

“Empowering Idaho: Higher Education and Economic Development”
Address to Buy Idaho | October 25, 2017
President Chuck Staben, University of Idaho

INTRODUCTION: EMPOWERING IDAHO

Thank you inviting me to speak this afternoon. It’s a pleasure to join the Buy Idaho group and its guests.

I want to talk to you today about the role of higher education in the state of Idaho in meeting the opportunities and challenges for our state’s economic development.

Specifically, I appreciate the chance to look at the role of the University of Idaho, the state’s major research university and its land-grant institution, with a mission to conduct research for the benefit of the state and to provide access to a high-quality education for Idaho citizens.

Great public research universities have helped build our country, and they have a key role in the future health and prosperity of this state.

IDAHO IMPERATIVES

Idaho is a state with many blessings: wide open spaces, beautiful mountains and rivers, and many of the advantages of urban life.

All of you here today can testify to quality of life in Idaho.

But Idaho also has need to grow in smart and sustainable ways. We can enhance the educational attainment of our state, provide opportunities for students who want great jobs and good lives, and at the same time grow our economy.

That process, cultivating a workforce for the good jobs that can unlock the talent and ambition of our citizens right here in Idaho, is a virtuous cycle of educational attainment and employment.

At the same time, research and development that unleash innovation and discovery are critical to enhancing prosperity. Idaho’s research capacity is unique in some regards, as I’ll explain.

We also need to focus on encouraging entrepreneurship. Idaho is a great place to start a business. We can unleash that potential by equipping our citizens with the tools and training they need to succeed as entrepreneurs.

In each of these imperatives, Idaho’s higher education system has a central role.

IDAHO’S ECONOMY

Some context about our economy: Idaho’s economy bears many similarities to that of the United States as a whole, as you can see, with a diverse base of industries. The greater

impact from our agricultural sector is perhaps the most prominent difference, shown here on the far left of the image. According to an August 2017 University of Idaho study, “Economic Contribution of Idaho Agribusiness,” the agriculture sector went from 14 percent of GDP in 2012 to 16 percent of GDP in 2014.

That agriculture sector is increasingly dominated by dairy and livestock – which is why you see U of I moving forward with our Center for Agriculture, Food and the Environment or “CAFE” project, a new research dairy to be located in the Twin Falls area. CAFE has received the support of the governor and the legislature, with a \$10 million investment from the state that will seed the University of Idaho’s investment in partnership with private support.

As Idaho’s land-grant institution with an agriculture research mission, we have supported Idaho crop agriculture for many years and we will continue to do so, but we must step up to the economic reality that the greatest value comes from animal agriculture. Dairy herds in southern Idaho have tripled in the past 25 years, vaulting Idaho milk production to fourth nationally. Considerable additional value also comes from related food processing industries, with rapid growth in cheese and yogurt production.

As the largest research dairy in the United States, the CAFE project is an opportunity to conduct research that industry can use to optimize their efficiency and productivity. We can improve existing sustainable practices to support a profitable and environmentally sound dairy and food industry.

This chart is something of a snapshot. What is clear is that Idaho is changing, becoming an increasingly urban state and more demographically diverse. Agriculture continues to be a strong driver in our economy, but it is increasingly innovative and automated.

A technology sector is gaining prominence, not just in Boise and around the Idaho National Laboratory but in places like the Coeur d’Alene-to-Spokane corridor. Within other established and growing sectors like healthcare, there is continued strong growth correlated and aided by advances in technology.

Research universities, with their educational and research missions, are a significant part of how we position ourselves to build on our core strengths in sectors such as agriculture while diversifying to provide maximum opportunity for employment and innovation.

THE VALUE OF HIGHER EDUCATION

This graph show the correlation between bachelor’s degree attainment of adults and per capita income.

Note that Idaho is 49th in per capita income and in the bottom ten for attainment.

Almost 50 percent of the variation in per capita income correlates with attainment.

We know that on an individual basis, a person with a bachelor’s degree will earn \$1 million more over a lifetime than an individual with only a high school degree.

Idaho can and should be farther up the trend line with the “good jobs” that offer high pay and financial stability.

A host of other benefits attend postsecondary completion – health and well-being, increased civic participation, enhanced contributions to the community.

As I tell students, a good job is the foundation for a great life. And more and more, the road to those good jobs goes through higher education. A recent report by the Georgetown Center of Education and the Workforce showed that 99 percent of new jobs created since the recession have gone to people with at least some college experience. The unemployment rate for those with a college degree is half the rate for those with only a high school diploma.

So we all agree how important it is for the United States, for Idaho, and for each student that they earn a college degree.

IDAHO EDUCATIONAL ATTAINMENT

The Idaho Department of Labor recently looked at the composition of Idaho’s workforce through 2024 in terms of projected educational attainment.

As you can see, Idaho is likely to have about 38 percent of its workforce with an Associate’s Degree or more, plus another 6 percent with a postsecondary certificate.

How do we move towards the states’s 60 percent goal, which the higher education task force recommended being targeted for 2025?

We need a multi-faceted approach that connects higher education to the K-12 system, and which engage those Idahoans who are out of school and limited by their educational level.

We must engage students coming from high school. We must re-engage Idahoans whose prospects are limited by their education – many of whom are now place-bound.

We need programs like the Governor’s Adult Completer Scholarship. We need effective, accessible distance education.

IDAHO’S GO-ON CHALLENGE

Most recently Idaho’s go-on rate has been estimated at about 46 percent.

In order to compare against other states, I want to step back to the most recent available data, and that’s the chart you see before you, some selected instances of the recent 16-month progression to college by high school graduates.

As you can see, Idaho is one of the lowest. Perhaps surprisingly, Mississippi is the highest, with a 79 percent go-on rate.

We have an enormous, untapped talent pool in our state, with only 46 percent of high school seniors going on to college within 16 months after college. Even understanding that a

certain percentage go on to military service or religious missions does not significantly alter the very low college-going rate.

The University of Idaho has aggressively tried to change that college-going culture. We've helped lead the Direct Admissions program, which offers automatic admission for qualified high school seniors to a public institution in our state.

Getting to college is a somewhat complicated process, especially if you're a first-generation college student who may not have family members or others nearby to navigate that process. This initiative lowers a hurdle on the way to college.

And it's working. In fall 2016, the state of Idaho realized a 5 percent system-wide increase in the number of first-time freshmen attending college. That was a 6.5 percent increase at the University of Idaho. Our enrollment has grown again in fall 2017, with gains in total resident undergraduate and graduate enrollment and significant increases in dual-credit participation from Idaho K-12 students.

Last year a study by our James A. and Louise McClure Center for Public Policy Research in collaboration with the Treasure Valley Education Partnership showed that the program made a difference for 30 percent of high school seniors in their decision to attend college. If you can convince 30 percent of high school students to do anything, you're doing something right.

I want to keep building on that success, and complement it with focused outreach efforts to cultivate a student population in higher education that is specifically interested in STEM fields.

IDAHO STEM NEEDS

What I tell students is that a college education, for most people, is the best possible path for a good job and a strong financial future. STEM jobs are good jobs – engaging work that provides the financial stability for employees to raise families, buy homes, contribute to their communities, and all those positive things.

According to the Idaho Department of Labor, STEM jobs saw little growth in Idaho in the last 10 years; but they are predicted to see major growth in the next 10! That growth rate will be much higher than the United States average.

Idaho universities, community colleges, career and technical education providers are striving to recruit students and meet demand.

STEM DEGREE PRODUCTION IN IDAHO

The primary producers of Idaho's four-year and advanced STEM degrees are the state's three public research university. Idaho State University and Boise State University are both R3 "moderate research activity" according to the Carnegie Classification, and the University of Idaho is the state's R2 "Higher Research Activity" institution. Those classifications reflect the breadth and depth of research activity, as well the granting of doctoral degrees.

As you can see, over the most recent six years for which we have data, the production of STEM degrees has overall increased. A minor ebb in 2014-2015 might reflect smaller entering classes corresponding to the post-recession economic improvement. You can see that Boise State University continues to make strides in the production of STEM degrees, and that the University of Idaho has a relatively stable leadership position over time.

Again, we have a vast pool of college-qualified students who are not yet in the degree pipeline at all. Over time we can expect this STEM degree production to grow. The University of Idaho is certainly interested in leading that growth, especially with hands-on learning in fields like agriculture, engineering, and architecture right here in Boise.

I think it's important to discuss not just the degree that students receive, but the experience that they have in order to attain that degree. The quality and caliber of the educational experience is what allows a student to graduate with the preparation needed to contribute right away to organizations and industries.

We are a university that takes pride in the fact that most undergraduates – about two-thirds, currently – participate in a work of research, scholarship or creative activity during their time at UI. During my presidency we've created a new Office for Undergraduate Research at the University of Idaho. The office reaches out to students to coordinate their involvement in research and scholarship, connecting them with faculty, organizing symposia, and actually offering a competitive grants program for students interested in funding their research and traveling to present their work.

As we meet the performance measures in our Strategic Plan, we will increase the number of undergraduate and graduate students paid from sponsored projects. We also want to increase the percentage of students involved in undergraduate research and scholarship from 66 percent, our current baseline, to 75 percent.

IDAHO INNOVATION – A PUZZLE

Earlier I mentioned Idaho's unique research and development profile. Understanding that profile can point the way to opportunities for growth and enhancement of existing strengths.

Idaho is, overall, about where one might expect in terms of overall research expenditure, but our profile is very uneven.

For example, the five agencies in the table – the Department of Defense, the National Institutes of Health, NASA, the Department of Energy, and the National Science Foundation, sponsor 94 percent of all Federal research.

You can see that we are very high in Department of Energy funding, about where one might expect in terms of Defense Department research, and VERY low in other areas.

Paradoxically, Idaho is in the Top 10 states for research and development as a percent of Gross State Product: 3.6 percent. For comparison, the United States average is 2.7. China's percentage is 2.1 percent and growing.

We achieve that distinction by virtue of a comparatively low Gross State Product combined with the presence of the Idaho National Laboratory.

Across the United States, 71 percent of research and development is performed by business, 14 percent by universities, and 11 percent by federal labs. So Idaho is very different from the rest of the country as a whole.

Why does that matter? Idaho has an incredibly valuable asset in the form of the **Idaho National Laboratory**. And I am glad we are building around it with new initiatives like Cybercore and Collaborative Computing Center, but I know we can do more.

Our computer science and computer engineering students benefit from having a direct connection to a national laboratory where those challenges are being met.

We might also consider the glass half-full in respect to other agencies: We have room to grow in terms of funding from non-energy and non-defense sources. To even get to national averages would mean significant increases in important areas.

Those impacts would benefit industries across our economy, spurring innovation and discovery that leads to growth and sustainability. Higher education can be a facilitator of that growth, building relationships in key areas and projects, with the effect of seeding economic development and building a workforce.

IDAHO'S RESEARCH UNIVERSITIES

I want to fill out the picture of university research and development, as well as workforce training. This chart offers a look at the work of our state's research universities and the production of doctorates in science and engineering, key indicators from the NSF.

Though UI is the largest in terms of research expenditure and STEM doctorate production, we have a long way to go. In our Strategic Plan, we are focusing on increasing the number of terminal degrees awarded – most often a doctoral degree – by nearly 50 percent for a total of more than 400 terminal degrees awarded per year. That will be a significant increase in research capacity available to academia, to our federal partners such as the INL, and to businesses across Idaho.

IDAHO ENTREPRENEURSHIP

Cultivating entrepreneurship is an important part of what a research university is able to do. The Kauffman Foundation releases an interesting annual report called the Kauffman Index of Startup Activity. Their 2017 state-level reports offer a look at important indicators of the entrepreneurial climate. For instance, the Rate of New Entrepreneurs in the economy is calculated as the percentage of adults becoming entrepreneurs in a given month. In Idaho, that Rate of New Entrepreneurs is about 320 out of every 100,000 people, or 3.2 percent. It is behind California, for example, but very close to the national average.

The Opportunity Share of New Entrepreneurs is the percentage of new entrepreneurs driven primarily by “opportunity” vs. “necessity.” That is, what entrepreneurs were not unemployed

when they started their new business, but simply seeing an opportunity in the market and having the capital and the climate with which to proceed.

Idaho's opportunity share is again behind the large-state example of California but not so distant from the national average.

The Startup Density of a region is measured as the number of new employer businesses, normalized by the business population. In other words, the number of new businesses that employ people within the entire employer landscape. As the Kauffman Index notes, "Although new businesses with employees represent only a small share of all new businesses, they represent an important group for job creation and economic growth." Idaho again scores well in this metric.

In fact, among smaller states measured by the Kauffman Index, the state of Idaho is one of the higher ranked states for start-up activity.

Reflecting that positive landscape, Entrepreneur magazine recently named Idaho the fourth easiest state to start a business, based on a survey by Thumbtack.

How do universities contribute? First, we can train entrepreneurs. Our College of Business and Economics excels in the kind of pitch and business plan competitions that prepare students for succeeding in business.

We can also leverage our mission to do economic development outreach. Here in Boise we have great relationships with groups such as the Boise Valley Economic Partnership and others that are focused on helping new businesses take off and established businesses enhance their success. Our Research office has recently created both an Office of Technology Transfer, to help the commercialization of U of I innovation, as well as an Office of Economic Development.

Jana Jones is our Executive Director for Economic Development. She joined U of I this spring, and I hope you will get to know her. She is based in Boise but has a statewide mandate to build relationships and provide connections to support and resources.

As a university, we are proud of how we contribute very directly to entrepreneurship here in Idaho.

AN ARENA FOR IDAHO

In closing, I want to highlight a special project at the University of Idaho, our proposed basketball arena on our Moscow campus. This project combines the best of what we do as a university, with opportunities for teaching and learning, for research connected to architecture and engineering and other disciplines, and for contributing to the state's economic development.

As the university embarked on this top-priority fundraising project, we knew we had an opportunity to contribute something special. We are the University of *Idaho*. We take that very seriously. So why not design and build a facility that represents our state?

That's exactly what we are proposing with a unique arena that features mass-timber construction. This kind of construction technology and development is fast emerging, and the Idaho Arena can be a showcase for the potential of the industry. New "tall wood" structures are being permitted in built already in places like Portland.

The United States is somewhat behind in the commercialization of this technology, due in part to regulations around wood construction, but we can catch up.

Idaho has the existing industries, know-how, and the natural resources to be a national player in this industry, with significant economic impact across the timber, construction, and planning industries.

You can see in the pictures some initial concepts of what we are planning. This would be the largest mass-timber project of its kind in the United States. It is an investment in our university community, and in our student-athletes, but it is also very much an investment in the state of Idaho.

I hope you are as excited as I am about that project. I hope you are also excited about the many opportunities we have to grow as a state. Challenges remain, but we are on the right track.

The University of Idaho is proud to use its research university strengths to build a highly educated Idaho that provides more opportunities for our state's citizens and that unlocks the innovation and economic development potential you all see firsthand every day.

Thank you.