "clean" and high-tech manufacturing; forestry and wood products; and outdoor gear and activewear, all sectors that appear repeatedly in the "Industries Affected" tables of this report. Both agencies are concerned primarily with maintaining and enhancing local clusters and firms, a priority that they share with OMEP.

APPENDIX A: 2017 COUNTY RESULTS

Clackamas County

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	146	$6,658,772	$8,286,131	$21,810,519
Indirect Effect	42	$2,088,795	$3,086,467	$5,745,632
Induced Effect	41	$1,672,627	$2,931,839	$5,092,166
Total Effect	**229**	**$10,420,195**	**$14,304,437**	**$32,648,317**

Columbia County

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	28	$27,548	$44,351	$172,052
Indirect Effect	0	$6,942	$13,044	$23,830
Induced Effect	0	$2,804	$6,353	$11,815
Total Effect	**28**	**$37,293**	**$63,749**	**$207,697**

Crook County

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	8	$439,429	$424,041	$511,606
Indirect Effect	0	$10,825	$17,225	$39,015
Induced Effect	2	$52,952	$99,097	$180,177
Total Effect	**10**	**$503,206**	**$540,363**	**$730,798**

Deschutes County

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	139	$3,343,942	$3,885,623	$7,304,514
Indirect Effect	14	$642,004	$1,022,851	$2,044,059
Induced Effect	24	$970,848	$1,649,514	$2,972,500
Total Effect	**177**	**$4,956,793**	**$6,557,988**	**$12,321,074**

Douglas County

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	5	$899,644	$898,416	$1,122,305
Indirect Effect	0	$19,720	$27,024	$51,188
Induced Effect	4	$149,814	$266,238	$488,783
Total Effect	**10**	**$1,069,178**	**$1,191,677**	**$1,662,276**

Hood River County

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	3	$4,422	$5,204	$20,657
Indirect Effect	0	$1,165	$1,861	$3,825
Induced Effect	0	$1,001	$1,779	$3,223
Total Effect	**3**	**$6,588**	**$8,844**	**$27,706**

Jackson County

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	11	$162,625	$1,195,670	$1,919,155
Indirect Effect	4	$155,577	$233,233	$496,570
Induced Effect	2	$74,696	$125,076	$231,285
Total Effect	**17**	**$392,898**	**$1,553,980**	**$2,647,009**

Josephine County

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	74	$457,821	$585,820	$342,236
Indirect Effect	1	$20,959	$33,529	$78,720
Induced Effect	2	$83,173	$145,604	$270,123
Total Effect	**77**	**$561,953**	**$764,953**	**$691,080**

Lane County

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	153	$310,090.14	$847,564.22	$4,910,034.84
Indirect Effect	24	$610,510.19	$926,597.68	$1,766,962.48
Induced Effect	5	$215,071.90	$371,426.64	$652,999.61
Total Effect	**182**	**$1,135,672.23**	**$2,145,588.54**	**$7,329,996.93**

Linn County

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	22	$424,287	$473,794	$988,851
Indirect Effect	1	$43,053	$68,853	$135,942
Induced Effect	2	$67,121	$126,427	$221,754
Total Effect	**25**	**$534,460**	**$669,074**	**$1,346,548**

Marion County

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	174	$17,437,864	$20,999,646	$23,326,296
Indirect Effect	48	$2,191,497	$3,251,546	$6,399,893
Induced Effect	104	$4,473,218	$7,496,584	$13,043,557
Total Effect	**326**	**$24,102,578**	**$31,747,777**	**$42,769,747**

Multnomah County

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	374	$16,439,211	$27,812,986	$69,533,909
Indirect Effect	141	$9,400,502	$14,001,403	$24,430,383
Induced Effect	105	$5,231,394	$8,790,544	$14,602,838
Total Effect	**620**	**$31,071,107**	**$50,604,933**	**$108,567,131**

Polk County

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	4	$48,158.82	$63,440.83	$193,860.88
Indirect Effect	0	$10,022.34	$15,248.50	$32,001.15
Induced Effect	0	$4,865.28	$10,616.29	$20,008.58
Total Effect	**4**	**$63,046.44**	**$89,305.62**	**$245,870.61**

Washington County

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	43	$4,045,669	$6,532,342	$10,443,690
Indirect Effect	17	$1,216,795	$1,928,974	$3,146,706
Induced Effect	22	$1,059,953	$1,906,615	$3,132,949
Total Effect	**82**	**$6,322,417**	**$10,367,931**	**$16,723,345**

Yamhill County

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	88	$2,695,148	$2,998,720	$9,650,782
Indirect Effect	15	$574,607	$867,272	$1,954,266
Induced Effect	13	$467,276	$859,202	$1,556,665
Total Effect	**116**	**$3,737,030**	**$4,725,194**	**$13,161,713**

APPENDIX B: 2002-2016 OREGON IMPACT RESULTS

2002 Impacts

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	43	$2,419,708	$2,847,656	$4,438,000
Indirect Effect	9	$495,923	$793,113	$1,642,159
Induced Effect	20	$786,926	$1,406,859	$2,391,905
Total Effect	72	$3,702,557	$5,047,628	$8,472,064

2003 Impacts

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	165	$12,581,733	$15,571,235	$23,914,242
Indirect Effect	41	$2,223,460	$3,555,973	$7,273,360
Induced Effect	99	$3,994,034	$7,140,201	$12,139,880
Total Effect	**305**	**$18,799,228**	**$26,267,409**	**$43,327,482**

2004 Impacts

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	238	$16,311,466	$20,391,815	$38,420,569
Indirect Effect	81	$4,559,431	$7,360,059	$14,883,370
Induced Effect	141	$5,647,378	$10,096,614	$17,165,691
Total Effect	**460**	**$26,518,275**	**$37,848,488**	**$70,469,630**

2005 Impacts

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	603	$37,771,551	$42,046,594	$71,983,098
Indirect Effect	198	$10,712,027	$17,004,009	$35,162,687
Induced Effect	325	$13,079,609	$23,382,391	$39,755,341
Total Effect	**1,127**	**$61,563,188**	**$82,432,994**	**$146,901,125**

2006 Impacts

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	729	$53,547,361	$69,753,535	$177,769,927
Indirect Effect	335	$18,778,644	$29,940,817	$60,412,070
Induced Effect	490	$19,684,139	$35,191,207	$59,830,741
Total Effect	**1,554**	**$92,010,144**	**$134,885,559**	**$298,012,738**

2007 Impacts

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	815	$51,745,755	$62,122,531	$104,354,952
Indirect Effect	280	$13,379,059	$21,386,692	$44,729,030
Induced Effect	438	$17,618,830	$31,499,296	$53,553,689
Total Effect	**1,533**	**$82,743,644**	**$115,008,518**	**$202,637,671**

2008 Impacts

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	1,734	$140,571,063	$177,845,622	$346,593,009
Indirect Effect	814	$44,290,056	$70,988,449	$138,467,404
Induced Effect	1,250	$50,220,866	$89,787,877	$152,650,898
Total Effect	**3,798**	**$235,081,985**	**$338,621,948**	**$637,711,311**

2009 Impacts

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	711	$40,381,963	$45,230,218	$58,527,767
Indirect Effect	169	$8,426,494	$13,535,452	$28,016,785
Induced Effect	327	$13,158,599	$23,521,847	$39,994,188
Total Effect	**1,207**	**$61,967,056**	**$82,287,516**	**$126,538,740**

2010 Impacts

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	1,151	$67,500,384	$80,657,598	$154,160,799
Indirect Effect	431	$23,614,914	$37,171,512	$78,319,779
Induced Effect	615	$24,737,733	$44,218,061	$75,185,744
Total Effect	**2,197**	**$115,853,032**	**$162,047,171**	**$307,666,321**

2011 Impacts

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	399	$24,546,037	$29,705,958	$66,868,075
Indirect Effect	179	$9,660,762	$15,213,695	$31,418,777
Induced Effect	231	$9,273,426	$16,576,001	$28,184,883
Total Effect	**808**	**$43,480,226**	**$61,495,653**	**$126,471,735**

2012 Impacts

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	618	$34,305,970	$39,686,835	$66,624,441
Indirect Effect	180	$9,504,835	$14,947,742	$31,355,328
Induced Effect	294	$11,819,040	$21,129,748	$35,924,479
Total Effect	**1,092**	**$55,629,845**	**$75,764,325**	**$133,904,248**

2013 Impacts

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	383	$5,079,397	$7,186,701	$33,164,467
Indirect Effect	89	$5,042,410	$7,616,807	$15,800,225
Induced Effect	68	$2,746,032	$4,909,312	$8,346,673
Total Effect	**540**	**$12,867,838**	**$19,712,821**	**$57,311,364**

2014 Impacts

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	234	$4,475,989	$5,950,619	$16,048,056
Indirect Effect	36	$2,045,132	$3,300,707	$6,757,503
Induced Effect	42	$1,767,308	$3,159,981	$5,462,514
Total Effect	**312**	**$8,288,430**	**$12,411,306**	**$28,268,072**

2015 Impacts

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	460	$19,981,399	$28,108,783	$76,753,855
Indirect Effect	191	$10,639,400	$16,244,047	$30,390,200
Induced Effect	193	$7,947,244	$13,629,999	$23,736,955
Total Effect	**844**	**$38,568,042**	**$57,982,829**	**$130,881,010**

2016 Impacts

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	338	$14,204,806	$19,370,606	$57,469,242
Indirect Effect	135	$7,916,057	$11,979,386	$22,655,079
Induced Effect	129	$5,740,862	$9,844,730	$17,271,635
Total Effect	**603**	**$27,861,726**	**$41,194,722**	**$97,395,956**


NeRC