Over its 125-year history, Washington State University has had a tremendous impact within Washington, nationally, and internationally. There are hundreds of examples of how the innovative research of our faculty and the energy and skill of our graduates have positively influenced business, industry, education, the health sciences, government, and communities around the globe.

We have made a difference in your life and the lives of your neighbors.

This report is a first step at quantifying that impact, most specifically within the State of Washington. Using very conservative measures, it calculates the return that the state receives from its investment in WSU. The news is impressive. In the past year, for every $1 the state invested, WSU delivered nearly $19 of economic impact. Overall, we generated $3.4 billion in economic impact in 2014.

This report also underscores the considerable reach of WSU research and education. Unlike any other educational institution in the state, we have a working presence in each of Washington’s 39 counties. We have campuses in Pullman, Spokane, Tri Cities, and Vancouver, along with a new and growing presence in Everett. Our Global Campus offers online degree programs that can be accessed from any location around the globe. Each of these locations represents an opportunity for us to extend our impact to benefit the people of Washington.

Throughout our history, we have aligned our resources to help meet the needs and challenges of our state, our nation, and the world. That is our responsibility as the state’s only research land-grant institution. I am pleased that, by any measure, we are succeeding in our work on your behalf.

Best regards,

Elson S. Floyd
President, Washington State University
27,700
Students

17,980 Including 5,550
Employees Research Staff

150,000+
Alumni Around the World

$186.4 m
State Investment

$18.87
in Economic Impact for Every $1 of State Funding

$341.1 m*
in Research Grant Expenditures
*FY 2013

$3.4 b
Economic Impact
WSU research drives innovation and addresses complex societal challenges. Research strengths span global economic needs, including agricultural development, environmental sciences, business, and health and social sciences. WSU’s capacity to support thought leaders in the classroom, in research labs, and in the community provides the critical momentum to spur economic development throughout Washington.

Research grants come primarily from federal agencies, and thus bring capital into the state economy. Each year since 2009, more than $100 million in federal grants have been awarded to WSU. WSU ranks as a major research institution and is rated a “very high research activity” university by the Carnegie Foundation for Advancement of Teaching. The University partners with research entities domestically and around the world in industry and government, including national laboratories, like the Pacific Northwest National Laboratory (PNNL) co-located with the WSU Tri-Cities campus. From 2011 to 2013, WSU generated over $600 million in cumulative research expenditures, 13 startups, and 191 cumulative invention disclosures. In 2013, WSU filed 83 new patent applications and had 14 U.S. patents issued.

The beneficiaries of WSU’s investment in research include students; Washington state residents, communities, and businesses; and national and international research and scientific communities and commerce. WSU research supports undergraduate and graduate education through hands-on experience working in the lab, community, or field, helping to solve practical problems. Research gives students exposure to leading-edge companies, research institutions, and associated technologies, making graduates more attractive to companies seeking new hires. Moreover, WSU research projects simultaneously contribute to scientific breakthroughs and engage businesses through the creation of intellectual property, startups, consulting, and expansion of existing firms. Through WSU Extension, WSU’s research is delivered within the state and engages Washington residents and community partners in solving some of our most immediate and complex challenges.
In fiscal year (FY) 2013, WSU recorded $341.1 million in research grant expenditures [Exhibit 1]. Between fiscal years 2008 and 2013, WSU reported nearly $2 billion in research grant expenditures (inflation adjusted). The American Recovery and Reinvestment Act (ARRA) of 2009 provided $52.6 million in grant funding (inflation adjusted) to activities at WSU prior to 2014.

The U.S. Department of Agriculture (USDA) supported $36.6 million in research spending at WSU in 2013, making it WSU's largest granting agency. The Department of Health & Human Services (DHS) financed $19.6 million in net expenditures, primarily grants and awards from the National Institutes of Health (NIH) [Exhibit 2]. WSU ranked #68 in FY 2013 research and development (R&D) expenditures as measured by the National Science Foundation (NSF), ahead of Princeton University, Iowa State University, and the University of California, Santa Barbara.

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Agencies</td>
<td>$38.8 m</td>
</tr>
<tr>
<td>Dept. of Agriculture</td>
<td>$36.6 m</td>
</tr>
<tr>
<td>Dept. of Health (incl. NIH)</td>
<td>$19.6 m</td>
</tr>
<tr>
<td>Natl. Science Foundation</td>
<td>$18.2 m</td>
</tr>
<tr>
<td>Dept. of Energy</td>
<td>$11.4 m</td>
</tr>
<tr>
<td>Dept. of Defense</td>
<td>$9.5 m</td>
</tr>
<tr>
<td>NASA</td>
<td>$207 k</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$134.3 m</td>
</tr>
</tbody>
</table>

WSU’s research is directly relevant to many of the state’s most important industries. Food and agriculture, for example, account for more than $35 billion in the state’s economy. WSU has a direct relationship with businesses throughout the supply chain, keeping this sector among the most competitive in the world. Tree fruit, grains, dairy, and other producers rely upon, and provide supplemental funding for, WSU problem-solving research. Washington’s wine and grape industry, second in the United States to California, has both a history and a future tightly linked to WSU R&D.

WSU research influences far more than food, agriculture, and natural resources. The College of Veterinary Medicine is a global leader in the science of infectious diseases affecting animal and human health. It spun off the Paul G. Allen School for Global Animal Health that is active in Washington and around the world, including sites in sub-Saharan Africa. WSU research on energy transmission, distribution, and bio-generation informs global energy use. Relevant to other industries like aviation, WSU and the Massachusetts Institute of Technology (MIT) were selected to lead the Federal Aviation Administration (FAA) Center of Excellence for research on reducing the carbon use and other environmental impacts of flight. Such research and leadership keeps Washington’s aviation and advanced manufacturing sectors competitive, bringing jobs and economic prosperity to the state.

WSU research attracts science, technology, and business investment to Washington from around the world. The WSU/PNNL partnership creates a global hub for research on thermal processing, chemical transformation control, power grid modernization, and various biotechnologies. PNNL in turn brings relationships with other national laboratories and industries from around the world to WSU. Materials science, air and water resources, sustainable infrastructure, plant science, and nuclear research relevant to non-proliferation are just a few of the other programs WSU is known for, all contributing toward Washington’s attractiveness for outside research and development investment. Further, WSU research conducted at sites outside of Washington span the globe, contributing to economic development, political stability, and a safer world in which to live.

**EDUCATION**

Washington State University includes the main campus in Pullman; three urban campuses in Spokane (a designated campus for health sciences), the Tri-Cities, and Vancouver; and a University Center in Everett. In addition, WSU’s mechanical engineering program is offered at Olympic College in Bremerton, and WSU’s Global Campus is a rapidly growing online learning platform that receives accolades for leading the state in the practice of online education.

Students can complete graduate and bachelor’s degrees at WSU’s three urban campuses in Spokane, the Tri-Cities, and Vancouver, and at the University Center in Everett or the Bremerton Olympic College site. Of these locations, the Spokane campus experienced the most rapid growth between 1992 and 2014, at 10.8% per year, and Vancouver grew by 10.1%.
WSU’s Global Campus delivers education without geographic boundaries to serve graduate and undergraduate students around the world. In fall 2014, more than 9,500 students were enrolled in Global Campus courses, up dramatically from the year prior. Almost 80% were from within the state of Washington. Approximately 1,800 live outside Washington, and more than 240 are from outside the United States.

Degrees conferred by WSU have grown 2.5% annually in recent years—up 40 percent over 15 years. In 2013, nearly 6,500 students graduated from the university, comprising 192 professional degree graduates, 276 doctoral degree graduates, 811 master’s degree graduates, and 5,210 bachelor’s degree graduates.

During the 2013-2014 academic year, there were nearly 27,700 students enrolled at WSU campuses, of which the majority were enrolled as full-time students [Exhibit 3]. From 1992 to 2014, full-time student enrollment has increased at an annual growth rate of 1.7% per year. The university offers 95 degree programs in 11 different colleges. In addition, WSU offers 60 unique Ph.D. programs, 42 M.S. degree programs, 20 M.A. degree programs, and another 20 specialized graduate programs in fields such as health care, education, and architecture.

In addition to the 7,813 courses taken by students primarily through WSU’s Global Campus, students took 1,762 Global Campus courses while enrolled at the main campus in Pullman or one of WSU’s urban campuses [Exhibit 4].
WSU draws students from across the state, with significant concentrations of students from the Puget Sound area as well as Spokane County. In 2014, roughly 43% of in-state students came from the central Puget Sound region (King, Kitsap, Pierce, and Snohomish counties). The counties contributing a majority of students include King County (5,200), Clark County (3,200), Pierce County (1,900), and Spokane County (1,700).

WSU also attracts students from across the nation. In the 2014 academic year, more than 3,000 students came from U.S. locations outside Washington state (across all programs). Of these, the largest state by student origin was California, with more than 700 student enrollees, followed by Oregon (339) and Idaho (325). About 11% of all out-of-state U.S. students came from East Coast states.

International students at WSU represented more than 40 countries during the 2013 academic year. China was the largest source of international students, consistent with a broader trend among universities across the United States; Chinese students constituted 41.5% of all WSU foreign students in 2013. Students from South Korea made up 6.1%, followed by Saudi Arabia and India (5.2% each).

WSU has one of the most diverse undergraduate student bodies in the state. Every year for the past several years, a full third of the freshman class has self-identified as a member of a minority population. Many WSU freshmen are first-generation students (the first in their family to attend college), and the University supports those students with a variety of program. First Scholars, for example, is a comprehensive program that supports first-generation college students and helps them complete their college degrees. Selected students receive personalized support and an annual award of $5,000, which is renewable for a total award of $20,000 over four years.

### REACH

#### URBAN CAMPUSES

Pursuant to its mission of delivering quality education to Washington residents, the state legislature established WSU’s first three urban campuses in Vancouver, Spokane, and the Tri-Cities in 1989. Since then, these campuses have grown to address the needs of their respective communities. WSU Spokane developed into a health sciences campus, WSU Tri-Cities developed research relationships with PNNL and the Washington wine industry, and WSU Vancouver is the only four-year research university in southwestern Washington. The WSU presence at Everett currently offers four bachelor’s degrees at the Everett University Center, located on the Everett Community College campus. WSU assumed management of the University Center in 2014, furthering the educational and training needs of north Puget Sound communities.

#### Vancouver

WSU Vancouver is the largest of WSU’s four urban campuses and offers the broadest array of programs. With more than 3,000 students enrolled during the 2013-14 academic year, WSU Vancouver intends to grow to 5,000 students by 2020 and has the capacity to serve 20,000–30,000 students. WSU Vancouver positively impacts its community. For example, the Business Growth Mentor and Analysis Program, a pro-bono, student-led consultancy, has helped participating businesses grow $2.3 million in new revenues and add 26 jobs. After 25 years, WSU Vancouver boasts more than 11,000 alumni, 75% of whom remain in the community to live and work. The University is one of the top 30 employers in a county with nearly 444,000 residents.

#### Tri-Cities

WSU Tri-Cities represents the university’s STEM focus, with notable projects like alternative fuel-based research collaborations with PNNL, and the soon to be opened Wine Science Center, a partnership with industry leaders in Washington. Like WSU’s other urban campuses, the Tri-Cities campus is still a relatively young institution with an ambitious vision to grow. The Tri-Cities campus is an economic engine helping to support the surrounding community through partnerships and federal grants. Looking forward, the campus has the opportunity to broaden support, grow the student base, foster research assets, and develop a community around the campus, providing an ecosystem where graduates can work.
WSU Spokane is the University’s designated health sciences campus. It experienced the most rapid growth in students from 1990 to 2013, at 10.8% per year. By 2013, the campus was home to more than 1,300 students with a vision to add both graduate and undergraduate students and grow its physical footprint to over one million square feet by 2020. The College of Nursing, the College of Pharmacy, and the newly formed College of Medical Sciences call the Spokane campus home. In fact, WSU produces the largest number of Bachelor of Science in Nursing (BSN) degrees statewide. WSU is pursuing an independently accredited medical school to be located on the Spokane campus. Pending legislative and gubernatorial support, the University will seek accreditation immediately and plans to seat its first class of medical students in the fall of 2017.

Everett
WSU’s newest presence is in Everett, co-located with Everett Community College. In fall 2014, WSU North Puget Sound at Everett welcomed 55 new students into its engineering programs. The learning model expands access to an affordable college education by encouraging students to complete two years at a community college and then enroll at WSU for junior and senior years. With goals to focus on aviation biofuels, aerospace manufacturing, composite materials, and sustainable construction design, the campus also represents WSU’s expansion of its strength in engineering and the built environment. Students can also major in hospitality business management or integrated communication.

EXTENSION
WSU Extension broadens the reach of the university into every county in Washington and serves as part of a nationwide network of approximately 2,900 Extension offices. Integral to WSU’s mission as a land-grant university, Extension faculty and staff advance the knowledge, economic well-being, and quality of life of Washington residents by developing and delivering programs that promote individual and community capacity through learner-centered, research-based education.

WSU Extension is a partnership with federal, state, and county governments and various private-sector entities. This model is the heart of a land-grant university that engages the public and private sector, and ensures responsiveness and accountability. In fiscal year 2014, WSU Extension programs were made possible by $66 million in support. A Washington state investment of $16.2 million in WSU Extension programs was matched three-to-one by other sources, including $45 million in grants in support of local economies and communities.

WSU Extension programs are grouped broadly into three categories: youth and family (including 4-H, parenting, and nutrition programs), community and economic development, and agriculture and natural resources. Each category includes a diverse portfolio of programs designed to meet the needs of local families, community partners, and businesses. Of the three categories, youth and family claims the largest concentration of faculty and staff. [Exhibit 5].

<table>
<thead>
<tr>
<th>Exhibit 5</th>
<th>Extension Offices by Average Annual Full-Time Employment and Program (FY14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office</td>
<td>Youth &amp; Family</td>
</tr>
<tr>
<td>WSU Pullman</td>
<td>4</td>
</tr>
<tr>
<td>Olympia</td>
<td>0</td>
</tr>
<tr>
<td>Spokane County</td>
<td>23.2</td>
</tr>
<tr>
<td>Pierce County</td>
<td>10.9</td>
</tr>
<tr>
<td>Puyallup</td>
<td>9.3</td>
</tr>
<tr>
<td>Clark County</td>
<td>9.8</td>
</tr>
<tr>
<td>Snohomish County</td>
<td>9.6</td>
</tr>
<tr>
<td>Seattle</td>
<td>0</td>
</tr>
<tr>
<td>King County</td>
<td>9.1</td>
</tr>
<tr>
<td>Prosser</td>
<td>0</td>
</tr>
<tr>
<td>All Others</td>
<td>89.1</td>
</tr>
<tr>
<td>Washington</td>
<td>165</td>
</tr>
</tbody>
</table>

Sources: Washington State University, 2014; Community Attributes Inc., 2014.
WSU Extension programs are enhanced by the commitment of more than 5,000 volunteers each year. In 2014, Washington residents logged in excess of 406,000 volunteer hours, valued at more than $10.8 million by state standards [Exhibit 6]. Residents volunteer for a wide range of programs, from Beach Watchers to Master Gardeners and 4H. Volunteers are involved in education and youth mentoring, developing community gardens, and monitoring and cleaning up the state’s coastline—just a few examples that illustrate how Washingtonians give back to their communities through WSU.


<table>
<thead>
<tr>
<th>County</th>
<th>Volunteers</th>
<th>Hours</th>
<th>Value of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snohomish</td>
<td>610</td>
<td>61,900</td>
<td>$1,654 k</td>
</tr>
<tr>
<td>Pierce</td>
<td>530</td>
<td>43,430</td>
<td>$1,160 k</td>
</tr>
<tr>
<td>King</td>
<td>650</td>
<td>35,010</td>
<td>$936 k</td>
</tr>
<tr>
<td>Kitsap</td>
<td>400</td>
<td>26,520</td>
<td>$709 k</td>
</tr>
<tr>
<td>Benton</td>
<td>290</td>
<td>24,860</td>
<td>$664 k</td>
</tr>
<tr>
<td>Clark</td>
<td>310</td>
<td>23,100</td>
<td>$617 k</td>
</tr>
<tr>
<td>Spokane</td>
<td>220</td>
<td>22,460</td>
<td>$600 k</td>
</tr>
<tr>
<td>Island</td>
<td>230</td>
<td>19,500</td>
<td>$521 k</td>
</tr>
<tr>
<td>Skagit</td>
<td>180</td>
<td>19,010</td>
<td>$508 k</td>
</tr>
<tr>
<td>Clallam</td>
<td>180</td>
<td>17,860</td>
<td>$477 k</td>
</tr>
<tr>
<td>All Others</td>
<td>1,710</td>
<td>112,950</td>
<td>$3,018 k</td>
</tr>
</tbody>
</table>

Washington 5,310 406,600 $10,864 k

Sources: Washington State University, 2014; Community Attributes, Inc., 2014.

**RESEARCH AND EXTENSION CENTERS**

WSU operates four Research and Extension Centers (RECs)—in Puyallup, Mount Vernon, Prosser, and Wenatchee. The RECs enhance WSU’s ability to develop sound science, instruction, and outreach to meet local needs of rural and urban communities and their residents. Research and extension programs at each center align with the region’s needs and provide practical solutions with immediate economic impact.

WSU’s Puyallup REC engages the regional community to provide innovation and knowledge in more than 30 program areas. The Puyallup REC is home to WSU’s stormwater and low impact development research and extension programs, including state-of-the-art infrastructure to study and demonstrate technologies that reduce pollutants in urban runoff waters. The Puyallup REC has a cutting-edge diagnostic laboratory for avian health, leveraging WSU’s knowledge strength in veterinary medicine and animal systems. It also delivers programs in dietetics, urban integrated pest management, ecotoxicology, environmental horticulture, and many other areas.

The Tree Fruit Research and Extension Center (TFREC) in Wenatchee serves the needs of one of the largest fruit-producing regions in the world, as the region leads the nation in the production of apples, cherries, and pears. Started 70 years ago by the state legislature, the TFREC programs include plant breeding, entomology, physiology, pathology, and postharvest storage practices of tree fruit. The TFREC also hosts the tree fruit Decision Aid System (DAS), an advanced portfolio of online tools that link research models on pest and plant development to real-time weather data, improving management decisions for this important industry.

WSU’s Irrigated Agriculture Research and Extension Center (IAREC) at Prosser is the home of research, extension, and certification programs that support the state’s high-value irrigated agriculture industry. IAREC also hosts staff and scientists from the Washington State Department of Agriculture (WSDA) and the USDA Agricultural Research Service (ARS). Programs include AgWeatherNet (AWN), which provides access to current and historical weather data from WSU’s statewide weather stations; enology, viticulture, and grape virology programs that support the state’s table grape and wine industry; tree fruit physiology and cherry breeding programs; and the Clean Plant Network, one of 16 centers funded nationwide to test and develop disease-free germplasm for tree fruit, grapes, and hops.
At WSU’s Northwest Washington Research and Extension Center (NWREC) in Mount Vernon, experts engage in agriculture and horticulture research that enriches the local community at the rural-urban interface. Programs include entomology, wheat and barley plant breeding, small fruit and vegetable horticulture, vegetable and vegetable seed pathology, and weed science, among others. The NWREC is also home to the Bread Lab, which tests artisan grains developed in the breeding program and grown in the unique terroir of western Washington.

SMALL BUSINESS DEVELOPMENT CENTERS
Washington Small Business Development Centers (SBDC) make significant contributions to Washington state’s economy and are hosted by WSU.

WSU’s 24 SBDCs operate in collaboration with the U.S. Small Business Administration (SBA). The SBDCs provide Washington businesses and entrepreneurs with business management assistance, training, and support. A 25th center is expected to open in Redmond in early 2015. WSU is also considering a South Seattle location to support the growing number of minority-owned businesses in that community.

Services at SBDCs are offered without a fee. Between 2010 and 2013, Washington SBDCs provided more than 105,000 hours of client-based services. During the same period, SBDC advisors served more than 8,200 small businesses, created or saved more than 3,500 regional jobs, and facilitated access to more than $150 million in capital, contributing more than $26 million in state tax revenue and more than $8 million in federal tax revenue.

WSU STATEWIDE NETWORK & REACH
Publications and technology transfer allow WSU’s research to ripple from Washington in measurable ways. In 1992, the University published more than 100 articles with international collaborators. By 2011, that number exceeded 800.

WSU’s commercial contracts—largely royalty agreements on WSU patents—reach clients across the nation and represent a similar range of topics and fields of expertise. WSU’s contracts outside of Washington are primarily agricultural in nature, but include a large number of genetic research contracts as well, particularly in California [Exhibit 7].

Out of WSU’s 381 active licensing agreements, 30 are with international licensees [Exhibit 7]. International contracts are similar in breadth and reach to WSU’s statewide and national contracts, including genetic research, monoclonal antibody research, and fruit cultivars. The University also has several active contracts for a test for ivermectin sensitivity—a drug used commonly to treat parasitic infections in dogs—representing WSU’s strength in veterinary medicine.

Sources: Washington State University, 2015; Community Attributes Inc., 2015.
WSU's activities have economic impacts through all major sectors of Washington's economy. WSU's secondary economic impacts—which include indirect and induced impacts—are concentrated in producer and transport services as well as consumer services, the latter of which includes education. Overall, WSU had total secondary impacts in excess of $1.3 billion throughout the Washington economy for a total economic impact from operations of $2.3 billion.

In fiscal year 2014, WSU supported an average annual employment of 11,900 direct jobs (adjusted downward from 17,970 to reflect a decrease in activity during the summer), up from 11,525 in 2013. WSU supported an additional 8,700 jobs through secondary impacts, for a total of 20,600 jobs [Exhibit 9]. Major sector employment includes consumer services and the largest labor income impacts lie in the producer and transport services sector.

WSU labor expenditures have large secondary impacts throughout the Washington state economy. WSU employee compensation was $598 million in fiscal year 2014, including both wage and salary disbursements and employer contributions to benefits. Through indirect effects (business to business spending), the university supported an additional $101 million in labor income and another $311 million in induced effects (consumer/employee spending). Overall, WSU supported—through direct, indirect, and induced effects—more than $1.0 billion in labor income throughout Washington in fiscal year 2014 [Exhibit 9].

In addition to WSU’s operational economic impacts, visitor events and students contribute to the state economy. Pullman is home to WSU’s Pac-12 athletics program and events for both men’s and women’s sports. Attendance for WSU Football plus WSU Men’s and Women’s Basketball drew in more than 276,000 students and visitors in 2013, according to NCAA attendance statistics.

Students purchase a range of goods and services during their time at WSU, including books, groceries, and housing (among those living off campus), along with additional spending by visiting family members, friends, alumni, and others on restaurants and sporting events.

These expenses, along with visitor purchases, supported more than $1.1 billion in additional economic activity in 2013, according to WSU’s own analysis. Combined with impacts of institutional and research activities, WSU supported—through direct and secondary impacts—nearly $3.4 billion in economic activities statewide during the 2013 academic year.
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President, Washington State University