The Economic Impact of the University of Oregon
A Comprehensive Revision

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1 Introduction

In the face of seemingly relentless funding cuts by state governments, colleges and universities increasingly perceive the need to justify their importance and relevance. Their public relations toolkit includes the now-common economic impact report, a study which purports to detail the institution's economic relevance in the state. Thanks to "multiplier" tools, institutions are able to show that their impact exceeds that of the state's initial contribution, often by a wide margin. Hence, it is argued, the institution is important not only for providing the public good of higher education, but also for the economic boost it provides its region. The latter impact is considered of greater importance in an era where, as arguably revealed through budget cutting, state officials are losing interest the public good aspects of higher education.

But how accurate are these economic impact studies? It is difficult to answer this question given that so few details of many studies are actually made available. What is made available is often little more than a brochure, heavy on graphics and light on detail, that highlights some of the study's key findings. Information on methodology, data sources, size of multipliers, and so on is often not available to the general public, nor is it available in a peer-reviewed publication format. As such, it is difficult to make apples-to-apples comparisons across institutions.

While university administrators may find the inability to make these comparisons something of a helpful ambiguity, the lack of methodological consistency presents significant challenges to the researcher. Where does one find a methodology to follow when many studies provide few details? And even if the researcher finds a consistent methodology for a subset of studies, how can they be assured that the methodology is in fact accurate? What are the underlying assumptions to the methodology, and are those assumptions appropriate? Indeed, perhaps the researcher can be sure

*Contact: *duy@uoregon.edu ph: 541.346.4660 address: 1285 University of Oregon, Eugene, OR 97405-1285.* *The impetus for this paper was the review of impact studies at the APLU and AAU University Economic Impact Workshop, May 3, 2013, in Washington, DC and my subsequent desire to update the report as an effort to help standardize practices. I thank Zoë Ambargis (Chief, RIMS II Branch, Bureau of Economic Analysis) for comments and feedback. I also thank University of Oregon employees Teri Rowe, J.P. Monroe, and Shelby Cooper for data assistance. All errors are my own.*

of only one thing – that the impact estimates presented in many if not most studies are probably inflated, inadvertently or not.

This paper is an effort to begin establishing a standard methodology that can serve as an example of "best practices" in the estimation of the economic impacts of colleges and universities. Creation of a such a methodology has several important benefits. First, I hope to provide credibility to the estimates of economic impact. The lack of consistent methodology leaves the researcher vulnerable to charges of inflating the purported benefits of the institution. Second, I provide the researcher with a framework that can make apples-to-apples comparisons across institutions. Third, I hope to bring clarity to the public and, perhaps more importantly, the administrators that use these studies, about the proper interpretation of the results and their limitations. Fourth, I intend to update the methodology of the University of Oregon Economic Impact study (largely unchanged since 2002) to ensure that it remains consistent with current standards.

The paper is organized as follows. The first section discusses the specific objective of the study. Then follows a discussion of the multipliers used in this study, including limitations of multipliers in their application to economic impact studies. Subsequently, I build an economic impact study, using the University of Oregon as an example, in stages. I begin with the impact of institutional spending, and then work through other types of spending traditionally captured in university economic impact studies. These include off-campus student spending, tourism, and construction. I conclude with some thoughts and words of caution about the proper dissemination of information from impact studies.

2 Defining the Objective

Prior to beginning an analysis, the researcher needs to clearly define his/her objective. You might think this is obvious – an economic impact study. Yes, on the surface, but even the term"economic impact" is open to question. Interestingly, most university economic impact studies capture some measure of activity that is greater than the true economic impact, and it is important that the researcher acknowledge this from the beginning. In addition, the researcher needs to define the area of study (local or state) as well as the types of activity that are appropriate to include.

Most studies overestimate the economic impact of an institution or activity by not isolating new spending, or spending that is derived from sources outside the region of interest. For instance, consider the economic impact of a local event such as a fair or a concert. It is most likely the case that such an event merely displaces spending on entertainment, food outside the home, etc., that would have occurred elsewhere in the community. In other words, the event *has no economic impact on the community.* No new spending, no new household income, no new jobs. The deck chairs have been rearranged, but there are no new chairs.

To claim that an event or activity has an economic impact, the researcher needs to be able to identify a new source of spending associated with the event. Typically, this means identifying the spending of persons from outside of the community – tourists. Of course, you need to include the additional assumption that the tourist's objective was the specific event under investigation, as opposed to being incidental to an overall trip. But with that assumption in hand, the researcher can then identify new spending in the community, and thus an economic impact from the event.

Alternatively, there is often the claim that the event retains spending by local residents that would have otherwise left the community, and thus does create new spending in the region. Here the researcher is on tenuous ground and very much needs additional information to identify participants who would have otherwise spent their earnings outside the community. That said, such effects can

be identified. For example, if the regional hospital adds a clinic for patients that previously had no other option but to travel to another community, then the hospital can be said to be retaining spending that would otherwise have left the community. Such cases, however, may be somewhat difficult to identify.

But what about the local vendors that claim the event does in fact have an impact to their revenue flow, even if all of the event participants are local? While an event or institution might not have an economic impact in the shape of new spending, income, etc., it still shapes the local economy. There may not be more jobs in the absence of the event, but there would presumably be different jobs. Consequently, the activity does have a "economic footprint" in the community even if it yields no new activity.

Likewise, identifying the economic impact of a university involves isolating spending that would not have occurred in the community in the absence of the university. In general, a university's economic impact derives from revenue from nonresident students and external grants. The spending of resident students would be already captured in the local economy, and thus creates no new impact. Thus, such spending should be excluded from the study if that study is truly limited to economic impact in the strict sense.

Of course, it should be immediately obvious that excluding local revenue sources will dramatically reduce traditional estimates of economic impact. This is particularly the case of institutions designed to serve a local population as opposed to a research-oriented university with large numbers of nonresident students and external grants. This option will not be particularly appealing to researchers and consultants under the direction of university administrators. After all, administrators are hoping to use the impact study to justify their relevance and importance. In that game, bigger numbers are better.

The researcher, however, is not out of luck. Like the example of the local fair above, activity that does not create new spending still shapes the patterns of activity within the economy. The key, then, is to clearly differentiate between the spending associated with new activity – the proper economic impact – and the overall "economic footprint" of the institution. By doing so, the researcher can paint a picture of the depth of the institution's connections with the community as well as the additional economic benefit received because the institution is able to leverage local resources (state budget allocations, for example), to attract revenue from outside the area. *If a study does not clearly differentiate between external and internal sources of demand, for the purpose of comparison the results are best considered estimates of the "economic footprint" rather than the more narrowly defined "economic impact."*

In additional to properly identifying the economic impact, the researcher should carefully define the appropriate region of that impact. In general, a more narrowly defined area will yield more accurate estimates. For universities and colleges, the impact generally falls within the boundaries of the local metropolitan area. For the practitioner, however, this presents two problems. The first is that as the region of interest narrows, the multipliers become smaller as more activity leaks out to surrounding areas. As noted above, from the perspective of university administrators – the clients – bigger is better, smaller is worse. But perhaps a more important concern is that administrators are typically pressing their case to legislators from around the state, and the senator from rural southeastern Oregon, for example, may not be particularly responsive to estimates of the impact of the University of Oregon on Lane County or the impact of Portland State University on Multanomah County. Thus, for the purpose of this study, I define the area of study as the state of Oregon.

Finally, researchers should take care when dealing with auxiliary enterprises. These are entities

which could stand on their own and as such are subject to different multipliers than those of universities and colleges. A common example is a university hospital. While the research and teaching activities of the hospital come under the university's umbrella, the actual operation of the hospital (the treatment of patients) does not and should be considered separately. As noted above, however, the hospital itself likely has minimal actual economic impact if it is primarily serving the local population. Presumably, the health care services provided by the community would exist in the absence of the university hospital; they would simply be provided by another entity.

3 Multipliers

Multipliers are the key tool of economic impact studies. They account for the expansion of activity within a local economy as a result of a change in demand for a final good or service within that economy. In short, the location of new widget factory in a community, for example, creates additional activity for local suppliers. In addition, the new jobs at the factory support household spending and the associated firms. Thus, the initial new demand from the widget factory propagates through a community to produce an impact that exceeds the initial new demand. This initial impact of spending and the expanded impact combined is measured by the multiplier.

Care must be taken in the interpretation of multipliers. Multipliers are composed of three effects. The first is the direct effect, which is the output of the institution, typically measured by spending on goods, services and labor in the regional area. The second is the indirect effect, which is the subsequent impact on demand from the suppliers of inputs. The third is the induced effect, the impact of household consumption derived from salaries and wages paid by the institution and its suppliers. As a general rule, most economic impact studies will use multipliers that include an induced effect. Including the induced effect results in larger multipliers and thus larger impacts. Using multipliers that include the induced effects, however, can lead to inflated estimates of economic impact because they already include the spending of workers who live within the region. Thus only the spending by households from outside the region should be considered when calculating the proper economic impact when including induced effects. This highlights the importance of identifying demand from outside the community.

Given the predominant use of multipliers that include the induced effects, it is difficult for researchers to make apples-to-apples comparisons with other institutions unless they too apply the larger multipliers. This is not true economic impact, however, because it includes economic activity that would that is already engrained in the local region. One solution, applied in this study, is to use multipliers that include induced effects to estimate the economic "footprint" of an institution[1] while then prorating the related spending to account for the portion of activity derived from sources outside the study area to obtain an estimate of the economic "impact." Thus the researcher can present a number that is generally comparable to other studies while at the same time identifying the actual new economic activity supported by the institution.[2]

Mutlipliers are available from a number of reputable suppliers; popular sources are the consulting firm IMPLAN and the RIMS II program available from the Bureau of Economic Analysis. This study employs the RIMS II multipliers; specifically, the 2012 versions for Oregon based on 2010

[1] Swenson (2011) uses the term economic "value" rather than "footprint."

[2] Note that an additional challenge when using multipliers including induced effects is that they capture the impact of additional spending on all goods and services, including education services. This can lead to some double counting of spending (local spending on the services was already included in the first order impact). This reinforces the idea that we should not consider these measures of the true economic impact.

regional data and 2002 national data.[3] Tables 1 and 2 contains the multipliers for the categories of spending used in this study, while Table 3 provides definitions of the multipliers. Two types of multipliers are presented. The final demand multipliers are used to compute the impact of change in the final demand of a good or service. The direct effect multipliers are used to compute the impact of a change in household earnings and job associated with the demand for a good or service. In theory, the estimated results of the impact on earnings and jobs should be the same in both procedures. In practice, the results may differ. University economic impact studies typically utilize the final demand multipliers. Below I present an application of the direct effect approach to the spending of the University of Oregon for comparison.

Providers update their multipliers annually; it is considered good practice to use multipliers as close to the year of study as possible. That said, the multipliers are not free, and the year to year changes may be relatively minor if the economy under study has not experienced any significant changes. Researchers should use their best judgment and clearly identify the source of the multipliers.

Finally, note that the final-demand employment multipliers are in terms of $1,000,000 of final demand. For the"Junior colleges, colleges, universities, and professional schools" category – obviously critical for this analysis – each $1,000,000 of additional final demand creates 27.23 jobs in the study area. Note that these are not "full-time equivalent" jobs. They may be full-time, they may be part-time, but are likely a mix. The variability of the nature of a "job" should leave the researcher cautious about their jobs estimates. For example, new demand may be satisfied with an expansion of the hours of an existing employee. While the aggregate amount of labor performed within the study area has expanded, the actual number of jobs may remain the same. Also note that these are in nominal dollars; the greater the time span between the multipliers and the study, the more likely it is that job estimates will be inflated. This is another reason to update multipliers relatively frequently.[4]

4 Impact of University Spending

4.1 Analysis Using Operating Expenses

The final demand approach begins by identifying expenses used to measure university output. This information is typically available using university financial reports. Expenses that measure university output include employee compensation, services and supplies, and maintenance. It is important to exclude items that have no regional economic impact. Typically, this means excluding equipment and software purchases (although they may be included if produced by a local supplier), interest on debt, and depreciation and amortization expenses. Table 4 details current expenses for the University of Oregon for fiscal year 2012-13. These numbers exclude capital expenditures and interest and depreciation expenses.

[3] At the time of this study, the RIMS II program was suspended due to 2014 sequestration-related budget cuts. The resumption of the program is expected under subsequent budget agreements, but not yet certain. If the program is not renewed, note that IMPLAN is currently producing their own alternative, I-RIMS, to support studies that previously relied on the RIMS II data.

[4] Some researchers (including, in the past, myself) attempt to correct for the timing differences by adjusting the final-demand multipliers for inflation, often using the Consumer Price Index. While a reasonable effort, a better metric would be sector specific producer price indexes. In practice, however, adjustments for inflation are probably unnecessary, especially considering the uncertainty of jobs estimates (see discussion above). The most defensible approach is to regularly update multipliers.

Table 1: Final-Demand Multipiers

	Output	Earnings	Employment	Value-added
Junior colleges, colleges, universities, and professional schools	2.1412	0.7333	27.2335	1.2377
Real estate	1.471	0.2624	17.7677	1.0791
Retail trade	1.8822	0.579	21.2559	1.1884
Utilities	1.491	0.3312	5.9938	0.8877
Food services and drinking places	2.0652	0.5977	26.1144	1.1348
Personal care services	1.9034	0.6162	19.0938	1.2017
Other amusement and recreation industries	1.945	0.6017	28.6725	1.1889
Hotels and motels, including casino hotels	1.8855	0.554	20.7508	1.1774
Air transportation	1.8279	0.4552	11.2717	0.9241
Construction	2.1975	0.6873	17.356	1.1765
Automotive equipment rental and leasing	1.8819	0.4481	9.8386	1.1084

Table 2: Direct-Effect Multipliers

	Earnings	Employment
Junior colleges, colleges, universities, and professional schools	1.6814	1.5247
Real estate	1.9437	1.3013
Retail trade	1.7348	1.5426
Utilities	1.7238	3.1221
Food services and drinking places	1.9163	1.4674
Personal care services	1.6868	1.7033
Other amusement and recreation industries	1.7747	1.3918
Hotels and motels, including casino hotels	1.8532	1.5478
Air transportation	2.1151	2.5871
Construction	1.921	2.1625
Automotive equipment rental and leasing	2.3442	3.5594

Table 3: Multiplier Definitions

Multiplier	Explanation
Final-demand output	Change in industry output for each additional dollar of final demand.
Final-demand earnings	Change in household earnings for each additional dollar of final demand.
Final-demand employment	Change in number of jobs for each additional $1,000,000 of final demand
Final-demand value-added	Change in value added for each additional dollar of final demand.
Direct-effect earning	Change in household earnings for each additional dollar of household earnings.
Direct-effect employment	Change in jobs for each additional job.

Table 4: University of Oregon Operating Expenses

Category	
Instruction	$239,858,000
Auxiliary Programs	$71,235,000
Research	$37,674,000
Institutional Support	$47,212,000
Other Operating Expenses	$32,295,000
Academic Support	$164,860,000
Public Service	$47,416,000
Operations and Maintenance	$50,635,000
Student Services	$15,902,000
Student Aid	$65,941,000
Subtotal	$773,028,000
(less) Interest Expense	($34,352,000)
(less) Depreciation	($46,969,000)
Total	$691,707,000

Table 5: University of Oregon Spending Economic Footprint, Final Demand Approach

	Direct Expenditures	Output	Earnings	Value-Added	Jobs
UO Spending	$691,707,000	$1,481,083,028	$507,228,743	$856,125,754	18,838

Table 6: University of Oregon Spending Economic Impact, Final Demand Approach

	Direct Expenditures	Output	Earnings	Value-Added	Jobs
UO Spending	$312,563,465.66	$669,260,893	$229,202,789	$386,859,801	8,512

Calculating the total amount of economic activity – the "economic footprint" – associated with the University then becomes a straightforward application of the multipliers presented in the previous section. Tables 5 contains the results. The $692 million of University of Oregon spending leaves an economic footprint on the Oregon economy of $1.5 billion, creates $856 million in value added, and supports $507 million of household earnings, and 18,838 full- and part-time jobs.

Recall that economic footprint differs from the economic impact. The impact is a result of new money brought into the state by the activities of the University of Oregon. To calculate the impact, I prorate the estimates in Table 5 by the percentage of nonresident students as a proxy for the demand from households outside of the study area.[5] In the fall of 2012, 24,591 students were enrolled at the University of Oregon, of which 11,112 (45.1%) were nonresident students. It is this outside demand that creates economic impact as the outside money propagates throughout the Oregon economy. Table 6 prorates the estimates of economic footprint in Table 5 to obtain an estimate of the economic impact of the University of Oregon. The new activity in the state of Oregon attributable to the University of Oregon, direct spending amounts to $669 million of output and $387 million of value-added, supporting household incomes of $229 million and 8,512 jobs. This represents additional economic activity in Oregon directly attributable to the University of Oregon.

4.2 Analysis Using Payroll

The direct effect approach utilizes data on payroll and the number of employees to generate an alternative estimate of the aggregate household income supported by the University of Oregon. In principle, the direct effect analysis should produce results that are qualitatively and quantitatively similar to those obtained using the final demand analysis. Consequently, the direct effect approach is arguably redundant and unnecessary. As a result, it would not be typical to conduct the analysis. The direct effect approach, however, can be useful in confirming the results of the final demand analysis, or providing a basis for clarifying the results.[6] Considering that the appropriate data is available, I employ the direct effect analysis to enhance the final demand results.

The direct effect approach requires an estimate of employee compensation that are generally

[5] Alternatively, the researcher could prorate by the percentage of revenue from out-of-state sources. Prorating by the percentage of out-of-state residents might underestimate the impact of grants, for example, because a large proportion of grants are from federal sources. The complication of prorating by revenue source, however, is the possible lack of data on the origin of revenue for auxiliary enterprise such as dorms.

[6] The direct effect approach, however, might be the only avenue available if the researcher is limited to payroll and employee data. This may be the case, for instance, in evaluating the impact of a new auxiliary unit for which estimates of revenue and expenditures are not yet available.

available for spending within the local economy. In practice, this means gross pay plus contributions for health insurance less employee payments for social insurance.[7] Table 7 contains employee compensation estimate for the 2012-13 fiscal year. In addition, Table 8 contains the number of employees in the fall of that same period.

Table 7: University of Oregon Employee Compensation

Payroll	$323,077,182
Health Benefits	$60,928,695
(less) Medicare	($4,203,940)
(less) Social Security	($13,955,240)
Total	$365,846,697

The direct effect estimates are presented in Table 9. As with the final demand analysis, to calculate the economic impact rather than the wider footprint, the results in Table 9 need to be prorated by demand from out-of-state households, proxies by the percentage of nonresident students. Results are presented in Table 10.

4.3 Final Estimates

Notice that the estimated impact on household earnings is greater in the direct-effect approach than the final demand approach, while the estimated employment impact is lower. This indicates the relationship between output, jobs, and earnings for the University of Oregon differs from the national averages used to calculate the RIMS II multipliers. Which approach, then, yields the more accurate analysis? My approach to this question is to report the household earnings and jobs estimates as the average of the two methodologies while also providing the high and low results as a range of potential outcomes. Results are presented in Table 11. The University of Oregon leaves a wide economic impact on the state, affecting $1.48 billion of activity, $561 million of household earnings (range of $507-$615 million), and supporting 17,423 jobs (range of 16,008-18,838). This is the number comparable to most economic "impact" studies. The proper economic impact of UO spending, however, is estimated to be $669 million of output, $387 million of value-added, $254 million of household earnings (range of $229-$278 million), and 7,873 jobs (range of 7,233-8,512). In the calculation of the total economic impact, I suppress the ranges in favor of the averages for clarity of presentation.

5 Impact of Off-Campus Student Spending

Student spending is an important source of economic activity for the local community. A broad range of firms – from eating places to clothes retailers to hair stylists – have all grown on the back of student spending in college towns. Moreover, in theory, information on students' spending habits should be accessible for most researchers. But care must be taken to avoid double counting of student spending. In particular, it is important to identify only spending for off-campus expenditures.

[7] See U.S. Department of Commerce, Bureau of Economic Analysis, *Regional Multipliers: A User Handbook for the Regional Input-Output Modeling System (RIMSII)*, Third Edition, March 1997.

Table 8: University of Oregon Employees

Employee Type	Head Count	FTE
Administrators	38	36
Faculty		
Tenured/Tenure-Track Faculty	715	695
Full Professor	253	242
Associate Professor	264	256
Assistant Professor	191	190
Senior Instructor	7	6
NTTF Regular Faculty	701	595
Adjunct/Visiting	523	290
Retired	87	47
Total Faculty	2,026	1,627
Classified Employees		
Secretary/Clerical	598	550
Tech/Para Professional	324	283
Skilled Craft	111	110
Service/Maintenance	421	385
Other Professionals	156	145
Retired	15	10
Total Classified	1,625	1,483
Officers of Administration		
Secretary/Clerical	74	73
Tech/Para Professional	5	5
Skilled Craft	48	48
Service/Maintenance	11	11
Other Professionals	1,065	1,020
Retired	43	22
Total Officers of Administration	1,246	1,178
Librarians	51	50
Total Regular Employees	4,986	4,375
Graduate Teaching Fellows	1,470	635
Students	3,607	1,783
Temporary Employees	436	216
Total Employees	10,499	7,010

Table 9: University of Oregon Spending Economic Footprint, Direct Effect Approach

	Direct Earnings	Direct Jobs	Earnings	Jobs
UO Payroll	$365,846,697		$615,134,637	
UO Employment		10,499		16,008

Table 10: University of Oregon Spending Economic Impact, Direct Effect Approach

	Direct Earnings	Direct Jobs	Earnings	Jobs
UO Payroll	$165,316,112		$277,962,510	
UO Employment		4,744		7,233

Table 11: University of Oregon Economic Footprint and Impact, Final Estimates

	Direct Expenditures	Output	Earnings	Value-Added	Jobs
UO Footprint	$691,707,000	$1,481,083,028	$561,181,690 ($507m-$615m)	$856,125,754	17,423 (16,008-18,838)

	Direct Expenditures	Output	Earnings	Value-Added	Jobs
UO Impact	$312,563,466	$669,260,893	$253,582,650 ($229m-$278m)	$386,859,801	7,873 (7,233-8,512)

Spending for on-campus expenditures, such as dorms and meal plans, are already incorporated in the overall institution spending. Thus, when identifying student expenditures, it is important to restrict the analysis to off-campus spending.

Estimates of student spending are generally obtained using two methods. The first is to conduct a survey of students, utilizing proper survey methodology. Generally, the expense of this exercise is prohibitive, and consequently, researchers often default to spending estimates obtained from the campus financial aid office. How accurate are such estimates? It is easy to expect such estimates to tend toward the conservative side of student spending as they likely represent something close to a minimum cost of living associated with being a university student. Students from more affluent backgrounds, however, would be expected to spend considerably more freely. For example, estimates of student spending certainly do not include the new cars often purchased by some international students. On one hand, using conservative estimates has the benefit of being defensible. On the other hand, the conservative estimates will obviously yield a smaller economic impact, which could be problematic if defending an institution's contribution relative to another's. My preference, however, is to err on the side of defensibility.

Table 12 shows suggested estimated budgets for off-campus students from the University of Oregon, Oregon State University, and Portland State University for the nine-month 2013-14 school year. Portland State includes a transportation line-item as it serves larger population spread over a greater area and includes a higher population of nontraditional students. Estimated student budgets for University of Oregon, however, are still substantially less than other institutions even after adjusting for the transportation item. Moreover, the estimates of both Oregon State University and Portland State University may also be conservative. According to the College Board, the low nine-month budget for a Portland area student for 2013-14 is $12,158 while the moderate is $18,138. The estimate from Portland State falls roughly between these two budgets. And what would be a high budget in any of these areas? Presumably, more affluent students are spending well in excess of each school's estimated budget. With these considerations in mind, it is reasonable to believe that the University of Oregon student spending estimates are conservative.

Table 12: Off-Campus Student Budgets, 2013-14

	University of Oregon	Oregon State University	Portland State University
Room and board	$9,501	$10,578	$11,349
Books and supplies	$1,050	$1,965	$2,028
Miscellaneous personal	$2,430	$2,577	$2,130
Transportation			$936
Total	$12,981	$15,120	$16,443

Table 13 contains information on the student population at the University of Oregon. While the 2013-14 school year was used above for comparison with other institutions, I revert to the 2012-13 numbers to remain consistent with the time period covered by this report. The University of Oregon also breaks down estimated spending for room and board into rent, utilities, and food components, which is helpful for computing impacts. When preparing estimates of students spending, I exclude room and board expenses for students living on campus as these are already captured in the overall university spending numbers. Likewise, I also exclude the same expense for students who report

living at home.

Table 13: University of Oregon Student Spending, 2012-13

Student Categories		
Total headcount		24,591
Students living in dorms		4,015
Students in family housing & UO apartments		419
Students living at home		374
Students living off campus		19,783
	(per student)	(total)
On Campus Student Spending		
Books & supplies	$1,050	$4,655,700
Miscellaneous	$2,430	$10,774,620
		$15,430,320
Off Campus Student Spending		
Housing	$4,815	$95,255,145.00
Food	$3,420	$67,657,860.00
Utilities	$1,260	$24,926,580.00
Books & supplies	$1,050	$20,772,150.00
Miscellaneous	$2,430	$48,072,690.00
		$256,684,425
At-Home Student Spending		
Books & supplies	$1,050	$392,700
Miscellaneous	$2,430	$908,820
		$1,301,520
Total Student Spending		$273,416,265

Caution is warranted at this point. This methodology captures spending that would likely have occurred in the state even in the absence of the University of Oregon. Such spending would not represent "economic impact" as it does not represent new spending in the community. It still represents, however, spending associated with the University, and as a consequence is part of the University's economic footprint in the state. It only represents economic impact under the assumption that resident students would choose to be educated out-of-state in the absence of the University of Oregon. While certainly true for some students, this is a difficult assumption to justify applying to the entire population of resident students as they obviously have other in-state education opportunities. In a later section I adjust the spending numbers to estimate the economic impact attributable to nonresident students. Such spending does represent new economic activity in the state.

Before applying multipliers to the spending estimates, two complications need to be addressed.

First, we need to make a margin adjustment to certain spending categories. For retail sales, including books and supplies, a portion of the spending passes through the seller to the producer. What is left to support local activity is the seller's margin. To obtain estimates of the margin, I use the 2002 benchmark distribution costs data that are used in the construction of the RIMS II multipliers. Table 14 provides the margin estimates for the food and books and supplies categories, while Table 15 provides the margin estimates for general retail sales (following the example of U.S. Department of Commerce, Bureau of Economic Analysis, *RIMS II: An Essential Tool for Regional Developers and Planners*, 2012). The estimates of spending available to the community is then the product of the margin and the student spending estimates.

Table 14: U.S. Retail Margins for Apparel, Leather, and Allied Products

	(Millions of Dollars)		
Commodity	Retail Margin	Purchaser Value	Retail Share
Women's and girls' clothing	94,606	159,820	0.59
Men's and boys' clothing	40,612	95,382	0.43
Children's and infants' clothing	3,193	6,836	0.47
Other clothing materials	0	326	0.00
Footwear	21,999	59,172	0.37
Furniture, furnishings, and floor coverings	16	89	0.18
Household textiles	80	236	0.34
Other sporting and recreational goods	58	233	0.25
Pets, pet products, and related services	265	791	0.34
Photographic goods and services	3	10	0.30
Personal care	12	37	0.32
Personal items	11,138	22,921	0.49
Total	171,982	345,853	0.50

Table 15: U.S. Retail Margins for Food, Manufacturing and Publishing

	(Millions of Dollars)		
Commodity Title	Retail Margin	Purchaser Value	Retail Share
Food, beverage, and tobacco product manufacturing	$155,819	$571,999	0.27
Publishing industries, except Internet	$3,601	$13,187	0.27

The second complication is the breakdown of miscellaneous spending. Some of this spending is expected to be on what is broadly defined as retail sales, and thus needs to be margin adjusted as well. I assume that miscellaneous spending is split equally across four categories: Retail, eating out, personal care, and recreation. A survey, however, might suggest a different pattern of spending that could impact the final results.

Table 16 summarizes the components of student spending and the estimate margins for selected categories of spending. As noted earlier, the final direct spending is the product of the estimated

spending and the margin, if appropriate. One we have estimates of direct spending, we need to apply the appropriate multipliers. The RIMS II multipliers for each component are listed in Table 17. Combining the estimates of direct spending with the appropriate multipliers yields estimates of the economic footprint related to University of Oregon student spending in Table 18. Estimated direct spending of $195 million yields output of $291 million, household earnings of $71 million, value-added of $196 million, and 3,351 jobs. These numbers are methodologically consistent with those traditionally reported in economic impact studies of institutions of higher education and can serve as a basis of comparison between reports.

Recall, however, that the estimates in Table 18 do not represent economic impact, but only economic footprint, or activity related to spending on the part of University of Oregon students. Presumably, some of the students are Oregon residents, and thus their spending would exist in the state regardless of their attendance at the University of Oregon. Perhaps the student may have chosen instead to attend Oregon State University rather than the University of Oregon, for example. In order to claim that the total economic footprint related to student spending represents economic impact as properly considered, one would need to assume that in the absence of the University of Oregon, resident students would choose out-of-state institutions to complete their educations. In other words, one would need to assume that the University of Oregon is capturing economic activity that would otherwise be lost to the state.

The assumption that resident students would leave the state in the absence of the University of Oregon would be something of a heroic assumption. There are five other institutions of higher education in Oregon that offer four-year degrees; presumably, they would expand capacity in the absence of the University of Oregon. Instead, the more conservative approach is to assume that only the spending of non-resident students represents new spending in the state associated with the University of Oregon, which would be the basis for proper economic impact. As noted earlier, non-residents comprise 45.1% of University of Oregon students and thus the economic footprint of student spending should be prorated by 0.451 to obtain estimates of the economic impact of student spending. Results are reported in Table 19.

Table 16: Student Spending Multipliers

	Output	Earnings	Value-Added	Jobs
Rent (Housing)	1.47	0.26	1.08	17.77
Food	1.88	0.58	1.19	21.26
Utilities	1.49	0.33	0.89	5.99
Books and supplies	1.88	0.58	1.19	21.26
Retail	1.88	0.58	1.19	21.26
Eating out	2.07	0.60	1.20	19.09
Personal care	1.90	0.62	1.19	28.67
Recreation	1.95	0.60	1.18	20.75

6 Impact of Tourism Spending

Tourism spending is generally considered to be an important impact derived from a University presence in a community. College-hunting visits, parents's weekend, athletics, and a myriad of

Table 17: Student Spending Estimates

	Estimated Spending	Margin Adjustment	Direct Expenditures
Rent (Housing)	$95,255,145		$95,255,145
Food	$67,657,860	0.27	$18,430,767
Utilities	$24,926,580		$24,926,580
Books and supplies	$25,820,550	0.27	$7,050,868
Retail	$14,939,033	0.50	$7,428,719
Eating out	$14,939,033		$14,939,033
Personal care	$14,939,033		$14,939,033
Recreation	$14,939,033		$14,939,033
Total	$273,416,265		$197,909,176

Table 18: Student Spending Economic Footprint

	Direct Expenditures	Output	Earnings	Value-Added	Jobs
Rent	$95,255,145	$140,120,318	$24,994,950	$102,789,827	1,692
Food	$18,430,767	$34,690,389	$10,671,414	$21,903,123	392
Utilities	$24,926,580	$37,165,531	$8,255,683	$22,127,325	149
Books and supplies	$7,050,868	$13,271,144	$4,082,453	$8,379,252	142
Miscellaneous	$52,245,816	$102,325,797	$31,424,536	$61,494,355	1,262
Total	$197,909,176	$327,573,180	$79,429,036	$216,693,882	3,637

Table 19: Student Spending Economic Impact

	Direct Expenditures	Output	Earnings	Value-Added	Jobs
Rent	$43,043,193	$63,316,538	$11,294,534	$46,447,910	765
Food	$8,328,359	$15,675,638	$4,822,120	$9,897,422	177
Utilities	$11,263,639	$16,794,086	$3,730,517	$9,998,733	68
Books and supplies	$3,186,094	$5,996,867	$1,844,749	$3,786,355	64
Miscellaneous	$23,608,455	$46,238,228	$14,199,888	$27,787,616	570
Total	$89,429,741	$148,021,356	$35,891,808	$97,918,036	1,643

other events all help support the local economy. Quantifying this impact, however, can be a challenge. One challenge is measuring the number of tourists that are drawn by the University. Does the researcher have good data on the number of tourists? Should the researcher include events that are not University sponsored by are nonetheless made possible by the existence of the University? A second challenge is measuring the spending habits of tourists. Does the researcher have an adequate survey of tourists or some other credible source of spending data on which to base their estimates? This section considers these issues for the University of Oregon.

A preliminary issue of importance is to recognize that researchers should avoid attempting to measure the tourism impact associated with any single event, such a the benefit of one football game. The multiplier approach assumes a supply response in the community to new demand, but it is likely that only a partial response occurs in the wake of a single event. This is particularly true with respect to employment. For example, while a restaurant may order additional food supplies from local suppliers in preparation for a game day weekend, they are not as likely to create a new job for that event. They would instead simply temporarily increase the hours of existing employees. Hence the total labor supplied might increase, but the number of jobs might be unchanged. This again highlights the uncertainty of jobs estimates.

It is reasonable to assume, however, that the sum total of visits generated by an institution over the course of a year, and with the expectation of repeated activity across years, will support a portion of the local economy. A firm might not expand capacity for a single football game, but it will expand capacity for a combination of seven games, plus graduation weekend, plus parents' weekend, plus homecoming weekend, etc. Thus the researcher can reasonably consider the impact of the aggregate amount of tourism activity supported by the university

Data to identify university-related tourism visits is likely incomplete. Potential sources might include ticket data for athletic and other events. Often ticket sales are tied to zipcode that can be used to identify the purchaser as in-state or out-of-state. Similarly, the admissions office might have information on campus visitors. But information on tourism generated by the constant ebb and flow associated with university activities that do not require tickets or registration will likely be spotty. So too will be visits by parents and friends. The researcher will often be required to offer estimates based on rough assumptions. It should go without saying the those assumptions should be defensible and lean well toward the credible. Credibility would be enhanced by focusing exclusively on out-of-area tourists; the lines between tourism and existing economic activity may be very blurred within the area.[8]

For the University of Oregon, I draw on two sources of data. First is ticket sales for men's football and basketball games. In another study of the economic impact of the University of Oregon Athletic Department, I used zipcodes associated with ticket sales to identify out-of-state attendees to games. Note, however, that this assumes that the purchaser actually traveled to the game. Perhaps instead they fell ill and were unable to attend, or gave the tickets to an in-state resident who generates no additional economic activity. Again, this highlights the importance of making conservative assumptions. I estimate that Oregon Football and Men's Basketball attracts 62,430 out-of-state visitors annually, with each visit spanning two days. The second data source is information for out-of-state attendees of campus visits, both prospective students and parents, supplied by Enrollment Services. Enrollment Services can identify 17,402 out-of-state visitors, each of which I again assume a two-day trip. Finally, to estimate parent visits for students, I assume that each of the 11,112 nonresident students is associated with one visit each year by two parents

[8]If I narrowed the focus to Lane County, it would be appropriate to include Oregon tourists from outside of Lane County.

for two days. The total visitor days generated by the University of Oregon sums to 203,392. While this might seem like a large number, it is on average only 560 persons per day.

These are almost certainly conservative estimates of tourism supported by the university. They do not include, for instance, the track events hosted by the community but made possible by university athletic facilities. They do not include other events such as the Oregon Bach Festival. They do not include conferences that may be hosted by university faculty. In short, a complete list of university-associated tourist visits is simply often not available, leaving behind conservative estimates based on what is available.[9]

Spending estimates may be available from survey data. In the earlier mentioned Athletic Department study, Professor Dennis Howard and I conducted a survey for spending by Oregon Football season ticket holders. The survey indicated the average spending of out-of-state ticket holders was $158.6 per day, with an average visit of two days. The breakdown of spending is reported in Table 20, including a margin adjustment where appropriate (see student spending section above for more details). Is this an accurate estimate? In comparison, the consulting firm Dean Ruynan and Associates estimates the average overnight visitor to the Willamette Valley staying at a hotel spending $124 per day. See Table 21.[10] The difference is largely attributable to air travel. Note that the Dean Ruynan estimates do not differentiate between in-state and out-of-state tourists, while the study of Oregon Football season ticket holders isolates out-of-state visitors, accounting for the difference in spending. Since this study concerns exclusively out-of-state visitors, it is reasonable to use the higher estimates. For illustration purposes, however, I construct separate impact analyses for each spending estimate.

Table 20: Tourist Spending: Oregon Football Season Ticket Holder Survey

	Estimated Spending	Margin	Direct Spending
Accommodations	$31.46		$31.46
Retail sales	$23.81	0.50	$11.84
Food service	$32.59		$32.59
Local transportation & gas	$19.31	0.50	$9.60
Rental car	$5.66		$5.66
Visitor air transportation	$37.20		$37.20
Other	$8.60	0.50	$4.28
Total	$158.63		$132.63

Tables 22 and 23 present the economic impact of University of Oregon driven tourism spending using the season ticket holder and Dean Runyan approaches, respectively. Notice that using either approach the impact is relatively small compared to other sources of spending associated with the University of Oregon. This is partly the result of using conservative estimates, but also indicates

[9]For example, in my study of the University of Oregon Athletic Department, I included estimates of the impact of the 2011 Olympic Trials held in Eugene and the annual Prefontaine classic. The irregular nature of the Olympic trials, however, implies that the impact numbers would exhibit a temporary increase, followed by a decrease the following year. This may lead to a perceived inconsistency between reports. I alleviate the perception of inconsistency in this and future analyses by focusing solely on regular tourism related activities of nonresidents

[10]The estimated spending per person is split into categories based on Dean Runyan's estimates of aggregate spending in each category.

Table 21: Tourist Spending: Dean Runyan Associates

	Estimated Spending	Margin	Direct Spending
Food service	$33.36		$33.36
Accommodations	$20.09		$20.09
Retail sales	$18.23	0.50	$9.06
Local transportation & gas	$16.99	0.17	$2.83
Arts, ent. & rec.	$15.38		$15.38
Food stores	$11.66	0.27	$3.18
Visitor air transportation	$8.31		$8.31
Total	$124.00		$92.20

that the tourism impacts are secondary to the impacts of demand for the University of Oregon's primary activities as a research institution. In computing the total impact below, I use the somewhat larger estimates based on the spending figures derived from the season ticket holder survey (Table 22).[11]

Table 22: Tourist Spending: Oregon Football Season Ticket Holder Survey

	Direct Expenditures	Output	Earnings	Value-Added	Jobs
Accommodations	$6,398,712	$12,064,772	$3,544,887	$7,533,844	133
Retail sales	$2,408,157	$4,532,632	$1,394,323	$2,861,853	51
Food service	$6,628,545	$13,689,272	$3,961,882	$7,522,073	173
Local tran. & gas	$1,953,024	$3,675,982	$1,130,801	$2,320,974	42
Rental car	$1,151,199	$2,166,441	$515,852	$1,275,989	11
Visitor air tran.	$7,566,182	$13,830,225	$3,444,126	$6,991,909	85
Other	$869,809	$1,637,154	$503,619	$1,033,681	18
Total	$26,975,628	$51,596,478	$14,495,489	$29,540,323	514

7 Impact of Construction Spending

Construction is a recurring event on many campuses due to the revocation, replacement, and expansion of facilities including, for example, classrooms, dorms, offices, research space, and student recreation and athletics facilities. Here the researcher should use reasonable judgment in including the impacts, especially if they seem improbably large. Note that large construction projects may require resources not generally available in a community and thus such projects involve a high proportion of outside contractors. This may involve more leakage outside the local area than

[11]The implicit assumption is that some tourism-related firms would suffer loss of revenue or close entirely in the absence of the tourism generated by the University of Oregon.

Table 23: Tourist Spending Impacts: Dean Runyan Associates

	Direct Expenditures	Output	Earnings	Value-Added	Jobs
Food service	$6,784,344	$14,011,026	$4,055,002	$7,698,873	177
Accommodations	$4,085,738	$7,703,660	$2,263,499	$4,810,549	85
Retail sales	$1,843,590	$3,470,005	$1,067,439	$2,190,922	39
Local tran. & gas	$575,602	$1,083,397	$333,273	$684,045	12
Arts, Ent. & Rec.	$3,127,355	$6,082,706	$1,881,730	$3,718,113	9
Food stores	$645,816	$1,215,554	$373,927	$767,487	14
Visitor air tran.	$1,689,781	$3,088,750	$769,188	$1,561,526	19
Total	$18,752,225	$36,655,099	$10,744,058	$21,431,515	355

implied by the multipliers. This may especially be the case with regards to the metro area effects as compared to the statewide impacts.

The preceding discussion should not be interpreted as an argument against the inclusion of construction impacts, but instead as a reminder to exercise good judgment in when assessing those impacts. Campus construction projects can have important impacts on the local economy. For example, the construction of the Matt Knight Arena and additional dorm space at the University of Oregon in recent years serendipitously occurred during the 2007-09 recession and its aftermath, likely helping to mitigate some of the local impact of that recession. Including the impacts of this construction seems appropriate.

The pace of construction slowed in 2012-13 compared to the previous year, from $118.6 million to $44.9 million. Applying the construction multipliers from section 2 yields the economic impact estimates in Table 24.[12] Considering that much of this activity is supported by donations and bond financing, I treat this as new spending that would not have occurred in the absence of the University of Oregon. Consequently, Table 24 serves as an estimate of both the impact and the footprint.[13]

Table 24: University of Oregon Economic Construction Footprint and Impact 2012-13

	Direct Expenditures	Output	Earnings	Value-added	Jobs
Construction	$44,854,812	$98,568,448	$30,828,712	$52,771,686	779

8 Total Impact

Computing the total impact of the University of Oregon becomes a straightforward summing of the individual components. Table 25 lists the components of the University of Oregon's economic

[12] "Jobs" are more accurately considered "job-years," an estimate of the number of full- and part-time jobs necessary to complete construction in one year.

[13] Note that the depreciation of capital is subsequently removed from estimates of University of Oregon output. What construction giveth, depreciation taketh away.

footprint – the aggregate activity affected by spending related to the University. The University of Oregon accounts for nearly $1 billion of direct spending, which in turn supports $2 billion of output, including $1.2 billion of value-added, $686 billion of household earnings, and 22,352 jobs. What I define as the economic "footprint" of $2 billion is what most studies erroneously define as the economic "impact." Hence, for comparison purposes other reports, administrators should consider the $2 billion figure as relevant if alternative studies do not explicit identify economic activity from out-of-state demand.[14]

The more narrowly – and appropriately – defined economic "impact" is detailed in Table 26. The University of Oregon generates $474 million dollars of spending in the state of Oregon that is additional spending that would not occur in the state in the absence of the University of Oregon. That spending propagates throughout the economy to support $967 billion of output, create $567 billion of value-added, support household earnings of $335 million and an associated 10,809 jobs. This figure represents the proper economic impact of the University, but as noted above is generally not comparable with other economic impact studies because those studies erroneously call "economic impact" what is defined in this report as "economic footprint."

Table 25: University of Oregon Economic Footprint 2012-13

	Direct Expenditures	Output	Earnings	Value-Added	Jobs
UO Spending	$691,707,000	$1,481,083,028	$561,181,690	$856,125,754	17,423
Student spending	$197,909,176	$327,573,180	$79,429,036	$216,693,882	3,637
Visitor spending	$26,975,628	$51,596,478	$14,495,489	$29,540,323	514
Construction spending	$44,854,812	$98,568,448	$30,828,712	$52,771,686	779
Total	$961,446,616	$1,958,821,134	$685,934,927	$1,155,131,644	22,352

Table 26: University of Oregon Economic Impact 2012-13

	Direct Expenditures	Output	Earnings	Value-Added	Jobs
UO spending	$312,563,466	$669,260,893	$253,582,650	$386,859,801	7,873
Student spending	$89,429,741	$148,021,356	$35,891,808	$97,918,036	1,643
Visitor spending	$26,975,628	$51,596,478	$14,495,489	$29,540,323	514
Construction spending	$44,854,812	$98,568,448	$30,828,712	$52,771,686	779
Total	$473,823,646	$967,447,175	$334,798,659	$567,089,845	10,809

[14]These numbers are not directly comparable to previous studies of the University of Oregon's economic impact. The numbers are lower due to methodological changes (treatment of depreciation, net interest, margins, and tourism) and lower construction spending. And with respect to tourism, even if the methodology was the same, the impact of the Olympic Trials would be eliminated as this is not an annual event.

9 Leverage Ratios, Taxes, & Human Capital

This final section considers some of the extensions of impact studies toward which administrators gravitate: Leverage ratios, taxes, and human capital.

Administrators are often enamored with leverage or investment ratios that purport to show the return on investment in higher education. Figure 1, from a report by the consulting firm Tripp Umbach, is an example. With such examples now commonplace, administrators and legislators might seek them out as evidence of the return on the state's investment. For example, using the University of Oregon's economic footprint of $2 billion and Oregon's distribution to the University of Oregon of $47.3 million, the University of Oregon supports $40 of activity in the state for each $1 of investment. If other state support is included (see Table 27), that figure drops to $32.5 of state economic activity for each $1 of investment.

Table 27: State Support for the University of Oregon, 2012-13

State Contributions	
State resource dedistribution	$47,342,000
State resource debt service	$950,321
Lottery resources redistribution	$1,081,609
Debt payments at system level for UO Debt	$10,520,940
Total State Support	$59,894,870

Administrators, however, should be cautioned against using these figures or, at a minimum, be warned about the implications. As I have noted in previous reports, the most obvious way to force the leverage ratio higher is to lower the State's contribution! In other words, by this metric the State can achieve a better "return" by shifting additional costs on students in the form of higher tuition. In fact, as the State's contribution falls to zero, the leverage ratio will rise toward infinity. Similarly, if the state were to double the contribution with the goal of reducing the tuition costs of in-state students, the leverage ratio would fall, erroneously suggesting that the institution's investment returns decrease if the state bears more of the financial burden of higher education.

Similarly, studies will create estimates of State revenue that flows from the institution's output. Using the economic footprint estimate of household earnings, combined with an estimated personal tax rate of 5.4%, the taxes associated with the University of Oregon's economic footprint equal $37 million, which covers much of the State's direct contribution to the University of Oregon. Studies might also include estimates of the associated property and sales taxes (the latter not applicable in Oregon in any event).

While not technically incorrect, administrators should be cautious with the interpretation of the taxes supported by the institution. Often the implication is that the institution nearly covers its own costs. This is not accurate. *The taxes directly and indirectly supported by the institution are intended to fund the full array of public services, not simply the particular institution.* Hence it is incorrect to suggest that the support for the institution pays for itself. It only pays for a fraction of itself.

Finally, studies may attempt to include measures of the human capital impact. Typically, such estimates suggest the institution has a direct, causal relationship on the number of college graduates in the state. Applying the well-known income differential between high-school and college graduates

then allows for an estimate of the additional earnings directly attributable to the institution. Such studies, however, are suspect. To be accurate, it must be shown that the worker *would not have received* a college degree in the absence of the institution. Obviously, in an era of high mobility, the worker could receive an equivalent degree from another institution either in- or out-of-state. Moreover, it would be necessary to differentiate between individual and institution specific results. In other words, are there characteristics of the individual student that influence their wage that are separate from the direct impact of the institution?

Another difficulty in human capital studies is the alumni who leave the state for employment. Should that count as a net negative for the institution? Would the impact on the state be higher with a high-school graduate than no worker? In addition, it raises interesting policy questions. If the goal is simply more college educated citizens, is it more cost effective to provide a tax break to college-educated migrants than to fund higher education? Another issue is the causal impact. Community colleges, for example, might boast of their local human capital impact. This might be seen as necessary to boost their economic impact numbers as their budgets are typically well below that of a four-year institution and largely dependent on in-state revenue sources. But the community college is often a middle-man in the process. The real causal demand stems from the firms in the community. In short, caution is warranted with respect to human capital studies and they are probably best treated as separate from economic impact studies.

10 Concluding Remarks

This study is an effort to standardize and improve the presentation of University economic impact reports. Primarily, the intent is to draw attention to the distinction between proper economic impact and the broader measures of activity generally characterized as impact. The actual impact – the additional economic activity attributable to an institution – is generally less than the headline numbers of most studies. In the case of the University of Oregon, the headline number comparable to generally accepted methodologies is nearly $2 billion of activity, while the more narrowly defined impact is closer to $1 billion. The larger number, however, is not entirely without meaning. The University of Oregon touches more activity than represented by just its economic impact. But some of that activity can be considered rearranging the deck chairs, moving spending patterns within Oregon but having little if any impact on the overall level of activity. In contrast, the economic impact of $1 billion represents an increase in the overall level of activity associated with the University of Oregon. At this time, it remains important to report the higher numbers to provide administrators with a figure that is roughly comparable to that issued by other institutions. That said, researchers would be doing a service if they encourage administrators to place less emphasis on measures of economic footprint and more on measures of economic impact, perhaps over time shifting the common frame of reference.

11 Addendum I: Economic Impact of Student Spending in Lane County

The University of Oregon grew substantially in recent years, and the subsequent impact on the local economy has been notable. In particular, the increase has triggered a boom in apartment construction near campus as preferences shifted toward higher-end rental units. This presumably reflects the higher family incomes of nonresident students. Parents may find even the higher-end apartments in Eugene to cost considerably less than average rent in the San Francisco area or

Peer University Comparisons

Peer University	State Investment FY 07-08	State Investment FY 08-09	Economic Impact*	Statewide Economic Activity Generated per Dollar of State Investment	Efficiency of Dollars
University of Iowa	**$343.7 M**	**$379.4 M**	**$6.0 B (2009, ACE)**	**$15.81**	**$379.4 M in investment leads to $6.0B in impact**
Indiana University	$489.4 M	$509.6 M	$4.6 B (2008, IMPLAN)	$9.03	$509.6 M in investment leads to $4.6 B in impact
University of Wisconsin-Madison	$461.1 M	$491.9 M	$4.7 B (2002, Input-Output)	$9.55	$491.9 M in investment leads to $4.7 B in impact
University of Minnesota	$711.3 M	$697.4 M	$9.6 B (2003, IMPLAN)	$13.76	$697.4 M in investment leads to $9.6 B in impact
University of North Carolina	$596.3 M	$622.1 M	$10.4 B (2009, REMI)	$16.72	$622.1 M in investment leads to $10.4 B in impact

*Note: The methodologies used to complete the economic impact studies by the peer universities in the table vary by entity. It is also important to note that Tripp Umbach did not perform the analysis for these economic impact studies.

Figure 1: Example of Leverage Ratios

Bejing, for example. Additional retail activity is also evident, and retailers often cite increased numbers of students as a key factor in the decision to open new locations.

How much does student spending contribute to the area economy? To answer that question, two modifications to the above methodology are necessary. First, the multipliers used above are for the entire state of Oregon. They need to be replaced with multipliers specific to Lane County. This multipliers, presented in Table 28, are somewhat smaller than the statewide multipliers as some activity leaks out of Lane County into the rest of the state. Second, to calculate the economic impact, I need to prorate the spending numbers by the percentage of students from outside Lane County. This means the impact on Lane County will be larger than the impact on the state as some of the local impact simply represents a shifting of activity away from other parts of the state. In the 2012-13 fiscal year, 84% of University of Oregon students were from outside of Lane County.

Table 28: Lane County Student Spending Multipliers

	Output	Earnings	Value-Added	Jobs
Rent (Housing)	1.36	0.24	1.02	17.39
Food	1.64	0.53	1.05	20.19
Utilities	1.42	0.34	0.85	5.97
Books and supplies	1.64	0.53	1.05	20.19
Retail	1.64	0.53	1.05	20.19
Eating out	1.72	0.53	1.09	17.89
Personal care	1.70	0.57	1.05	27.17
Recreation	1.69	0.54	1.05	19.50

Applying the new multipliers and prorating by 84% yields the economic impact estimates presented in Table 29. Recall that the direct expenditures numbers are also adjusted to take account for the margins on retail goods the actual spending by students from outside of Lane County was $229 million. This spending creates an additional $245 million of economic activity, $59 million in household earnings, and nearly 3,000 jobs in Lane County than would not exist in the absence of the out-of-area student population.

Table 29: Lane County Student Spending Economic Impact

	Direct Expenditures	Output	Earnings	Value-Added	Jobs
Rent	$79,660,122	$108,624,542	$18,951,143	$81,213,494	1,385
Food	$15,413,310	$25,253,168	$8,135,145	$16,250,253	311
Utilities	$20,845,639	$29,648,753	$7,189,661	$17,700,032	125
Books and Supplies	$5,896,511	$9,660,844	$3,112,179	$6,216,692	119
Miscellaneous	$43,692,213	$72,300,566	$21,826,939	$44,982,724	978
Total	$165,507,796	$245,487,872	$59,215,067	$166,363,195	2,918

Moreover, we can use these techniques to determine the impact of the student spending associated with the recent growth at the University of Oregon (see Figure 2). Between 2007 and 2012, the University of Oregon grew by 4,215 students. During that same period, the number of Lane County students dropped by 245, so the net increase in out-of-area students was 4,460. I assume that 80% of the additional students reside off-campus, while the remaining 20% reside in dorms.[15] The economic impact of these additional students is presented in Table 30. The growth added $36 million of direct expenditures ($49 million before margin adjustments), which created a total of $53 million of additional activity, $13 million of household earnings, and 631 jobs in the community.

How accurate are these estimates? As noted earlier, the estimates of students spending derived from the University of Oregon Office of Financial Aid and Scholarships are likely conservative as they reflect an expected minimum level of spending. Actual spending may be – and is likely –

[15]This represents the dorm/off-campus split of the entire student body.

Table 30: Lane County Economic Student Spending Economic Impact - Impact of Growth

	Direct Expenditures	Output	Earnings	Value-Added	Jobs
Rent	$17,179,920	$23,426,539	$4,087,103	$17,514,928	299
Food	$3,324,115	$5,446,231	$1,754,468	$3,504,615	67
Utilities	$4,495,680	$6,394,206	$1,550,560	$3,817,282	27
Books and Supplies	$1,278,796	$2,095,179	$674,949	$1,348,235	26
Miscellaneous	$9,475,676	$15,680,064	$4,733,681	$9,755,553	212
Total	$35,754,187	$53,042,219	$12,800,761	$35,940,613	631

considerably higher. If so, these estimates represent only a likely lower bound on the impact of spending. Raising the estimates, however, would require a careful survey of spending habits that is not available at this time.

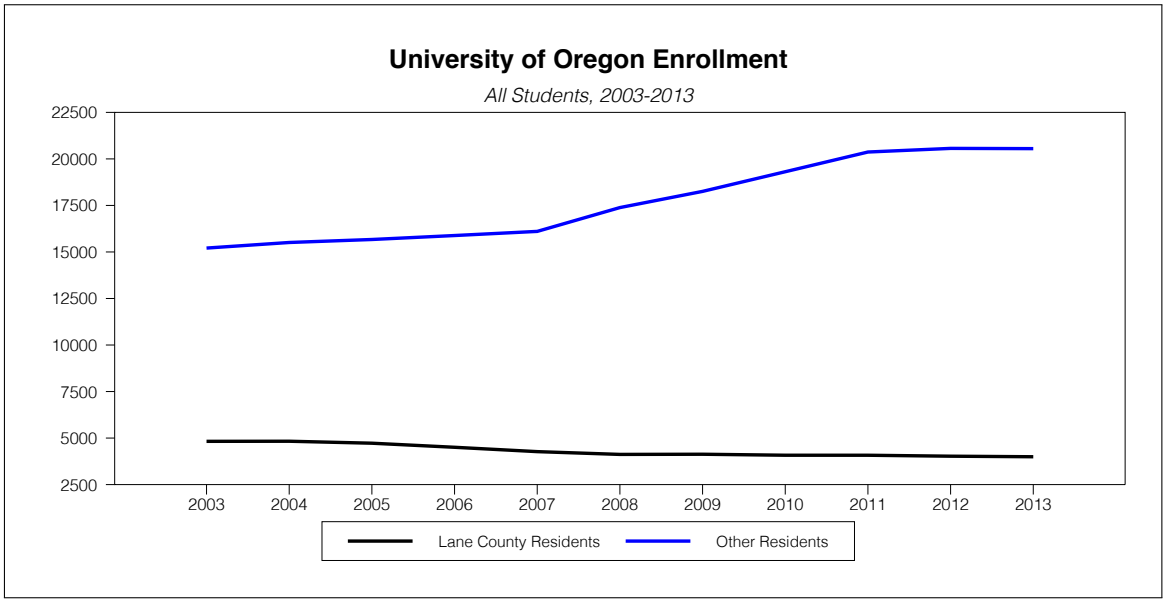

Figure 2: Enrollment Growth at the University of Oregon

12 Addendum II: Economic Impact 2013-14 Update

This section updates key tables from above for the 2013-14 fiscal year. Updated tables follow references below. Highlights of the update follow:

- The University of Oregon remains a significant force in the Oregon economy. The estimated economic impact of the University of Oregon increased 33.8% to $1.3 billion in the 2013-14 fiscal year. The estimated economic footprint increased 16.6% to $2.3 billion.

- Three factors primarily account for the increased economic impact. First, direct spending on the part of the University rose 6.4% to $736 million. Second, the percentage of out-of-state students rose to 47.8% from 45.2%. Recall that the primary economic impact is derived from out-of-state demand for the University's product (higher education). Higher demand from out-of-state sources yields greater economic impact because it represents new activity in the state or Oregon rather than simply a shifting of activity within the state. Finally, construction spending rose sharply to $151.8 million compared to $44.9 million the previous year

- Spending by the University of Oregon and its students and visitors drives an additional $440 million of household earnings and 13,420 jobs in the state (economic impact). Overall, the University of Oregon affects $790.1 million of household earnings and 24,597 jobs in the state (economic footprint). Assuming an average tax rate of 5.4%, the household earnings of $790.1 million was associated with $42.7 million of tax revenue for the state. University of Oregon employees has $21.6 million of state income tax withheld during the fiscal year.

- State support from the University of Oregon was $61.8 million, of which $49.4 million was for general operations, while the remainder was for debt service. The ratio of economic footprint to general operations funding was 46.7.

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[7] U.S. Department of Commerce, Bureau of Economic Analysis, *Regional Multipliers: A User Handbook for the Regional Input-Output Modeling System (RIMS II)*, Third Edition, March 1997.

[8] U.S. Department of Commerce, Bureau of Economic Analysis, *RIMS II: An Essential Tool for Regional Developers and Planners*, 2012. https://www.bea.gov/regional/pdf/rims/rimsii_user_guide.pdf (Retrieved April 22, 2014)

[9] *2010 Check-up on the Portland Region's Economic Health*, Portland Business Alliance

Table 31: University of Oregon Operating Expenses 2013-14

Category	
Instruction	$254,000,000
Auxiliary Programs	$175,000,000
Research	$71,000,000
Institutional Support	$53,000,000
Academic Support	$51,000,000
Public Service	$38,000,000
Student Aid	$16,000,000
Other Operating Expenses	$131,000,000
Subtotal	$789,000,000
(less) Depreciation	($53,000,000)
Total	$736,000,000

Table 32: University of Oregon Employees, Fall 2013

Employee Type	Head Count	FTE
Administrators	35	35
Faculty		
Tenured/Tenure-Track Faculty	719	700
Full Professor	255	248
Associate Professor	258	249
Assistant Professor	199	198
Senior Instructor	7	6
NTTF Regular Faculty	704	596
Adjunct/Visiting	503	283
Retired	105	56
Total Faculty	2,031	1,635
Classified Employees		
Secretary/Clerical	593	552
Tech/Para Professional	328	293
Skilled Craft	113	112
Service/Maintenance	462	425
Other Professionals	154	144
Retired	15	11
Total Classified	1,665	1,536
Officers of Administration		
Secretary/Clerical	71	70
Tech/Para Professional	6	6
Skilled Craft	57	56
Service/Maintenance	8	8
Other Professionals	1,129	1,084
Retired	50	28
Total Officers of Administration	1,321	1,252
Librarians	53	52
Total Regular Employees	5,105	4,510
Graduate Teaching Fellows	1,488	645
Students	3,290	1,627
Temporary Employees	409	201
Total Employees	10,292	6,983

Table 33: University of Oregon Employee Compensation, 2013-14

Payroll	$323,077,182
Benefits (HC)	$60,928,695
(less) Medicare	($4,203,940)
(less) Social Security	($13,955,240)
Total	$365,846,697

Table 34: University of Oregon Economic Footprint and Impact, Final Estimates

	Direct Expenditures	Output	Earnings	Value-Added	Jobs
UO Footprint	$736,000,000	$1,575,923,200	$593,138,382 ($539m-$646m)	$910,947,200	17,868 (15,692-20,044)

	Direct Expenditures	Output	Earnings	Value-Added	Jobs
UO Impact	$352,400,976	$754,560,970	$283,998,023 ($258m-$310m)	$436,166,688	8,555 (7,514-9,597)

Table 35: University of Oregon Student Spending, 2013-14

Student Categories		
Total Headcount		24,548
Students living in dorms		4,082
Students in family housing & UO apartments		414
Students living at home		374
Students living off campus		19,678
	(per student)	(total)
On Campus Student Spending		
Books & Supplies	$1,050	$4,720,800
Miscellaneous	$2,340	$10,520,640
		$15,241,440
Off Campus Student Spending		
Housing	$4,815	$94,749,570.00
Food	$3,420	$67,298,760.00
Utilities	$1,260	$24,794,280.00
Books & Supplies	$1,050	$20,661,900.00
Miscellaneous	$2,340	$46,046,520.00
		$253,551,030
At-Home Student Spending		
Books & Supplies	$1,050	$392,700
Miscellaneous	$2,340	$875,160
		$1,267,860
Total Student Spending		$270,060,330

Table 36: Student Spending Economic Footprint, 2013-14

	Direct Expenditures	Output	Earnings	Value-Added	Jobs
Rent	$94,749,570	$139,376,617	$24,862,287	$102,244,261	1,683
Food	$18,332,944	$34,506,267	$10,614,774	$21,786,870	390
Utilities	$24,794,280	$36,968,271	$8,211,866	$22,009,882	149
Books and Supplies	$7,038,539	$13,247,938	$4,075,314	$8,364,600	142
Miscellaneous	$50,222,812	$98,363,652	$30,207,750	$59,113,239	1,213
Total	$195,138,145	$322,462,746	$77,971,991	$213,518,853	3,576

Table 37: Student Spending Economic Impact

	Direct Expenditures	Output	Earnings	Value-Added	Jobs
Rent	$45,366,632	$66,734,315	$11,904,204	$48,955,132	806
Food	$8,777,917	$16,521,796	$5,082,414	$10,431,677	187
Utilities	$11,871,642	$17,700,618	$3,931,888	$10,538,457	71
Books and Supplies	$3,370,092	$6,343,188	$1,951,284	$4,005,018	68
Miscellaneous	$24,046,967	$47,097,075	$14,463,642	$28,303,754	581
Total	$93,433,251	$154,396,992	$37,333,432	$102,234,038	1,712

Table 38: Tourist Spending Footprint and Impact, 2013-14

	Direct Expenditures	Output	Earnings	Value-Added	Jobs
Accommodations	$6,457,354	$12,175,341	$3,577,374	$7,602,888	134
Retail Sales	$2,430,226	$4,574,172	$1,407,101	$2,888,081	52
Food Service	$6,689,293	$13,814,728	$3,998,190	$7,591,010	175
Local Tran. & Gas	$1,970,923	$3,709,671	$1,141,164	$2,342,244	42
Rental Car	$1,161,749	$2,186,295	$520,580	$1,287,683	11
Visitor Air Tran.	$7,635,523	$13,956,973	$3,475,690	$7,055,987	86
Other	$877,780	$1,652,158	$508,235	$1,043,154	19
Total	$27,222,848	$52,069,337	$14,628,334	$29,811,047	518

Table 39: University of Oregon Economic Construction Footprint and Impact 2013-14

	Direct Expenditures	Output	Earnings	Value-added	Jobs
Construction	$151,776,787	$333,529,489	$104,316,185	$178,565,389	2,634

Table 40: University of Oregon Economic Footprint 2013-14, Millions of Dollars

	Direct Expenditures	Output	Earnings	Value-Added	Jobs
UO Spending	$736.0	$1,575.9	$593.1 ($539.7-$646.6)	$910.9	17,868 (15,692-20,044)
Student Spending	$195.1	$322.5	$78.0	$213.5	3,576
Visitor Spending	$27.2	$52.1	$14.6	$29.8	518
Construction Spending	$151.8	$333.5	$104.3	$178.6	2,634
Total	$1,110.1	$2,284.0	$790.1 ($736.6-$843.5)	$1,332.8	24,597 (22,421-26,773)

Table 41: University of Oregon Economic Impact 2013-14, Millions of Dollars

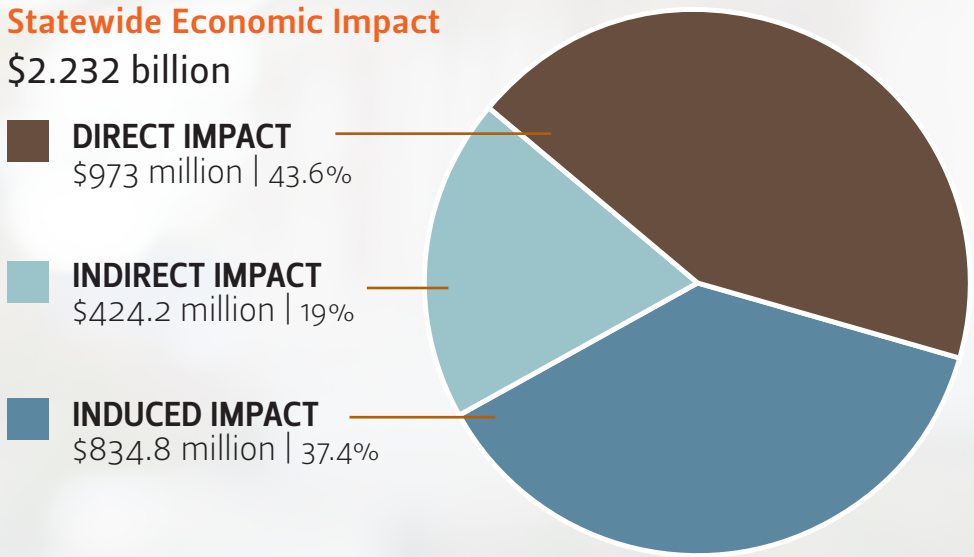
	Direct Expenditures	Output	Earnings	Value-Added	Jobs
UO Spending	$352.4	$754.6	$284.0	$436.2	8,555
			($258.4-$309.6)		(7,514-9,597)
Student Spending	$93.4	$154.4	$37.3	$102.2	1,712
Visitor Spending	$27.2	$52.1	$14.6	$29.8	518
Construction Spending	$151.8	$333.5	$104.3	$178.6	2,634
Total	$624.8	$1,294.6	$440.3	$746.8	13,420
			($414.7-$465.9)		(12,378-14,462)

IMPACT

$2.371 BILLION

Statewide Economic Impact

$2.232 billion



SOURCE: ECONorthwest analysis of 2014 Oregon State University expenditure data, visitor data, student enrollment data and 2013 Oregon Travel Impacts Study/Dean Runyon and Associates.

OSU's global economic impact

As Oregon's statewide and largest university, OSU has a broad economic impact that reaches across Oregon, the nation and the world. And it continues to grow.

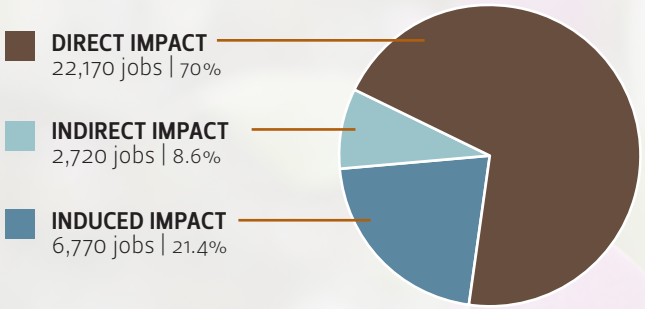
Oregon State education, research and engagement programs contributed $2.371 billion to the global economy in 2014. That includes $2.232 billion added to the Oregon economy and 31,660 jobs created statewide. The university's global economic footprint has grown by $311 million — a 15 percent increase — since 2011.

Direct spending by Oregon State contributed $933 million to the economy in 2014, including $571 million in payroll, $208 million in goods and services and $154 million in capital construction. In addition, more than 500,000 visitors to Corvallis spent $40 million to tour campus, attend athletic, university or cultural events, participate in research meetings or use campus facilities.

Student spending accounted for $318 million, an average of about $10,500 per student in addition to the cost of tuition and on-campus housing.

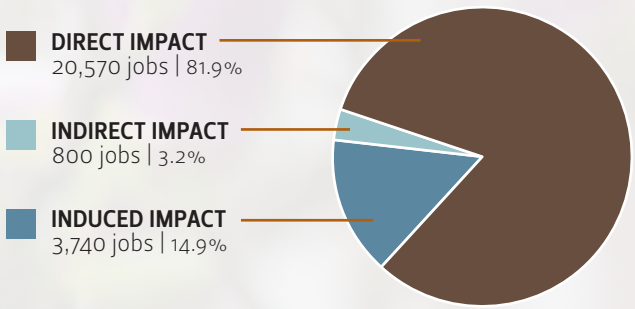
Statewide Job Creation

31,660 jobs



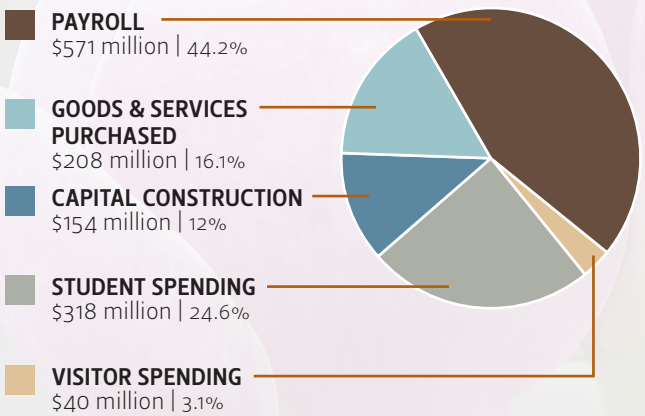
Job Creation in Benton and Linn counties

25,110 jobs



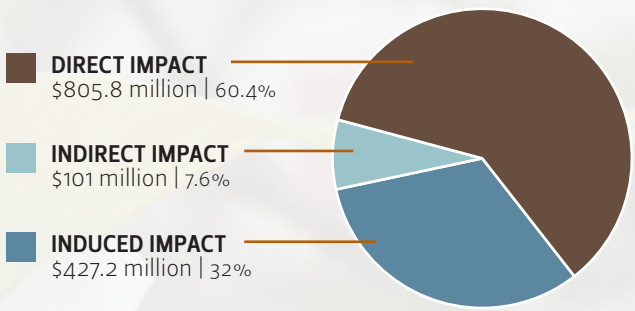
Money OSU Infused into the Oregon Economy in 2014

$1.291 billion



Economic Impact in Benton and Linn counties

$1.334 billion



SOURCE: ECONorthwest analysis of 2014 Oregon State University expenditure data, visitor data, student enrollment data and 2013 Oregon Travel Impacts Study/Dean Runyon and Associates.

IMPACT

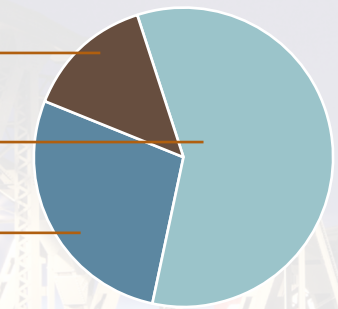
Job Creation in Portland

2,350 jobs

DIRECT IMPACT
330 jobs | 14%

INDIRECT IMPACT
1,370 jobs | 58.3%

INDUCED IMPACT
650 jobs | 27.7%



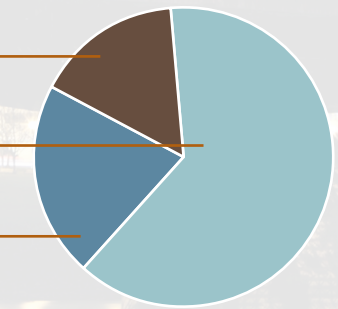
Economic Impact in Portland

$401.9 million

DIRECT IMPACT
$64.4 million | 16%

INDIRECT IMPACT
$253 million | 63%

INDUCED IMPACT
$84.5 million | 21%



SOURCE: ECONorthwest analysis of 2014 Oregon State University expenditure data, visitor data, student enrollment data and 2013 Oregon Travel Impacts Study/Dean Runyon and Associates.

How Oregon State's impact was measured

Economic consulting firm ECONorthwest analyzed data provided by the university and calculated the impact of Oregon State's expenditures, employment, student enrollment and visitors. The university's economic footprint comes from three sources:

- **Direct impacts** result from Oregon State spending on operations, goods and services, capital construction and payroll.
- **Indirect impacts** result from companies purchasing additional supplies or hiring additional employees to support spending by Oregon State.
- **Induced impacts** result from the purchasing power of Oregon State employees.

Oregon State Impact

In Deschutes County

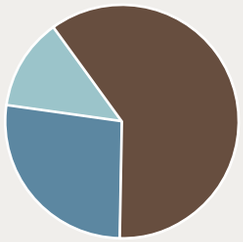
Combined spending

Economic impact of spending associated with Oregon State University in Deschutes County

DIRECT IMPACT
$20.1 million | 60.3%

INDIRECT IMPACT
$4.2 million | 12.6%

INDUCED IMPACT
$9 million | 27.1%



$33.3 million is the total economic impact of spending associated with Oregon State University in Deschutes County. This represents an increase of $5.8 million or 21 percent since 2011. Direct effects are the changes in the local economy that result from actual spending by the university. Indirect effects are the result of local businesses' response to university spending, including purchasing additional supplies and hiring additional employees. Induced effects are the result of local area household purchases of goods and services derived from direct and indirect spending associated with Oregon State University in Deschutes County.

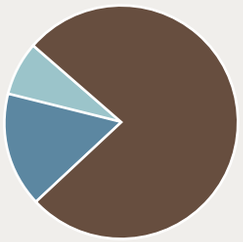
Job creation

Job creation in Deschutes County as a result of Oregon State

DIRECT JOBS
379 jobs | 76.9%

INDIRECT JOBS
36 jobs | 7.3%

INDUCED JOBS
78 jobs | 15.8%



493 jobs have been created as a result of Oregon State spending in Deschutes County. This represents an increase of 150 jobs or 44 percent since 2011. Direct jobs are those that result directly from Oregon State spending. Indirect jobs are the result of local businesses employing workers in response to university spending. Induced jobs are created as a result of household spending derived from Oregon State University's direct and indirect spending impacts.

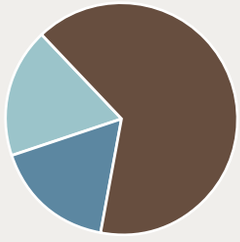
Student spending

Economic impact of spending associated with Oregon State University students in Deschutes County

DIRECT IMPACT
$6.95 million | 65%

INDIRECT IMPACT
$1.9 million | 17.8%

INDUCED IMPACT
$1.85 million | 17.2%



$10.7 million is the total economic impact of spending associated with Oregon State University students in Deschutes County. Direct effects are the changes in the local economy that result from actual spending by students. Indirect effects are the result of local businesses' response to student spending, including purchasing additional supplies and hiring additional employees. Induced effects are the result of local area household purchases of goods and services derived from direct and indirect spending associated with Oregon State students in Deschutes County.

Source: ECONorthwest analysis of 2014 Oregon State University expenditure data, visitor data, student enrollment data and 2013 Oregon Travel Impacts Study/Dean Runyon and Associates.

Oregon State UNIVERSITY

Oregon State Impact

In Deschutes County

What will a 4-year university bring to Central Oregon?

Educational opportunities for our residents.

Sixty percent of our students who go to college choose a four-year university — meaning they must now leave our region to pursue their dreams.

Let's keep more of our talented young people in Central Oregon!

A skilled workforce for a diversifying economy.

Area businesses say it's difficult to recruit the highly skilled workers they need from the major metropolitan areas. If a student spends four years in Central Oregon getting their degree and works as an intern in a local company, they're much more likely to stay after graduation.

Let's grow our own skilled workforce!

An economic engine to stabilize the economy.

A four-year university makes significant expenditures and brings good jobs to the region, even during times when the private sector may struggle.

Let's stabilize our economy and make it more sustainable!

A vibrant and diverse community.

A four-year university will engage community members with lectures, performing arts, sports and other events, and bring fresh ideas and diverse perspectives from around the world.

Let's build a university that is integrated with our community!

Some challenges demand our cooperation.

Expansion to a four-year university will bring new residents and increased demand for housing, transportation and parking. While the university will be a small part of Central Oregon's overall projected population growth, we will work cooperatively with the community to solve these issues.

Let's trust each other and work together to find positive solutions!

How can you help?

Visit **osucascades.edu/4** to learn more about our expansion plans and the work of more than 100 community members addressing transportation, neighborhood livability, housing and other issues.

Help spread the word about what a four-year university will bring to Bend.

And share how we are working with the community to address growth issues.