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Portland State University Economic and Social Impact Study 2024

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PORTLAND STATE UNIVERSITY

ECONOMIC & SOCIAL IMPACT STUDY 2024

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Portland State UNIVERSITY

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Executive Summary

Portland State University (PSU) serves as a vital economic and social engine for the Portland metropolitan area and the state of Oregon. With more than 20,000 students enrolled across eight distinctive colleges and schools, offering more than 200 degree and certificate programs, and employing a total workforce exceeding 3,500, PSU contributes significantly to economic, social and community vibrancy through its core educational, research and engagement activities. This study examines PSU's economic and social contributions, educational outcomes, research activities and community engagement initiatives through both quantitative and qualitative analyses to provide a multifaceted view of the university's impact.

Geographically, this study concentrates on the Portland Metropolitan Statistical Area (MSA)[1] where PSU is located, and where the majority of its employees and students reside. Additionally, the study considers the regional contributions of PSU to the State of Oregon as one of the three largest public universities within the state. The analysis timeframe centers around Fiscal Year 2023 (July 1, 2022 to June 30, 2023) and Academic Year 2022-2023 (Fall 2022 to Summer 2023).

Following a literature and case study review, this study develops the PSU Economic and Social Impact Analysis Framework (Figure 1), expanding on the Associate of Public Land-grant Universities' (APLU) Talent, Innovation, and Place framework (APLU, 2023) to include PSU-specific data inputs and analytical components. We then present a profile of the university within the Oregon context. PSU's economic and social impacts are characterized and assessed through an economic contribution analysis (input-output analysis), place-based analysis and a hybrid social and community impact analysis of PSU's educational and research activities.

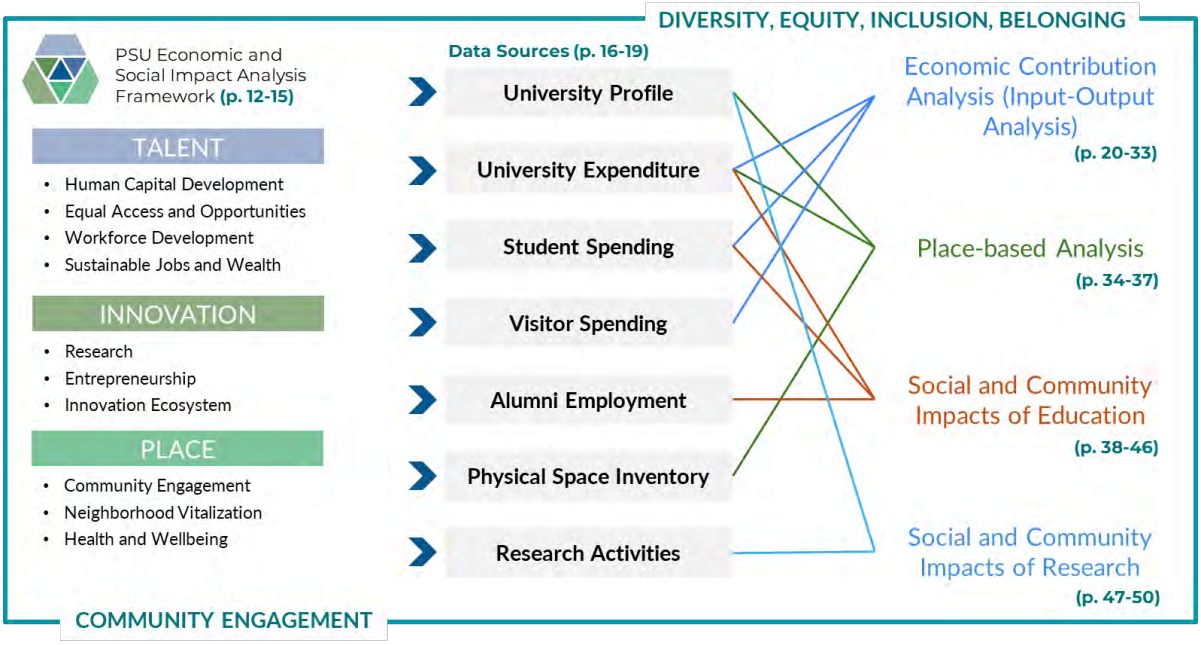


Figure 1: PSU economic and social impact analysis framework with page numbers

[1] The Portland MSA is officially designated as the Portland-Vancouver-Hillsboro, OR-WA Metropolitan Statistical Area by the U.S. Census Bureau, comprising Clackamas, Columbia, Multnomah, Washington and Yamhill Counties in Oregon and Clark and Skamania Counties in Washington.

Based on NERC's quantitative and qualitative research and analysis, here are some key findings that characterize PSU's economic and social contributions to the region:

- **Economic Contribution**: Using customized modeling inputs (e.g., production function, commute rates, etc.), we estimate that PSU's total economic contribution to the Portland MSA and rest of Oregon in FY2023 was more than $1.8 billion in economic output, supporting 11,274 jobs and generating $714 million in labor income. It also contributes $253 million in tax revenues, including nearly $94 million to Oregon state and local governments.

- **Research Activities**: In FY2023, research expenditures reached $92.5 million, a significant increase from previous years, and, most recently, are primarily supported by the state government (44.7%) and federal government (39.7%). PSU research initiatives center community engagement and address pressing challenges in areas such as homelessness, sustainability, transportation, resilience, climate change, mental health and wellness and community development. Licensing, commercialization and practical applications of research outcomes have increased steadily over the years.

- **Educational Impacts and Alumni Outcomes**:
    - PSU stands out as Oregon's only public urban research university, playing crucial roles in the state's higher education landscape, workforce and economy. As the third-largest public university in the state with 22,104 students enrolled in Fall 2022, PSU is also the most racially and ethnically diverse public university in Oregon —nearly 40% of students and 30% of staff identify as BIPOC (Black, Indigenous and People of Color). In Academic Year 2022-2023, 3,839 bachelor's, 1,717 master's, 65 doctoral degrees and 323 post-baccalaureate certificates were awarded.

    - Among PSU Bachelor degree graduates, 74% remain employed in Oregon 5 years after graduation, demonstrating PSU's significant contribution to the local workforce through regional retention. These numbers are lower for graduate students – 72% for master's degrees and 68% for doctoral degrees, reflecting the broader markets for these students. PSU graduates experience substantial earnings growth over time. For example, bachelor's degree recipients' average annual earnings increased from $31,501 to $39,843 (in 2023 dollars) one year post-graduation between the 2012-13 and 2021-22 cohorts, with consistent upward trends across all cohorts and degree levels.

    - PSU's academic programs demonstrate strong relevance to the needs of regional employers. In industries as wide-ranging as health care, education, manufacturing, public administration and finance, PSU graduates find employment in sectors aligned with Oregon's economic needs and growth projections.

- **Community Engagement:** PSU students, faculty and staff are deeply engaged with the community through research, capstone programs, and other collaborative spaces. The Homelessness Research and Action Collaborative (HRAC) is only one example of how the

university collaborates with communities and addresses critical urban issues by leveraging its strategic urban location, resources and expertise.

While this study takes on a holistic approach, characterizing, assessing and analyzing PSU through both quantitative and qualitative lenses, there are a number of data and resource limitations. Nevertheless, this comprehensive examination provides valuable insights into the economic and social impacts of PSU as an anchor institution in the region. We recommend that this study be repeated regularly in the future to track trends and maintain consistent data collection procedures.

Portland State University
Economic and Social Impact Study 2024

I. Introduction

Since its inception in 1946 as the Vanport Extension Center, PSU has grown into Oregon's most diverse urban public research university. Today, it has more than 20,000 students enrolled across eight distinctive colleges and schools, offering more than 200 degree programs. With a workforce of exceeding 3,500 faculty, staff and student employees, and more than 100,000 alumni residing and working in the region, PSU undoubtedly stands as one of the most significant contributors to the economic, social and community vibrancy of both the Portland metropolitan area and the State of Oregon. Given PSU's extensive educational, research and engagement operations, capital investments, student body, workforce and alumni base deeply integrated within the regional economy, this economic and social impact study is essential to comprehensively understand, quantify and characterize the university's multifaceted economic footprint and impact as an anchor institution for the region.

Geographically, this study concentrates on the Portland MSA (Metropolitan Statistical Area)[2] where PSU is located, and where the majority of its employees and students reside. Additionally, the study considers the regional contributions of PSU in the state of Oregon as one of the three largest public universities within the state. The geographic scope allows us to capture PSU's immediate impact on its urban environment as well as its broader influence across the state. Our analysis timeframe centers around Fiscal Year 2023 (July 1, 2022 to June 30, 2023) and Academic Year 2022-2023 (Fall 2022 to Summer 2023), as this was the most current data available at the beginning of this study (towards the end of the 2023 calendar year). All dollar amounts in this report are nominal dollars unless otherwise labeled.

This study develops and utilizes the PSU Economic and Social Impact Analysis Framework based on the APLU's Talent, Innovation and Place framework (APLU, 2023) to include PSU-specific data inputs and analytical components. Following a literature and case study review, we present a profile of the university within the Oregon context. We then characterize PSU's economic and social impacts through an economic contribution analysis (input-output analysis), place-based analysis and a hybrid social and community impact analysis of PSU's educational and research activities.

[2] The Portland MSA is officially designated as the Portland-Vancouver-Hillsboro, OR-WA Metropolitan Statistical Area by the U.S. Census Bureau, comprising Clackamas, Columbia, Multnomah, Washington and Yamhill Counties in Oregon and Clark and Skamania Counties in Washington.

II. Profile of Portland State University

PSU Students

Located in the southwest quadrant of Portland, Oregon, PSU enrolled 22,014 total students in Fall 2022, at the beginning of Academic Year 2022-2023. As shown in Figure 2, undergraduate students represent the largest segment of the student body at PSU, accounting for 14,303 students, or 65% of the total enrollment. Graduate students and non-admit students (students who are taking courses at PSU, but are not admitted to a specific program or certificate) represent 20.5% and 14.5% of all students, respectively. As of Fall 2022, the majority of PSU students are Oregon residents when they enroll, comprising 17,657 students, which equates to 83.5% of the undergraduate population and 68.3% of the graduate population (Figure 3). International students make up a much larger portion within the graduate programs (13.9%) than within undergraduate programs (3.2%). PSU's enrollment is primarily regional at the undergraduate level, while its graduate programs attract a more diverse and geographically dispersed student body, including a significant number of international students.

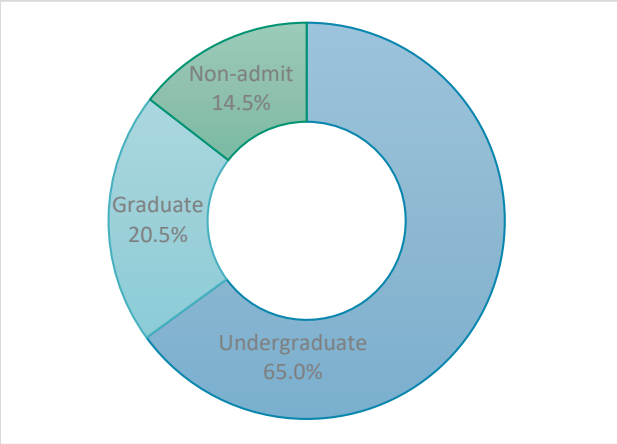


Figure 2: PSU students by enrollment (Fall 2022)

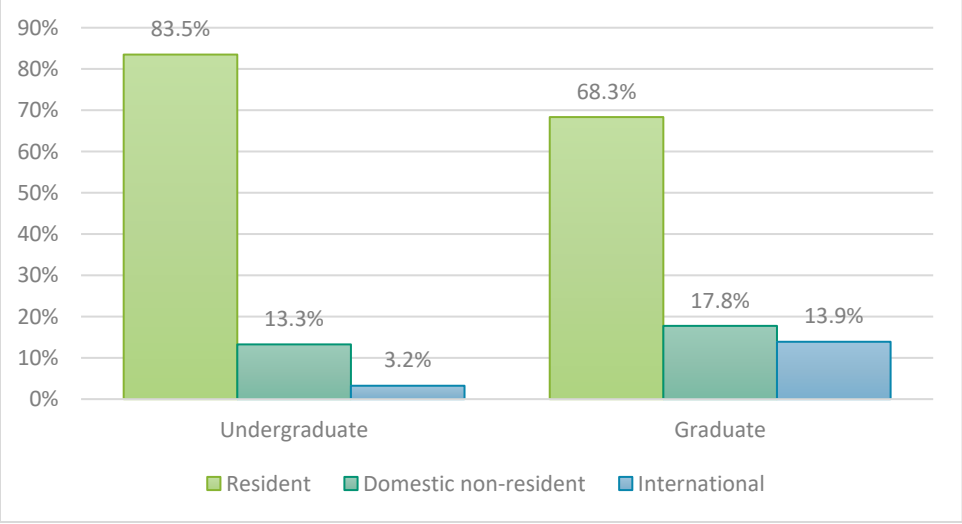


Figure 3: PSU students by residency and type (Fall 2022)

PSU offers more than 200 degree programs and certificates spread across eight colleges and schools, including the College of Liberal Arts and Sciences (CLAS), College of Education (COE), College of the Arts (COTA), College of Urban Studies and Public Affairs (CUPA), Maseeh College of Engineering and Computer Science (MCECS), The School of Business (SB), OHSU-PSU School of Public Health (SOPH) and School of Social Work (SSW). Figure 4 shows student enrollment in these colleges and schools in both undergraduate and graduate degree programs as of Fall 2022.

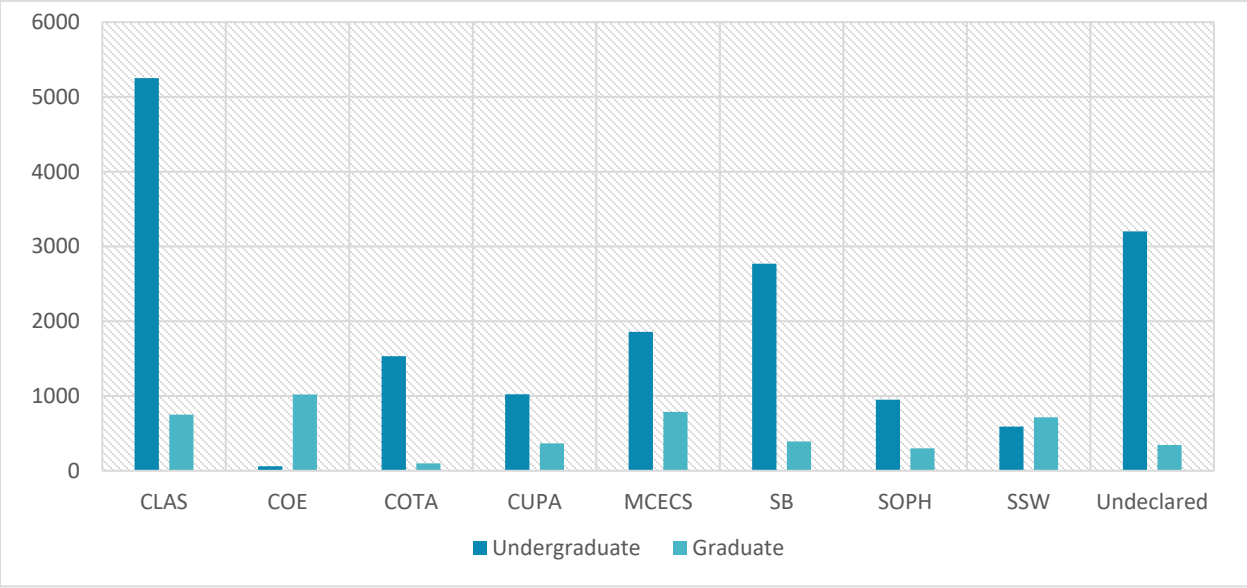


Figure 4: PSU student enrollment by college or school (Fall 2022)

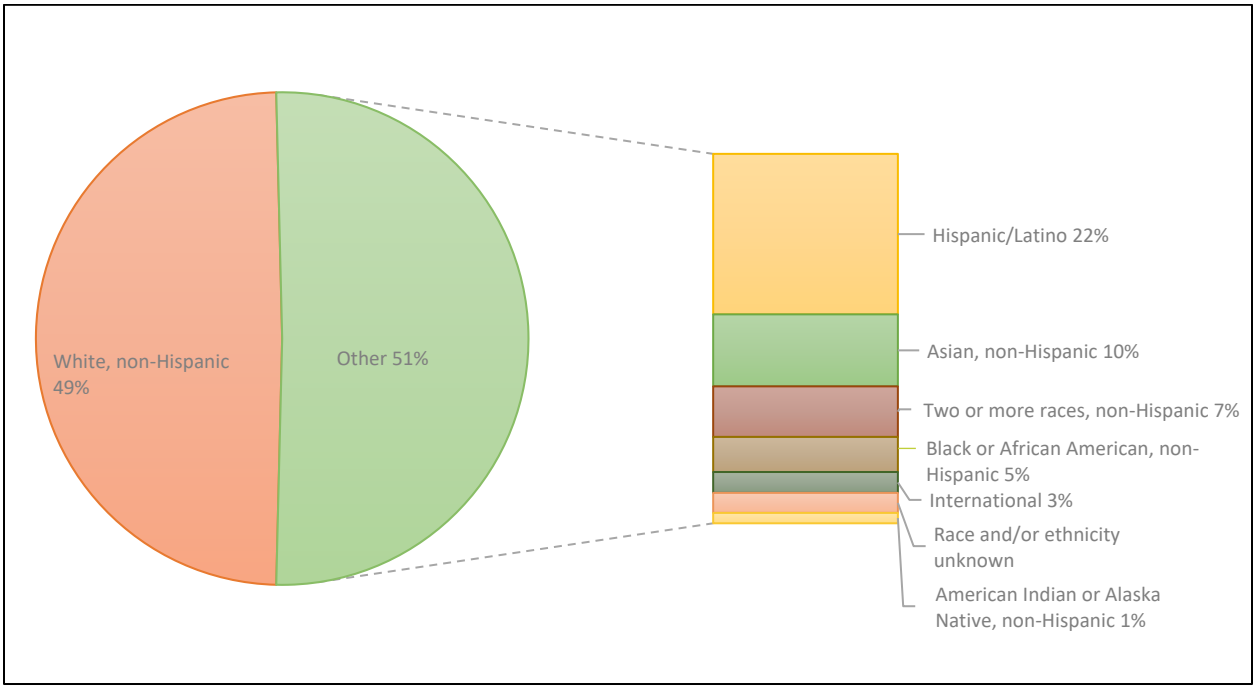


Figure 5: PSU degree seeking undergraduates by race and ethnicity (Fall 2022)

PSU's undergraduate enrollment by race and ethnicity demonstrates a commitment to a diverse and inclusive academic environment (Figure 5). White, non-Hispanic students form slightly less than half of the student body at 49%, Hispanic/Latino students follow with 22%. Asian, non-Hispanic students also make up a notable 10%, while students who identify with two or more races represent 6.9% of the population. Black or African American, non-Hispanic students comprise 5%, international students make up 3% and American Indian or Alaska Native students and Native Hawaiian or other Pacific Islander students comprise the smallest groups at 1.4% and 0.6% respectively.

Degree awarding trends at PSU over the past decade (Figure 6) reveal a nuanced pattern of fluctuations indicative of changes in overall demographics, program development and external socio-economic influences. Some graduate programs at both the master's and doctoral levels exhibit signs of growth; however, recent declines across all categories may indicate lingering effects of the COVID-19 pandemic or shifting demographic patterns, and further investigation to determine underlying causes may be warranted if these trends persist. 4,375 bachelor's degrees were awarded in Academic Year 2013-2014, and experienced minor fluctuations, peaking at 4,571 in Academic Year 2017-2018. A subsequent decrease to 3,839 by 2022-2023 suggests potential shifts in undergraduate enrollment or completion rates. Master's programs displayed consistent growth over the past decade, peaking at 1,717 degrees awarded in Academic Year 2021-2022, indicating sustained or growing workforce demand in the university's graduate offerings, despite some annual variances. Doctoral degrees displayed an overall upward trend until Academic Year 2021-2022, peaking at 104 doctoral degrees awarded, followed by a significant drop to 65 in 2022-2023. Post-baccalaureate certificates exhibited a similar trend to that of doctoral degrees.

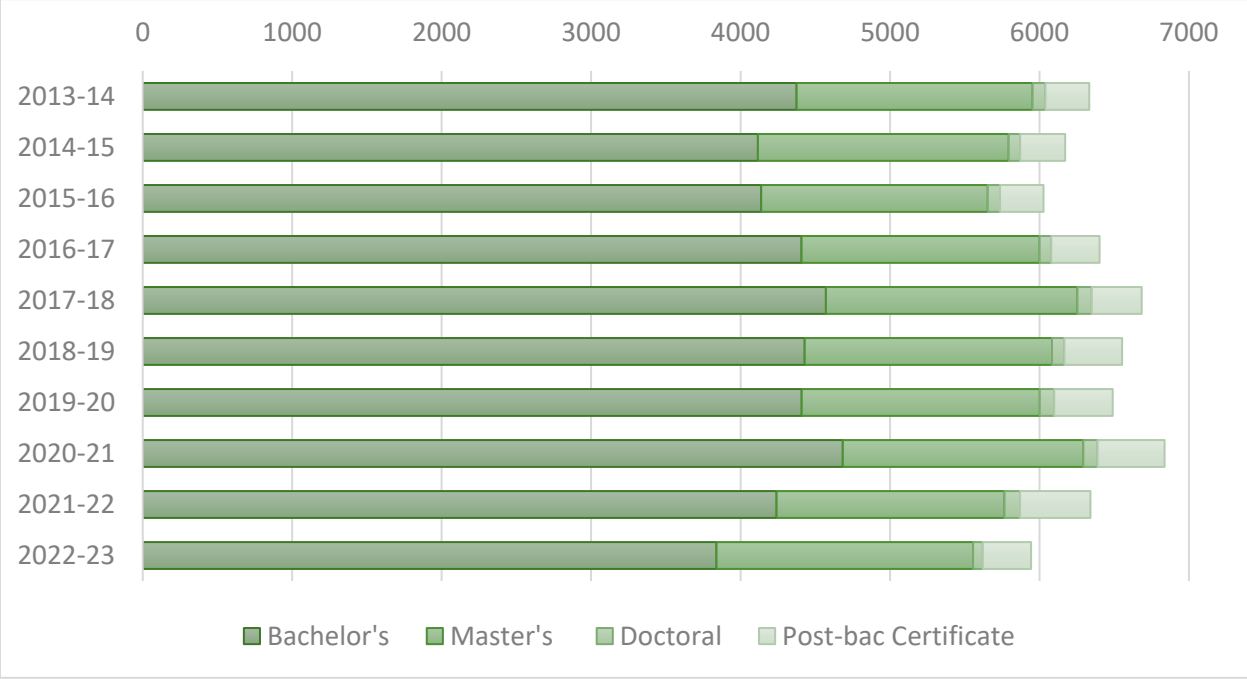


Figure 6: PSU degrees awarded by academic year (AY13-14 to AY22-23)

PSU Employees

PSU is a major employer in the region, with 3,691 university employees as of Fall 2022, of which 2,406 are full time (0.5 FTE or greater) and 1,285 are part-time (less than 0.5 FTE) employees. An examination of PSU employee characteristics (Figure 7) reveals a diverse workforce across educational and operational roles, reflecting the institution's priorities and functional needs. The majority of PSU's employees are faculty members, who constitute 44.4% of the workforce. Academic professionals, staff members and graduate assistants represent 9.8% (363), 21.3% (787) and 14.2% (423) of the workforce, respectively. The remainder are managers (4.8% or 179) or administration[3] (3.9% or 145) and a small percentage of temporary staff (1.5% or 54).

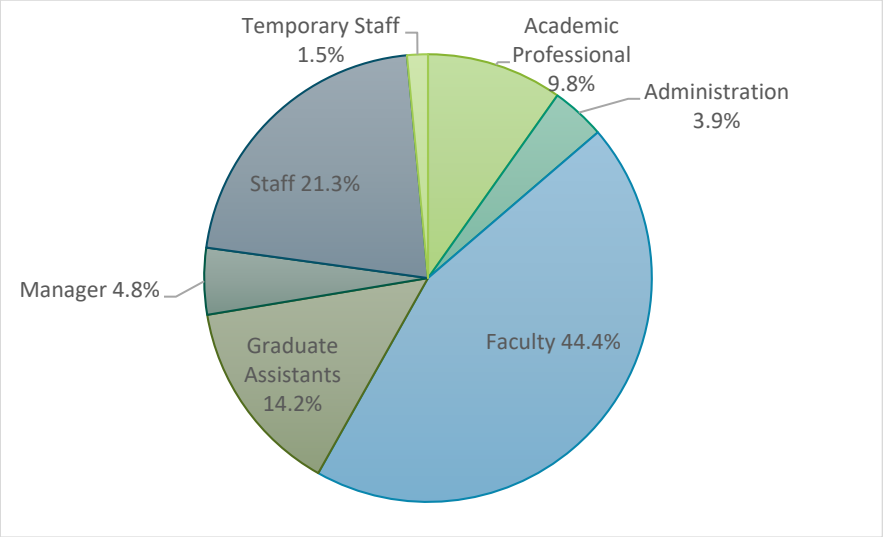


Figure 7: PSU employees by type (Fall 2022)

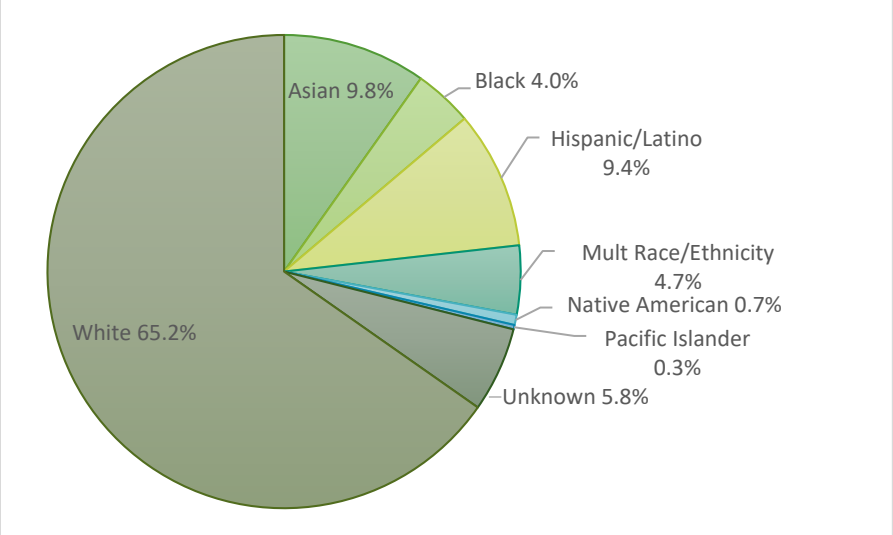


Figure 8: PSU employees by race and ethnicity (Fall 2022)

[3] Note that faculty chairs are counted in the administration category.

PSU's workforce is made up of 2,132 female employees (57.8%), 1,517 male employees (41.1%) and 10 non-binary employees (0.3%). The employees also come from a diverse array of racial and ethnic backgrounds (Figure 8), with a predominance of White employees who make up 65.2% of the staff. Asian and Hispanic/Latino employees constitute 9.8% and 9.4% of the workforce, respectively. Black employees represent a smaller fraction at 4.0%, multiracial individuals at 4.7%, Native Americans at 0.7% and Pacific Islanders at 0.3%.

Further analysis of PSU's employment and payroll can be found in the Input-Output Analysis Inputs section on University Expenditures (page 26).

PSU in Context

PSU is Oregon's only public urban research university, committed to community engagement, education and research in Portland, Oregon and the surrounding regions. It is one of seven public universities across the state, including Eastern Oregon University (EOU), Oregon Institute of Technology (OIT), Oregon State University (OSU), Southern Oregon University (SOU), University of Oregon (UO) and Western Oregon University (WOU) in addition to PSU. In Fall 2022, enrollment at PSU was approximately 22% of the more than 96,000 students across the seven Oregon institutions (National Center for Education Statistics (NCES), 2022), the third largest student population behind OSU with 35,565 students and UO with 23,163 students (Table 1). PSU has a relatively larger proportion of graduate students (22%) when compared to OSU and UO (both about 15.5%), highlighting its prominent role in providing post-baccalaureate education in the region. In contrast, smaller institutions such as OIT and EOU enroll fewer students, reflecting their regional or specialized roles in the state's higher education system.

	Undergraduate	Graduate	Total	Percentage of Total within Oregon
Oregon State University	29,947	5,618	35,565	37%
University of Oregon	19,565	3,598	23,163	24%
Portland State University	16,862	4,747	21,609	22%
Southern Oregon University	4,285	919	5,204	5%
Oregon Institute of Technology	4,802	109	4,911	5%
Western Oregon University	3,320	431	3,751	4%
Eastern Oregon University	2,415	259	2,674	3%
Total	**81,196**	**15,681**	**96,877**	

Table 1: Oregon public university enrollment (Fall 2022) (National Center for Education Statistics (NCES), 2022)

Table 2 provides insight into the racial and ethnic composition of enrolled students at the same set of universities. At PSU, the demographic spread includes 9.39% Asian, 4.32% Black or African American, and a significant portion of Hispanic or Latino students at 18.32%. The representation of Native Hawaiian or Other Pacific Islanders stands at 0.48%, while American Indian or Alaska Native students make up 1.32%. Across the board, White students form the largest demographic group at each university. However, while the proportion of minority groups varies, PSU has notably higher percentages of Hispanic or Latino, Black or African American as well as Asian students compared to the other institutions. With more than 40% of students who identify as BIPOC (Figure 9), PSU is the most racially and ethnically diverse public university in Oregon.

	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or Other Pacific Islanders	White	Two or more races	Unknown	Nonresident Alien
Portland State University	**1.3%**	**9.4%**	**4.3%**	**18.3%**	**0.5%**	**49.5%**	**6.3%**	**4.7%**	**5.7%**
University of Oregon	0.5%	6.6%	2.6%	14.6%	0.4%	61.2%	8.1%	1.6%	4.3%
Oregon State University	0.6%	8.0%	1.8%	11.7%	0.3%	61.9%	6.6%	2.5%	6.6%
Oregon Institute of Technology	1.2%	7.4%	2.5%	16.0%	0.5%	64.6%	4.7%	1.8%	1.3%
Eastern Oregon University	1.5%	1.1%	1.8%	14.2%	2.4%	69.1%	4.5%	4.1%	1.2%
Southern Oregon University	1.2%	2.4%	1.8%	13.2%	0.6%	55.1%	7.8%	16.9%	1.0%
Western Oregon University	1.0%	2.6%	2.8%	22.4%	1.4%	60.1%	5.5%	3.1%	1.1%

Table 2: Oregon public university enrollment by race/ethnicity (Fall 2022) (National Center for Education Statistics (NCES), 2022)

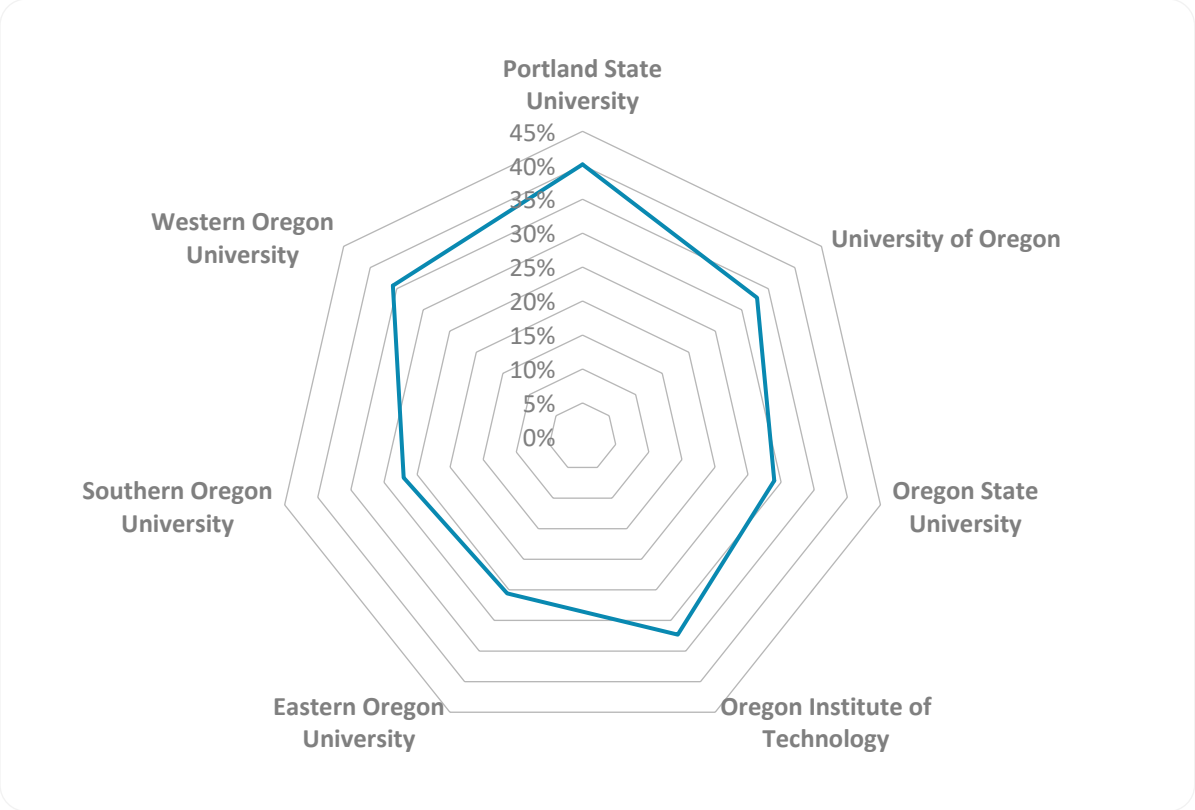


Figure 9: Oregon public university BIPOC enrollment (Fall 2022) (National Center for Education Statistics (NCES), 2022)

	Tuition and Fees			On Campus Expenses		Off Campus Expenses	
	In-state	Out-of-state	Books and supplies	Room and board	Other	Room and board	Other
Portland State University	**$10,806**	**$29,706**	**$888**	**$11,856**	**$2,811**	**$14,940**	**$2,811**
University of Oregon	$15,054	$41,700	$1,227	$14,640	$2,718	$11,256	$2,718
Oregon State University	$12,664	$33,439	$600	$14,238	$2,841	$14,238	$2,841
Oregon Institute of Technology	$12,122	$33,956	$1,000	$10,921	$3,400	$13,423	$4,843
Eastern Oregon University	$10,041	$23,226	$1,305	$10,770	$3,390	$10,770	$3,390
Southern Oregon University	$11,691	$30,051	$999	$15,819	$1,500	$11,958	$1,500
Western Oregon University	$10,602	$30,582	$1,125	$10,923	$2,508	$10,854	$2,508

Table 3: Oregon public university cost of attendance (Fall 2022) (National Center for Education Statistics (NCES), 2022)

We compare the cost of attendance figures across Oregon's public universities in Table 3. It delineates not just tuition and fees, which are predictably higher for out-of-state students across all listed institutions, but also the cost of books and supplies, room and board and other living expenses. While living expenses are predictably higher in an urban area such as Portland, Figure 10 highlights PSU's relative affordability with its lower in-state and out-of-state tuition rates.

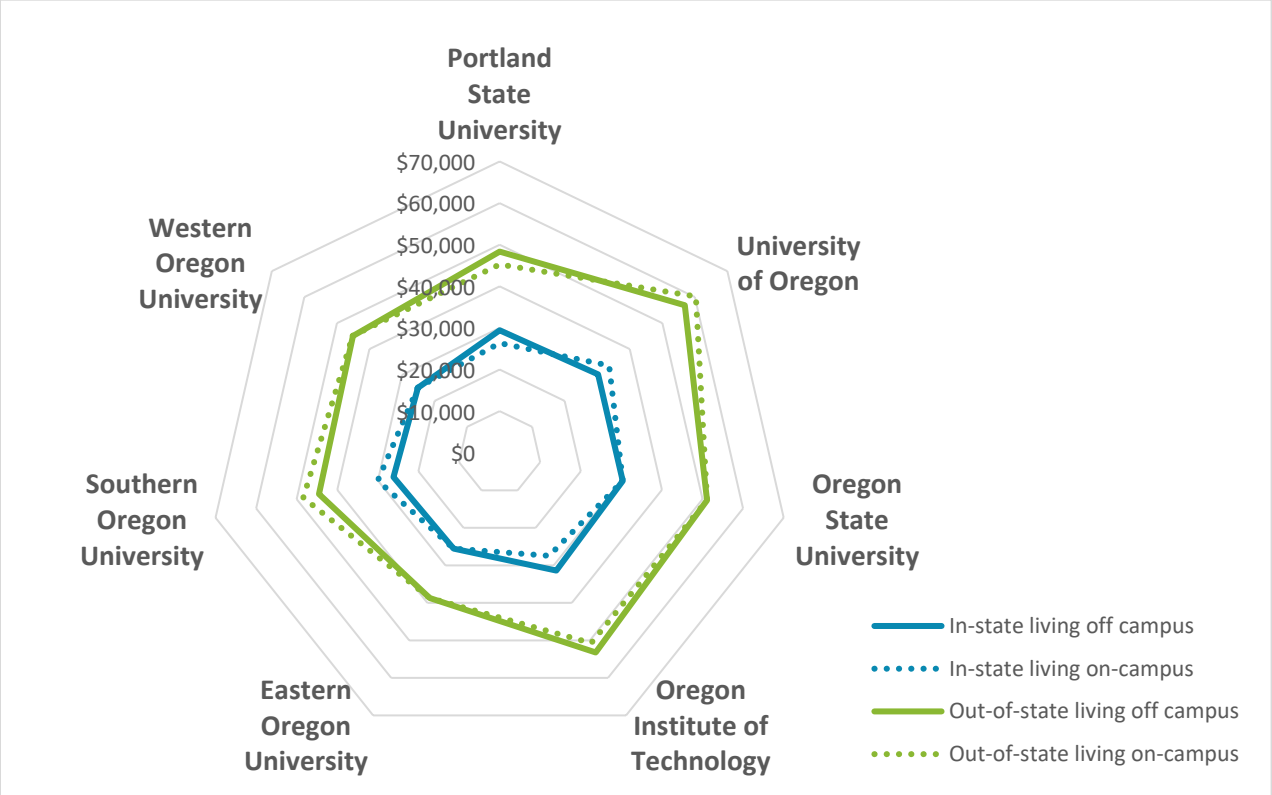


Figure 10: Oregon public university cost of attendance comparison (Fall 2022) (National Center for Education Statistics (NCES), 2022)

III. Research Framework

Literature Review

Universities contribute to economic and social well-being in many ways. They stimulate local and regional economies through direct spending on operations, infrastructure and employment. Universities often rank among the top employers in their regions, providing a substantial number of jobs and supporting local businesses through procurement and partnerships. PSU is a prime example of a multifaceted institution with economic and social impacts extending far beyond the traditional roles of universities in simply providing academic instruction and research. PSU's significant reach and impacts are underscored by its designation within the Carnegie Classification of Institutions of Higher Education as an R2 Institution (Doctoral Universities with High Research Activity) and as a Carnegie Community Engagement Classification institution, in addition to its designation as an Asian American and Native American Pacific Islander-Serving Institution and an emerging Hispanic-Serving Institution by Excelencia in Education. It is also recognized by Ashoka as a Changemaker Campus[4] since 2012, given to "leading institutions in social innovation and changemaking in higher education". To comprehensively characterize and capture PSU's full economic and social impacts on the region, the research team carefully reviewed relevant literature, frameworks and other university impact studies to develop a robust methodological framework for this study.

Universities serve as vital anchor institutions that generate substantial economic impacts within their regions, as demonstrated by the Federal Reserve Bank of Philadelphia's first Anchor Economy Dashboard that highlights the "outsized impact" of "anchor institutions" such as higher education institutions and hospitals on regional economies (Harker et al., 2022). The Dashboard and its corresponding report examine their economic significance in regional economies by recognizing these institutions for their stable presence and impact on employment, innovation, talent production and attraction. This aligns with the Talent, Innovation and Place framework developed by the Association of Public and Land-Grant Universities (APLU), which conceptualizes the ways universities contribute to and engage with economic development beyond traditional education and research (APLU, 2014; Klein & Woodell, 2015).

We reviewed a collection of university impact and contribution case studies that reinforce the vital role that universities play as economic anchor institutions within their respective regions. Individual university analyses from California (Beacon Economics, 2016; Douglass & King, 2018; ICF, 2021), Maryland (Jacob France Institute, 2019), Michigan (Anderson Economic Group, 2022), Ohio (Khalaf et al., 2022), Oregon (ECONorthwest, 2020; Lightcast, 2023a, 2023b) and Washington (Center for Economic and Business Research, 2024; Parker Philips, 2019) consistently utilize economic input-output models such as IMPLAN or Lightcast MR-SAM to quantify direct, indirect and induced impacts of university direct spending, employment, capital investments, student spending and visitor spending. However, data sources, modelling inputs and modelling assumptions vary greatly depending on availability of financial reports, employment records and other survey data.

[4] Ashoka Changemaker Campus is a "designation that recognizes colleges and universities with a proven track record of campus-wide excellence for social innovation and changemaking. These institutions collaborate with each other and Ashoka to advance social innovation and changemaking across higher education to graduate millions of changemakers." See https://www.ashoka.org/en-us/ashoka-changemaker-campus for more details.

In addition to the broader impacts of universities on the regional economy, a key mechanism "by which universities can affect their local economies is through highly localized knowledge spillovers" (Baron et al., 2018). Communities can strategically leverage research capacities at universities such as PSU to transfer "productivity-enhancing knowledge" to local employers, especially in innovation-driven and technically skilled industries such as Oregon's high technology, outdoor gear and apparel, food and beverage, forestry and wood products or bioscience industries. Numerous studies (Brekke, 2021; Clark et al., 2020; Drucker & Goldstein, 2007; Huggins & Johnston, 2009; Siegfried et al., 2006; Uyarra, 2010; Valero & Van Reenen, 2019) affirm that universities' contributions to regional economic growth and development extend far beyond the direct expenditures by the institution, staff, faculty, students and visitors. Their catalytic effects on human capital development, innovation, entrepreneurship and further impacts of educational and research activities reverberate throughout a region, driving social and technological progress and economic growth.

Furthermore, universities profoundly influence socioeconomic mobility pathways. Research by Haskins (2008) demonstrates the critical relationship between education and economic mobility in the US, that educational attainment not only affects individual earnings outcomes, but also economic mobility across generations, especially those from lower-income families. The Postsecondary Value Commission proposes an evaluation framework of higher education economic returns by comparing between total student investment in postsecondary education and economic returns to students, particularly to students from historically marginalized groups (Dancy et al., 2021). The literature on the social return on investment from universities extends traditional economic impact analyses to include the valuation of intangible benefits such as the societal impacts of educational programs, the long-term benefits of research and innovation and institutional contributions to community welfare and environmental sustainability (Costa, 2013, 2017; Krlev et al., 2013; Lingane & Olsen, 2004; Ryan & Lyne, 2008). Mulgan (2010) further discusses the complexity and elusiveness of quantifying and measuring social value in nonprofit and public sectors, which are major employment destinations for PSU graduates and are also significant collaboration partners in PSU's research and community engagement activities. While these equity and community-focused lens approaches align well with PSU's commitment to socioeconomic mobility and community engagement as an urban-serving institution, operationalizing these frameworks remain challenging due to data availability.

In summary, the literature establishes universities as economic and social anchor institutions whose regional impacts transcend their operational footprints. We find that the APLU Talent, Innovation and Place framework that conceptualizes a university's economic engagement and contributions into its three overlapping and synergistic areas as an appropriate foundation upon which to build and develop a comprehensive analysis framework specifically designed for PSU's economic and social impact study.

Conceptual Framework

APLU's Commission on Innovation, Competitiveness, & Economic Prosperity (CICEP) created the Talent, Innovation and Place framework to summarize university contributions to the economy — "from educating students and creating the talent necessary for the 21st century workforce to developing innovation ecosystems and entrepreneurship, to enhancing social, cultural and community development" (APLU, 2014). This study builds on the APLU framework with PSU's central mission and values of "let knowledge serve the city" and diversity, equity, inclusion and belonging to construct the foundation of our conceptual framework as shown in Figure 11, representing PSU's role within its surrounding communities and the broader society.

Figure 11: APLU economic engagement framework (APLU, 2023)

At its heart, the framework acknowledges the critical role universities play in developing human capital, under the banner of Talent. This extends beyond imparting academic knowledge or preparing students for the modern workforce. Universities nurture critical thinking, creativity and specialized skills, making significant contributions to the personal and professional growth of individuals. This aspect of the framework emphasizes the university's role in shaping well-rounded individuals equipped to contribute effectively to society.

Innovation, another cornerstone of the framework, highlights the university's role as a hub of research and creativity. Universities are instrumental in driving scientific and technological advancements, contributing to the cultural and social evolution and addressing real-world issues. This extends to fostering entrepreneurship and engaging in industry collaborations, and translating academic research into tangible societal benefits and economic growth. The framework's focus on creating an innovation ecosystem underscores the university's critical role in the knowledge economy, contributing to the tangible creation of new products, industries and job opportunities, and the less tangible but equally vital realms of policy discourse, civic engagement and intellectual vibrancy.

The Place aspect of the framework emphasizes the university's role as an anchor institution within its community. This encompasses not only the direct economic impact of the university's operations but also its involvement in community development and urban planning. Universities contribute to the social and cultural vitality of their regions, often engaging in initiatives that enhance the quality of life and economic prospects in their surrounding areas. Expanding this framework also involves recognizing the broader societal impacts of universities. They play a pivotal role in fostering social cohesion, cultural enrichment and community engagement. Through various outreach programs, public service initiatives and cultural events, universities contribute to the overall well-being and development of their communities.

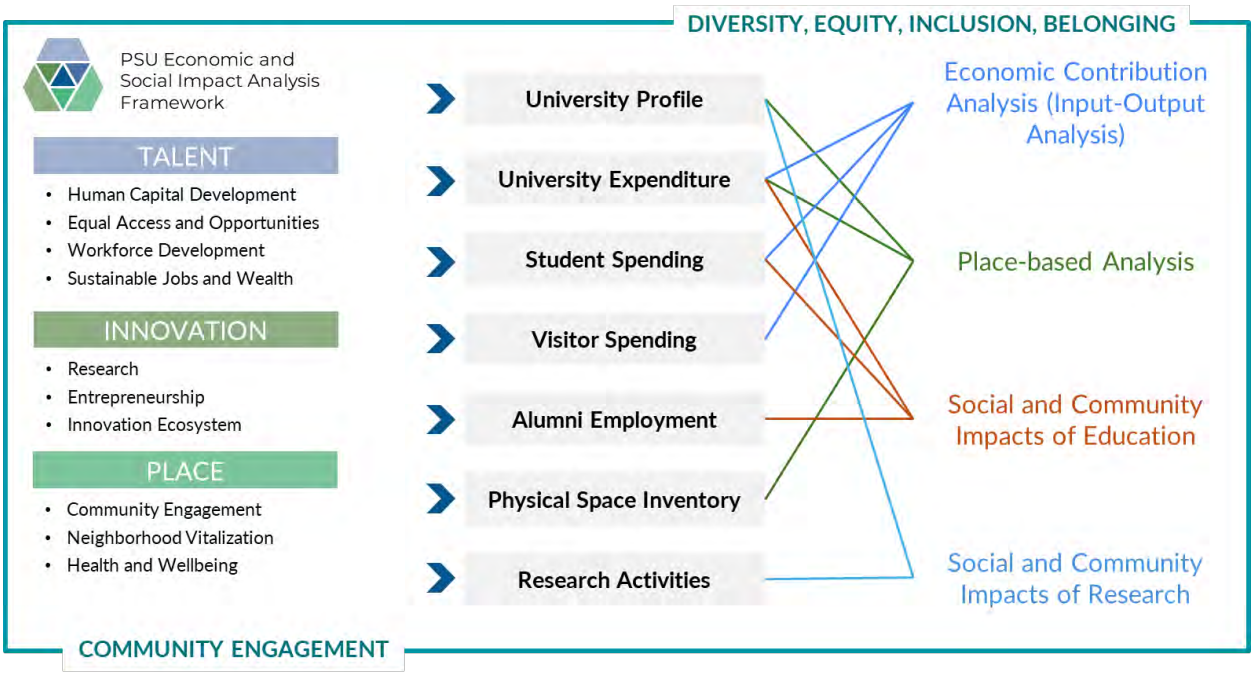


Figure 12: PSU economic and social impact analysis framework

The adapted PSU Economic and Social Impact Analysis Framework is shown above in Figure 12. It integrates the core elements from the APLU Talent, Innovation and Place framework while expanding on the PSU-specific data inputs and analytical components. Notably, the PSU framework maintains the APLU emphasis on diversity, equity, inclusion and belonging as crucial overarching lenses through which all economic engagement efforts should be viewed and assessed. Additionally, it positions "Community Engagement" as another vital overarching principle, reflecting PSU's mission as an anchor institution deeply embedded within the surrounding communities it serves.

The three core components of Talent, Innovation and Place, and their corresponding overlapping impacts, are directly adapted from the APLU framework, and the adapted framework summarizes a few more granular subcomponents that describe PSU activities that fall under each core component. The center column specifies key data sources and metrics that this study utilizes to characterize and quantify PSU's unique roles and impacts. The right column delineates the primary analytical methods (both quantitative and qualitative) and the corresponding data inputs. This tailored approach of adapting the high-level APLU framework to a localized and operationalized PSU framework provides a robust basis to best characterize the economic and social contributions of our institution. The data sources and analytical methodology are further detailed in the following section.

Data Sources

University Profile

Data on PSU's enrolled students, faculty and staff and degrees awarded comes from the Office of Institutional Research and Planning (OIRP) and the Office of Student Financial Aid and Scholarships. Most of the data is accessible via OIRP's website[5], including the Fact Book (statistical data on students, awards, student credit hours and employees), University Metrics and Departmental and Student Success Dashboards. OIRP also provided data submitted annually to the Common Data Set Initiative[6]. Additionally, we worked with both OIRP and the Office of Information Technology's Business Intelligence team to access employment and earnings data for PSU graduates (more details in the Alumni Employment section below). Lastly, we utilized the Integrated Postsecondary Education Data System (IPEDS) from the U.S. Department of Education's National Center for Education Statistics (NCES, 2022), which gathers annual information from all postsecondary institutions. We used this data to compare PSU's student enrollment, graduation rates, faculty and staff demographics, financial health and student financial aid with other institutions in Oregon.

University Expenditures

University expenditure, including both university operations and capital investments, serve a critical role in understanding the economic impact of a higher education institution on its local and regional economy. We worked with the University Budget Office, Controller Department (also known as University Financial Services) and Human Resources Department to gather detailed transaction data for the PSU between FY2018 to FY2023. This aggregated data includes salaries and wages, operational, capital, research and student-related expenditures.

Student Spending

Student spending represents an important piece of information to understand the expenses incurred by PSU students to obtain degrees and certificates, but also helps characterize the economic contribution by PSU students' consumption in the surrounding region. The Office of Student Financial Aid and Scholarships and OIRP conduct an annual student spending survey to estimate the cost of attendance (COA) for students in various statuses and categories (e.g., graduate/undergraduate, resident/non-resident, living on-campus/off-campus, half-time/full-time, etc.). The COA is used to establish the limit for student financial aid. It covers several categories:

- Tuition & Fees: Costs of courses and university services.
- Books & Materials: Expenditures on textbooks and other course materials.
- Housing: Rent and associated living expenses for on-campus or off-campus accommodation.
- Board: Costs related to meal plans or groceries.
- Personal Expenses: Day-to-day expenses including clothing, leisure activities and other miscellaneous costs.
- Transportation: Costs associated with travel to and from the university and within the campus.

[5] See https://www.pdx.edu/research-planning/statistical-look for more details.

[6] The Common Data Set Initiative (https://commondataset.org/) is "a collaborative effort among data providers in the higher education community and publishers as represented by the College Board, Peterson's and U.S. News & World Report". Higher education institutions participate by following a defined "set of standards and definitions of data items" when reporting information about students, faculty and other facts. This allows for consistency and comparability between years and institutions.

- Student Loans: Expenses covered by borrowing, reflecting the portion of spending financed through debt.

We utilize the enrollment numbers and student spending in Academic Year 2022-2023 as the basis to estimate student spending. While we report and analyze all student spending in this study, it is important to note that student spending directly paid to the university, such as tuition and fees or on-campus housing costs, is excluded from the economic contribution analysis. This exclusion is critical to avoid double counting, as these expenses are already accounted for in the university's operational expenditures. Furthermore, following best practices for economic contribution analyses, this study only includes additional spending that occurs because of PSU's existence, and excludes spending by students who would possibly be residing in the region even without PSU. More details about these assumptions can be found on page 29.

Visitor Spending

Visitor spending is a common component of most university economic impact studies. It encompasses expenditures made by visitors who visit the university and its surrounding region for various reasons, including attending conferences, seminars, sports events, graduation ceremonies, performances and other university-related activities. While some events, such as seminars, attract local attendees, other events, such as commencement or multi-day conferences, may attract visitors from outside the Portland region. Depending on the specific visitor type, their spending may include expenditures on accommodations, dining, transportation, entertainment and shopping categories.

Analyzing visitor spending requires a few data components, such as how many events are held, how many people attend these events and how much people spend when attending these events. While the University Communications Office was able to provide data on events syndicated on PSU's website, the format of the data prevented us from extracting event types and potential attendance. As such, the study team focused on four types of events – commencements, athletic events, events held on campus facilities and arts performances.

- Commencement: Commencement data from three large events in 2023 was collected from the PSU President's Office, including tickets provided or sold to students and visitors.

- Athletic events: We collected all PSU sports teams' match records from PSU Athletics, including team members, dates and attendance for football, basketball, soccer, volleyball and softball matches held in the Portland MSA region. Cross country, golf, tennis and track and field events do not track attendance information and are excluded from this analysis. We further utilize PSU's team rosters as proxies to approximate the number of people on opposing teams visiting Portland. For example, PSU's football team has a roster of 120 people, including 106 players and 14 staff members; thus, we assume a visiting team will have 120 people who will spend money on accommodations, dining, transportation and other retail when they visit Portland.

- Events held on campus facilities: The Campus Events & Student Union (CESU) office manages events at the Viking Pavilion at the Peter W. Stott Center, the Smith Memorial Student Union (SMSU) and Hoffman Hall, including symposiums, government training, orientation and recruiting and other community events. Because actual attendance is not tracked for each of the more than 4,000 events organized and scheduled by the CESU office, we utilized the event counts and average attendance size at corresponding event spaces to estimate the total number of visitors at

these events in FY2023.

- Arts performances: The University Box Office provided data on ticketed performances held both on campus at Lincoln Hall, SMSU and other locations, and off campus at various performance venues during FY2023. This data includes events held by PSU departments and student groups as well as external clients.

The portion of visitor spending on commencement tickets, sporting event tickets or arts performances directly paid to PSU is already accounted for as a part of the economic contribution analysis through university expenditures, but additional spending outside of the university campus still needs to be considered. Local attendees to a PSU Vikings basketball match may enjoy a restaurant meal before or after the match, take the TriMet MAX line to and from the event and purchase other goods from neighboring businesses; non-local attendees who attend their grandchild's commencement may pay for overnight accommodation, host a graduation party at a local restaurant, enjoy several meals during their visit and purchase gifts or other products in Portland. We adopted spending categories and levels from the Arts & Economic Prosperity 6 (AEP6) study (Americans for the Arts, 2024a) to approximate visitor spending associated with PSU events and facilities. Using survey data from Greater Portland (Clackamas, Multnomah and Washington Counties), the study estimates that local (i.e., visitors who reside within the Greater Portland region) and nonlocal attendees account for 88.4% and 11.6% of all attendees of events held in the region respectively, and typically spend money on food and beverages, shopping, accommodation, transportation, childcare, clothing and groceries and other miscellaneous activities per person and event.

Alumni Employment

In order to understand the employment and earnings outcomes of obtaining a degree or certificate at PSU, we first examined the Post-Secondary Employment Outcomes (PSEO) data developed by the U.S. Census Bureau. All Oregon universities that are part of the Oregon Higher Education Coordinating Commission participate in the data-sharing agreement, which covers about 70% of all graduates in the state. This dataset tracks cohorts graduating between 2001 and 2018 at all degree levels (baccalaureate, masters, doctoral and certificates) by instructional program groupings to understand the industries, geographic locations and earnings levels of graduates at 1, 5 and 10 years beyond graduation. The PSEO data is currently published up to year 2019.

We worked with PSU's Office of Information Technology's Business Intelligence Team to match PSU student information with the Quarterly Census of Employment and Wages (QCEW) data at Oregon's Employment Department (OED) and with student enrollment records from the National Student Clearinghouse (NSC). The matched QCEW data from OED tracks PSU graduates from the 2012-2013 through 2022-2023 academic years, with employment industry and earnings data for up to 10 years post-graduation within the State of Oregon (up to 2023 Q3). The matched NSC data allows us the ability to separate graduates who continue to enroll in post-secondary institutions nationwide. This dataset does not track all post-graduation pathways, indicating that it does not account for graduates who are self-employed, working in unpaid internships, participating in fellowships or pursuing alternative career paths that do not involve traditional employment.

Additionally, we pulled data from the Oregon Employment Department's QualityInfo website[7], a comprehensive data source providing a wide range of labor market information and analysis for the state of Oregon. It offers detailed data on employment trends, industry and occupational statistics, economic indicators, wage information and workforce demographics. To understand Oregon's current employment landscape and projected trends, we focused on several occupational analyses that cover top industries by employment and wages, and projected employment and wage growth rate between 2022-2032.

Physical Space Inventory

A detailed inventory of both building spaces and outdoor spaces was obtained from the Planning, Construction and Real Estate (PCRE) office, and includes space types, sizes, organizational units and usage types.

Research Activities

To analyze research activities at PSU, we used Sponsored Project Activity (SPA) datasets from the Sponsored Projects Administration unit within Research and Graduate Studies (RGS). It provides detailed information about projects submitted and awards as documented on the Proposal Internal Approval Form. The data includes details on sponsor and project types, research entities and investigators and contracts from FY2015 to FY2023. Additional information was obtained from RGS via the office's self-study (FY2019 to FY2023) and tracking of patents, startups, products and licensing.

[7] See http://www.qualityinfo.org for more details.

IV. Portland State University's Impacts

Economic Contribution Analysis

Input-Output Analysis Methodology

The standard technique for quantifying the economic impact of any industry in a particular area uses input-output modeling to capture not only the direct impacts of the industry, but also indirect impacts in other industries, and induced impacts caused by the spending associated with employment within the sector. This is attained by IMPLAN's proprietary industry matrix, which assigns values to employment and spending per sector, and the relationships between all of the sectors in a given area. The results therefore include three types of impacts (described below), and the sum total across all three types. Furthermore, this study is more accurately classified as an **economic contribution study** of PSU as we are examining the contribution of the university's activities in the region, and not the loss that might result from the counterfactual of the university's non-existence or closure.

Direct Impacts

Any given industry supports a certain number of firms and jobs, and therefore generates both spending and federal, state and local tax revenue. Direct impacts describe these additions to the economy. This includes direct university expenditures and employment within the North American Industry Classification System (NAICS) sector of 611310 Colleges, Universities and Professional Schools, and may include additional direct off-campus consumption by students and visitors when they attend PSU-related events and activities.

Indirect Impacts

All firms purchase goods and services from other firms, in different industry sectors. Indirect impacts estimate the quantified value of these purchases in terms of jobs, spending and tax revenue. Examples of goods and services used by the colleges and universities industry sectors include real estate, utilities such as electricity, natural gas and water, food and beverages, books and publications and information technology such as computer hardware and software, among others.

ECONOMIC IMPACT MEASUREMENTS

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

Employment represents the number of annual average full-time/part-time jobs as defined within the Bureau of Economic Analysis Regional Economic Accounts (BEA REA) and Bureau of Labor Statistics Census of Employment and Wages (BLS CEW) data. These job estimates are derived from industry wage averages.

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

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

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

Economic impact analysis includes all of these goods and services, as well as others, in its final total outputs for indirect spending, jobs and generated tax revenue.

Induced Impacts

These impacts are due to the spending that employees of the selected industry sectors engage in with the wages and salaries that they earn. Therefore, induced impacts take place across all standard consumer purchase sectors, including real estate, grocery spending, spending at bars and restaurants, the purchase of utilities, retail and many others.

The multiplier effect, which is the basis for input-output analysis such as the above, describes the way in which one dollar entering the economy at a certain point is distributed through related industries. For example, when PSU offers an undergraduate course, it purchases goods and services from many sources to enable the course to be taught, such as electricity and heating/cooling for the classroom, computer hardware and software, library subscriptions for assigned readings, furniture, qualified faculty to teach the course, graders to assist in marking assignments, administrative staff to process enrollments and other associated goods and services. The economic effect of the production of the course alone would be considered a direct effect. Purchases from the associated enterprises described above constitute the indirect effect. Finally, the induced effect is felt when individuals employed by the university spend the wages earned in the process of production — on rent, food, consumer goods, utilities and any other standard living or recreation expenses.

Input-Output Analysis Inputs

PSU is a unique entity within the State of Oregon, as the only public urban research university and as one of the most diverse in terms of its student body. Employing more than 3,600 people and enrolling more than 22,000 students, PSU contributes significant economic impacts in the local and regional economy in various ways. IMPLAN's model incorporates a specific industry production function for colleges and universities (481 junior colleges, colleges, universities and professional schools) in Oregon, but this more appropriately describes how higher education institutions as a whole operate within the state and provides limited guidance for an institution like PSU. Thus, in order for us to adequately capture PSU's economic contribution in the region, we developed several customized components for this analysis. Our IMPLAN modeling focuses on three main components:

1. **University expenditures**:
   Operational expenditures, including salaries and wages, benefits, utilities, supplies and professional services, often involve purchasing goods and services from local businesses, directly affecting the local economy. These expenditures represent the intermediate inputs that are used to produce the education, research and community engagement activities at PSU. Capital expenditures are funds used for acquiring, upgrading and maintaining physical assets such as buildings and infrastructure. During the timeframe of this analysis (FY2023), capital expenditures made up 7% of the total university expenditures as several major capital projects had concluded in the previous years.

a. Custom production function: A customized production function[8] with adjusted local purchase percentages was developed using detailed transaction data from the University Budget Office and Controller Department. We mapped expense categories to IMPLAN's commodity list (which may be produced by multiple industries, and may be purchased locally or imported from outside of the analysis region). For example, expenses for "laboratory supplies" are matched to the commodity "3317 analytical laboratory instruments" and expenses for "water" as a utility is matched to the commodity of "3049 water, sewage and other systems".

b. Custom in-commuting rate: We obtained data from the Human Resources Department and University Budget Office on full-time equivalents (FTEs) and total employee compensation by zip code. This data provides critical information about how many of PSU's employees work and reside in the Portland MSA, our focus region of analysis, or within the rest of Oregon or outside both of these regions completely. IMPLAN's estimated Portland MSA in-commuting rate is 10.64%, while we estimate PSU's actual in-commuting rate to be 10.09%. This indicates that more of PSU's employees both work and live in the region, contributing further to the regional economy through their consumption of goods, services and housing.

c. Capital expenditures: Capital expenditures are "expenditures made to acquire, add to or improve property, plant and equipment (PP&E). PP&E includes land, timber and minerals; structures, machinery, equipment, special tools and other depreciable property; construction in progress and tangible and intangible exploration and development costs" as defined by the Bureau of Economic Analysis (BEA), and are considered separately in the IMPLAN model. For example, PSU capital investments into new classroom buildings fall within the "53 Construction of new educational or vocational structures" industry sector, while maintenance and repair of buildings fall within the "60 Maintenance and repair construction of nonresidential structures".

2. **Student spending:** We estimate PSU student spending using data from the Office of Student Financial Aid and Scholarships and enrollment data provided by OIRP. After carefully excluding any expenditures already accounted for within PSU's university expenditures (such as tuition and fees) and other expenditures associated with students who would otherwise be living in the region, student spending data is then categorized and mapped into IMPLAN industries.

3. **Visitor spending:** Visitor spending is estimated using data on PSU commencement events, athletics events, external events held in large campus facilities and arts events. Double-counting is likewise avoided by excluding visitor spending directly paid to the university and already accounted for in the university expenditure category (such as sporting event tickets).

We define two geographic regions for this analysis: the Portland MSA (comprising Clackamas, Columbia, Multnomah, Washington and Yamhill Counties in Oregon and Clark and Skamania Counties in

[8] This was formerly known as Analysis By Parts (ABP) in IMPLAN.

Washington), and the rest of Oregon. The study uses the 2022 model year and 2023 dollar year to align with the latest available IMPLAN model and PSU data (FY2023 and Academic Year 2022-2023).

Furthermore, we take advantage of the Multi-Regional Input-Output (MRIO) analysis within IMPLAN to account for the complex economic relationships between the Portland region and the rest of Oregon. MRIO analysis is particularly valuable in this context as it allows us to capture interregional spillovers, or how PSU's economic activities in Portland affect the rest of Oregon and vice versa, and to account for supply chain linkages and labor market dynamics between the Portland MSA and other parts of Oregon. This approach ensures a more accurate assessment of PSU's broader influence on the state's economy.

University Expenditures

In FY2023, PSU's institutional expenditures total more than $740 million, including operating funds, non-operating funds (e.g., capital construction) and agency funds (e.g., student loans or payroll deductions). The salaries and wages category represents the largest share of expenditures at $363,007,559, accounting for 49.1% of the total. The second-largest expenditure is related to student aid and loan, amounting to $167,705,460, which is 22.7% of the total. Operation category occupies 21.1% of the total expenditure at $156,302,418. In FY2023, 7.1% of the university spending is allocated towards capital expenditures.

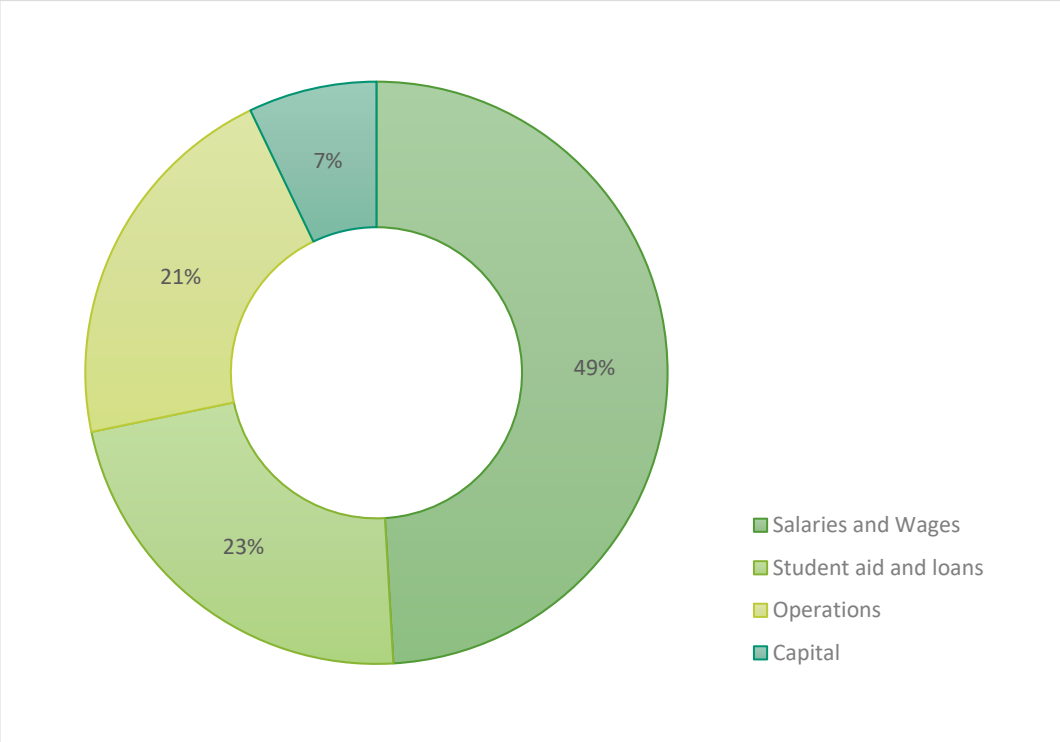


Figure 13: PSU expenditures by category (FY2023)

The PSU Budget Office utilizes a detailed categorization scheme, divided into five large divisions: Academic Units, Administrative/Support, Athletics, General University Obligations and PSU Foundation. Figure 14 shows expenditure trends in these five divisions between FY2018 and FY2023. Academic Units' spending increased from approximately $247 million in FY2018 to $269 million in FY2023, while Administrative/Support expenditures fluctuated, peaking at $284 million in FY2019 before falling to $194 million in FY2021, and then rising again to around $227 million by FY2023. General University Obligations,

covering essential but unclassified expenses like utilities, declined from $255 million in FY2018 to $225 million in FY2023. Athletics saw a consistent upward trend, starting at $7.6 million in FY2018 and reaching about $9.7 million in FY2023. The PSU Foundation, involved in managing philanthropic gifts in support of PSU, experienced some fluctuations over the past few years and its expenditures sits at approximately $6.6 million in FY2023. Notably, all expenditure categories were significantly impacted by the pandemic in FY2020 and FY2021, with Athletics particularly affected.

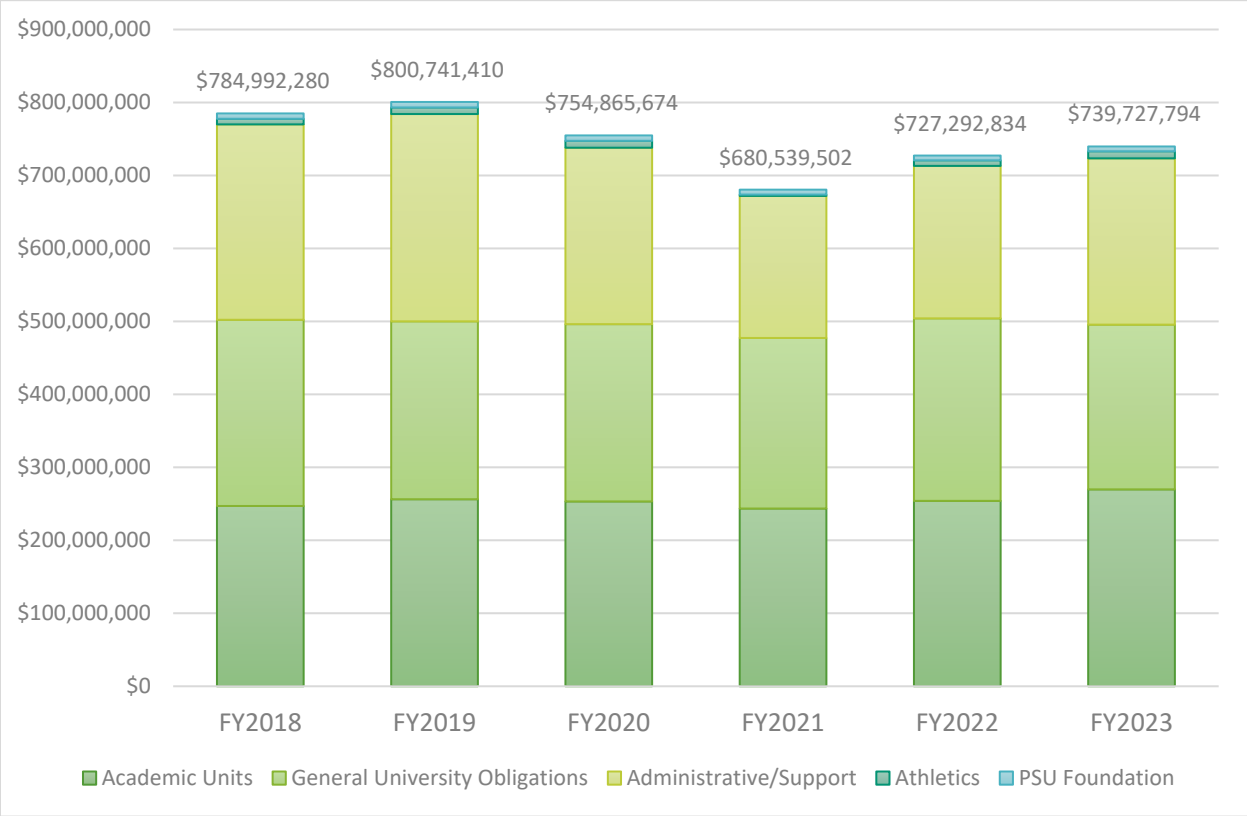


Figure 14: PSU expenditure trends by category (FY2018 – FY2023)

Looking more closely at expenditures in individual units (Figure 15), the College of Liberal Arts and Sciences (CLAS) is the largest academic unit with expenditures at approximately $85.5 million. The Maseeh College of Engineering and Computer Science (MCECS) follows closely behind at $35.3 million, followed by the School of Social Work (SSW) at $27.5 million, the College of Urban and Public Affairs (CUPA) at $27.4 million, the College of Education (COE) at $23.3 million and The School of Business (SB) at $21.8 million. In the administrative and support category, Finance and Administration (FADM) expended $87 million in FY2023, underscoring the significant resources devoted to managing the university's operations and financial health. Academic Affairs, PSU's central administrative office which is responsible "for the institutional academic mission, programming and policy implementation, support programs for academic personnel and students, academic fiscal management and collective bargaining" has expenditures equal to $67.9 million. Additionally, significant funds are directed towards General University Obligations, amounting to $225.7 million, covering centralized services and obligations that span across the entire institution, such as campus security, maintenance and other services.

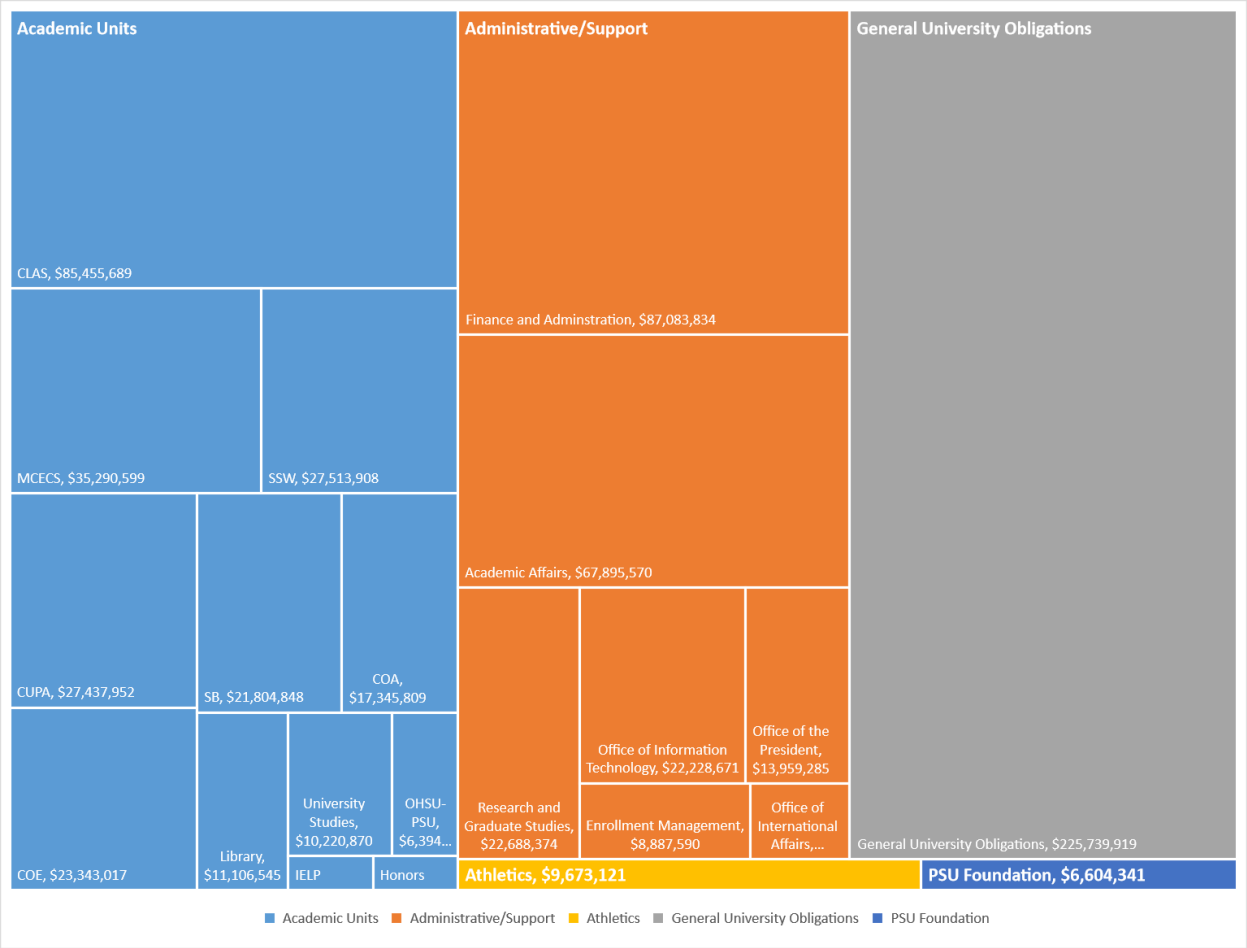


Figure 15: PSU expenditures by unit (FY2023)

PSU's people are the heart of the institution, fundamentally shaping its identify and driving its mission. The university's significant investment in its workforce underscores this importance, with salaries and wages comprising 49% of PSU's total expenditures in FY2023 — the largest single category of its expenditures. Figure 16 highlights the trends associated with PSU's payroll expenditures as well as total full-time equivalent (FTE) employees between FY2018 and FY2023. PSU's total payroll shows a steady increase in nominal dollar terms, from approximately $325 million in FY2018 to around $355 million in FY2023, while total FTE decreased significantly from 3,603 in FY2018 to 3,198 in FY2023. However, while the nominal payroll has increased by 9.2% since FY2018, PSU's payroll shows nearly a 12% decrease in real terms from FY2018 to FY2023 after accounting for inflation. The majority of the university's employees work and live within the Portland MSA, hovering right around 90% in all fiscal years, and 2.9% of all employees are located elsewhere in Oregon. Around 7.2% of PSU's payroll is directed towards employees outside of the Portland MSA and Oregon, which can include remote workers or workers who commute from a farther location.

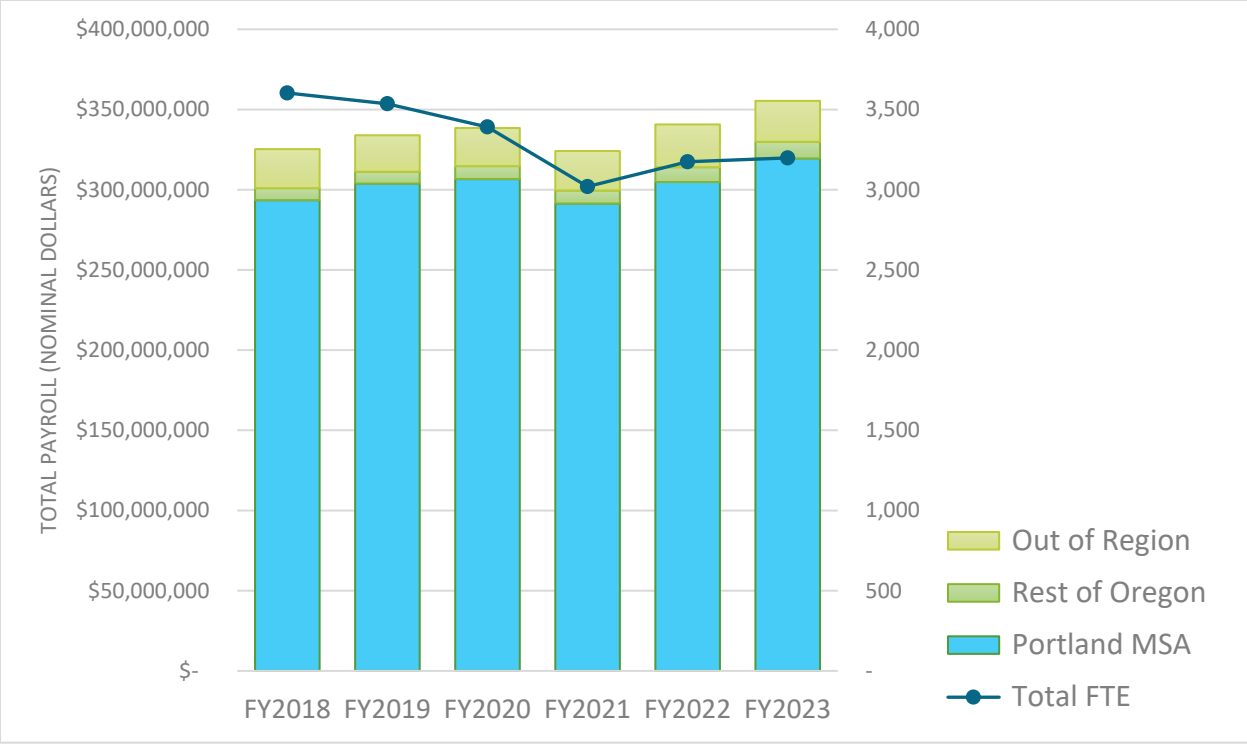


Figure 16: PSU payroll trends by region (FY2018 – FY2023)

Student Spending

As described previously in the data section, we analyzed Academic Year 2022-2023 data from the student spending survey conducted by the Office of Student Financial Aid and Scholarships in Fall 2022 along with enrollment data provided by OIRP. Students are separated using several criteria that affect their spending patterns, including residency and other tuition reduction status (Oregon resident/non-resident; employee tuition discount; Western Undergraduate Exchange (WUE); Washington Border Discount (WBD)), enrollment status (undergraduate/graduate; full-time/half-time/quarter-time) and living arrangements (on-campus; off-campus; off-campus living with family).

Figure 17 shows that tuition and fees constitute the largest portion of overall student spending, totaling $210,751,083, which represents 42.6% of student expenditures. Housing is the second-largest expense, amounting to $133,085,404 and making up 26.9% of student expenditures. Board, which includes meal plans and other dining expenses, accounts for $88,845,620 or 18% of the total student spending. Personal expenses, including day-to-day expenses such as clothing, health care and entertainment, total $26,261,500 and represents 5.3% of overall student expenditures. The remaining 7.2% of the total student spending pays for transportation, books and materials and student loan fees (3.8%, 2.9% and 0.5%, respectively). The breakdown of spending patterns reveals that tuition, housing and board make up the most substantial portion of expenses for students, collectively accounting for nearly 88% of total student expenditures. These categories highlight the significant costs associated with accessing higher education and the basic necessities of student life.

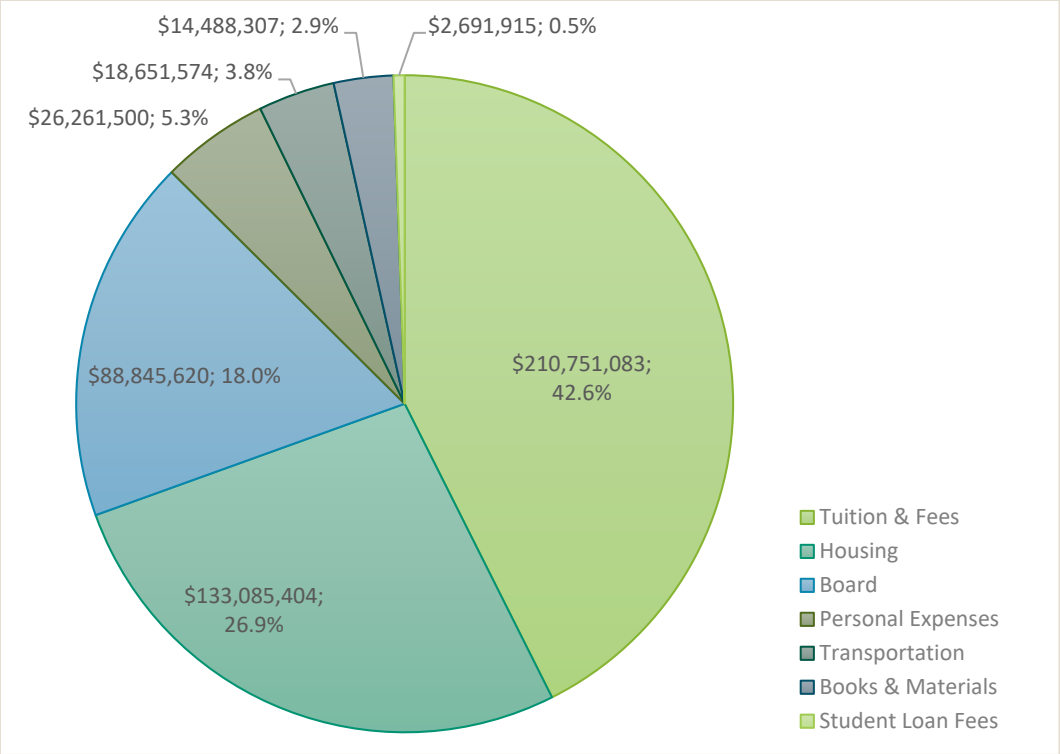


Figure 17: PSU total student spending (FY2023)

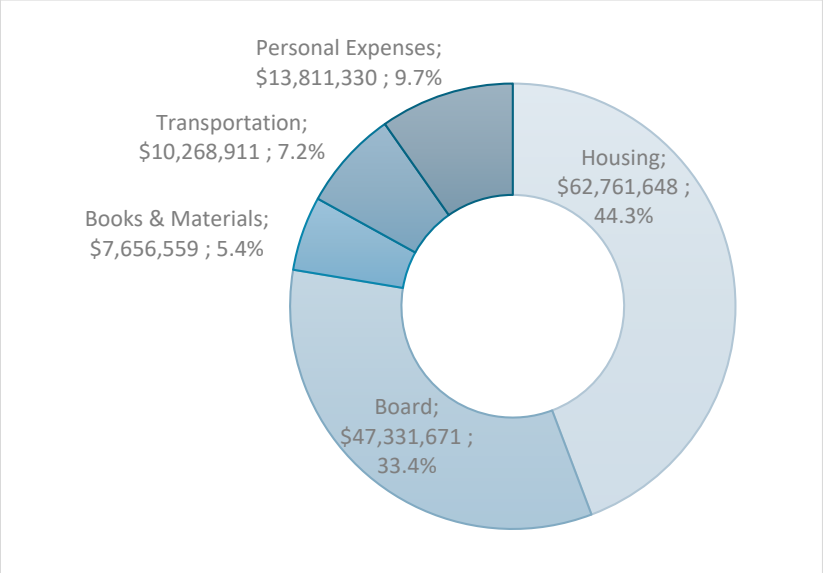


Figure 18: PSU student spending IMPLAN inputs (FY2023)

As noted previously, our economic contribution analysis carefully avoids double-counting student spending. Payments made directly to PSU (like tuition and on-campus housing costs) are excluded from the IMPLAN inputs for student spending, as these are already captured in university expenditures. Additionally, following best practices, we only include spending that occurs specifically due to PSU's presence, omitting expenditures by students who would likely reside in the region regardless of PSU's

existence. For example, students who benefit from the PSU employee tuition discount are excluded from the student spending calculation because these people are likely to be residing in the region already. Additionally, spending by students enrolled in fully online/remote programs is excluded as well. We use the proportion of Oregon's population that reside outside of the Portland MSA to proxy for the proportion of PSU resident students who would not have lived in region if not for their enrollment in the university. Finally, student spending by those who are beneficiaries of the Washington Border Discount (WBD) program[9] are adjusted to the proportion of population residing outside of the Portland MSA. This approach ensures we accurately measure the additional economic activity generated by PSU, rather than overstating its impact.

Finally, the estimated total PSU student spending is mapped into IMPLAN industries to estimate the economic impact in the region. Figure 18 and Table 4 show the final student spending inputs into IMPLAN after exclusions are accounted for as described above. The following describes each category of student spending inputted into the model:

- Housing: This represents the most substantial portion of student spending, accounting for 44.3% or approximately $62.76 million. This large expenditure falls under the "448 Tenant-occupied housing" industry, illustrating the considerable impact student spending has on the local rental market.

- Board: This includes all food and drink expenses and constitutes 33.4% of total student spending, amounting to nearly $47.33 million. These expenses contribute robustly to food and beverage related industries, including "509 Full-service restaurants", "510 Limited-service restaurants", "511 All other food and drinking places" and "406 Retail - Food and beverage stores", and underscores the strong demand generated by students in the local dining and hospitality industry.

- Personal expenses: This category covers 9.7% of student spending, translating to about $13.81 million, and is split into the following retail industries: "407 Retail - Health and personal care stores", "409 Retail - Clothing and clothing accessories stores", "411 Retail - General merchandise stores" and "412 Retail - Miscellaneous store retailers". This reflects the varied nature of student purchases, ranging from clothing to everyday necessities, indicating a significant dispersion of student spending into different retail sectors.

- Transportation: Students allocate 7.2% of their total expenditure, or roughly $10.27 million, to transportation. Following general guidance from PSU's annual transportation survey[10], these expenditures are split into "418 Transit and ground passenger transportation" and "408 Retail - Gasoline stores" categories. This highlights the importance of accessible transportation options for students, encompassing public transit and other commuting methods crucial for daily travel to and from campus and around the city.

- Books and materials: Spending on books and materials accounts for the smallest share at 5.4%, or about $7.66 million, and falls under the industry category that includes bookstores and retail for

[9] PSU provides discounted tuition (110% of resident tuition) to qualified Washington residents who live in Asotin, Benton, Clark, Columbia, Cowlitz, Garfield, Klickitat, Pacific, Skamania, Wahkiakum and Walla Walla counties. See https://www.pdx.edu/student-finance/washington-border-discount for more details.

[10] The latest PSU Transportation Survey was conducted in 2022 by PSU's Campus Planning Office and Transportation & Parking Services. See https://www.pdx.edu/transportation/transportation-survey-data for more details.

hobbies and musical instruments ("410 Retail - Sporting goods, hobby, musical instrument and book stores").

Category	Housing	Board	Books & Materials	Transportation	Personal Expenses
Graduate	$16,824,641	$11,419,037	$1,540,697	$2,330,780	$2,935,011
Undergraduate	$45,937,007	$35,912,634	$6,115,862	$7,938,132	$10,876,318
Total	**$62,761,648**	**$47,331,671**	**$7,656,559**	**$10,268,911**	**$13,811,330**

Table 4: IMPLAN inputs for student spending by category (2023 dollars)

Visitor Spending

Due to some data limitations, while visitors come to PSU and the surrounding regions to attend a wide variety of events such as conferences, seminars, sports events, graduation ceremonies, performances and other university-related activities, this visitor spending analysis only reflects commencement, select athletic events, external events held on campus facilities and arts performances. Again, to avoid double-counting visitor spending directly paid to the university (such as commencement tickets, sporting event tickets or arts performances tickets) that is already accounted for as part of the university expenditures, only additional spending outside of the university campus is accounted for in this portion of the economic contribution analysis. For example, visiting basketball teams might book rooms at downtown hotels for multiple days, rent cars from local agencies and purchase souvenirs at Powell's Books. They may buy coffee and lunch from nearby cafes in between matches, and utilize the Portland Streetcar to navigate the city throughout their stay. These are the types of visitor spending effects that can multiply and ripple through the local economy surrounding PSU.

This component of our economic contribution analysis is likely rather conservative as visitors to PSU hosted academic conferences, seminars or some athletic events are not currently tracked. Using the American for the Arts study data (2024) that analyzes nonprofit arts event visitor spending in Greater Portland, we estimate the proportion of local versus non-local visitors to PSU and their corresponding spending patterns. The total attendance across all event categories in FY2023 is 138,858, with local attendees making up the majority at 118,742, while non-local attendees number 20,116. This suggests that PSU events are primarily supported by the local community but also have a significant appeal to those from outside the area. Commencement ceremonies attracted 27,644 attendees, of which 22,502 are assumed to be local and 5,142 are non-local. External events held on campus facilities (including the Viking Pavilion at the Peter W. Stott Center, the Smith Memorial Student Union and Hoffman Hall) shows a total attendance of 51,645, of which 45,654 are assumed to be local and 5,991 are non-local. PSU Vikings athletic events held within the Portland MSA region that are tracked show a total attendance of 59,569, with local fans comprising 50,585 and non-local fans 8,984. Arts performances that are ticketed, which include operas, concerts and exhibitions, brought 19,003 (assumed to be 7,140 local and 11,863 non-local attendees). In total, we estimate approximately 158,861 visitors to PSU in FY2023, of which 80% comes from the Greater Portland region.

Then, we estimate local and non-local visitor spending using the spending patterns of the AEP6 study within the Greater Portland region (2024b) to obtain total visitor spending of approximately $5.7 million in FY2023, as shown in Table 5. The local and non-local visitor spending estimates from Table 5 are mapped into IMPLAN industries shown in Table 6.

Category	Local	Non-local	Total
Food and Drink (off-site only)	$1,605,850	$650,629	$2,256,479
Retail Shopping	$975,658	$311,365	$1,287,024
Overnight Lodging	$111,359	$495,748	$607,107
Local Transportation	$334,078	$240,178	$574,255
Clothing and Accessories	$251,824	$111,912	$363,736
Supplies and Groceries	$221,453	$86,259	$307,712
Childcare	$65,803	$11,223	$77,026
Other/Miscellaneous	$169,570	$34,311	$203,881
Total	**$3,735,594**	**$1,941,625**	**$5,677,219**

Table 5: Visitor spending by category (FY2023)

IMPLAN industry	Amount	Percent
509 Full-service restaurants	$2,256,479	39.7%
507 Hotels and motels, including casino hotels	$607,107	10.7%
418 Transit and ground passenger transportation	$574,255	10.1%
409 Retail - Clothing and clothing accessories stores	$363,736	6.4%
406 Retail - Food and beverage stores	$307,712	5.4%
494 Child day care services	$77,026	1.4%
412 Retail - Miscellaneous store retailers	$1,490,905	26.3%
Total	**$5,677,219**	**100.0%**

Table 6: IMPLAN inputs for visitor spending (FY2023)

Input-Output Analysis Results

Table 7 shows the total estimated economic contribution of PSU in the region. In FY2023, PSU's activities contributed 7,041 jobs directly and 1,948 jobs at the indirect level. When additionally accounting for the spending of PSU employees and the employees of businesses that supply inputs to PSU, the induced effect added 2,285 jobs. In aggregate, PSU's economic activities contributed a total of 11,274 jobs in the Portland MSA and rest of Oregon. These 11,274 jobs generated approximately $713 million in total labor income, $1.11 billion in total value added and nearly $1.82 billion in output for the entire region.

Table 8 further breaks down PSU's economic contributions by the three major components described previously: university expenditures, student spending and visitor spending. University operational expenditures were predictably the largest contributor, accounting for 9,894 jobs and $1.58 billion in output. University capital expenditures accounted for 282 total jobs and $52.5 million in output. Student spending generated 1,036 jobs and $177.5 million in output. Our conservative estimate of visitor spending, due to data limitations, still added 62 jobs and more than $8 million in output. The geographic breakdown in Table 9 shows that Portland MSA, where PSU is located, experienced the most significant economic impacts with 11,157 jobs, $707.1 million in labor income, $1.10 billion in total value added and $1.79 billion in output.

Figure 19 illustrates the top fifteen industries by employment affected by PSU's activities in the region. Unsurprisingly, the primary sector impacted is junior colleges, colleges, universities and professional schools, as PSU directly employs thousands within this sector and drives expenditures towards other educational and research institutions through various collaborations. Other significantly impacted sectors include those that serve and support PSU staff, students and visitors, such as food and drinking places, real estate and housing, transportation and retail.

PSU's economic activities have effects on public tax revenues. Table 10 details the increased tax revenue at all levels of government due to the PSU's activities in Fiscal Year 2023. Combining impacts at the local, state and federal levels, PSU contributed to an estimated total of $253 million in tax revenues, with nearly $93.6 million going toward Oregon's state and local governments.

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	7,041	$442,354,699	$642,328,411	$1,023,130,680
Indirect Effect	1,948	$122,024,706	$195,583,775	$358,784,830
Induced Effect	2,285	$149,414,595	$269,285,908	$436,597,301
Total Effect	**11,274**	**$713,794,000**	**$1,107,198,094**	**$1,818,512,811**

Table 7: PSU economic contribution summary (FY2023; 2023 dollars)

	Type	Employment	Labor Income	Total Value Added	Output
University Operational Expenditures	Direct	6,068	$395,751,061	$528,240,175	$870,403,463
	Indirect	1,784	$108,872,324	$174,583,657	$319,986,523
	Induced	2,042	$133,513,519	$240,628,987	$390,139,352
	Total	**9,894**	**$638,136,904**	**$943,452,819**	**$1,580,529,339**
University Capital Expenditures	Direct	172	$15,231,393	$17,973,280	$29,056,224
	Indirect	36	$2,880,269	$4,851,470	$9,290,895
	Induced	74	$4,829,565	$8,703,820	$14,113,637
	Total	**282**	**$22,941,228**	**$31,528,570**	**$52,460,756**
Student Spending	Direct	757	$29,421,250	$93,516,893	$119,426,496
	Indirect	120	$9,651,027	$15,156,127	$27,690,289
	Induced	159	$10,390,334	$18,725,455	$30,354,334
	Total	**1,036**	**$49,462,610**	**$127,398,475**	**$177,471,119**
Visitor Spending	Direct	44	$1,950,996	$2,598,063	$4,244,497
	Indirect	8	$621,086	$992,522	$1,817,123
	Induced	10	$681,176	$1,227,646	$1,989,978
	Total	**62**	**$3,253,259**	**$4,818,230**	**$8,051,597**

Table 8: PSU economic contribution summary by category (FY2023; 2023 dollars)

	Type	Employment	Labor Income	Total Value Added	Output
Portland MSA	Direct	7,041	$442,354,699	$642,328,411	$1,023,130,680
	Indirect	1,903	$119,312,902	$190,559,081	$346,144,578
	Induced	2,213	$145,446,946	$262,199,153	$424,444,373
	Total	**11,157**	**$707,114,548**	**$1,095,086,645**	**$1,793,719,631**
Rest of Oregon	Direct	-	-	-	-
	Indirect	45	$2,711,804	$5,024,695	$12,640,252
	Induced	73	$3,967,648	$7,086,754	$12,152,928
	Total	**117**	**$6,679,452**	**$12,111,449**	**$24,793,180**

Table 9: PSU economic contribution summary by region (FY2023; 2023 dollars)

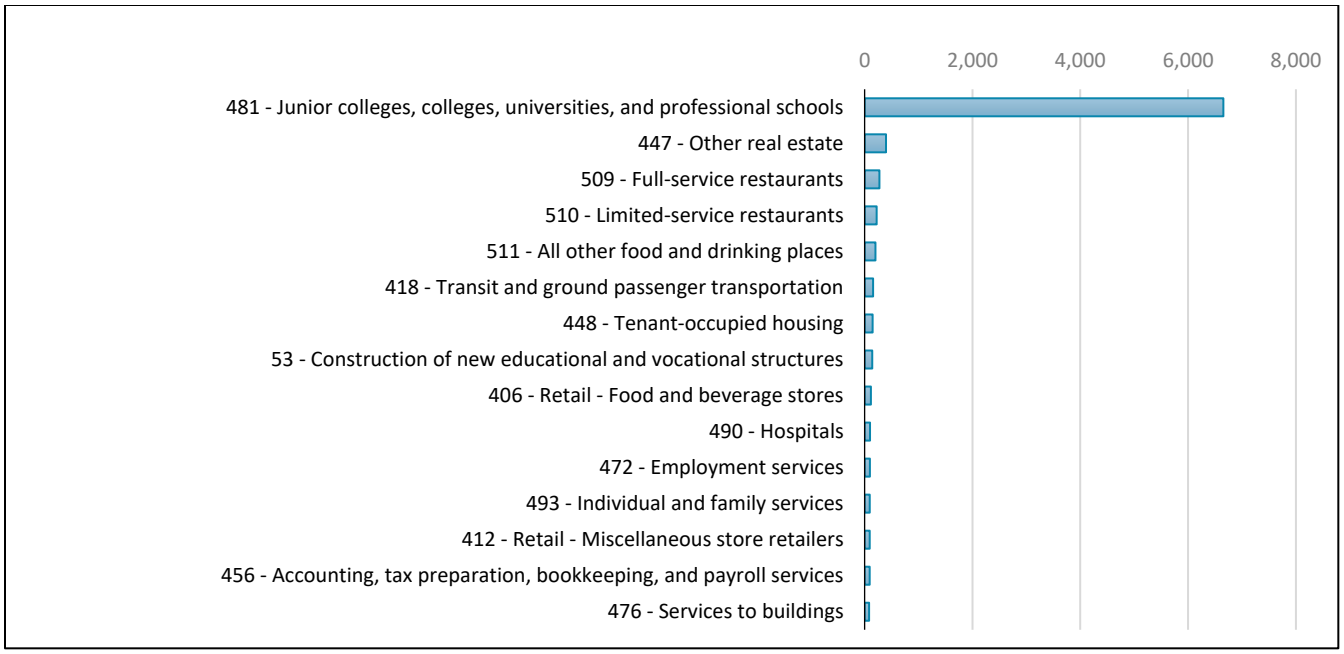


Figure 19: PSU economic contribution - top 15 industries by employment (FY2023)

Oregon	
State Personal and Corporate Income Taxes	$30,821,069
Other State Taxes, Fees and Licenses	$20,924,469
Total State	**$51,745,539**
Local Governments	
Property Taxes	$31,722,220
Other Local Taxes, Fees and Licenses	$10,128,115
Total Local	**$41,850,335**
Federal Government	
Federal Personal and Corporate Income Taxes	$74,186,643
Social Insurance and Excise Taxes	$85,477,676
Total Federal	**$159,664,318**
TOTAL	**$253,260,192**

Table 10: PSU tax impacts (FY2023; 2023 dollars)

Place-based Analysis

This place-based analysis provides insights into how PSU influences its surrounding communities through educational, research and community engagement activities. By integrating quantitative metrics such as the economic contribution analysis in the preceding section and the physical asset analysis in the following section with qualitative assessments of PSU's activities, we hope to gain a more nuanced understanding of the university's role as a regional economic engine and community anchor. The following analysis is structured around two key dimensions:

- Physical assets: We examine PSU's extensive portfolio of indoor and outdoor spaces, many of which serve dual purposes as university facilities and public resources. This spatial analysis illuminates how PSU's physical presence shapes the urban landscape and fosters community interaction.

- Community engagement: We explore a small slice of PSU's wide-ranging partnerships and outreach efforts, from student capstone projects to faculty-led research collaborations. These initiatives demonstrate how PSU extends its intellectual and social capital beyond campus boundaries to address real-world challenges.

Physical Assets

Understanding indoor and outdoor spaces provides insights into how the university's physical resources are allocated and utilized. In addition to spaces that are exclusively utilized by the institution, PSU strengthens its role as a community hub by allocating space for community events, public lectures and local activities. The university also owns and/or manages numerous prominent outdoor spaces such as the Urban Plaza which serves as one of the largest public transit hubs in Oregon and the South Park Blocks which hosts campus and community events under its ample tree canopy.

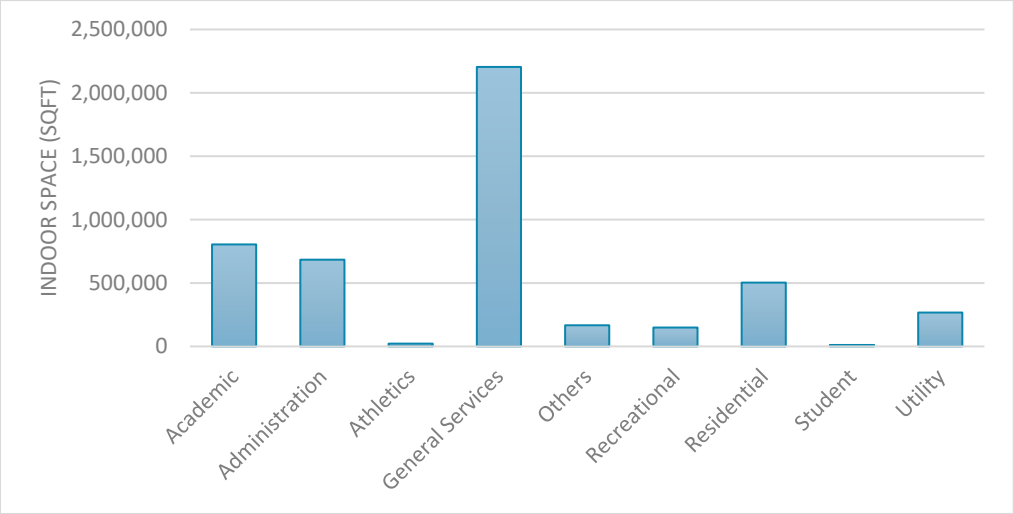


Figure 20: PSU indoor space inventory by usage

PSU is home to approximately 5 million square feet of building space on its 49.32 acres of land. This is significant when considered in the context of Portland's approximately 75 million square feet of office space as Q4 of 2022 (Colliers, 2023). The indoor building spaces are allocated across multiple operational usage categories (Figure 20), the largest of which are General Service facilities which account for 44.1% of

the total. This category mainly includes vital operational and maintenance services that support the daily functioning of the campus, such as parking structures, lobbies, hallways and restrooms. Academic facilities, crucial for the university's primary missions of education and research, occupy 804,340 square feet or 16.1% of the total space, and serve as classrooms, laboratories and studios. Administrative spaces are mainly offices that comprise 13.7% of the total or 684,026 square feet. Residential spaces make up 10.1% of the space inventory, translating to 503,250 square feet dedicated to student housing and associated services. Recreational facilities, although smaller, cover 3.0% of the space, supporting wellness and physical activities. The remaining indoor spaces are used for utilities, athletics, student-specific areas and tenant spaces.

The total outdoor space owned and/or managed by PSU is approximately 582,397 square feet (Figure 21), of which 317,117 square feet is owned by the city and 265,280 is owned by PSU. These outdoor spaces are made up of parks, plazas, recreational fields as well as additional breezeways and green spaces, offering diverse opportunities for recreation, social interaction, and community engagement. Currently, PSU's Planning & Sustainability Office is proposing a strategic vision for the utilization and transformation of several vacant lots on campus, which include a community-focused dog park, new greenspace, community garden and additional student residential spaces. Each project not only aims to beautify and make better use of underutilized land but also aligns with broader goals of enhancing student life and integrating the university into the urban ecosystem.

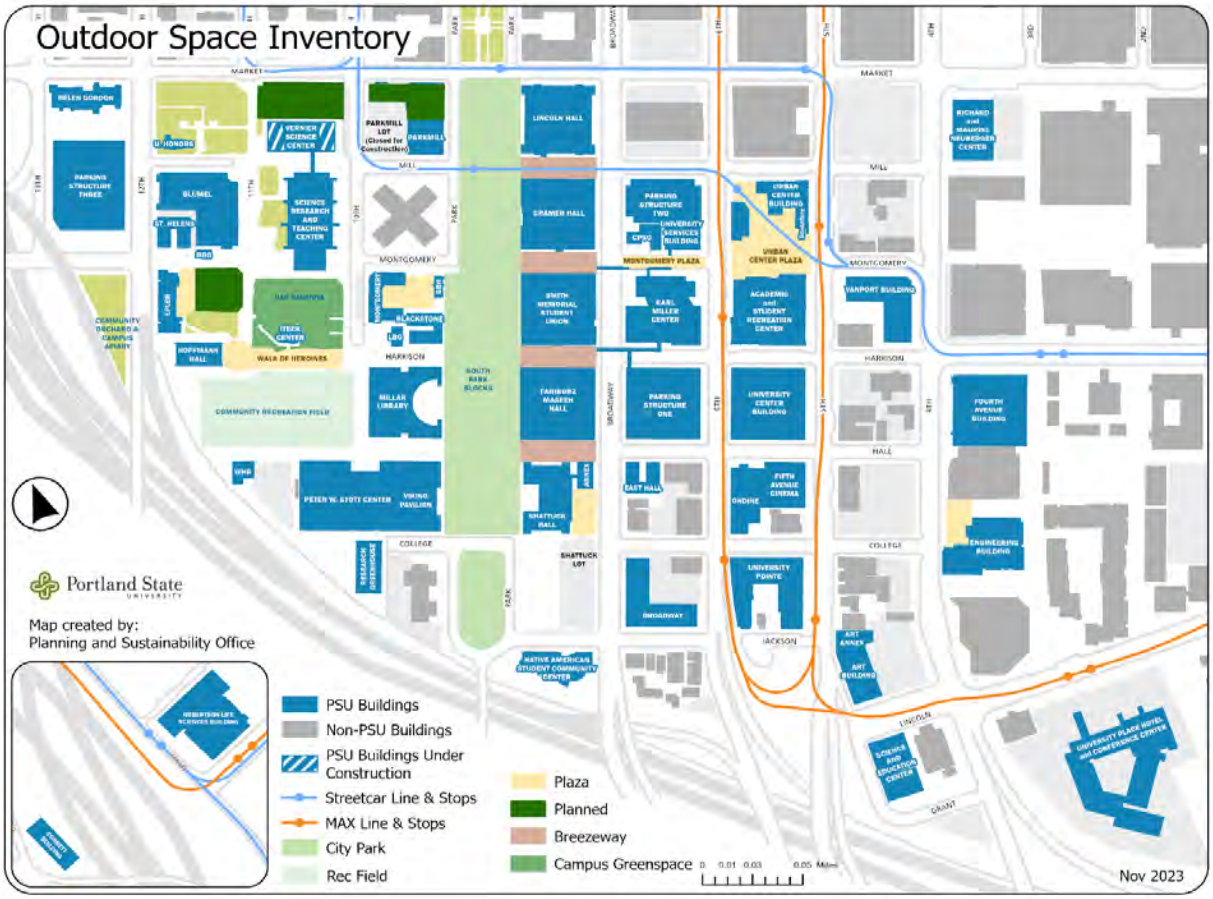


Figure 21: PSU outdoor space inventory map

Community Engagement

PSU exemplifies its motto, "Let Knowledge Serve the City" through a robust commitment to community engagement, as recognized by its Carnegie Community Engagement Classification. The following highlights a selection of PSU's community-oriented initiatives, often shaped by its urban setting and role as a community-serving anchor institution.

One of the most prominent features of PSU's community engagement is the extensive network of undergraduate capstone courses. Annually, about 200 capstone courses engage 3,500 to 4,000 students with community organizations and businesses. These courses facilitate reciprocal relationships, where students apply their academic knowledge to address real-world challenges, thereby fostering a symbiotic interaction between the university and the local community. For instance, the School of Business's capstone collaboration with Livelihood Northwest exemplifies this interaction. Since 2017, this partnership has enabled 200 students each year to support small, predominantly BIPOC-owned businesses, enhancing their marketing strategies and business sustainability. This collaboration has serviced 17 local businesses, contributing to the economic vitality of these enterprises and, by extension, the broader community.

Compensation for community partners is another critical aspect of PSU's engagement strategy, ensuring that community contributions are recognized and valued. During the Academic Year 2021-2022, PSU Provost Susan Jeffords' ReImagine PSU grant allocated $25,000 in stipends and honoraria to more than 15 scholars of color. This funding supported class talks, justice-related assessment projects and faculty and staff training sessions. Additionally, community members received gift cards for meeting participation and honoraria for sharing their expertise. Such practices ensure equity and sustainability in university-community partnerships, enhancing the overall impact of PSU's engagement initiatives.

The Learning Gardens Laboratory at PSU stands as a vital community resource, offering substantial spatial benefits. The garden not only provides consistent access to healthy, nutritious food for the neighborhood and campus but also serves as a communal gathering place. During the COVID-19 pandemic, the garden's role became even more critical, hosting events and shared meals that fostered social cohesion. The garden also provides plots for immigrant families to grow their own food and creates educational opportunities for K-12 students. This initiative addresses food security, enhances community well-being and offers hands-on learning experiences, thereby enriching the spatial and social fabric of the area.

PSU's HRAC significantly impacts public policy through evidence-based research on homelessness. By engaging with local organizations and conducting applied research, HRAC aims to reduce the adverse effects of homelessness on individuals and communities. This collaborative approach not only informs policy but also enhances the university's role in addressing critical urban issues, contributing to more effective and humane solutions to homelessness.

The Better Block PSU program illustrates PSU's commitment to transforming urban spaces through community collaboration. In 2022, various projects under this program were in different stages of implementation. For example, the Argay Terrace Transformation aimed to convert a hazardous intersection in Northeast Portland into a safe, welcoming neighborhood space, benefiting a community that is 47% BIPOC. Other notable projects included updating the Car-Free Downtown Plan, creating the Keaton Otis Memorial to provide a safe gathering space and improving the pedestrian experience in the walkable Rosewood neighborhood. These projects enhance urban safety, accessibility and community cohesion, demonstrating the tangible spatial benefits of PSU's engagement efforts.

During the COVID-19 pandemic, PSU's Portland Business Support Project mobilized MBA volunteers who contributed more than 1,900 hours of service to support 40 small businesses. This initiative highlights PSU's agility in responding to crises and its dedication to sustaining the local economy during challenging times. The spatial implications of this project are evident in the strengthened economic resilience and support for local businesses, which are crucial for the urban ecosystem.

These initiatives collectively showcase PSU's role in shaping Portland's urban landscape and community well-being. By fostering strategic partnerships, prioritizing equity and social justice and responding to critical societal challenges, PSU reinforces its position as a key anchor institution. The qualitative narratives of PSU's community engagement efforts provide additional dimensions to help holistically examine how the university is leveraging its resources, expertise and student body to create positive and tangible impacts on its surrounding communities.

Social and Community Impacts

Educational Activities

PSU significantly influences the local labor market and broader economic landscape through its core missions of education, research and community engagement. The university's economic contributions of more than $1.8 billion to the region is important, but its impact extends beyond supplying educated graduates; the university also plays a crucial role in attracting and retaining talent in the region, leading to far-reaching effects on local innovation, entrepreneurship and overall economic resilience. To fully assess the impacts of PSU's educational activities, it's essential to consider its broader social and community impacts through an examination of PSU alumni employment, earnings and career trajectories within the context of Oregon.

Oregon Employment Context

To provide context for PSU alumni outcomes, it's important to understand the broader economic and employment landscape in Oregon. Based on data sourced from the Oregon Employment Department (OED), the following analysis examines key trends in employment, occupations and wages. Table 11 and Table 12 summarize top occupations in Oregon by degree level in 2022 and top occupations projected to experience the highest growth over the next ten years.

For those with bachelor's degrees, occupations with the highest current employment as of 2022 include General and Operations Managers, Registered Nurses and Educational Instruction and Library Workers. OED projects that the fastest-growing occupations in the next decade will be in the high-tech sector, with Data Scientists and Information Security Analysts showing growth rates of 38.0% and 37.3%, respectively, followed by Medical and Health Services Managers with a projected growth rate of 35.5%. In terms of wages, Chief Executives top the list, followed by specialized roles in tech and health care.

At the master's degree level, the highest current employment in Oregon is seen in Rehabilitation Counselors, Health Specialties Teachers (Postsecondary) and Education Administrators (Kindergarten through Secondary). The fastest-growth occupations are projected to be Nurse Practitioners at 52.6% over the next ten years, followed by Speech-Language Pathologists and Mental Health and Substance Abuse Social Workers, both exceeding 15%. The highest average wages at this educational attainment level are commanded for Nurse Anesthetists, Computer and Information Research Scientists and Health Specialties Teachers (Postsecondary). Health care and education sectors show robust job markets in Oregon for those with master's degrees.

For graduates with doctoral degrees, Lawyers and Physicians represent the highest employment numbers in Oregon. The highest growth rate is projected for Veterinarians, with a growth rate of 30.9% over the next ten years, followed by Physical Therapists and Chiropractors. The highest earning occupations at the doctoral level are found in various medical specialties such as Psychiatrists and Ophthalmologists.

These employment and earnings trends underscore strong demand in a variety of fields where PSU graduates may find significant opportunities, and where PSU's educational, research and community engagement programs can strategically align with the state's economy.

Occupation Title	Related Industry Classification (NAICS)	Emp 2022	Projected Emp 2032	Growth Rate (%)	Annual Average Wages
Bachelor's Degree					
General and Operations Managers	Management of Companies and Enterprises	44,695	50,553	13.1%	$107,144
Registered Nurses	General Medical and Surgical Hospitals	42,719	47,675	11.6%	$110,710
Educational Instruction and Library Workers, All Other	Other Information Services	26,281	28,017	6.6%	$47,836
Software Developers	Computer Systems Design and Related Services	20,630	26,851	30.2%	$126,103
Project Management Specialists	Management, Scientific and Technical Consulting Services	16,566	19,181	15.8%	$94,572
Accountants and Auditors	Accounting, Tax Preparation, Bookkeeping and Payroll Services	14,739	16,251	10.3%	$81,922
Elementary School Teachers, Except Special Education	Elementary and Secondary Schools	14,216	14,574	2.5%	$82,984
Managers, All Other	Management of Companies and Enterprises	13,519	14,945	10.5%	$111,229
Business Operations Specialists, All Other	Management, Scientific and Technical Consulting Services	13,313	14,859	11.6%	$75,327
Market Research Analysts and Marketing Specialists	Other Professional, Scientific and Technical Services	10,471	13,031	24.4%	$79,833
Master's Degree					
Rehabilitation Counselors	Vocational Rehabilitation Services	3,998	4,754	18.9%	$49,752
Health Specialties Teachers, Postsecondary	Colleges, Universities and Professional Schools	3,680	4,496	22.2%	$143,297
Education Administrators, Kindergarten through Secondary	Elementary and Secondary Schools	3,620	3,747	3.5%	$119,135
Postsecondary Teachers, All Other	Colleges, Universities and Professional Schools	2,744	2,934	6.9%	$99,422
Educational, Guidance and Career Counselors and Advisors	Elementary and Secondary Schools	2,688	2,878	7.1%	$73,460
Nurse Practitioners	Offices of Physicians	2,244	3,424	52.6%	$141,488
Mental Health and Substance Abuse Social Workers	Individual and Family Services	2,103	2,436	15.8%	$56,459
Speech-Language Pathologists	Offices of Other Health Practitioners	1,959	2,492	27.2%	$97,529
Librarians and Media Collections Specialists	Other Information Services	1,777	1,966	10.6%	$70,403
Education Administrators, Postsecondary	Colleges, Universities and Professional Schools	1,541	1,641	6.5%	$124,197
Doctoral Degree					
Lawyers	Legal Services	7,920	8,458	6.8%	$150,169
Physicians, All Other	Offices of Physicians	4,845	5,277	8.9%	$254,102
Pharmacists	Health and Personal Care Stores	4,240	4,757	12.2%	$146,879
Physical Therapists	Offices of Other Health Practitioners	3,106	3,847	23.9%	$99,704
Veterinarians	Other Professional, Scientific and Technical Services	1,898	2,485	30.9%	$116,625
Dentists, General	Offices of Dentists	1,643	1,792	9.1%	$188,297
Medical Scientists, Except Epidemiologists	Scientific Research and Development Services	1,473	1,767	20.0%	$103,231
Chiropractors	Offices of Other Health Practitioners	839	1,009	20.3%	$95,215
Pediatricians, General	Offices of Physicians	702	754	7.4%	$190,975
Family Medicine Physicians	Offices of Physicians	692	771	11.4%	$215,320

Table 11: Oregon top 10 current employment occupations by degree level (2022) (OED QualityInfo)

Occupation Title	Related Industry Classification (NAICS)	Emp 2022	Projected Emp 2032	Growth Rate (%)	Annual Average Wages
Bachelor's Degree					
Data Scientists	Scientific Research and Development Services	1,420	1,959	38.0%	$115,356
Information Security Analysts	Computer Systems Design and Related Services	1,385	1,901	37.3%	$123,799
Medical and Health Services Managers	Other Ambulatory Health Care Services	5,078	6,879	35.5%	$143,254
Statisticians	Scientific Research and Development Services	570	763	33.9%	$88,460
Actuaries	Insurance Carriers	175	230	31.4%	$127,381
Software Developers	Computer Systems Design and Related Services	20,630	26,851	30.2%	$126,103
Operations Research Analysts	Management, Scientific and Technical Consulting Services	1,584	2,025	27.8%	$96,383
Substance Abuse, Behavioral Disorder and Mental Health Counselors	Outpatient Care Centers	7,487	9,541	27.4%	$63,322
Logisticians	Management, Scientific and Technical Consulting Services	2,076	2,599	25.2%	$79,556
Orthotists and Prosthetists	Medical Equipment and Supplies Manufacturing	135	169	25.2%	$103,061
Master's Degree					
Nurse Practitioners	Offices of Physicians	2,244	3,424	52.6%	$141,488
Physician Assistants	Offices of Physicians	1,419	1,934	36.3%	$141,849
Curators	Museums, Historical Sites and Similar Institutions	194	260	34.0%	$63,295
Computer and Information Research Scientists	Scientific Research and Development Services	642	826	28.7%	$197,205
Biochemists and Biophysicists	Scientific Research and Development Services	212	271	27.8%	$116,659
Speech-Language Pathologists	Offices of Other Health Practitioners	1,959	2,492	27.2%	$97,529
Clinical and Counseling Psychologists	Offices of Other Health Practitioners	941	1,163	23.6%	$140,015
Nurse Anesthetists	Offices of Other Health Practitioners	384	473	23.2%	$213,831
Health Specialties Teachers, Postsecondary	Colleges, Universities and Professional Schools	3,680	4,496	22.2%	$143,297
Nursing Instructors and Teachers, Postsecondary	Colleges, Universities and Professional Schools	674	821	21.8%	$96,858
Doctoral Degree					
Veterinarians	Other Professional, Scientific and Technical Services	1,898	2,485	30.9%	$116,625
Physical Therapists	Offices of Other Health Practitioners	3,106	3,847	23.9%	$99,704
Chiropractors	Offices of Other Health Practitioners	839	1,009	20.3%	$95,215
Medical Scientists, Except Epidemiologists	Scientific Research and Development Services	1,473	1,767	20.0%	$103,231
Optometrists	Offices of Other Health Practitioners	573	678	18.3%	$125,332
Audiologists	Offices of Other Health Practitioners	149	175	17.4%	$90,624
Psychiatrists	Offices of Physicians	193	224	16.1%	$279,658
Health Care Diagnosing or Treating Practitioners, All Other	Other Ambulatory Health Care Services	588	662	12.6%	$110,863
Pharmacists	Health and Personal Care Stores	4,240	4,757	12.2%	$146,879
Ophthalmologists, Except Pediatric	Offices of Other Health Practitioners	190	212	11.6%	$330,028

Table 12: Oregon top 10 projected employment growth occupations by degree level (2022) (OED QualityInfo)

PSU Alumni Outcomes – Employment and Earnings in Oregon

PSU graduates demonstrate a strong tendency to seek employment within Oregon (and possibly in neighboring states) after obtaining their degrees. According to the PSEO data, which tracks cohorts graduating between 2001 and 2018 at all degree levels up to year 2019, PSU graduates remain employed within Oregon at higher rates compared to the overall state averages as well as other large public research universities in Oregon. The data reveals that 81% of PSU bachelor's degree graduates are employed in Oregon one year post-graduation, compared to 71% across all Oregon public institutions. Five years after graduation, 72% of PSU graduates remain employed in Oregon, while the figure for all Oregon public institutions is 65%. Even ten years post-graduation, 68% of PSU bachelor's degree recipients continue to work in Oregon, surpassing the state average of 63%.

Analysis of more recent and comprehensive data from the OED corroborates these trends. In the most recent year of data (2022 Q3 to 2023 Q2), 23,359 bachelor's degree recipients, 8,701 master's degree recipients and 451 doctoral degree recipients from PSU between Academic Year 2012-2013 and Academic Year 2021-2022 were matched. As a whole, these graduates earned more than $2.1 billion in salaries and wages in Oregon. Table 13 to Table 15 illustrate the employment patterns for bachelor's, master's and doctoral degree recipients using the OED data[11]. Over time, as graduates advance in their careers, the percentage that remain employed in Oregon gradually decline and stabilizes around 55% approximately seven years after obtaining their bachelor's or master's degrees. PSU doctoral degree recipients are more likely to find employment outside of Oregon; on average, 64% are employed in Oregon in the first year, with this percentage dropping to slightly less than half in subsequent years (Figure 22). Overall, the data highlights PSU's role in training the regional workforce across various educational levels, while also suggesting that PSU-educated graduates experience increased socioeconomic mobility.

In terms of wages, the average annual earnings for graduates at all degree levels generally increase over time, as expected with increasing experience and career advancement. Table 16 to Table 18 illustrate the annual earnings patterns for bachelor's, master's and doctoral degree recipients within Oregon, all adjusted to the 2023 dollar year to ensure comparability. After accounting for inflation, annual earnings for PSU bachelor's degree recipients one year after graduation rose from $31,501 for the 2012-13 cohort to $39,843 for the 2021-22 cohort. The upward trend in earnings is consistent across all years post-graduation for all cohorts, possibly indicating a rising demand for PSU-educated workers, the increasing value of a PSU education, improved economic conditions in Oregon or a combination of these factors. Notably, there was a dip in annual earnings for the 2019-20 cohort in their first year, likely due to pandemic-related conditions; however, earnings rebounded in subsequent years. Annual earnings of master's degree and doctoral degree recipients follow a similar pattern, albeit with a significant bump in earnings with each degree level, starting out at $57,075 and $81,836 in the first year post-graduation for master's and doctoral degrees, respectively. Each higher degree level not only starts with a better salary but also promises significant earnings growth as shown in Figure 23, highlighting the long-term economic benefits of pursuing advanced education.

[11] Note that the matched OED data matches PSU students with the QCEW dataset, and does not account for graduates who are self-employed, sole proprietors, in unpaid internships, participating in fellowships or pursuing alternative career paths that do not involve traditional employment. As a result, the estimated percentages of PSU graduates who are employed in Oregon represent lower bounds of the actual percentages.

Academic Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
2012-13	69.5%	65.2%	66.0%	63.6%	62.3%	60.5%	59.0%	55.8%	55.3%	54.1%
2013-14	71.2%	68.9%	65.3%	63.0%	61.3%	59.7%	56.9%	56.2%	55.2%	
2014-15	75.3%	70.4%	66.8%	64.4%	62.8%	59.3%	58.2%	55.5%		
2015-16	77.4%	72.0%	68.7%	65.6%	61.4%	60.7%	58.8%			
2016-17	76.2%	71.0%	66.8%	61.5%	60.9%	58.9%				
2017-18	76.3%	71.1%	65.2%	63.5%	61.6%					
2018-19	74.8%	66.9%	65.3%	61.2%						
2019-20	71.1%	68.9%	64.8%							
2020-21	72.3%	67.8%								
2021-22	74.1%									

Table 13: PSU bachelor's degree graduates employed in Oregon (with no concurrent enrollment)

Academic Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
2012-13	67.8%	63.8%	65.2%	62.3%	61.7%	60.4%	58.5%	55.3%	54.8%	54.0%
2013-14	67.4%	65.3%	63.8%	61.5%	59.9%	57.6%	55.4%	54.4%	54.6%	
2014-15	69.0%	65.5%	63.3%	62.5%	60.4%	58.1%	57.1%	54.1%		
2015-16	70.9%	65.6%	64.2%	61.9%	59.3%	58.2%	55.4%			
2016-17	69.9%	65.8%	63.0%	59.7%	58.8%	56.0%				
2017-18	68.9%	63.4%	59.9%	60.1%	56.5%					
2018-19	70.4%	64.8%	64.2%	60.8%						
2019-20	68.7%	66.6%	63.5%							
2020-21	72.8%	67.5%								
2021-22	72.0%									

Table 14: PSU master's degree graduates employed in Oregon (with no concurrent enrollment)

Academic Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
2012-13	68.2%	62.7%	58.5%	56.5%	52.4%	54.1%	52.3%	45.3%	45.2%	46.4%
2013-14	68.1%	60.0%	61.8%	58.1%	61.3%	60.8%	54.7%	51.4%	53.9%	
2014-15	72.1%	61.6%	54.8%	55.2%	55.3%	55.3%	52.9%	50.0%		
2015-16	63.5%	52.6%	51.4%	48.7%	43.4%	46.1%	44.0%			
2016-17	68.4%	53.1%	51.9%	49.4%	47.5%	46.8%				
2017-18	61.1%	56.7%	53.9%	55.1%	52.8%					
2018-19	58.5%	55.6%	50.6%	49.4%						
2019-20	52.9%	51.5%	52.0%							
2020-21	60.2%	61.2%								
2021-22	68.4%									

Table 15: PSU doctoral degree graduates employed in Oregon (with no concurrent enrollment)

Academic Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
2012-13	$31,501	$40,943	$46,889	$52,912	$57,640	$61,566	$65,086	$69,876	$73,905	$76,707
2013-14	$32,313	$42,874	$48,908	$52,804	$57,656	$61,168	$65,513	$70,200	$73,973	
2014-15	$34,952	$45,068	$49,503	$54,251	$57,953	$63,023	$68,149	$71,931		
2015-16	$36,215	$45,052	$50,715	$55,736	$60,829	$66,026	$69,700			
2016-17	$36,076	$45,632	$51,703	$57,354	$62,213	$66,489				
2017-18	$36,301	$45,543	$50,515	$57,765	$62,629					
2018-19	$36,531	$46,972	$53,769	$58,044						
2019-20	$34,830	$46,667	$53,759							
2020-21	$38,484	$48,832								
2021-22	$39,843									
Average	$35,704	$45,287	$50,720	$55,552	$59,820	$63,654	$67,112	$70,669	$73,939	$76,707

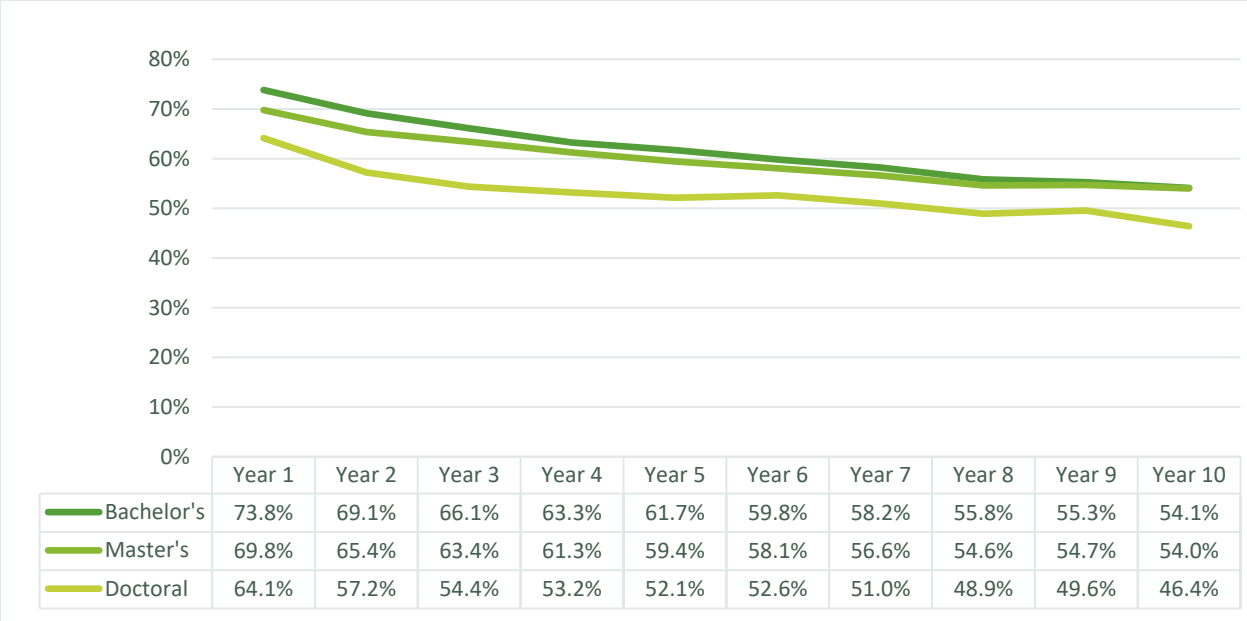
Table 16: Average annual earnings (2023 dollars) of PSU graduates with bachelor's degrees in Oregon (with no concurrent enrollment)

Academic Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
2012-13	$51,920	$62,076	$69,393	$74,757	$76,194	$80,238	$82,853	$88,700	$90,242	$91,098
2013-14	$56,910	$68,259	$72,451	$74,541	$77,115	$82,084	$86,252	$89,334	$90,356	
2014-15	$57,661	$67,049	$71,080	$74,506	$79,413	$84,474	$86,806	$92,487		
2015-16	$54,877	$65,124	$70,801	$74,139	$80,755	$81,439	$85,368			
2016-17	$57,051	$67,732	$74,059	$79,540	$82,419	$86,214				
2017-18	$54,470	$66,311	$70,986	$75,298	$81,396					
2018-19	$58,344	$69,405	$72,372	$78,212						
2019-20	$58,508	$68,802	$74,154							
2020-21	$59,146	$70,005								
2021-22	$61,862									
Average	$57,075	$67,196	$71,912	$75,856	$79,549	$82,890	$85,320	$90,174	$90,299	$91,098

Table 17: Average annual earnings (2023 dollars) of PSU graduates with master's degrees in Oregon (with no concurrent enrollment)

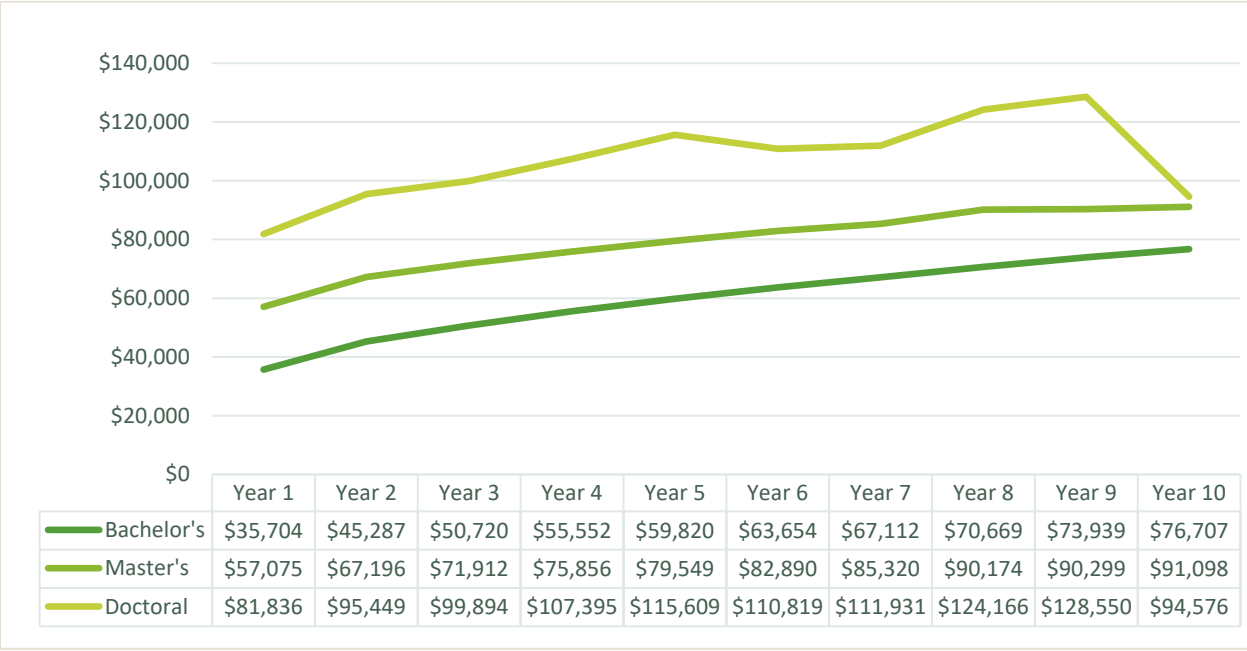
Academic Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
2012-13	$64,748	$78,470	$79,744	$80,314	$82,808	$85,949	$87,089	$98,978	$110,160	$94,576
2013-14	$90,711	$128,560	$123,290	$133,779	$163,286	$127,594	$129,304	$151,243	$146,941	
2014-15	$78,508	$97,437	$118,282	$115,659	$115,277	$111,863	$118,460	$122,278		
2015-16	$76,806	$85,610	$95,176	$106,121	$116,810	$111,373	$112,870			
2016-17	$79,174	$108,191	$110,374	$113,674	$115,056	$117,317				
2017-18	$72,856	$84,090	$85,436	$100,657	$100,416					
2018-19	$75,533	$82,105	$91,661	$101,562						
2019-20	$84,624	$93,139	$95,190							
2020-21	$97,386	$101,436								
2021-22	$98,017									
Average	$81,836	$95,449	$99,894	$107,395	$115,609	$110,819	$111,931	$124,166	$128,550	$94,576

Table 18: Average annual earnings (2023 dollars) of PSU graduates with doctoral degrees in Oregon (with no concurrent enrollment)



	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Bachelor's	73.8%	69.1%	66.1%	63.3%	61.7%	59.8%	58.2%	55.8%	55.3%	54.1%
Master's	69.8%	65.4%	63.4%	61.3%	59.4%	58.1%	56.6%	54.6%	54.7%	54.0%
Doctoral	64.1%	57.2%	54.4%	53.2%	52.1%	52.6%	51.0%	48.9%	49.6%	46.4%

Figure 22: Average percentage of PSU graduates employed in Oregon by degree level by year(s) after degree awarded



	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Bachelor's	$35,704	$45,287	$50,720	$55,552	$59,820	$63,654	$67,112	$70,669	$73,939	$76,707
Master's	$57,075	$67,196	$71,912	$75,856	$79,549	$82,890	$85,320	$90,174	$90,299	$91,098
Doctoral	$81,836	$95,449	$99,894	$107,395	$115,609	$110,819	$111,931	$124,166	$128,550	$94,576

Figure 23: Average annual earnings of PSU graduates employed in Oregon by degree level by year(s) after degree awarded (2023 dollars)

PSU Alumni Outcomes – Industry Flow

Further analysis can be conducted using the matched student data from the OED to track employment, earnings and industry flow of PSU graduates. However, due to the limited scope of this study, we examine the career paths of PSU graduates using the PSEO data, which tracks cohorts graduating between 2001 and 2018 at all degree levels up to year 2019. We focus our discussion on the industry flow of graduates 5 years after graduation here shown in Figure 24 to Figure 26.

For bachelor's degree graduates, the flow into the workforce and projected employment trends indicate robust demand for educational, technical and health care-related positions. Major employing sectors include Health Care and Social Assistance, Educational Services and Professional, Scientific and Technical Services, which align with the employment patterns of overall Oregon graduates, offering high employment rates, growth prospects and lucrative positions. Bachelor's degree graduates from PSU typically find employment in sectors reflective of their fields of study. There is a strong connection between programs like business and management and their application in various high-growth industries. Simultaneously, specialized degrees such as health professions and engineering lead graduates to corresponding industries with high demand for their skills, and potentially provide pathways for PSU bachelor's degree holders to continue their education at a higher level.

PSU graduates with master's degrees are typically employed in industries where advanced knowledge and specialized skills are highly valued and rewarded. The strong presence of these graduates in sectors like educational services, health care and professional services is consistent with the Oregon employment projections and earnings data, indicating that these sectors are not only thriving but also rely on the specialized skill sets that advanced degrees provide. PSU master's degree graduates generally work in similar industries as bachelor's degree graduates, although a higher percentage of master's level alumni are employed within Public Administration and Finance and Insurance. In particular, the data reveals that PSU's master's level graduates in Education and Engineering programs are well-positioned to find employment within relevant industries such as Educational Services and Manufacturing.

Doctoral degree holders from PSU typically enter industries that place a premium on specialized expertise and advanced research capabilities. The majority of these graduates are employed within the Educational Services sector, likely universities and similar educational institutions, followed by Professional, Scientific and Technical Services. PSU does not offer doctoral degrees in the legal or medical fields, and, as a result, the industries where PSU doctoral graduates are employed do not closely match the top employment or top growth industry sectors within Oregon.

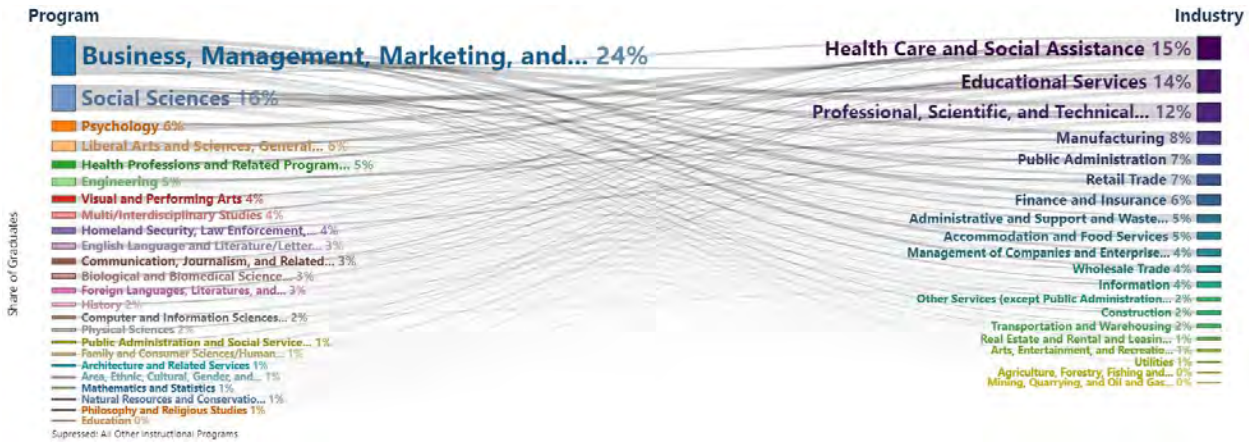


Figure 24: PSU bachelor's degree graduates by industry flow (PSEO 2001-2019)

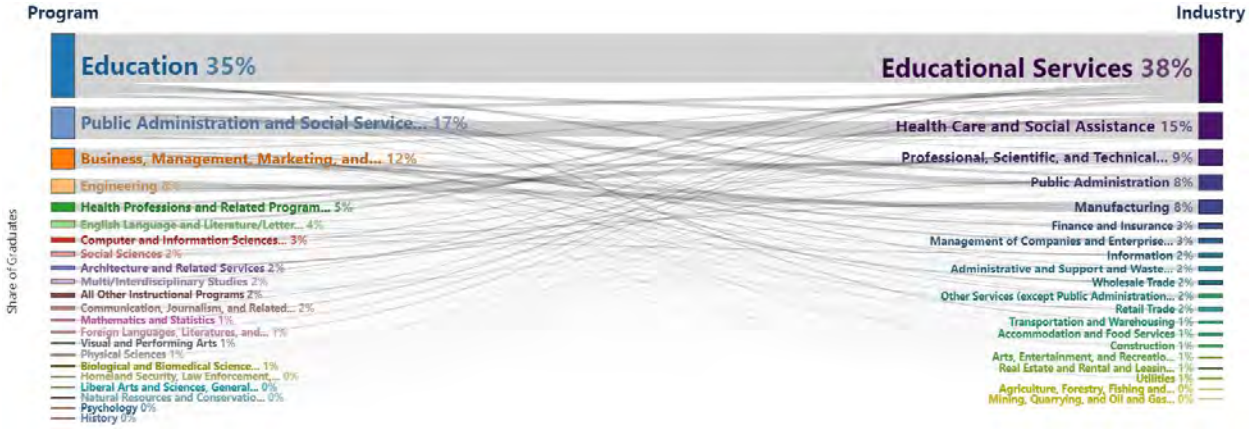


Figure 25: PSU master's degree graduates by industry flow (PSEO 2001-2019)

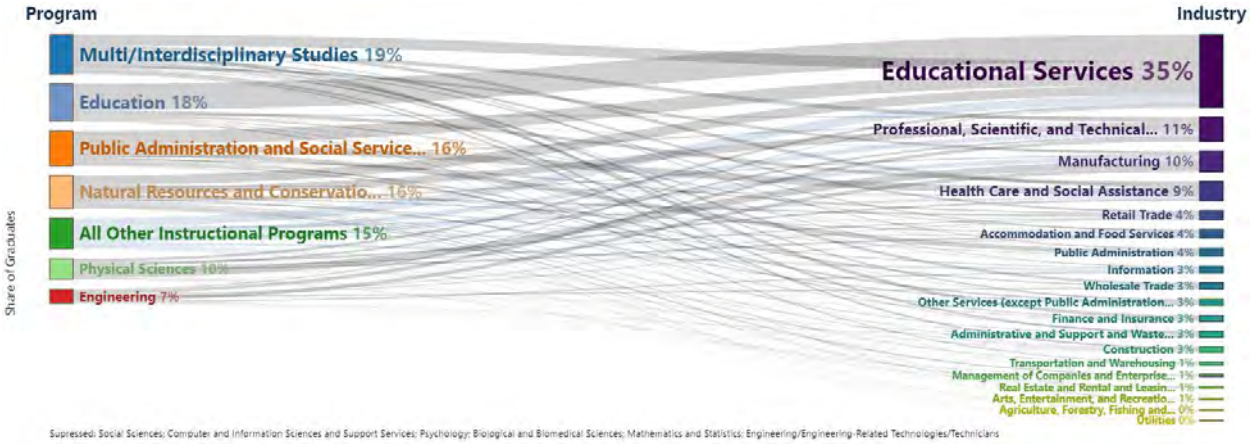


Figure 26: PSU doctoral degree graduates by industry flow (PSEO 2001-2019)

Research Activities

PSU's research activities span a broad spectrum of disciplines, emphasizing both applied and theoretical research with a strong focus on community engagement and public service. While the economic impacts of these endeavors are significant and are captured as a part of the university's economic contributions to the region detailed in a previous section, these research initiatives extend far beyond the quantifiable monetary impacts. This section explores the multifaceted influence of PSU's research, highlighting its role in addressing urban challenges, fostering innovation and cultivating a dynamic ecosystem of knowledge creation and application. By examining these broader impacts, we gain a more comprehensive understanding of how PSU's research activities shape the social, cultural and intellectual landscape of Portland and beyond, complementing the measurable economic contributions discussed earlier.

As a designated R2 university and Ashoka Changemaker Campus, PSU is committed to advancing knowledge and fostering innovation through its robust research program. Research data from RGS (Figure 27 and Figure 28) indicates that while the number of proposal submissions peaked at 680 in FY2016, total research expenditure reached a height of $92.5 million in FY2023. Funding sources have also shifted: federal government research funding decreased from 51.2% in FY2015 to 39.7% in FY2023[12], while state and local government research funding increased from 26.3% in FY2015 to 48.7% in FY2023. This shift in funding sources suggests a growing alignment with state and local priorities and potentially increased relevance and collaboration with regional needs.

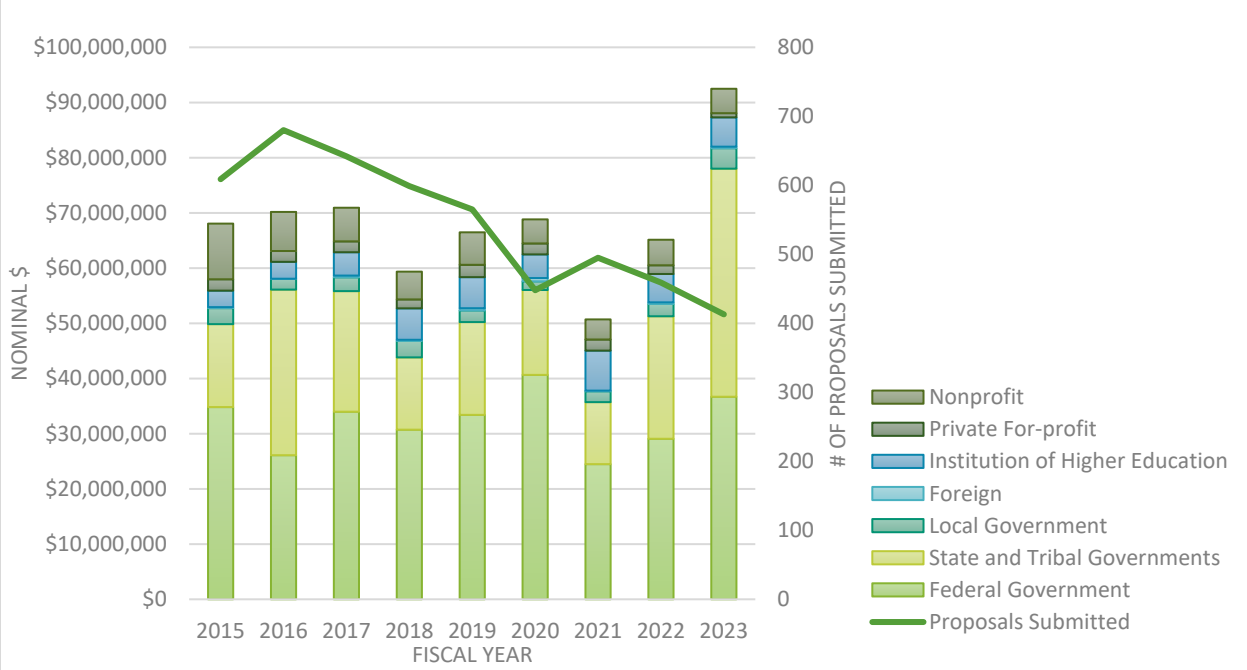


Figure 27: PSU research funding sources and proposal submitted trends (FY2015-FY2023)

[12] Some of the shift from federal government research funding to state and local government funding could be due to federal funding pass-throughs, but this data does not provide this detail.

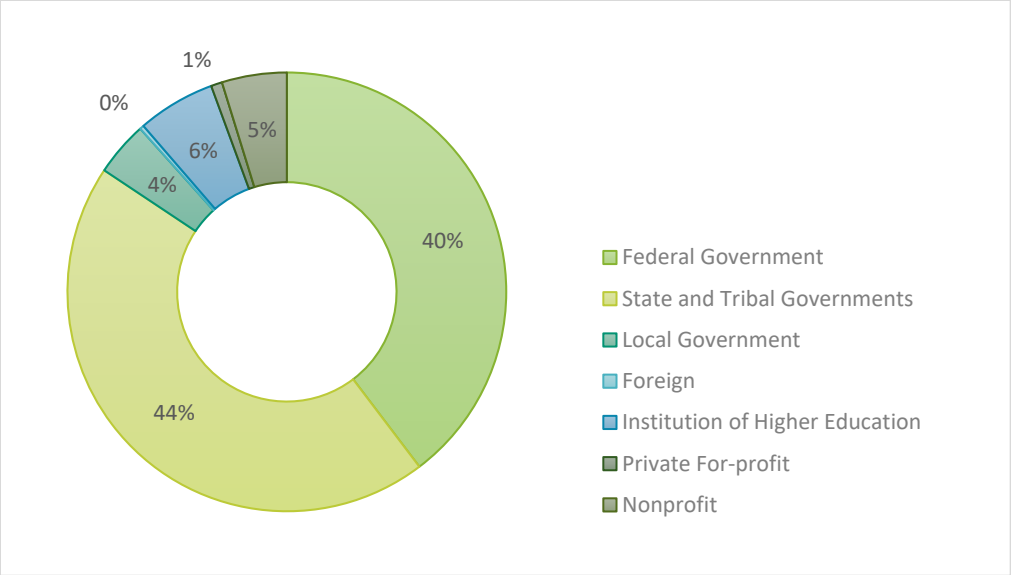


Figure 28: PSU research funding sources (FY2023)

While research grants and expenditures are valuable metrics in understanding PSU's research activities, the true impacts extend far beyond. Patents and licenses serve as key indicators of innovation and its potential for commercialization, often leading to the development of new products, services and companies, driving economic growth through technological innovation and entrepreneurship. Moreover, they can generate significant revenue for the university through licensing deals and spin-offs, contributing to long-term economic engagement and sustainability.

Figure 29 shows PSU has maintained a consistent level of patent applications over the years, suggesting a steady flow of innovative ideas emerging from PSU's research activities. Note that there may be a delay or mismatch in the patents submitted versus patents granted due to the time required for review and approval. Figure 30 illustrates that products on the market derived from PSU licenses have grown steadily from 17 in FY2018 to 29 in FY2023. This consistent rise in commercialized products demonstrates the university's success in translating research into practical, market-viable innovations. Active unique licenses increased from 119 in FY2018 to a peak of 148 in FY2020, before slightly declining to 126 in FY2023.

PSU's research organizations and programs are at the forefront of pioneering efforts to address complex societal issues through interdisciplinary collaboration and innovative solutions, as exemplified by university research centers such as the Homelessness Research and Action Collaborative (HRAC), described in a previous section, the Transportation Research and Education Center (TREC), the Institute for Sustainable Solutions (ISS) and the Center for Electron Microscopy & Nanofabrication (CEMN). In addition, the Center for Internship, Mentoring and Research (CIMR) hosts programs for undergraduates who want hands-on research experiences. These and other research entities leverage PSU's strategic urban location to engage with local communities and stakeholders, creating a dynamic environment where academic expertise meets real-world challenges. By providing resources, mentorship, and collaborative opportunities, PSU's programs play a crucial role in nurturing new ventures and empowering entrepreneurs. This commitment to applied research and entrepreneurship drives technological advancements and economic growth, while also shaping programs and policies that directly impact surrounding communities. As a result, PSU serves as a catalyst for positive change, bridging the gap between academic knowledge and practical solutions to enhance the quality of life in the region.

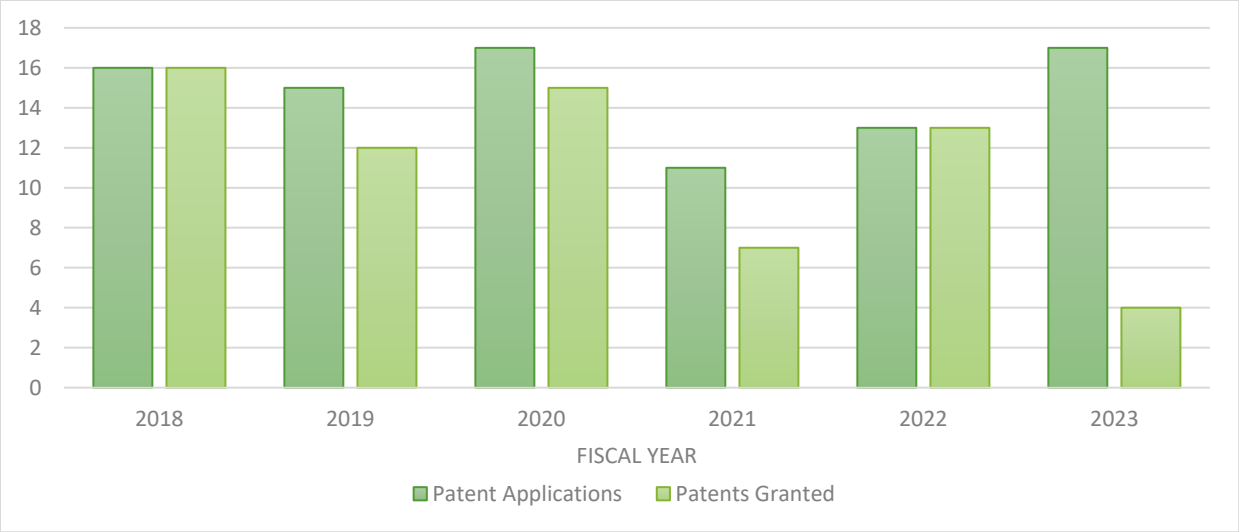


Figure 29: PSU patent applications and patents granted trends (FY2018-FY2023)

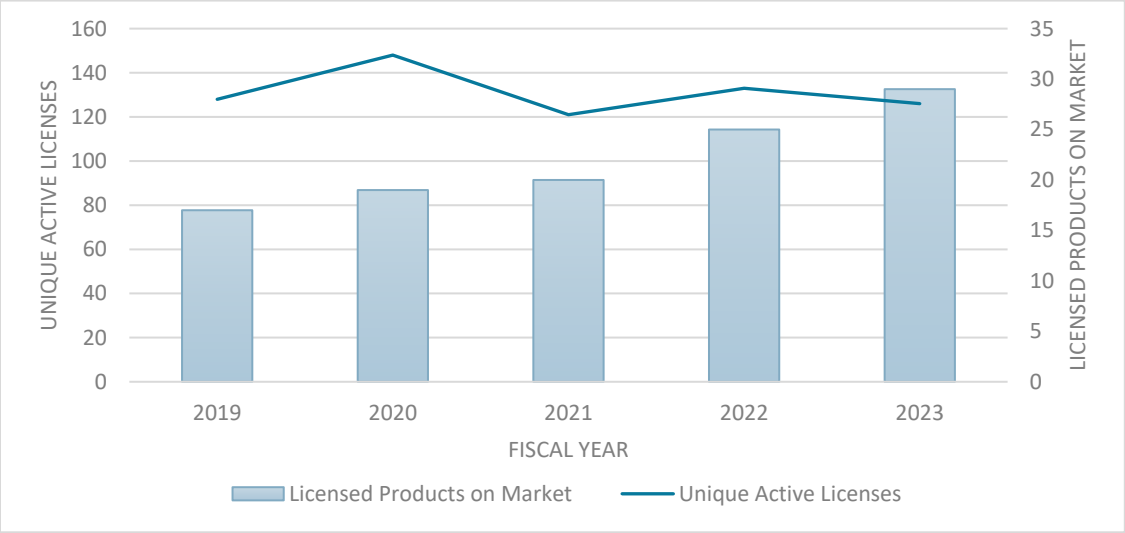


Figure 30: PSU licensed products and unique licenses trends (FY2019-FY2023)

At the heart of these initiatives, the PSU Center for Entrepreneurship stimulates creativity and practical solution development through competitive events and interactive learning opportunities, preparing participants to launch successful ventures. Additionally, the PSU Business Accelerator offers targeted support, providing workspace, growth-focused services and access to an extensive network of industry and academic professionals.

The PSU Center for Entrepreneurship serves as a hub for fostering innovation and entrepreneurship across the university. It is dedicated to helping students and faculty bring their innovative ideas to life and to the market by offering support through experiential learning and co-curricular activities. This includes providing access to resources such as mentorship, funding and connections to the broader business community. Since FY2018, this center has facilitated the launch of approximately 40 student-initiated companies. A standout example includes Liquid Wire, a participant in the Cleantech Challenge and Invent Oregon, which has successfully raised $25.05 million and grown to employ 40 people. Liquid Wire

exemplifies the type of innovative tech companies the center aims to cultivate, specializing in advanced electronic circuitry using Gallium.

The PSU Business Accelerator (PSBA) focuses on advancing high-growth startups, particularly in sectors like technology, bioscience and green tech. It offers office and lab spaces along with a suite of services tailored to the needs of fast-growing companies. These services include access to conference rooms, mentorship opportunities and networking events such as CEO meetings and lunch and learns. The accelerator not only supports internal university startups but also hosts companies spun out from all major Oregon research universities. From FY2018 to FY2023, PSBA has hosted 44 companies, showcasing a dynamic environment that aids significant entrepreneurial activities such as successful exits and securing funding. For instance, Continuous Solutions attracted $9M in SBIR/STTR funding, indicating the accelerator's role in helping startups successfully navigate government grants and funding landscapes. Stark Street Materials, another notable tenant, secured $1.2M in SBIR funding, illustrating the accelerator's effectiveness in supporting startups geared towards sophisticated product development like radiation shielding materials. This aligns with PSU's strategic focus on fostering high-tech innovations.

In FY2023 alone, PSU hosted 13 startups. Their narratives not only inspire and educate other emerging entrepreneurs but also demonstrate the real-world relevance and potential of research endeavors to funding agencies and industry partners. For example, APDM has developed technology for wearable movement sensors that enhance health care diagnostics and treatment, demonstrating the potential for university-backed initiatives to achieve commercial success and substantial impact in critical sectors. Similarly, Stark Street Materials has been recognized for its work on advanced radiation shielding materials, securing significant funding and contributing to safety enhancements in environments exposed to radiation. Another venture, Here2Help, illustrates PSU's commitment to fostering socially responsible businesses. Here2Help focuses on providing essential community services, showcasing PSU's support for startups aimed at solving real-world problems through innovative solutions. These examples collectively reflect the effectiveness of PSU's ecosystem in nurturing diverse startups, which not only tackle technological innovations but also address community and health care needs. The success of these startups underscores the university's role in driving economic development and technological advancement, supported by a robust framework that aids in the translation of academic research into successful enterprise solutions.

V. Conclusion

This study examined PSU's economic and social contributions, educational outcomes, research activities and community engagement initiatives through an economic contribution analysis (input-output analysis), place-based analysis and social and community impacts of its educational and research activities. The PSU economic and social impact analysis framework (Figure 12) was developed based on APLU's Talent, Innovation and Place framework to incorporate PSU-specific data components and analyses.

- A distinguishing feature of this study was our exhaustive effort to identify, collect, aggregate and analyze the PSU-specific data that can inform the newly developed research framework. While our approach was thorough, we acknowledge limitations due to data availability, format constraints, resources and the timing of this project. Despite these challenges, this study establishes a robust foundation for future work and informed strategic planning.

- The comprehensive data collection efforts allowed us to customize and calibrate both the university's production function (or expenditure pattern) and employee commute rates within the

economic input-output model to more precisely characterize PSU's economic contributions to the region.

- Our examination of PSU alumni employment patterns and earnings over time, using matched OED data and PSEO data, provides a strong foundation for evidence-driven assessment of PSU's effectiveness in preparing graduates for the workforce and its contribution towards socioeconomic mobility.

- The hybrid quantitative and qualitative approach employed in this study offers a holistic perspective, illuminating not only PSU's substantial economic contributions to the region but also its significant roles in community engagement, innovation and sustainability.

While this study offers valuable insights, we must also acknowledge its limitations and potential for further improvement in future iterations of the study such as:

- Regular study updates: We recommend establishing a protocol for regularly updating PSU's economic and social impact study to maintain consistency in data collection procedures and analysis methods. This will allow for meaningful comparisons over time, and provide insights into the impacts of any strategic changes at the university.

- Data collection: While the data collected for this study serve their original intended purposes well, there are some improvements that could benefit future economic contribution analyses. We recommend exploring ways to better categorize university expenditures that occur within the Portland MSA and the rest of Oregon, as these are the expenditures that have the most significant multiplier effects on the regional economy. Additionally, developing a systematic method for tracking attendance and economic impact of all campus events (including seminars, conferences, athletic events and other gatherings) would provide a more accurate picture of PSU's impact through visitor spending.

- Enhanced alumni data analysis: We plan to further leverage the rich dataset obtained from matching PSU student data with OED records. Future research can analyze the trajectory of PSU graduates' earnings and industries by program in a longitudinal fashion, which can allow for improved alignment of academic offerings with labor market outcomes or industrial shifts within the state. It would be beneficial to explore coordinating with employment departments in neighboring states to potentially track alumni throughout the Pacific Northwest or Western States.

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