

# BUSINESS OREGON

## 2019-21 Budget Presentation

Transportation and Economic Development Subcommittee

Phase II - April 2019



# Two-Day Agenda

## Day 1

- Broadband Office
- Innovation & Entrepreneurship
- Regional Solutions

## Day 2

- Seismic Rehabilitation Grant
- Special Public Works Fund
- Brownfields Redevelopment Program

# OREGON BROADBAND OFFICE

CHRIS CUMMINGS

CHRIS TAMARIN



# Oregon Broadband Office Executive Order 18-31

The Oregon Broadband Office is created within Business Oregon and shall:

- Advocate for the adoption of public policies that remove barriers to and support broadband infrastructure deployment to close the continuing digital divide.
- Develop broadband investment and deployment strategies for unserved and underserved areas.
- Promote and coordinate private sector, public sector, and cooperative broadband solutions.
- Support and promote local and regional broadband planning.



# Oregon Broadband Office Executive Order 18-31...cont'd

The Oregon Broadband Office shall:

- Pursue and leverage federal sources of broadband funding to achieve state broadband goals.
- Manage and award funds allocated to the office for broadband projects.
- Engage with stakeholders; elected officials, government officials, healthcare providers, educators, business, agriculture and other community leaders, and broadband service providers; to facilitate communications and aggregate the demand of the different segments of the community to help make a business case for broadband investment.

# Oregon Broadband Office Executive Order 18-31...cont'd

The Oregon Broadband Office shall:

- Develop and maintain a broadband map as a platform for data collection to track the availability of broadband services and measure progress as well as other related information and provide public access to the data.
- Support and coordinate efforts with the Governor appointed Oregon Broadband Advisory Council.

# Oregon Broadband Office Executive Order 18-31

- The Oregon Broadband Office shall consist of a telecommunications strategist and such other personnel as Business Oregon or the Legislative Assembly shall commit.
- State agencies determined by the Governor's Office to have operations and missions relevant to expanding broadband access shall coordinate with the Oregon Broadband Office in support of that Office's mission.

[https://www.oregon.gov/gov/Documents/executive\\_orders/eo\\_18-31.pdf](https://www.oregon.gov/gov/Documents/executive_orders/eo_18-31.pdf)

# Oregon Broadband Office

The Governor's recommended 2019-21 budget includes

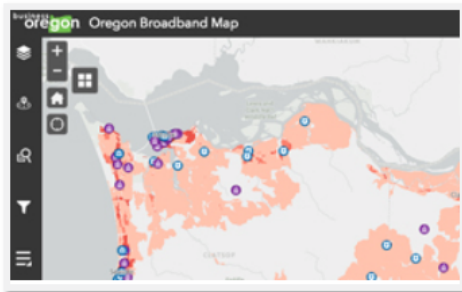
- **\$1.1M** for the Oregon Broadband Office
- **\$5M** allocated from the Special Public Works Fund for broadband in rural areas

[Home](#) [Broadband Office](#)

## Oregon Broadband

[Oregon Broadband Office](#)  
[Broadband Map](#)  
[Broadband Advisory Council](#)  
[Rural Broadband Capacity Program](#)  
[Outreach & Strategic Planning Project](#)  
[Connections Telecommunications Conf](#)

### Interactive Broadband Map



Use the interactive map to locate broadband providers, community anchor institutions like schools and libraries, and more.

[GO TO THE MAP](#)

## OREGON BROADBAND OFFICE

Oregon has a world-class telecommunications infrastructure extending throughout the state. Multiple fiber optic backbone networks with diverse routing provide excellent network reliability and connectivity delivering reliable high-capacity digital services throughout the state. Broadband internet access is widely available for businesses and residents.

The Oregon Broadband Office was established in December 2018, by Governor Brown's Executive Order, to promote access to broadband services for all Oregonians in order to improve the economy and quality of life. The office will

- support and coordinate efforts with the Oregon Broadband Advisory Council;
- develop and maintain a broadband map as a platform for data collection to track the availability of broadband services and measure progress as well as other related information and provide public access to the data;
- develop broadband investment and deployment strategies; manage and award funds allocated to the office for broadband projects
- Advocate for public policies that remove barriers, promote and coordinate solutions, support and promote broadband planning.

Read the [executive order](#) for a full list of activities the office will undertake.

### Resources

#### Broadband Office

- [Executive Order 18-31](#)
- [Interactive Broadband Map](#)

#### For Information & Assistance Contact

- [Telecommunications Strategist, 503-508-0178](#)

#### Sign Up to Receive Updates

- [Subscribe to the Broadband Office email distribution list to receive news and updates](#)





Layer List and Legend

Layers

No Service Reported

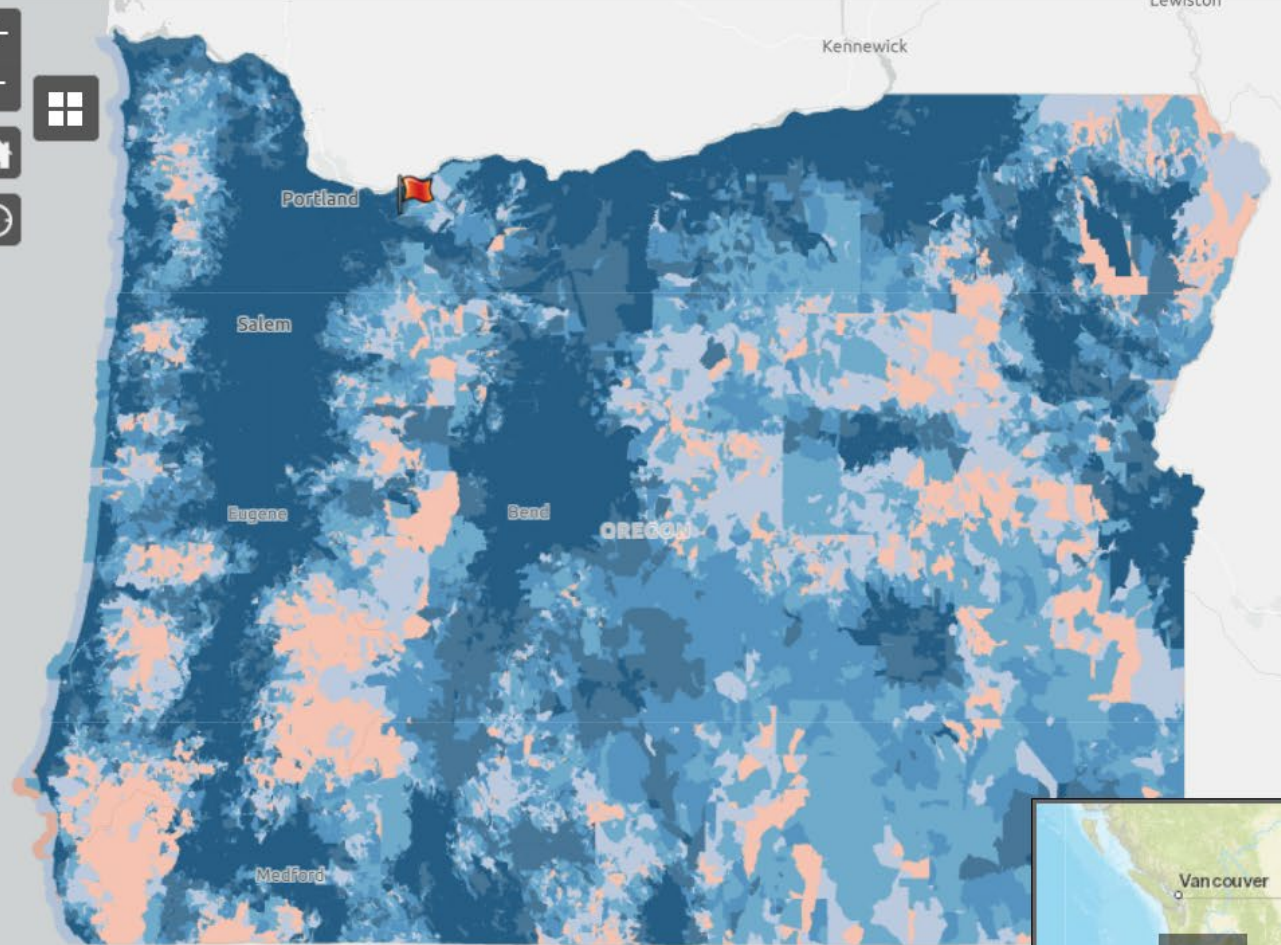


Community Anchor Institutions

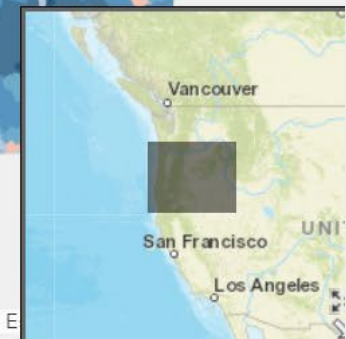
- Community Support - Government
- Community Support - Non-government
- Library
- Medical/Healthcare
- Public Safety (e.g. Ambulance, Fire, Police)
- School (K-12)
- University, College, Other Post Secondary Education

Max Download Speed Available

- 1+ Gbps
- 300+ Mbps
- 100+ Mbps
- 50+ Mbps
- 25+ Mbps
- 10+ Mbps
- 1+ Mbps



60mi  
-118.128 42.318 Degrees



County Of Crook, State of Oregon GEO, E

# Impacts

- The Oregon Broadband Office establishes an official point of contact in state government for broadband advocacy, policy, strategy, deployment, adoption, and utilization.
- Having a Broadband Office serves to raise the profile of broadband in Oregon state government, and raises Oregon's broadband profile nationally.
- It makes broadband a public policy priority.
- It provides a structure for engaging stakeholders.

# Opportunities

- Source of funding for planning, engineering and building infrastructure
- Source of matching funds for federal and private foundation loan and grant programs
- Technical assistance
- Data collection and reporting
- Networking
- Education
- Digital inclusion



# INNOVATION & ENTREPRENEURSHIP

KATE SINNER



# Innovation & Entrepreneurship

- Industry Innovation (Oregon InC)
- Access to capital (Oregon Growth Board and Oregon InC)
- Small business and rural entrepreneurial support (Rural Opportunity Initiative)
- Partners we fund:
  - Oregon Manufacturing Innovation Center “OMIC”
  - Small Business Development Centers “SBDCs”
  - Government Contract Assistance Program “GCAP”
  - Oregon Manufacturing Extension Partnership “OMEP”

# How Companies Use I&E Funding Programs

## Oregon InC



- R&D and commercialization
- Often pre-product, almost always pre-revenue
- Science and technology still being developed
- Angel/VC/loans unlikely

## OGF



- Seed funds, at-risk loans, early VC and angel dollars
- Typically have a product and approaching revenue or have very early revenues

## OGA



- VC, equity, mezzanine debt
- Solid product and significant revenue
- Accelerating growth

# Oregon InC 2019-21 Investment Areas

- **Signature Research Centers – *modified structure***  
Operating support focused on developing a pipeline of emerging new technology companies and management of R&D projects.
- **High Impact Opportunities Projects – *new program***  
Investments in distinct innovation or R&D projects to advance the growth of emerging industries; Not to be used for organizational operating support.
- **Commercialization Fund – *modified structure***  
Gap funding for early-stage companies.
- **Federal Small Business Innovation Research (SBIR) Support – *new program***  
Application support to help companies be more successful at the federal level; Matching grant assistance to leverage and fill gaps in federal awards.

# Oregon InC 2019-21 GRB

<b>2019-21 Oregon InC Investment Categories</b>	<b>Amount</b>
Signature Research Centers	\$ 7.7M
Commercialization Fund	
High Impact Opportunity Projects	\$ 10.1M
SBIR (Small Business Innovation Research)	
<b>Total Biennium Budget</b>	<b>\$ 17.8M</b> (Lottery Funds)

# Oregon Innovation Council “Oregon InC”

Since 2007

- **>250** companies supported
- **\$753.3 million** in follow-on funding
- **\$99.1 million** in state investment
- **7.6 to 1** funding leverage
- **400+ firms** used Signature Research Centers’ shared labs

# Signature Research Centers

- Three SRCs:
  - ONAMI: micro-technology and materials science
  - OTRADI: bioscience and digital health
  - VertueLab (formerly Oregon BEST): clean-technology
- All operate slightly differently, but common themes are:
  - Mentor entrepreneurs or researchers with new technology
  - Help access federal and/or private funding sources
- Changes made 2017-19 biennium

# Commercialization Fund

- Provides capital for **earliest stage businesses** emerging from science and research
- Investments are prioritized towards emerging industry sectors strategic to Oregon:
  - Digital health, bioscience, precision metals/advanced materials, chemicals/processes, apparel/outdoor gear, clean technology, agriculture technology, wood products, food/beverage
- **28 companies** supported in 2018-19, **\$2.6M** total
- Changes made 2017-19 biennium



# High Impact Opportunity Projects

- Support emerging and high value **industry sectors**, removing barriers, supporting product development and testing, increase technology commercialization, or advance other aspects of industry innovation
- **15 projects** supported in 2018-19, **\$5.2M** total
- New program 2017-19 biennium

# SBIR Support Program

- **Small Business Innovation Research (SBIR)** is a federal program to support technology commercialization  
*"America's largest seed fund"*
- **11** federal agencies provide over **\$2B** in grants
- Application support – small grants to researchers or other entrepreneurs pursuing federal R&D grants. **43:1 ROI** last biennium.
- Matching grants – provide funding to help fill important gaps that cannot be funded with federal dollars or further advance technology
  - **25 grants awarded** this biennium totaling **\$2.5M**
- Program formalized 2017-19 biennium

# Oregon Growth Board

- Created by the 2012 Legislature to improve access to capital for high-growth companies
  - Invests in funds—venture capital, growth equity, debt funds, etc.
  - Targets capital gaps in strategic industries, company stages, geographies, and underserved entrepreneurs
  - 12-member board
- Assumed responsibility for managing Oregon Growth Account in 2014 from Treasury, also manages the Oregon Growth Fund

# Oregon Growth Fund

- Funder of small, targeted funds and initiatives like angel conferences
- Economic development and impact investing are priorities
- 2019-21 GRB includes **\$2M** for the Oregon Growth Fund



# Oregon Growth Account

Earns returns for education through institutional and pre-institutional investments.

- 1.8% Lottery Revenue directed to the account annually, approximately **\$10m** each year
- 11.8% IRR for OGA investments made in last 5 years
- OGA invested **\$132.5M** since 2000, current value is **\$172.5M**



# Oregon Growth Account

- **\$15M** in distributions back to education in last three years (2016-18)
- **\$18M** in state taxes paid by companies supported by OGA investment partner funds in 2017
- Through 2017, **209** Oregon businesses have received funding from OGA supported partners, supporting **4,371** existing jobs
- As of 2017, OGA supported businesses are paying more than **\$315M** in aggregate annual wages



# Oregon Growth Account

- **Meketa Investment Group** is our consultant for the Oregon Growth Account
- How are investment decisions made?
  - Meketa and Staff identify potential investment managers
  - Meketa undertakes a 3 phase investment review process:
    - Phase 1: Initial review of manager materials, conduct call and/or meeting with manager
    - Phase 2: Manager completes our due diligence questionnaire, onsite meeting with manager and team, track record analysis, investment memo prepared
    - Phase 3: Reviewed by MIG Private Markets Investment Committee
  - Presented to OGB for review and approval
- **Investment Strategy:**  
Invest to earn returns for the Education Stability Fund. Protect and grow the portfolio. Help build the state's capital ecosystem.

# Small Business and Rural Entrepreneurship

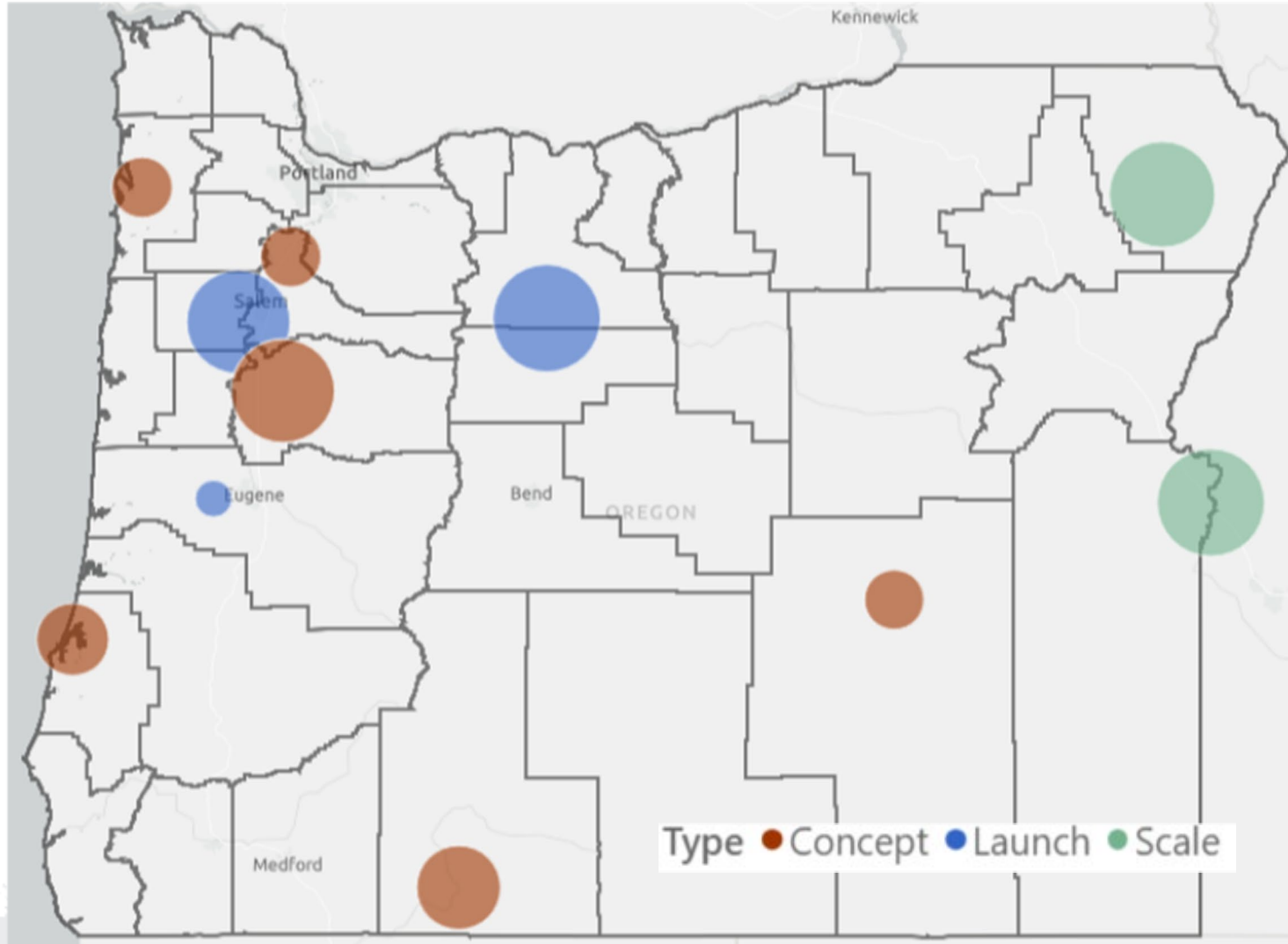
- Statewide programs that focus on small business:
  - Small Business Development Centers
  - Government Contract Assistance Program
  - Oregon Manufacturing Extension Partnership
- Business Oregon's Rural Opportunity Initiative
  - Works with rural communities to develop collaborative strategy focused on entrepreneurs and small business
  - Helps lift rural Oregon by elevating place-based strategies that meet each community's unique challenges





# 2017-19 ROI Awardees

By Type and Award Size



# REGIONAL SOLUTIONS

JAMES LABAR



# REGIONAL SOLUTIONS:

## An Overview with a Focus on RIF

[www.regionalsolutions.oregon.gov](http://www.regionalsolutions.oregon.gov)



# Presentation Outline

- High-Level Regional Solutions Overview
  - Purpose and program
- Regional Infrastructure Fund
  - Process and projects



# Regional Solutions Overview: *Purpose*

- Community and economic development program operating out of the Governor's Office
  - Recognizes the unique needs of each region of the state
  - Coordinates state action to elevate access and engagement
  - Utilizes place-based capacity to work with local communities to identify priorities, solve problems, and seize opportunities
  - Works with local governments, public and private entities, philanthropy, and academic institutions
  - Engages with community and economic development efforts to put a regional economy on a trajectory of higher growth by increasing the productivity of firms, communities, and workers raising the standards of living for all



# Regional Solutions Overview:

## *Regions – Committees – Teams*

Regions are strategically aligned with the 11 federally designated economic development districts in Oregon

### Valley North Coast

- North Coast Region
- Mid-Valley Region
- South Valley/Mid Coast Region

### Southern Oregon

- South Coast Region
- Southern Oregon Region

### Metro

- Metro Region

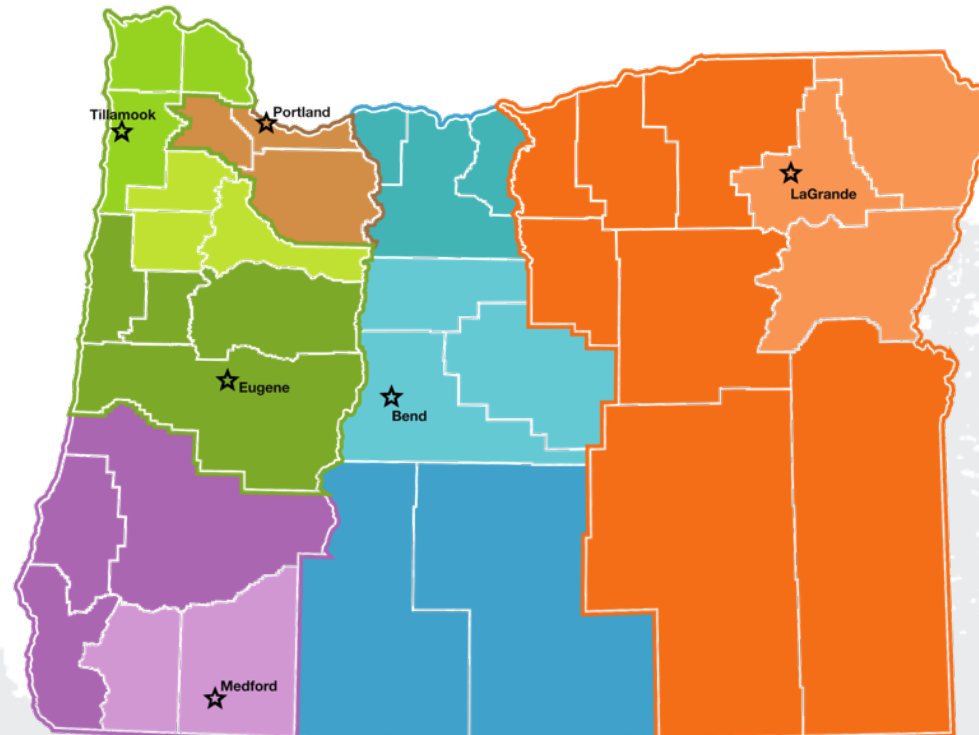
### Central Oregon

- Central Region
- North Central Region
- South Central Region

### Eastern Oregon

- Greater Eastern Oregon Region
- Northeast Oregon Region

★ Regional Solutions Center



# Regional Solutions Overview:

*Regions – **Committees** – Teams*

Regional Solutions Committees role:

1. Establish regional priorities for community and economic development in the region
2. Assist Regional Solutions coordinators and teams with connecting to local resources
3. Consider, review, and recommend projects



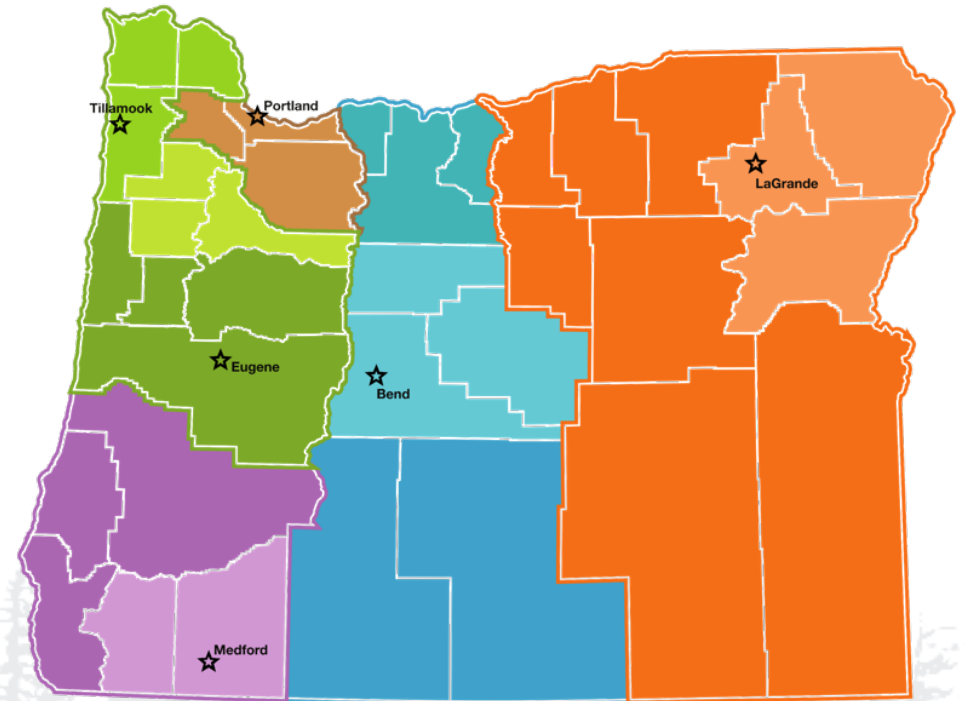


# Regional Solutions Overview:

## *Regions – Committees – Teams*

- 11 Regional Solutions Teams (RS Teams)
- **RS Team Structure:**  
Five core state agencies and a coordinator, as well as other state agencies and local partners as needed
- **RS Team Role:**  
Engage with community and economic development projects

☆ Regional Solutions Center





# Regional Solutions:

*Tool: RIF*

**One important tool to get to “Finally, yes.”**

**Regional Infrastructure Fund (RIF):** Provides grants and loans to local governments for RS implementation projects including planning and design.

Goals:

- Address regional priorities
- Support capital projects with strong economic development impact
- Align with, or leverage, other investments to retain and create jobs



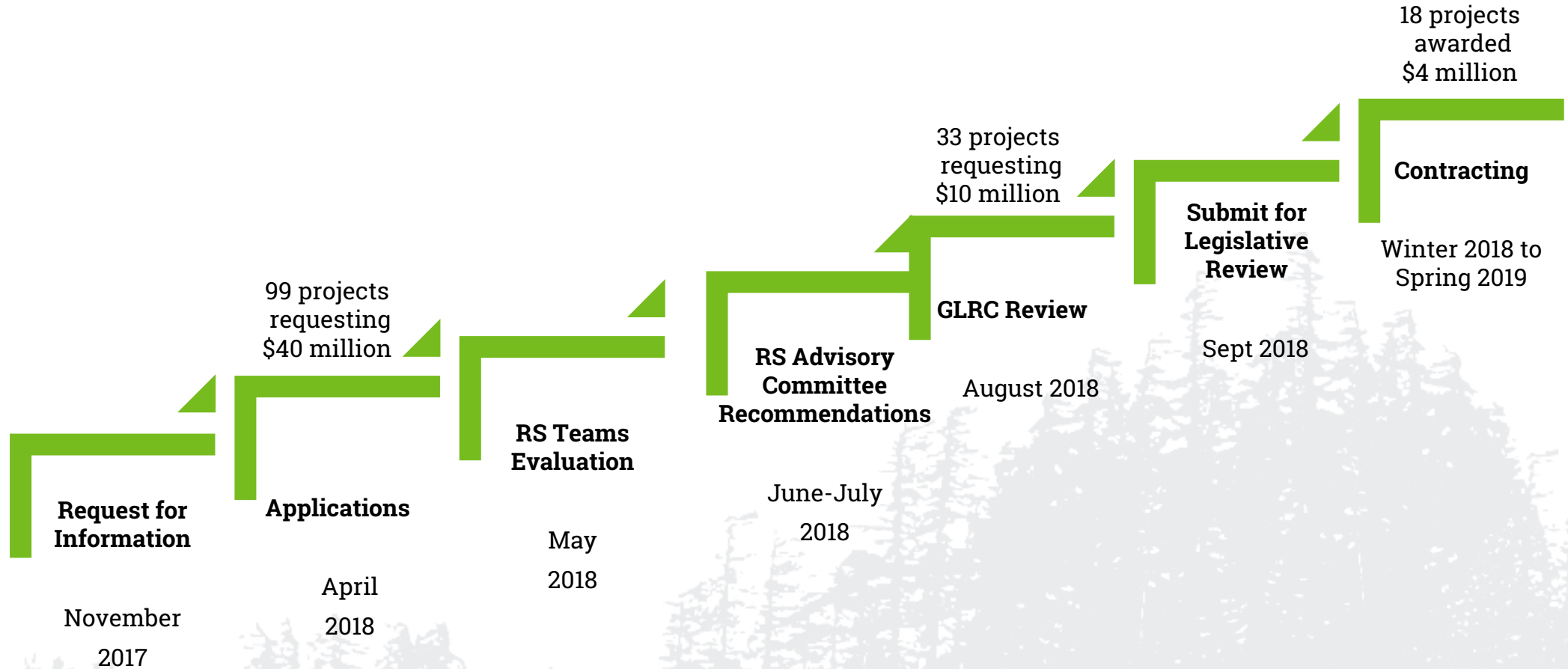
# Regional Solutions: *Tool: RIF*

- 2017-2019 biennium
  - \$4 million available
  - \$200K minimum for each of 11 RS Regions
  - 99 projects requesting \$40 million
  - 18 projects awarded
  - Highlight from the 18:
    - Awarded project match was \$84.5 million, which equals approx. \$1 million of RIF coupled with \$21 million of match



 POP  
\$15m Lottery Bonds

# Regional Solutions: *RIF Process*



# RIF Project – South Valley/Mid Coast

- **Applicant:** City of Newport
- **Project Name:** Big Creek Dam Project - City and District Water Supply
- **RIF Investment:** \$250,000

The project will replace the Big Creek Dam with a structurally sound solution in advance of a seismic event. The capacity of the new dam will be built to withstand small seismic events as well as Cascadia Subduction Zone level earthquakes. The City has initiated preliminary design and environmental permitting work. This grant will initiate an environmental compliance requirements survey, start a fish waiver process, and prepare 30% of the preliminary design for the proposed solution.





# RIF Project – Southern Oregon

- **Applicant:** City of Eagle Point
- **Project Name:** Historical Rebuild & Restore of Butte Creek Mill & Ice House
- **RIF Investment:** \$200,000

The mill, one of the last remaining water-powered flour mills west of the Mississippi, burned several years ago. The mill will be rebuilt to become fully operational (the grinding stones were not destroyed by the fire) with expanded facilities for visitors and community uses. Construction is already underway and Business Oregon accelerated contracting to make construction expenses incurred prior to sale of bonds eligible for reimbursement.



# RIF Project – Greater Eastern Oregon

- **Applicant:** City of Pendleton
- **Project Name:** Pendleton UAS Test Range Hangar Rehabilitation Project
- **RIF Investment:** \$300,000

The Pendleton UAS test range has made huge strides over the past few years and there are now multiple large aerospace companies that are interested in making long term commitments and creating permanent jobs in the region. However, all of these large aerospace companies need space that is secure and reliable. The RIF funding will allow the city to rehabilitate an old WWII bombing hangar at the Pendleton airport so that these aerospace companies can expand and add jobs to the region. Pendleton has aggressively marketed their range with much success, making it one of the most active unmanned vehicle test ranges on the West Coast, generating considerable commerce and new, high-paying jobs in rural Oregon.



# RIF Project – Metro

- **Applicant:** City of Gresham
- **Project Name:** Rockwood Rising Maker Space
- **RIF Investment:** \$300,000

Rockwood Rising is a Gresham Redevelopment Commission project that will include four buildings surrounding a public plaza focusing on workforce development, job training, healthcare, education, healthy food, small business development, and housing. The RIF funds will support the construction and manufacturing apprentice programs (Maker Space).





# RIF Project – Mid-Valley

- **Applicant:** Chemeketa Community College (CCC)
- **Project Name:** Diesel Technician Training Program & 2 Year Associate of Applied Science Degree
- **RIF Investment:** \$200,000

Current local businesses can not reach their growth potential without qualified and trained technicians. Chemeketa pulled together a large advisory group that encompassed over twenty businesses to create a training program. The funds would be used for the facility to house the new program and meet industry standards so that students enter the workforce well prepared. This project is leveraging resources from RIF, CCC, and private partners.



# Project Pipeline

- Conditions
  - Competitive RIF process
  - Early for the existing process
  - Coordinators' perspectives
  - Alignment with regional priorities
  - Timing predictions
- Several examples



# Summary

## **Program:**

Regional Solutions recognizes the unique needs of each region in the state and works at the local level to identify priorities, solve problems, and seize opportunities to get community and economic development projects completed

**RIF Request: \$15M**

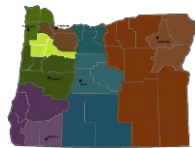
**Project Pipeline: Get to “Finally, yes.” in 2021**



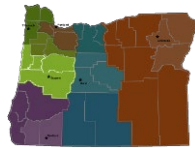
# Regional Solutions Coordinators



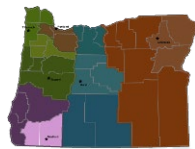
Jennifer Purcell



Jody Christensen



Sarah Means



Alex Campbell



Raihana Ansary



Nate Stice



Annette Liebe



Courtney  
Warner Crowell



# SEISMIC REHABILITATION GRANTS

GLORIA ZACHARIAS

ED TABOR



# Seismic Rehabilitation

2005 Oregon Constitution...

- Article XI-M Seismic Rehabilitation of Public Education Buildings:

“...to provide funds for the planning and implementation of seismic rehabilitation of public education buildings, including surveying and conducting engineering evaluations of the need for seismic rehabilitation.”

- Article XI-N Seismic Rehabilitation of Emergency Services Buildings:

“...to provide funds for the planning and implementation of seismic rehabilitation of emergency services buildings, including surveying and conducting engineering evaluations of the need for seismic rehabilitation.”

- Funded by General Obligation Bonds



# Seismic Rehabilitation

Grants to renovate high-risk public schools and emergency services buildings to make them earthquake safe.

- **Schools eligible:**  
K-12, community colleges, education service districts.
- **Emergency services eligible:**  
Hospitals, fire and police stations, sheriffs' offices, 9-1-1 centers.
- **Services covered:**  
Architecture, engineering, project management, structural and non-structural improvements.





# Seismic Rehabilitation

## Selection Process:

- All of the application materials are reviewed by staff, consultants, and the advisory committee
- Funding recommendations begin with the High Risk building first
- Committee also considers BCA scores along with location



# Seismic Rehabilitation

## DOGAMI 2007 – Rapid Visual Screening

- Identified 2,369 school buildings at various conditions

## Department of Education

- Currently collecting data that will have more detailed information.



# Seismic Rehabilitation

## 2017-19 Biennium

- **\$100m** for schools
- **\$20m** for emergency service facilities
- 2 bond sales: **\$35m** (awarded) in 2018, **\$85m** (awarded) in 2019
- Grants limited up to **\$2.5m** per project
- Project Distribution to date: **50** Rural, **10** Urban



# Seismic Rehabilitation

## Program to Date

- **224** schools
- **101** emergency services buildings
- **\$382,253,593** in funding for improvements since the program's first awards in 2009.



# SPECIAL PUBLIC WORKS FUND

CHRIS CUMMINGS

ED TABOR



# Special Public Works Fund

Special Public Works Fund (SPWF) provides funds (primarily loans) for publicly-owned facilities that support economic and community development in Oregon. Funds are available to public entities for:

- Planning
- Designing
- Purchasing
- Improving and Constructing
- Replacing
- Emergency projects as a result of disaster

# Special Public Works Fund

Eligible public entities include:

- Cities
- Counties
- County service districts
- Tribal councils
- Ports
- ORS 198.010 districts
- Airport Districts



# Special Public Works Fund

SPWF can fund a variety of public facility projects including, but not limited to:

- Airport facilities
- Levee accreditation, certification, and repair
- Telecommunications facilities (including broadband infrastructure)
- Storm drainage systems
- Wastewater systems
- Railroad and port facilities, roadways and bridges

# Special Public Works Fund

## Loans - Typical Terms:

- Loan amounts up to \$10 million
- 25-year amortization (30-year term possible)
- Interest rates are fixed based on the 20-Bond Index
  - Currently at 3.96%
- Construction and permanent financing
- Repayment source: 1.20 debt service coverage ratio required

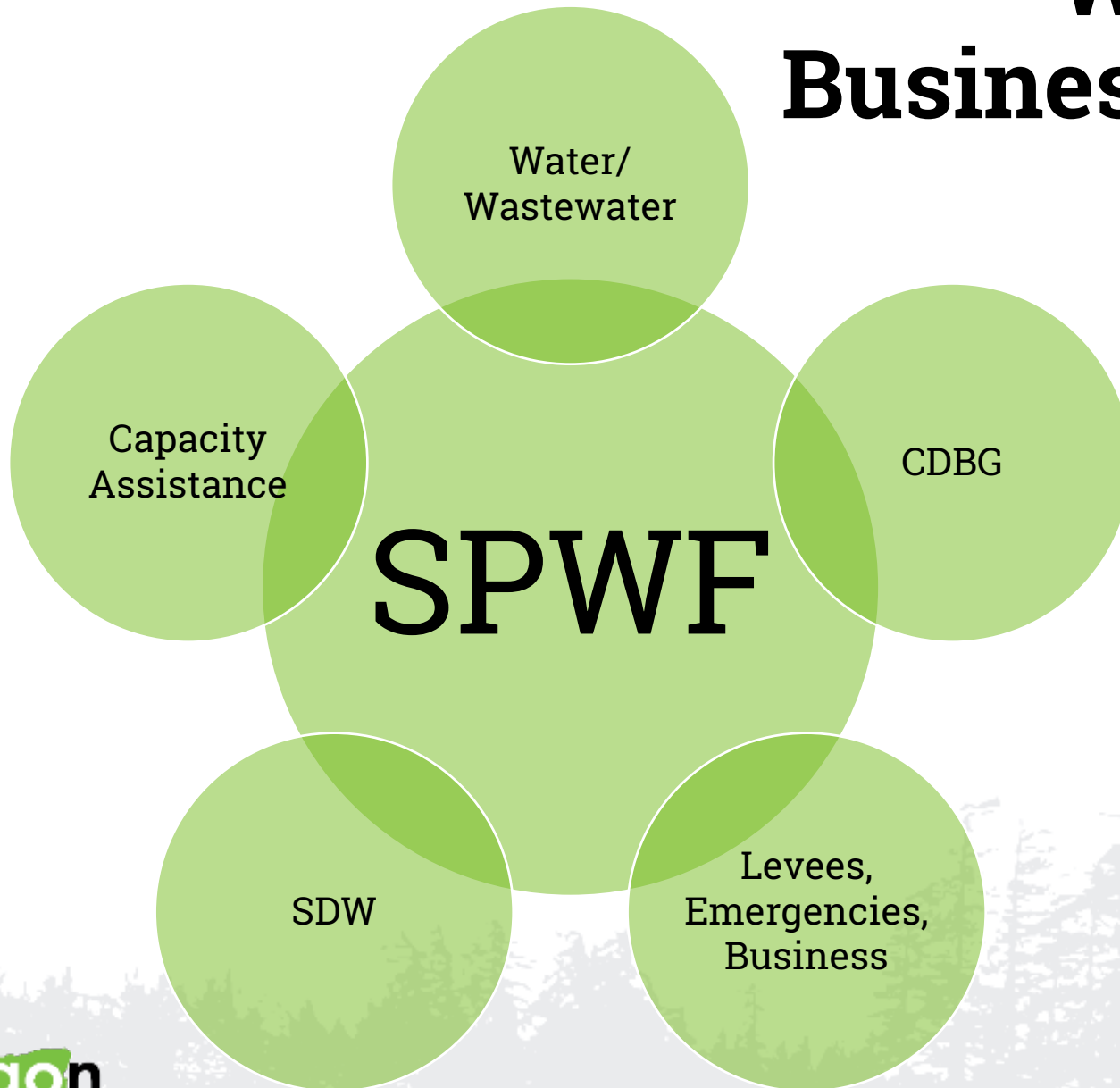
# Special Public Works Fund

## Grants – Biennium Limits

- Technical Assistance Grants - \$900,000
- Grants for Planning & Development Projects - \$2M
- Firm Business Commitments - \$2M
- Emergency Grants - \$2.5M
- Levee project one time grant up to \$50,000

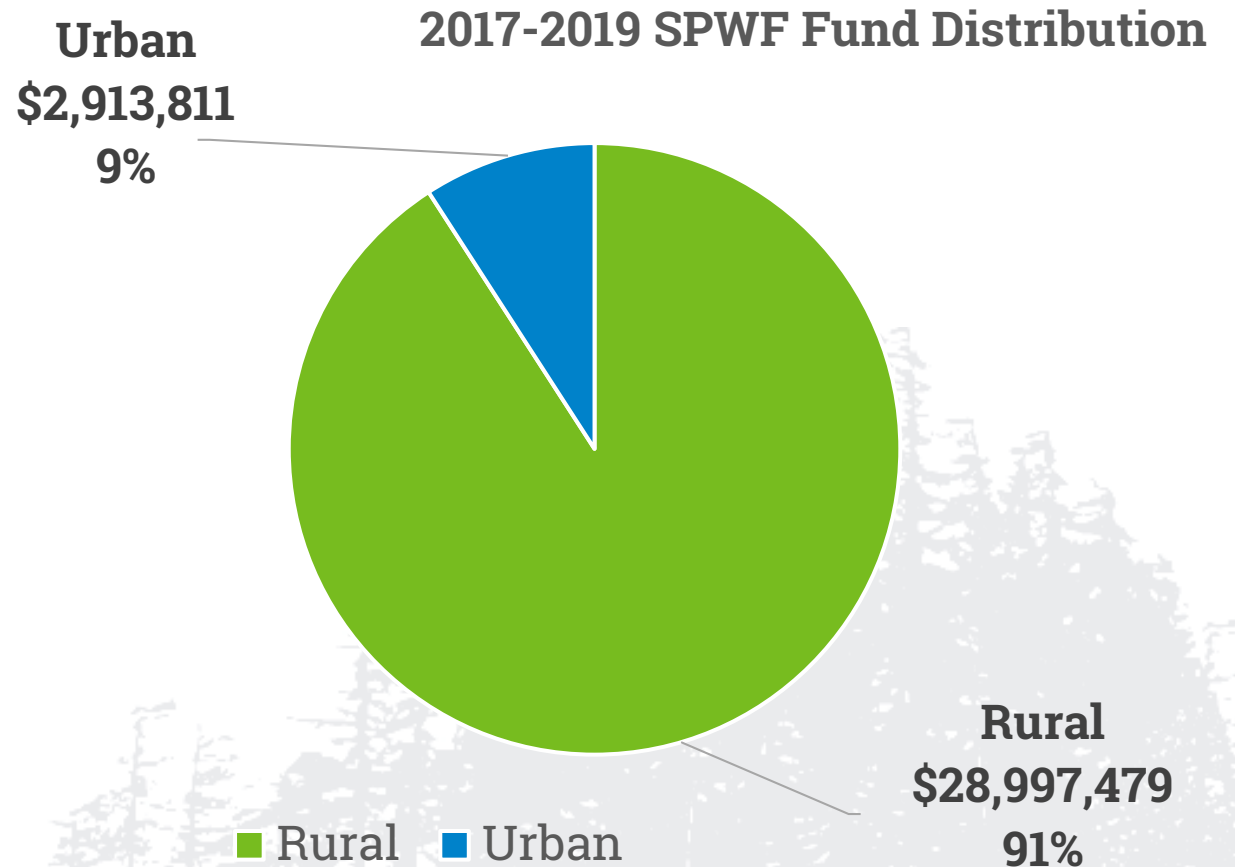


# Working with Other Business Oregon Services



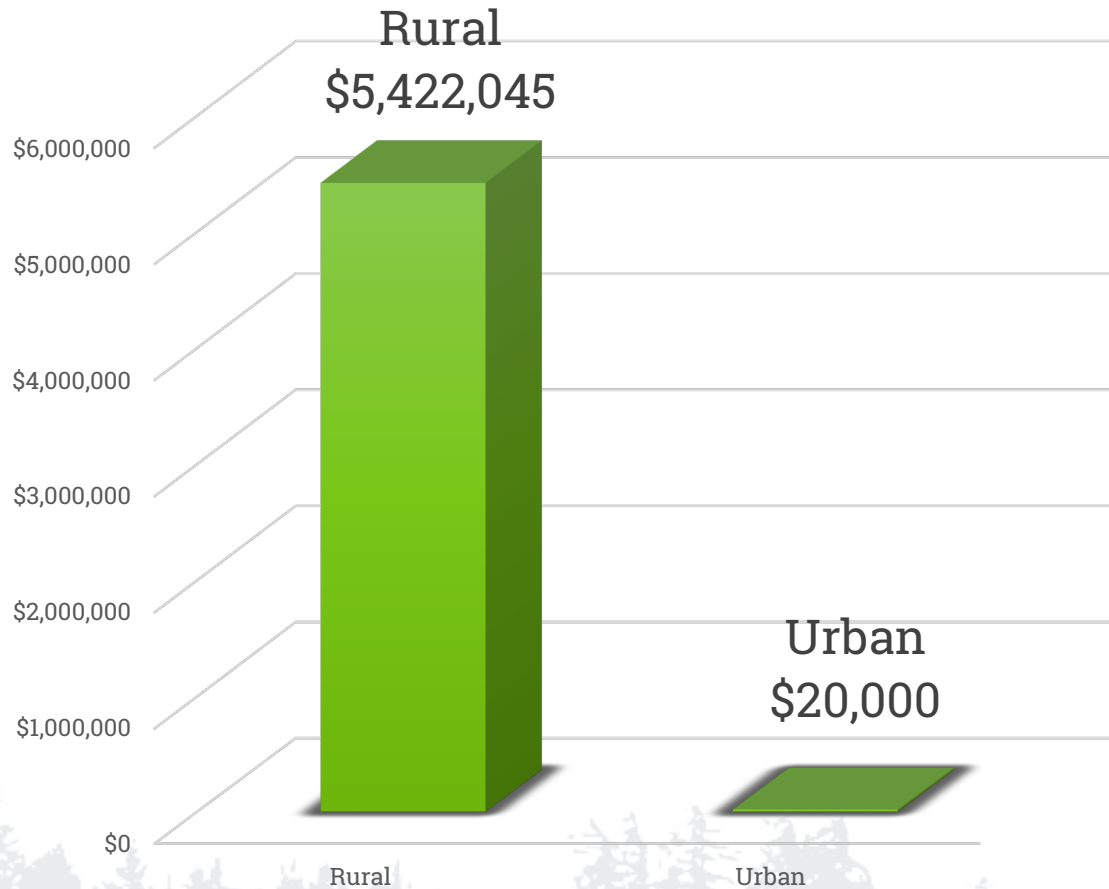
# Special Public Works Fund

- Primarily Lottery bond, loan repayment, bond bank
- Current biennium commitments:  
**\$31,911,290** for  
**38** projects
- Project Distribution:  
**33** Rural, **5** Urban



# Water/Wastewater Fund

2017-2019 W/WW Fund Distribution



- Loans and grants to municipalities to comply with the Safe Drinking Water Act and the Clean Water Act
- Technical assistance, design, and construction
- Project Distribution:  
**21 Rural, 1 Urban**

# Special Public Works Fund

## Leverage Federal Funds as Match

- EPA Drinking Water State Revolving Fund (20% Match)

2017            \$2,341,000 SPWF leverages \$11,705,000 EPA Funds

2018            \$2,930,872 SPWF leverages \$14,654,360 EPA Funds

- HUD Community Development Block Grant (2% Match)

2017            \$239,567 SPWF leverages \$11,978,330 HUD Funds

2018            \$263,247 SPWF leverages \$13,162,331 HUD Funds





# Special Public Works Fund

## Pipeline

- SPWF: Approximately **\$36M**
- W/WW: Approximately **\$7 million**
- Projected \$25-35 million annually (POP 104 funds not available until 2021)
- Realizing larger projects (delayed projects, increased cost)

# Special Public Works

Policy Option Package in the Governor's budget of \$79.45M

- \$38.45M for standard SPWF projects and
- \$16M to fund Wallowa Lake Dam
- \$15M for Water Wastewater
- \$5M Broadband
- \$5M Federal Match (SDW and CDBG)



# BROWNFIELDS REDEVELOPMENT

KAREN HOMOLAC

ED TABOR



# What is a Brownfield?

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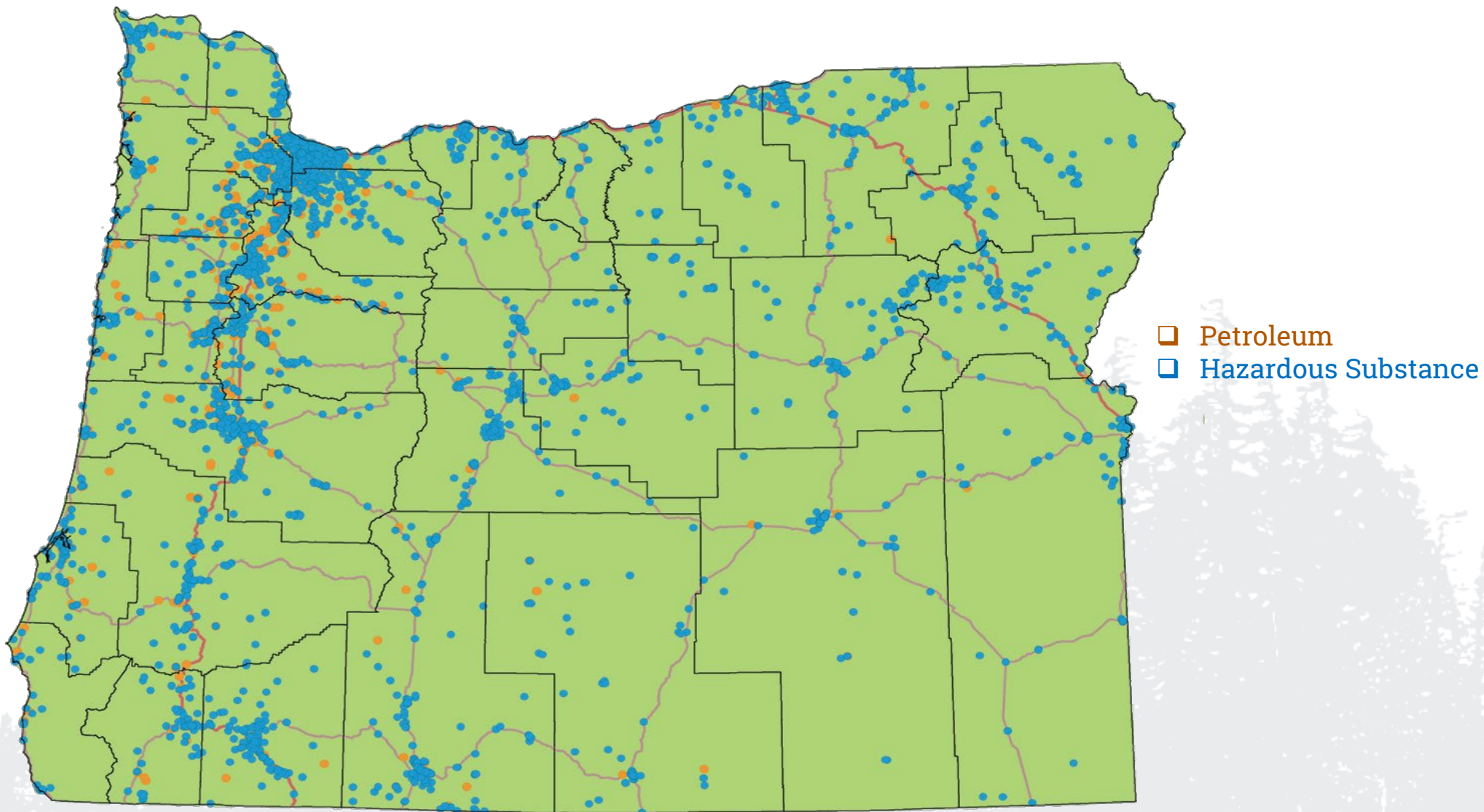
- “Brownfield” means real property where expansion or redevelopment is complicated by actual or perceived environmental contamination.







# Where Are the Brownfields?





# Business Oregon's Brownfields Role

- Primary role is that of funder and advocate for brownfields cleanup and redevelopment.
  - Manage two revolving loan funds: Oregon Brownfields Redevelopment Fund and Oregon Brownfields Cleanup Fund
- As projects dictate, consult and work with Regional Solution Teams and other state agencies, such as ODOT, DSL, OHA.
- Every two years, partner with Oregon DEQ to host the Statewide Brownfields Conference and Awards.

# Business Oregon's Brownfields Program:

- Oregon Brownfields Redevelopment Fund (State):
  - Assessments, Studies, Integrated Planning, Cleanup
  - Demolition if cleanup requires removal of a structure
  - Purchase of property if cleanup is essential component of acquisition
  - DEQ regulatory oversight and or review required
- Oregon Brownfields Cleanup Fund (Federal):
  - Cleanup only
  - Demolition if cleanup requires removal of a structure
  - Subject to federal crosscutting requirements
  - DEQ regulatory oversight required

# Oregon Brownfields Redevelopment Fund

To Date:

- Total Fund Capitalization: **\$16.5m**
- Principal and Interest Repayments: **\$9.0m**
- Current Cash Balance in Fund: **\$6.7m**
- Current Available Unobligated Monies in Fund: **\$3.6m**

# Oregon Brownfields Redevelopment Fund

To Date:

- Grants Awarded: **146 projects / \$7.2m**
- Loans Awarded: **24 projects / \$13.5m**
  - To date 10 loans have paid off.
- Total Funding Awards: **170 projects / \$20.7m**
- Projects funded in 34 Counties

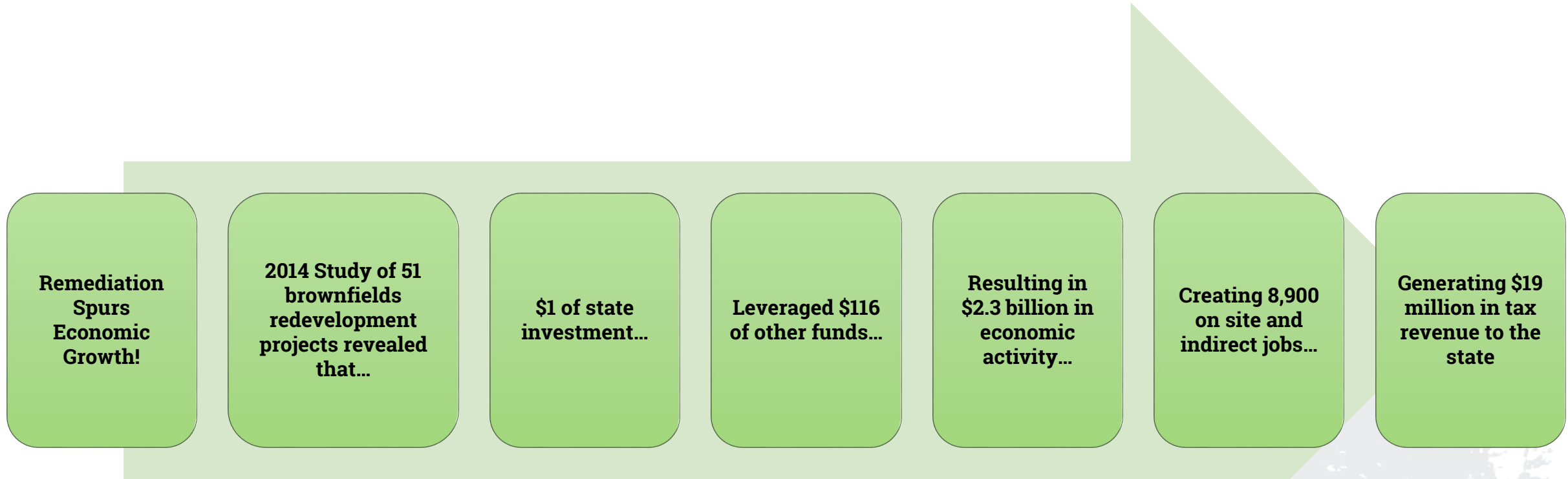
# Oregon Brownfields Cleanup Fund

Initially capitalized with \$1.5 million grant from U.S. EPA. Supplemental awards increased federal capitalization to just over \$6 million.

To Date:

- Grants Awarded: **15 projects / \$2.2m**
- Loans Awarded: **3 projects / \$2.9m**
  - To date 1 loan has paid off.
- Total Funding Awards: **18 projects / \$5.2m**
- Unobligated Fund balance: **\$1.9m**

# Brownfields Return on Investment





# Project Examples

- City of Independence: Independence Landing Project
- Baker Technical Institute: Eastern Oregon University Collaboration



# City of Independence: Independence Landing Project









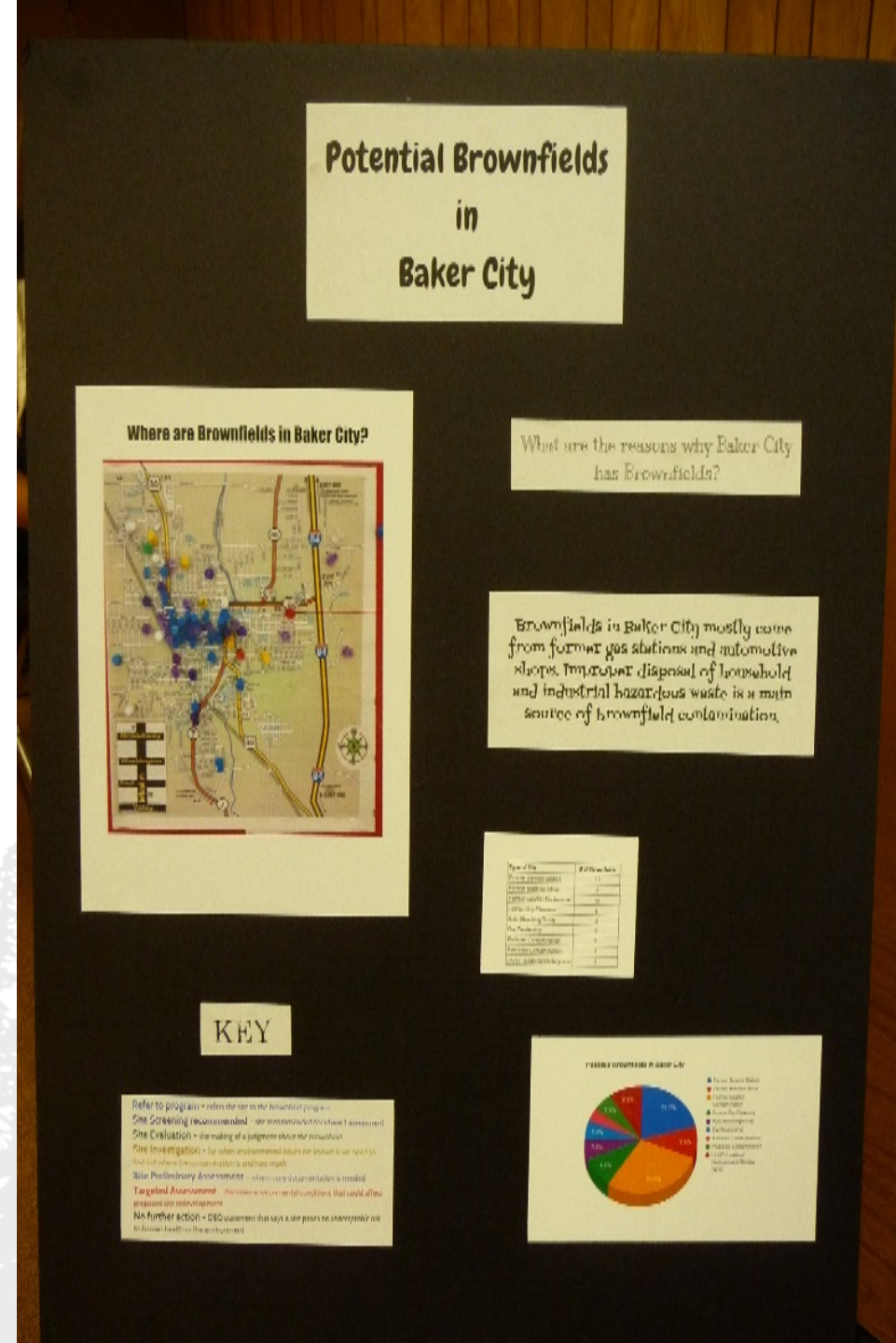
Baker Technical  
Institute:

Ostwald  
Machine Shop  
Project





# Baker Technical Institute and Eastern Oregon University Collaboration





A scenic landscape featuring a range of mountains in the background, a body of water in the middle ground, and a rocky shoreline in the foreground. The sky is clear and blue. The text is overlaid on a semi-transparent white band across the middle of the image.

VISION:

**Prosperity for all Oregonians**

MISSION:

**We invest in Oregon businesses, communities,  
and people to promote a globally competitive,  
diverse, and inclusive economy**



business  
oregon®

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# Oregon Innovation Council

## 2017-2019 Innovation Plan Update

*(submitted 4/22/2019)*

This memo and associated attachments fulfills Business Oregon's and the Oregon Innovation Council's (OR InC's) obligation to submit a state plan for Innovation and Economic Competitiveness for the 2017-2019 biennium.

Oregon InC supports the state's industry and core research strengths related to traded sector industries and supports Oregon growth businesses and higher education research with high potential for commercialization and economic impact through policy and budget support of the following programs:

- **Signature Research Centers (\$7.5M):** The state's three Signature Research Centers "SRCs" are the primary sources of technical expertise for R&D intensive industries, underscoring their value as a critical intermediary between research and industry. The SRCs support strategic industry areas including materials science, clean and green tech and biosciences. They provide access to capital, mentorship, technical assistance and company growth and scale advising.
- **High Impact Opportunity Projects (\$5.2M):** HIOP is a grant program that supports emerging, potentially high-value industry sectors by removing barriers to R&D, supporting product development and testing or expediting technology commercialization, not an individual business.
- **SBIR Support Program (\$2.5M):** The Small Business Innovation Research program that supports technology commercialization – often called America's Largest Seed Fund. Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) grants are competitive federal programs designed to stimulate technological innovation and provide new opportunities for small businesses to conduct research and development (R&D) with commercialization potential.
- **Enhanced Phase 0 Program (formerly the Commercialization Gap fund) (\$2.6M):** The goal of this program is to invest capital in companies to support commercialization of disruptive early-stage technologies emerging out of science and research. Investments are prioritized towards emerging industry sectors that are strategic to the state: digital health, bioscience, precision metals/advanced materials, chemicals/processes, apparel and outdoor gear, clean tech, agriculture technology, wood products, food and beverage.

In addition to the strategic programs illustrated above, Business Oregon submits two products that contribute to a robust understanding of Innovation in Oregon, and a comparison to peer states.

1. **Innovation Index:** measures the state's innovation economy and identified opportunities to enhance competitiveness.
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2. Benchmarking and Best Practices Report: the attached executive summary analyzes existing innovation capacity in Oregon as well as similar programs around the country. The full report is available upon request.



# 2018 Oregon Innovation Index

## Why Innovation?

Innovation and technological advancement are key to growing productivity. Increased productivity leads to economic growth, higher wages, and a higher standard of living. Innovation is vital to growing Oregon's competitive advantages.

Most advances in innovation happen in the private sector, especially in large businesses, but there are important innovations happening at small- and medium-sized businesses as well. Research and development can be risky. Most new ideas and products don't pan out. But businesses need to innovate. Innovation gives businesses a competitive advantage and those that can recognize market opportunities and innovate quickly and effectively are more likely to grow and succeed, especially in an ever-more global 21<sup>st</sup> Century economy.

Cultivating an innovative business environment in Oregon will bring more jobs—and higher paying jobs—to Oregonians. Oregon is already home to many innovative businesses and industries. Oregon's High Technology industry group is very competitive, growing, and the largest source of innovation in the state. Innovation goes beyond High Technology, though. Business Oregon's other Target Industry Groups also rely on innovation too to be competitive and grow. Whether it's engineered wood products—such as cross-laminated timber—in Forestry and Wood Products, or advanced metals and materials in Outdoor Gear and Apparel and Advanced Manufacturing, innovative products are fundamental to growing the competitiveness of Oregon's industries and economy.

## The Innovation Index

The *Oregon Innovation Index* was created to measure the state's innovation economy and identify opportunities to enhance competitiveness. It is a key yardstick used by Business Oregon to track the state's success in building an innovation-based economy. An innovation-based economy is one that encourages new ideas, products, and approaches to meet current or emerging demands of consumers. It directly impacts the ability of communities to grow and prosper. "Innovate Oregon's Economy" is one of Business Oregon's five key priorities in the agency's strategic plan.

Business Oregon and the Oregon Innovation Council (Oregon InC), a public-private partnership charged with creating an innovation-based economic strategy, identified key factors necessary for a healthy innovation economy, including: public-private partnerships for research and development, ready access to capital, statewide entrepreneurial networks, and targeted investments in emerging industries where Oregon has a global competitive advantage.



## History & Methodology

The first *Innovation Index*, published in 2004, evaluated nine indicators to track Oregon's progress. It was updated and expanded in 2007 to include 20 indicators to ensure that each stage of the innovation process, the expected outcomes, and the environment that leads to innovation were being measured. The *2009 Index* continued the framework established in 2007 with updated data for each of the indicators. The *2015 Index* also included 20 indicators, but five of the indicators established in 2007 were replaced with different indicators, primarily related to science, technology, engineering, and math (STEM) workforce and education. None of the *2018 Index* indicators have changed from 2015. The most significant change to the *Index* is scoring for all 50 states, not just Oregon. This enables us to compare Oregon's overall performance with other states.

The composite scores of the 2007 and 2009 indices were composed of a weighted sum of the 1-year, 5-year, and national ranking performance for each indicator. The *2015 Index* replaced 5-year scores with 10-year scores to better capture secular trends and replaced 1-year scores with performance relative to U.S. average to better capture current performance of states. The composite score in the *2015 Index* saw the 10-year trend weighted at 50 percent, national rank weighted at 33 percent, and performance relative to U.S. average weighted at 17 percent. The *2018 Index* utilizes the same three scoring categories, but weights have changed. The 10-year trend is now weighted equally to national rank, each at 40 percent. Performance relative to U.S. average is now 20 percent.

The calculation of 10-year trend scores in the *2018 Index* has changed with the inclusion of all 50 states. In previous indices, trend performance was simply based on whether indicator values improved, stayed about the same, or declined. Since many innovation indicators showed improvement across the board in most states, the old method of determining performance seemed less useful. As a result, the *2018 Index* includes two changes to how 10-year trend scores are calculated. The first change is the 10-year trend score is no longer based solely on percentage change (growth), but also on national rank change. The 10-year trend score is calculated by taking the average of each state's, 1) compound annual growth rate rank and 2) national rank change rank. The inclusion of national rank change helps to put into perspective whether or not the percentage change resulted in any change in performance of the state relative to its peers.

The calculation of performance relative to U.S. average in the *2018 Index* has also changed. In this edition of the *Index*, standard scores, or z-scores, were calculated for each state to group states that were above one-half standard deviation from the mean, within one-half standard deviation from the mean, and below one-half standard deviation from the mean. Z-scores only work well with normally distributed data and some of the *Index* indicator data is not normally distributed, usually due to one or two high performing states. In these instances, data was winsorized, where data points above or below two standard deviations from the mean were transformed to equal those limits. A winsorized mean was then calculated and used to produce the standard scores.

There are three possible scores for each indicator in each category for each state: 1, 0.5, and 0. For national ranking, states performing in the top ten get one point, while states ranked 11-25 get one-half point, and those below 25 get zero points. In the relative to U.S. average and 10-year trend categories, points are awarded based on standard scores in the three groups outlined in the previous paragraph. Due to different composite score weights and changes to how the 10-year trend and relative to U.S. average scores are calculated, Oregon's composite score from the *2018 Index* is not comparable to past scores from previous indices.



# Oregon's 2018 Innovation Scorecard

Indicator	10-yr Trend	Relative to U.S. Average (latest year)	Latest National Ranking
<b>Invention</b>			
Invention Disclosures	↓	↔	25
Patents	↔	↑	4
Patent Citations	↔	↑	6
<b>Translation</b>			
Industry R&D Investments	↑	↑	7
SBIR/STTR Awards	↑	↑	10
University Licenses/Options	↔	↑	12
University Licensing Income	↑	↔	16
<b>Commercialization</b>			
Venture Capital Investments	↔	↔	19
Kauffman New Entrepreneurs	↔	↔	15
New Business Creation	↓	↔	18
University Startups	↔	↔	22
<b>Economic Prosperity</b>			
Manufacturing GDP	↑	↑	2
Average Wage	↑	↓	20
High Tech Employment	↑	↑	9
Exports	↓	↔	13
<b>Innovative Environment</b>			
Educational Attainment	↑	↔	16
STEM Workforce	↑	↔	18
STEM Graduates	↔	↔	24
Migration of Knowledge Workers	↑	↑	12
Broadband Access	↑	↔	23
<b>2018 Innovation Score (out of 100)</b>			<b>66.5</b>

Source: Business Oregon.

## The Innovation Score

Oregon's 2018 Innovation Score is 66.5. For comparison, the top scoring state in the *Index* was Massachusetts with a score of 68.5. A score of 100 would mean Oregon was nationally ranked in the top ten for every indicator, has an above average 10-year trend score for every indicator amongst all states, and performed above the U.S. average for every indicator. Obviously, a score of 100 would be nearly impossible to attain for any state, given the number and variety of indicators used in the *Index*. As such, the score of 66.5 should not be evaluated as one would for academic grading (90-100 equals an A, 80-89 equals a B, etc.).





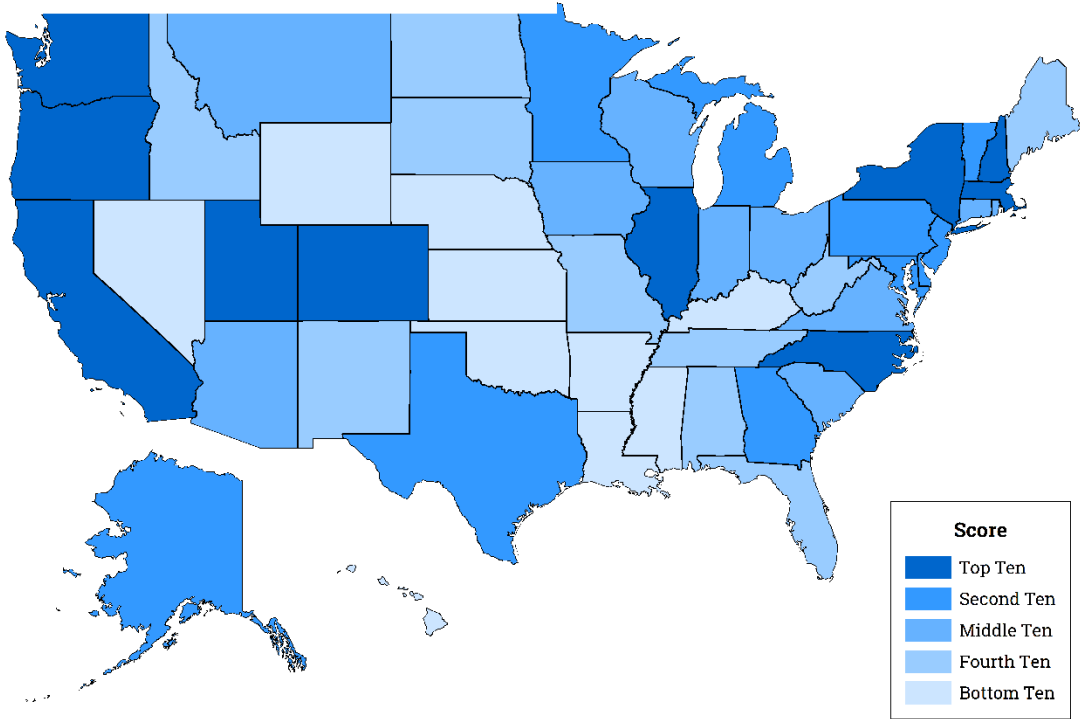
The state performed best in the indicator categories of Invention, Translation, and Economic Prosperity. In patents, Oregon continues to outperform for its size, due in large part to an established, competitive high technology industry with strong research and development. Within Translation, Oregon has made strong gains in Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) awards and is performing well in university licenses, options, and licensing income. Oregon’s overall Economic Prosperity has improved as well. Oregon’s percentage of GDP from manufacturing remains the second highest in the U.S. Wages have improved in Oregon, and the gap in average wage between Oregon and the U.S. continues to shrink.

The state performed worst in the categories of Commercialization and Innovative Environment. Oregon ranks a little better than average in venture capital investments, entrepreneurship, and startups, but hasn’t made significant gains in these indicators. While Oregon increased its educational attainment and STEM workforce over the past 10 years, Oregon is average in the number of STEM graduates from Oregon colleges and universities as a percentage of adults age 18-24 and has not improved its ranking. Oregon continues to attract young, educated workers as evidenced by the highest 10-year score in migration of knowledge workers.

The *2018 Index* includes scores for all 50 states. The District of Columbia is excluded due to some issues with data availability. Figure 1 shows states by score quintiles, revealing states with relatively high and low innovation scores. Oregon’s score of 66.5 ranked third in the U.S., placing it amongst the top performing states. Other top performing states, in rank order, include Massachusetts, California, Utah, Washington, Illinois, New York, New Hampshire, Colorado, and North Carolina.

Figure 1

### 2018 Innovation Index Scores



Source: Business Oregon.



Figure 2

## 2018 Innovation Index Scores by Category

STATE	NATIONAL RANK		RELATIVE TO U.S. AVERAGE			10 YEAR TREND		TOTAL	
	RAW	WEIGHTED	RAW	WEIGHTED	RAW	WEIGHTED	WEIGHTED	SCORE	
Massachusetts	16	6.4	12	2.4	9.5	3.8	13.7	68.5	
California	14.5	5.8	10	2.0	11	4.4	13.5	67.5	
<b>Oregon</b>	<b>13</b>	<b>5.2</b>	<b>9.5</b>	<b>1.9</b>	<b>13.5</b>	<b>5.4</b>	<b>13.3</b>	<b>66.5</b>	
Utah	12	4.8	11	2.2	14	5.6	13.0	65.0	
Washington	13.5	5.4	11.5	2.3	10	4.0	12.3	61.5	
Illinois	9.5	3.8	10	2.0	14.5	5.8	11.6	58.0	
New York	11.5	4.6	5.5	1.1	11	4.4	11.6	58.0	
New Hampshire	10.5	4.2	9	1.8	11	4.4	10.9	54.5	
Colorado	14	5.6	8.5	1.7	6.5	2.6	10.8	54.0	
North Carolina	10.5	4.2	7	1.4	11	4.4	10.7	53.5	
Minnesota	9.5	3.8	8.5	1.7	11.5	4.6	10.6	53.0	
Maryland	12	4.8	8.5	1.7	8.5	3.4	10.6	53.0	
Delaware	9.5	3.8	7	1.4	11.5	4.6	10.4	52.0	
Pennsylvania	11	4.4	10.5	2.1	9	3.6	9.9	49.5	
New Jersey	11.5	4.6	9.5	1.9	7.5	3.0	9.8	49.0	
Michigan	9.5	3.8	6	1.2	9	3.6	9.7	48.5	
Texas	9.5	3.8	6	1.2	9.5	3.8	9.6	48.0	
Alaska	4	1.6	7	1.4	15	6.0	8.7	43.5	
Georgia	7	2.8	6	1.2	10	4.0	8.6	43.0	
Vermont	9	3.6	4.5	0.9	8	3.2	8.5	42.5	
Indiana	6.5	2.6	5.5	1.1	11	4.4	8.4	42.0	
Rhode Island	8	3.2	4	0.8	8.5	3.4	8.3	41.5	
Arizona	7.5	3.0	7.5	1.5	8.5	3.4	8.1	40.5	
Ohio	7	2.8	3.5	0.7	9.5	3.8	8.0	40.0	
Connecticut	9	3.6	6	1.2	5.5	2.2	7.9	39.5	
Virginia	9	3.6	5	1.0	6	2.4	7.9	39.5	
South Carolina	4.5	1.8	5	1.0	12	4.8	7.8	39.0	
Iowa	6.5	2.6	2.5	0.5	9.5	3.8	7.6	38.0	
Wisconsin	7	2.8	5	1.0	8.5	3.4	7.6	38.0	
Montana	5.5	2.2	5	1.0	10	4.0	7.4	37.0	
North Dakota	3.5	1.4	3.5	0.7	12.5	5.0	7.3	36.5	
Alabama	4.5	1.8	5	1.0	11	4.4	7.3	36.5	
Tennessee	3.5	1.4	3.5	0.7	12.5	5.0	7.2	36.0	
Florida	6	2.4	3	0.6	8	3.2	7.1	35.5	
South Dakota	2	0.8	3.5	0.7	14	5.6	7.1	35.5	
Maine	4.5	1.8	3	0.6	9.5	3.8	6.8	34.0	
Missouri	4	1.6	2.5	0.5	10.5	4.2	6.8	34.0	
Idaho	5.5	2.2	2.5	0.5	8.5	3.4	6.6	33.0	
West Virginia	2	0.8	1.5	0.3	13	5.2	6.5	32.5	
New Mexico	4.5	1.8	5	1.0	9	3.6	6.4	32.0	
Kansas	3	1.2	5	1.0	9.5	3.8	6.0	30.0	
Louisiana	3	1.2	3.5	0.7	10	4.0	5.9	29.5	
Nebraska	2.5	1.0	4.5	0.9	9.5	3.8	5.8	29.0	
Nevada	3	1.2	3.5	0.7	9.5	3.8	5.7	28.5	
Wyoming	2.5	1.0	3	0.6	10	4.0	5.6	28.0	
Kentucky	2	0.8	3.5	0.7	10	4.0	5.5	27.5	
Hawaii	3.5	1.4	3	0.6	8	3.2	5.2	26.0	
Arkansas	1.5	0.6	2.5	0.5	9	3.6	4.7	23.5	
Mississippi	2	0.8	2.5	0.5	7	2.8	4.1	20.5	
Oklahoma	1.5	0.6	1.5	0.3	7	2.8	3.7	18.5	

Source: Business Oregon.



Figure 2 breaks down *Innovation Index* scores by state for each scoring category, including raw and weighted scores. Oregon had the fifth highest score in national rank and 10-year trend, and the fourth highest score in relative to U.S. average. This consistency bodes well for Oregon's innovation economy, as the results point to a state that is already competitive nationally, but also growing its competitiveness over time. Massachusetts and California, the most innovative states according to the *Index* and other similar innovation indices, are very competitive nationally, but score lower in 10-year trend. Likewise, many top scoring states in 10-year trend, such as Alaska and South Dakota, have made great strides in innovation, but have yet to reach a level of competitiveness nationally as states like Massachusetts and California.

Unlike other published innovation indices, the *Index* looks beyond current rankings and scores states on performance relative to U.S. average and 10-year trend. This difference explains why certain states score higher and lower in the *Index* than in other innovation indices. Due to the weighting of the *Index*, the difference is typically attributed to a state's score in 10-year trend. States with strong 10-year trends tend to show up higher in the *Index* than where they otherwise might in an index based solely on current rankings. This feature of the index essentially rewards states whose innovation economies are becoming more competitive, such as Oregon and Utah. Since Business Oregon is a long-term investor in Oregon's innovation economy, performance in the long-term is equally important as current rankings and competitiveness.



# INVENTION

## Invention Disclosures, Patents, & Citations

### Key Message

New ideas are generated in Oregon at an increasing rate. In order to maximize value to the state, Oregon needs to focus on developing these ideas into new products and services for new and existing businesses.

### Significance

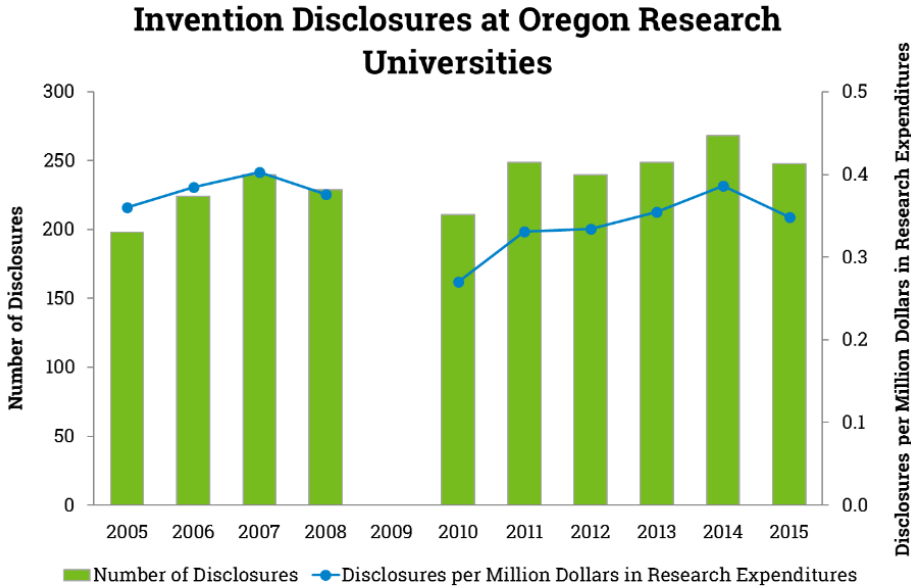
The number of *invention disclosures*—the first step in determining if an invention should be patented—and *patents* measure the extent to which intellectual property is created in the state. *Patent citations*—when an inventor cites a previous patent in a patent application—are a measure of the technical relevance of a patent to later inventions. Commercially feasible research and development (R&D) reflects the innovative abilities of the various public and private research institutions to catalyze new products, jobs and companies.

### Performance

Oregon ranked 25<sup>th</sup> nationally in the number of invention disclosures coming out of the university system in 2015, similar to its rank in 2005. Invention disclosures filed by the state’s research institutions grew slower than average. Disclosures per million dollars in research expenditures is essentially the same as it was 10 years ago (Figure 3).

Oregon ranked 4<sup>th</sup> in the nation in patents per million persons and 6<sup>th</sup> in patent citations per million persons in 2017. While the 10-year trends for both indicators are positive, Oregon’s growth in patents per million persons has lagged the U.S. Still, Oregon’s rate remains much higher than the U.S. and is well above average (Figure 4). Growth in patent citations per million persons has significantly outpaced the U.S. in recent years (Figure 5) and, like patents, its rate is higher than the U.S. average. Oregon ranks 6<sup>th</sup> in the nation in patent citations per million, up 4 spots from 2007.

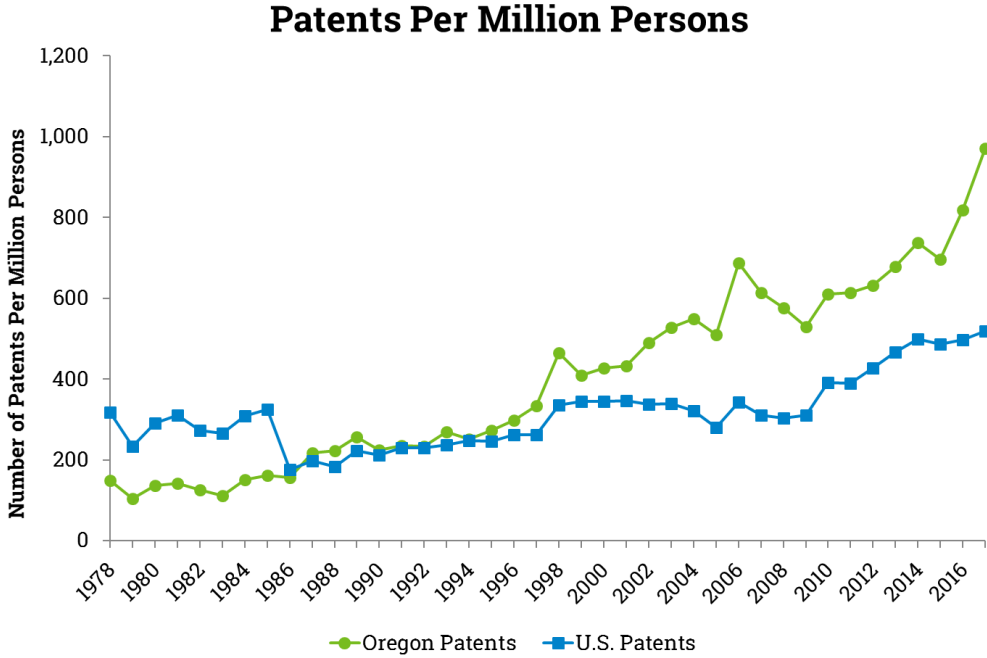
Figure 3



Source: Association of University Technology Managers, Statistics Access for Tech Transfer.

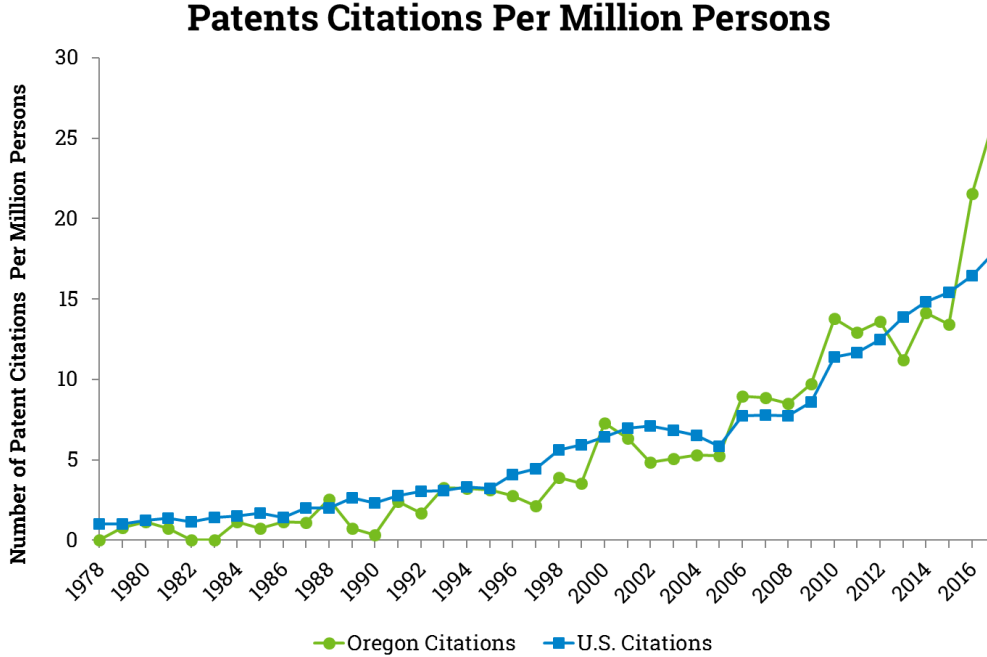


Figure 4



Sources: U.S. Patent and Trademark Office and U.S. Census Bureau.

Figure 5



Sources: U.S. Patent and Trademark Office and U.S. Census Bureau.



# TRANSLATION

## Research & Development

### Key Message

Oregon’s competency in forging research and development (R&D) partnerships among universities and private industry gives the state a competitive advantage. Because these R&D expenditures typically leverage federal and private support, bringing new dollars into the state, it is important for the state to continue to enhance this key source of innovation in our economy.

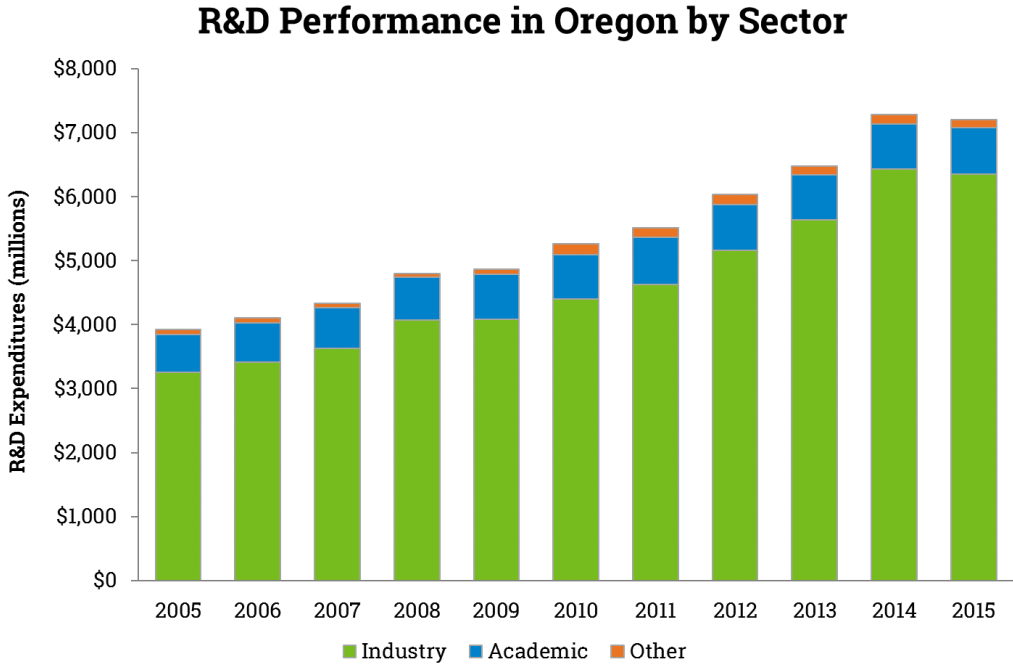
### Significance

R&D expands the knowledge base of industry and produces new products, which are key to sustained economic growth. New ideas, processes, and products fuel innovation and attract investment in Oregon companies.

### Performance

Oregon’s R&D spending is driven by private industry, which accounted for 88 percent of total R&D expenditures in 2015. Total R&D expenditures in Oregon increased 84 percent between 2005 and 2015 (Figure 6). Oregon ranked 7<sup>th</sup> nationally in industry R&D as a percentage of private sector Gross Domestic Product by state in 2015 (Figure 7), rising four spots from 11<sup>th</sup> a decade ago. Industry R&D growth has outpaced the nation, both in terms of expenditures and percentage of private GDP (Figures 7 & 8).

Figure 6



Source: National Science Foundation.





Figure 7

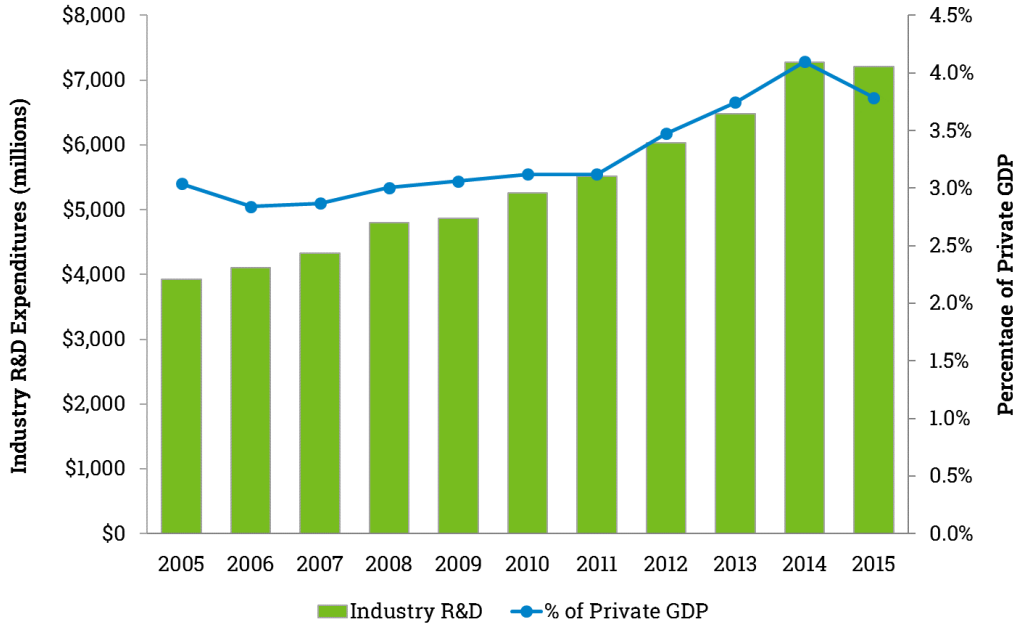
### Industry R&D Performance by State in Millions

State	2005				2015			
	Industry R&D	Private GDP	Percentage of Private GDP	Rank	Industry R&D	Private GDP	Percentage of Private GDP	Rank
U.S.	\$226,159	\$11,366,297	1.99	-	\$355,821	\$15,776,274	2.26	-
Massachusetts	\$13,342	\$307,191	4.34	2	\$21,484	\$437,536	4.91	1
California	\$50,683	\$1,547,616	3.27	7	\$107,982	\$2,202,980	4.90	2
Washington	\$9,736	\$253,843	3.84	4	\$16,940	\$391,768	4.32	3
Delaware	\$1,511	\$48,090	3.14	8	\$2,681	\$63,159	4.24	4
Michigan	\$16,752	\$349,691	4.79	1	\$17,136	\$418,576	4.09	5
Connecticut	\$7,885	\$189,030	4.17	3	\$8,533	\$226,269	3.77	6
<b>Oregon</b>	<b>\$3,252</b>	<b>\$128,988</b>	<b>2.52</b>	<b>11</b>	<b>\$6,357</b>	<b>\$190,453</b>	<b>3.34</b>	<b>7</b>
New Hampshire	\$1,435	\$50,637	2.83	10	\$1,932	\$66,652	2.90	8
New Jersey	\$13,214	\$393,234	3.36	6	\$14,113	\$500,873	2.82	9
Idaho	\$642	\$40,075	1.60	20	\$1,554	\$56,552	2.75	10

Source: National Science Foundation, Business R&D and Innovation Survey, and U.S. Bureau of Economic Analysis, Regional Economic Accounts.

Figure 8

### Oregon Industry R&D Performance



Source: National Science Foundation.



# TRANSLATION

## SBIR/STTR

### Key Message

The SBIR and STTR (Small Business Innovation Research/Small Business Technology Transfer) federal R&D grant programs drive innovation in small businesses. Oregon should continue to focus on increasing its share of these federal grants by enhancing the tools available to small business owners to successfully learn about and apply for SBIR/STTR funding.

### Significance

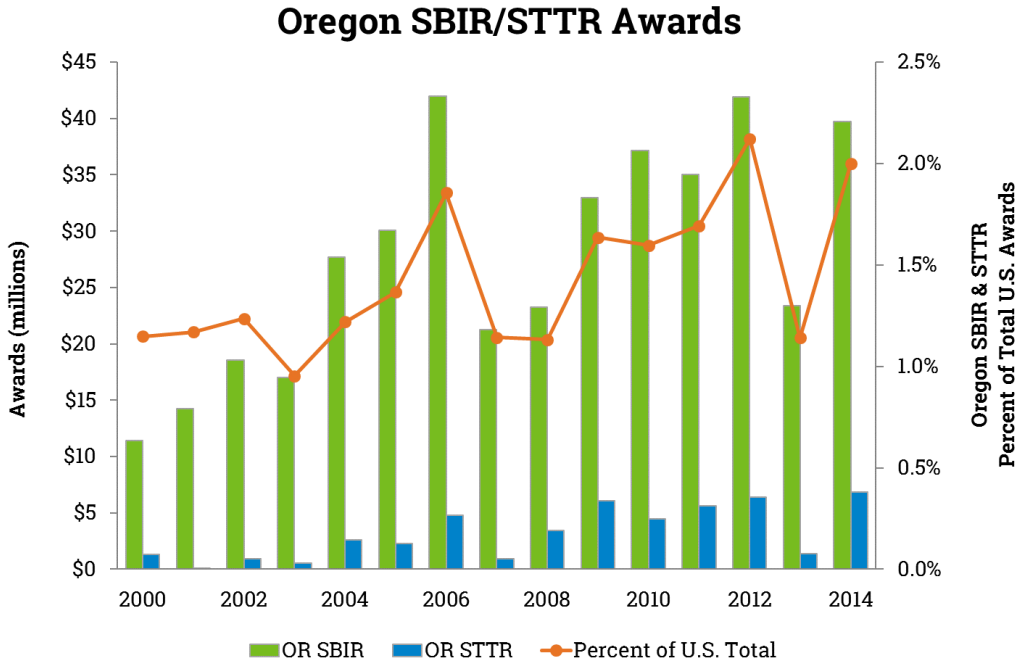
SBIR and STTR grants from federal agencies allow entrepreneurs to conduct research and develop new technologies. These programs often provide initial funding to help small companies turn ideas into commercially viable products.

### Performance

In 2014, Oregon received \$47 million in SBIR and STTR awards, an increase of 54 percent from 2004. Oregon SBIR and STTR awards accounted for just two percent of total awards nationally (Figure 9). However, over the past decade, Oregon’s share of SBIR and STTR awards has nearly doubled. Oregon received 64 SBIR awards and 7 STTR awards in 2014.

Oregon ranked 10<sup>th</sup> among all states in SBIR and STTR awards per \$1 million of GDP in 2014. Oregon’s performance in this measure has improved since 2004, when Oregon was ranked 15<sup>th</sup> in the nation. Oregon had the seventh largest increase in SBIR and STTR award dollars per million in GDP amongst all states from 2004 to 2014 (Figure 10).

Figure 9

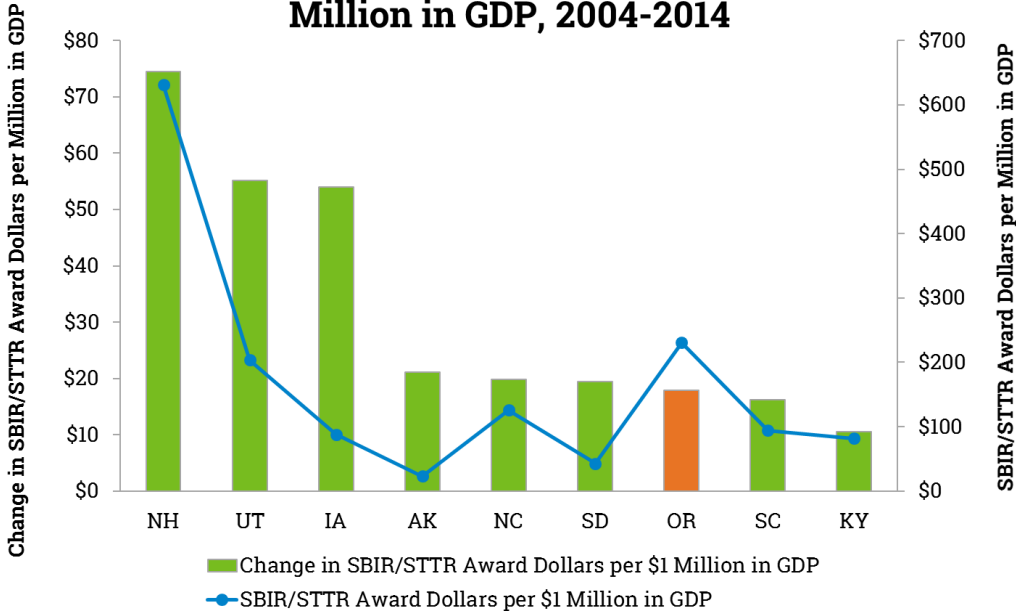


Source: U.S. Small Business Administration, SBIR and STTR Annual.



Figure 10

### Change in SBIR/STTR Award Dollars per Million in GDP, 2004-2014



Source: Small Business Administration and U.S. Bureau of Economic Analysis.



# TRANSLATION

## University Licensing Income & Options

### Key Message

Oregon universities have had increasing success in generating income from licensing new technologies to businesses. Continued focus on this measure will increase linkages between higher education and private businesses that will help commercialize new technologies.

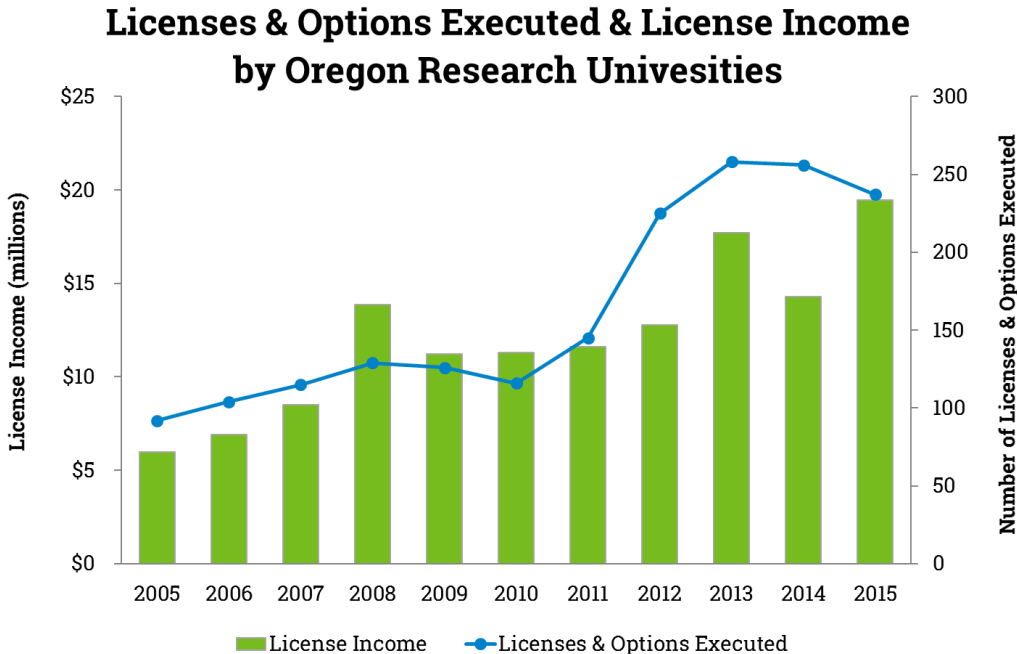
### Significance

*University licensing income*—the amount firms pay universities to use their technology—and *options*—the agreement firms make with universities to use their technology—are indications of the commercial viability of university inventions. The number of licenses and options executed in a given year tells how many university inventions appear to have commercial potential. The amount of income universities receive is an indication of the value companies assign to the intellectual property developed at research institutions.

### Performance

Oregon ranked 12<sup>th</sup> in the nation in the number of licensing options executed and 16<sup>th</sup> in the nation in licensing income in 2015. Licensing income per \$1 million in research expenditures in Oregon is close to the U.S. average. University licensing income in Oregon has more than tripled since 2005 (Figure 11). Oregon’s rank in licensing income improved 10 spots from 2005, the third highest increase in the U.S. This indicates that Oregon research universities are generating more income from private sector use of their intellectual property. Likewise, the number of licenses and options executed at Oregon universities in 2015 was two-and-a-half times larger than 2005. This indicates that companies are increasingly integrating university research into their products and services.

Figure 11



Source: Association of University Technology Managers, Statistics Access for Tech Transfer.



# COMMERCIALIZATION

## Venture Capital

### Key Message

Attracting venture capital into the state is vital for innovative Oregon businesses to thrive. Venture capital investments in Oregon have grown in recent years. Continuing this trend will be vital to growing Oregon’s innovation economy.

### Significance

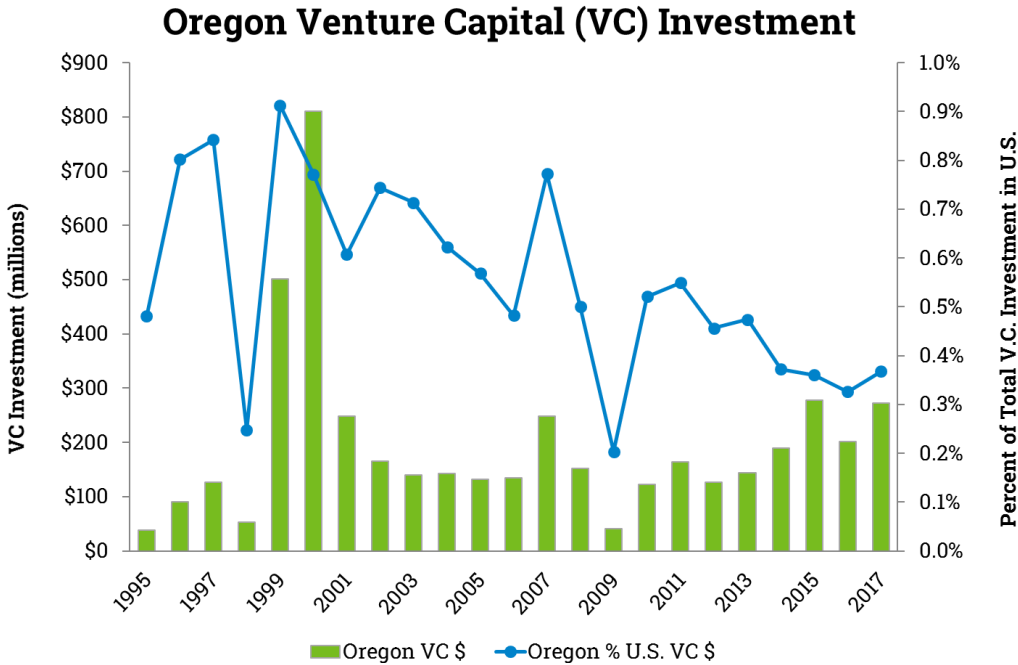
Access to capital plays a crucial role in new firm formation and stimulating economic growth. Venture funds and angel investors provide the risk capital many companies need to begin or expand their operations.

### Performance

Oregon venture capital investment in 2017 was nearly \$273 million, its second highest level over the past decade. Venture capital investment in Oregon grew by 10 percent between 2007 and 2017, far below the total growth rate of investment in the U.S. of 131 percent. While Oregon venture capital investment today is a far cry from its peak in 2000, investment trends in recent years are positive. Comparatively, though, Oregon’s share of venture capital investment in the U.S. has steadily declined, from 0.77 percent in 2007 to 0.37 percent in 2017 (Figure 12).

Oregon ranked 19<sup>th</sup> in the nation in venture capital investment per \$1,000 of GDP in 2017 (Figure 13), up three spots from 22<sup>nd</sup> a decade ago. Despite ranking in the second quintile, Oregon’s venture capital investment per \$1,000 of GDP is below the U.S. average. This is mainly due to a handful of states—primarily California and Massachusetts—that receive large amounts of venture capital investment, driving the U.S. average well above the median for states.

Figure 12

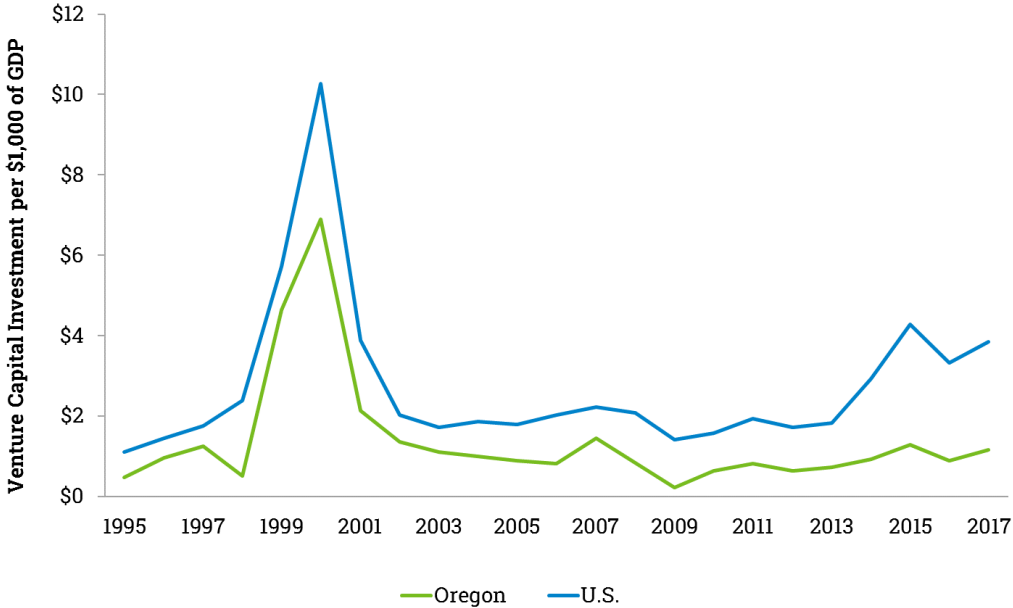


Source: PricewaterhouseCoopers/National Venture Capital Association MoneyTree™ Report.



Figure 13

### Venture Capital Investment per \$1,000 of GDP



Source: PricewaterhouseCoopers/National Venture Capital Association MoneyTree™ Report.





# COMMERCIALIZATION

## Entrepreneurial Activity

### Key Message

States that are able to generate and support entrepreneurship will be well-positioned to develop new products and services. Startup firms have the potential to grow rapidly and provide leadership in developing new markets that benefit both emerging and existing businesses around the state.

### Significance

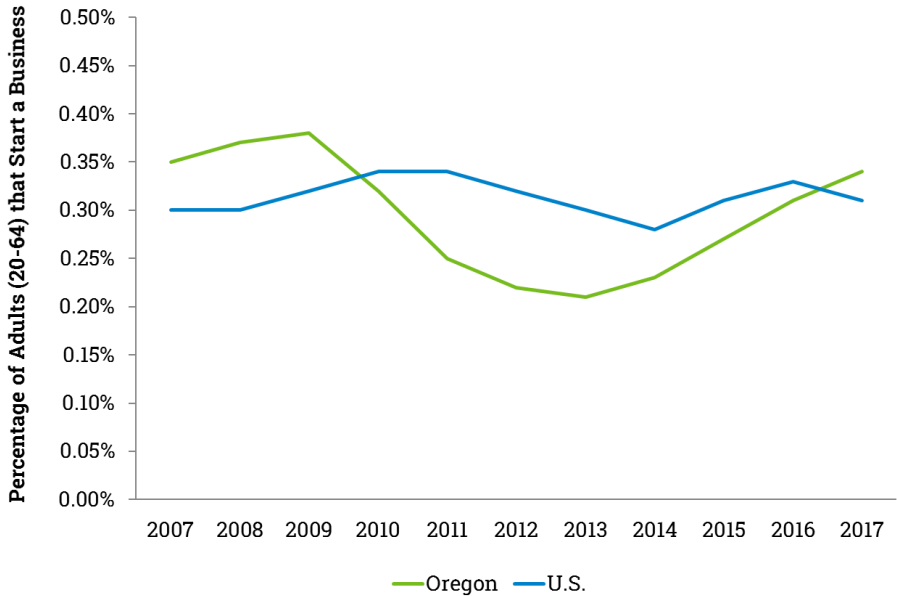
*Entrepreneurship*—the creation of new companies—is often used to measure the extent to which new ideas are introduced into the market. These new ideas are one measure of innovation in an economy. The Kauffman Foundation’s Index of Entrepreneurial Activity calculates the percentage of individuals ages 20 to 64 who start a new business.

### Performance

In 2017, Oregon ranked 15<sup>th</sup> in the nation in entrepreneurial activity. This is down from a ranking of 12<sup>th</sup> in 2007. Oregon’s entrepreneurship rate was essentially the same in 2017 as it was in 2007. The U.S. rate also remained relatively unchanged. Oregon’s entrepreneurship rate dropped precipitously over the last recession, falling well below the U.S. rate, but Oregon’s rate rebounded strongly in the following economic expansion and has once again topped the U.S. rate (Figure 14).

Figure 14

### Kauffman Index of Entrepreneurial Activity



Source: Ewing Marion Kauffman Foundation, Kauffman Index of Entrepreneurship Series.



# COMMERCIALIZATION

## New Business Creation

### Key Message

Startup firms have the potential to grow rapidly and provide leadership in developing new markets that benefit both emerging and established industries around the state. The nationwide decline in the rate of new business creation highlights the need to encourage entrepreneurship and foster new business creation.

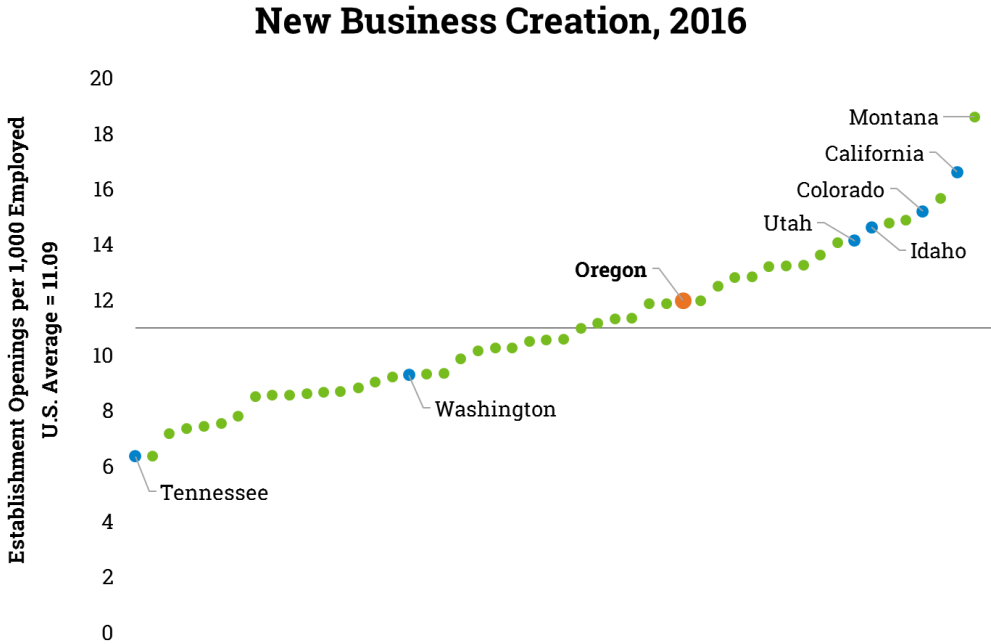
### Significance

New businesses create new jobs, which expand and strengthen economies. They introduce new, innovative practices to the marketplace that lead to new and improved products or services. A high rate of new business creation is an indication of an innovative, dynamic, and entrepreneurial economy.

### Performance

The rate of new business creation nationwide is near its lowest point in 20 years. States are doing well to maintain their new business creation rates, let alone grow them. In 2016, Oregon ranked 18<sup>th</sup> in the nation in the number of new establishments per 1,000 employed in the state (Figure 15) and exceeded the U.S. average. Oregon's rate of new business creation in 2016, 12.0, was lower than its rate in 2006 of 12.81, which resulted in a loss of 5 spots in national ranking. The U.S. rate also fell slightly from 11.2 to 11.1. Despite performing better than average in new business creation, Oregon lost ground in this measure over the past ten years.

Figure 15



Source: U.S. Bureau of Labor Statistics, Business Employment Dynamics.



# COMMERCIALIZATION

## University Startups

### Key Message

University startups are a good indication that commercialization of university research is paying off. Streamlining the process which transfers university research to new business ventures will increase Oregon’s ability to attract new investment and encourage collaborative partnerships between researchers and entrepreneurs.

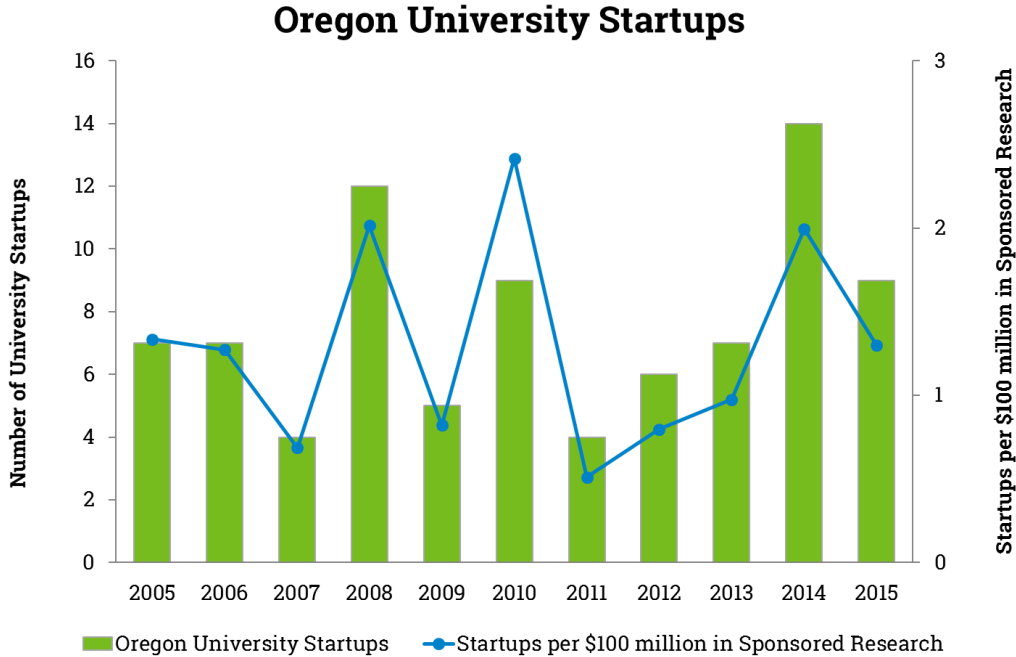
### Significance

*University startups*—companies formed from university research—measure the number of new businesses that are created as a direct result of university intellectual property. This measure demonstrates the strength of Oregon’s university system in commercializing research and fostering entrepreneurship.

### Performance

Oregon ranked 22<sup>nd</sup> nationally in university startups per \$100 million in sponsored research in 2015. Oregon’s rate of 1.55 startups per \$100 million was slightly below the U.S. average of 1.63. Oregon has not made significant gains in the number of university startups over the past 10 years (Figure 16). Oregon’s national rank dropped five spots in this measure between 2005 and 2015, while its compound annual growth rate of 4.6 percent ranked 33<sup>rd</sup> in the country.

Figure 16



Source: Association of University Technology Managers, Statistics Access for Tech Transfer.



# ECONOMIC PROSPERITY

## Manufacturing GDP

### Key Message

Oregon’s high value-added manufacturing is a vital source of innovation in the state and gives Oregon a distinct competitive advantage. Manufacturing drives industry R&D in Oregon, the U.S., and throughout the world. It is important for the state to maintain and grow this key source of innovation in our economy.

### Significance

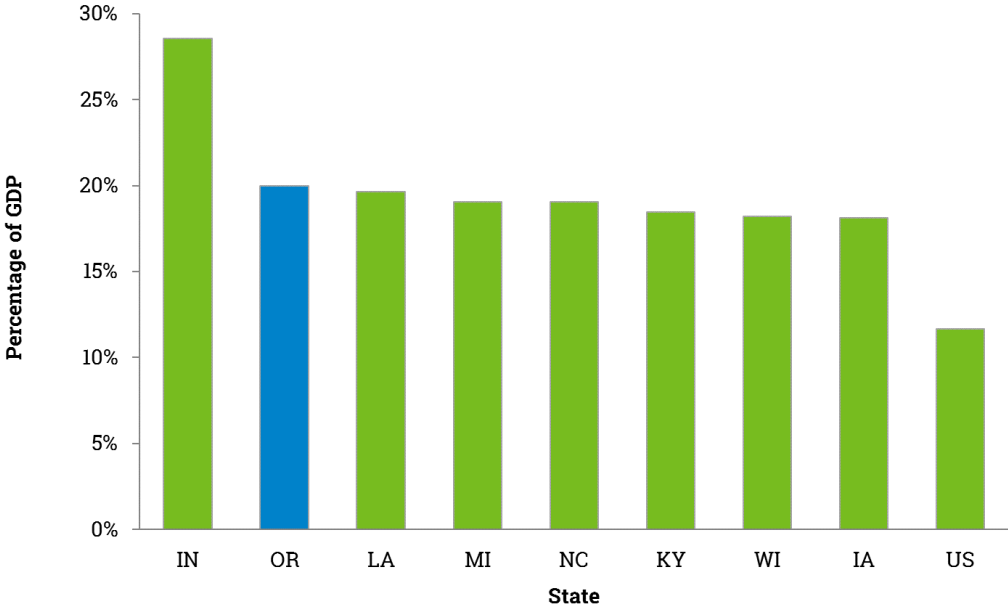
Manufacturing accounts for about 70 percent of all industry R&D worldwide and in the U.S. Manufacturing R&D leads to the development of new, innovative products that generate additional demand, enabling manufacturers to compete and succeed in the global economy. Manufacturing GDP demonstrates Oregon’s strength in innovation and the skill and productivity of its workers.

### Performance

Oregon derives more of its GDP from manufacturing than any other state, but one (Figure 17). Oregon’s manufacturing percentage of GDP is nearly twice as high as the U.S. average. In terms of GDP, manufacturing is the largest industry in Oregon, accounting for one-fifth of total GDP in the state. Oregon’s 1.2 percent compound annual growth rate for manufacturing percentage of GDP between 2007 and 2017 was the second highest in the country. The U.S. rate was -1 percent, with only six states posting positive rates of change over the last ten years.

Figure 17

### Manufacturing Percentage of GDP, 2017



Source: U.S. Bureau of Economic Analysis, Regional Economic Accounts.



# ECONOMIC PROSPERITY

## Average Wage

### Key Message

Oregon must continue to focus on growing the wages of workers statewide. One of the key drivers of wage growth is human capital development. A skilled and educated workforce creates value for Oregon companies, thereby contributing to average wage growth.

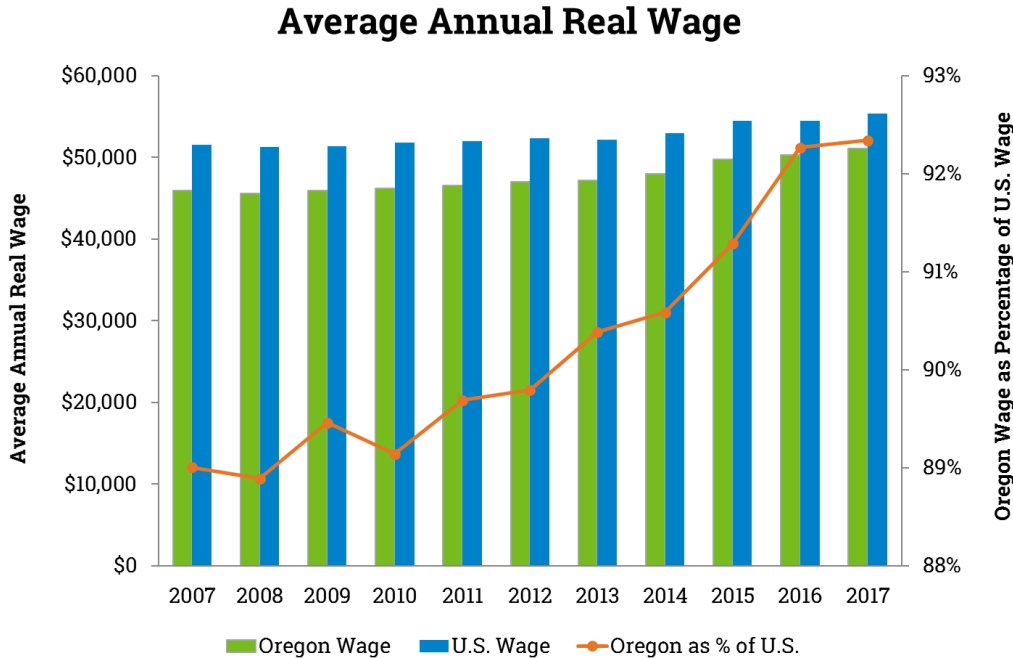
### Significance

Average wage measures trends in the average annual pay of workers in Oregon. This measure is limited to workers covered by unemployment insurance, which excludes self-employed workers. Wages have been adjusted for inflation.

### Performance

Oregon made strong gains in average annual wage between 2007 and 2017, climbing from 24<sup>th</sup> in the U.S. to 20<sup>th</sup>. This was the third largest increase in the rankings nationally. While the average wage in Oregon still trails the U.S. average, it is now 92 percent of the U.S. average compared to 89 percent in 2007 (Figure 18). Oregon’s high ranking change along with the sixth highest compound annual growth rate, gave Oregon the fourth highest score for 10-year trend amongst the states.

Figure 18



Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment & Wages and National Compensation Survey - Employment Cost Trends



# ECONOMIC PROSPERITY

## High Technology Employment

### Key Message

Oregon has a well-established high technology industry group, which commercializes new ideas and generates high-wage jobs. More and more, companies, both large and small, are dependent on technological innovation to compete in the global economy. Thus, it is important to maintain the state's competitive advantage in high technology industries.

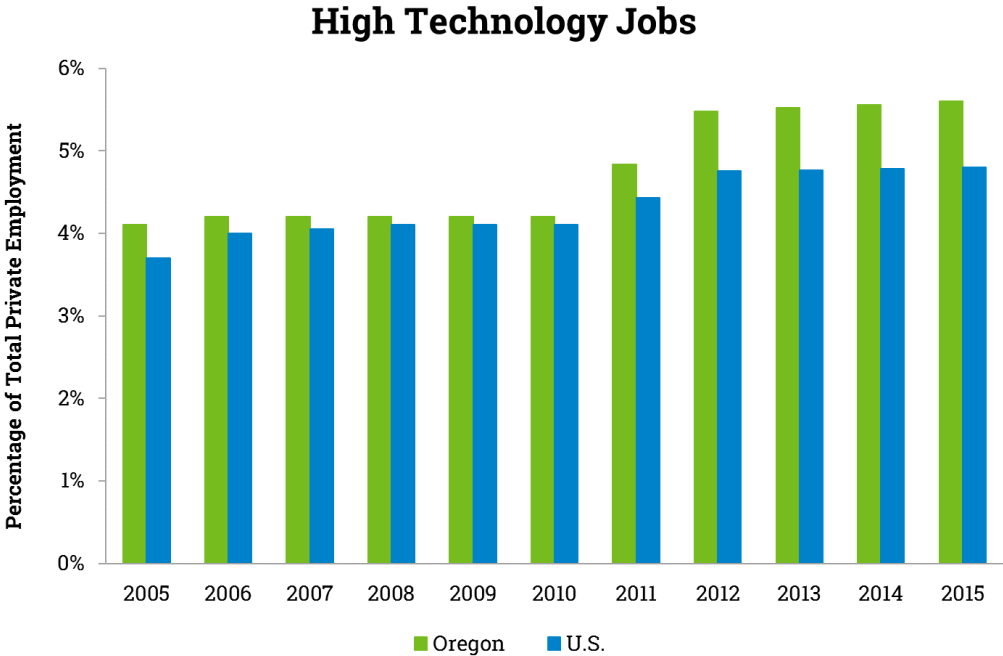
### Significance

Technology sector industries—as defined by the *2017 State New Economy Index*—are an important part of an economy because they are key engines of innovation and a source of high-paying jobs. States with a critical mass of jobs in technology-generating industries tend to attract other businesses and workers with a high degree of inventiveness, and help to increase the competitiveness of all traded sector industries.

### Performance

Oregon ranked 9<sup>th</sup> nationally in percentage of high technology jobs in 2015, improving its ranking by 4 spots since 2005. Oregon's high technology industry group includes over 82,000 manufacturing and service jobs that accounted for 5.6 percent of Oregon's private sector employment in 2015 (Figure 19). High tech jobs grew a little faster than average in Oregon between 2005 and 2015 with a compound annual growth rate of 3.2 percent compared to 2.6 percent nationally. High tech jobs in Oregon are at their highest percentage of private employment since 2000, when high tech jobs accounted for 6.3 percent of jobs. Unlike the 1990s, though, job growth in Oregon high tech in recent years has been fueled by high tech services, such as internet publishing, computer systems design, data centers, and software publishing, rather than computer and electronic products.

Figure 19



Source: The Information Technology & Innovation Foundation, State New Economy indices.





# ECONOMIC PROSPERITY

## Exports

### Key Message

Oregon’s relatively high ranking in exports and proximity to China and other emerging markets demonstrates the state’s competitive advantage in developing global markets and providing customers worldwide with high quality, innovative products and services.

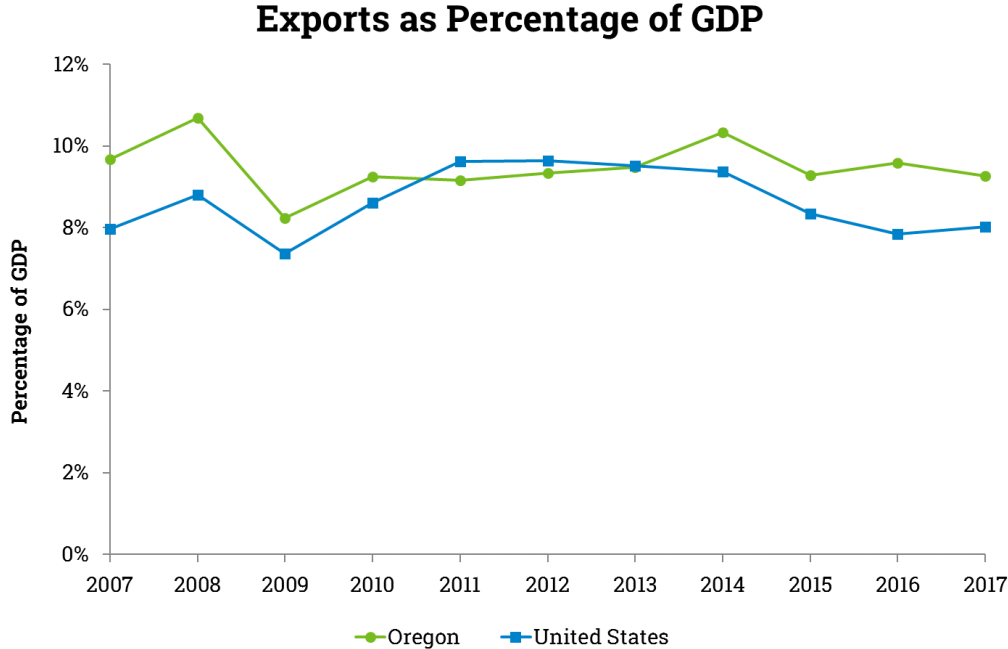
### Significance

Export-oriented companies have a multiplier effect on the local economy. As these companies work to meet the demand for their products, they rely on local firms to supply goods and services, which benefit the state’s economy. Exports create additional demand for traded sector goods and services, which in turn create jobs, spur innovation, and increase wages in Oregon.

### Performance

In 2017, Oregon exported \$21.9 billion worth of goods to 200 countries and territories around the world. Oregon ranked 13<sup>th</sup> in the nation in exports as a share of GDP in 2017. Exports as a share of GDP is higher than average in Oregon at 9.3 percent compared to 8 percent for the U.S. (Figure 20), making exports comparatively more important to Oregon’s economy than the average state. Unfortunately, exports as a share of GDP has slowly declined in Oregon since 2007. Oregon slipped 5 spots in national rank between 2007 and 2017 and had the 37<sup>th</sup> ranked compound annual growth rate.

Figure 20



Sources: U.S. Bureau of Economic Analysis, National & Regional Economic Accounts, and <http://wisetrade.org>, data from U.S. Census Bureau, Foreign Trade Division.



# INNOVATIVE ENVIRONMENT

## Educational Attainment

### Key Message

Educational attainment is an important indicator of the human capital that is available in Oregon. The role of education in creating a successful innovation environment cannot be overstated. Investments in Oregon’s educational system—kindergarten through graduate school—and continued in-migration of highly educated workers benefit the state in the form of a highly skilled workforce.

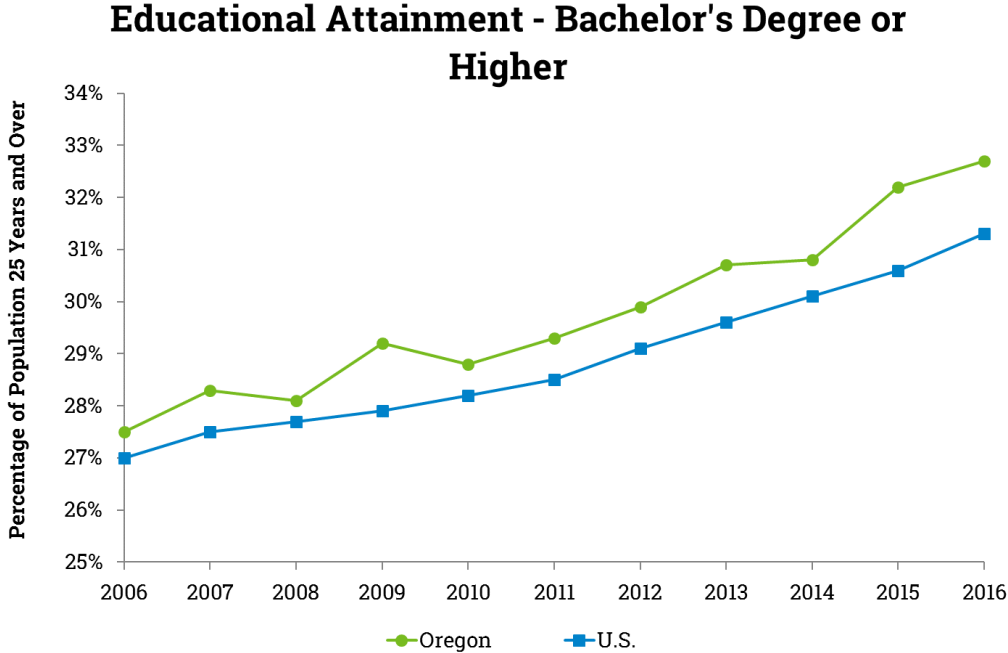
### Significance

Educational attainment is a key driver of the innovation economy. Innovation cannot occur if educated people are not plentiful in Oregon companies, universities, and other innovation incubators.

### Performance

Educational attainment is rising faster than average in Oregon. In 2016, Oregon ranked 16<sup>th</sup> in the nation in percentage of adults with a Bachelor’s degree or higher. Over the past 10 years, Oregon has improved steadily in this measure (Figure 21). Oregon received the fourth highest 10-year trend score amongst states in the *Index*, with the fourth highest improvement in national rank and ninth highest compound annual growth rate.

Figure 21



Source: U.S. Census Bureau, American Community Survey, 1 Year Estimates.



# INNOVATIVE ENVIRONMENT

## STEM Workforce

### Key Message

Growing Oregon’s science, technology, engineering, and mathematics (STEM) workforce is vital to the state’s economic competitiveness and growth. STEM workers are the professionals spearheading research and development of innovative products and services and are increasingly in demand by Oregon’s innovative companies.

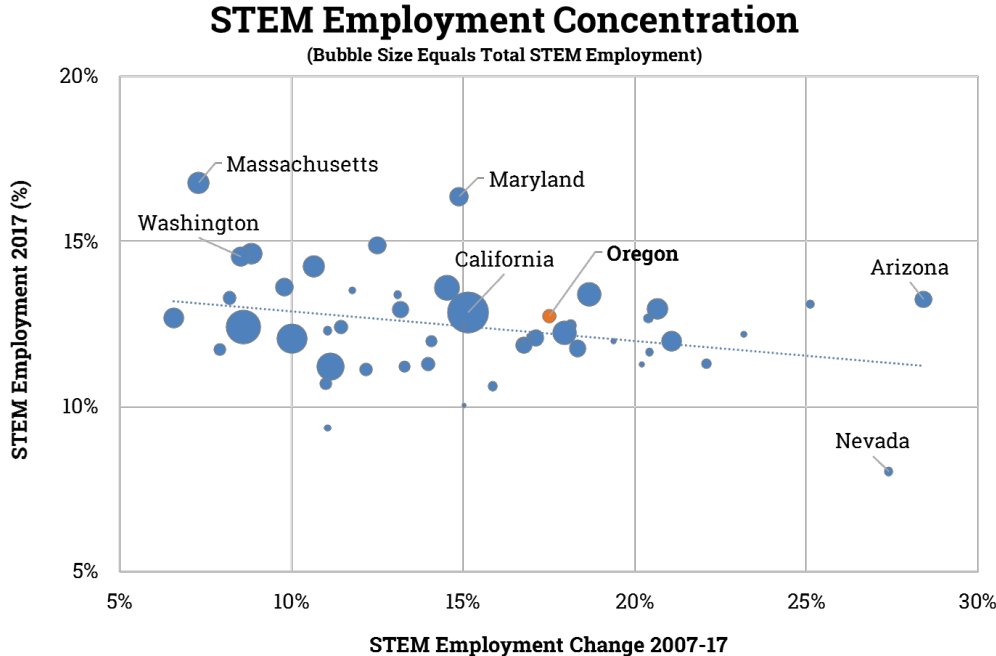
### Significance

STEM workers are at the center of an innovation economy. Oregon’s research and development capacity and competitiveness is directly connected to STEM. Growing the STEM workforce, both through in-migration of knowledge workers and increasing the number of STEM graduates from Oregon universities, is key to attracting and growing innovative businesses.

### Performance

Oregon STEM employment ranked 18<sup>th</sup> in the U.S. in 2017 as a percentage of total employment. This was an improvement from 2006 when the state was ranked 21<sup>st</sup>. Oregon’s STEM employment is growing faster than average, increasing by 18 percent between 2007 and 2017 compared to the U.S. average of 15 percent. At 12.7 percent, STEM employment concentration in Oregon is similar to the U.S. average of 13.1 percent. Looking at STEM employment in all states (Figure 22), it’s interesting to see a slightly negative correlation between STEM employment concentration and growth. The top 9 states by STEM employment concentration all grew STEM jobs at a slower rate than the U.S. average.

Figure 22



Source: U.S. Bureau of Labor Statistics, Occupational Employment Statistics and SOC Policy Committee.



# STEM Graduates

### Key Message

States with high numbers of STEM graduates are amongst the most innovative economies in the U.S. States recognize this and the number of STEM graduates nationwide are rising. States that increase the number of their STEM graduates will likely grow their innovation economies faster than states that do not.

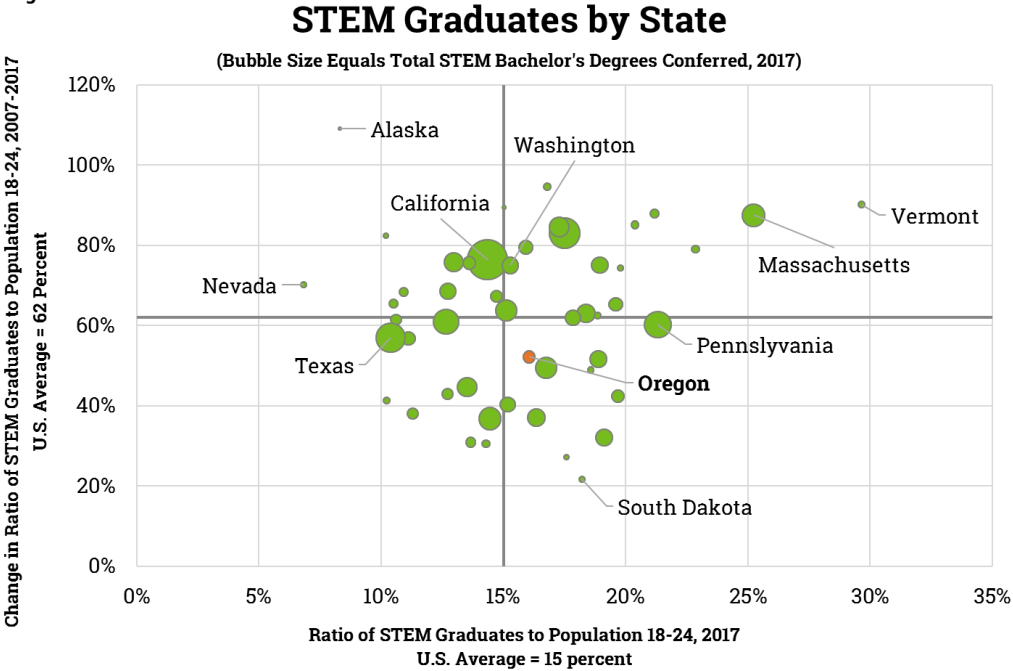
### Significance

The innovation economy needs a high quality STEM workforce to succeed and grow. States can grow their STEM workforce through in-migration or by creating STEM graduates at state universities. States with high numbers of STEM graduates, though, tend to have more innovative economies than states with low numbers of STEM graduates. The innovation ecosystem created by large numbers of STEM graduates offers a significant competitive advantage for those states.

### Performance

Oregon ranked 24<sup>th</sup> in STEM Bachelor's degrees conferred as a percentage of the population age 18 to 24 in 2016, the same ranking it held in 2006. Oregon's ratio was 16.05, a little higher than the U.S. average of 15.13 (Figure 23). Oregon increased its total STEM graduates by 52 percent from 2006, but this trailed the U.S. average of 62 percent and ranked 34<sup>th</sup> amongst states. Comparatively, Oregon has not gained competitiveness in STEM graduates as a percentage of college-aged adults.

Figure 23



Sources: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System and U.S. Bureau of Labor Statistics, SOC Policy Committee.



# INNOVATIVE ENVIRONMENT

## Migration of Knowledge Workers

### Key Message

States and their businesses compete for talent. States that are the most successful in attracting U.S. knowledge workers increase their educational attainment and develop a competitive workforce, which leads to higher incomes and lower unemployment.

### Significance

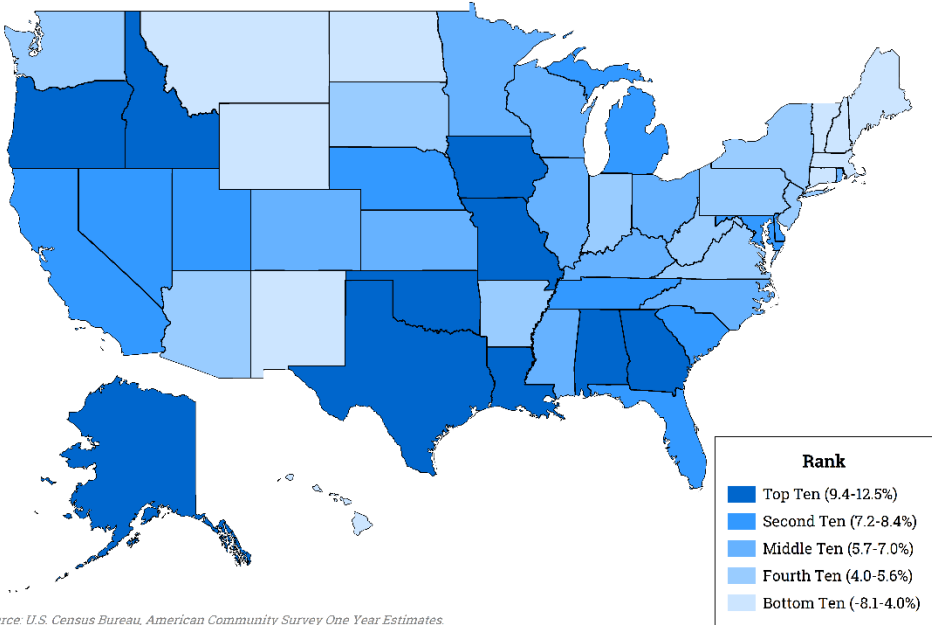
Educational attainment is a major factor in determining a population's income and unemployment. Highly educated people are more likely to have higher incomes and lower unemployment than those who are less educated. Knowledge workers are attracted to states that offer high-paying jobs and a high quality of life. They are also more involved in the innovation economy, as many innovation jobs require a Bachelor's degree or higher.

### Performance

Oregon ranked 12<sup>th</sup> in the nation for migration of U.S. knowledge workers in 2016. This ranking is based on the educational attainment of U.S. in-migrants to states from all other states from the prior year. Oregon has been very successful attracting knowledge workers to the state in recent years (Figure 24). Oregon had the highest 10-year trend score for migration of knowledge workers in the nation, with a compound annual growth rate of 1.18 percent and rank change of 15 between 2006 and 2016.

Figure 24

### Change in Migration of Knowledge Workers in U.S., 2006-2016



Source: U.S. Census Bureau, American Community Survey One Year Estimates





# INNOVATIVE ENVIRONMENT

## Broadband Access

### Key Message

Oregon’s ability to develop and maintain broadband internet access is vital in a business environment that emphasizes global markets and internet-dominated communication. States that are able to increase the speed and reliability of internet connections will create more opportunities for advanced technologies and job growth.

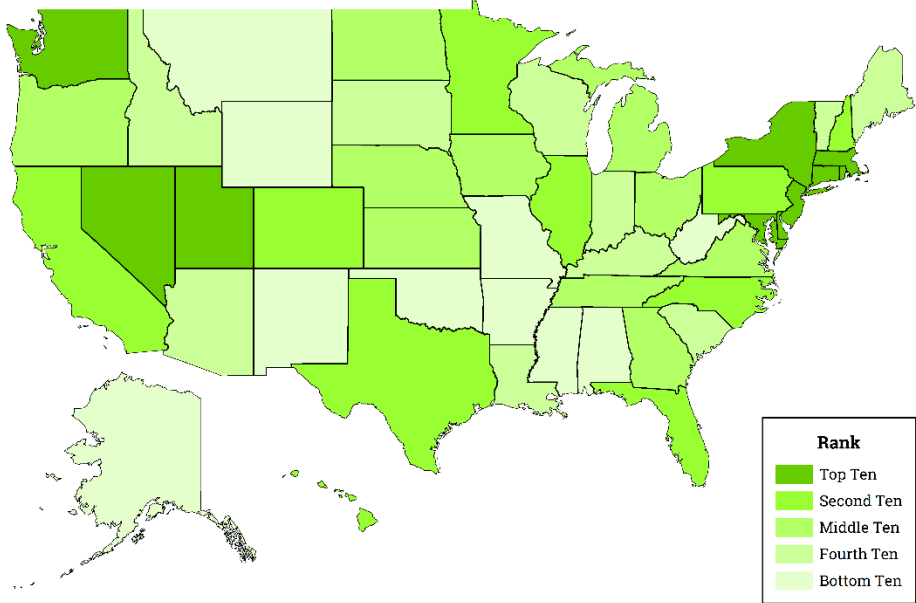
### Significance

Broadband—defined in the *Index* as fixed connections with 25 megabits (Mbps) for downloads and 3 Mbps for uploads and mobile connections with 5 Mbps/1 Mbps—access allows for faster transmission of data, which is critical for businesses that rely on the internet to communicate with customers, suppliers, and colleagues. Broadband access facilitates knowledge dissemination and collaboration by reducing the costs associated with telecommunications and business transactions.

### Performance

Oregon ranked 23<sup>rd</sup> in the U.S. in broadband access in 2016. 91 percent of Oregon’s population has access to broadband internet connections. Oregon’s broadband access rate is slightly lower than the U.S. average of 92 percent, and lower than Washington, Utah, Nevada, and California, but higher than Idaho (Figure 25). Oregon’s 10-year trend score in broadband access was the 19<sup>th</sup> highest in U.S., which was above average, but not by much.

**Figure 25**  
**Broadband Access, 2016**  
Percentage of Population with Access to Fixed 25 Mbps/3 Mbps and Mobile 5 Mbps/1 Mbps



Source: Federal Communications Commission.



### **Acknowledgements**

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Former Blue Heron Mill  
Oregon City

### What is a brownfield?

A brownfield is a vacant or underutilized property where actual or perceived environmental contamination complicates its expansion or redevelopment. Common examples are abandoned gas stations and dry cleaners, industrial properties, strip malls, railroad properties, factories, and closed military bases.



Former Asphalt Batch Plant  
McMinnville



Former Zidell Shipbreaking Yard, Portland

## BROWNFIELDS REMEDATION SPURS ECONOMIC GROWTH



## A STUDY OF OREGON BROWNFIELDS

Port of Newport  
International Terminal, Newport

### AVAILABLE OREGON BROWNFIELDS RESOURCES STUDIED:

Business Oregon  
Brownfields Redevelopment Fund  
Brownfields Cleanup Fund

Department Environmental Quality  
Orphan Fund  
Site Specific Assessment Program  
Prospective Purchasers Agreement  
Program

Former Sunnybrook Hop Farm  
Grants Pass



In 2013, Business Oregon launched an effort to assess the various impacts of public investments in brownfield remediation in Oregon.

### Overall Finding: State programs are critical for redevelopment.

The economic impacts analysis described the key short-and long-term economic impact findings for 92 study sites for which redevelopment information was compiled. The State of Oregon spent nearly \$19 million through brownfields programs on the analyzed sites. The return on this investment for Oregon's citizens and local governments is noteworthy and the continuing economic development outcomes significant.

Of note, redevelopment on brownfields has generated the following economic outcomes:

Oregon's residents, through job creation and associated earnings:

- \$470 million annual earnings through existing operations jobs.
- \$610 million in annual earnings for operations jobs on planned projects.
- \$532 million in total earnings through construction jobs on existing or planned projects.

Local governments, through property taxes and redevelopment:

- \$10.5 million in property tax revenue. The catalytic effect on nearby properties could increase this amount by 4.9% to 11.1%.
- \$600 million has been invested in redevelopment projects among the sites analyzed in this study, with another \$211 million underway and \$566 million planned.

State general fund, through income tax revenues:

- \$19.4 million annually for through existing operations jobs.
- \$40 million total for construction jobs on existing or planned projects.

Taking on the redevelopment of contaminated sites requires support and funding from many sources -making the state programs an essential piece of the process needed to make these contaminated sites useful and productive to the state again.



# OREGON'S BROWNFIELDS

Brownfields exist across Oregon where there has been development or industry. This map shows known non-residential sites that have been contaminated by either petroleum or hazardous substances.

An estimated **13,501** brownfields exist in Oregon.

Only **35%** have been assessed or worked on to date.



**54%**  
of brownfields are located in economically distressed counties

**30**  
counties have received state assistance with more than one site

**76%**  
are located within a community's urban growth boundary

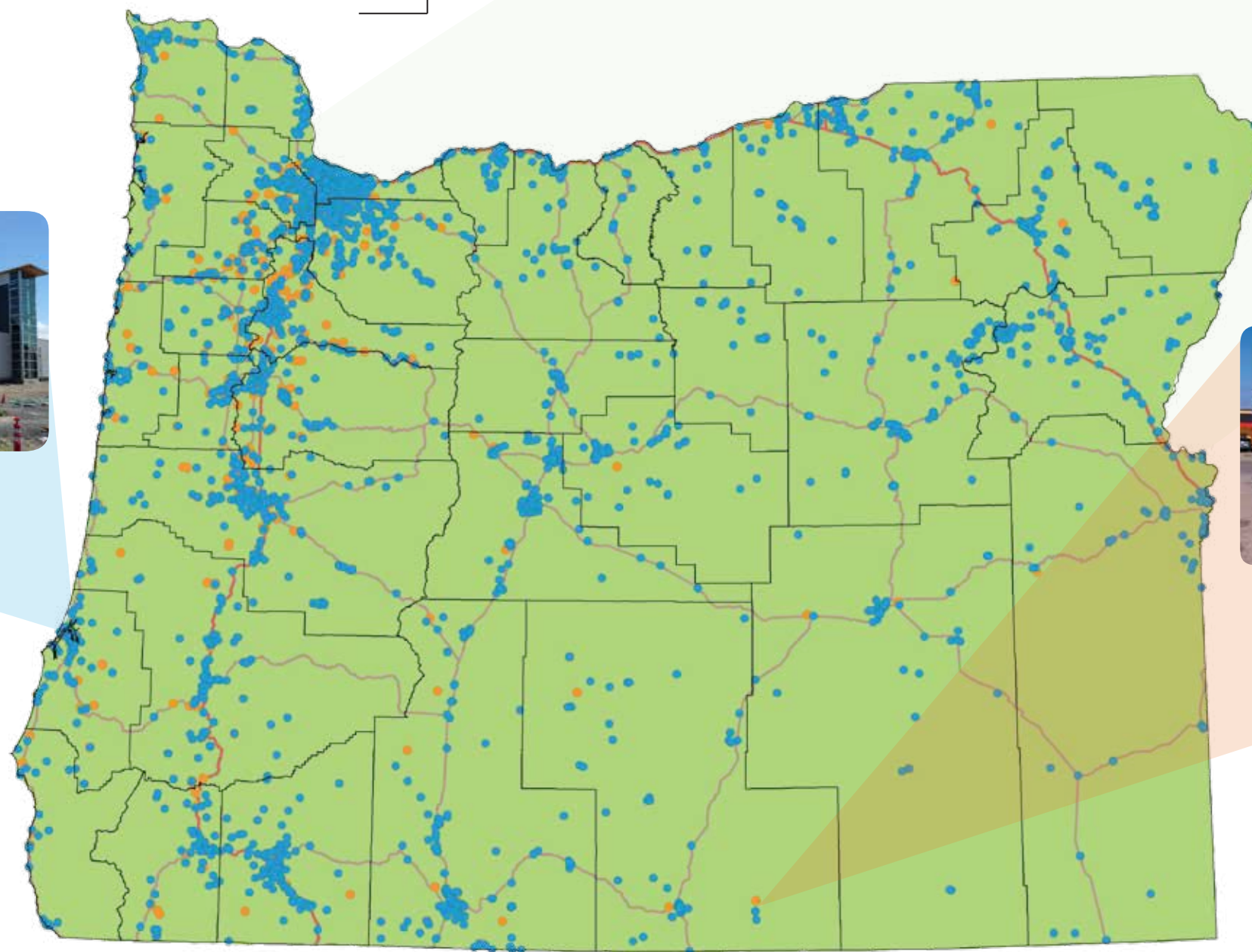
Coos Historic & Maritime Museum, Coos Bay



MC Chuckwagon Museum, Lakeview

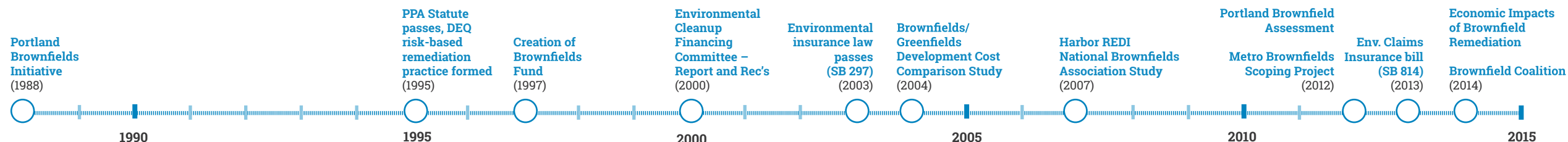


currently there are roughly **450** active projects in progress around the state



● Petroleum contamination sites
 ● Hazardous substance contamination sites
  County boundaries

## Oregon Brownfield Highlights 1988-Present





# Oregon Innovation & Entrepreneurship Benchmarking and Best Practices Study

## EXECUTIVE SUMMARY

March 2019

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## Executive Summary

Over the past 25 years, all net new job creation and 20% of gross job growth has come from startup companies less than five years old, with the majority of those jobs created by a small percentage of high growth firms.<sup>1</sup> High growth startups, often referred to as innovation-driven enterprises or IDEs, are essential for a thriving economy not only for their job creation potential, they also pay high wages, and account for a disproportionate share of GDP.<sup>2</sup> While recent data may indicate that overall entrepreneurship has declined in the US, innovation-based start-ups have increased in number.<sup>3</sup> Most important, the outsized contributions of innovation-driven enterprises provide the impetus for long-term economic stability and growth in a region. For example, a Stanford research study of all public companies indicated that VC-backed firms account for 82% of the R&D performed.<sup>4</sup>

This benchmarking and best practices study focused on Oregon’s strengths and weaknesses for starting and growing IDEs, including the foundational assets that build the innovation capacity to develop new ideas and technologies. This study sought to explore the following questions within an overall I&E framework as illustrated in Figure ES-1.

**Figure ES-1. I & E Ecosystem Framework**

INNOVATION CAPACITY		ENTREPRENEURSHIP CAPACITY	
R&D	PRODUCT DEVELOPMENT	BUSINESS DEVELOPMENT	BUSINESS SCALE-UP and GROWTH
Are there robust levels of R&D providing the foundation for new ideas and products?	Is research being translated and commercialized into products with economic potential?	Are entrepreneurs launching scalable companies at an increasing rate and in a timely fashion?	Are startups growing and thriving in Oregon?
<b>ASSETS</b>			
Does Oregon have the people, capital, and infrastructure to attract and support innovation and high growth companies?			
Can researchers and entrepreneurs access the necessary resources to assist them?			
<b>ENABLERS</b>			
Does Oregon’s culture promote and reward innovation and entrepreneurship?			
Are key institutions and initiatives operating at a scale that can drive impact and sustainability?			
Are public and private sectors coordinating and providing continuity to grow the I&E ecosystem?			

<sup>1</sup> Weins, Jason and Chris Jackson, “The importance of Young Firms on Economic Growth,” Sept. 2015

<sup>2</sup> Hathaway, Ian and Robert E. Litan, “Declining Business Dynamism in the United States: A Look at States and Metros,” (Brookings Institute, May 5, 2014)

<sup>3</sup> Wu, J John and Robert D. Atkinson, How Technology-Based Start-ups Support US Economic Growth, Nov. 2017

<sup>4</sup> <https://www.gsb.stanford.edu/insights/how-much-does-venture-capital-drive-us-economy>

This study sought to capture data and qualitative input for the assets and enablers of innovation and entrepreneurship.

- I&E “**assets**” such as capital, accelerators and incubators, and mentors and technical advisors, that support the development of technologies and companies.
- I&E “**enablers**” of the ecosystem—the culture, capacity and continuity of support—that amplify impact by creating an integrated and highly functioning ecosystem.

The study also sought to understand the differences across Oregon’s innovation driven industry sectors.

- **R&D Intensive or Deep Technology:** Industries such as biosciences, advanced materials, cleantech and high-tech manufacturing that require significant R&D and intellectual property and have a longer time to market.
- **Technology Services:** Services designed to facilitate the use of technology by enterprises and end users, most commonly software as a service.
- **Consumer Products:** Industries developing products for the consumer market including food and beverage, outdoor gear, and apparel.

These types of industries were examined more closely because they were consistently referenced in the stakeholder interviews we conducted and reinforced by previous sector-based studies completed by Business Oregon.

## **Overall Findings**

The story of I&E performance and growth within the state is both compelling in certain areas and concerning in others. On the positive side:

- Significant advancements have been made across Oregon over a short period of time. The array of programs and services to support entrepreneurs has multiplied outside of the Portland region, most notably in Central Oregon.
- Investment capital (both deals and dollars) has grown over the past decade, especially for technology services and to a lesser extent for consumer products.
- Almost all regions across the state have grown manufacturing and technology jobs, as well as their Science, Technology, Engineering and Math (STEM) workforce—assets that help drive innovation and entrepreneurship.
- Pockets of strong sector-based networks and organizations are propelling the growth and capitalization of startups in key industries, notably outdoor, food & beverage, and technology services.

On the less positive side:

- Investments in innovation capacity, particularly commercialization funding and support for R&D-intensive companies, are inadequate.
- Not all state programs have been successful. Those that have underperformed in the past appear to be a result of poor execution mechanics, rather than intent or need.

- Startups are not growing at a rate that would be expected for the industry mix found in Oregon. For example, while Oregon ranked well above average for the number of tech startups, it ranks #46 in the number of jobs per startup.<sup>5</sup>
- Interviews of stakeholders actively engaged in the I&E ecosystem consistently noted a lack of continuity with state support, particularly with regard to frequent changes to I&E programs and/or their parameters. Since I&E development is a long-term strategy, intermittent disruptions cause programs to lose ground and underperform.

In addition to strengths and weaknesses, several other observations were noted:

- Startups and small companies tend to be the primary mechanism for commercializing inventions from universities.
- As startups mature, their needs become more sector-specific.
- The most effective support for IDEs relies on focused and intentional coordination: research indicates the mere presence of resources is not enough to produce the desired impact.
- Connections to networks outside of Oregon are critical for the growth of startups.

These findings resulted from an assessment that compared Oregon with peer states and national performance, mapped the growth of assets within the state, and conducted interviews with an array of stakeholders. The following highlights these assessment steps.

### **Growth of Oregon I&E Assets**

This study mapped the progress of innovation-driven industries, entrepreneurship resources, STEM talent, and capital investment within Oregon. It included calculating the concentration of key jobs compared to the US average and mapping the results by county. It also examined the three-year growth of these jobs, as well as mapping the location of equity-backed investment companies, capital resources, and technical assistance programs.

### **Key Take-Aways From Asset Mapping**

- Growth in I&E industries and workforce extends outside of urban centers and is becoming more distributed across the state.
  - Manufacturing is a competitive advantage for the state, with above average concentration of jobs in most counties. This could provide opportunities to connect new technologies from I&E hubs to more rural regions.
  - Oregon is growing knowledge-intensive business services that are key to building the network of resources for startups, especially in Deschutes and Benton Counties.
  - Growth in tech jobs can be found in almost all regions, with rural counties like Morrow and Hood River experiencing significant improvement.
  - STEM workforce has grown statewide: most rapidly in Central Oregon with high pockets of growth in Morrow and Columbia Counties.

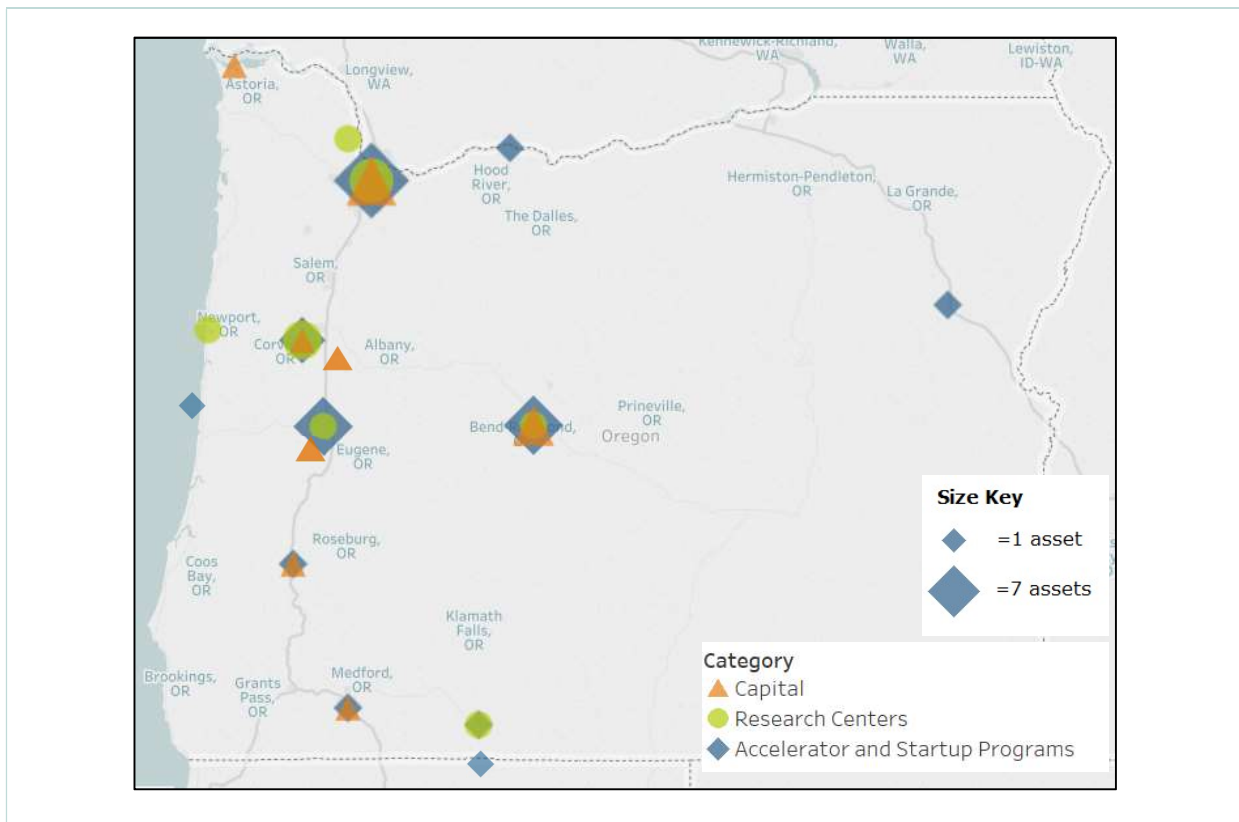
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<sup>5</sup> Wu, J John and Robert D. Atkinson, How Technology-Based Start-ups Support US Economic Growth, November 2017

- Even though innovation-driven jobs have grown throughout the state, wages remain much lower in more rural regions, an indication of the presence of fewer innovation-intensive industry sectors.
- While the Portland area continues to play an outsized role in startup activity, Central Oregon and the Corvallis-Eugene Corridor are establishing I&E hubs. In particular, Central Oregon has consistently outpaced other regions in almost every aspect.

When Oregon began a statewide innovation strategy 15 years ago, most resources were found in or around the Portland metropolitan region. Today, assets ranging from research centers to accelerators to angel capital funds are located throughout the state as illustrated in Figure ES-2. Central Oregon and the Eugene-Corvallis corridor are emerging as I&E hubs with an array of resources.

**Figure ES-2. Distribution I&E Assets**



### **Oregon’s Comparative I&E Performance to U.S. and Peer States**

The benchmarking of Oregon’s comparative performance was conducted using metrics that examined five performance measures: rankings among six peer states<sup>6</sup> and the U.S. average, Oregon’s 10-year performance compared to the U.S. average, Oregon’s three-year performance compared to the U.S. average, and Oregon’s rate of acceleration as measured

<sup>6</sup> Arizona, Colorado, Minnesota, Oklahoma, Utah and Washington were used as peer states due to similarities in size and economies, proximity, and maturity of state support for innovation programs.



by comparing the most recent three-year annual growth rate to its 10-year annual growth rate. Figure ES-3 summarizes these metrics.

**Figure ES-3. Innovation & Entrepreneurship Metrics**

Metric	U.S. Rank	Peer State Rank (7)	OR 10-yr Performance Compared to U.S.	OR 3-yr Performance Compared to U.S.	OR Acceleration
Industry R&D as a percent of state GSP	7	2	Higher	Higher	Yes
Non-industry R&D as a percent of state GSP	35	5	Lower	Higher	No
University Invention Disclosures per \$1 M in research expenditures	28	4	Higher	Same	Yes
SBIR/STTR funding per \$1 M of state GDP	14	3	Lower	Lower	No
Inventor Patents per 1,000 people of workforce age	10	5	Lower	Lower	No
University Active Licenses per \$1 M in research expenditures	4	1	Higher	Higher	No
Venture Capital as a percent of state GDP	17	4	Lower	Higher	Yes
Startups per 1,000 firms	15	5	Lower	Lower	Yes
University Startups per \$1 M in research expenditures	16	3	Higher	Lower	No
Business Churn: startup and failure activity as a share of total firms	31	6	Lower	Lower	No
High Growth Companies per 100,000 firms	18	6	Lower	Higher	Yes
Startup job growth five years after founding	12	7	Lower	Lower	Yes
Initial Public Offerings: Value of IPOs as a share of	46	7	Higher	Lower	No
STEM Workers as a share of total workforce	18	5	Higher	Lower	No
Managers, Professional & Technical Jobs as a share of all jobs	15	4	Higher	Lower	No
Net Migration of Knowledge Workers as a percent of the total population	7	3	Higher	Lower	No
High Tech Jobs as a percent of all jobs	10	4	Higher	Higher	No
Survival Rate of Startups five years after founding	16	3	Lower	Higher	Yes

Overall, we find that

- The innovation and entrepreneurship performance within Oregon has increased, yet similar patterns across the U.S. means that Oregon’s position relative to other states has stayed the same for many measures.
- Compared to peer states (Arizona, Colorado, Minnesota, Oklahoma, Utah, and Washington), Oregon’s performance falls in the middle; Utah, Washington and Colorado consistently out-performed Oregon.
- Areas of strong performance include industry R&D, university active licenses, and the survival rates of startups.<sup>7</sup>
- Areas of weak performance include non-industry R&D, overall startup activity of high growth firms, and IPOs for companies that grow to significant size.

A complete characterization of performance is included in Figure ES-4 below.

**Figure ES-4. Summary of Innovation & Entrepreneurship Metrics**

Areas of Strong Performance	Above Average Performance with Declining or Flat Trend Lines
<ul style="list-style-type: none"> <li>▪ Industry performed R&amp;D</li> <li>▪ University active licenses</li> <li>▪ Survival rates of startups</li> </ul>	<ul style="list-style-type: none"> <li>▪ SBIR/STTR Awards</li> <li>▪ STEM and management/finance workers</li> <li>▪ Inventor patents (Patents awarded to individuals)</li> <li>▪ The attraction of knowledge workers from outside of Oregon</li> </ul>
Areas of Average or Below Average Performance with Improving Trend Lines	Areas of Weak Performance
<ul style="list-style-type: none"> <li>▪ University invention disclosures and startups</li> <li>▪ Startup job growth (average growth of employment five years after founding)</li> <li>▪ The density of startups that become high growth (the percent of startups that scale)</li> <li>▪ Venture capital funding</li> <li>▪ High-tech jobs and STEM jobs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Overall startup activity (number of new companies forming each year)</li> <li>▪ Non-industry (University) R&amp;D</li> <li>▪ Companies that grow to significant size, as measured by initial public offerings</li> </ul>

### **Insights from Interviews**

Over 40 interviews were conducted, obtaining input from 52 entrepreneurs, investors, sector leaders, service providers, and university R&D offices. These interviews explored insights on the advantages and disadvantages of commercializing technologies and starting companies, as well as perceptions on what is needed in the future to enhance the state’s I&E ecosystem. Figure ES-5 summarizes these interviews.

<sup>7</sup> There are many factors that affect the survival rate of startups including industry mix.

**Figure ES-5. Summary of Interview Themes and Suggested Support**

Interview Themes	Suggested Public Support
<p><b>Core assets have been put in place that are fostering new startups</b> – now is the time to connect them and build out programs that focus on scaling and growing what’s been started.</p>	<ul style="list-style-type: none"> <li>▪ Focus future grant programs on connecting existing assets and expanding growth-stage services.</li> <li>▪ Expand ecosystem building models that have been successful in Central Oregon and elsewhere in U.S.</li> <li>▪ Broaden connections outside of Oregon; Establish more national and international networks.</li> </ul>
<p><b>There is repeated concern that Oregon’s innovation capacity is declining</b> and it is more difficult to start and grow R&amp;D intensive companies.</p>	<ul style="list-style-type: none"> <li>▪ Support a full array of commercialization funds that move technologies from invention disclosure through proof of concept to a valid product prototype.</li> <li>▪ Reauthorize University Venture Development Fund (UVDF) tax credits or enact a similar program.</li> <li>▪ Continue and expand the state’s SBIR matching fund program as well as provide funding for deep technology companies not on an SBIR pathway.</li> </ul>
<p><b>Oregon is a state that “makes things.”</b> Programs and resources should reflect the goods-producing nature of Oregon I&amp;E industries.</p>	<ul style="list-style-type: none"> <li>▪ Ensure business loan programs align with the needs of startups in consumer products and tech-based manufacturing. Consumer products companies may need working capital to build inventories, tech-based manufacturing companies may need capital for prototyping or special equipment.</li> <li>▪ Support facility expansions of incubators and post-incubation facilities for R&amp;D intensive industries.</li> </ul>
<p><b>Oregon has embraced entrepreneurship, yet the overall culture is one that “thinks small.”</b> This was regarded as affecting the scalability of companies, the level of investment capital, and the scale at which the public sector supports I&amp;E.</p>	<ul style="list-style-type: none"> <li>▪ Enhance marketing of efforts that celebrate and recognize successful Oregon-based companies.</li> <li>▪ Change the dialogue from Oregon as a “Small Business” state to one of an “Entrepreneurial State.” Language matters.</li> <li>▪ Systematically facilitate connections between existing companies and startups to encourage corporate investment and engagement.</li> </ul>
<p><b>Oregon lacks a clear vision and shared I&amp;E strategy,</b> which is impacting the continuity of support and the ability to build scale and impact.</p>	<ul style="list-style-type: none"> <li>▪ Develop a clear 10-year statewide strategy for innovation and entrepreneurship with appropriate metrics.</li> <li>▪ Strategically connect funding from philanthropy, government, and industry to address priority gaps.</li> <li>▪ Establish state funding mechanisms that provide more continuity of support and is less reliant on lottery funds.</li> <li>▪ Ensure transparency of how state I&amp;E decisions are made with supporting data indicating why the state modified program or expectations.</li> </ul>
<p><b>Oregon is missing opportunities to align I&amp;E assets with its potential to be a leader for national and global issues.</b></p>	<ul style="list-style-type: none"> <li>▪ Rally Oregon industry and government leadership around areas where the state is demonstrating policy leadership such as climate change.</li> </ul>

### **Summarizing Oregon’s Innovation and Entrepreneurship Capacity**

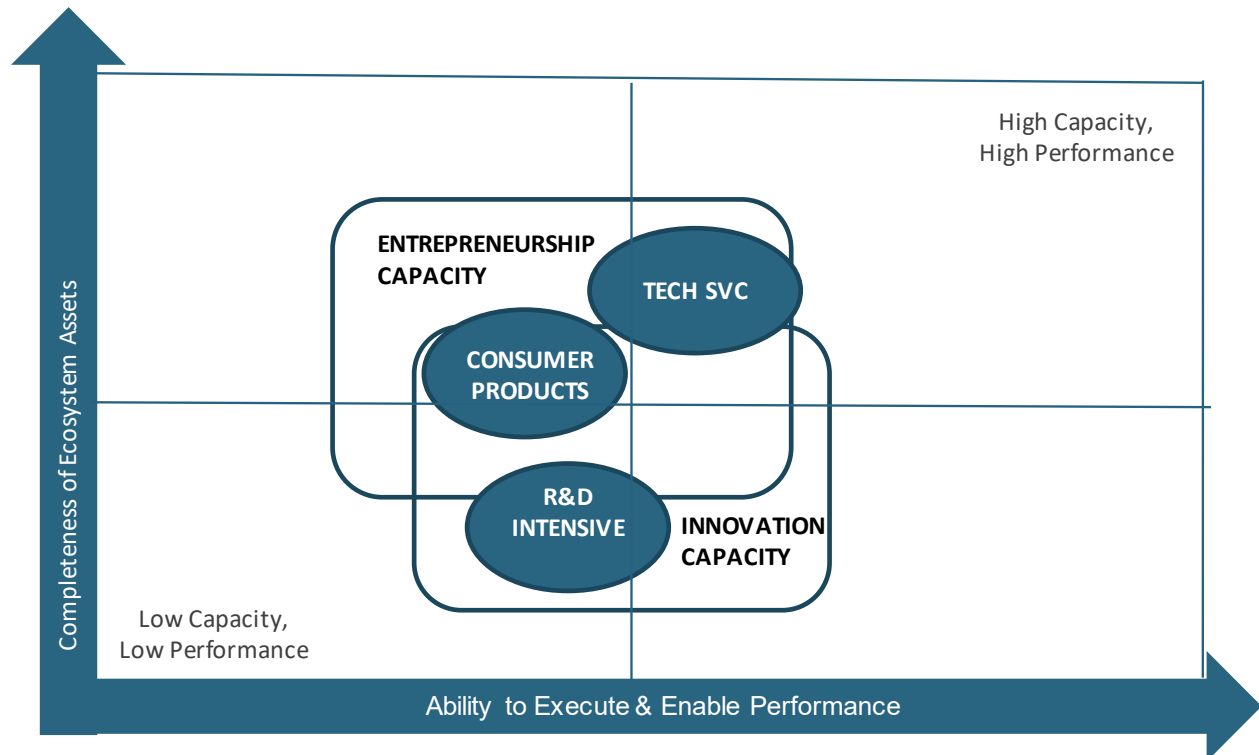
Successful I&E ecosystems can be defined as having both high capacity (abundant assets and resources) and high performance (adequate connectivity and capacity) for innovation and entrepreneurship. This corresponds to research showing that it takes more than presence of assets alone to have a successful I&E ecosystem.<sup>8</sup>

***Entrepreneurship: Oregon is increasing its ability to start companies (with the exception of R&D intensive sectors), yet it struggles with growing firms.***

***Innovation: Oregon’s overall capacity for commercializing science and research is lagging; yet what capacity it has, appears to be fairly efficient at producing economic benefit.***

Simply put, Oregon has more entrepreneurship assets than innovation resources, especially for Tech Services and Consumer Product startups. Yet, the innovation resources appear to be slightly more connected and leveraged than the assets to start and grow companies. Figure ES-6 illustrates this overall construct.

**Figure ES-6. Summary of Oregon’s I&E Capacity and Performance**



<sup>8</sup> Isenberg, Daniel, What an Entrepreneurial Ecosystem Actually Is, May 12, 2014

## **Opportunities for Oregon's I&E Ecosystem**

The analysis of Oregon's ecosystem uncovered opportunities to enhance the state's innovation capacity, entrepreneurship capacity and overall ecosystem performance.

### **Enhancing the Innovation Capacity**

**Strengthening commercialization pathways for R&D intensive products and services.** Increase commercialization funding and technical support that move research from proof of concept to product validation and prototyping.

**Building competitive strengths and strategically aligning the state's policy priorities with I&E assets.** The state should support strategic investments in facilities and research collaboratives that build on Oregon's inherent I&E strengths and enhance its position as a national leader in targeted markets and industries. This could be especially beneficial when investments are aligned with state policy priorities such as climate change.

**Improving the mechanics of how grant or investment programs operate.** Utilize national best practices from high performing innovation programs to create milestone and outcome driven criteria that directly connects programs to market needs, and to develop stage appropriate metrics that measure impact.

### **Enhancing the Entrepreneurship Capacity**

**Scaling regional and sector-based models that build capacity and connectedness.** Utilize national best practice models that increase the integration of and access to resources, and enhance the impact and operational effectiveness of regional and sector-based ecosystems.

**Filling targeted capital gaps.** Support enhancements that expand early debt financing and working capital tools, specifically programs that apply to the business models of consumer products and R&D-intensive (deep technology) manufacturing companies.

**Expanding programs to connect rural communities to I&E activities.** Continue to seek opportunities for rural industries to be early adopters and partners of innovation developed by emerging Oregon companies (e.g., supporting efforts such as pilot programs for ag tech or clean tech).

### **Enhancing Overall Capacity and Impact**

**Creating more sustainable funding mechanisms for state support.** Examine how other states are using funding mechanisms outside of general or lottery funds to finance I&E investments.

**Establishing I&E performance metrics that align with the continuum of I&E and tell a more complete picture about impact.** Utilize national practices to create a



cohesive set of I&E impact measures that measures appropriate level of impact at each stage in the I&E continuum (go beyond jobs).

**Maximizing how philanthropic, government, and industry resources are coordinated and leveraged.** Seize the opportunity for the state to not only develop a long-term I&E strategy, but to also connect that strategy to funding and priorities of philanthropic and industry partners.

### **Best Practices Summaries**

As informed by the opportunities listed above, Business Oregon and a review team of experienced entrepreneurs and investors requested that specific areas to be examined more closely to identify best practices. Specifically:

- Establishing more intentional commercialization pathways, especially connections between universities and industry;
- Scaling regional and sector-based models that build capacity and connectedness; and,
- Creating more sustainable funding mechanisms for state support.

In addition to these three priorities, the study also examined how I&E programs are approaching diversity, equity, and inclusion by creating on-ramps for women and minority entrepreneurs. This inquiry aligns both with Business Oregon's Strategy Plan priorities of Advancing Economic Opportunity for Underrepresented People and to Innovate Oregon's Economy as there is evidence that diversity improves business performance in a variety of settings.<sup>9</sup>

### **University-Industry Commercialization Pathway**

#### **Problem Statement**

Oregon faces challenges in terms of commercializing university research, specifically from moving ideas from proof of concept to product validation stages.

#### **Issue Examined**

The state's role in fostering the commercialization of research, from universities and inventors, by making targeted investments in gap funding and technical assistance.

#### **Summary**

States that consistently outperform in terms of commercializing research do so by providing stage appropriate gap or proof of concept funds to help research reach specific milestones: 1) invention disclosures or patent applications, 2) licensing or SBIR applications and awards, and 3) product prototyping. In addition to funds, technical assistance is often provided including training for university researchers to understand market applications based on the national I-Corp model, along with external advisors with industry experience that can help

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<sup>9</sup> <https://www.oregon4biz.com/Publications/Strategic-Plan/>

them navigate the technology and market assessments required to be commercialized. (In Oregon, this work is provided by signature research centers.)

Examples of best-practice university-industry commercialization include the Technology Development Corporation of Maryland (TEDCO) and Utah's Science Technology and Research (USTAR) initiative. What these programs and others have in common is a set of operating principles that guide the mechanics of managing grant programs. These include:

- Incorporating a market lens early in the commercialization process.
- Utilization of qualified external (out of state) reviewers for grant funding decisions.
- Staging gap capital based on achievement of objective milestones.
- Aligning gap funding and technical assistance/advisory services to ensure "smart money" deployment toward the best teams and technologies.
- Focused on sectors that have stickiness or an advantage in the state.

Grants typical range from \$50,000 to \$300,000 depending on the stage and industry. State's like Utah provide funding for approximately 30 projects per year through their process.

This research suggests that if Oregon wants to enhance the economic impact from research, it will need to develop a complementary set of funds that go beyond matching federal research dollars to also provide an intentional bridge for product development. Funds should be tied to advisory services that can help pull technologies into the marketplace. With organizations like signature research centers in place, and an increase in university research licenses and startups, Oregon has the foundation for executing a more robust commercialization program.

## **Regional & Sector-Based Ecosystem Building Models**

### **Problem Statement**

Oregon data and interviews suggest that the state struggles with growing new startups; while resources may be in place, most regions and sectors lack systematic coordination that creates the scale and capacity to maximize economic outcomes.

### **Issue Examined**

Research by national foundations and universities point to the role of ecosystem builders or network leaders as a key contributor building and maintaining how assets are connected and deployed to amplify business growth.

### **Summary**

A key aspect to early growth stage companies is their ability to quickly navigate resources and find appropriate advisors. Research suggests that the presence of I&E assets alone do

not drive a region's effectiveness, rather it is the degree to which assets are connected and coordinated to produce a system of integrated resources.<sup>10</sup>

Ecosystem builders help increase points of entry and seamless transitions for entrepreneurs by organizing I&E provider networks, enhancing the connection points between startups and investors, and facilitating efforts to fill specific resource gaps. These efforts have been shown to be very cost-effective and produce strong ROIs with measurable benefits:

- Growth of young companies (revenue, investment and job impact);
- Increase in resident and attracted capital;
- More diversity among entrepreneurs and service providers;
- System efficiencies that allow existing resources to do more; and,
- Enhanced reputations that further attracts entrepreneurs and investors.

The role of ecosystem builders has been applied at various levels. In Ohio and Pennsylvania, there are structured, statewide efforts implemented through regional hubs. In Oregon, there are regionally based programs such as Economic Development for Central Oregon's (EDCO) venture catalyst in Central Oregon, or sector-based models such as the collaboration of Oregon Outdoor Alliance and Bend Outdoor Worx. What these models have in common are a set of operating principles that include:

- The role of an ecosystem builder is explicitly funded: basically, someone's job is to catalyze interactions and build network connections.
- The role operates from an organization chosen by the region or sector which has standing and experience in playing a catalyst role (not "picked" through a grant process).
- There is consistent funding that recognizes this is infrastructure development and maintenance across programs rather than a standalone effort.
- Models operate at a scale large enough to sustain an active pipeline of high growth startups.<sup>11</sup>
- There are metrics that measure system enhancements and network connections as well as entrepreneurial outcomes.

With an array of assets now in place across the state, Oregon is well positioned to support a more focused effort on building regional and sector-based networks to optimize previous investments. The nationally recognized success of Central Oregon's entrepreneurial ecosystem provides the state with a model that can be scaled or replicated.

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<sup>10</sup> Daniel Isenberg, *What an Entrepreneurial Ecosystem Actually Is*, May 12, 2014

<sup>11</sup> In best practices, initiatives that serve scalable and innovation-driven enterprises tend to have populations at least 250,000 or more, or have complete ecosystems of capital and specialized services. Rural efforts, which operate at a different scale with different outcomes, tend to hybrid approaches combined with more general community development programming.

## **Public Sector Funding Mechanisms**

### **Problem Statement**

Continuity of support is important for I&E efforts that typically take a decade or more to adequately build. Oregon currently relies primarily on lottery funds to support state investments in I&E efforts.

### **Issue Examined**

The funding mechanisms deployed by other states that augment their use of general funds for I&E investments.

### **Summary**

While most states use general funds, at least in part, to support I&E investments, there are multiple states that augment this funding with other types of revenue sources.

Bonds: The use of bonds to fund capital assets associated with building strong innovation infrastructure, including R&D facilities, equipment, and technology (e.g. Maine, Ohio). Oregon has authority to bond for innovation uses under the Oregon Innovation Council and could use such funds for investments to strengthen support for R&D Intensive industries.

Tax Increment Financing: States like Colorado use a Tax Increment Financing (TIF) model that produces funds by taking a portion of incremental growth of payroll tax from jobs in targeted innovation-based industries. These funds are then reinvested into programs that directly support further growth of these industries.

Targeted R&D and Investor Tax Credits: A majority of states use one or more targeted tax credits to spur private sector investment and risk-taking.<sup>12</sup> The two most common include:

- R&D tax credits to foster in-state research and development (used in 35 states). Some states focused their credits on small companies to provide reinvestment capital in startup operations. Oregon's tax credit expired in 2017.
- Investor tax credits are used to spur private investments in startup companies by providing angel/accredited investors a tax credit for investing in a qualified in-state company (used in 20+ states). Interviews also suggested an alternative: a capital gains reduction or holiday for proceeds from a sale of a company that is reinvested back into another Oregon company.

Since continuity is important, having a combined model of general or lottery funds with other mechanisms can help provide support that spans the ups and downs of economic cycles. Funding models should be established with an expectation of investments being required for a period of ten years or more.

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<sup>12</sup> Oregon Legislative Office, Research Report 2-17, Review of Tax Credits, February 8, 2017

## **Diversity, Equity, and Inclusion Practices**

In addition to best practice study briefs that examined a specific gap in the I&E ecosystem, this project conducted a limited examination of how I&E organizations are pursuing diversity, equity and inclusion (DEI) as they seek to provide greater opportunities for women and ethnically/culturally diverse individuals.

With research correlating the diversity of founders and management with higher performance, diversity becomes an economic asset for growing companies. As such, supporting efforts to create easier on-ramps for women and entrepreneurs of color<sup>13</sup> can provide extensive social and economic benefits. For instance:

- A McKinsey and Company report states that companies in the top-quartile for ethnic/cultural diversity on their executive teams were 33% more likely to have industry-leading profitability and 27% more likely to have superior value creation.<sup>14</sup>
- Research from venture capital investments indicates that diversity significantly improves financial performance on measures such as profitable investments at the individual portfolio-company level and overall fund returns.<sup>15</sup>

Despite research indicating the economic and social benefits of diversity, women and entrepreneurs of color remain underrepresented as founders and recipients of investment capital.

In recent years, there has been more intentional focus on incorporating diversity and inclusion as a business lens at both an organizational and program level. In terms of DEI efforts focused on innovation-driven industries, we found three common types of activities being used to specifically increase diversity:

- Groups of organizations (**community collectives**) that are working together to foster a shared understanding about why DEI matters, and developing collaborative tools and programs to increase access and support across the I&E ecosystem.
- Targeted **entrepreneurship programs** that are creating the on-ramps and skills development for diverse entrepreneurs to successfully start and grow scalable companies—whether through a broader I&E organization or within specific mission-based groups working explicitly with targeted populations.
- Organizations that are intentionally increasing the level of **investment capital** available to women and entrepreneurs of color.

Reports reviewed for this project noted that DEI efforts typically start with developing clear expectations and outcomes through open and continuous dialogue. Interviewees noted that

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<sup>13</sup> Business Oregon uses a broader definition of diversity. For this study, we used a more limited definition in order to compare programs.

<sup>14</sup> Hunt, Vivian, et al. McKinsey and Company. "Delivering through Diversity." January 2018

<sup>15</sup> Gompers, Paul and Silpa Kovvali, The Other Diversity Dividend, Harvard Business Review, 2018  
<https://hbr.org/2018/07/the-other-diversity-dividend>



embracing DEI as a way of doing business is akin to organizational change management in that it requires alignment at the strategy, program, and policy levels. Such change takes time to modify fundamental business processes and overcome implicit cultural biases that have been in place for decades. Underestimating the effort it takes to gain agreement on issues and interventions was perhaps the most cited lesson learned from these programs.

Setting clear and explicit goals was also essential to the success of the efforts examined. Whether it was a target for the diversity of founders in an accelerator program, or the percent of investment deals with women CEOs, having clear, and often stretch, goals challenged organizations to think differently about their approach, partners, and metrics.

Once priorities were identified, the programs examined tended to deploy a similar approach to program development. They based their work on the premise that entrepreneurs of color and female entrepreneurs achieve greater access to business and capital resources (as well as overall company success) when there is a diverse makeup of mentors, technical providers, and investors. Many programs had dedicated network-building roles to maintain momentum and to create/support on-ramps for entrepreneurs of diverse backgrounds and connect them to diverse providers.<sup>16</sup>

In Oregon, groups like Cascade Angels, VertueLab, TiE, and others view diversity and inclusion as a core part of their work. Community Development Financial Institutions (CDFIs), microenterprise organizations like Meso, and regional entities like Prosper Portland continually seek on-ramps for entrepreneurs with diverse backgrounds. Furthermore, Oregon's philanthropic community has long played a role in promoting DEI and improving access and outcomes for people of diverse backgrounds. In other words, there are pockets of promising practices and experience on which to build.

Business Oregon has an opportunity to work alongside foundations and other leaders to create measurable goals and shared tools, supporting efforts that enable scalable startups founded by females and entrepreneurs of color to increase their access to vital investment and mentoring resources.

## **Directional Conclusions**

Compared to other states, Oregon's history of I&E public investment is relatively young. It started in the 1990s, whereas other parts of the U.S. started I&E public investment decades earlier. The progress made establishing I&E assets is consistent with the maturity of the ecosystem. Investments by other states, however, have been equal or more intensive (see Section 2, part C for data on specific state's investments). Therefore, Oregon is merely keeping pace. **If Oregon seeks to grow its innovation and entrepreneurship**

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<sup>16</sup> The Case and Kauffman Foundations are strong promoters of network or ecosystem building roles to support diversity.

**capacities, it will need to be focused and connected in its efforts, and increase funding for foundational programs.**

The state now appears to be at a stage where several issues will be formative to future performance:

- The ability to improve overall innovation capacity, especially the connections between university research and industry;
- The ability to connect and scale<sup>17</sup> or replicate existing high-performance programs and assets that can help grow companies that have been started;
- The ability to foster a more vibrant entrepreneurship culture that includes greater understanding of and support by the public sector on the role innovation and entrepreneurship plays in the state's economy; and,
- The ability to support a long-term I&E strategy that is created and executed through a partnership of public, private, university and nonprofit organizations, and which includes long-term and collaborative funding mechanisms.

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<sup>17</sup> In terms of program development "scale" can refer to growing a single program or replicating a program in different regions. The ability to replicate in other regions should be based on the ability to have an adequate and sustained pipeline of activity to avoid spreading resources too thin.

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# Oregon Growth Board

## 2018 Legislative Report

*(submitted 4/22/2019)*

This memo and associated attachments fulfills Business Oregon's and the Oregon Growth Board's (OGB's) obligation to submit a report related to business and economic development regarding implementation and administration of the Oregon Growth Board and investments made by the board.

The OGB invests through two main vehicles:

- Oregon Growth Account (OGA): The OGA was created by the Legislature within the Education Stability Fund (ESF), its funding source, in 1995. It is a capital source for larger in-state and out-of-state investment vehicles with significant track records that make funding available for Oregon-based companies. It invests roughly \$20M-\$25M annually. Its first priority is to generate returns for the state, which support education.
- Oregon Growth Fund (OGF) (\$1.25M): The OGF was created in 2012 to complement the OGA, investing in earlier, smaller and first-time capital sources. Its mandate is economic development, accomplished by helping funders fill capital gaps encountered by Oregon businesses. These gaps included underserved communities, rural geographies, and under-supported industry sectors.

The OGB identifies capital gaps for both the OGA and OGF by supporting the every-two-years Oregon Capital Scan, a report compiled by the University of Oregon with support from Business Oregon, the Meyer Memorial Trust, Oregon Community Foundation, Federal Reserve Bank, Lemelson Foundation, Prosper Portland, the Ford Family Foundation, SBDC, and others. The 2018 Capital Scan was released in January of 2019 and is available online: <https://www.oregoncnf.org/Templates/media/files/reports/oregon-capital-scan-2018.pdf>

2018 was a year of change for the Oregon Growth Board:

- A new consultant was chosen to advise the OGB on OGA investments. The Meketa Investment Group (MIG) won a competitive RFP for the advisory contract. They provide consulting to other institutional investors like CalPERS and CalSTRS, the Washington State Investment Board, the District of Columbia Retirement Board, and the Arizona State Retirement System. MIG provides due diligence for potential investments, curates a pipeline of strategic investment opportunities for the board, and manages long-term financial and economic development reporting for the Oregon Growth Account.
  - Long-time board Co-Chair Patricia Moss of First Interstate Bank (Bend) ended her second term in December, 2018. Wendy McGrane of US Bank (Bend) was nominated by the Governor to fill that spot on the board, and was recently confirmed by the Senate.
  - Along with Patti's term ending, Gerry Langelier of Oregon Venture Partners and co-founder of Mentor Graphics ended his term as Co-Chair. Sabrina Parsons, CEO of Palo Alto Software (Eugene) and Sayer Jones, Director of Mission Related Investing for the Meyer Memorial Trust (Portland) were elected as new Co-Chairs.
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## Fiscal Reporting

The OGA (as of 3<sup>rd</sup> quarter 2018, the most recent reporting), has 54 investment partnerships, supporting industry sectors like technology, advanced manufacturing, consumer goods, and harvested resources.



In calendar year 2018, the OGA made seven investment commitments totaling \$35.5 million in harvested resources, technology, consumer goods, and other industry sectors. In the current biennium (2017-2019), the OGA has received \$19,391,053.27 in distributions (cash returns on investment) to date. The payment back to the state to support education this biennium will be \$9,695,526.64.

The OGF, which has been investing since 2014, has made 19 investments to fill capital gaps confronting Oregon businesses, totaling \$1,300,350. It has also made 4 loans totaling \$925,000. Two of those loans (Ascent Funding and Community Lending Works) were extended in 2018, and another loan paid off in full (MESO.) In addition, a further \$425,000 in investment commitments were made in 2018 by the OGF, to a blockchain accelerator, a loan funding supporting women entrepreneurs, and an angel conference in Roseburg.

## Economic Development Reporting

The OGA consultants provide economic development reporting on an annual basis for the entire portfolio. The most recent data is through calendar year 2017. (2018 reporting arrives in the summer of 2019.)



The OGF portfolio is largely too young to have the same level of impact, since it invests very early on in a company's life cycle. In 2018, the OGF has started inserting language into all contracts requesting demographic data about the companies supported by OGF investments. That reporting will be available in 2019. Early self-reported data from the portfolio:



Going forward, leverage (matched dollars raised by funds) and job growth will be tracked on an annual basis, in addition to demographic data.

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**August 27, 2018**

The Honorable Senator Peter Courtney, Co-Chair  
The Honorable Representative Tina Kotek, Co-Chair  
State Emergency Board  
900 Court Street, NE  
H-178 State Capitol  
Salem, OR 97301-4048

Dear Co-Chairpersons:

### **Nature of the Request**

The Oregon Business Development Department (Department) respectfully requests the remaining \$3,999,999 of Other Fund limitation associated with the lottery bonding that was authorized in SB 5530 (2017) for the Regional Infrastructure Fund for Regional Solutions capital projects.

### **Agency Action**

#### **Background**

During the 2017 legislative session, \$4,000,000 of Lottery Bonding authority was authorized for Business Oregon in its Regional Infrastructure Fund (RIF) for Regional Solutions capital projects. Of the \$4 million, \$1 of Other Fund limitation was authorized until the Department reports back to the Legislature on recommendations for project funding. Following is a description of the selection process and subsequent recommendations for 2017-2019 Regional Solutions project funding.

The Regional Solutions Program coordinates state agencies to work with regional partners to support economic and community development. Eleven Regional Solutions teams streamline projects, provide technical assistance, and align state resources in support of economic development.

The program recognizes the unique needs of each region in the state, focusing interagency staff—who live in the area—on the issues that are important to those communities. The regional boundaries are aligned with the 11 federally designated Economic Development Districts.

Regional Solutions Teams are problem solvers. They integrate and align permitting requirements, remove barriers to business retention, expansion, and attraction, and facilitate partnerships across the public, private, and philanthropic sectors.

The Regional Infrastructure Fund (RIF) provides grants and loans to local governments for Regional Solutions implementation projects including planning, design, and engineering



activities. Business Oregon administers the fund in accordance with OAR 123-061-0010 through 123-061-0035. Department administration includes contracting responsibility, monitoring, disbursements, etc.

Eligible RIF applicants include local governments such as cities, counties, ports, special districts etc. Private sector and non-profit entities are eligible beneficiaries of RIF funds provided there is a project public sponsor (applicant). Eligible project activities include capital construction and associated activities such as planning, engineering, and design. Ineligible activities include operations, equipment, supplies and furnishings.

RIF grants or loans are based on recommendations from the Regional Solutions Advisory Committees, which review all projects within their geographic area. RIF projects are intended to meet one or more of the following criteria.

- Address regional priorities as designated by Regional Solutions Advisory Committees;
- Support the direct or indirect retention or creation of jobs in the region directly impacted by the project;
- Suitable for RIF funds (not supplant other state funds, leverage non-state funds, etc);
- Be ready for implementation;
- Be consistent with Business Oregon strategic plan; and
- Have a realistic and sustainable business plan (likely to be completed, not rely on continued state subsidies, etc.)

By rule, the \$4 million approved by the Legislature shall be distributed statewide, with each of 11 Regional Solutions regions being allotted a minimum of \$200,000.

### **Selection Process**

The Governor's Regional Solutions staff coordinated the RIF review process with assistance from Business Oregon staff. The following process, as stated in administrative rule, was adhered to for final project funding recommendation. The timing of the process was developed to promote the highest probability of project success in that it contains multiple levels of review timed closely with the sale of state bonds to minimize time between project selection and implementation.

*March - April 2018:* Applications posted with submission deadline of April 30, 2018. Broad outreach was conducted utilizing Business Oregon and Regional Solutions networks. A total of 99 applications requesting approximately \$39.5 million in requests.

*May - June 2018:* Regional Solutions Team members evaluated and scored projects as to their adherence with program criteria noted above. Regional Solutions Team members include a Coordinator from the Governor's Office and subject matter experts from a cross-section of state departments including Business Oregon, Department of Land Conservation and Development, Department of Environmental Quality, Oregon Housing and Community Services, Oregon Department of Transportation, and others as appropriate.

*June - July 2018:* Regional Solutions Advisory Committees reviewed and prioritized projects within their respective regions. Committees are comprised of, at a minimum, five members appointed by the Governor: a convener, a private sector representative, a philanthropic representative, and representatives from both the Oregon League of Cities and Association of Counties. Committees utilized the aforementioned team evaluations to inform

their decisions. Upon prioritization, the committees forwarded no more than three projects not exceeding \$1 million in aggregate value to the state-wide Grant and Loan Review Committee (GLRC).

*August 20, 2018:* Business Oregon convened the GLRC on August 20, 2018. The purpose of the GLRC was to prioritize 33 Regional Committee recommended projects totaling nearly \$40 million in requests for a final funding recommendation to the Oregon Legislature. The committee used the program criteria to ensure each region received the minimum \$200,000 guaranteed by rule and to prioritize projects in the state-wide competition for remaining funds. The committee represented a broad range of stakeholders:

Niki Iverson (City of Hillsboro) – Representing cities and the Infrastructure Finance Authority Board

Andrea Klaas (Port of the Dalles) – Representing ports and the Infrastructure Finance Authority Board

Craig Pope (Polk County Commission) – Representing counties

Tom Insko (Eastern Oregon University) – Representing the Business Oregon Commission

Vidya Spandana (Popily) – Representing innovation and the Oregon Innovation Council

Jason Lewis-Berry (Ex Officio Chair, Director of Regional Solutions) – Representing the Governor's Office

### **Recommendation**

Following thoughtful consideration, the GLRC moved to recommend 18 projects, which leverage a combined value of nearly \$85 million in non-RIF funds, for funding as presented in the attached matrix. The GLRC further recommended 4 alternate projects in priority order.

Business Oregon requests that the Legislature approve the entire slate of recommended projects, including the 4 alternate projects. Alternate projects will only receive departmental consideration should any of the initial projects fail to materialize or perform as expected.

Upon approval of the Legislature, Business Oregon will move to contract all projects prior to bond sale in spring 2019. Project contracts will require project completion within two years of contract execution.

### **Action Requested**

The Department respectfully requests the Emergency Board to approve receipt of report on project proposals for the Regional Solutions capital projects as well as the request for additional \$3,999,999 of Other Fund limitation to the Department's budget.

## Legislation Affected

Increase the Other Funds expenditure limitation established by chapter 580, Section 2(2), Oregon Laws 2017 for the Oregon Business Development Department for Business, innovation and trade by \$3,999,999.



Chris Harder  
Director

**DRAFT - Regional Infrastructure Fund  
GLRC Final Review Committee  
Prioritized Funding Recommendation**

REGION	REGION NAME	APPLICANT	PROJECT NAME	SHORT PROJECT DESCRIPTION	TOTAL PROJECT COST	REGION RECOMMEND AWARD	GLRC Recommendation	Total Recommended
								\$ 4,000,000
3	South Coast	Port of Port Orford	Site & Facility Redevelopment	Infrastructure improvements of Port facilities and site.	\$ 4,100,000	\$ 700,000	\$ 500,000	\$ 500,000
1	North Coast	Clatsop County	Restoring Westport Slough to Commercial Use	Dredging to deepen channel.	\$ 1,150,000	\$ 450,000	\$ 450,000	\$ 450,000
4	Metro	City of Gresham	Rockwood Rising Maker Space	Construction of maker space within new town center.	\$ 37,657,241	\$ 500,000	\$ 300,000	\$ 300,000
10	Greater Eastern	City of Pendleton	Pendleton UAS Test Range Hangar Project	Refurbish WWII hangar to protect hi-tech equipment.	\$ 6,300,000	\$ 100,000	\$ 300,000	\$ 300,000
2	South Valley/Mid Coast	City of Newport	Big Creek Dam Project - City and District Water Supply	Environmental survey and design to replace structurally unsound dams.	\$ 2,643,890	\$ 250,000	\$ 250,000	\$ 250,000
6	Southern	Josephine County	Fire Suppression Water Pond Rehabilitation - Illinois Valley (IV) Airport	Rehabilitate fire-suppression water pond within the IV Industrial Park.	\$ 350,000	\$ 250,000	\$ 250,000	\$ 250,000
8	Central	Central Oregon Intergovernmental Council	Old Commissary Small Business Incubator	Relocate and renovate historic structure in Warm Springs.	\$ 1,782,666	\$ 250,000	\$ 250,000	\$ 250,000
5	Mid Valley	Chemeketa Community College	Diesel Technician Training Program & 2 Year Associate of Applied Science Degree	Facility to house diesel mechanic training program.	\$ 2,150,000	\$ 200,000	\$ 200,000	\$ 200,000
6	Southern	City of Eagle Point	Historical Rebuild & Restore of Butte Creek Mill & Ice House	Installation of electrical and fire suppression systems.	\$ 2,755,000	\$ 200,000	\$ 200,000	\$ 200,000
7	North Central	Sherman County	Sherman Cities Broadband Initiative	Installation of fiber connections within cities.	\$ 634,000	\$ 200,000	\$ 200,000	\$ 200,000
9	South Central	Klamath Community College	Apprenticeship and Industrial Trades Center	Construction of industrial shop space for training.	\$ 7,820,000	\$ 500,000	\$ 200,000	\$ 200,000
4	Metro	Columbia Corridor Drainage Districts Joint Contracting Authority	Levee Ready Columbia	Geotechnical and engineering evaluation.	\$ 6,888,230	\$ 167,314	\$ 167,314	\$ 167,314



**DRAFT - Regional Infrastructure Fund  
GLRC Final Review Committee  
Prioritized Funding Recommendation**

August 20, 2018

REGION	REGION NAME	APPLICANT	PROJECT NAME	SHORT PROJECT DESCRIPTION	TOTAL PROJECT COST	REGION RECOMMEND AWARD	GLRC Recommendation	Total Recommended
								\$ 4,000,000
5	Mid Valley	Yamhill County	Bernau Estate Biodynamic Wine & Ag Experience	Landscaping construction of gardens.	\$ 10,660,000	\$ 300,000	\$ 150,000	\$ 150,000
9	South Central	Lake County	Airport Utility Replacement	Sewer, water, electric infrastructure replacement.	\$ 165,000	\$ 165,000	\$ 150,000	\$ 150,000
11	Northeast	City of Joseph	West Industrial Area, Utility Extension Improvements	Water, sewer, electric extension to 15-acre industrial parcel.	\$ 661,260	\$ 100,000	\$ 145,000	\$ 145,000
11	Northeast	City of Baker City	Elkhorn View Industrial Power Development	Electric extension to each parcel in industrial park.	\$ 167,200	\$ 100,000	\$ 121,183	\$ 121,183
3	South Coast	City of Reedsport	Levee Vulnerability Assessment & Repair	Detection and repair of voids in levee.	\$ 137,500	\$ 100,000	\$ 103,125	\$ 103,125
7	North Central	Dee Irrigation District	Dee Irrigation District Modernization	Flow meter hookups installation.	\$ 2,746,483	\$ 63,378	\$ 63,378	\$ 63,378
8	Central	* 1. City of Prineville DBA City of Prineville Railway	Freight Depot Bitumen Transfer Yard	Track infrastructure improvements.	\$ 142,600	\$ 122,600	\$ -	\$ -
10	Greater Eastern	* 2. City of Milton-Freewater	Wine Production Facility	Rocks District facility planning, design, and construction.	\$ 2,000,000	\$ 800,000	\$ -	\$ -
6	Southern	* 3. Josephine County	Grants Pass Airport Facility Upgrade for Southern Oregon Air Academy (SOAA)	Renovation of training campus.	\$ 350,000	\$ 250,000	\$ -	\$ -
1	North Coast	* 4. City of Astoria	Tongue Point Road Truck Access Improvements (Design)	Road improvements design.	\$ 85,000	\$ 85,000	\$ -	\$ -

\* Alternates, in ranked order, if others are not funded.



**Biz Oregon Seismic School Awards:**

Ashland School District	\$2,497,550
Athena-Weston School District	\$ 911,864
Baker School District	\$1,300,500
Baker School District	\$1,496,070
Bandon School District	\$1,498,212
Bandon School District	\$ 824,496
Bandon School District	\$1,358,600
Bandon School District	\$1,269,217
Beaverton School District	\$2,500,000
Beaverton School District	\$2,500,000
Beaverton School District	\$2,337,360
Bend-La Pine School District	\$ 289,038
Bend-La Pine School District	\$1,428,177
Blachly School District	\$1,898,510
Blachly School District	\$2,361,090
Brookings Harbor School District	\$1,499,600
Brookings Harbor School District	\$1,498,200
Brookings Harbor School District	\$1,499,800
Brookings Harbor School District	\$1,762,199
Butte Falls School District	\$1,492,300
Camas Valley School District	\$1,752,965
Camas Valley School District	\$1,752,965
Cascade School District	\$1,484,200
Cascade School District	\$ 974,190
Central Curry School District	\$1,499,213
Central Curry School District	\$1,135,126
Central Curry School District	\$1,498,345
Central Linn School District	\$2,457,680
Central Point School District	\$1,498,275
Central Point School District	\$2,498,395
Clackamas Community College	\$1,500,000
Coos Bay School District	\$ 963,779
Coos Bay School District	\$1,500,000
Corbett School District	\$1,331,206
Corvallis School District	\$ 632,420
Corvallis School District	\$ 544,894
Corvallis School District	\$ 633,802
Corvallis School District	\$ 903,941
Crook County School District	\$1,003,120
Dallas School District	\$1,494,900
Dallas School District	\$ 700,160

David Douglas School District	\$ 910,495
David Douglas School District	\$1,500,000
Dayton School District	\$2,499,570
Elkton School District	\$ 525,263
Estacada School District	\$1,065,500
Forest Grove School District	\$2,500,000
Gaston School District	\$1,493,900
Grant School District	\$1,235,940
Grant School District	\$ 942,300
Grants Pass School District	\$1,499,800
Grants Pass School District	\$1,499,900
Grants Pass School District	\$1,497,255
Grants Pass School District	\$1,499,065
Grants Pass School District	\$2,364,855
Greater Albany Public Schools	\$2,358,175
Harrisburg School District	\$1,496,400
Harrisburg School District	\$2,499,530
Harrisburg School District	\$1,809,260
Hood River County School District	\$ 898,400
Hood River County School District	\$1,335,500
Hood River County School District	\$2,038,921
Imbler School District	\$1,471,520
Jackson County School District	\$1,495,500
Jackson County School District	\$2,500,000
Jefferson County School District	\$1,868,550
Jefferson School District	\$1,000,400
Jefferson School District	\$1,423,600
Jefferson School District	\$1,459,645
Junction City School District	\$1,499,565
Klamath City Schools	\$1,500,000
Klamath City Schools	\$1,485,362
Klamath City Schools	\$2,448,770
Klamath County School District	\$1,498,800
Klamath County School District	\$1,493,405
Klamath County School District	\$1,499,290
Klamath County School District	\$ 580,910
Klamath County School District	\$2,492,795
La Grande School District	\$1,492,696
La Grande School District	\$1,500,000
Lake County School District	\$ 740,200
Lane Community College	\$ 686,576
Lane County School District	\$ 473,292
Lane County School District	\$ 335,142

Lane County School District	\$ 335,142
Lane County School District	\$ 510,277
Lane County School District	\$ 510,277
Langlois School District	\$1,472,400
Langlois School District	\$1,499,410
Lincoln County School District	\$1,468,092
Lincoln County School District	\$1,500,000
Lincoln County School District	\$1,498,424
Lincoln County School District	\$2,493,455
Linn-Benton Community College	\$1,470,540
Linn-Benton Community College	\$1,500,000
Linn-Benton Community College	\$1,500,000
Lowell School District	\$1,136,017
Lowell School District	\$1,334,280
Mapleton School District	\$1,409,104
Mapleton School District	\$1,500,000
McMinnville School District	\$1,500,000
McMinnville School District	\$ 692,688
McMinnville School District	\$ 420,187
Medford School District	\$1,477,100
Medford School District	\$1,498,160
Medford School District	\$1,498,345
Medford School District	\$1,498,690
Milton-Freewater School District	\$ 645,995
Molalla River School District	\$2,498,235
Monroe School District	\$1,490,200
Monroe School District	\$2,500,000
Neah-Kah-Nie School District	\$1,396,000
Neah-Kah-Nie School District	\$1,494,160
Neah-Kah-Nie School District	\$1,497,670
Nestucca Valley School District	\$1,492,800
Nestucca Valley School District	\$2,476,280
North Bend School District	\$1,497,601
North Clackamas School District	\$1,500,000
North Clackamas School District	\$1,500,000
North Clackamas School District	\$2,500,000
North Marion School District	\$1,420,685
North Marion School District	\$1,494,870
North Powder School District	\$ 676,200
North Santiam School District	\$ 974,263
North Santiam School District	\$1,500,000
Paisley School District	\$1,124,000
Pilot Rock School District	\$2,472,230

Pine Eagle School District	\$ 491,400
Portland Public Schools	\$1,337,218
Portland Public Schools	\$1,500,000
Portland Public Schools	\$1,500,000
Portland Public Schools	\$1,500,000
Portland Public Schools	\$2,500,000
Portland Public Schools	\$2,500,000
Powers School District	\$1,498,720
Prairie City School District	\$2,496,990
Prospect School District	\$1,497,900
Rainier School District	\$1,500,000
Rainier School District	\$1,500,000
Rainier School District	\$ 395,221
Reedsport School District	\$1,496,895
Reedsport School District	\$1,499,775
Reedsport School District	\$1,256,580
Reynolds School District	\$1,500,000
Reynolds School District	\$ 378,020
Reynolds School District	\$1,202,220
Riddle School District	\$1,499,995
Riddle School District	\$1,499,065
Riddle School District	\$1,498,390
Rogue River School District	\$1,497,500
Roseburg School District	\$1,497,500
Roseburg School District	\$1,495,300
Roseburg School District	\$1,497,198
Roseburg School District	\$ 868,960
Roseburg School District	\$1,500,000
St. Paul School District	\$1,462,700
St. Paul School District	\$1,364,970
Salem-Keizer School District	\$1,500,000
Salem-Keizer School District	\$1,492,268
Salem-Keizer School District	\$2,500,000
Salem-Keizer School District	\$2,500,000
Santiam Canyon School District	\$1,499,600
Santiam Canyon School District	\$1,415,460
Scio School District	\$2,494,575
Seaside Public Schools	\$2,500,000
Sherwood School District	\$1,044,718
Sherwood School District	\$2,500,000
Silver Falls School District	\$1,167,400
Silver Falls School District	\$1,477,882
Silver Falls School District	\$ 996,976

Silver Falls School District	\$1,498,575
Silver Falls School District	\$ 351,500
Silver Falls School District	\$1,498,100
South Umpqua School District	\$1,321,899
South Umpqua School District	\$1,608,463
SW Oregon Community College	\$ 597,818
SW Oregon Community College	\$ 624,550
SW Oregon Community College	\$ 497,755
Sweet Home School District	\$1,424,700
Sweet Home School District	\$1,490,475
Sweet Home School District	\$1,495,240
Sweet Home School District	\$1,495,800
Three Rivers School District	\$1,493,953
Three Rivers School District	\$1,373,979
Tigard-Tualatin School District	\$1,299,126
Tigard-Tualatin School District	\$ 470,932
Tigard-Tualatin School District	\$ 329,921
Tigard-Tualatin School District	\$ 585,439
Tillamook School District	\$1,161,400
Tillamook School District	\$1,497,350
Tillamook School District	\$2,368,445
Tillamook School District	\$2,498,840
Umpqua Community College	\$1,867,730
Woodburn School District	\$1,500,000
Woodburn School District	\$1,499,235
Yoncalla School District	\$1,499,110
Yoncalla School District	\$1,349,490
Yoncalla School District	\$1,498,950



**Biz Oregon Seismic Emergency Services Awards:**

Adair Fire District	\$1,717,978
Aurora Rural Fire Protection District	\$ 428,826
Aurora Rural Fire Protection District	\$ 255,978
City of Brookings	\$1,287,988
Butte Falls Fire Dept.	\$ 337,540
Canby Fire District	\$ 233,256
Clackamas Fire District	\$ 94,552
Clackamas Fire District	\$ 71,582
Clackamas Fire District	\$ 483,062
Coos County Sheriff	\$ 595,500
Corvallis Fire Department	\$ 300,896
Corvallis Fire Department	\$ 300,896
Depoe Bay Rural Fire Protection District	\$ 831,418
Estacada Rural Fire District	\$ 702,794
Estacada Rural Fire District	\$ 504,947
City of Eugene	\$ 62,142
City of Eugene	\$ 360,147
City of Eugene	\$ 274,038
Gaston Rural Fire District	\$2,455,105
City of Gresham	\$ 150,634
Halsey-Shedd Rural Fire District	\$2,496,835
Hubbard Rural Fire District	\$ 466,636
Jackson County Airport Authority	\$ 209,545
Jackson County Fire District	\$ 79,340
Jackson County Fire District	\$ 717,963
Jackson County Fire District	\$ 113,275
Jackson County Fire District	\$ 46,760
Jackson County Fire District	\$ 124,433
Jackson County Fire District	\$ 166,556
Klamath County Fire District	\$2,349,360
Lane Fire Authority	\$ 967,483
McKenzie Fire & Rescue	\$ 685,270
Molalla Fire District	\$ 398,760
Molalla Fire District	\$1,189,967
Mt. Angel Fire District	\$ 60,000
City of Newberg	\$ 815,687
City of Newport	\$1,491,223
North Douglas Fire & EMS	\$2,085,267
North Lincoln Fire & Rescue	\$1,048,039

North Lincoln Fire & Rescue	\$ 808,022
OHSU-South Hospital	\$1,349,727
PeaceHealth	\$2,500,000
Philomath Fire and Rescue	\$ 863,080
Providence Health & Services	\$1,500,000
City of Roseburg	\$ 792,220
City of Roseburg	\$1,071,640
Samaritan Pacific Health	\$1,500,000
Sandy Fire District	\$1,186,393
Santa Clara Fire District	\$ 915,378
Sheridan Fire District	\$1,310,470
Siletz Rural Fire District	\$1,376,475
Silverton Fire District	\$ 736,875
Silverton Fire District	\$ 87,190
Silverton Fire District	\$ 121,817
Silverton Fire District	\$ 67,601
Siuslaw Valley Fire & Rescue	\$ 101,386
Siuslaw Valley Fire & Rescue	\$ 181,022
Siuslaw Valley Fire & Rescue	\$ 139,274
Siuslaw Valley Fire & Rescue	\$ 177,139
Siuslaw Valley Fire & Rescue	\$ 130,734
South Lane County Fire & Rescue	\$ 577,880
Stayton Fire District	\$ 261,694
Stayton Fire District	\$ 596,271
Stayton Fire District	\$1,066,037
Stayton Fire District	\$ 190,943
Sublimity Fire District	\$ 256,736
Sublimity Fire District	\$ 183,643
Tangent Fire District	\$1,163,245
Tualatin Valley Fire & Rescue	\$ 777,000
Tualatin Valley Fire & Rescue	\$ 576,000
Upper McKenzie Fire District	\$ 73,264
Washington County	\$1,500,000
Westside Fire District	\$1,251,595
Westside Fire District	\$1,225,109
City of Wilsonville	\$ 251,685
Woodburn Fire District	\$ 971,592
Yamhill Fire District	\$ 594,410