



JIM PIRO, Chair

CELESTE EDMAN

ROMANNA FLORES

HERB FRICKE

LISA GRAHAM

DWAYNE JOHNSON

ERIC MESLOW

THOMPSON
MORRISON

Staff:
MARK LEWIS

STEM Investment Council

December 16, 2016

9:00 a.m. – 12:00 p.m.

This meeting will be held via webinar. Log in to:

<https://global.gotomeeting.com/join/621842189>

Call-In Information: Dial: +1 (312) 757-3119 Access Code: 621-842-189

AGENDA

- 1. Welcome and Introductions**
Chair Jim Piro, CEO, Portland General Electric
- 2. Approval of Minutes**
- 3. Chief Education Officer Update**
Lindsey Capps, Chief Education Officer and Education Policy Advisor to Governor Kate Brown, Chief Education Office
- 4. ODE Deputy Superintendent of Public Instruction Updates**
Salam Noor, Deputy Superintendent of Public Instruction, Oregon Department of Education
- 5. Measure 98 Panel Discussion**
Salam Noor, Deputy Superintendent of Public Instruction, Oregon Department of Education
Colt Gill, Education Innovation Officer, Chief Education Office
Tim Nesbitt, Consultant
Brian Krieg, President, Focus Point Communications
- 6. Graduation Equity Program**
Colt Gill, Education Innovation Officer, Chief Education Office
- 7. Oregon Innovation Plan**
Heather Stafford, Assistant Director, Oregon Inc.
- 8. Math in Real Life Professional Development Grant**
Tom Thompson, Education Specialist, Oregon Department of Education
Mark Freed, Education Specialist, Oregon Department of Education
- 9. Frontier STEM Hub Progress**
Mark Redmond, Interim Superintendent/Curriculum Director, Malheur Education Service District
- 10. Public Comment**

Members of the public wanting to give public testimony must email their testimony to seth.allen@state.or.us

All meetings of the Chief Education Office are open to the public and conform to Oregon public meetings laws. The upcoming meeting schedule and materials from past meetings are posted on-line. A request for an interpreter for the hearing impaired or for accommodations for people with disabilities should be made to Seth Allen at 503-373-1283 or by e-mail at seth.allen@state.or.us. Requests for accommodation should be made at least 48 hours in advance.

STEM Investment Council
Fri. Nov. 4, 2016 9:00am-12pm
World Trade Center, Portland, OR



Next Meeting Date:
Fri. Dec. 16, 2016 9:00am-12pm
World Trade Center, Portland, OR

In Attendance:

<input type="checkbox"/>	Chair Jim Piro	<input type="checkbox"/>	Romanna Flores – <i>via phone</i>
<input type="checkbox"/>	Celeste Edman	<input type="checkbox"/>	Thompson Morrison – <i>via phone</i>
<input type="checkbox"/>	Herb Fricke		
<input type="checkbox"/>	Dwayne Johnson		Lisa Graham not present
<input type="checkbox"/>	Eric Meslow		
<input type="checkbox"/>	Mark Lewis		

ACTION ITEMS	DUE DATE
Trish Conlon to provide the Council with a map showing the distribution of the CTE First Robotics grant funds.	Next Council meeting, Fri. Dec. 16th
Invite the team at ODE to a future Council meeting to determine the long term plan for getting STEM programs to scale.	Mark to determine
Reach out to TAO (Technology Association of Oregon) or the CTE-STE Employer Coalition to gauge interest in coordinating a “STEM Day” during the 2017 Legislative Session.	Who? Next Council meeting, Fri. Dec. 16th
Encourage Hub directors to engage with local Leg representatives to promote the impact of their work.	Prior to next Legislative Session (Feb. 1, 2017).
Send any additional thoughts on the work plan to Mark.	Next Council meeting, Fri. Dec. 16th
Revisit Council committee structure with focus on plan implementation.	Next Council meeting, Fri. Dec. 16th

Prior Meeting Action Items	Follow up
Lindsey to report back to the Council specific actions state agencies are taking to meet the goal of doubling math and science scores.	We will be asking the Oregon Department of Education to report to the Council on the state’s Every Student Succeeds Act (ESSA) as it relates to STEM goals.
Invite the Education Innovation Officer, Colt Gill, to speak to the Council regarding his role and findings.	Colt Gill will be coming to the December Council meeting to provide an update on his role and work he’s been doing around the state to improve graduation rates.
Mark to obtain list of STEM Hub members from Krissi to distribute to Council members.	List is within this meeting’s packet.
Invite Kristen Harrison to a future Council meeting to further share her work with the STEM Out of School grant.	Kristen will present at this meeting.
Cheryl to provide final details of STEM Grantee Convening to Mark to distribute to with Council Members.	Invitation was sent out to Council members for the Tues. Nov. 8 th meeting at OSU.
Council members to send further edits/suggestions to the STEM Strategic Plan to Mark no later than Tues. Sept. 27th.	Suggestions were received and built into the plan.
Council members to send Mark goals and priorities for upcoming year by Fri. Oct. 7th.	This item is back on the agenda for today’s discussion.

1. **Welcome and Introductions**

Chair Piro convened the meeting at 9:00am. Introductions were made in person and on the phone. Minutes from the previous meeting were approved. Mark provided a summary of the Action Items from last meeting.

2. **Director Updates**, Mark Lewis, Chief Education Office

Mark provided an update regarding the rollout of the STEM Strategic Plan. The decision was made to hold on the public release of the plan until after the election. The plan will be officially released at the Oregon Business Leadership Summit on Monday, December 5th. Chair Piro invited all members of the STEM Investment Council to attend.

As a scientific topic of interest, Mark mentioned the total solar eclipse that will be occurring August 21st, 2017. Many of the STEM Hubs throughout the state have started planning programs around this event.

Mark reported on recent national level work by the Chief Education Office. He attended a STEM EcoSystems conference in Denver in October, along with others prominent in the national STEM community. Among attendees from Oregon were Krissi Hewitt from the Chief Education Office, Beth Unverzagt from OregonASK, Steve Thorpe from the Southern Oregon STEM Hub, and two of the STEM VISTA volunteers.

Q: *Chair Piro asked Mark to comment on how STEM is positioned within the state budget for next biennium.*

A: *All agencies have submitted budgets to Governor's office. STEM investments from last biennium are within two agency budgets: Higher Education Coordinating Commission for post-secondary and Department of Education for K-12. They are built into the current service levels of their budget, so, if approved, they would remain the same plus 3%. However, agencies are also planning potential cuts if there is no additional revenue.*

Eric commented that with Measure 97 likely failing and Measure 98 likely passing we will be in difficult situation for funding. Jim shared that the Business Council is aware of this situation and is engaging ongoing conversations around funding strategies.

3. **STEM Investment Updates**, Trish Conlon, Oregon Department of Education

Trish greeted the Council and referenced the updates provided in the Oregon STEM Investment Update handout as follows:

- Adaptive Math Pilot: Mark Freed is the lead from ODE. There has been great enthusiasm in the 17 districts that received this funding. ODE is evaluating next steps as guided learning, not just software.

Q: *Chair Piro asked to clarify if these are programs that are already developed, and the grant is used to implement them in schools.*

A: *Yes, the districts involved are piloting the programs available through a selection of vendors. The districts have chosen which ones they'd like to implement with the overall goal of determining the programs that are most effective. The pilot ends June 2017 and then there will be an evaluation conducted by ODE to measure the student and teacher outcomes.*

Q: Dwayne asked if the end result will be a model to roll out to all districts, and will districts receive proper instruction on hardware and software needed for implementation?

A: Yes, and sorting out the correct software and hardware in the field has been part of the learning experience for the students and teachers.

- Digital Literacy & Computer Science: This grant will be featured as a deeper dive at the December Council meeting. As a quick overview: Grantees are preparing for their Winter Professional Learning Communities, and have a Spring Conference in March. They are working on training over 400 teachers in grades 7-12 on how to get computer science curriculum into their classrooms and efforts are moving forward in partnership with Computer Science for All, which is a Federal initiative.
- Hubs: ODE continues to work with STEM Hubs in Cohort 2 to develop and adjust their partnership plans as needed. ODE staff has been visiting all Cohort 2 STEM Hubs and has started to receive the progress reports that are due Nov. 30th.
- Math in Real Life: Trish has been to several schools throughout the state seeing this grant in action. A specific example is Talent Middle School where kids are learning math by designing outdoor spaces, blueprints, and irrigation systems.

Q: Chair Piro asked how the STEM Hubs fit into the delivery method for these programs.

A: Math in Real Life is working side by side with the Hubs. A lot of the funding from Hubs goes towards substitute teacher cost so that teachers can attend professional development training.

Related to professional development, Trish shared a partnership with OSU and SOAR (<http://www.soaroregon.com/>) that has been implemented to create a professional learning network for teachers throughout the state. They have launched 3 webinars and will have a week long opportunity at OSU in June next year where educators will be able to earn their license to operate drones and learn ways to teach STEM topics with drones.

As far as ODE CTE investments, Trish shared they are multiple computer science and engineering programs being added at local high schools that are providing new opportunities for students. ODE is looking to start a charter of the student group TSA (Technical Students Association) in Oregon. This group has a lot of visibility at the national level and gives students leadership and competitive opportunities. Additionally, there are summer opportunities funded by ODE's CTE dollars such as *Si Se Puede* in Hillsboro and the First Robotics grant. These programs have shown success in giving kids confidence to pursue additional STEM and CTE classes.

Q: Chair Piro asked if the Council has any accountability regarding the First Robotics programs and where these programs are being conducted in terms of an equity perspective.

A: Mark explained that since this is a legacy program with ODE that accountability is with ODE, not the Council. The statewide ORTOP group (<http://www.ortop.org/jfill/>) has excellent engagement throughout the state. Trish offered to provide a map to the Council that shows the distribution of the CTE Robotics grants.

4. Council Work Plan Development

Before the work plan discussion, Chair Piro asked Celeste to give a brief introduction to herself as this is her first meeting with the Council.

Celeste greeted the group and introduced herself. She is the CEO of Lunar Logic, a software firm that specializes in business integration software located in Eugene. Her husband owns a software firm as well that specializes in restaurant management. Between the two of them they employ about 55 people and hire largely from outside traditional segments – such as WorkSource Lane and directly from community college. Celeste’s interest in STEM developed out of a need for well-prepared employees, since their firms end up doing quite a bit of training. She has become more passionate about STEM education as she discovered it is significantly lacking in area schools. She is seeing the need not only within her industry, but multiple industries in Oregon are struggling with IT positions that they are unable to fill.

Mark thanked Celeste and moved on to introduce the 2016-17 Work Priorities handout. The Council was asked for input in moving the work forward and in seeking to operationalize the Strategic Plan.

Jim voiced his three main priorities:

1. Continue working on metrics to be able illustrate progress with both qualitative and quantitative data. Eric agreed that we need to have reportable data or experiences from students ready to present to the legislature to validate the outcomes of the state’s STEM funding.
2. Bring the STEM programs to scale. Pockets of great success exist throughout the state, and we need to make sure they are accessible to all students. Jim suggested the Council have a conversation with the team at ODE to determine the long term plan for getting the programs to scale.
3. Equity issues – make sure we are getting programs to areas where kids are more vulnerable.

Eric voiced his priorities:

1. Use caution in over-asking for reports on results. While we do need to have accountability and feedback, staffing and time at many organizations is limited. We want to make sure the Hubs and partners remain focused on providing the best services for students. If we are expecting lengthy reports on outcomes, we need to provide additional funding for the admin time.
2. Re-tooling the Council structure – more members from diverse industries/backgrounds are needed. Jim commented that if we are successful with the incorporation of CTE in the Council’s work we will be bringing on additional members and ex-officio members.
3. Advocacy – with the upcoming legislative session, we need to identify and begin the conversation with legislators who will support our bills. In recognizing that the legislature values student feedback, it would be strategic to start finding student advocates who could speak to their positive experiences with STEM and the need for continued support.

Regarding advocacy, Chair Piro suggested that we should have a “STEM DAY” during the legislative session to promote visibility and enthusiasm. Mark shared that there are plans underway with the Portland Metro STEM Partnership for a STEMposium that will be held in February 2017, which will be focused on the greater Portland Metro region, as well as STEM Week in May 2017. As Mark explained, these types of efforts would need to be driven by industry partners, rather than the Chief Education Office. Eric suggested reaching out to TAO (Technology Association of Oregon) or the CTE-STE Employer Coalition to take the lead. Along these lines, Dwayne suggested having a conversation with each STEM Hub to identify students from their region who would be capable and effective at speaking to the legislature. This would serve as a way to provide an update on the Hub’s activities, as well as engage student voice.

Discussion was held regarding the Council's role in helping the Hubs connect with their local representatives. Chair Piro suggested that we send a letter to each Hub from the Council encouraging them to engage with their local legislators to foster support and advocacy at legislative session, with a request to report back to the Council on these efforts. Hub members in the audience suggested the letter should include a timeline for response and an offer of introduction to local representatives as well.

Celeste shared her thoughts around advocacy and communication as they relate to positioning STEM as a brand. Especially with other acronyms that have come into play, a PR or media campaign to create visibility specifically for STEM could fuel recognition and demand for our programs. Dwayne agreed, and added that thought would need to be given to who the intended audience for such a campaign would be, in order to reach all Oregonians.

Thompson echoed Jim in priorities of metrics and equity. The Council needs to be proactive in understanding cultural issues related to access, not just geographic barriers. Recognizing very little resources exist; he'd like to see the Council identify successful models that can be leveraged. Related to this topic, Mark mentioned Tana Atchley with the Columbia River Inter-Tribal Fish Commission, who will be a presenter at a future Council meeting to share some of the programs she is leading with Native American students.

Romanna added the need for intentional inclusion practices in rolling out STEM outreach programs. In her experience very little of the communications such as handouts, permission slips, and instructions are available in languages other than English, which presents a struggle to many of the students and families.

Q: Chair Piro asked Romanna if she is aware of organizations that could be partners in helping get information out to families.

A: Yes: Latino Network and Society of Hispanic Engineers are two that come to mind. Romanna shared that she is currently at the Society of Hispanic Engineers conference in Seattle, where translated materials was also topic of discussion.

Thompson shared a program that Innovate Oregon has been rolled out to address the struggle in finding the "on ramp" to engage students who don't see themselves as relating to STEM. In partnership with Spark Fund, they have held several "hackathon" events, most recently in Willamina. Participants were community members ranging from ages 5-75 that had no experience with coding or electronic circuitry. They conducted a 3-hour training session and then worked in multigenerational teams to deliver solutions to various challenges. Thompson said it was a transformative event in that participants realized not only that they were capable of this type of work, but that it was fun. The key was creating the experience. Rather than trying to convince students or adults that this is a realistic path for them to pursue, we need to facilitate them coming that conclusion themselves -- through experience and igniting their passion.

Chair Piro advised all members to send additional thoughts on the work plan to Mark to be incorporated now that the Strategic Plan has been finalized. He suggested it may be beneficial to revisit the committee structure and focus on implementing aspects of the Strategic Plan.

5) STEM Afterschool Policy Grant, Beth Unverzagt, OregonASK

Beth greeted the Council and introduced the colleagues joining her: Bethany Thrasher, the Outreach and Policy Director with OregonASK, and Dr. Susan Inman, who is assisting them with work around the Every Student Succeeds Act (ESSA).

Beth shared the outreach events OregonASK has conducted this fall with the STEM Hubs. There were seven 3-4 hour events all over the state. The goals of these convenings were to engage elected officials as well as community members, focus on afterschool and summer programs, and partner with STEM Hubs to highlight their work. A report regarding the feedback from these events is within the meeting packet.

Secondly, Beth discussed the opportunity OregonASK is involved with through a grant with the National League of Cities. They are creating a work group with ODE, the Chief Education Office, Dr. Inman, and stakeholders to evaluate how afterschool programs are implemented and how the STEM strategic plan should be integrated into Oregon's ESSA Plan. They are doing an analysis of CTE/STEM programs and policies around the country to assess other successful models. The first meeting of the ESSA workgroup will be today, Nov. 4th. Within the meeting packet is a draft outline of deadlines, desired outcomes, and meeting dates for the work group.

Comments from the Council regarding the ESSA work group were to make sure CTE and STEM remain connected in the ESSA plan, to include representatives from Higher Education, and to include representatives from those focused on equity within the work group. A suggestion from the group was Kali Ladd with KairosPDX would be a good person to reach out to review the group's work from an equity perspective.

Regarding how the work group will receive feedback on their ESSA recommendations, Beth shared they will do a presentation to the legislature in December and are continuing outreach with elected officials. The STEM Education Coalition has industry partners that are interested in giving feedback. OregonASK is also made efforts for advocacy on the national level, and have had conversations with Sen. Wyden and Sen. Merkley.

6) STEM Beyond School, Kristen Harrison, Portland Metro STEM Partnership

Kristen greeted the Council and introduced herself and the colleagues joining her: Beth St. Amand, the statewide STEM Beyond School coordinator; Council member Romanna Flores, joining by phone, who is on their on the partnership team; and Todd Willaver, joining by phone, who is a lead at one of their program sites in Lincoln County.

Kristen gave an introduction to the work of STEM Beyond School, which is made possible through the ODE Innovation Grant and partnership with OSU Extension Services. One of STEM Beyond School's primary roles is to provide after-school, off of school grounds STEM programs for children in grades 4-8, specifically focusing on underrepresented or underserved youth. They currently are providing programming at 33 sites statewide with curriculum defined by the interest of students. The other key role of STEM Beyond School is to provide support to the educators leading the programs. To this end, they have formed an Educators Community of Practice group to share resources, share activity ideas, make connections, etc.

The programs need to meet requirements in order to be supported by STEM Beyond School: each student must have 70 hours of programming per student for the 2016 school year, and the program standards must align to Next Generation Science Standards (NGSS) for science standards, and Common Core standards in Math. The programs were rolled out for the 2016 school year and have been granted by ODE to Aug 30' 2017.

Q: Dwayne asked underrepresented and underserved youth is being defined.

A: They are operating with the definition put forth by ODE: students who receive free or reduced lunch, students of color, English language learners, and students with disabilities. STEM Beyond School partners with ODE's data team to ensure the students in their programs are those defined as underrepresented/underserved by those categories.

Q: Chair Piro asked are these programs getting support from non-profits or other funding sources?

A: Yes, every site has partners that are unique to their region, and all regions are supported by the OSU Extension 4H Service.

Kristen outlined the partners in each region in the state, (Central, Eastern, Northwest, and Southwest), as shown on the slide presentation. All of schools and districts are partners, but they are only noted when they are providers of programs sponsored by STEM Beyond School.

Beth introduced Todd Willaver, joining by phone, who is the OSU 4H Program Coordinator in Lincoln County. Todd shared that the partnership with STEM Beyond School has been very valuable in their community as it aligns well with 4H's approach of youth development through experiential learning. Lincoln County is a historically underserved area; currently 80% of students are on the free and reduced lunch program countywide. The support has been essential in two successful programs in his county:

1. Neighbors for Kids in Depoe Bay: This is a privately run organization providing afterschool and summer programs that has struggled with expanding the reach of their programs due to funding. They have now been able to grow capacity through the partnership with STEM Beyond School to kick start new STEM programs at their site.
2. 21st Century Schools: The funding for this program phased out this year, so the STEM Beyond School support has given time them the opportunity to continue the program. Facilities and instructors are already in place and were able to immediately transition and begin serving students. This program gives kids opportunity to showcase life/skill development, foster STEM identity, and build 21st century competencies.

Though just starting out, Todd has great hopes and aspirations of where these programs are going.

Kristen returned to the slide show and highlighted some of the key aspects of STEM Beyond Schools support for educators, including 80 hours of professional development. PD is held by webinars twice a month, ongoing workshops, regional gatherings.

Q: Chair Piro asked if the site educators are paid.

A: Yes, educators are paid for programming time with kids, planning time, and professional development time. STEM Beyond School also provides funding for transportation, equipment, and supplies.

Q: Eric asked how many students participate.

A: Approximately 30 kids per site, 33 sites.

Q: Eric asked if there have been discussions on continued funding, and if so, which organizations will they be targeting.

A: Kristen agreed that alternate funding sources need to be identified and asked for the Council's input on this topic. They have already identified key staff roles that are essential for the success of these programs (Statewide Coordinator and Regional Coordinators), so ensuring reliable funding streams is critical. Currently, funding from ODE is coupled with resources from the STEM Hubs and OSU Extension to provide these staff salaries.

Q: The group asked if they foresee future funds be disconnected from ODE? Where/ To whom would you ask for money ideally?

A: Majority of current funding is from ODE, and that partnership needs to remain while the programs are in the initial stages so they have access to data connections. A public/private funding mechanism for the future is necessary to provide services without interruptions, and they are exploring these options.

Q: Once you receive funding, where would you allocate it? Through the STEM Hubs?

A: Currently OSU is the distributor of funds, and distributes to the regional coordinator in each region. This is much more effective method than trying to allocate and disburse funds through all 11 STEM Hubs. STEM Beyond School works with OSU and the STEM Hubs to identify the programming sites in each region and earmark funds accordingly.

Romanna shared two of the programs she has participated through STEM Beyond School funding, both held at Portland Community College Southeast, which is an excellent location as it is a hub of congregation for the community. One event, held on a no-school day, was a STEM conference. It was attended by 50-60 students and featured workshops with industry partners. Another ongoing program is the Young Makers Club which has been valuable in meeting the STEM interests of students in upper grades.

7) STEMworks Program Review Rubric, Claus Von Zatrow, Change the Equation

Claus greeted the Council and shared some background on the STEMworks program. This program is part of the work of Change the Equation, a national non-profit based in Washington DC. Through the STEMworks program, Change the Equation reviews and rates STEM programs against a set of standardized metrics. It is meant to be a tool to help groups raise the return on their investment by identifying top programs, helping states to replicate them, bring them to scale, and secure additional funding. The rubric for measurement was created by a team of corporate social responsibility leaders that are engaged in education. It was refined, validated, and tested by WestEd, a third party research and development firm. The principals which programs are assessed on are as follows: degree to which addresses a well-defined need, ability to be replicated and scaled to fit other areas, use of high impact partnerships, level of staff/equipment capacity to meet goals, evidence of sustainable funding, use of challenging/relevant content, measure of inspiration towards STEM engagement, and degree of attention to underrepresented groups.

In order to apply to be evaluated, programs are asked to rate themselves against the rubric, give rationale for their self-ratings, and provide evidence to support their claims. At least two reviewers then assess the application materials and provide feedback to the program contacts, either encouraging them to address certain aspects of their program, or admitting them to STEMworks' database of "Accomplished" or "Promising" programs. All programs admitted to the database must recertify after 3-4 years. Communication between STEMworks and programs is all done online.

STEMworks currently has partnerships in 6 states. In this model, the reviewers are individuals at the state level that have been trained by STEMworks on the evaluation criteria. States have the abilities to add their own questions to the evaluation to customize the rubric to their specific needs. Change the Equation provides the online portal, technical assistance/support, and quality control. The process takes about 4 months to set up. Cost for the program would be \$20,000-\$25,000 in the future, but \$5k right now.

Q: Chair Piro asked if there is a list of admitted programs available online.

A: Yes, <http://changetheequation.org/stemworks>.

8. Oregon Talent Council Update, Melissa Leoni, Executive Director, and Eileen Boerger, Council Member

Melissa greeted the Council and shared the purpose of their presentation is to give an update on their work since her last visit with the Council 6 months ago, chief of which has been development of operating strategies for the next biennium. As background info, the Talent Council was developed to catalyze the development of STEM based training that augments talent development needed in growth careers in Oregon. They have been focusing on student training and new graduates, but a shift in their strategy is now to look at incumbent refresh (retaining efforts for those already in the workforce), and knowledge transfer (the dissemination of expertise from retiring workers). Nearly every industry in Oregon needs employees with technical skills and a high level of computer literacy and the sheer volume of need cannot be filled solely by newcomers to the workforce.

The key strategies the Talent Council has identified to address these challenges are:

- Publish the Oregon Talent Plan: A strategic review designed to provide insights into Oregon's talent needs and trends
- Unite, catalyze, transform and advise the governor, state legislators and key departments and councils (such as Business Oregon Commission, Employment Department (OED), Higher Education Coordinating Commission (HECC), Oregon Workforce Investment Board (OWIB), STEM Investment Council)
- Engage in Strategic Investments: Making investments in repeatable, transferable programs and delivery models that keep pace with skill changes

Q: Chair Piro asked if the Talent Council has addressed the need to engage parents in promoting visibility and excitement in children for future STEM careers that are high wage and high demand. Do they have a communication strategy?

A: Yes, this is a collaboration of many groups that are tackling the same problem in different ways. The Talent Council is unique in that they are the voice of talent needs. Their goal is to respond current needs and project future needs of employers in Oregon. They are committed to collaborating with other Councils and agencies throughout the state to partner in addressing the needs of future workers, key of which is engaging their parents.

Q: Celeste asked if the Talent Council has consideration over retention of talent, or does that fall within another group? For example if there is a large scale layoff at a tech firm in Oregon, does the Talent Council become involved in retainment efforts to keep those laid off workers in Oregon.

A: The majority of retention efforts fall outside of the Talent Council's parameters. However, should there be partnership opportunities in which they can bring together resources and share best practices; they are certainly willing to be a player. Eileen added along these lines that work the Talent Council is doing involving incumbent refresh – updating skills of current workers and training efforts on 21st century skills – aids in retention by adapting the existing workforce to the employer's needs.

Discussion was held regarding the synergy of the Talent Council and the STEM Investment Council. As Dwayne and Chair Piro helped to explain, these boards serve each other in a supply/demand relationship. The STEM Investment Council is charged with overseeing the education of the workforce for STEM careers (supply), and the Talent Council is responsible for understanding and communicating the needs of employers in the field (demand). Communication from the Talent Council is essential for the STEM Council in determining what skills the workforce needs, and how to allocate the state's STEM funding towards assets that will meet those needs.

Melissa ended her presentation by describing the work the Talent Council is doing with industry partners in piloting programs for workers on all areas of the spectrum – students, recent grads, on-the-job skills, incumbent refresh, and knowledge transfer. They assist in piloting programs, proofing successful models, growing them to scale, and sharing them with others.

Q: Eric asked how the Talent Council is funded.

A: Funds for the Council were included in the agency request budget for the Employment Department.

9) East County STEM Hub Update, Krystal Meisel, Director

Krystal greeted the Council and gave a brief introduction to herself and her region. She has been the Director of the East Metro STEM Hub since July 2016. East Metro is geographically defined from East 82nd Ave to the Sandy River, which is east Multnomah County. It includes 5 school districts. East County identifies their STEM Hub as a “STEAM” partnership, as they see Art as an asset in attracting youth in their community to their work. Krystal shared some of the partners they collaborate with, including Mt Hood Community College, where she is based, city leaders, housing providers, business partners, and non-profits.

As a snapshot of the student population of their region, Krystal showed several slides illustrating the percent of students eligible for free and reduced lunch, as well as math and science scores. Overall, notably more East Metro youth are eligible for free and reduced lunch, and are not meeting Smart Balance math and science score benchmarks, as compared to their Portland Public School peers. Additionally, the region is very linguistically diverse, with 88 languages spoken in area schools.

East Metro’s strategies to engage their region are as follows:

1. Create partnership opportunities to support formal and informal STEAM education.
 - Leveraging open data and social media
 - STEAM messaging campaign partnering with family liaisons in schools
 - Securing funding sources through building relationships
 - Identifying pockets of innovations to implement, evaluate, and market
2. Engage community and business partners to support STEAM-CTE programs
 - Creating a Business Action Team
 - Supporting industry professionals to visit schools, supporting educators and students to visit places of industry
3. Engage stakeholders representing minority, women, disabled and disadvantaged communities to increase participation of those underrepresented in the STEAM fields.
 - Ensuring data based representation – demographics of leaders matches demographics of students
 - Leveraging best practices for trauma informed and underrepresented youth
 - Creation of Youth Advisory Council, with stipends for youth to participate

Krystal shared highlights from Makers Gone Pro, an event that East Metro participated in recently. This was an opportunity to showcase how skills like 3-D printing, tinkering, and making and translate in the job market. US Secretary of Commerce, Penny Pritzker, moderated a panel with young adults sharing their experience with STEM/CTE education and how it has prepared them for their current opportunities such as working for Boeing or pursuing Engineering degrees. Additionally in attendance was Steve Davee, with Maker Ed.

Q: Chair Piro asked what Krystal sees as their biggest challenge moving forward.

A: Sustainable funding.

Lastly, Krystal shared a video created by the Center for Advanced Learning, which is a collaboration between several school districts in East Metro.

Link:

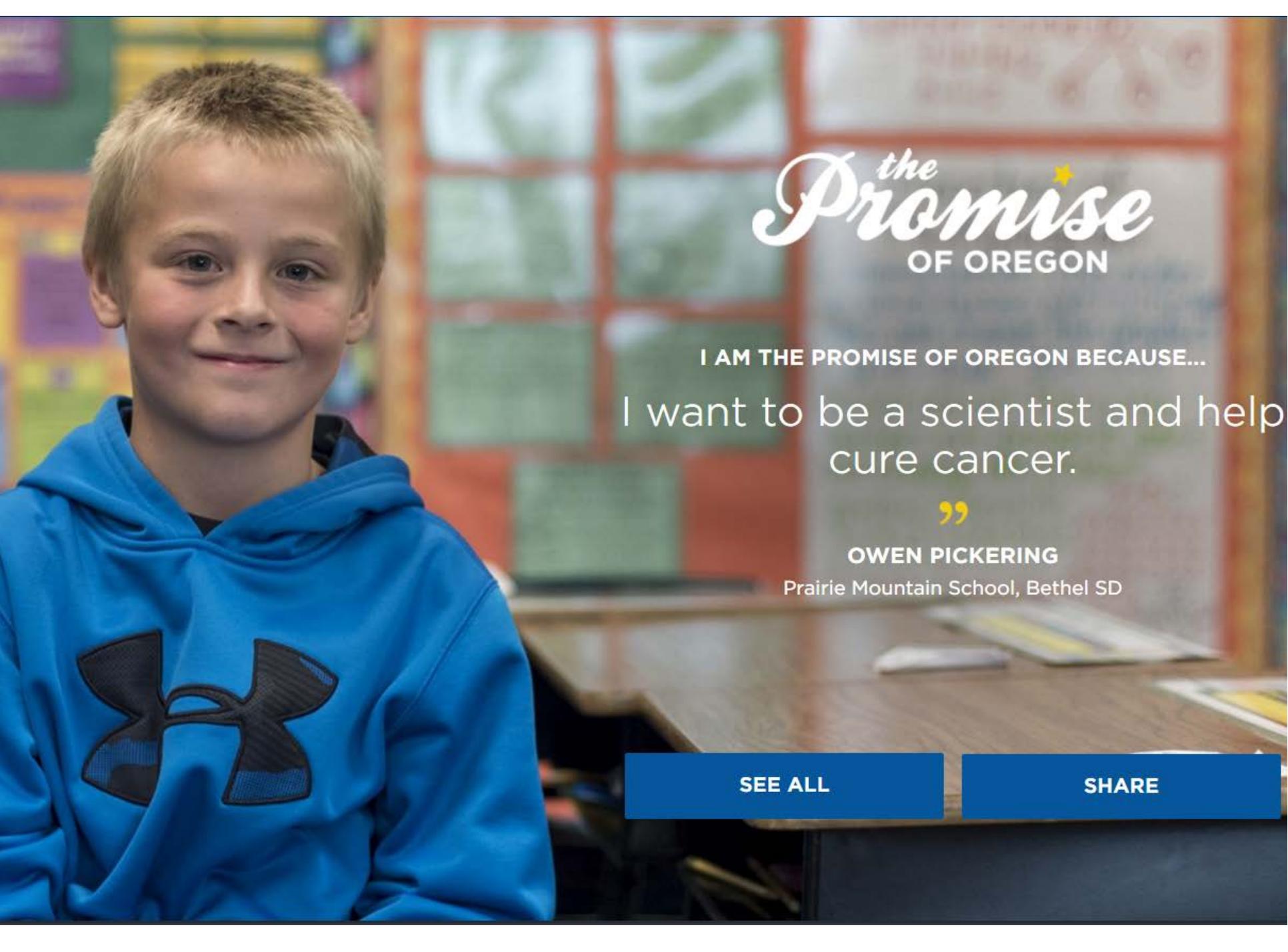
10) Public Comment

No public comment. Chair Piro thanked all for participating and reminded the group of the next Council meeting on Dec. 16th.



STEM Investment Council

December 16, 2016



the
Promise
OF OREGON

I AM THE PROMISE OF OREGON BECAUSE...

I want to be a scientist and help
cure cancer.

”

OWEN PICKERING

Prairie Mountain School, Bethel SD

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I AM THE PROMISE OF OREGON BECAUSE...

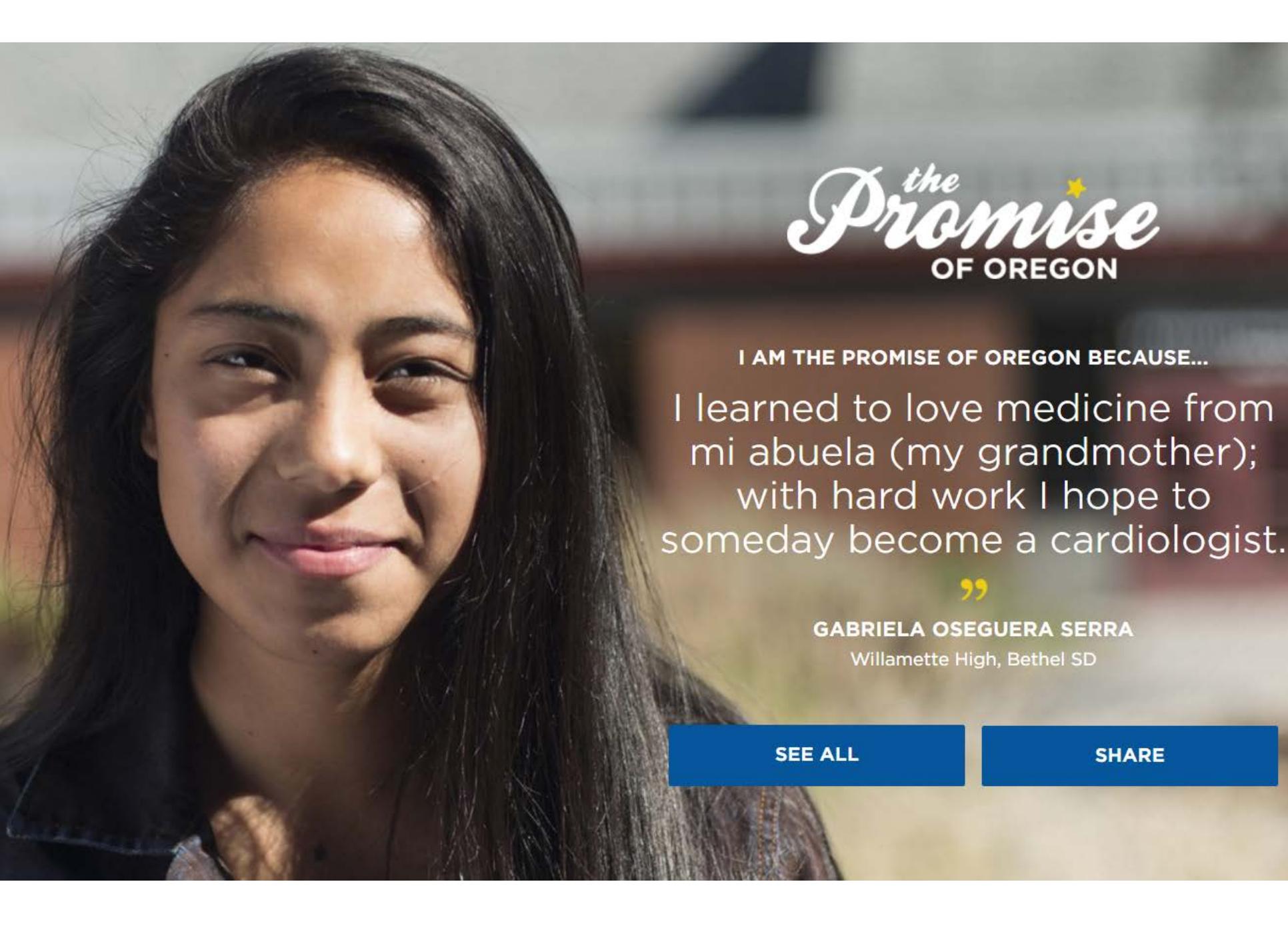
I'm invested in my community and want to be a criminal defense lawyer.



ABIGAIL REYES SANTIAGO
Madison High, Portland PS

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OF OREGON

I AM THE PROMISE OF OREGON BECAUSE...

I learned to love medicine from
mi abuela (my grandmother);
with hard work I hope to
someday become a cardiologist.

”

GABRIELA OSEGUERA SERRA

Willamette High, Bethel SD

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Governor
Kate Brown

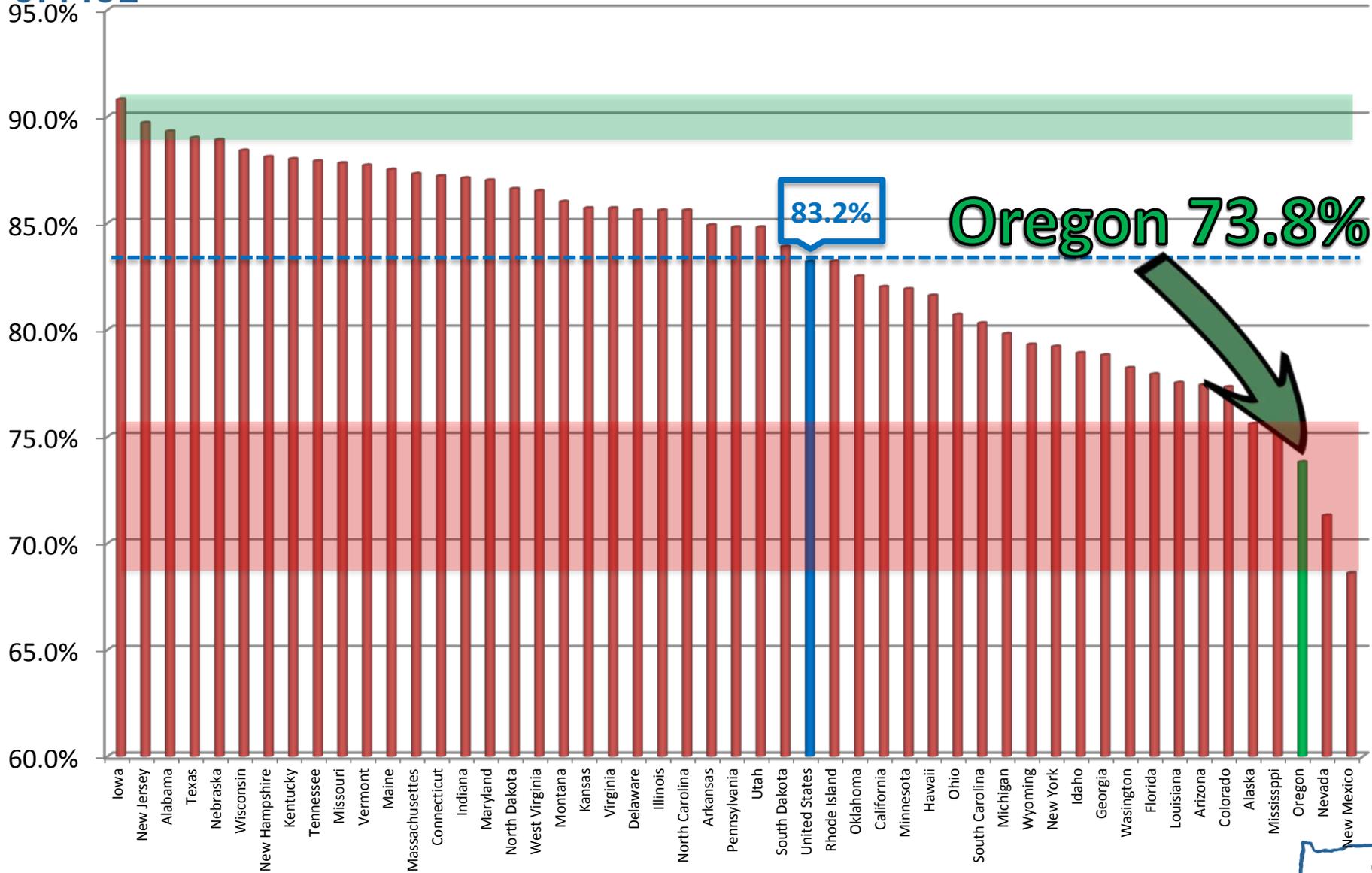


Governor Brown's Vision:

*Every Oregon student
graduates with a plan
for his or her future.*



How Does Oregon Compare?





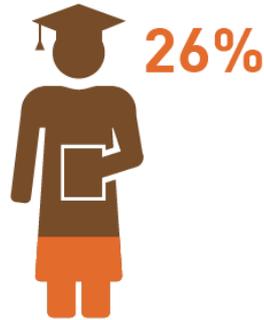
150,000 Reasons that a Focus on Graduation Matters...



~12,000 students per grade level X 13 years = 156,000. The number of students currently in our schools who will not graduate on-time, cumulatively, if we collectively do nothing to change current trends.

13 Years

11,826 Number of students that did not graduate on time in 2015.



Time our education system has to prepare students for graduation and next steps



These 11,826 students are disproportionately students of color, male and/or in poverty.

0 in





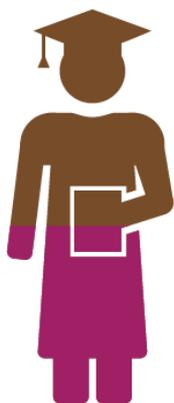
Investing in Equitable Outcomes

Students Who Did Not Graduate On Time in 2014-2015



47%

Students with
Disabilities



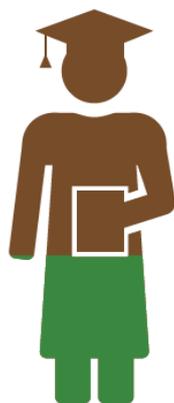
45%

American
Indian/Alaska
Native Students



37%

Black/African
American
Students



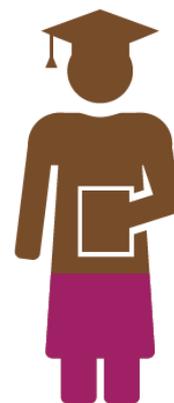
37%

Native Hawaiian/
Pacific Islander
Students



34%

Students in
Poverty



33%

Hispanic/
Latino
Students



30%

Male
Students





Timeline of High School Graduation Efforts

2002: Credit for Proficiency

2007: Oregon Diploma and Essential Skills

2009: Cohort Graduation Rate Formula

2010: Adoption of Common Core State Standards

2011: SB253 – 40/40/20 Goal Articulated

2011: SB909 - Seamless System of Education Instituted

2011: Early Learning Council Established

2012: STEM Investment Council Formed

2013: Regional Achievement Collaboratives

2013: STEM Hubs Established

2013: Early Learning Hubs Established

2013: Oregon College & Career Readiness Definition

2013: Network for Quality Teaching and Learning

2015: Full-day Kindergarten Implemented

2015: SB81 - Oregon Promise Community College Tuition Waivers

2015: Doubled CTE Investment

2015: Equity Supports for ELs, AA/Black students, tribal students, and students navigating poverty

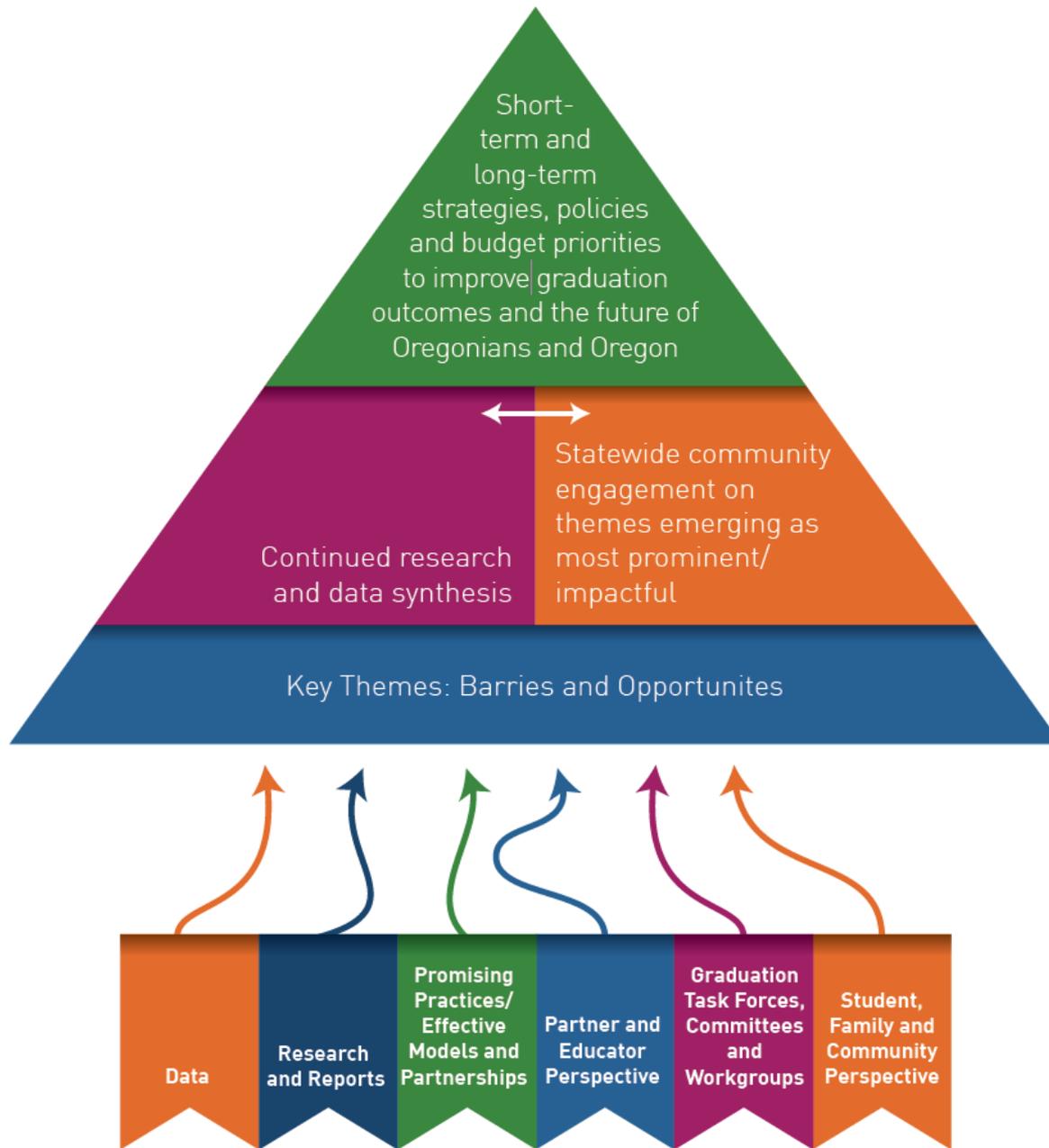
2016: Statewide Chronic Absenteeism Plan Designed

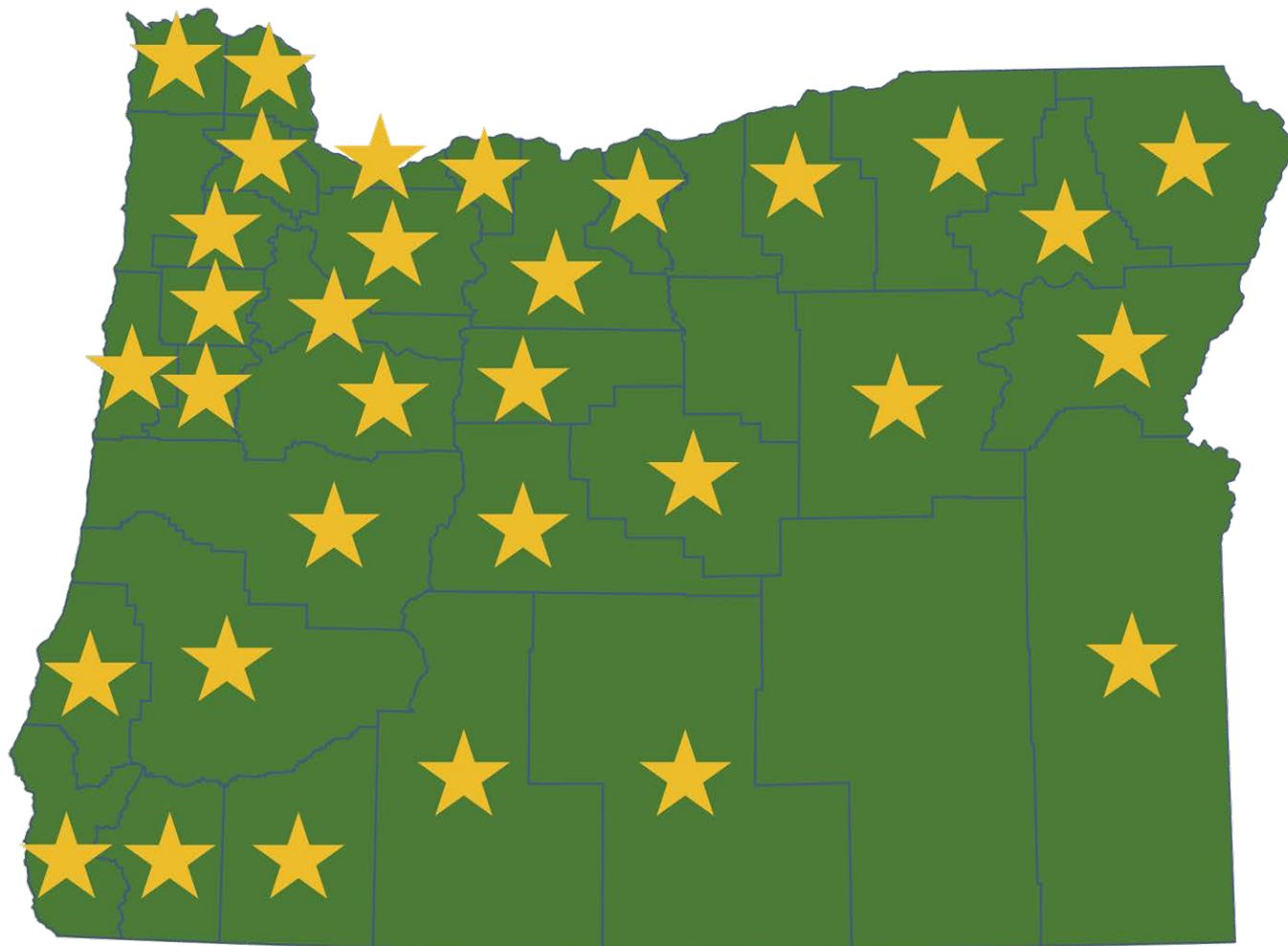
2016: Promise Preschool Implementation

2016: Council on Educator Advancement Formed

2016: Governor appoints Education Innovation Officer to Focus on Graduation Outcomes









Community-Based

“People were made to be a community and hold up one another. You cannot make a company on your own – how are you supposed to graduate on your own?”

(Student, Medford)





Oregonians

Say...



RELEVANCE

“I would say increasing student engagement through relevance needs to be a huge focus. **Whether we're talking about core content areas, electives, or CTE, connecting student learning to how graduates will encounter these issues as citizens is critical, not just for raising achievement and graduation rates, but also the quality of our communities.”**

(STEAM Coordinator, Forest Grove School District)



RELATIONSHIPS

“Positive relationships with school/community organizations who support youth and families – see their strengths and beliefs and expect them to be successful. Additional supports for culturally specific/responsive community-based organizations who have a strong track record of successful outcomes and positive community relationships with youth families in schools”

(Education partner, Portland)



RELATIONSHIPS

“Community partnerships –
developing relationships to include
families and community members.
**The students will understand they
are cared for and see how their
education is relevant”**

(Parent, Educator, Community Member, Dufur)



CTE

“CTE offerings – more classes that are not common core. Let kids try new things, create relationships with teachers, and find a new passion. CTE creates more engagement and discussion among each other – **with this technology age (everyone is plugged in and not speaking), having CTE classes would be refreshing. Kids need to ‘see’ what is out in the real world.** Having CTE-type classes may help kids want to further their education or just learn new skills. Experience is important!”

(Parent, District Staff, Columbia Gorge, The Dalles)





Emerging Themes...

Equitable Practices and Outcomes

Culturally Specific, Responsive, & Sustaining Practices

Diverse Workforce

Partnerships, Relationships, & Relevance

Family & Student Preparedness

Family & Student Supports

Family & Student Engagement

Early Learning

Initial Family Engagement

Transitions

Early Indicator & Intervention Systems

Counseling

Trauma Informed Practices

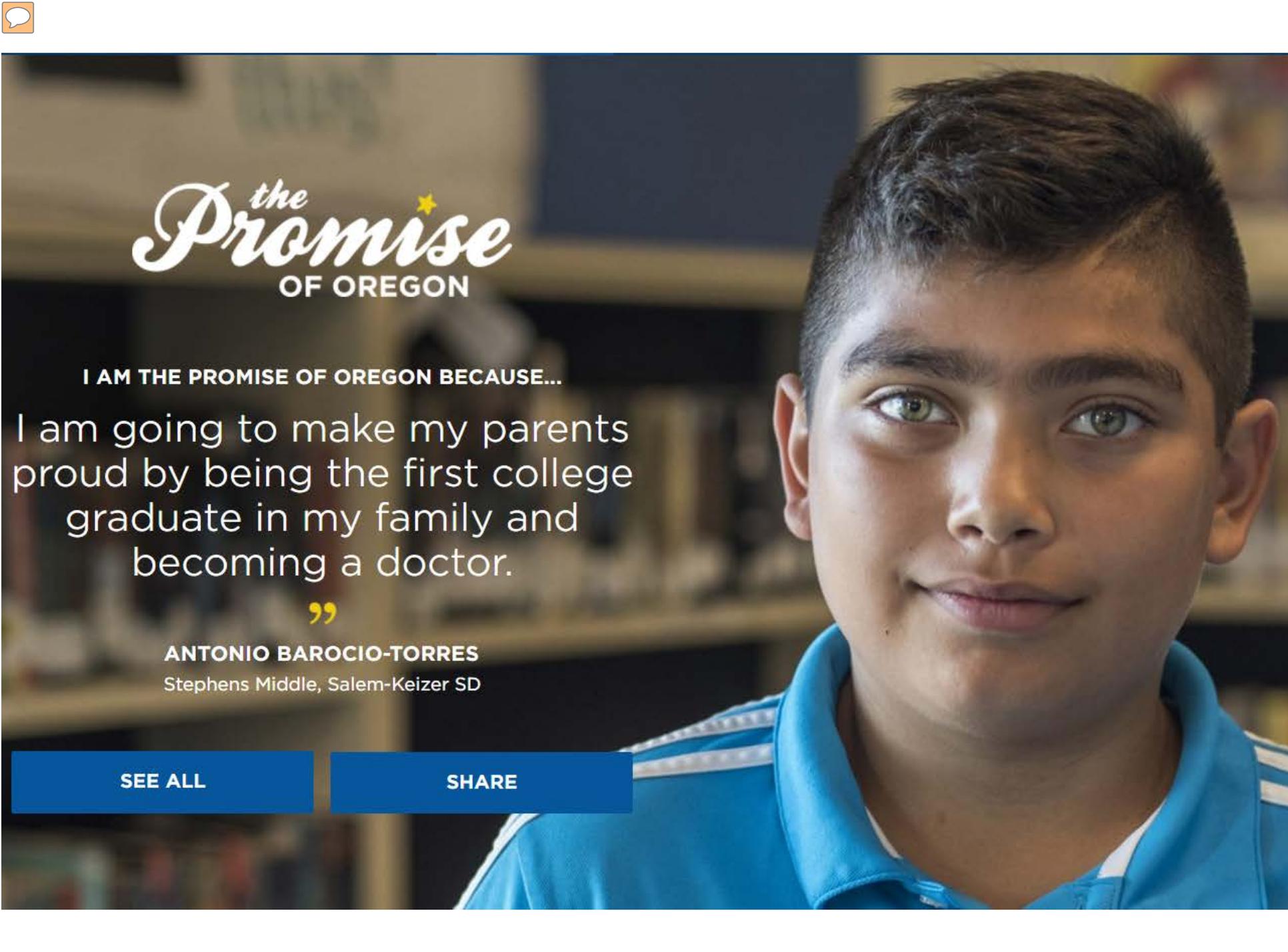
Restorative Practices

Expanding CTE

Engaging Content & Courses

Engaging Instructional Strategies





the
Promise
OF OREGON

I AM THE PROMISE OF OREGON BECAUSE...

I am going to make my parents proud by being the first college graduate in my family and becoming a doctor.

”

ANTONIO BAROCIO-TORRES
Stephens Middle, Salem-Keizer SD

[SEE ALL](#)

[SHARE](#)

CHIEF EDUCATION OFFICE

 colt.gill@state.or.us
 @EdInnovationOR

**HEATHER STAFFORD
ASSISTANT DIRECTOR
INNOVATION & ENTREPRENEURSHIP**

STEAM Council: Oregon Innovation

@heathastafford  **#ORinnovation**
@BusinessOregon

**STEAM Council
December 16, 2016**

The image shows the Oregon State Capitol building in the background, a large, classical-style structure with a prominent dome topped by a golden statue. In the foreground, there is a lush garden filled with numerous pink flowers, likely peonies, and a fountain with water spraying upwards. The scene is set against a clear blue sky with some light clouds. The text "GROW OUR OWN" is overlaid in large, white, bold, sans-serif capital letters across the center of the image.

GROW OUR OWN

ELEMENTS OF AN INNOVATION ECOSYSTEM

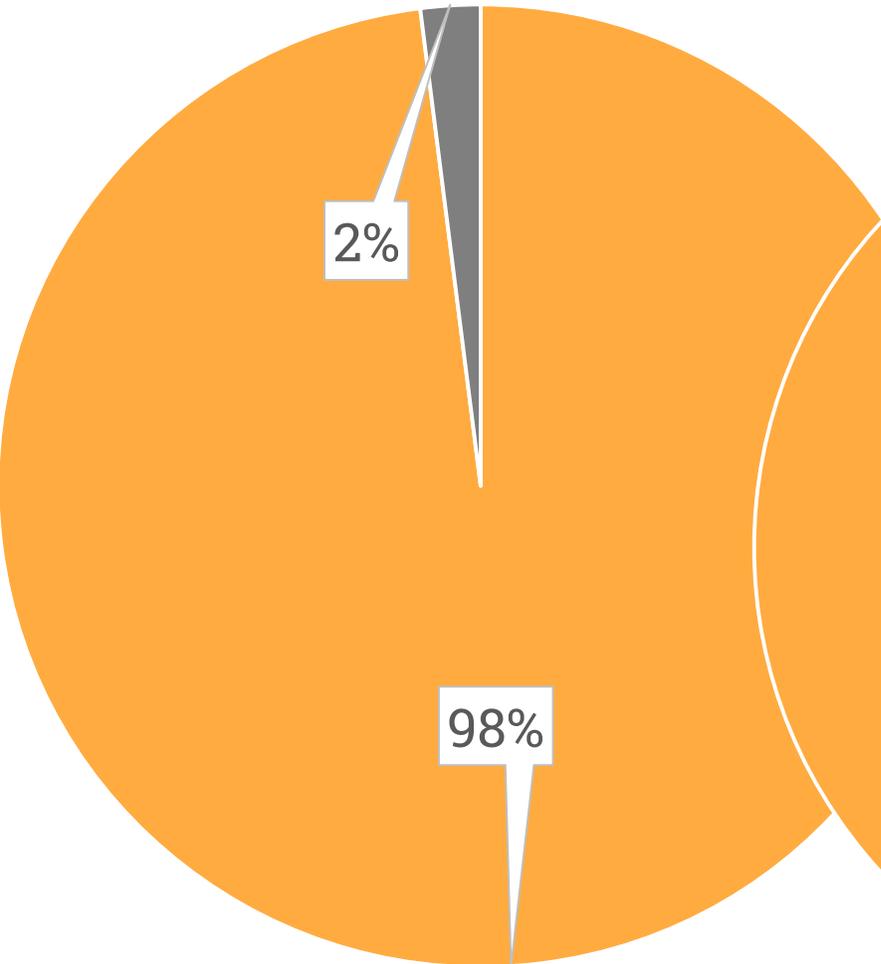
- Integrate innovation into Oregon's strongest industries (turn disruption into competitive advantages)
- Construct regional capacity to support innovation and entrepreneurship (connected and accessible statewide)
- Build a pipeline of access to capital (available to entrepreneurs regardless of demographics, geography, chosen industry or stage of business)

WHY OREGON?

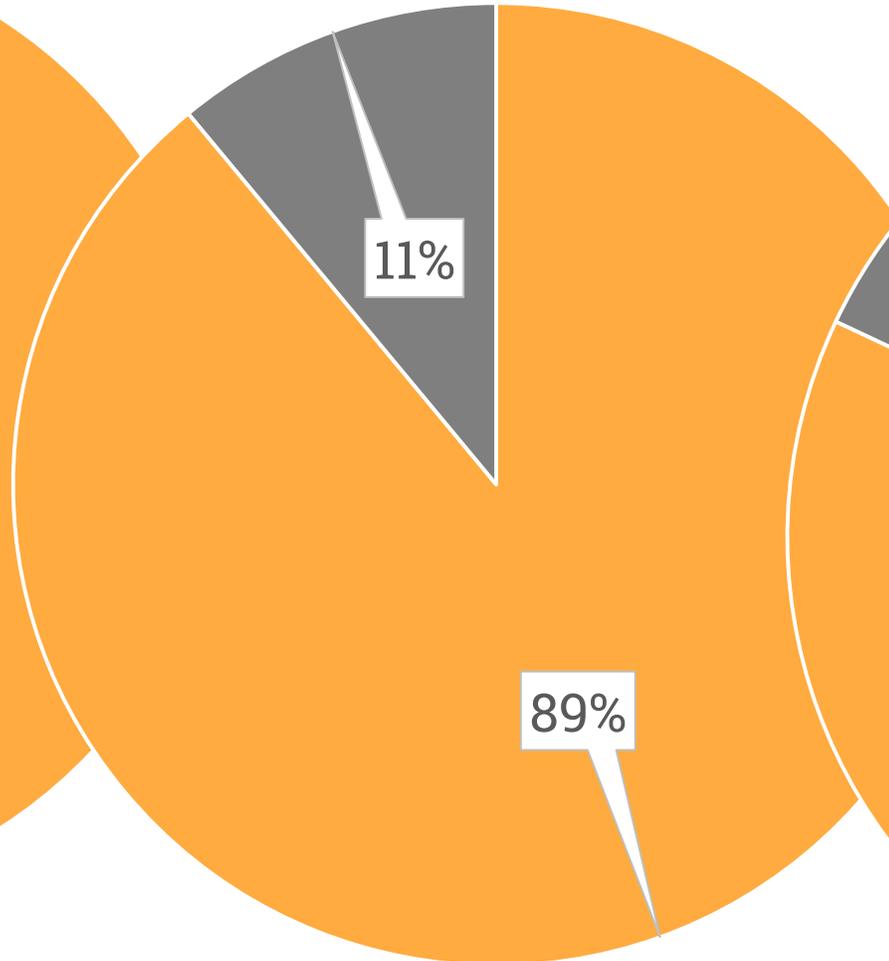
- Most immigrated to state in the US – 3 years in a row
- Oregon had the best-performing economy in the nation – 2015
- Forbes identified Portland, Oregon as the 5th best city to startup a business out of 50
- Oregon firms outperformed S&P 500 peers with 3.02% return (1 of only 4 States)
- Portland's is home to 96 breweries, more than any city in the world. (There are 246 breweries in the state)
- Oregon is home to 220+ specialty crops

OREGON COMPANIES BY EMPLOYMENT

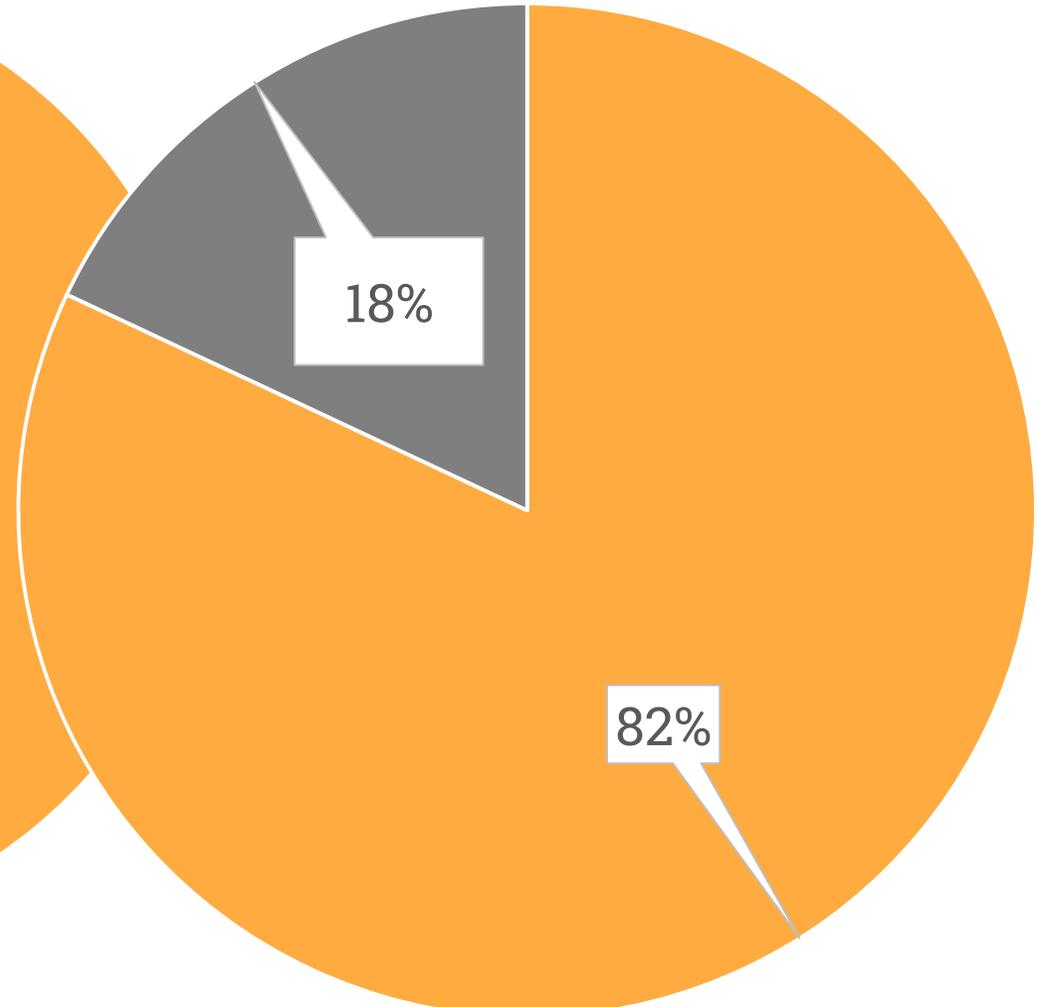
100 Employees



20 Employees



9 Employees





OREGON INNOVATION INDEX 2015

Oregon's 2015 Innovation Scorecard

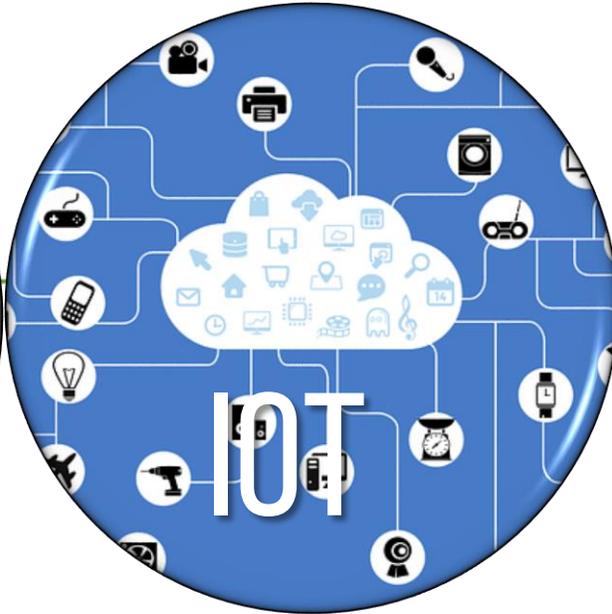
INDICATOR	10 YEAR TREND	RELATIVE TO U.S. AVERAGE (LATEST YR)	LATEST NATIONAL RANKING
INVENTION			
Invention Disclosures	↑	↔	24
Patents	↑	↑	6
Patent Citations	↑	↔	12
TRANSLATION			
R&D Investments	↑	↑	10
SBIR/STTR Awards	↑	↑	11
University Licenses/Options	↑	↑	9
University Licensing Income	↑	↓	22
COMMERCIALIZATION			
Venture Capital Investments	↓	↓	18
Kauffman New Entrepreneurs	↓	↓	29
New Company Creation	↔	↑	17
University Startups	↔	↓	27
ECONOMIC PROSPERITY			
Manufacturing GDP	↑	↑	2
Average Wage	↑	↓	22
High Tech Employment	↓	↑	15
Exports	↑	↑	12
INNOVATIVE ENVIRONMENT			
Educational Attainment	↑	↔	17
STEM Workforce	↑	↑	15
STEM Graduates	↑	↔	31
Migration of Knowledge Workers	↑	↔	24
Broadband Access	N/A	↑	14
2015 INNOVATION SCORE (OUT OF 100)			67

OREGON TARGET INDUSTRY GROUPS

Emerging Industries in Red

Advanced Materials	Apparel & Outdoor Gear	Business Services	Food & Beverages	Forestry & Wood Products	High Technology
Upstream Metals & Machinery	Apparel & Footwear	Professional & Technical Services	Food	Forestry	Semiconductors & Electronics
Aerospace & Defense	Outdoor Gear	Company Management	Beverages	Wood Products	Software & IT
Biomedical		Customer Support			

EMERGING MARKET OPPORTUNITIES





WHY INNOVATION & ENTREPRENEURSHIP?

1. Foster innovation
2. More & better entrepreneurs
3. Increase access to capital

INNOVATION AND ENTREPRENEURSHIP



- Strategic Alignment
- Scopes & Contracts
- Metrics & Reporting
- Board Management

- Vision & Values
- I&E Branding
- Communications
- Legislation & Policy

I&E STRATEGIC BODIES OF WORK



LEGISLATIVELY DRIVEN

INNOVATION



OREGON INNOVATION COUNCIL

Signature Research Centers
 University R&D Coordination
 SBIR/STTR Support

**High-impact Opportunities*

InventOR Competition
 STEAM/CTE

**Oregon Manufacturing Innovation Center (OMIC)*

CAPITAL



OREGON GROWTH BOARD

Oregon Capital Scan
 CDFIs
 Crowdfunding
 Mission Banks
 Angel Conferences/Funds
 Pre-institutional VC
 Institutional VC

**Commercialization Fund*

ECOSYSTEM

SMALL BUSINESS GROWTH COMMITTEE

Community Development
 Incubators/Accelerators
 Technical Resource Providers
 Programs
 Events
 Competitions

**Rural Entrepreneurship*

** New*

OMI
 RAIN

business
oregon  **on**®

OREGON
INNOVATION
COUNCIL

STRATEGIC PLANNING

Vision - Build long-term strategies to innovate in Oregon's target industries by making short-term catalytic investments that most directly and collaboratively create industry competitive advantages through disruptive inventions born out of science and research.

Mission - To strategically ACCELERATE initiatives that foster INNOVATION to drive ECONOMIC GROWTH in Oregon

CATALYSTS FOR CHANGE

- I & E Organizational Structure
- Base Budget
- 10 Year review

OREGON INC PROPOSED INVESTMENT THESIS

- Reactive to proactive investments
- Leverage inherent strengths with unique impact in 3 to 4 areas where Oregon has a heightened competitive advantage
- Catalyze public-private partnerships with education, industry and government
- Think longer term. Drive innovation by 2-year, 5-year and 10-year projects.

The image shows the Oregon State Capitol building in the background, a large, classical-style structure with a prominent dome topped by a golden statue. In the foreground, there is a lush garden with a large, vibrant display of pink flowers, likely peonies, and other greenery. A fountain with multiple jets of water is visible to the left of the Capitol. The sky is clear and blue, suggesting a bright, sunny day.

GROW OUR OWN

Purpose

The Math in Real Life project supports the expansion of regional networks to create an environment of innovation in math teaching and learning. The focus on applied mathematics supports the natural interconnectedness of math to other disciplines while infusing relevance for students.

During 2015 to 2017, the project supports six networked math learning communities that focus on developing and testing applied mathematics problems in grades 7 to 10. The networks help math teachers refine innovative teaching strategies with the guidance of regional partners and the Oregon Department of Education.

Outcomes for this project are to improve:

- Student mathematics content knowledge.
- Student attitudes and beliefs about mathematics that are correlated to higher achievement.
- Teacher instructional practices.
- Teachers' attitudes and beliefs about themselves and students relative to teaching math in context.

By the Numbers

- 71 High School Math Teachers
- 51 Middle School Math Teachers
- 12,000+ Students
- 100 Draft Lessons Posted

Sample Applied Lessons

Truck Month – Students investigate two options of automobile loan financing (High School Algebra).

School Segregation – Students use linear functions to understand trends in school racial diversity (High School Algebra).

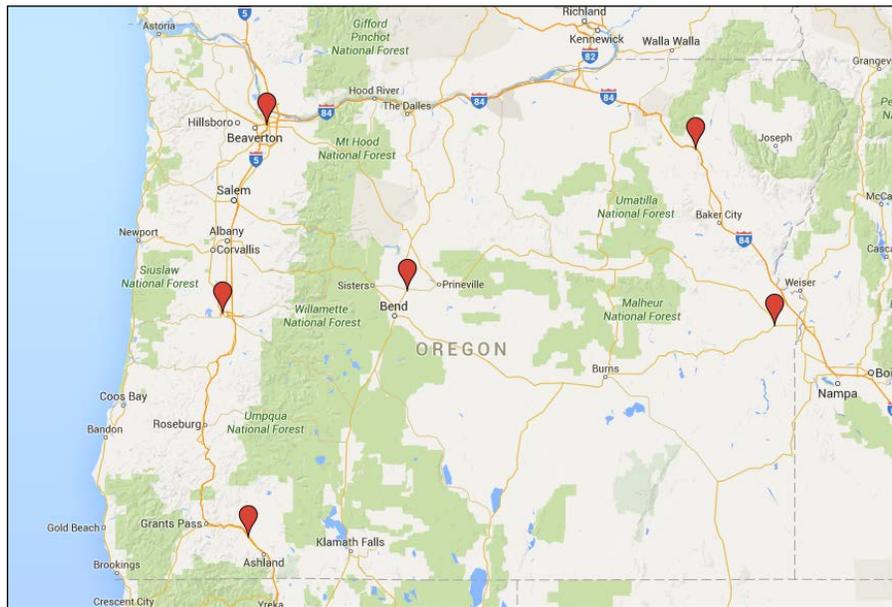
How Much Seed – Students use digital pictures from their drone flight to find the amount of seed needed to reseed a certain area of the school campus (Middle School Ratios and Proportions).

Time of Death – Students use simulated crime scene data to develop a model for estimating time of death (High School Algebra).

Cut Diagrams – Students produce a cut diagram for a metal part that minimizes waste (High School Geometry).

Recipients

Recipient	Grant Award
Greater Oregon STEM Hub	\$198,947.00
Central Oregon STEM Hub	\$248,252.00
Lane County STEM Hub	\$250,000.00
Frontier Oregon STEM Hub	\$207,498.00
Portland Metro STEM Hub	\$250,000.00
Southern Oregon STEM Hub	\$250,000.00



Contact

Tom Thompson
Tom.Thompson@ode.state.or.us



Math in Real Life

Tom Thompson

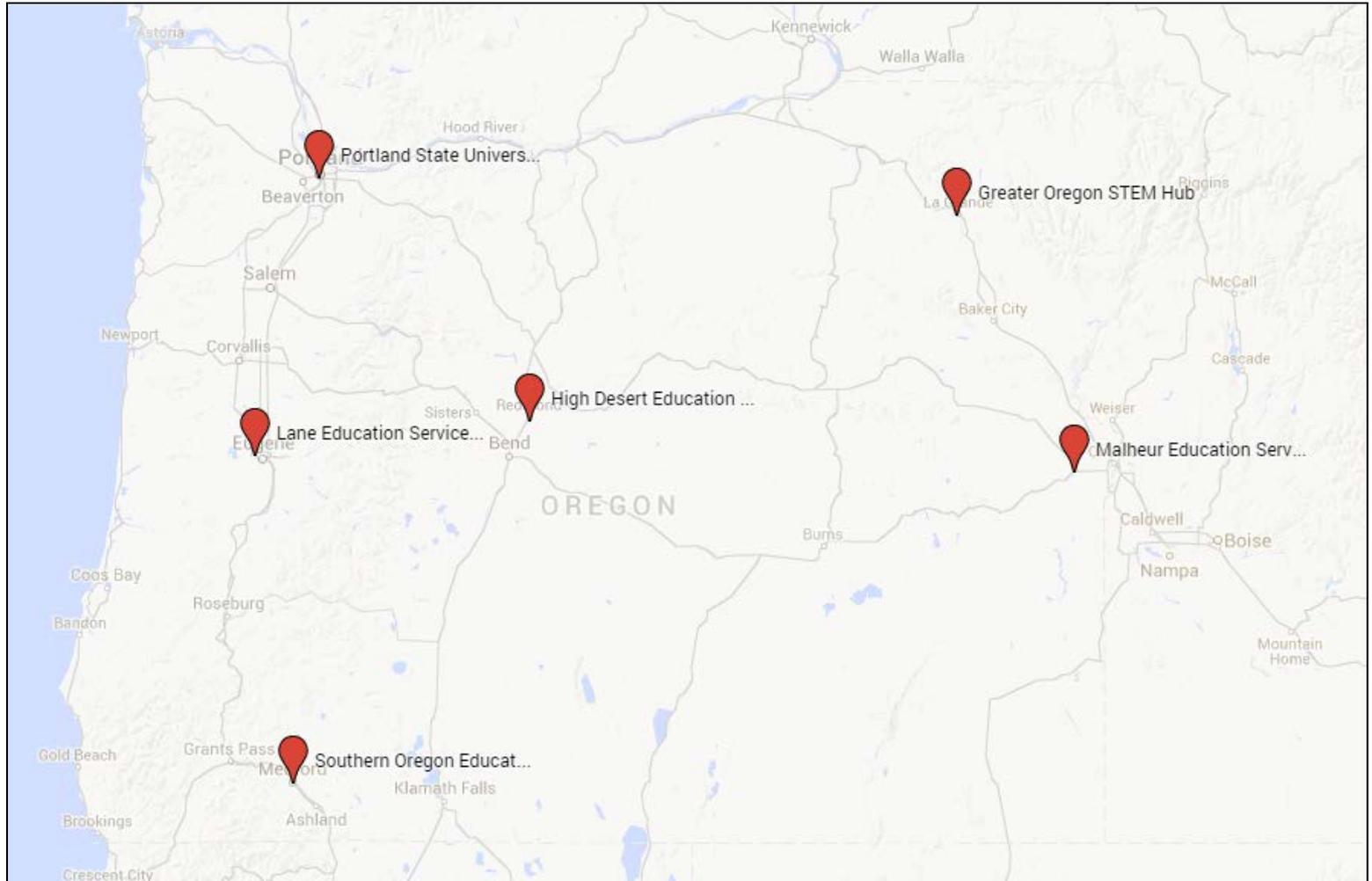
Mark Freed

Sue Wilson

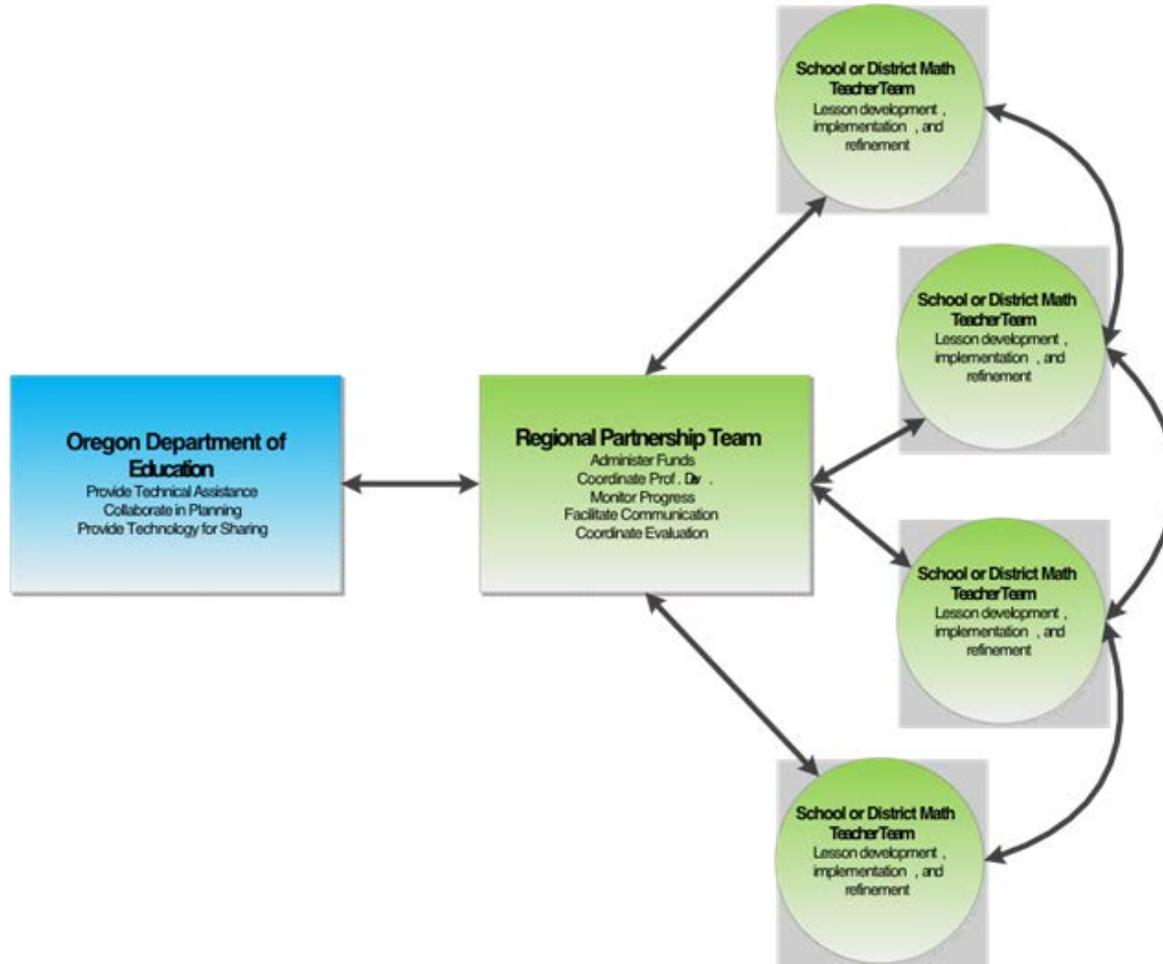
Focus

- Regional PD in applied mathematics for teachers in grades 7 to 10.
 - Increase student mathematics achievement.
 - Increase student interest in mathematics.
 - Increase teacher knowledge of applications of mathematics.
 - Increase teacher enthusiasm and self-efficacy for teaching mathematics.

Recipients



Community of Practice



By The Numbers

- Total Investment - \$1.4 million
- High School Teachers – 71
- Middle School Teachers – 51
- Students – Over 12,000
- Posted Lessons - 100

Timeline

- February 2016 – Awards Announced
- April 2016 – First Statewide Meeting
- October 2016 – Second Statewide Meeting
- March 2017 – Third Statewide Meeting
- May 2017 – Final Lessons Posted

- Ongoing regional teacher team meetings

Specific Projects

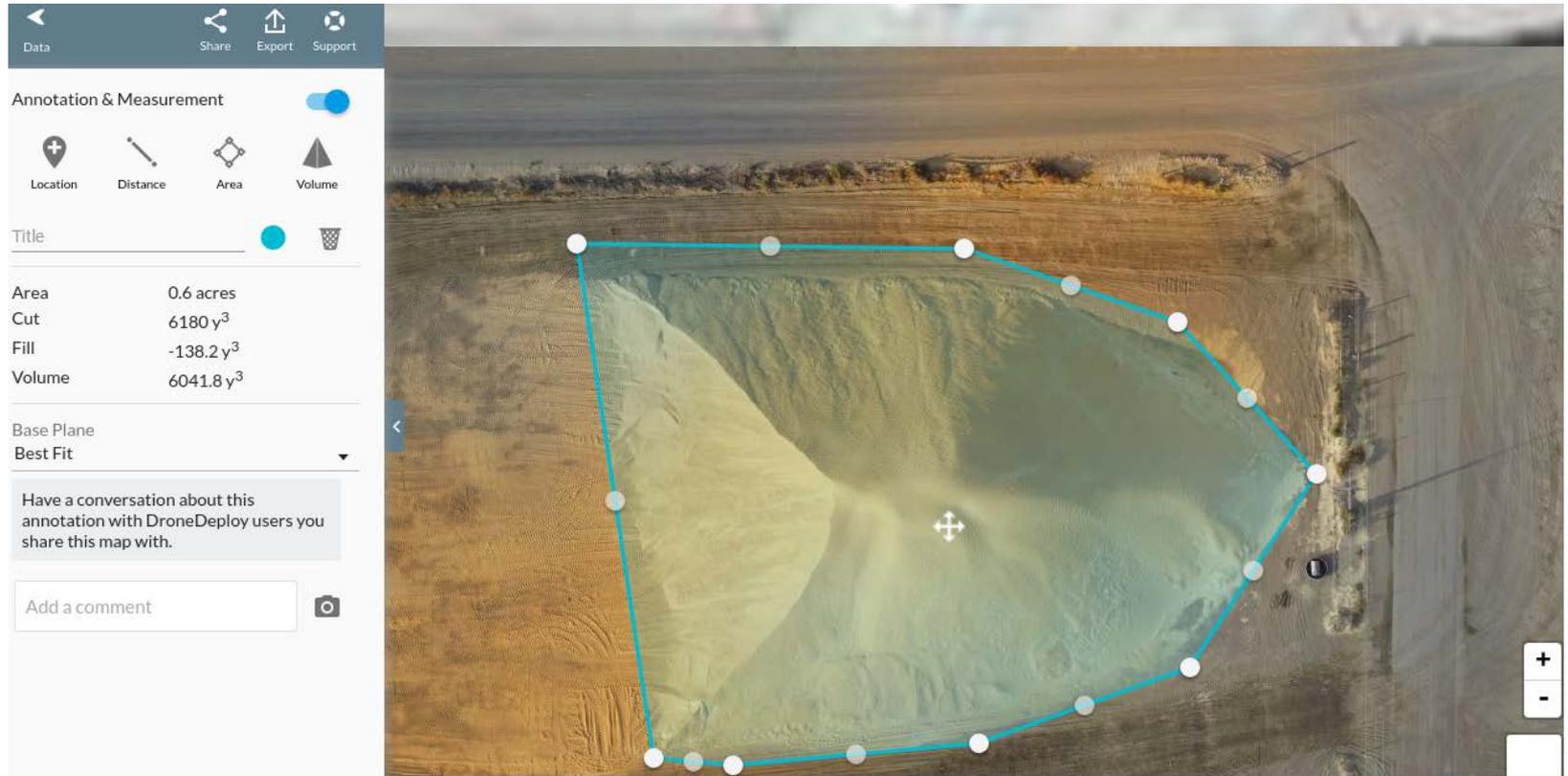
- Frontier Oregon STEM Hub – Mark Redmond
 - Drone Lessons
- Lane STEM Hub – Regine Childs
 - Social Justice Lesson

Frontier Oregon STEM Hub

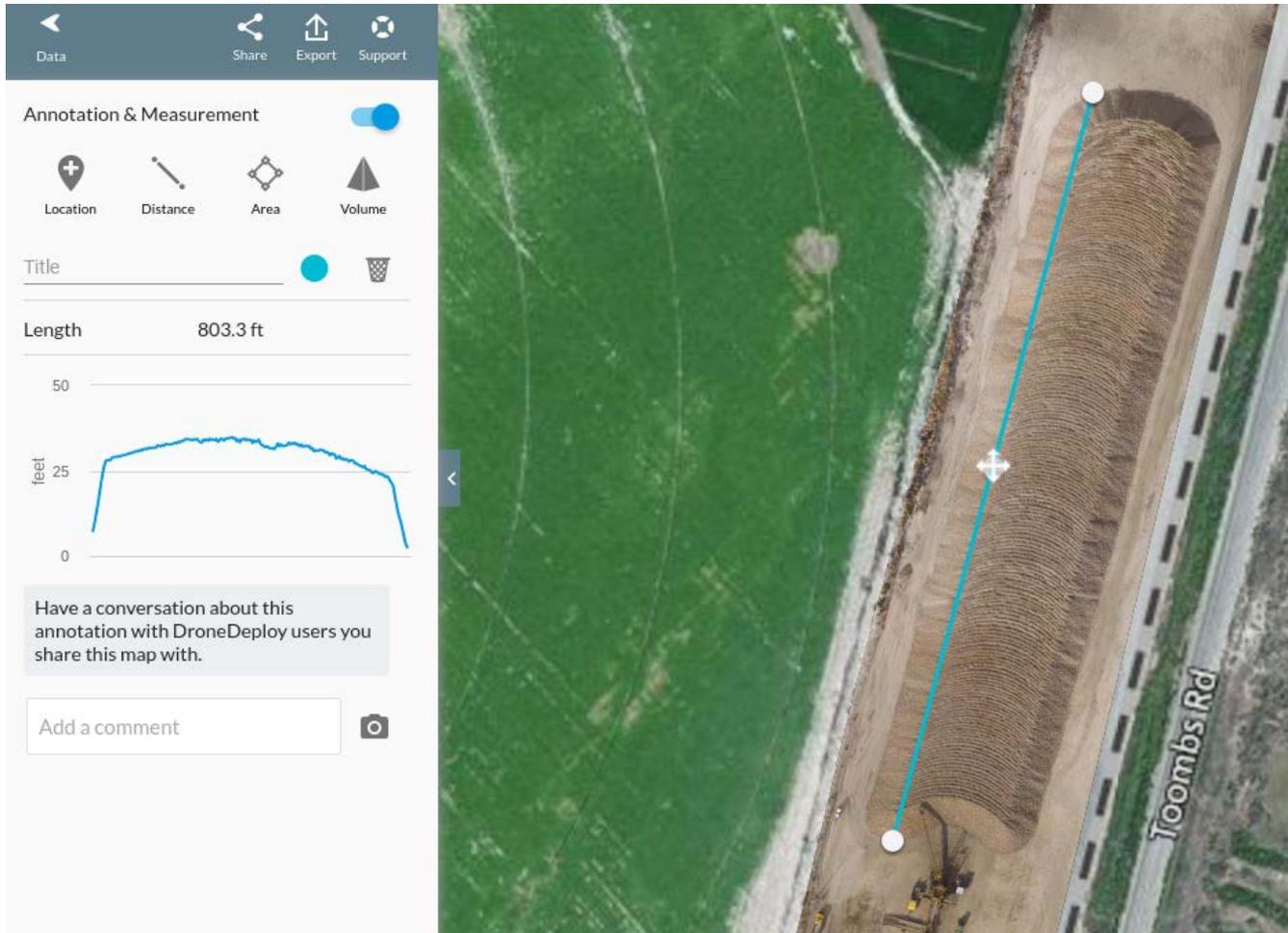
Grain Pile



Frontier Oregon STEM Hub Grain Pile



Frontier Oregon STEM Hub Beet Dump



Lane STEM Hub Social Justice Lesson



Links

- High School Math Pathways
- Math standards adoption (2020-2022)
- Post-secondary Conversations
 - Oregon State University
 - University of Oregon
- Oregon Math Network

Beyond the Current Grant

- Math in Real Life – v2.0
 - Deeper dive into appropriate pedagogies
 - Expand the number of teachers
 - Collaborate with post-secondary institutions
 - Develop coherent units/courses
 - Identify an OER platform

Questions





Malheur
EDUCATION SERVICE DISTRICT

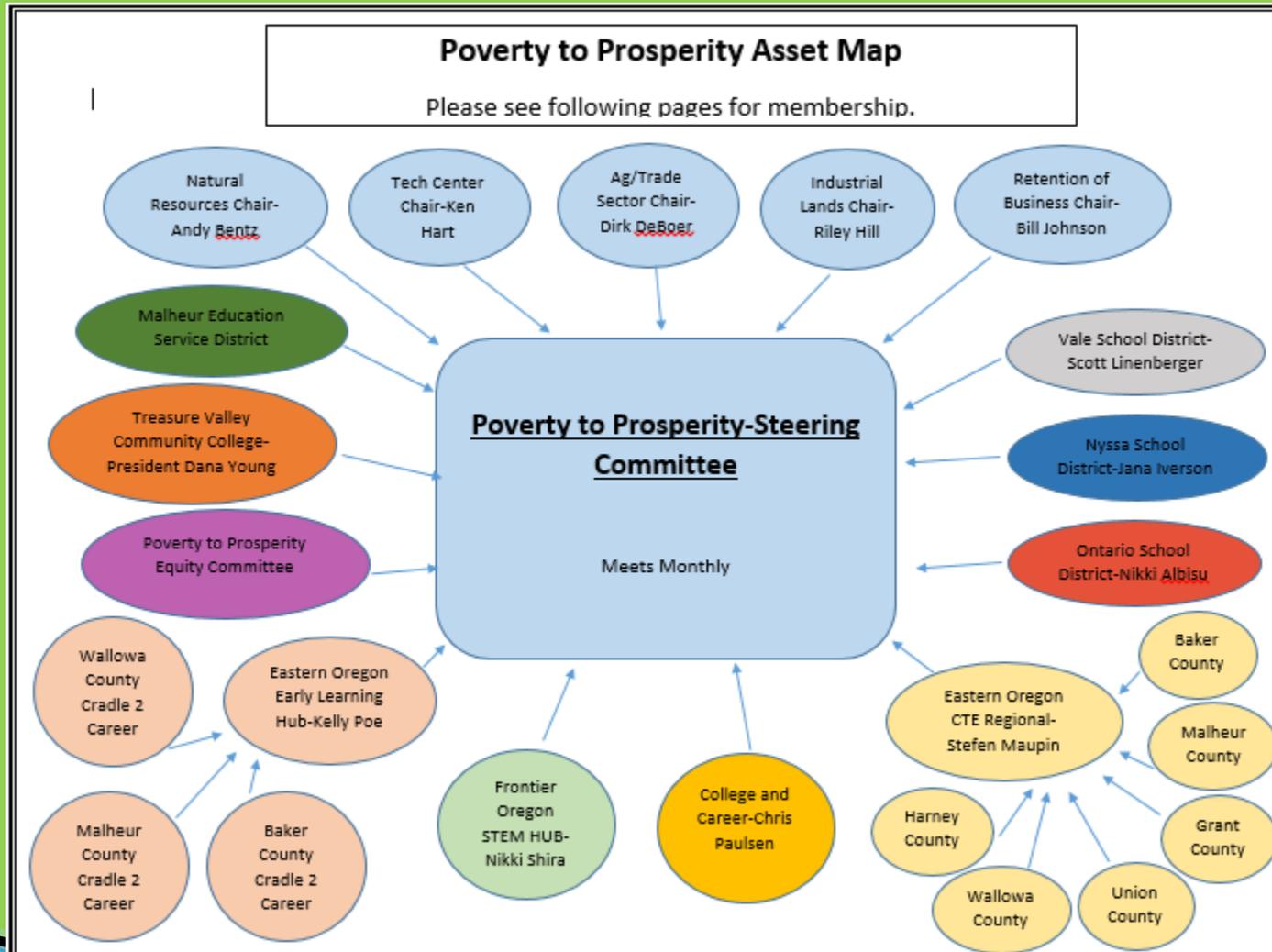
Frontier STEM Hub

Portland, December 16th, 2016

Governance Structure



Malheur
EDUCATION SERVICE DISTRICT



TVT Course Outline



Malheur
EDUCATION SERVICE DISTRICT

TVT 2017-2018

ECE

Course Sequence
 EDUC 140 (local) – 10th
 EDUC 141 (local) – 10th
 EDUC 150 (local) – 11th
 EDUC 161 (local) – 11th
 EDUC 246 (local) – 12th

480 hours ECE work
 experience – 12th

Instructors

Facilities

Program Costs

College Credit

Cert =
 CDA

Networking

Course Sequence
 Math – thru Alg II (local)
 STEM – coding
 microcontrollers (local)
 MS Office Specialist (local)

CIS 110 IT Essential 1 – 11th
 CIS 140W MS OS – 11th
 CIS 111 IT Essentials 2 – 12th
 Internship – 12th

Instructors

Facilities

Program Costs

College Credit

Cert =
CompTia A+
CompTia Net

Health

Course Sequence
 Biology (local)
 Intro (local) – 10th

CNA 1 – 11th
 EMT – 12th
 or
 CNA 2

Instructors

Facilities

Program Costs

College Credit

Cert =
 CNA +
 EMT or CNA2

Welding

Course Sequence
 Ag Mech 1 (local) – 9th
 Ag Mech 2 (local) – 10th

Weld I – 11th
 Weld II – 12th

Instructors

Facilities

Program Costs

College Credit

Cert =
 AWS 3G

ACS

Course Sequence
 Math – thru Alg II (local)
 STEM – coding + robotics (local)

Elec: DC, AC, Digital – 11th
 Hydraulic/Pneumatic – 11th
 Robotics/Microcontrollers – 12th
 PLCs – 12th
 ACS Systems – 12th

Instructors

Facilities

Program Costs

College Credit

Cert =
 SET +
 NIMS

TVT Locations



Malheur
EDUCATION SERVICE DISTRICT

Treasure Valley Tech School Schedule

Nyssa (w/ Adrian)

Welding 1 and 2-AM (Periods 1-3)

Instructor-Malheur ESD/Site School

Cost: \$32,500 (15 J/S)

Intro To Allied Health (Period 6)

Instructor-Malheur ESD (Charlene)

Cost: \$11,000 (20 Soph/J)

CNA (Periods 1-3) First Semester

Instructor-Malheur ESD/Site School

Cost: \$15,000 (8 J/S)

Computer Networking (Period 1)

Instructor-Malheur ESD/Site School

Cost: \$20,000 (15 J/S)

ACS (Periods 1 and 2)

Instructor-Malheur ESD/Site School

Cost: \$22,000 (15 J/S)

Total Cost: \$102,500 Max Students:
73

Ontario

Welding 1 and 2-AM (Choice)

Instructor-Roger ½ Day/Site School

Cost: ½ Roger (20 J/S)

Intro To Allied Health (Periods 3/4)

Instructor-Malheur ESD (Charlene)

Cost: \$22,000 (40 Soph/J)

CNA (Periods 5-7) All Year

Instructor-Malheur ESD/Site School

Cost: \$30,000 (8 + 8 J/S)

Computer Networking (Periods 3/4)

Instructor-Malheur ESD/Site School

Cost: \$40,000 (30 J/S)

ACS (Periods 6 and 7)

Instructor-Malheur ESD/Site School

Cost: \$22,000 (15 J/S)

Total Cost: ½ Roger + \$114,000 Max
Students: 121

Vale (w/Harper)

Welding 1 and 2-PM (Periods 5-7)

Instructor-Malheur ESD/Site School

Cost: \$32,500 (15 J/S)

Intro To Allied Health (Period 1)

Instructor-Malheur ESD (Charlene)

Cost: \$11,000 (20 Soph/J)

CNA (Periods 1-3) Second Semester

Instructor-Malheur ESD/Site School

Cost: \$15,000 (8 J/S)

Computer Networking (Period 6 or 7)

Instructor-Malheur ESD/Site School

Cost: \$20,000 (15 J/S)

ACS (Periods 3 and 4)

Instructor-Malheur ESD/Site School

Cost: \$22,000 (15 J/S)

Total Cost: \$102,500 Max Students:
73

STEM Hub Goals



- ▶ **Key Goals**
- ▶ In partnership with Treasure Valley Community College (TVCC), and as part of P2P, the Frontier Oregon STEM Hub will focus on creating opportunities in and exposure to STEM fields for students in grades K–8, leading to college and/or career pathways for local high school students in conjunction with another area initiative, the Treasure Valley Tech (TVT) program.
- ▶ Promote and support coding and computer science education in grades K – 12 throughout the region.
- ▶ Develop stronger and more extensive connections between the formal and informal STEM learning communities.
- ▶ Improve access to quality STEM education to engage and empower students to embrace their future through education.
- ▶ Inspire young people to pursue STEM and non-traditional career opportunities, particularly for students from underrepresented populations.
- ▶ Develop and sustain an equity committee that serves all P2P entities.

STEM Activities



Malheur
EDUCATION SERVICE DISTRICT

Frontier STEM Hub Activities

STEM Professional Development: (Teachers)

Date	Who/What	# of Participants
9/15/16	Vale Middle-STEM Hub Goals/Mission	9
9/16/16	Adrian SD (Google Apps For Education-GAFE/Chromebooks)	19
9/17/16	FIRST Lego League Robotics Coaches Training	15
9/23/16	Vale Elem School (GAFE/Chromebooks)	27
9/29/16	Nyssa High Math Teachers (GAFE/Chromebook)	4
10/3/16	ONREP PLT/Wild PD Day	36
10/5/16	Cairo Staff: Google Expedition	12
10/6/16	Nyssa High Math Teachers (GAFE/Chromebooks)	4
10/7/16	Code.org Fundamentals of CS	8
10/8/16	FIRST Tech Challenge Robotics Coaches Training	7
10/13/16	Nyssa High Math Teachers (GAFE/Chromebooks)	4
10/26/16	Alameda Elem School (Intro to Google Expedition)	24
10/27/16	Vale Middle School (Intro to Google Expedition)	9
10/31/16	Vale Elementary (Intro to Google Expedition)	27
11/16/16	Nyssa Language Arts (GAFE/Chromebooks)	4
11/30/16	Ontario-May Roberts (Intro to Google Expedition)	24
11/30/16	Ontario-Cairo (Intro. Code.org: Hour of Code)	8
12/7/16	Nyssa Language Arts (GAFE/Chromebooks)	4
12/9/16	zSpace Technology Professional Development	16
1/13/16	UAS Part 107 Training	

Student STEM Learning Experiences: (Students)

8/29/16	Nyssa 5th Grade (Ramos-Chromebooks)	27
9/7/16	Alameda 2nd Graders: Star Lab	60
9/12/16	Nyssa 5th Grade (Morrison-Chromebooks)	24
9/28/16	Cairo All-School STEM Assembly (k-5)	150
9/28/16 & 10/5/16	Nyssa SMILE: Drones	30
9/29/16	Four Rivers Community School Family Math & Science Night	125
10/5/16	Cairo 2nd & 4th grades	54
10/4,10/5, 10/6	Nyssa 5th Grade: STEM/VR	100
10/11/16	Aiken: 5th Grade (2 classes)	50
10/11/16	Four Rivers Community School STEM Assembly	200
10/12/16	Harper Elementary STEM Assembly	50
10/17/16	Willow Creek (Google Expedition (GE) k-8)	100
10/18/16	Aiken (GE 4th-2 classes, 5th - 2 classes)	100
10/19/16	Adrian Elementary STEM Assembly	132
10/25/16	Huntington: STEM Assembly (k-5)	33
10/25/16	Ontario Middle School (OMS): After School STEM for New-Comers (Engineering Lesson)	15
10/27/16	Cairo (GE w/STEM Focus k-5)	150
10/27/16	Adrian 5th Grade (Body Systems-Vernier Heart Monitors & Lung Capacity)	24

STEM Activities Con't



Malheur
EDUCATION SERVICE DISTRICT

11/1/16	Adrian Elem/Middle K-8 Google Exp.	175
11/1/16	OMS: After School STEM for New-Comers (Engineering)	15
11/2/16	Nyssa High Family Math & Science Night	150
11/3/16	Vale High School: VEX Robotics/GE	16
11/3/16	Ontario-Aiken (5th GE)	50
11/3/16	OMS: After School STEM for New-Comers (Google Expedition)	15
11/7/16	Ontario May Roberts (5th- GE)	55
11/7/16	Nyssa Elem Family Math/STEM Night	80
11/14/16	Jordan Valley Elementary k-6	35
11/15/16	Annex (Google Expedition) k-8	75
11/15/16	OMS: After School STEM for New-Comers (Drones)	15
11/16/16	Ontario School District Migrant Family Night: Engineering Lesson & Google Expedition	80
11/17/16	Vale, Nyssa, Adrian zSpace Mobile Classroom	260
11/18/16	Ontario, Four Rivers, Annex zSpace Mobile Classroom	205
11/21/16	Ontario Alameda (4th Google Expedition)	46
11/22/16	Ontario Alameda (2nd Google Expedition)	60
11/22/16	Huntington k-8 Google Expedition	60
11/28/16	Ontario May Roberts STEM Assembly (4th & 5th)	90
11/29/16	Adrian k-8 Google Expedition	175
12/8/16	Malheur Youth Health Science Day (7th)	340

	Looking Forward To	
1/17-5/17	Hour of Code Challenge for k-8 students of Malheur County	
1/3/17-3/21/17	Aiken After-School STEAM (1 day a week for 10 weeks)	70
3/2/17	Robotics Expo: All robotics teams and clubs will demonstrate and exhibit their work for schools, families, & community	
3/27-31/17	Boys & Girls Club STEM Week	
5/4/17	MY Aviation Field Day 6th Graders of Malheur County	350
6/2017	Boys & Girls Club STEM Summer Camp	
8/2017	TVCC Aerospace 2 Week Camp (6-12 grade)	

Google Expedition



Malheur
EDUCATION SERVICE DISTRICT

Hunter Marrow The Argus Observer Oct 6, 2016 0



zSpace-Video



Malheur
EDUCATION SERVICE DISTRICT



Instructor Robotics Training



Malheur
EDUCATION SERVICE DISTRICT



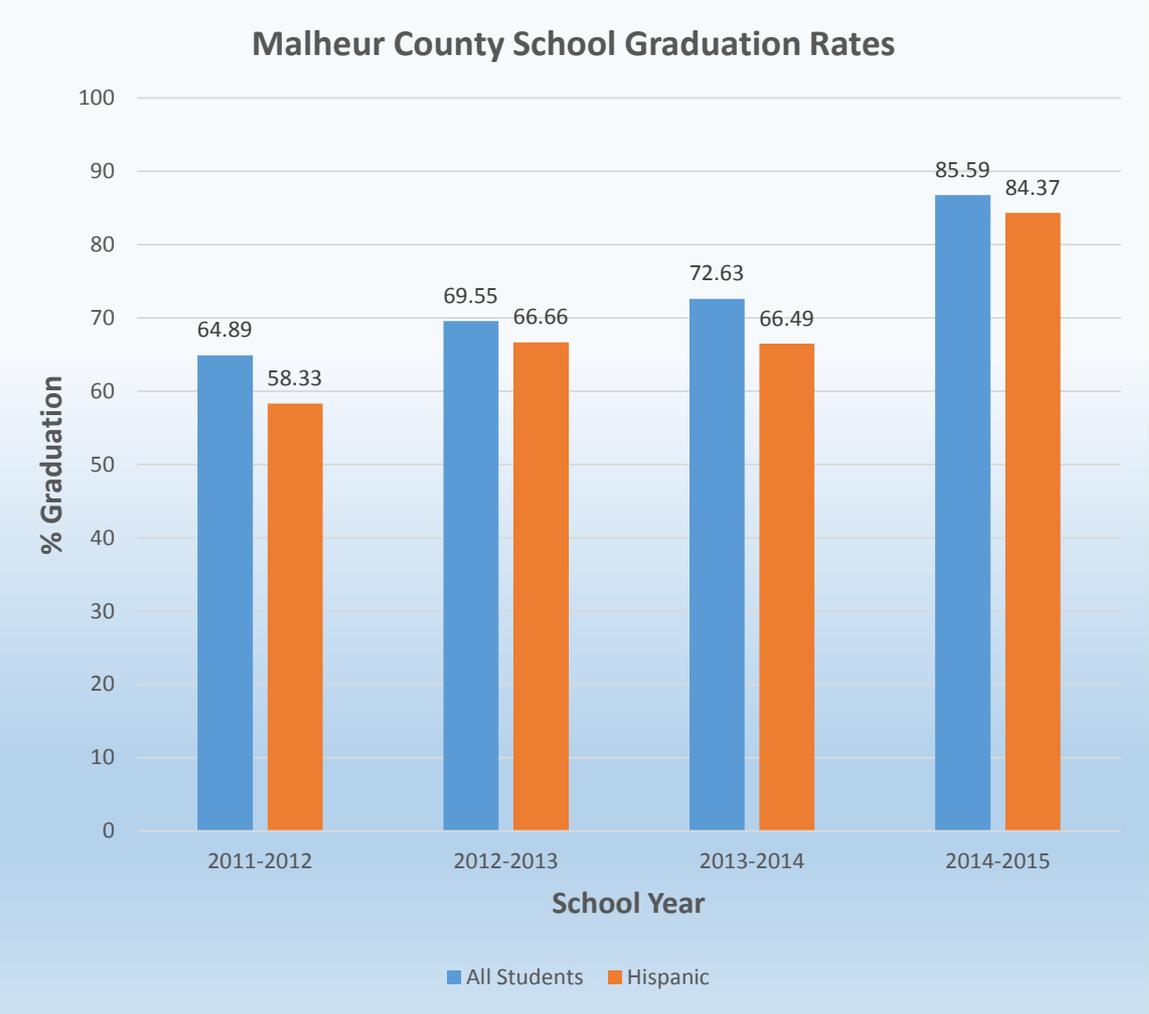
Health Science Day



Malheur
EDUCATION SERVICE DISTRICT

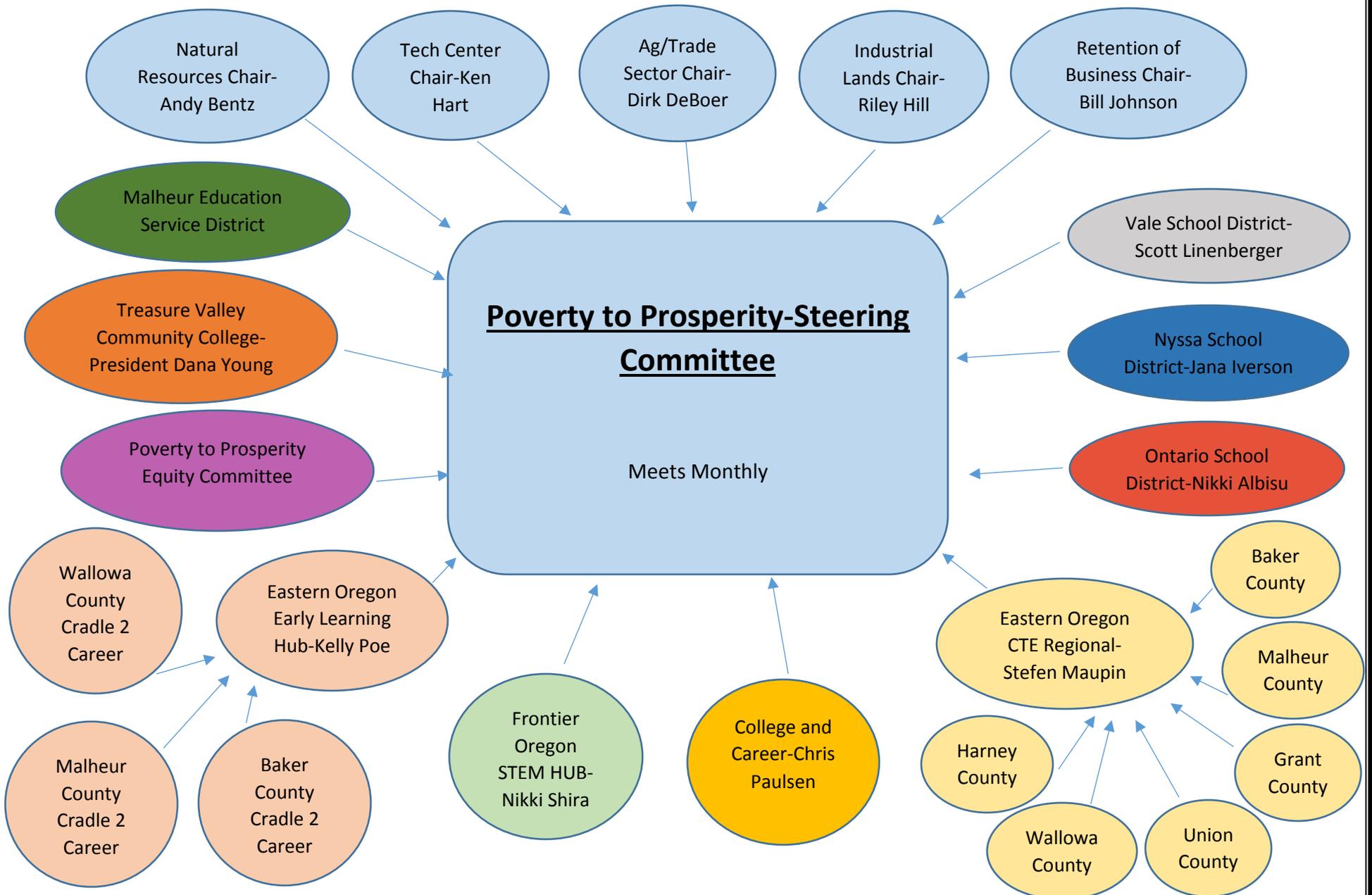


Results So Far!!



Poverty to Prosperity Asset Map

Please see following pages for membership.



Treasure Valley Tech School Schedule

Nyssa (w/ Adrian)

Welding 1 and 2-AM (Periods 1-3)

Instructor-Malheur ESD/Site School

Cost: \$32,500 (15 J/S)

Intro To Allied Health (Period 6)

Instructor-Malheur ESD (Charlene)

Cost: \$11,000 (20 Soph/J)

CNA (Periods 1-3) First Semester

Instructor-Malheur ESD/Site School

Cost: \$15,000 (8 J/S)

Computer Networking (Period 1)

Instructor-Malheur ESD/Site School

Cost: \$20,000 (15 J/S)

ACS (Periods 1 and 2)

Instructor-Malheur ESD/Site School

Cost: \$22,000 (15 J/S)

Ontario

Welding 1 and 2-AM (Choice)

Instructor-Roger ½ Day/Site School

Cost: ½ Roger (20 J/S)

Intro To Allied Health (Periods 3/4)

Instructor-Malheur ESD (Charlene)

Cost: \$22,000 (40 Soph/J)

CNA (Periods 5-7) All Year

Instructor-Malheur ESD/Site School

Cost: \$30,000 (8 + 8 J/S)

Computer Networking (Periods 3/4)

Instructor-Malheur ESD/Site School

Cost: \$40,000 (30 J/S)

ACS (Periods 6 and 7)

Instructor-Malheur ESD/Site School

Cost: \$22,000 (15 J/S)

Vale (w/Harper)

Welding 1 and 2-PM (Periods 5-7)

Instructor-Malheur ESD/Site School

Cost: \$32,500 (15 J/S)

Intro To Allied Health (Period 1)

Instructor-Malheur ESD (Charlene)

Cost: \$11,000 (20 Soph/J)

CNA (Periods 1-3) Second Semester

Instructor-Malheur ESD/Site School

Cost: \$15,000 (8 J/S)

Computer Networking (Period 6 or 7)

Instructor-Malheur ESD/Site School

Cost: \$20,000 (15 J/S)

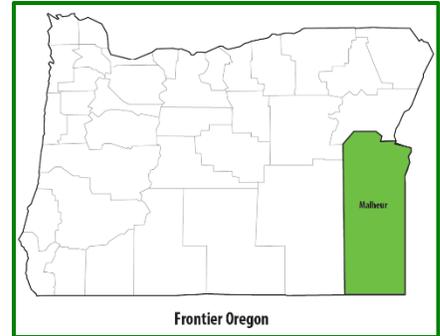
ACS (Periods 3 and 4)

Instructor-Malheur ESD/Site School

Cost: \$22,000 (15 J/S)

Frontier Oregon STEM Hub

The Frontier Oregon STEM Hub is a component of the Poverty to Prosperity (P2P) RAC. The RAC was founded in the belief that economic growth in the region will be achieved through quality education, better use of available resources, and coordination of the efforts of business, schools, and government.



Key Goals

- Improve access to quality STEM education to engage and empower students to embrace their future through education.
- In partnership with Treasure Valley Community College (TVCC), and as part of P2P, the Frontier Oregon STEM Hub will focus on creating opportunities in and exposure to STEM fields for students in grades K-8, leading to college and/or career pathways for local high school students in conjunction with another area initiative, the Treasure Valley Tech (TVT) program.
- Promote and support coding and computer science education in grades K – 12 throughout the region.
- Develop stronger and more extensive connections between the formal and informal STEM learning communities.
- Inspire young people to pursue STEM and non-traditional career opportunities, particularly for students from underrepresented populations.
- Develop and sustain an equity committee that serves all P2P entities.

Identifying Regional Challenges and Opportunities

The P2P collaborative is rooted in discussions that began in 2011, when community leaders in Malheur County recognized a need for a cross-sector commitment to economic recovery. The region has a high poverty rate, and faces many challenges to economic prosperity, including low capita income coupled with a high unemployment rate. Local efforts have since developed and focused on a five-point plan for economic recovery, with the understanding that education has to be tied to a common agenda in order to effect real change in the region.

The Frontier Oregon STEM Hub will adhere and contribute to the collaborative common agenda by focusing efforts in grades K-8 to stimulate student interest and excitement in STEM-related opportunities and careers.

Partners

Education: Malheur Education Service District, Harney County Education Service District, Eastern Oregon CTE Consortium, Eastern Oregon Community Based Services/Early Learning HUB, Malheur Promise, Treasure Valley Community College, Huntington School District, Arock School District, Juntura School District, Harper School District, Annex School District, Ontario School District, Nyssa School District, Vale School District, Jordan Valley School District, Adrian School District, Burnt River School District, Baker School District, Pine Eagle School District, and Harney County School District #3, Oregon State University, University of Oregon.

Community: Boys & Girls Club of the Western Treasure Valley, Malheur County Cradle to Career, Treasure Valley Community College Foundation, Oregon Department of Human Services District 14, Vale Bureau of Land Management, Eastern Oregon Regional Achievement Collaborative, Malheur County: Poverty to Prosperity, Malheur County Health Department, Lifeways Inc., TVCC Foundation.

Business and Industry: DeBoer Farms, Sage Farms, Amalgamated Sugar, Malheur Memorial Clinic, Presbyterian Community Care, Martin Manufacturing, Kinney Repair, NORCO, Fusion Bumpers, Rockwell Automation, Schneider Electric, Northwestern Mutual, St. Luke's West Region, Allen-Bradley, McBride Ranches, Arriola Farms, St. Alphonsus Regional Medical Center, OSU Extension, XL Hospice.

Frontier STEM Hub Activities**STEM Professional Development: (Teachers)**

Date	Who/What	# of Participants
9/15/16	Vale Middle-STEM Hub Goals/Mission	9
9/16/16	Adrian SD (Google Apps For Education-GAFE/Chromebooks)	19
9/17/16	FIRST Lego League Robotics Coaches Training	15
9/23/16	Vale Elem School (GAFE/Chromebooks)	27
9/29/16	Nyssa High Math Teachers (GAFE/Chromebook)	4
10/3/16	ONREP PLT/Wild PD Day	36
10/5/16	Cairo Staff: Google Expedition	12
10/6/16	Nyssa High Math Teachers (GAFE/Chromebooks)	4
10/7/16	Code.org Fundamentals of CS	8
10/8/16	FIRST Tech Challenge Robotics Coaches Training	7
10/13/16	Nyssa High Math Teachers (GAFE/Chromebooks)	4
10/26/16	Alameda Elem School (Intro to Google Expedition)	24
10/27/16	Vale Middle School (Intro to Google Expedition)	9
10/31/16	Vale Elementary (Intro to Google Expedition)	27
11/16/16	Nyssa Language Arts (GAFE/Chromebooks)	4
11/30/16	Ontario-May Roberts (Intro to Google Expedition)	24
11/30/16	Ontario-Cairo (Intro. Code.org: Hour of Code)	8
12/7/16	Nyssa Language Arts (GAFE/Chromebooks)	4
12/9/16	zSpace Technology Professional Development	16
1/13/16	UAS Part 107 Training	

Student STEM Learning Experiences: (Students)

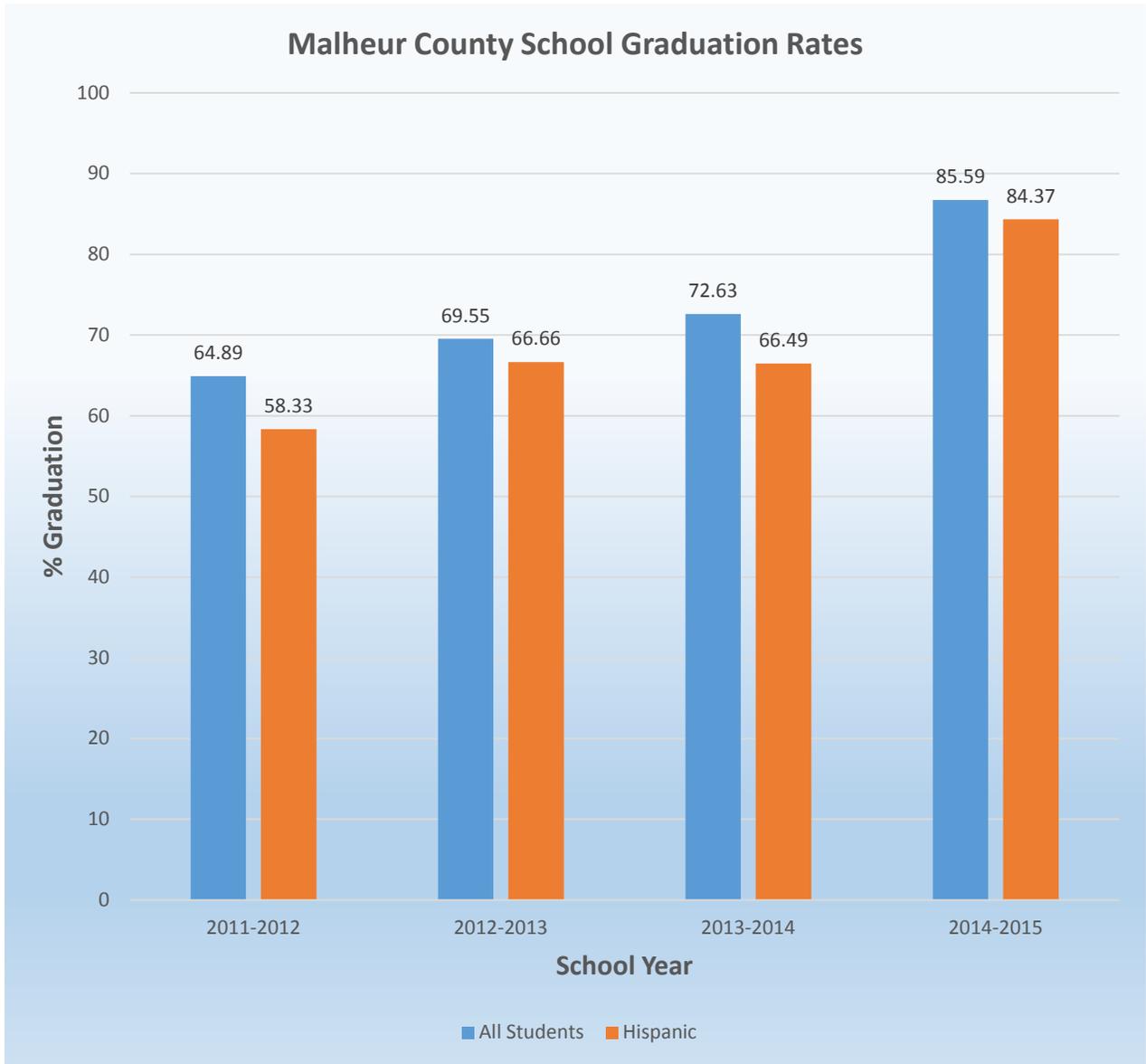
8/29/16	Nyssa 5th Grade (Ramos-Chromebooks)	27
9/7/16	Alameda 2nd Graders: Star Lab	60
9/12/16	Nyssa 5th Grade (Morrison-Chromebooks)	24
9/28/16	Cairo All-School STEM Assembly (k-5)	150
9/28/16 & 10/5/16	Nyssa SMILE: Drones	30
9/29/16	Four Rivers Community School Family Math & Science Night	125
10/5/16	Cairo 2nd & 4th grades	54
10/4,10/5, 10/6	Nyssa 5th Grade: STEM/VR	100
10/11/16	Aiken: 5th Grade (2 classes)	50
10/11/16	Four Rivers Community School STEM Assembly	200
10/12/16	Harper Elementary STEM Assembly	50
10/17/16	Willow Creek (Google Expedition (GE) k-8)	100
10/18/16	Aiken (GE 4th-2 classes, 5th - 2 classes)	100
10/19/16	Adrian Elementary STEM Assembly	132
10/25/16	Huntington: STEM Assembly (k-5)	33
10/25/16	Ontario Middle School (OMS): After School STEM for New-Comers (Engineering Lesson)	15
10/27/16	Cairo (GE w/STEM Focus k-5)	150
10/27/16	Adrian 5th Grade (Body Systems-Vernier Heart Monitors & Lung Capacity)	24

11/1/16	Adrian Elem/Middle K-8 Google Exp.	175
11/1/16	OMS: After School STEM for New-Comers (Engineering)	15
11/2/16	Nyssa High Family Math & Science Night	150
11/3/16	Vale High School: VEX Robotics/GE	16
11/3/16	Ontario-Aiken (5th GE)	50
11/3/16	OMS: After School STEM for New-Comers (Google Expedition)	15
11/7/16	Ontario May Roberts (5th- GE)	55
11/7/16	Nyssa Elem Family Math/STEM Night	80
11/14/16	Jordan Valley Elementary k-6	35
11/15/16	Annex (Google Expedition) k-8	75
11/15/16	OMS: After School STEM for New-Comers (Drones)	15
11/16/16	Ontario School District Migrant Family Night: Engineering Lesson & Google Expedition	80
11/17/16	Vale, Nyssa, Adrian zSpace Mobile Classroom	260
11/18/16	Ontario, Four Rivers, Annex zSpace Mobile Classroom	205
11/21/16	Ontario Alameda (4th Google Expedition)	46
11/22/16	Ontario Alameda (2nd Google Expedition)	60
11/22/16	Huntington k-8 Google Expedition	60
11/28/16	Ontario May Roberts STEM Assembly (4th & 5th)	90
11/29/16	Adrian k-8 Google Expedition	175
12/8/16	Malheur Youth Health Science Day (7th)	340

	Looking Forward To	
1/17-5/17	Hour of Code Challenge for k-8 students of Malheur County	
1/3/17-3/21/17	Aiken After-School STEAM (1 day a week for 10 weeks)	70
3/2/17	Robotics Expo: All robotics teams and clubs will demonstrate and exhibit their work for schools, families, & community	
3/27-31/17	Boys & Girls Club STEM Week	
5/4/17	MY Aviation Field Day 6th Graders of Malheur County	350
6/2017	Boys & Girls Club STEM Summer Camp	
8/2017	TVCC Aerospace 2 Week Camp (6-12 grade)	



Malheur County School Graduation Rates



Year	All Students	Hispanic
2011-2012	64.89%	58.33%
2012-2013	69.55%	66.66%
2013-2014	72.63%	66.49%
2014-2015	85.59%	84.37%

School Districts

- Adrian
- Harper
- Huntington
- Jordan Valley
- Nyssa
- Ontario
- Vale