SOUTHERN OREGON UNIVERSITY

SOURCE RESEARCH CENTER

The Economic Impact of Southern Oregon University

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Executive Summary

Southern Oregon University is responsible for generating $210 million in annual economic activity and 1,789 jobs in the State of Oregon. Much of its economic impact is felt inside the two-county region in which SOU operates, Jackson and Josephine Counties. Here SOU's impact is $195 million in the region's output per year and 1,767 jobs contributed to the regional economy.

In terms of household incomes and business profits, SOU's annual activities generate $115 million in wages, salaries and profits combined per year among Oregon businesses and households. In Jackson and Josephine Counties alone, SOU's operation leads to the generation of $107 million per year in wages, salaries and profits.

These economic impacts of SOU are the result of activities that would not have happened but for the existence and operation of SOU. These activities can be considered the total effective demand that SOU brings to its surrounding economy and triggers further economic activity in the economy. Five main components of this effective demand on the economy are: SOU's payroll, recurring operations spending, construction spending, and the spending by SOU students and visitors to SOU events. In the same order, these amounts in 2014 came to $52.7 million (payroll), $12.8 million (operations), $4.1 million (construction), $30 million (student spending) and $5.6 million (visitor spending).

Altogether in 2014, SOU's total effective demand on the economy was $105.4 million. While some of this expenditure left the State of Oregon, most of SOU's expenditures are directed toward businesses inside Oregon and Jackson and Josephine Counties. Approximately $98.9 million was spent inside the state, and $95.5 million spent inside Jackson and Josephine Counties.

In terms of number of students and budgets, SOU is a fraction of the size of the large Oregon universities such as University of Oregon and Oregon State University. Yet dollar for dollar and job for job, it is on par with these other universities in terms of its impact. Generally speaking, SOU's overall impact on state GDP is 2.13 times its effective demand amount ($98.9 million) and for jobs created in the state it created 2.37 times the number of jobs at SOU (756).

SOU has a relatively high employment multiplier compared to other universities, but a relatively low labor income multiplier. The lower labor income is probably due to the large impact SOU has on local service industries, such as restaurants and retail stores, which are typically low paying jobs.

The top economic sectors impacted by SOU are all service sectors – restaurants, retail stores, personal care services, hotels, hospitals, and recreational industries. The rental property market is strongly impacted by the presence of the university.

Half the housing stock in Ashland is rental and approximately $5.85 million in rental income and property taxes can be attributed to the presence of the university.

Background and Methodology

In December 2014, the Office of the President at SOU requested that the SOU Research Center conduct an economic impact study of SOU. This report summarizes the findings of our research.

The economic impact of an enterprise, a university, or any kind of commercial event requires summing all the monetary transactions that result from the initial enterprise or event. Such an impact is based on the idea that an initial change in economic activity results in diminishing rounds of new spending. Spending diminishes because of "leakages" from the economy in the form of savings, taxes, and imports (the last being expenditures on out-of-region goods and services).

Economists have developed several approaches to measure economic impacts, including the technique used for this analysis, called input-output modeling. Input-output econometric models capture how different parts of an economy (including sectors, households, government agencies) are linked to one another. For this study, we purchased a pre-made commercial input-output model for the State of Oregon and the two-county region in which SOU operates. The model is called IMPLAN and has been developed and distributed by the IMPLAN Group Inc. of North Carolina. IMPLAN econometric models of the US have been widely used and well respected for impact studies for 35 years.

To conduct our research, we prepared spending data from the University's accounts payables and we surveyed SOU students regarding their spending habits. The expenditure amounts were summed for finite categories such as electricity, rent, gasoline, food in restaurants, food in grocery stores, custodial supplies, and so forth. We "fed" these spending amounts by category into the model. By modeling precise expenditure amounts for specific categories, our approach was much more accurate in determining total impact than if we used an averaged expenditure profile for a "generic" university. The latter approach was also available to us through the IMPLAN software but we chose not to take this easier but less precise approach. The approach we chose is called, in the jargon of econometric modeling, the "bill of goods" and/or "analysis by parts" approach.

Baseline Expenditures

Table 1 shows the money expenditures for the year 2014 that are attributable to the operation of Southern Oregon University. The total effective demand of $105.4 million is broken out by five item categories and three geographic areas. Three expenditure items stem directly from the agency of SOU (payroll, operational and construction spending). Two others arise from students and visitors of SOU-related activities. All of these expenditure magnitudes are tied to the existence of SOU. In

other words, if not for SOU, these monetary stimulations would not occur to the respective geographic areas indicated.

Table 1. SOU Baseline Expenditures, 2014

Item	Jackson & Josephine Counties Only	Oregon (incl. J&J counties)	Outside Oregon	Total (Oregon + Outside)
Payroll	$52,725,107.00	$52,725,107.00	(See below)	$52,725,107.00
Recurring, Operational Expenditures	$4,840,365.00	$6,647,253.00	$6,168,027.00	$12,815,280.00
Construction (non-recurring) Expenditures	$2,248,235.00	$3,790,486.00	$390,046.00	$4,180,532.00
Student Spending	$30,095,847.00	$30,095,847.00	n.a.	$30,095,847.00
Visitor Spending	$5,667,815.00	$5,667,815.00	n.a.	$5,667,815.00
Total Effective Demand on Economy due to SOU	$95,577,369.00	$98,926,508.00	$6,558,073.00	$105,484,581.00

The expenditure magnitudes in Table 1 are the baseline numbers from which we estimate economic impact of SOU. Below, we describe the data and highlight important assumptions and features about them.

Geographies

The spending impacts that this study is concerned with are only those expenditures made to entities (public and private) in the two local counties and the state in which SOU operates. Except for construction spending as described below, moneys spent to entities outside of the State are not factored into impact. State spending magnitudes include the magnitudes of Jackson and Josephine Counties.

Payroll

The SOU payroll of $52.7 million in 2014 is for all non-student SOU employees – administrators, faculty and staff. SOU spending to student employees is not counted. Any money paid to students for jobs, we assume is re-spent and we account for this under our estimates in student spending. The IMPLAN model determined how much payroll was spent in the three geographies – including out of state. Allowing the model to determine this required calculating average compensation per job and using this annual salary as the typical household spending profile. Average compensation per job for the model is simply total payroll divided by number of full-time and part-time jobs. These numbers are shown here:

	# of Jobs	Average Compensation/ Job
SOU Jobs (faculty, admin, staff)	756	$69,742.00

This break out of jobs and the even distribution of payroll across all jobs (at an average of $69,742.00 per job) has to do with how our IMPLAN model uses payroll data to model household spending into the economy. As such, these numbers (of jobs and average compensation per job) are more technical variables of our modeling process than they are descriptive statistics of SOU's workplace.

Operational Expenditures

This category is the spending on recurring, non-capitalized expenditure categories such as office supplies, electricity and many other expenses. These amounts were segmented from SOU's accounts payable file using account code numbers. Every expenditure item for the year 2014, except the 4000 series account codes (the capital accounts), were counted. The 143 operational-expenditure categories of SOU accounts payables were compiled to match 52 relevant IMPLAN sectors (see Appendix B for crosswalk). This allowed us to load this expenditure data at a detailed level. Based on the zip code of supplier locations, we further segmented this spending data into the three geographies shown in Table 1. Such detail makes for precision in estimating economic impact to geographic area.

Construction Expenditures

Since 2011, SOU has spent $4.6 million per year on average on new buildings and retrofits to existing structures. In 2014, it spent $4.18 million (slightly below average), as shown in Table 1. We adjusted this spending number to account for the use of local and Oregon sub-contractors by a large out-of-state general contractor. Ninety-one percent of the total construction spending in 2014 went to Oregon contractors. 54% of the total was spent inside Jackson and Josephine Counties.

Student Spending

Student spending totals include all spending by students that can be exclusively attributed to the presence of the University and that is not counted already in University operations spending. These are for non-university goods and services (like off-campus rents, grocery purchases and gasoline) that will affect the local economy. They do not include such things as tuition or, for those students who live in campus housing, rents paid to the University for housing. These latter expenditures are already captured in the University's operational expenditures.

We gathered student annual spending data directly from SOU students via a three-page survey that assessed 36 categories of spending (see Appendix C). Students were asked to retrospectively record all of their daily, monthly and yearly costs. Surveys were administered in the spring of 2015 to a total of 500 students in SOU classrooms by the SOURCE (Southern Oregon University Research Center) research team. A total of 466 surveys contained valid data. As described in Appendix C, results from the survey (the sample) were used as estimators for the total spending

data for all 4,352 admitted SOU students for the 2014-15 academic year (the population).

We parsed the students into four distinct groups: on campus, off campus, from the area, not from the area. We did this in order to resolve two inter-related but orthogonal issues.

- One issue is to make sure we did not double count student spending and what the university is already spending. This issue was resolved by parsing the on-campus from the off-campus students and their respective spending levels.

- The second issue is to determine how much of the student spending would have been spent anyway in the local area. This issue was resolved by us determining the magnitude of student spending by locals (those who would be living in the Rogue Valley even if they were not attending SOU) versus non-locals.

For those students who were already living in Jackson and Josephine Counties, we counted only those expenditures (such as gasoline for commuting, public transportation and some restaurant spending) that were clearly identifiable as being associated with their attendance at SOU. Because we adjusted the spending estimates for this class of students in this fashion, we therefore attributed the full aggregate amount of student expenditures that we estimated from our survey (and is shown in Table 1).

Visitor Spending

Visitor spending estimates were derived from two sources: (i) data from the SOU athletic department regarding the number of visiting sports teams to the area, and (ii) the student spending survey instrument. The student spending survey instrument provided us with student reports of visiting family and friends for SOU related events. These two sources gave us total dollar amounts for two expenditure categories: hotels and restaurants.

Economic Impact

The $105.4 million of effective demand that SOU generated in 2014 (and summarized in Table 1 above) led to a wide circle of economic activity locally, in the State of Oregon and beyond Oregon's borders. In this section, we summarize and discuss our estimates of the extent of this follow-on activity in Oregon and the two-county local economy in which SOU is located.

IMPLAN Model Estimates

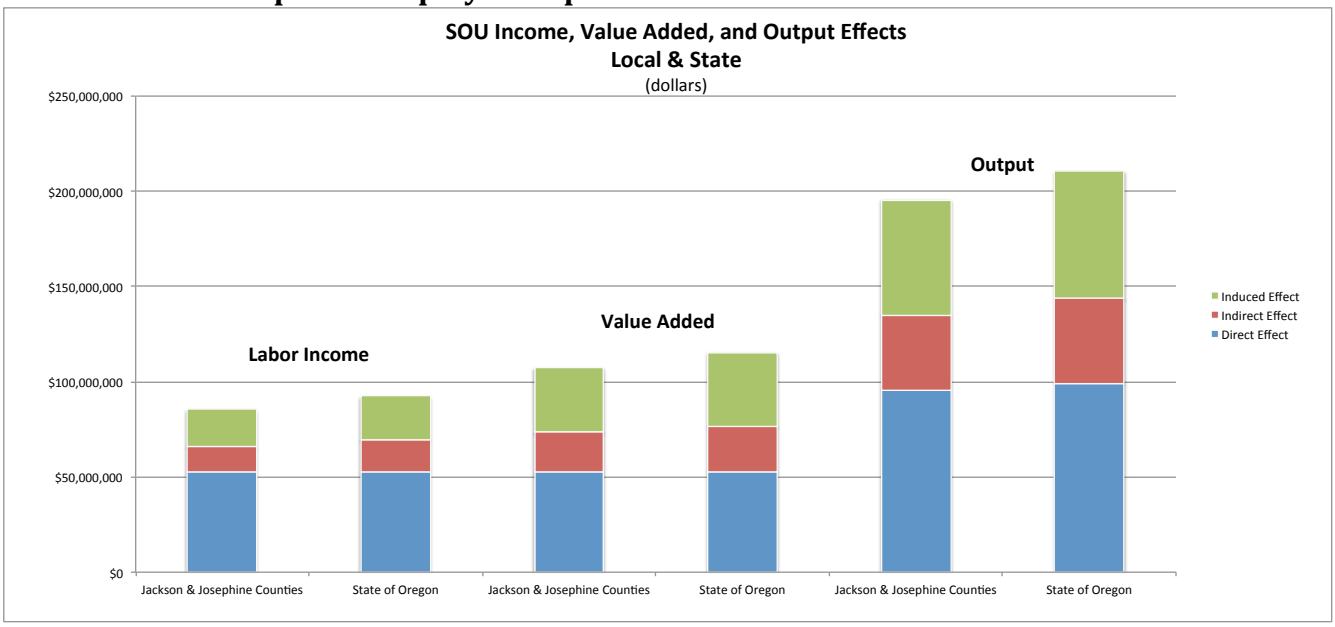
Table 2 and Exhibits 1, 2 and 4 below summarize our impact estimates and multipliers for SOU at the state and local (Jackson and Josephine Counties) level.

Table 2: Summary of Impacts

	Employment		Labor Income ($)		Value Added ($)		Output ($)	
Effect Type	Local	State	Local	State	Local	State	Local	State
Direct	756	756	52,725,107	52,725,107	52,725,107	52,725,107	95,577,369	98,926,508
Indirect	475	489	13,578,424	16,866,646	20,719,732	24,162,308	39,049,021	44,689,318
Induced	536	544	19,129,112	22,808,169	34,090,889	38,494,852	60,843,547	66,768,270
Total	1,767	1,789	85,432,643	92,399,922	107,535,728	115,382,267	195,469,937	210,384,096
Multiplier (Total/Direct)	2.34	2.37	1.62	1.75	2.04	2.19	2.05	2.13

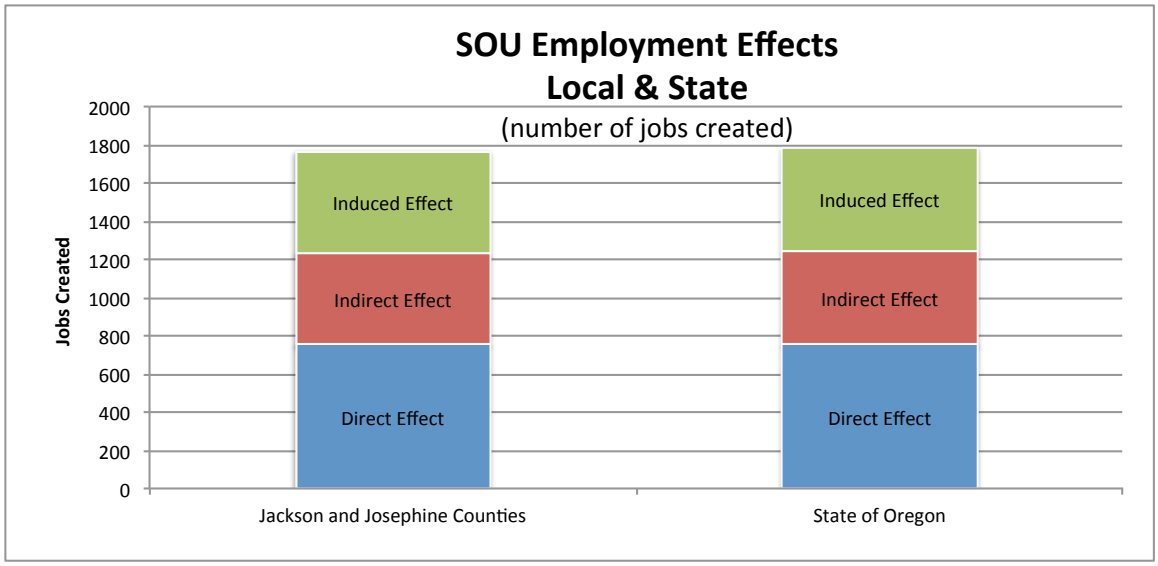
Except for Employment (which uses "Jobs Created" as unit of measure instead of money) the numeric data of Table 2 above is graphically displayed in Exhibit 1.

Exhibit 1: Graphical Display of Impacts



Jobs-created impacts are shown in Exhibit 2.

Exhibit 2. Jobs-created impacts.



A general observation about Exhibits 1 and 2 is that SOU's economic impacts, effects and multipliers are larger at the state level than the two-county local level. The reason is that the perimeter of stimulated economic activity is greater and includes more transactions. Therefore this makes the estimated impact totals larger.

Preliminary Note on Terminology

Understanding the terminology of impact analysis is absolutely critical to interpreting impact estimates. See the appendix for a full listing of terms and definitions. For our discussion here, we will define terms as we go along. Helpful to our discussion of the impact estimates is the conceptual relationship among the terms "labor income," "value added" and "output." (These, along with "employment," are the headings of Table 2.) The relationship among the three is shown in Exhibit 3.

Exhibit 3. Accounting Identities of Impact Components

Labor Income
+
Capital Income
+
Taxes
+
Cost of Inputs
} = *Value Added* } = *Output*

"Value added" includes the two kinds of income (labor and capital/property, the latter includes profits, rents, interest income, royalties, dividends, capital gains,

investment incomes, etc.) and taxes paid (to local, state and Federal governmental bodies).

"Cost of inputs" refers to the raw inventories and materials needed by a firm to produce its final produced merchandise or service. Cost of inputs here roughly corresponds to SOU's "operational spending" of $4.8 million and $6.6 million at, respectively, local and State levels (see Table 1).

As Exhibit 3 indicates, the meanings of each term in Table 2 are *successively inclusive*. Therefore, the numeric values are likewise successively inclusive reading left to right in Table 2. In other words, output includes value added; value added includes labor income. Thus, one must be careful in performing any arithmetic operation involving two or more of these terms. For example, do not add "value added" to "output" to get a "grand total." This would be double counting.

Also, in a similar way, the state-level values shown in Table 2 include the local-level values. Here too, do not add "state" and "local" together to get a "grand total." By definition, the state value includes the local value in the given category.

Finally, a "multiplier" in impact analysis is simply the "total effect" divided by the "direct effect." It is the derived factor of how much of a given economic quantity (e.g. income, output, jobs…) is created for an equivalent initial quantity. However, there is *no assumption of causation* between direct and total effect. We will describe this more below.

Reading down Table 2 by column, we begin with employment effects of SOU.

Employment Effect

In terms of creating jobs in the wider economy, SOU is responsible for the existence of 1,789 jobs altogether in the State of Oregon. And all of these jobs except 22 are created inside Jackson and Josephine Counties. Job totals of 1,789 in the state and 1,767 in the two-county local economy are inclusive of the 756 jobs that constitute the SOU workforce of administrators, faculty and staff. In other words, the overall job-creation multiplier of SOU's activities can be stated thus: for every one SOU job, there comes into being 2.37 jobs in the state and 2.34 jobs in the two-county local economy.

Labor Income Effect

Labor income here refers to that part of household incomes that derive exclusively from employment only (i.e. "earned income"). It does not include household income components that derive from investments, company & proprietor profits, rents, interest payments, etc. (i.e. "unearned" capital income).

Focusing on SOU's economic impact in the dimension of labor income so defined, we estimate that all of SOU's economic activity combined generates 1.75 times its own labor income (its payroll) at the state level, and 1.62 times its payroll at the local level. The total labor incomes generated from SOU's activity (and inclusive of SOU's labor income itself, i.e. its own payroll of $52.7 million) is estimated to be $92.3 million at the state level and $85.4 million within Jackson and Josephine Counties.

By definition, labor-income multipliers use only the initiating labor income (i.e. the payroll) of the entity being studied as numerator. But, for the denominator, it includes the sum of all household labor incomes that result from *all expenditure components* of the entity being studied. In 2014, the sum total of all SOU-related expenditures (for payroll, operations, construction, students and visitors) was $98.9 million inside Oregon and $95.5 million inside Jackson and Josephine Counties (see Table 1). It is this effective demand that generated the labor-incomes totals shown in Table 2.

Thus, it is not correct to infer that this multiplier is "saying" that the SOU payroll of $52.7 million *alone* leads to the total labor income amounts shown in Table 2. It is the SOU payroll combined with the other expenditure categories of SOU that generates these labor-income totals for the state and regional economies.

In other words, SOU's direct labor income of $52.7 million combined with all the other spending associated with SOU's operations and activities led to additional/incremental labor incomes of approximately $40 million within the state and $32 million within Jackson and Josephine Counties.

The incremental labor income that SOU generates in the economy can be analyzed into two types: the indirect and the induced.

The indirect effect is the labor incomes of employees in the suppliers to SOU and its spending activities. We estimate that the indirect labor income that SOU causes to be generated is approximately $16.8 million at the state level and $13.5 million at the local level.

The induced effect is when SOU employees and all SOU supplier employees spend money on goods and services. This spending leads to further job creation and labor incomes. The induced labor income of SOU we found to be approximately $22.8 million at the state level and $19.1 million at the local level.

Value Added Effect

Value added is the sum of remunerations to the "factors of production" or, in other words, the sum of labor and capital incomes (resulting from an economic activity). Because SOU (like most smaller universities) does not generate a profit or other

forms of capital income, its "value added" is strictly equal to its labor income. But the suppliers to SOU and the other commercial entities who receive some business related to SOU (i.e. receive the spending by employees in the SOU's supply network) do make profits and other forms of capital income in addition to labor income. Thus, as shown in Table 2, while SOU's value added is the same as its labor income ($52.7 million), the total effect on aggregate value added in the economy that is attributable to SOU's activity is much larger than only the labor-income effect in the economy. Oregon receives $115.3 million in value added from SOU versus $92.3 million in labor income only. The difference between the state's value-added total effect from SOU and its labor-income total effect from SOU ($23 million) is the capital income portion of value added that SOU's total effective demand generates in Oregon's economy.

Again, as explained above for labor-income effects, this creation of value added by SOU in the economy (whether at the state or local levels) is generated by the combined expenditures of SOU. In other words, it is caused by the university's total effective demand on the economy (see Table 1), not only SOU's value added magnitude that is shown in Table 2. SOU's value added multipliers of 2.19 for the State and 2.04 for the two-county regional economy is simply the ratio of the total aggregate (and self inclusive) value added in the given economic geography to SOU's value added.

Output Effect

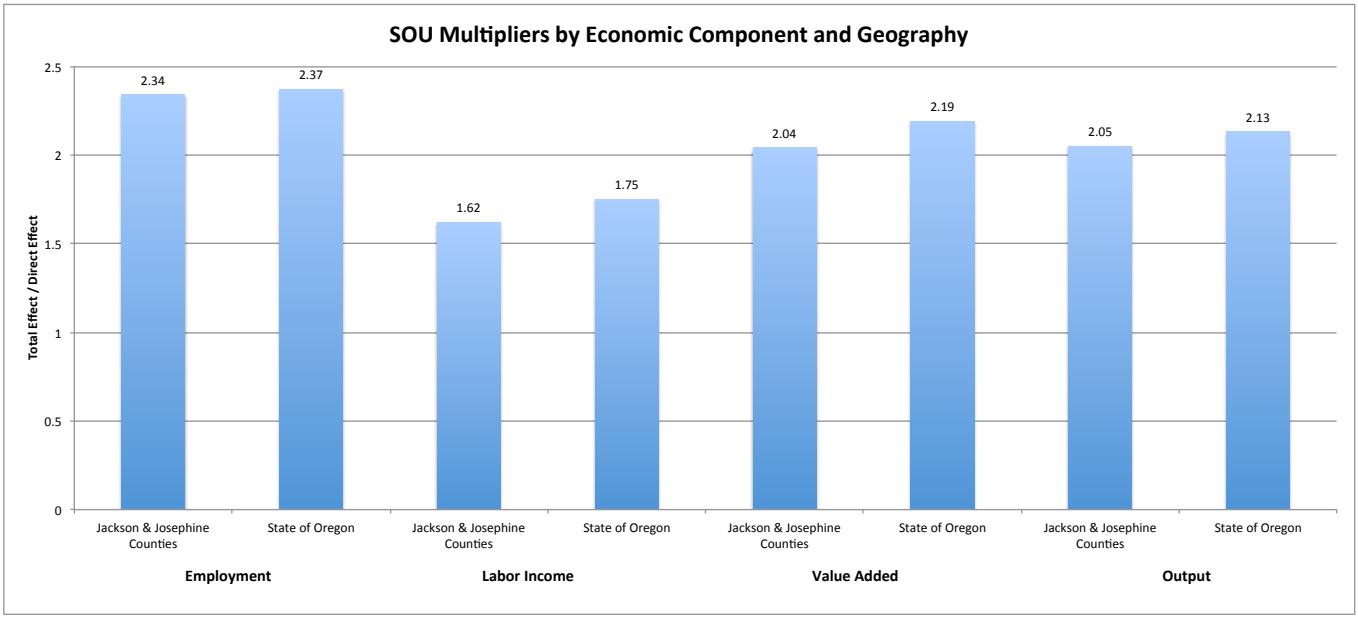
The output effect of SOU is the result of SOU's entire effective demand (payroll, recurring and construction spending, student and visitor spending) and how much total output is created in state and local economies by this initial demand.

Within the State of Oregon, SOU spent a total of $98.9 million in 2014 (Table 1) and this in turn generated $210.3 million in overall output for Oregon (Table 2). SOU's state-level multiplier is, therefore, 2.13. Every dollar that SOU causes to be spent, leads to a $2.13 increase in Oregon's GDP.

In the local economy of Jackson and Josephine Counties, SOU's total expenditures of $95.5 million in 2014 (Table 1) led to a total economic activity (output) in this region of $195.4 million (Table 2). In other words, SOU's initial expenditure led to approximately $100 million of additional economic output in the region. SOU's multiplier in the local economy is therefore 2.05. For every dollar that SOU causes to be spent in the local region, $2.05 is created overall in the region's "GDP."

Exhibit 4 graphically summarizes SOU's multipliers in one chart.

Exhibit 4. SOU Multipliers by Economic Component and Geography



SOU's Multipliers Compared to Other Universities

Multipliers are ratios of total effect to direct effect and provide a normalized way to compare institutions of varying sizes. By comparing multipliers of different institutions, absolute levels of impact (such as total jobs created, labor income, value added, output) are normalized to the size of the institution producing the impact.

SOU's absolute impacts in dollars generated or jobs created are smaller than, for example, the University of Oregon or Oregon State University. This is due to it being a smaller institution overall. But, as its multipliers indicate in Table 3, dollar for dollar and job for job, SOU is on par with these larger universities. In the case of jobs created, it exceeds Oregon State.

Table 3 lists the multipliers of SOU, Oregon State University, University of Oregon and Iowa State University[1]. The multipliers shown are for the state level only.[2]

Table 3. Multipliers at State Level: SOU versus Selected Universities.

	Employment	Labor Income	Value Added	Output
Southern Oregon University	2.37	1.75	2.19	2.13
Oregon State University[a]	2.16	2.32	n.a.	2.57
University of Oregon[b]	26.4[c]	1.95	n.a.	2.57
Iowa State University[d]	1.37	1.43	1.60	1.62

[a]ECO Northwest. January 2012. Economic Impact of Oregon State Uninversity Expenditures. Pp. 5, 6.
[b]Duy, Timothy. January 2013. The Economic Impact of the University of Oregon, FY 2011-12 Update. P. 4
[c]Jobs created per $1 million in UO's effective demand, not in specified industries, the manner by which the other multipliers shown were calculated. A "table of RIMS multipliers" approach.
[d]Swenson, D. January 2015. The Economic Value of Iowa State University. P. 9.

The multipliers shown in Table 3 are drawn from studies and press announcements of the universities listed.

Multipliers shown were derived from a generally identical method of impact analysis to this study's. Nonetheless, each study differed in some respects. The overall comparability here is good but not perfect.

The chief aspect that makes for good and consistent comparability of these multipliers is that, in all of the studies, a total effective demand for each institution was first calculated (from accounts payable files, and student and visitor surveys and estimates). Then, it was fed into an econometric model of a larger state (and in the case of OSU, local) economy. All the institutions shown here used the same underlying econometric model: either IMPLAN itself, or, in the case of University of Oregon, RIMS multipliers which come from the Bureau of Economic Analysis (an agency in the Department of Commerce) and are the basis for the IMPLAN model.[3]

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[1] We chose Iowa State because the Bureau of Economic Analysis uses it as a benchmark in university-impact studies. Also, Iowa State economist David Swenson, who has worked with the BEA, provided guidance to SOURCE in this study.
[2] Local level multipliers are not available for the other universities except Oregon State.
[3] While the underlying econometric model is the same for all four institutions shown in the table, each of the geographies (states, counties, regions) that are home to the institution will have their own unique economic characteristics including for example different mixes of industries, urban and rural intensities, and household. income levels, etc. Even with the same econometric model, structural differences among regional economies will generate different multiplier magnitudes and impacts (see Siegfried et al, 2007, p. 551).

Aspects that make for inconsistencies for comparing these multipliers are that the UO calculated its employment multiplier differently from the rest. And University of Iowa excluded construction (and all other non-recurring, capital) expenditures from its baseline "effective demand" calculation.

University of Oregon's employment multiplier of 26.4 is calculated in a different manner than the other multipliers shown. Instead of calculating number of jobs created by the specific industry groups stimulated by the unique expenditure pattern of the university, Dr. Timothy Duy (author of the UO study) used an apparently more "generic" multiplier approach that counted number of jobs for every $1 million of total spending by the University (Duy, T. 2013. Pp. 4 & 7). This gives the high employment multiplier value shown in Table 3.

We also conjecture that the UO and OSU, in that they did not report value added impacts, may have rolled value added impacts into the labor income impacts. Value added includes not only labor income but capital income, such as proprietor's profits, rental incomes, and interest and investment incomes (see discussion above and Exhibit 3). As value added represents all income (labor and capital) from an economic activity, rolling them together and referring to them simply as household income may have been an expedient way for these other studies to speak of income effects of their institutions in a more informal, common-sense manner. If this were the case, then the appropriate multipliers to compare in Table 3 would be SOU's value added multiplier of 2.13 compared to OSU's and UO's multipliers of, respectively, 2.32 and 1.95. If this were the case, SOU's impact on incomes at the state level would rank *in between* that of OSU and UO's and *far above* Iowa State's.

As Table 3 indicates, SOU has a relatively high employment multiplier, but a relatively low labor-income multiplier. The lower labor income is probably due to the large impact SOU has on local service industries, such as restaurants and retail stores, which are typically low paying jobs (See Table 4 below).

Industry Sectors Most Impacted by SOU

Table 4 shows the ten most impacted sectors of the two-county regional economy. At the state level the ranking of most affected sectors is almost identical except that Wholesale Trade is replaced by Employment Services. Also, Personal Care Services (hair cuts, tattoos, pet care, childcare and some medical care) and Real Estate switch rankings. We focus here on the two-county local economy in which most of SOU's impact is realized.

Table 4. Top Ten Sectors Impacted by SOU Effective Demand (Ranked by Jobs Created)

Description	Jobs Created	Labor Income ($)	Value Added ($)	Output ($)
Limited-service restaurants	142.0	3,432,000	4,946,000	7,927,000
Full-service restaurants	93.7	1,989,000	2,109,000	4,334,000
Retail - Food and beverage stores	47.6	1,485,000	1,854,000	2,955,000
Personal care services	45.6	859,000	993,000	1,711,000
Real estate	45.5	246,000	6,092,000	7,763,000
Retail - General merchandise stores	43.5	1,397,000	1,663,000	2,815,000
Hotels and motels, including casino hotels	42.9	1,002,000	1,794,000	3,345,000
Hospitals	32.1	2,273,000	2,326,000	4,306,000
Wholesale trade	24.5	685,000	1,991,000	3,325,000
Other amusement and recreation industries	23.7	462,000	722,000	1,366,000

As shown, the fifth most impacted local economic sector by SOU is real estate. This translates into the housing market in the City of Ashland and Jackson County. SOU has a tremendous effect particularly on the rental-housing marketplace in its vicinity.

Just on the housing market alone (real estate in Table 4), SOU contributed approximately 45 jobs and $246,000 per year aggregate Labor-Income gain to the community. It contributed approximately $5.85 million in rental incomes (i.e. capital income) and property taxes. Here, rental income and property taxes is calculated as: Value Added – Labor Income = $6.092 million - $246,000 = ~$5.85 million.) The estimated 45 real-estate jobs created are those in property management and maintenance and repair construction.

Other Considerations for Measuring SOU's Economic Value

Following the convention of impact/contribution studies, we have only analyzed *income* impacts, not *wealth* impacts. Most university impact studies are focused on justifying budgets to State and Federal funding sources. These funding sources are typically interested in income-related impacts.

Nonetheless, there are other economic impacts that are attributable to the presence of SOU. These generally fall under the rubric of wealth (or capital in the widest sense) impacts. Here instead of *flows* (which incomes are) the impact is on *stocks*.

Other economic impacts of SOU that focus on stocks (i.e. wealth, capital) would include the following:

- Real property values in Jackson County, particularly in Ashland, and the proportion of these values that could be attributed to SOU. There are indications that migration of residents (including retirees) to Ashland is positively impacted by the presence of a University.
- Incremental increase in human capital, as a result of graduating students and their spillover effects and benefits on the state and local regions. This could be quantified by incremental addition to lifetime earnings capacity or quality of civic engagement of graduates who stay, after graduating, in the local or State economy to work.
- Research and development of new technology and enterprises by faculty and research students. Extra private sector work by SOU faculty. This could be measured in some kind of "price/earnings" multiplier of developed technologies and capacities, intellectual property, goodwill of SOU and subsidiary organizations such as JPR, SOURCE, the Sustainability Center, etc.
- Lower borrowing costs to municipal and public institutions due to vibrancy of the economy, wealthy tax-payer base.
- Arts and culture "cluster" development and its relation to science, technology, engineering and math (STEM) skills in the region. This would synergize with other arts and culture institutions in the region including Oregon Shakespeare Festival, the various federal laboratories, etc. See Markusen, A. and Root-Bernstein, R.

Quantifying these impacts requires other methods to the income-impact approach (of a modeled economy) that we use in this report. As such, they constitute wholly contained and separate studies.

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Appendix A: Impact-Analysis Terminology

By convention, analyzing economic impact is broken out into three types of effects (direct, indirect, and induced) for four main economic components (employment, labor income, value added and output). Table 2 (above page 7) displays this numerical data across the dimension of two relevant geographies for policy decisions – the regional and State economies in which SOU is embedded. The following paragraphs define these terms.

Direct effect = Total dollar amount of SOU's operations and associated expenditures ("effective demand" from Table 1) and base of employees that cause subsequent rounds of economic activity.

Indirect effect = Amount of expenditures by SOU's suppliers and suppliers' suppliers transacted in order to fulfill SOU-related demand.

Induced effect = The spending (demand) on goods and services by employees in both direct (i.e. SOU) and indirect (i.e. SOU's supply chain) sectors.

Total effect = The sum of direct, indirect and induced effects.

Multiplier = The total effect divided by the direct effect. The multipliers for SOU are total value created, measured in terms of jobs, labor income, value added or output, divided by the jobs and/or total expenditures generated by SOU. A multiplier is similar in form to other economic metrics such as productivity, return on investment, returns to scale, leverage and per-capita incomes. It represents output units (total jobs, incomes, and outputs produced) per unit input (spending, jobs created). [4]

[4] Regional I-O multipliers, such as those provided by the IMPLAN model of this study, share similarities with macroeconomic (Keynesian) multipliers. Both types of multipliers provide a way to estimate the total impact that an initial change in economic activity has on an economy. They are both based on the idea that an initial change in economic activity results in diminishing rounds of new spending. Spending diminishes because of "leakages" from the economy in the form of savings, taxes, and imports. Regional I-O multipliers are based on a detailed set of industry accounts that measure the goods and services produced by each industry and the use of these goods and services by industries and final users. This detail allows for estimates of the impact of an initial change in economic activity on industries in a region. I-O models do not account for price changes that may result from increased competition for scarce resources. -- from RIMS guidebook from BEA, p. 1-2.

Employment = Number of full- and part-time employees; i.e. jobs created. Full-time equivalents are not used in IMPLAN (or other input-output models).

Labor Income = Wages, salaries and benefits. Benefits consist of Other Payroll Expenditures (OPE) including health insurance, retirement plan contributions and mandated tax/insurance contributions (medicare, workers compensation, unemployment insurance).

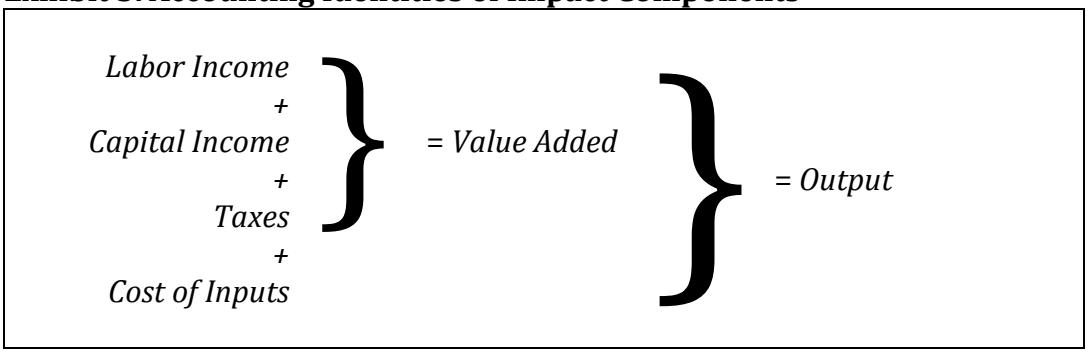
Value Added = Labor income *plus* capital income (profits, rents, royalties and other "un-earned" income) *plus* taxes. Value added is total value of income generated from production. This income consists of payments to labor (compensation of employees, including benefits), payments to government (taxes on production and imports), and returns on investment ("profits," "gross operating surplus"). It is equivalent to gross domestic product.

Output = Value added *plus* cost of intermediate (operational) inputs. Output equals the total market value of industry output (sales). It equals intermediate inputs plus value added. Gross output is not the same as gross domestic product (GDP), which only includes value added.

Cost of Inputs = Recurring operational expenditures.

Exhibit 3 reproduced here graphically depicts the relationships among the economic components described above.

Exhibit 3. Accounting Identities of Impact Components



Appendix B. Crosswalk: SOU Chart of Accounts to IMPLAN Sectors

Table 5 below shows IMPLAN sector descriptions and codes and the corresponding SOU account names that we assigned to each one. In most cases, several SOU account names map into a single IMPLAN sector. Thus, the 143 separate SOU accounts map to 52 IMPLAN sectors. Table 7 shows operational spending categories only. For construction expenditures, we partitioned spending amounts into four IMPLAN sectors based on the principal NAICS activity of the supplier. The four sectors are Construction Services (various contractors), Supplies Distributors (retail & wholesale), Architectural & Engineering Services, and all Other Technical Services and Governmental Fees.

Table 7: "Crosswalk" of IMPLAN Sector Code Name to SOU Account Name

IMPLAN Code Description	IMPLAN Code	SOU Account Name
Electric power transmission and distribution	**49**	Electricity- General
Water, sewage and other systems	**51**	Sewage
Water, sewage and other systems	**51**	Water
Maintenance and repair construction of nonresidential structures	**62**	Building Maintence & Repa
Maintenance and repair construction of nonresidential structures	**62**	Construction Permits & Fe
Maintenance and repair construction of nonresidential structures	**62**	Contract Maint/Repair-Bui
Maintenance and repair construction of nonresidential structures	**62**	Contract Maint/Repair-Equ
Maintenance and repair construction of nonresidential structures	**62**	Contract Maint/Repair-Gro
Maintenance and repair construction of nonresidential structures	**62**	Grounds Maintenance & Rep
Maintenance and repair construction of nonresidential structures	**62**	Miscellaneous Maintenance
Maintenance and repair construction of nonresidential structures	**62**	Plant Care Services
Maintenance and repair construction of nonresidential structures	**62**	Plant Materials
Other cut and sew apparel manufacturing	**129**	Costume Supplies
Other cut and sew apparel manufacturing	**129**	Disposable Wearing Appare
Other cut and sew apparel manufacturing	**129**	Employee Clothing
Other cut and sew apparel manufacturing	**129**	Employee Safety Apparel
Other cut and sew apparel manufacturing	**129**	Uniforms
Computer storage device manufacturing	**302**	Other IT Related Peripher
Computer storage device manufacturing	**302**	Printers (Noncapitalized)
Office supplies (except paper) manufacturing	**387**	Art/Graphic Arts Supplies

Wholesale trade	**395**	Automotive Fuels/Lubrican
Wholesale trade	**395**	Cryogens
Wholesale trade	**395**	General Operating Supplie
Wholesale trade	**395**	Instructional Supplies
Wholesale trade	**395**	Library Supplies
Wholesale trade	**395**	Miscellaneous Supplies
Wholesale trade	**395**	Performing Arts Supplies
Wholesale trade	**395**	Photocopy Supplies
Wholesale trade	**395**	Physical Plant Supplies
Wholesale trade	**395**	Pressurized Gas- General
Wholesale trade	**395**	Rubber & Plastic Supp. Me
Wholesale trade	**395**	Software
Wholesale trade	**395**	Specialized Equip-(Noncap
Wholesale trade	**395**	Student Project Supplies
Wholesale trade	**395**	Training-Supplies
Wholesale trade	**395**	Vehicle Tires
Retail - Motor vehicle and parts dealers	**396**	Parts-Auto & Equipment
Retail - Furniture and home furnishings stores	**397**	Office Equip & Furniture
Retail - Electronics and appliance stores	**398**	Computer (Noncapitalized)
Retail - Electronics and appliance stores	**398**	Data Processing Supplies
Retail - Electronics and appliance stores	**398**	Electronic Supplies
Retail - Building material and garden equipment and supplies stores	**399**	Minor Equipment
Retail - Food and beverage stores	**400**	Chilled Water
Retail - Food and beverage stores	**400**	Conference Meals
Retail - Food and beverage stores	**400**	Conference Refreshments
Retail - Food and beverage stores	**400**	Food - Other
Retail - Food and beverage stores	**400**	Refreshments & Food - Dep
Retail - Food and beverage stores	**400**	Student Meals
Retail - Health and personal care stores	**401**	Pharmaceuticals
Retail - Sporting goods, hobby, musical instrument and book stores	**404**	Awards
Retail - Sporting goods, hobby, musical instrument and book stores	**404**	Awards & Prizes - Non-Emp
Retail - Sporting goods, hobby, musical instrument and book stores	**404**	Sports Equipment-(Noncapi
Retail - Miscellaneious store retailers	**406**	Custodial Supplies
Retail - Miscellaneious store retailers	**406**	Specialty Cleaning Suppli
Truck transportation	**411**	Delivery Service
Truck transportation	**411**	Freight/Moving-Not Employ
Newspaper publishers	**417**	Advertising-Pers Recruit/
Periodical publishers	**418**	Advertising-Inst Promo/Pu

Periodical publishers	**418**	Printing & Publishing
Periodical publishers	**418**	Subscriptions
Book publishers	**419**	Binding Expense
Book publishers	**419**	Books Publication & Other
Software publishers	**422**	Software Lease Costs
Software publishers	**422**	Software Maintenance Cont
Radio and television broadcasting	**425**	Broadcast Program Service
Cable and other subscription programming	**426**	Miscellaneous Communication
Wired telecommunications carriers	**427**	Telecom One-Time Charges
Wired telecommunications carriers	**427**	Telecom Recurring Charges
Insurance carriers	**437**	Insurance
Funds, trusts, and other financial vehicles	**439**	Early Retirement-Health C
Real estate	**440**	Building Leases
Real estate	**440**	Building Rentals
Real estate	**440**	Conference Facilities
Real estate	**440**	Land Leases
Real estate	**440**	Land Rentals
Real estate	**440**	Storage Rentals/Fees
Automotive equipment rental and leasing	**442**	Vehicle & Equip Use Charge
Commercial and industrial machinery and equipment rental and leasing	**445**	Equipment Leases
Commercial and industrial machinery and equipment rental and leasing	**445**	Equipment Rentals
Commercial and industrial machinery and equipment rental and leasing	**445**	Miscellaneous Rentals
Legal services	**447**	Legal Service
Accounting, tax preparation, bookkeeping, and payroll services	**448**	Accounting Service
Accounting, tax preparation, bookkeeping, and payroll services	**448**	Auditing Services
Architectural, engineering, and related services	**449**	Engineering & Architecture
Custom computer programming services	**451**	Web Design Services
Scientific research and development services	**456**	Animals - Non-Capitalized
Scientific research and development services	**456**	Environmental Laboratory
Scientific research and development services	**456**	Laboratory Reagents
Scientific research and development services	**456**	Laboratory Services
Scientific research and development services	**456**	Laboratory Supplies
Scientific research and development services	**456**	Oxygen & Other Compressed
Scientific research and development services	**456**	SELP Principal Payment
Advertising, public relations, and related services	**457**	Graphic Design Service
Advertising, public relations, and related services	**457**	Public Relations/Fund Raising
Photographic services	**458**	Photo Services/Processing

Photographic services	**458**	Professional Photography
Marketing research and all other miscellaneous professional, scientific, and technical services	**460**	Appliances Braces
Marketing research and all other miscellaneous professional, scientific, and technical services	**460**	Collection Costs
Marketing research and all other miscellaneous professional, scientific, and technical services	**460**	Conditional Use/Planning
Marketing research and all other miscellaneous professional, scientific, and technical services	**460**	Conveyance Fee-Natural Ga
Marketing research and all other miscellaneous professional, scientific, and technical services	**460**	Entry Fee-Competitors
Marketing research and all other miscellaneous professional, scientific, and technical services	**460**	Non OUS Particip Supp-No
Marketing research and all other miscellaneous professional, scientific, and technical services	**460**	Outside Tng - Ed Instr Sv
Marketing research and all other miscellaneous professional, scientific, and technical services	**460**	Reserved Parking Space
Marketing research and all other miscellaneous professional, scientific, and technical services	**460**	Taxes & Licenses
Marketing research and all other miscellaneous professional, scientific, and technical services	**460**	Withdrawals & Advances
Office administrative services	**462**	Admin & Support Service C
Office administrative services	**462**	Duplicating & Copying Exp
Office administrative services	**462**	Miscellaneous Services &
Office administrative services	**462**	Office & Administrative S
Office administrative services	**462**	Other Professional Services
Employment services	**464**	Contract Personnel Services
Employment services	**464**	Employee Assistance - Con
Employment services	**464**	Miscellaneous Fees & Services
Travel arrangement and reservation services	**466**	Conference Registration F
Travel arrangement and reservation services	**466**	Other Conference/Entertain
Travel arrangement and reservation services	**466**	Trade Show/Event Fees
Travel arrangement and reservation services	**466**	Training-Tuition/Regist'n
Investigation and security services	**467**	Security Service
Services to buildings	**468**	Custodial - Contract
Services to buildings	**468**	Custodial Non-Contract
Waste management and remediation services	**471**	Biological Waste Disposal
Waste management and remediation services	**471**	Chemicals Maintenance
Waste management and remediation services	**471**	Garbage
Waste management and remediation services	**471**	Hazardous Waste Off Site
Waste management and remediation services	**471**	Recycling Expense
Offices of physicians	**475**	Medical Services
Offices of physicians	**475**	Other Med/Sci Services
Medical and diagnostic laboratories	**479**	Radiology Films
Performing arts companies	**488**	Entertainment

Performing arts companies	**488**	Event Tickets
Performing arts companies	**488**	Performance Fees
Performing arts companies	488	Stage Materials
Hotels and motels, including casino hotels	**499**	Athletic Guarantees
Hotels and motels, including casino hotels	**499**	Hosting Groups & Guests
Commercial and industrial machinery and equipment repair and maintenance	**507**	Equipment Maintenance & R
Dry-cleaning and laundry services	**511**	Laundry & Dry Cleaning
Business and professional associations	**515**	Dues & Memberships –Prog.
Labor and civic organizations	**516**	Membership in Civic/Community
Postal service	**518**	Mailing Services - Incl P
Postal service	**518**	Postage
Other local government enterprises	**526**	Miscellaneous Utilities

Appendix C: Student Spending Survey Instrument and Methodology

The student spending survey was constructed, administered, and analyzed with the help of our student research assistants: Jordan Mortimore, Sophia Panacy, Brian Sorensen, and Cameron Pfiffer. We gathered student annual spending data directly from SOU students via a three-page survey that assessed 36 categories of spending (see Exhibit 5 below). Students were asked to retrospectively record all of their daily, monthly and yearly costs. Surveys were administered in the spring of 2015 to a total of 500 students in SOU classrooms by the SOURCE research team. A total of 466 surveys contained valid data. As described below, results from the survey (the sample) were used as estimators for the total spending data for all 4,352 admitted SOU students for the 2014/15 academic year (the population).

Survey respondents were classified into four types for ease of input of data into the IMPLAN econometric model. The student types were determined by whether a student reported living on-campus or off-campus and whether they are "from the area" (Jackson or Josephine County) or from "outside the area". Students who indicated that they live in Jackson or Josephine counties, and would live in those counties even if they did not attend SOU, were classified as being "from the area." The population data was divided into the same four classifications using information on county-of-residence prior to attending SOU and whether students lived on or off campus.

Because not all student-spending throughout the year could be attributed to attendance at SOU, we developed different methods of calculating annualized spending for each of the four student types. For on-campus students, whether from the area or not, it was assumed that they live on campus for nine months of the year, thus their annualized spending was multiplied by 75%. The spending assumptions for off-campus students were more complicated. For those students who came from outside the area and live off campus, 75% of their spending was included if they were freshmen or sophomores because we assumed they went home for the summer, and 100% of the spending was included for most of the juniors and seniors because we assumed that 2/3 of them do not go home for the summer. Off-campus students from the area were treated as commuters so the spending categories counted for them were limited (we counted only six spending categories out of a total of 36) as well as we assumed a lower percentage of spending for them. These are students who are attending SOU because they already live in the area, therefore their spending cannot be solely attributed to SOU.

During examination of the sample data, distinct patterns of spending were noted within specific age categories. Therefore, for each of the four types of student, we established four age categories in both the sample and the population: 18-20 years old, 21-22 years old, 23-26 years old, and older than 27 years. These age categories were then used to facilitate more accurate estimators from the sample to the population.

Student spending from the sample was categorized by student type as well as age categories and then averaged. Spending averages from each age group in the sample were multiplied by the number of students in each resident/age group in the population. The totals from each population student type and age category were summed for the final student-spending total.

The methodology of utilizing student survey data, along with the specificity of the student-type and age categories to construct averages, minimized the risk of overestimating student spending. Our approach accounted for the higher percentage of non-traditional age students at SOU as well as the large number of area residents who attend the university. Also, our use of retrospective reporting in the survey was another safeguard against overestimation since people are more likely to underestimate spending when documenting costs in this manner.

Exhibit 5. Student Spending Questionnaire

1.) Please fill in your age, gender and major:

Age _____ Gender _____

Major _____

2.) Check off your class standing at SOU:

☐ Freshman (0-45 credits)
☐ Sophomore (46-90 credits)
☐ Junior (91-135 credits)
☐ Senior (136 or more credits)
☐ Post-Bac/Graduate
☐ Unadmitted/ Other

3.) While attending SOU, which city and state do you live in? _____

4.) If you did not attend SOU, would you be living in the same city?

☐ Yes ☐ No

5.) Which best describes where you live during the school year? Please read all options before you check the correct box.

☐ I live on-campus (including SOU family housing)
☐ I rent or lease an apartment or home off-campus and I pay all the rent and utilities.
How much do you pay in rent per month? _____
How much do you pay in utilities per month? _____
☐ I live off-campus with other people (including friends, family, roommates,

☐ parents)
and I am NOT the only person who pays rent and utilities.
How much do you contribute to rent per month? _____
How much do you contribute to utilities per month? _____
☐ I live off-campus in a home that I own.
How much do you pay in utilities per month? _____

6.) Are you an Oregon resident (pay in-state tuition)?
☐ Yes ☐ No

7.) Are you employed?
☐ Yes, on-campus
☐ Yes, off-campus, please indicate the city that you work in _____
☐ No

Weekly Spending

8.) Please estimate to the best of your ability how much you spend on the following items in a typical **WEEK** on yourself and your dependents.

Item	Spending
Groceries (include food & other items)	
Public transportation	
Food and drinks out	
Gasoline	
Coffee shop/stand purchases	
Tobacco	
Other regular weekly purchases	

Please **DO NOT** include purchases made
- on-campus
- online
- outside Jackson County
- for anyone other than yourself and your

Monthly Spending

9.) Please estimate to the best of your ability how much you spend on the following items in a typical **MONTH** on yourself and your dependents.

Item	Spending
Health Insurance	
Car or other vehicle payment	
Car or other vehicle insurance	
Home/Renter's insurance	
Cable and/or internet	
Childcare	
Phone service	

Pet care	
Hygiene products & toiletries	
Haircuts	
Monthly memberships (gyms, off-campus clubs, etc.)	
Local entertainment (movies, games, bowling, etc.)	
Prescription and non-prescription drugs	
Other regular monthly purchases	

Please **DO NOT** include purchases made
- on-campus
- online
- outside Jackson County
- for anyone other than yourself and your

Annual Spending

10.) Please estimate to the best of your ability how much you spend on the following items in a typical **YEAR** on yourself and your dependents.

Item	Spending
Hobby equipment (sporting goods, bikes, skateboards, musical instruments, etc.)	
Electronics (computers, video game systems, etc.)	
Car maintenance and repair	
Furniture	
Books and magazines	
Clothing	
Home maintenance and repair	
Appliances	
Healthcare	
Body modification (tattoos, piercings, etc.)	
Concerts and other live performances	
Outdoor recreation	
Gifts	
Other annual purchases	

Please **DO NOT** include purchases made
- on-campus
- online
- outside Jackson County
- for anyone other than yourself and your

11.) Have you purchased a vehicle (car, motorcycle, or motorized scooter) while attending SOU?

☐ Yes ☐ No

If yes, in what city was it purchased? _____

Cost of vehicle _____

continued

Visitors

12.) In a typical year, approximately how many times do friends or family travel from out of the area to visit you?

Event:	# of visitors	# of days visiting	# of hotel nights	Estimate how many meals your guests eat at restaurants
Drop off or pick up at SOU				
Sports events and performances				
Just visiting				
Graduation (if you are graduating this year, please indicate how many guests you expect. If you are not graduating, enter 0)				

THANK YOU FOR COMPLETING THIS SURVEY

Appendix D: Base Economic Statistics of IMPLAN's Model

As we explained in the Background and Methodology section above, the impact numbers generated in this report used the IMPLAN econometric model for the two-county regional and the State of Oregon economies. In this appendix, we publish IMPLAN's underlying summary data for these two geo-defined economies This will permit further extensions and analysis of our findings using consistent data.

State of Oregon Summary Statistics

Model Information

Model Year	2013
GRP	$205,063,740,270
Total Personal Income	$158,116,900,000
Total Employment	2,284,068
Number of Industries	484
Land Area (Sq. Miles)	96,003
Area Count	1
Population	3,930,065
Total Households	1,564,448
Average Household Income	$101,069

Trade Flows Method	Trade Flows Model
Model Status	Multipliers

Economic Indicators

Shannon-Weaver Index	.76968

Value Added

Employee Compensation	$101,500,459,895
Proprietor Income	$12,274,681,144
Other Property Type Income	$83,035,712,135
Tax on Production and Import	$8,252,887,096
Total Value Added	$205,063,740,270

Final Demand

Households	144,385,636,967
State/Local Government	$29,672,558,790
Federal Government	$8,575,878,549
Capital	$27,545,601,385
Exports	$128,252,890,118
Imports	-$124,780,919,088
Institutional Sales	-$8,587,906,690
Total Final Demand:	$205,063,740,033

Top Ten Industries

Sector	Description	Employment	Labor Income	Output
534	* Employment and payroll of local govt, education	95,180	$6,203,835,000	$7,285,597,000
440	Real estate	92,623	$1,365,210,000	$16,282,740,000
395	Wholesale trade	79,918	$5,914,171,000	$16,418,420,000
501	Full-service restaurants	67,872	$1,577,659,000	$3,235,094,000
533	* Employment and payroll of local govt, non-education	59,441	$4,286,302,000	$5,038,423,000
502	Limited-service restaurants	57,699	$1,302,796,000	$3,086,084,000
482	Hospitals	54,072	$4,162,712,000	$7,459,442,000
464	Employment services	48,377	$1,678,574,000	$2,435,055,000
531	* Employment and payroll of state govt, non-education	40,755	$2,913,987,000	$3,459,897,000
405	Retail - General merchandise stores	39,138	$1,230,379,000	$2,509,130,000

Areas In the Model

Oregon State

Jackson and Josephine Counties Summary Statistics

The IMPLAN modeling tool allows its users to combine contiguous counties into a single region. The data is integrated. We combined two Oregon counties – Jackson and Josephine – as the operative counties constituting the effective *regional* economy in which SOU operates. Here are summary economic statistics for this region so defined.

Model Information

Model Year	2013
GRP	$9,752,336,654
Total Personal Income	$10,379,210,000
Total Employment	152,661
Number of Industries	305
Land Area (Sq. Miles)	4,425
Area Count	2
Population	291,851
Total Households	120,214
Average Household Income	$86,339
Trade Flows Method	Trade Flows Model
Model Status	Multipliers

Economic Indicators

Shannon-Weaver Index	.73766

Value Added

Employee Compensation	$4,948,704,332
Proprietor Income	$957,507,686
Other Property Type Income	$3,270,273,082
Tax on Production and Import	$575,851,555
Total Value Added	$9,752,336,654

Final Demand

Households	10,036,678,006
State/Local Government	$1,422,659,687
Federal Government	$604,640,725
Capital	$1,394,403,346
Exports	$5,268,003,992
Imports	-$8,501,845,929
Institutional Sales	-$464,700,307
Total Final Demand:	$9,759,839,520

Top Ten Industries

Sector	Description	Employment	Labor Income	Output
395	Wholesale trade	7,179	$197,929,000	$1,141,484,000
440	Real estate	6,967	$37,009,970	$1,159,052,000
534	* Employment and payroll of local govt, e	5,149	$289,533,100	$348,056,400
501	Full-service restaurants	4,628	$96,409,810	$209,424,000
482	Hospitals	4,575	$318,214,700	$597,132,900
407	Retail - Nonstore retailers	4,490	$103,691,800	$413,463,200
475	Offices of physicians	4,141	$345,321,800	$449,642,900
502	Limited-service restaurants	4,124	$97,799,730	$225,266,300
483	Nursing and community care facilities	3,355	$106,596,400	$190,565,100
405	Retail - General merchandise stores	3,354	$105,783,900	$215,355,900

Areas In the Model

Oregon Jackson County
Oregon Josephine County