



# City of Eugene Community Broadband Strategic Plan

---

Final - August 27, 2013

[www.oregonbroadbandplanning.org/](http://www.oregonbroadbandplanning.org/)

<http://www.oregonbroadbandplanning.org/Engaged-Communities/Eugene/>

This planning effort was supported by the State Broadband Data and Development Program and has been funded through an American Recovery and Reinvestment Act (ARRA) grant administered through the National Telecommunications and Information Administration, the Oregon Public Utility Commission and the Oregon Business Development Department.

## Acknowledgements

The City of Eugene wishes to thank the community and business members, the Oregon Business Development Department Technical Assistance Team, and the City of Eugene staff who participated in this planning effort.

### **Economic Opportunity**

Denny Braud  
Sean Stevens  
Dan Mulholland  
Craig Wright  
Ginger Perales  
Pam Berrian  
Jim Lindly  
Eimar Boesjes  
Shane Johnson  
Doug Yook  
Sanford Inouye  
Karen Stewart  
Frank Lawson  
Dean Ahlsten

### **Organization**

City of Eugene/Planning and Development  
Oregon Business Development Department  
Lane Council of Governments  
Continu Data Services  
City of Eugene Public Works  
City of Eugene  
SBDC Lane Community College  
Moonshadow Mobile Inc  
Angle LLC  
Insilico  
Comcast  
Century Link  
EWEB  
EWEB

### **Education & Education Technology Sector**

David Bong  
David Bolton  
Kiki Prottzman  
Adam Wendt  
Kyle Ennis  
Chris Tamarin  
Peter Tromba  
Carla Wade  
Todd Hamilton  
Brandon Olszewski  
Marlene Nesary  
Andrew Bonamici  
Sanford Inouye  
Karen Stewart  
Mark Horney  
Aoife Magee  
Paul Berger

Angle LLC/Avant Assessment  
Bethel School District  
Thinkersmith  
IRIS Educational Media  
Avant Assessment  
Oregon Business Development Department  
4J Eugene Public Schools  
Oregon Department of Education  
Creswell School District  
ISTE  
Independent Consultant  
University of Oregon Libraries  
Comcast  
CenturyLink  
University of Oregon  
Big Brothers Big Sisters  
Score 4 Reading

**Inclusion and Adoption**

Aoife Magee	Big Brothers Big Sisters
Shawna Adams	City of Eugene/Community Development
Adam Wendt	IRIS Educational Media
Joanna Goode	University of Oregon/College of Education
Remie Calalang	Bethel School District
Carmen Urbina	4J School District
Diana Avery	Lane County Health
Marlene Nesary	Independent Consultant
Peter Tromba	4J School District
Sanford Inouye	Comcast
Karen Stewart	CenturyLink
Erica Abbe	City of Eugene/Equity and Human Rights
John Barnum	NextStep Recycling
Milo Mecham	LCOG
Pam Berrian	City of Eugene

**Community Development Sector**

Tony Black	Lane County
Melissa Woo	University of Oregon
Eric Fullar	University of Oregon
Kimberly McCrea	City of Eugene
Dean Ahlsten	EWEB
Dale Smith	University of Oregon
Pam Berrian	City of Eugene
Rhonda Rice	City of Springfield
Sandra dela Rosa	Lane County
Karen Stewart	CenturyLink
Sanford Inouye	Comcast
Dan Reese	Peace Health
Connie Bennett	City of Eugene Libraries

**City of Eugene Project Staff**

Pam	Berrian	Information Services Division, City of Eugene
Bill	Ellis	Community Development Division, City of Eugene
Milo	Mecham	Lane Council of Governments
Ruxton	Schuh	Information Services Division, City of Eugene

**State of Oregon Technical Assistance Team**

Nancy	Jesuale	Project Manager	NetCity, Project Consultant
Zach	Hollander	Project Admin Asst	NetCity, Project Consultant
Sue	Dicile	Project Facilitator	NetCity, Project Consultant

**Oregon Technical Assistance Grant Advisor**

# City of Eugene Community Broadband Strategic Plan

## Eugene's Broadband Strategy Vision Statement

***Continue the City Council's Telecommunications Vision and City prosperity plans of propelling the Eugene Community to the top of the national class in broadband adoption, digital literacy, and 21<sup>st</sup> century skills through balanced investments in talent development, fiber and Wi-Fi infrastructure, and innovation spaces.***

## Eugene's Broadband Strategic Goals:

- 1. Increase community and service provider awareness of the benefits of a higher rate of broadband adoption in the community***
- 2. Close the digital divide in our communities: Take actions towards universal digital literacy and access to affordable, robust broadband connections***
- 3. Engage Eugene's P-20 (pre-school through higher education) students and teachers in creatively using broadband technologies and applications***
- 4. Develop Eugene as a world class innovation ecosystem; support a growing network of learning centers and innovation spaces connected by broadband***
- 5. Acquire world class broadband network capabilities in Eugene's downtown and along major corridors to accelerate high-tech business development***

## Why Adopt a Eugene Community Broadband Strategic Plan?

In November 2011, the Oregon Public Utility Commission (OPUC) presented its findings on broadband adoption to the Oregon Broadband Advisory Council. The findings showed that individuals with low income, advanced age, less education, or physical or developmental challenges, were less likely to adopt broadband at the desired pace—if at all. Eugene residents, industries and institutions possess unique qualifications to reduce broadband

adoption disparities due to income, race, and gender. Eugene is the second largest City in Oregon, home to University of Oregon's distinguished College of Education and Lundquist College of Business, Lane Community College and a vibrant technology business community. Many elements for success await the development of strategies to overcome, as an example, the cost and coverage obstacles to broadband adoption by income.

In the fall of 2012, the Oregon Broadband Advisory Committee (OBAC) and the Oregon Business Development Department selected Eugene to participate in a broadband strategic planning process focused on identifying goals and strategies to increase broadband adoption and utilization in the community. Eugene was one of eight municipalities to participate in the effort sponsored by a Broadband Telecommunications Opportunity Program (BTOP) grant to the State of Oregon by the National Telecommunications and Information Administration (NTIA).

As the State of Oregon's strategic planning process unfolded, awareness among workshop participants and staff grew that University graduates, skilled workers, visitors and entrepreneurs would be more likely to stay in the "Silicon Shire"<sup>1</sup> and grow their businesses here if they associate the region with higher capacity broadband and advanced digital skills. Participants also reasoned that Eugene's children will be more likely to develop into tomorrow's innovators through exposure to global ideas and interactions sourced through broadband in their schools, homes, and a myriad of locations distributed equitably across the city landscape. To avoid replicating past inequities, digital skill development must accompany the utilization of a well-coordinated and affordable broadband service system(s):

Further, it became clear that young Eugeneans of all backgrounds need more than access to broadband capacity and devices to become tech-savvy collaborators and innovators. They will need mentors and educators adept at creatively engaging them in the underlying concepts. The City of Eugene is positioned to be an innovator and supporter of a number of potential strategic initiatives if a policy plan is reviewed and endorsed by civic leaders, including the Eugene City Council. A collection of community members and experts offered their time and expertise to the State's technical assistance team to develop realistic findings and strategies to drive future City, educational, business, and resident decision-making relating to increased Broadband Adoption.

---

<sup>1</sup> A brand and marketing campaign undertaken by a tech-savvy business meant to underscore the extent and variety of Eugene's software and other technology rich industries.

## Findings:

Each of the sector groups involved in the planning effort developed findings about how broadband impacts their sector:

### **Economic Development**

- *Jobs will go where the skills are; economic gains depend on a technology literate workforce*
- *The effectiveness of the region's workforce development is fundamentally dependent on broadband adoption by the wider community*
- *Economic and community development requires access to robust, affordable broadband as a necessary condition for business growth and job creation*
- *Business decisions to locate, remain in the area, or to grow to scale, are significantly impacted by the quality, cost and capacity of commercial broadband services*
- *World-class Internet service will enable businesses in our community to compete with larger regions in sectors that employ a large percentage of high-wage occupations*

### **Community Development and Public Service Delivery**

- *Regional poverty and economic disparity will likely be exacerbated by the rapid pace of technology transformation without conscientious effort*
- *Socio-economic inequities are reflected in access to technology and skill development*
- *Broadband is providing an unprecedented opportunity for inclusion by lowering the cost of sharing information and knowledge, but the promise of the technology can only be realized if all community members have access to both internet services and the skills to use them*
- *Community and Public agency service delivery are now dependent upon utilization of broadband technologies in order to optimally service their clients and constituents*

### **Education and Education Technology**

- *What a quality education looks like in the 21st century increasingly depends upon broadband as a medium of instruction and information sourcing*
- *Modern K-12 education methods and goals depend on students and families having affordable, equitable access to broadband—learning does not end with the school day*
- *Internet access is now essential to health and fundamental life choices; telemedicine will be a dominant strategy for delivering health services and funding source for infrastructure development*

- *Our educational and health systems must modernize and adapt to the networked environment, and are in position to promote adoption by the wider community*

### **Equity and Inclusion:**

- *A digital divide, either geographically or along socioeconomic lines, is counter to our community's values; policy and funding decisions in support of closing those gaps is endorsed.*
- *We must empower all in the community to participate in the knowledge economy and our regional innovation ecosystem*
- *We need to create awareness about the importance of broadband adoption to education, work, and quality of life by raising definitional standards of literacy to include digital skills*

## **Broadband Goals and Key Strategies**

The following sections of this plan present the five Broadband Adoption and Utilization Goals with Key Strategies for their accomplishment. Strategies are sorted into shorter term (achievable within two years) and longer term (achievable within five years) categories. Shorter term strategies are prioritized.

It is evident the City cannot and should not act alone. The City can act in concert with private and public sector partners to realize broadband utilization goals. Implementing the short term agenda with partner agencies, universities and community colleges, local community organizations and business partners can help “jump start” activity on longer term agenda items. The longer term strategies provide a map to future planning, funding, and action.

## **Goal One:**

### ***Increase community and service provider awareness of the benefits of a higher rate of broadband adoption in the community***

Participants in the community sector planning workshops envision many far-reaching solutions to everyday problems, sourced over broadband platforms. They discussed software that can read to the blind, in-home health monitoring as well as online healthcare and integrated social service portals so records follow the parent, student or patient from provider-to-provider.

Participants see “an imperative to make online services seamless and easy to use so you can do anything you need to from your house,” but recognize it is difficult to keep pace with technology and its impact on society: digital services, devices, connections and networks change quickly. Social media, smart-phones, smart-meters in homes and cars, and in-home health monitoring are advancing. They offer tremendous potential to help people reduce transportation requirements, health care visits, and energy use. There is an exciting opportunity to avoid replicating the inequities of the recent past through concerted, sustained outreach and education of these technologies to all our residents. For instance, increasing librarian awareness of how digital technologies are taught in regional classrooms can help the Eugene Public Library come together with educators to build more dynamic learning opportunities.

Participants feel there is a critical role for public agencies to develop coordinated digital literacy messaging that illustrates how important broadband skills are to an individual’s ability to prosper. They expressed their belief that the Eugene Public Library is a keystone community institution for provision of digital literacy skills. They also support models like proposed by *Thinkersmith*, a nationally recognized Eugene non-profit, in developing physical innovation spaces and mentoring programs.

Finally, they stress the need for utilizing established partnerships between the University, Community Colleges, P-20 institutions and community to prioritize community goals of digital literacy and broadband adoption.

### **Priority Actions– Within 24 months**

1. In partnership with the education community and the Eugene Public Library, raise the “community norm” of what service/education should include vis-à-vis the “broadband future” through shared messaging and public service announcements
2. Develop a “broadband service officer” or ‘ombudsman’ position within City government whose role is to work as liaison between community groups, government agencies, business and school districts to identify gaps, and recommend partnered activities to increase broadband adoption and digital literacy.
3. Involve and engage the existing Education Partnership Initiative (which includes universities, community colleges and schools) to prioritize broadband awareness and digital literacy.

4. Seek and apply for collaborative grant funding to support any demonstration projects related to above.

### **Mid-to-Long Term Strategies – within 5 years**

- Utilize the ‘Broadband Service Officer’ to develop a local interactive “211-type online portal” that organizes broadband information and skill resources for the public
- Coordinate the Eugene Community Broadband Plan with other forward-looking demographic City plans such as *Envision Eugene* or the Regional Prosperity Plan.

### **Goal Two:**

***Take actions toward encouraging universal digital literacy and access to affordable, robust broadband connections***

Digital literacy is defined as the ability to effectively and critically navigate, evaluate, and create information using a range of digital technologies. “STEM” is an acronym for “Science, Technology, Engineering, and Math;” an encapsulation of “21<sup>st</sup> century skills.” [21<sup>st</sup> Century skills](#) are generally defined as core competencies in collaboration, digital literacy, critical thinking, and problem-solving. Together, the prominence of these terms in the education lexicon represents the impacts broadband technology has had on how educators and businesses perceive and define the contemporary, competitive necessities of an education in a knowledge driven economy.

Workers and entrepreneurs are both increasingly in need of “21<sup>st</sup> century” and “STEM” skill sets. 21<sup>st</sup> century skills, especially computer science programming skills, are critical abilities sought by many high-wage employers in this region. Local business leaders from the quickly evolving scientific research, advanced manufacturing, and software publishing sectors in the Eugene metropolitan region, referred to by some as the “[Silicon Shire](#),” participating educators from Eugene’s school districts and colleges all agreed on current and future workforce requirements. They expressed urgency for “raising the norm” of digital literacy in the community, and the threat non-adoption poses to the career opportunities of our young people and Eugene’s economic competitiveness.

However, workshop participants noted there are still broadband and digital divides between Eugene and its more rural neighbor communities, as well as within Eugene city limits. These disparities obstruct the community from meeting these economic challenges. One obstacle is service – the rural areas in Lane County around Eugene are underserved and in some areas no broadband service is available. Participants feel an obligation to assist where they can in reducing gaps within Eugene and with its neighbors.

Another hurdle is the cost of service. A very high-percentage of Eugene families are likely without any broadband connectivity in the home due to affordability. According to the Oregon

Research Institute’s “Community and Schools Together” (CAST) study, in 2010 only 62% of parents provided e-mail addresses to the Bethel School District despite strongly being encouraged to do so, and only 41% of Hispanic families.<sup>2</sup> A Leichtman Research Group report in 2012 found only 47 percent of American households with incomes of \$30,000 or less have broadband access (the annual mean wage in Eugene is \$42,460). Forty percent (40%) of students in Eugene qualify for the free or reduced lunch program—a strong indication of the numbers of young people potentially barred from affording high speed broadband service at home.

Internet service costs can deter tens of thousands of households looking to benefit from the personal, social, education and economic enrichment programs available via broadband. In those circles, an unaffordable service is simply an inaccessible service. Comcast conducts outreach for their Internet Essentials program, which offers \$9.95 a month internet services for families that meet federal qualifications for free lunches, but many do not qualify because of additional Comcast criteria (e.g., the family cannot be a current Comcast Internet Access customer). In addition, participants reflected that too many Eugeneans are still generally unaware of that program or other community-based assistance programs, or may not employ the services, free or discounted, because they do not perceive the value of it in their lives.

Participants discussed potential public, private, and partnered strategies to help close adoption gaps due to perceived lack of value, cost, lack of service, or unavailability of hardware such as stationary computers and mobile tablets. They advocate adopting a formal broadband policy goal of universal digital literacy before delineating any specific actions such as developing assistance programs for families who cannot buy broadband service or devices.

Workshop groups hypothesized tactics to provide low cost computers or tablets, training and mentoring through partnering with non-profit organizations who are already taking the initiative in these areas. Groups explored ideas such as whether mobile devices may be checked out of a Library by students with a card or loaned for their use within the Library. Finally, they put forward ideas to create easy to use, locally managed online information portals or services which help people easily find the government and community services they need online.

### **Recommended Priority Actions – within 24 months**

1. Bring potential funding partners together for the development of a broadband adoption partnership to help implement recommendations such as a mobile device loan program for un-served households. This partnership should, at minimum, involve the Library, BRING and NEXTSTEP.
2. Enhance the Eugene Public Library’s digital literacy program capacities by seeking funding resources and exploring new partnerships for building technology enrichment modules which will complement skills students learn in the classroom.

---

<sup>2</sup> Communities and Schools Together (CAST) is funded by the National Institute of Child Health and Human Development (R01HD057839). CAST is a five-year project by Oregon Research Institute in cooperation with the Bethel School District that seeks to improve child health outcomes in Bethel.

3. Using recommendations of civic and education partners, explore the feasibility of an expanded City hosted, whether public or private sector provided, Wi-Fi network availability through public hotspots, in neighborhoods and at additional community use facilities.

### **Recommended Mid-to-Long Term Strategies – within 5 years**

- Encourage after school programs and other extracurricular instructors and mentors to work towards equity goals for instructing youth in the use of technology and advanced digital literacy skills, including computer programming and coding
- Support the creation of a City or Community -Sponsored tech community space to house a mentoring program, such as described as a Thinkersmith model, to provide skilled trainers and mentors to a wider population; it should be encouraged to have inclusive instruction elements for demographic groups most challenged in developing advanced digital skills.
- Encourage local employers, public and private broadband providers and social service providers to create new, more extensive scholarship programs for high-capacity internet access for unserved and under-served families and youth.
- Develop the concept of a mobile training program with the involvement of community partners; a “tech-squad” that can more directly work with individuals.

### **Goal Three:**

***Engage P-20 students and teachers in creatively using broadband technologies and applications community-wide***

Advanced offerings in computer science, business administration, engineering and science are paramount to a company’s success in an ever-changing business and technical environment. Likewise, quality education, from pre-K through high school, that incorporate these kinds of skill development at early ages is likely to become an ever more important consideration for the many thousands of professionals living and working in Eugene—as well as those looking to relocate to the region for work in high-tech firms. Many careers today are demanding additional learning that takes place outside of the workplace. Furthermore, talented careerists are likely to want extensive and supplemental educational opportunities in their communities for themselves as well as extra-curricular offerings for their children.

Participants agreed it was essential that educational outcomes and mandated standards align with 21<sup>st</sup> century job skill requirements. Connecting educators to employers and students with occupational activities before they choose a study major has long been a necessary aspect of matching taught skills to workplace demands. Yet, participants also acknowledge that beyond matching digital literacy to certain occupations, and essential to the “think/know/act” model, was inclusion of more advanced technological literacies in our schools. For instance, teaching computer science is increasingly needed by a wider breadth of occupations and careers as it

shifts from the esoteric requirements of select specialists to a desirable trait in a broader range of fields. Moreover, participants discussed how local education in the schools must have “global relevance” to enable global connections, collaborations, and to achieve the “break down of geographical and experiential distance,” so often discussed around broadband adoption. They focused on strategies that will allow maximum exposure to deep learning support, coaching and resources, as well as professional development for teachers.

Striving for a position at the forefront of high-technology and innovation is critical to the region’s long-run economic performance. Increasing project-based learning opportunities for individuals of all ages and ability levels is an important step towards reaching the top. Many participants specifically cited the non-profit “Eugene Maker Space” as a model program located outside the normal school curriculum for inculcating creativity, collaboration, and innovation skills in young people. ‘Innovation spaces’ are often defined as places that: a) productively engage and expose people to ideas and advanced technologies, b) build a welcoming, participatory culture, and c) foster acquisition of new literacies and skills. Other community examples include the public library and newly established “Fertilab Thinkubator.”

Participants discussed how these models anticipate the kind of transformative concepts required in the much larger project of preparing all young people for 21<sup>st</sup> century skill requirements. These extracurricular “innovation spaces” may also become locations where locally-based researchers and businesses can engage in the testing and development of new learning technologies that can later be brought to scale.

Workshop attendees stressed the need for a changed mindset about the role of education to engender a changed culture and more flexible bureaucracy. They felt this could be achieved through articulating the perceived digital literacy needs accurately and spreading the message widely throughout the community. Participants hope to see on-going development of an integrated, lifelong, learning model through existing institutional partnerships. Other participants underscored the need for all actions to be scalable and rooted within school districts. Broadband provision reduces transaction and information costs related to many kinds of knowledge, but transferring 21<sup>st</sup> Century or Science, Technology, Engineering, and Math [STEM] skills to the next generation will continue to require access to both technical tools and active, directed mentorship. To do that inclusively will take sustained community concentration.

### **Recommended Priority Actions – within 24 months**

1. Improve awareness between librarians, educators, and businesses about activities taught in classrooms through informal and formal regular meetings; create opportunities for increased synergism between school districts and the Library in digital literacy and technology.
2. Encourage the establishment of a cross-sector task force whose mission is to identify and help create spaces for users within local schools, or in proximity to schools, for interactive, collaborative technology experiences

## Recommended Mid-to-Long Term Strategies – within 5 years

- Equalize hardware and software access opportunities for all students by working with community partners to supply broadband connections and hardware through a municipal or private sector computer recycling program, a library loan program, or direct grants
- Explore deeper, more regular partnerships between local policy and research organizations to assist school districts in training teachers and access to the information resources they need for integrating technology into all learning situations
- Support efforts by educational institutions to move school registration processes online while seeking out ways to increase the ability for all families to affordably access the internet.

### Goal Four:

*Develop Eugene as a world class innovation ecosystem; support a growing network of learning centers and innovation spaces connected by broadband*

The Regional Prosperity Economic Development Plan (Regional Plan), signed by the Joint Elected Officials of the Cities of Eugene, Springfield, and Lane County on February 26<sup>th</sup>, 2010 strategizes for “energizing a creative economy” and “investing in tomorrow’s talent” as a means of establishing a “learning community” to engage with the needs of the future economy. A priority step within the Regional Prosperity Plan is establishing “innovation incubators.” The Regional Prosperity plan can be accessed at: <http://www.eugene-or.gov/DocumentCenter/View/3649>

Developing a network of innovation spaces—physical environments that promote communities of learning and making—integrated through high-capacity broadband and shared information systems to Oregon RAIN (Regional Accelerator and Innovation Network) can enhance Eugene’s innovation ecosystem and support regional economic growth. The collaborative development of high-tech business acceleration tools through the RAIN initiative is an exciting opportunity to examine how the region’s brightest broadband and technology mentors could deepen relationships with their host communities and support inculcating 21<sup>st</sup> Century skills.

An innovation ecosystem is a human social network spread among institutions in public and private sectors whose activities and interactions initiate, import, modify and diffuse new, and economically useful, knowledge. The patterns of behavior that build within an innovation ecosystem minimize transaction costs and encourage transference of tacit knowledge (information that is difficult or extremely costly to explain other than through co-creation or direct experience) between its members. Over time, an innovation ecosystem produces positive returns for experience and expertise that increase regional productivity and economic growth. The creative entrepreneurs and workers who reside in the ecosystem generate wealth and attract external financial investment—fostering a virtuous cycle of re-investment.

The Eugene community hosts many technology start-ups, especially in areas of social science research and custom application developers. The University of Oregon supports significant basic science research and commercialization studies. Affordable, high-capacity broadband as well as widespread adoption and utilization in the community are necessary preconditions for linkages between public sector researchers, their private sector partners as well as the startup, development, and growth of technology companies.

In particular, advanced broadband utilization and digital skills in the local labor force are crucial to the growth and retention of businesses spun-off from the University systems within Eugene. Developing digital literacy skills, and the most effective methods for teaching them, are the shared programmatic objectives for community and business accelerator stakeholders, including Eugene's Community Broadband Strategic Plan stakeholders. If the community invested more heavily in tomorrow's talent then it could spur more technology business as well as retain and grow them to scale.

Innovation spaces come in many different varieties and are known by many appellations: *hubs, labs, libraries, co-laboratories, makerspaces, telecenters, co-working spaces, etc.* Yet, all share qualities as physical places that 1) productively engage and expose people to ideas and advanced technologies, 2) build a welcoming, participatory culture, and 3) foster acquisition of new literacies and skills needed by participants to compete at high levels in their respective fields. Formal programmatic educational and workforce development offerings can take place in these facilities, but the interactions of people from various backgrounds, occupations, and the sparking of unlikely connections are known to be the central aspects of realizing productivity in innovation spaces. Rather than build these spaces to inculcate 21st century skills from scratch, the City and other regional institutions are better served by funding existing non-profit initiatives and continuing support through the addition of complementary courses, events, and workshops to be held at these locations.

Technology business incubators can catalyze the commercialization of research that originates at the University or from the local tech community into valuable products or services. Innovation spaces can help incubators make the linkages of latent entrepreneurial potential with access to financing, facilities and management expertise. They also may improve the regional culture of innovation and workforce development. Broadband and access to other information technologies is the connective tissue between all of the community's innovation spaces and University accelerator.

### **Recommended Priority Actions – within 24 months**

1. Use broadband resources to lower cost of diminishing the workforce's STEM skill gap by assisting in the creation of extracurricular learning centers and mentor programs
2. Encourage the establishment of innovation spaces for project-based learning throughout the community to help diminish the workforce's STEM skill gap; ensure they are adequately networked to the Oregon RAIN and UO CORE STEM initiatives
3. Pursue opportunities to connect and leverage community assets and community-based organizations to support Oregon RAIN's concept of an "innovation ecosystem"

4. Utilize the Eugene Public Library’s existing collaborative models for establishing a digital commons outside of the library space for information sharing and software licensing.
5. Market our region’s technology business ecosystem through the existing “Silicon Shire” portal as well as other marketing avenues.

### **Recommended Mid-to-Long Term Strategies – within 5 years**

- Support the provision of operational funding to a system of external supports for basic science research, technology business development, and technical workforce development; like living laboratories or entrepreneurial co-working spaces.
- Refine our region’s focus on improving the pipeline of innovative workers to high tech firms through broadband inclusion and education actions.

### **Goal Five:**

***Acquire world class broadband network capabilities in downtown and along Eugene’s major transit corridors to accelerate high technology business development***

According to the Federal Communications Commission’s National Broadband Plan (2010); “Broadband is a core infrastructure component for local communities seeking to attract new industries and skilled work forces.” The Plan continues: “Broadband can provide significant benefits to the next generation of American entrepreneurs and small businesses—the engines of job creation and economic growth for the country. Small and medium enterprises (SMEs)—businesses with fewer than 500 employees—employ more than half of America’s private sector workers and create roughly 64% of net new private sector jobs each year.”

Eugene’s Community Broadband Strategic Plan workshop participants spent some time discussing their views that high capacity broadband services, of the type necessary to support a biotechnology firm or a leading edge software company, are not universally available and are often unaffordable for businesses locating in the downtown core. Several workshop participants compared Eugene unfavorably to other cities with respect to the affordability of higher capacity broadband and worried that “we could lose our nascent technology companies to Portland, Seattle or San Francisco if we don’t address the need for gigabit and terabit speeds for tech companies.” Further, as an expression of the City’s culture of innovation and future demand, mobile broadband must become “as ubiquitous as air and electricity.”

Participants envisioned an urban core and major transportation corridors blanketed with access to Wi-Fi and 4G services to support a culture of innovation. However, wireless service in public areas alone is insufficient for the needs of many businesses. The economic development workshop group discussed—with some specificity—the potential for development of EWEB’s existing, but now unused steam pipe infrastructure, for repurposing as ‘middle mile’ broadband

fiber conduit. Middle mile is defined as the link between long distance internet provider and the area up to the last yard. Last yard service is defined as the actual connection to the user.

While it was not possible within the time frame of this particular planning phase to fully evaluate the value of every proposal for bringing fiber to the business, it was clear participants endorse active strategies to deploy fiber into downtown buildings to cover the “last yard” of connectivity, as a necessity for growth in our most high-tech industries. Also, the Eugene Water and Electric Board [EWEB] Public Access Network (PAN) was singled out as an excellent collaborative model and lauded by workshop members of both private and public sectors.

### **Recommended Priority Actions – within 24 months**

1. Include broadband infrastructure as a necessary development element in implementation of the Envision Eugene plan.
2. Support a pilot project to promote private or public sector competition and choice and extend last yard fiber into as many buildings in the downtown as possible
3. Assist in the study the feasibility of using other City-owned or public utility assets as conduit for “middle mile” and “last yard” fiber service for any public or private provider that can make use of them.
4. Support the completion of a feasibility study of repurposing old steam pipe infrastructure for achieving high-capacity broadband “middle mile” and “last yard” fiber service
5. Continue discussions with private and public providers about potential arrangements to improve high capacity broadband in Eugene
6. Explore a reasonable mechanism for an extension of Eugene’s current “open trench” policy, based upon other municipality experience; including a funding recommendation for installation of empty conduit in key transit corridors and core commercial areas whenever roads are opened to cost effectively extend fiber optic networks and mitigate additional cuts.
7. Continue City policies and practices that provide opportunities for encouraging broadband infrastructure enhancements in gap areas, and related educational outreach.

### **Recommended Mid-to-Long Term Strategies – within 5 years**

- Using EWEB’s public-access network (PAN) model, develop a feasibility plan to implement a redundant downtown broadband infrastructure capable of supporting high tech firms and reaching into buildings and industrial parks.
- Encourage Lane Transit District (LTD) to make free broadband available via wireless for access on public transit
- Working with public and private sector partners, extend Wi-Fi service into commercial centers.

## **History of Eugene’s Community Broadband Strategic Plan**

## The Planning Process

Eugene applied for a technical assistance planning grant offered by the Oregon Business Development Department [OBDD] using a planning template developed by OBDD for a total of eight participating communities. The planning template promoted broad participation from the community in a series of face-to-face facilitated planning workshops. Upon being awarded the grant, in January 2013, City of Eugene staff brought individuals from key sectors in the community together in the first series of four workshops to explore the following questions:

- *Why are broadband inclusion, adoption and utilization important in our community?*
- *What's at stake for the economic, social, educational and healthcare future of our region?*
- *What parts of our communities are most affected by lack of broadband access, awareness, adoption, and utilization capabilities?*
- *What barriers prevent broadband access, awareness, adoption and utilization?*
- *What community assets and opportunities can be leveraged to overcome barriers?*

Using workshop meeting notes, a draft report overview was distributed to all workshop participants in February 2013, and a follow-up, all-group, plenary planning session was held in March. In the plenary session, participants reviewed the draft strategies and goals, and focused on identifying and prioritizing key actions. The planning participants identified **shorter term actions** that would allow the community to achieve **early results** in broadband benefit awareness, access and adoption, as well as **longer term strategies** that support economic development goals, bolster the region's high tech businesses and software enterprises, and invest in improving equity.

Eugene's community broadband planning process gathered members from the community to focus on identifying the issues and expand upon a list of recommendations and strategies for tackling the challenges. Almost 50 individuals from 35 different civic entities, including universities, non-governmental organizations, various local and state government programs and business participated in the development of Eugene's draft Broadband Plan.

## The Need for a Local Broadband Strategy

Adoption and implementation of Eugene's Community Broadband Plan is a crucial undertaking towards realizing what our Regional Prosperity Economic Development Plan calls a "learning community" that "invests in tomorrow's talent" and "energizes a creative economy." Implementation will also further the economic opportunity strategies contained in Envision Eugene, the city's long range vision for growing and accommodating a wide range of jobs and housing opportunities.

Broadband is transforming society as it continues to expand individual capability to communicate, participate, create, educate, inform and compete. Access to adequate broadband resources and adoption of broadband-associated tools are fundamental to our community's economic and civic vitality. Our ability to participate as residents in Eugene's civic matters,

effectively utilize healthcare and education services, and interact with the world around us require digital literacy skills.

Some participating technology business leaders also cited the lack of quality, cost-effective high-capacity broadband infrastructure in the downtown core—or affordable options for Eugene’s start-ups or fastest growing firms—as a limiting factor on their sectors’ growth. Broadband must be recognized as an essential utility for both individuals and businesses. Although City officials advocate increasing competition and choice in all telecommunication services offered to residents and businesses, more work is required to bring affordable, higher-capacity broadband to our commercial corridors and industrial areas, in addition to neighborhood pockets.

Eugene’s community broadband strategic plan focuses on improving broadband access and adoption by:

- Underscoring the relevance of broadband adoption to all sectors of our community;
- Raising expectations of digital literacy skills, creatively employing broadband technologies in our classrooms and throughout our community;
- Encouraging the leveraging of the assets of our higher education institutions and leadership in education research;
- Pursuing local private sector capabilities to build learning products and social science research organizations to validate the effectiveness of education technologies;
- Expanding Eugene’s world class innovation ecosystem by extending lifelong learning opportunities and affordable access to information;
- Deploying world class broadband network capabilities in the downtown and along major corridors to accelerate business growth and access to the internet within Eugene, consistent with Envision Eugene and the Regional Prosperity Plan

Some workshop participants also remarked that University graduates, skilled workers, visitors and entrepreneurs will be more likely to stay in Eugene’s “Silicon Shire” and grow their businesses here if they associate the region’s capacity for growth with its livability and global connectedness. Many opined that Eugene’s children will be more likely to develop into tomorrow’s innovators with exposure to global ideas and interactions sourced through broadband in their schools, homes, and a myriad of locations distributed equitably across the city. Engaging students through technology to develop their creativity, critical thinking, and collaboration will require, as it always has, the mentorship and guidance of professionals.

Confronting challenges to both our municipal broadband infrastructure and striving for a culture of innovation in our communities will require continued committed partnerships between private and public sectors to enact recommendations impacting both physical assets like fiber or computer equipment *and* operational support for trainers, teachers, and mentors. In an era of resource constraint, both public institutions and private entities must exercise their own creativity and commitment to collaboration to achieve the desired collective impact.

## Conclusion and Next Steps

City staff appreciates the efforts and participation of all of the planning participants and the State of Oregon's grant-supported broadband technical assistance team. Without their involvement the scope of this plan would be much more limited. City staff will review how this draft plan is consistent with other recently adopted plans, will post the draft Plan on our project website for a review by workshop participant access, and will present the Final Draft plan to City Council for approval.

An important dialogue has been opened. Pages 18-19 offer a summary overview of the set of actions and strategies developed by our workshop participants. The City has laid out an ambitious set of strategies and an action agenda that can only be successful through strong partnerships and collaboration. The continued participation of the area's K-12 schools, Universities, Community Colleges, the business community, our public agencies, our community service organizations, and our eager residents are all needed to accomplish these goals.

The City will also continue to work with OBDD and the Oregon Broadband Advisory Council (OBAC) as they promote broadband adoption strategies and policies statewide. City staff will continue to post its products to the State's project website in the interest of other communities studying the same issues and will be providing additional avenues for public input as staff continue to share our progress with the Eugene City Council. We look forward to on-going relationships with the City of Sandy, the Confederated Tribes of Warm Springs, Wasco County and Q-Life, and other communities who are participating in these federal NTIA grant sponsored efforts in the State of Oregon.



## City of Eugene Broadband Action Agenda

### Priority One Actions – within 24 months

- *Enhance the library's ability to offer digital literacy programs by seeking additional resources and partnerships to support increased broadband training and awareness programming.*
- *Develop a "broadband ombudsman" position within City government whose role is to work with community groups, government and education to increase broadband adoption and broadband literacy.*
- *Expand open Wi-Fi network availability throughout the City*
- *Establish a collaborative task force whose mission is to find or create innovation spaces within the schools or near schools for technology experiences for students--using "Thinkersmith" or "Maker Space" as models.*
- *Use broadband resources to lower cost of diminishing the workforce's STEM skill gap, or through creation of extracurricular, "maker spaces" or mentor programs for local children*
- *Define broadband infrastructure as a necessary development element in the forthcoming Eugene Comprehensive Plan, which will implement the Envision Eugene recommendation.*

### Priority Two Actions – within 24 months

- *Involve the Education Partnership Initiative (which includes universities, community colleges and schools) to prioritize broadband awareness and literacy.*
- *Challenge local employers, broadband providers and social service providers to create a scholarship program that awards Internet access services with the goal of increasing adoption levels.*
- *In partnership with the education community, raise the "community norm" of what service/education should include vis-a-vis the "broadband future"*
- *Market region's existing technology business ecosystem through the "Silicon Shire" portal*
- *Complete a feasibility study of repurposing old steam pipe infrastructure for a broadband "middle mile" and "last yard" service*
- *Hold discussions with providers on possible inducements or partnerships to improve high capacity broadband in Eugene*



## City of Eugene Broadband Action Agenda

### Within 5 Years

- *Develop a local “211-type online portal” that organizes broadband information and skill resources available to the public*
- *Coordinate the Eugene Community Broadband Plan with other forward-looking demographic City plans such as Envision Eugene or the Regional Prosperity Plan.*
- *Explore the development of a broadband adoption partnership whose mission is to create a tablet loan program. This partnership should involve the Library, BRING and NEXTSTEP.*
- *Create a tech community space with a mentoring program to provide skilled trainers and mentors to whole population, but designed to be inclusive of demographic groups most challenged in developing skills*
- *Develop mobile training and support: a “nerd-squad” that can reach people in their homes*
- *Move school registration to online*
- *Encourage partnerships that improve teacher skills and resources for integrating technology into all learning situations*
- *Equalize access opportunities for all students by working with community partners to supply broadband connections and hardware through a computer recycling program, library loan program or direct grants*
- *Create a system of external supports for university technology business spin-offs; like living laboratories or entrepreneur co-working spaces*
- *Focus on improving the pipeline of innovative workers to high tech firms through broadband inclusion and education actions*
- *Using the public-access network(PAN) model, implement a redundant downtown broadband infrastructure capable of supporting high tech firms and reaching into buildings and industrial parks*
- *Install conduit whenever roads are opened to cost effectively develop fiber optic networks*
- *Create a pilot project to extend fiber to selected downtown buildings*
- *Work with LTD to make broadband available via wireless for access on public transit and setup a wired-and-walkable urban core.*