

1 **FRAMING AN OREGON BROADBAND POLICY**

2 *[Draft for Discussion]*

3 *Revised by Joe Savage 8/29 /8/2008*

4
5 **Oregon Broadband Today**

6
7 This is my set of comments and recommendations. In the spirit of full disclosure, I'm President
8 of the Fiber to the Home Council. I hope my preferences and prejudices are obvious to all
9 readers, and my comments are considered accordingly.

10
11 Generally, I'm recommending that the exercise we are engaged in will result in: 1. A policy
12 statement/mission statement about the value ,effort and benefits of broadband for Oregon; 2. a
13 listing of strategic goals and objectives; and 3. a series of specific legislative recommendations
14 and governmental actions that will be adopted to accomplish the strategic intent.

15
16 Second recommendation is that we integrate and coordinate with national efforts and federal
17 agencies like USDA-RUS, federal E-rate organizations and the FCC and their broadband efforts.
18 For example, funds go unused because local schools and library administrators are not familiar
19 with E-rate programs, or find the application process too complex to go forward with. One
20 recommendation I would make is that the State establish an office or clearing house that is tasked
21 to ensure that all elements of Oregon make maximum use of existing Federal, State and local
22 funding and support.

23
24 I will attach to my email the Rulemaking published by the FCC in June about Broadband
25 Mapping and their new tiered levels of broadband service. I recommend that the Oregon Policy
26 be aligned with the FCC Rules in determining mapping methods and data, as well as adopting
27 the FCC's tiers of service.

28
29 Also, attached is the Communications Workers of America position paper on Speed Matters.
30 FYI on this union's viewpoint on broadband deployment.

31
32 I'm glad to see that many resolutions are already on the books in support of broadband and e-
33 literacy here in Oregon.

34
35 My final recommendation is that the State of Oregon officially view broadband infrastructure
36 investment – by any party – as economic development for the State. That is: if a local phone or
37 cable company, or municipality or other new entity wishes to improve or expand infrastructure,
38 that investment is viewed as desirable because it creates jobs and betters the local economy.
39 (My soapbox now) Too often a service provider wishing to build or improve a local
40 communication network in order to compete is viewed by the local government primarily as a
41 source of franchising or permit fee revenue and should pay a price to operate in that locality –
42 rather than an entity that should be enticed, wined and dined, to invest in that locality to create
43 jobs.

44
45 Oregon's broadband infrastructure is a great asset. Our broadband infrastructure is one of the
46 economic development advantages needed to be competitive with other states and other
47 countries. Oregon businesses, health care, education, government, public safety and individual
48 citizens depend on it. Oregon's current strong telecommunications infrastructure position largely
49 is the result of private sector investments and proactive public policy with some notable public
50 sector and public-private partnership activity.

51
52 Yet even given Oregon’s relatively strong status we can’t stand still without getting left behind.
53 Opportunities and challenges remain to be met to address and meet our state’s continually
54 growing telecommunications infrastructure and services needs (i.e., supply). Equally important
55 are motivation and knowledge of how to use broadband (i.e., demand) to enable and support
56 commerce, education, workforce development, healthcare, access to government, public safety,
57 and individual citizen access to knowledge.

58
59 Oregon needs a broadband policy because broadband is an engine of economic growth and a
60 creator of price lowering economic efficiencies that will help counter the inflationary effects of
61 high energy prices. Oregon needs broadband for economic growth and productivity gains in its
62 economy. A national broadband policy is needed to regain this country’s competitive edge
63 against countries in Europe and Asia and we need an Oregon broadband policy to keep us
64 competitive with other states. Municipal broadband policy is also needed because municipalities,
65 particularly rural communities, would be foolish to depend entirely on the federal and state
66 government to ensure that their needs are met. Rural communities without competitive
67 broadband will be at risk of becoming ghost towns.

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69
70 **The Stage Is Set: Oregon’s Broadband Policy Building Blocks**

71
72 The Oregon Telecommunications Coordinating Council (ORTCC – www.ortcc.org) believes that
73 the broadband stage is well set in Oregon to further reduce barriers and bottlenecks (i.e.,
74 facilitate competition), promote investment (e.g., through investment tax credits) and bring
75 broadband to all parts of the state.

76
77 The state of Oregon is unique among states in that we already have established in statute a set of
78 policy statements on the criticality of broadband telecommunications for its citizenry.

- 79
- 80 • Telecommunications is essential infrastructure
81 “The improvement, expansion and new construction of the state's sewage
82 treatment works, water supply works, telecommunications infrastructure, roads
83 and public transportation provide the basic framework for continuing and
84 expanding economic activity in this state, thereby providing jobs and economic
85 opportunity for the people of Oregon” (ORS 285B.413)
 - 86
87 • Oregon has a broadband goal
88 “...it is the goal of this state to promote access to broadband services for all
89 Oregonians in order to improve the economy in Oregon, improve the quality of
90 life in Oregon communities and reduce the economic gap between Oregon
91 communities that have access to broadband digital applications and services and
92 those that do not, for both present and future generations...” (ORS 759.016 (1))
 - 93
94 • Oregon has guidelines for broadband development
95 “That the goal set forth in subsection (1) of this section may be achieved by:
96 (a) Expanding broadband and other telecommunications services;
97 (b) Creating incentives to establish and expand broadband and other
98 telecommunications services;
99 (c) Undertaking telecommunications planning at the local, regional and
100 state levels that includes participants from both the public and the

101 private sectors;
102 (d) Removing barriers to the full deployment of broadband digital
103 applications and services and providing incentives for the removal of
104 those barriers; and
105 (e) Removing barriers to public-private partnerships in areas where the
106 private sector cannot justify investments.” (ORS 759.016 (2) (a)-(e))
107

- 108 • Telecommunications has a role in public safety
109 “It is the policy of the State of Oregon to encourage and support the rapid
110 deployment of broadband telecommunications services in areas of the state where
111 such services do not exist, to support redundancy of critical telecommunications
112 assets in order to ensure homeland security protections in the state and to ensure
113 that a secure conduit is available for emergency communications and public
114 safety networks in all Oregon communities.” (ORS 401.706)
115
- 116 • Improve Oregon’s Internet Protocol network infrastructure
117 “It is the policy of the State of Oregon to promote, facilitate and encourage
118 activities, projects and businesses that improve Oregon’s Internet Protocol
119 network infrastructure, performance and connectivity to the Internet backbone
120 network and World Wide Web for the benefit of Oregon’s commercial,
121 educational, governmental and individual users.” (SJR 19 (2007))
122 Suggest this be expanded to “broadband network infrastructure. Investment in
123 mundane things like poles, cables and their installation will be typically one or
124 two orders of magnitude larger than investment in routers and server farms.
125 Financial barriers are highest in access network expansion rather than IP network
126 expansion.
127
- 128 • Develop a health care network model
129 “Declare that it is the policy of the State of Oregon to promote and facilitate
130 activities by Oregon's health care and education communities and their
131 telecommunications providers to develop a network model that provides standards
132 for interoperability, establishes a peering point for all health care and education
133 telecommunications in Oregon and establishes peering agreements among health
134 care and education networks that contain payment structures.” (SJR 20 (2007))
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137 **Oregon’s Broadband Future: *Lives and Livelihoods***

138

139 The importance of broadband services in modern society is accepted widely. We can now
140 demonstrate clearly that broadband is an accelerator of economic development and a provider of
141 quality of life improvements. With improved broadband access, productivity increases, new
142 businesses are created, jobs are created, and wages grow. As broadband penetration grows there
143 will be a resulting demand for computer and networking equipment as well as wireless handheld
144 devices and other equipment that facilitates broadband use. New technology solutions offer great
145 promise to improve quality of health care while reducing costs. Continued progress will require
146 increasing amounts of widely available broadband and more capacity (both to and from end user
147 sites).^{1,2,3,4,5,6,7}
148

149 It might be fairly stated that when it comes to broadband no one is against more of it. Across
150 the nation and throughout Oregon there is a remarkable degree of consensus on the
151 fundamental point that access to and adoption of broadband connectivity is imperative to
152 ensure the greatest opportunities for economic growth, competitiveness (vis-à-vis other
153 nations and states), cultural and creative development, and our aspirations for a fully
154 educated and engaged citizenry. Widespread agreement also exists on the foundational point
155 that broadband connectivity provides the potential for every Oregonian to participate
156 effectively in today's information society, using widely available information and
157 communications technologies to enable them to be more effective producers and
158 consumers of information.

159
160 The real issue to be addressed is not whether broadband is good and more is better, but
161 whether the market alone will provide the proper amount in the desired time frame.

162
163 For most market-oriented conservatives, the correct amount is the amount that the
164 market provides. Yet, because of significant positive externalities from broadband, the
165 right amount-- the amount that maximizes social welfare -- is in fact greater than the
166 amount the market alone provides. This means that active public policies to spur
167 broadband, in addition to policies to remove barriers to deployment, are critical to
168 ensure the best possible broadband future for [Oregon]. While it is true that proactive
169 policies and incentives for more broadband might distort the market, it is also likely
170 that the innovation and productivity encouraged by more and faster broadband is likely
171 to exceed any minor losses from "misallocation" of economic resources.⁸

172
173 A growing body of white papers and studies on the topic are focusing on the demand side of the
174 equation. Not that supply isn't an issue (it is) but rather that demand draws investment in
175 infrastructure and services (supply). Building the demand case is something we can no longer
176 wait for others to do (e.g., share holder-driven companies) as societal externalities do not always
177 fit with corporate business models. Deriving business models that can take advantage of public-
178 private partnerships to address these societal needs require rigorous new ways of thinking about
179 how to support investment. Finding the balance is the trick.

180
181 "Broadband adoption is intimately tied to demand-side factors like income inequality and
182 education and, therefore, policies directed at those factors may be more cost effective
183 than supply-side subsidies and regulation. Programs that put computers in low-income
184 schools and train teachers may have a far broader impact on broadband adoption in the
185 United States than network subsidies."⁹

186
187 [One Economy, a Portland non-profit focused on e-literacy is very active in this area. They may](#)
188 [have some specific items around demand-side improvements.](#)

189
190 Expanded emphasis on demand factors will be a sound basis for adding to Oregon's existing
191 broadband related policies.

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193

194 **Oregon Issues and Challenges**

195
196 Oregon needs a broadband policy to frame efforts to keep pace with the continually growing
197 needs of our state and to remain competitive in the growing global economy. As stated, many
198 of the building blocks are already in place. A variety of issues and challenges are before us
199 including how to:

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- *Identify and advance strategies for promoting the current widespread availability and value of broadband connectivity (access).*
What can be done to increase adoption/ penetration rates, and utilization of existing broadband? What is sufficient or adequate broadband?

- *Expand the reach of broadband.*
How do we craft incentives to investors? Do we address the needs of unserved as well those of the underserved? How would we define “unserved” and “underserved”?

Possibly use of the new broadband tiers identified by the FCC might work here. Any service provider offering service at a higher tier than is currently being offered, might be considered as serving “unserved” areas.

- *Ensure that broadband is affordable.*
How do we define affordability? What can be done to provide broadband to those lacking financial resources? How would we handle that?

Ask any librarian in Oregon how much of their time is spent kicking folks off the public computers so the next person in the que can access the Internet for their 30 minutes – rather than re-stacking books onto the shelves. Expanding computer access at the libraries might be a good thing, and providing eliteracy credits to poorer persons might be a good thing too.

- *Promote increased adoption rates and the use of broadband for an array of applications.*
What can be done to convince consumers that broadband is worth their money and effort? What steps can be taken to provide appropriate affordable content that is attractive to those not now subscribing? How might we increase computer literacy and the availability of computers or other digital devices needed to access broadband?

- *Craft effective public policy.*
Proactive public policies must be subject to significant analysis, debate, and consideration. How do we craft public policy that respects, maintains, and enhances the role of public and private sectors? How do we avoid unintended consequences?

The task now is to craft, adopt, and implement a broadband policy for Oregon. This is critical if Oregon is to continue to be competitive and to grow its economic and quality of life factors.

Stepping into the Future

Suggested process steps for further development and implementation include the following:

Inventory

- 249 | • Define “broadband” – FCC Tiers
- 250 | • Define “unserved” and “underserved”
- 251 | • Define “affordable” Might consider Cost per megabit per month as a metric – ala Japan
- 252 | has done, or as a percent of average monthly income.
- 253 | • Conduct a statewide survey of broadband. It should include multiple capacity measures,
- 254 | e.g. how much at 1 Megabit per second (Mbps), how much at 10 Mbps, how much at 100
- 255 | Mbps, etc. not a single measure of broadband (yes or no). Make sure all service
- 256 | providers participate – look at California’s methods for their state map, or the Connected
- 257 | Nation method to get full participation by incumbents.
- 258 | • Map broadband service delivery. Show what is delivered where and at what price. Show
- 259 | where not available.
- 260 | • Inventory services available through broadband (i.e., applications) and usage in addition
- 261 | to the infrastructure inventory.
- 262 | • Develop vision of future applications that are likely to emerge if we have better
- 263 | broadband and may be blocked if we don’t have adequate broadband.

264

265 Develop and implement a Broadband Policy

- 266 | • Use the Inventory and demand data to develop incentives for investment in
- 267 | unserved and underserved areas.
- 268 | • Promote educational opportunities that serve 21st century societal needs.
- 269 | • Ensure workforce programs deliver 21st century knowledge-worker skills training.

270

271

272 **Recommended Updated Broadband Policy Actions**

273

274 Across America states are beginning to look to their broadband futures with a new vigor. In

275 Oregon we already have a broadband goal in statute, accompanied by guidelines:

- 276
- 277 | • Oregon has a broadband goal

278

279 “...it is the goal of this state to promote access to broadband services for all

280 Oregonians in order to improve the economy in Oregon, improve the quality of

281 life in Oregon communities and reduce the economic gap between Oregon

282 communities that have access to broadband digital applications and services and

283 those that do not, for both present and future generations...” (ORS 759.016 (1))

- 284
- 285 | • Oregon has guidelines for broadband development

286 “That the goal set forth in subsection (1) of this section may be achieved by:

- 287 | (a) Expanding broadband and other telecommunications services;
- 288 | (b) Creating incentives to establish and expand broadband and other
- 289 | telecommunications services;
- 290 | (c) Undertaking telecommunications planning at the local, regional and
- 291 | state levels that includes participants from both the public and the
- 292 | private sectors;
- 293 | (d) Removing barriers to the full deployment of broadband digital
- 294 | applications and services and providing incentives for the removal of
- 295 | those barriers; and
- 296 | (e) Removing barriers to public-private partnerships in areas where the

297 private sector cannot justify investments.” (ORS 759.016 (2) (a)-(e))

298

299 Oregon will benefit from building on existing policies, updating them where
300 appropriate, and adding other elements to ensure we are prepared for the future.

301

302 ***Leadership:*** *Identify and create focused state-level and statewide broadband*
303 *leadership.*

304

305 There is an important education function to be performed to improve the awareness of
306 legislators, state residents, and even industry of the value of and applications for broadband. It is
307 not about lines on a map but about telemedicine, e-commerce, agriculture and the other
308 applications and their potential benefits. It is about people’s lives. Local champions are needed
309 to provide their support; real people talking about real applications and needs before the
310 legislature and other opportunities to influence the continued provisioning of infrastructure,
311 services and broadband usage.

312

313 Action(s):

314

315 1. Create a standing statewide broadband task force to proactively drive broadband access and
316 adoption across Oregon.

317

318 ***Infrastructure:*** *Telecommunications is essential infrastructure.*

319

320 Again, promote the view that local broadband infrastructure investment is equivalent to having a
321 new firm move their plant or factory into the neighborhood – same local benefits on jobs and
322 economy. So, potential investors, either incumbent or new service providers should be enticed to
323 deploy by local organizations.

324

325 Oregon statute recognizes this critical factor. Infrastructure is about the supply of essential
326 facilities and broadband infrastructure is as essential to communities as water, sewer and
327 transportation systems. There is a distinction, however, in that broadband requires private
328 investment. Demand must also be stimulated to provide adequate incentives and returns for
329 private investment to meet our collective needs.

330

331 Again, billions will be spent to upgrade telephone and cable access networks. Millions will be
332 spent to upgrade routers and server farms. And, ten or a hundred times more jobs will be created
333 by the former than the latter. (Construction, and engineering of building the access network is
334 often a serious boost to local economies.)

335

336 Oregon would be well-advised to keep as much traffic routed within the state as possible,
337 moving routers and switches as close to the edge of the network as possible. This would go a
338 long way to alleviating concerns with time sensitive applications like high definition
339 videoconferencing and telepresence and the issues of latency, jitter, and survivability of the
340 network. The Oregon legislature already has passed resolution addressing this point:

341

342 “It is the policy of the State of Oregon to promote, facilitate and encourage
343 activities, projects and businesses that improve Oregon’s Internet Protocol
344 network infrastructure, performance and connectivity to the Internet backbone
345 network and World Wide Web for the benefit of Oregon’s commercial,
346 educational, governmental and individual users.” (SJR 19 (2007))

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Action(s):

1. Establish goals - we need infrastructure that can support synchronous services for videoconferencing, telepresence applications, and medical applications. A minimum goal would be symmetric ten megabits per second for households and symmetric one hundred megabits per second for businesses. Whatever the speed goals may be, however, the network must be scalable because the demand for greater capacity and faster speeds will continue to grow in the future. Network peering within the state should be encouraged; keep Oregon traffic in Oregon.
2. Establish measurements - we must be able to monitor and measure how well we are doing against our goals to manage and adjust policy over time. This includes identification of location of existing infrastructure and services.
3. Maintain competition – a monopoly or duopoly will not be sufficient. Robust competition is needed between telephone companies, cable companies, competitive access providers, wireless companies, and municipal providers (as providers of last resort when private investment is not available). We also need to maintain open competition for applications and terminal devices to stimulate demand and utilization of network services. Customers don't buy infrastructure, they buy the services that the infrastructure can provide.
4. Create incentives and remove disincentives for digital broadband networks. The current Universal Service Fund should be shifted from subsidizing analog telephone service to broadband digital service. Voice is now just one application riding on multi-purpose digital networks. Government can provide incentives by being anchor tenants for multi-purpose broadband digital services as a matter of policy. Additionally, government funding needs to be provided when there is a gap in the return on investment needed to drive private sector funding.

***Public-Private Partnerships:** Encourage continued cooperation and collaboration between the public and private sectors.*

Broadband is critical infrastructure. Municipal governments want their communities to excel in 'livability' for existing residents and businesses and to recruit more businesses. Just as communities in the past needed to provide electricity for their citizens as critical infrastructure, many may need to provide broadband today when private sector providers are not making the investment. Government has always played a role in either helping to facilitate or provide critical infrastructure. Local government should be viewed as a key partner by industry as well as by state and federal government.

Add a goal of streamlining the processes of local and state government to lessen the permit, application, zoning and franchising cost and speed the deployment of broadband infrastructure.

Action(s):

1. Involve local governments in broadband planning to ensure that local needs and interests are met.
2. Allow local governments to build and operate broadband networks in the absence of private sector investment.

***Education and Awareness:** Provide the foundation for a digitally literate 21st century society.*

397 | Establish an office or clearing house that insures that Oregon libraries and schools make
398 | maximum use of federal and state funding and other programs.

399
400 It's been said that, "A network increases in value exponentially with every individual node that is
401 added to it." This is critical from an educational point of view. We can easily become islands as
402 individual educational institutions, but where the value can come for society and for the state as a
403 whole is when we link institutions together. From an education point of view, it is the school, the
404 community college, or learning center at the farthest ends of the network that we need to be
405 concerned about. Some of the greatest opportunities for benefit are in the K-12 schools.

406
407 This beneficial effect is not limited to educational institutions. When broadband is brought to a
408 community, it not only enhances education, but also healthcare, security and other areas of
409 community interest. There are many reasons for individual organizations and institutions to have
410 broadband, but we need to maintain a focus on interconnecting various institutions to gain the
411 full benefit: for example, a scenario where the network would support an interactive working
412 relationship between a High School history teacher and a University history professor.
413 Supporting collaboration and cooperation between those engaged in research and grant funding
414 is another example.

415
416 Distance education is yet another approach being used for outreach to communities to provide
417 educational resources around the state and broadband connectivity is essential to this effort. The
418 demand for distance education seems infinite and distance education programs are effective.
419 Many urban schools have the same problem with broadband access as rural schools because
420 there have not been any unified plans or policy to provide universal access to broadband for
421 schools. This impacts economic development in the state. Education drives innovation, which
422 drives job creation, which drives asset growth, which drives community development and
423 economic growth.

424
425 Oregon State University (OSU) conducted a statewide survey in 2007 that indicated that 2.4
426 million out of 3.7 million people in the state access the Internet at least twice a week; this as an
427 indicator of demand and the mode of delivery that education needs to employ. The success of
428 Oregon will depend on more people having more access and becoming more educated. State
429 policy should seek to maintain growth in available access and increased utilization of broadband,
430 particularly in times when that growth is threatened by economic downturns.

431
432 School districts and ESDs have varying levels of network connectivity, and there is no
433 uniformity. We need connectivity to schools throughout the state, but often there is no business
434 case for the investment. We need a policy with goals applying to the entire state to determine
435 how this need can be met.

436
437 Action(s):

- 438
439 1. Create a policy that directs educational institutions to develop a uniform approach to
440 connectivity for every educational institution in the state.
441 2. Promote availability of high-capacity broadband connections coupled with a robust
442 technology support system, relevant curriculum, literacy standards, and off-campus
443 educational partnerships to provide Oregon's students and residents with the skills they need
444 to compete in a 21st century economy.
445 3. Develop access mechanisms to the Universal Service Fund programs to make them easier to
446 acquire, more direct, and more understandable for schools using its programs.

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Healthcare: Create an Oregon Health Network.

Oregon is a very diverse state geographically and demographically. We are the tenth largest state in land size and we have ten counties that are considered to be “frontier” counties meaning that they have less than six people per square mile. Some of Oregon counties have less than three people per square mile. One of our biggest challenges is to provide all areas of the Oregon with adequate health care. In some cases this means basic health care and in others it means access to specialists.

Oregon residents face many demanding healthcare scenarios faced by people living in different parts of the state and the challenges of physically traveling long distances to receive care. We can bring relief to these residents through use of telecommunications technology to deliver healthcare services and the resulting improved levels of care, convenience and reduced costs. Oregon also will see opportunities and benefits of being able to deliver medical training and educational programs remotely to areas around the state. Our ability to deliver clinical health care services remotely and to deliver healthcare education programs and training remotely depend up the statewide availability of broadband networks.

Healthcare is also a factor for economic development and the recruitment of new businesses: one of the first questions to be answered by prospects is what kind of health care is available in the community. If adequate health care services are not available in a community, companies will locate somewhere else. We are in a “Catch 22” in Oregon with healthcare shortages in our rural communities but also with healthcare shortages in urban communities. For example, OHSU has two pediatric radiologists, the only two in the state. New imaging technologies can produce 650-700 MB files. There is a need for the services of these radiologists in rural areas and across the state but we don’t have the telecommunication resources to deliver them.

Included in our healthcare challenges is that of providing access to healthcare education in order to create more healthcare specialists, keep them in our communities, and provide healthcare delivery systems that can serve all areas of the state.

Oregon already has a Senate Joint Resolution relating to this topic:

“Declare that it is the policy of the State of Oregon to promote and facilitate activities by Oregon's health care and education communities and their telecommunications providers to develop a network model that provides standards for interoperability, establishes a peering point for all health care and education telecommunications in Oregon and establishes peering agreements among health care and education networks that contain payment structures.” (SJR 20 (2007))

[add language describing OHN status, etc.]

Action(s):

1. Support implementation of a sustainable statewide health network to improve quality of care across the state and simultaneously increase demand for broadband services.
2. Provide education and training to healthcare providers in the use of telecommunications technologies for healthcare.

497 ***Access to government:*** *Encourage wider e-government availability and use.*

498

499 Oregonians deserve ready access to a variety of governmental functions. Here is also another
500 opportunity to save the environment and fuel costs. We also have the opportunity to improve the
501 efficiency and effectiveness of government. Let's ensure that the citizenry have ready access to
502 their government to participate in decision-making, to address those matters that require driving
503 distances to pay a fine or pay a fee, and to have at their fingertips ordinances and the many
504 forms of communication that emerges from governmental processes.

505

506 Action(s):

507

- 508 1. Promote the use of eGovernment so that Oregonians are "online vs. in line."
- 509 2. Encourage increased participation in public governance processes through use of
510 telecommunication technologies..

511

512 ***Public Safety:*** *Telecommunications has a role in public safety*

513

514 Rapidly growing demand exists for broadband services within public health, fire fighting, law
515 enforcement and other related functions. Public safety applications can make use of information
516 technologies to improve their operations, data collection, reporting, and information processing.
517 In Hermiston, the police department has reduced voice communications by 60% and is saving
518 over 2000 man-hours through the effective use of broadband. Furthermore, the police department
519 is sharing the network with the fire department, healthcare, businesses and other users.

520

521 Oregon statute recognizes the criticality of this growing role of broadband in public safety
522 communication:

523

524 "It is the policy of the State of Oregon to encourage and support the rapid
525 deployment of broadband telecommunications services in areas of the state where
526 such services do not exist, to support redundancy of critical telecommunications
527 assets in order to ensure homeland security protections in the state and to ensure
528 that a secure conduit is available for emergency communications and public
529 safety networks in all Oregon communities." (ORS 401.706)

530

531 We should encourage mobile broadband, not just fixed broadband, and public safety is the most
532 promising anchor tenant. Often the "first responder" in emergency situations isn't really the
533 police officer or fire fighter, it is the citizen with a cell phone. Whenever we build radio towers
534 for public safety communications systems, commercial wireless transceivers should be placed
535 there as well. Public-private partnerships in developing broadband infrastructure for mutual
536 benefit should be recommended. This model is being used in Curry County in their public safety
537 network. Here we have an opportunity to combine public safety with economic development.

538

539 Action(s):

540

- 541 1. Build an appropriate 21st century public safety communications network.
- 542 2. Support the concept of multi-purpose broadband networks.

543

544 ***Telework:*** *Promote telecommuting.*

545

546 We can reduce traffic congestion; get people out of their cars to save time, save energy, save the
547 environment; and to provide additional time with family and other related activities.
548 Surveys by the FTTH Council of fiber-to-the-home subscribers shows a consistent increase in
549 the amount of Telecommuting over existing broadband technologies. Some subscribers have
550 more responsive connections than in the office on their corporate LAN.

551
552 Action(s):
553

- 554 1. Craft incentives to help companies in the private sector explore and utilize telecommuting in
555 their organizations.
- 556 2. Promote telecommuting by public sector workers.

557
558 ***Economic Development:*** *Telecommunications plays a key role in the state's economy*
559

560 Oregon statute recognizes this factor.

561
562 “The improvement, expansion and new construction of the state's sewage
563 treatment works, water supply works, telecommunications infrastructure, roads
564 and public transportation provide the basic framework for continuing and
565 expanding economic activity in this state, thereby providing jobs and economic
566 opportunity for the people of Oregon” (ORS 285B.413)
567

568 We know that Oregon needs to have a diverse economy. A strategy focusing only on the high-
569 tech sector will not be enough. Agriculture is one of the most important sectors of our economy.
570

571 Globally we are adding a net gain of one hundred million people a year to the world population
572 while we are taking about one and a half million acres out of agricultural production each year.
573 Agricultural efficiency and productivity are important issues. US agriculture is very important to
574 the world's population because we are a country that has the ability to increase its agricultural
575 output. Oregon agriculture, in particular, is important and is already making use of high
576 technology. The need for high-bandwidth connectivity for agriculture is growing rapidly. Large
577 farms in Eastern Oregon are using wireless broadband networks and sophisticated information
578 technologies to manage their operations. The increasing high costs of food and fuel are the two
579 major concerns of Americans today. Broadband can provide solutions to address both those
580 concerns.

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582 Action(s):
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- 584 1. Promote increased diversification of Oregon's economy through use of broadband.
- 585 2. Provide training and incentives to aid the use of broadband by agriculture.
- 586 3. Continue and strengthen workforce development projects that assist workers and businesses
587 to succeed in the global economy.

588
589 ***Innovation and Research:*** *Engage and reward broadband innovation and research.*
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591 The funding level for universities in Oregon is falling behind. The total funding provided to the
592 eight Oregon universities to support engineering, computer science and information technology
593 is less than 50% of the funding provided to the University of Washington. The number of kids
594 from Eastern Oregon going on to college is currently at a low point. Previously 15% of students
595 in Eastern Oregon would go on to college; they are now down to levels of 13 and 14%.

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Broadband is an engine of economic development and innovation. Our county has lost its competitive edge in manufacturing. The only thing that is giving us a competitive advantage in America today is our innovation; the food processing industry is a good example. The majority of innovation is happening in America. We need to be concerned that there is a shortage of engineers, scientists, and PhDs in Oregon needed to push innovation, create jobs and support economic growth over the next decade.

Action(s):

1. Increase demand for a robust broadband infrastructure by promoting innovative uses of broadband technology through a variety of incentives. And, enhance and expand e-literacy outreach in the State
2. Develop and nurture champions to move the concept forward.
3. Provide essential broadband infrastructure to communities and households and businesses
4. Expand programs at Oregon's universities
5. Teach science and technology in our high schools to create a pipeline of students to support innovation and economic growth.

Summary Remarks

The ORTCC believes that Oregon must continue its resolve to increase broadband availability and utilization, to promote private-sector investment, to leverage public-private partnerships, and to lead the effort. Unlike roads, electricity, and water, Oregon's investment in broadband should not be limited to physical infrastructure but also should include policies to increase adoption and use of broadband technologies.

Oregon already has a number of critical building blocks in place for a Broadband Policy. Let's start there and craft additional policies.

Increasing both access to and use of broadband will further build our economy, strengthen public safety, improve living standards, expand educational and healthcare opportunities, and raise the levels of civic engagement and access to government.

Footnotes and Recommended Reading

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⁵ “What is a knowledge worker?” National Electronic Library for Health, http://www.nelh.nhs.uk/knowledge_management/km3/knowledge_worker.asp

⁶ “Great Expectations: Potential Economic Benefits to the Nation From Accelerated Broadband Deployment to Older Americans and Americans with Disabilities,” Robert E. Litan, December, 2005, http://www.newmillenniumresearch.org/archive/Litan_FINAL_120805.pdf

⁷ “Can Electronic Medical Record Systems Transform Health Care? Potential Health Benefits, Savings, And Costs,” *Health Affairs*, Vol. 24, No. 5, pp. 1103-1117, http://www.rand.org/pubs/research_briefs/RB9136/index1.html, Hillestad, Richard, James Bigelow, Anthony Bower, Federico Girosi, Robin Meili, Richard Scoville, and Roger Taylor, 2005

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