

1 **ORTCC BROADBAND POLICY RESEARCH RESOURCES**

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Preface

Please understand that the contents of this document do not necessarily represent the opinion of the Oregon Telecommunication Coordinating Council or those of any of its membership. The sole purpose of this document is to bring together in one document resources that may serve to enlighten the Broadband Policy discussion as it moves forward. Given the significant discussion “out there” it is not possible to identify and aggregate into this document every paper, discussion, etc. on this topic. Researchers are encouraged to bring forward any additional resources to inform development of the policy statement.

*The references/resources are not sorted into any particular order. As many of the resources consist of lengthy content we have not attempted to reproduce them in their entirety. Please take advantage of the Web links provided to gain a further understanding of the resource. In a very few instances the resource may not be available at the link indicated. Items added since the last revision are indicated with ** and are placed toward the end of the document. For those circumstances contact John Irwin, ORTCC Chairman, at the email address indicated in the next paragraph to receive a copy.*

Your additions to this compilation are invited and encouraged. Send them to john@jirwinconsulting.com.

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Research Resources

Open Up Those Highways

“In eras past, economic success depended on creating networks that could shift people, merchandise and electric power as efficiently and as widely as possible. Today's equivalent is broadband: the high-speed internet service that has become as vital a tool for producers and distributors of goods as it is for people plugging into all the social and cultural opportunities offered by the web. Easy access to cheap, fast internet services has become a facilitator of economic growth and a measure of economic performance.”

“*Open Up Those Highways*,” *The Economist* (January 17, 2008),

http://www.economist.com/research/articlesBySubject/displaystory.cfm?subjectid=348963&story_id=10534573

Broadband technology is a key driver of economic growth

"Broadband technology is a key driver of economic growth. The ability to share increasing amounts of information, at greater and greater speeds, increases productivity, facilitates interstate commerce, and helps drive innovation. But perhaps most important, broadband has the potential to affect almost every aspect of our lives... The United States and the Commission have a long history and tradition of making sure that rural areas of the country are connected and have the same opportunities for communications as urban areas."

FCC Chairman Kevin J. Martin,

http://wireless.fcc.gov/outreach/index.htm?job=broadband_home

The correct amount is the amount that the market provides

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

“*A Framework for a National Broadband Policy*,” *The Aspen Institute Communications and Society Program*, March 2008, Philip J. Weiser, Rapporteur,

[http://www.aspeninstitute.org/atf/cf/%7Bdeb6f227-659b-4ec8-8f84-](http://www.aspeninstitute.org/atf/cf/%7Bdeb6f227-659b-4ec8-8f84-8df23ca704f5%7D/A_FRAMEWORK_FOR_A_NATIONAL_BROADBAND_POLICY.PDF)

[8df23ca704f5%7D/A_FRAMEWORK_FOR_A_NATIONAL_BROADBAND_POLICY.PDF](http://www.aspeninstitute.org/atf/cf/%7Bdeb6f227-659b-4ec8-8f84-8df23ca704f5%7D/A_FRAMEWORK_FOR_A_NATIONAL_BROADBAND_POLICY.PDF).

Broadband is not simply a consumer service or good

“Broadband is not simply a consumer service or good, like cable television or an Xbox. Rather, it is also a distribution system, a personal tool for interacting with the world, and a catalyst and enabler of an endless array of other products, processes, and services. Broadband will

151 increasingly become integrated into virtually everything that we do at work, at home, and at play.
152 From economic development to entertainment, from education to health care, from
153 environmental sustainability to public safety and homeland security, from our smallest hamlets
154 to our largest cities, from our young people to our senior citizens, almost everything and
155 everyone will come to depend directly or indirectly on affordable and ubiquitous access to
156 broadband.

157
158 Furthermore, broadband does not merely benefit buyers and sellers of broadband connectivity. It
159 also benefits designers and builders of broadband networks; manufacturers of broadband-enabled
160 equipment and devices; developers of software and other applications; creators of content of all
161 kinds; and countless others who have a huge stake in America's rapid transition to an online
162 digital society. That is why the American Association of Retired Persons, Alcatel-Lucent,
163 EDUCAUSE, the Fiber to the Home Council, Hitachi, Intel, Google, the Telecommunications
164 Industry Association, Tropos, and so many other organizations and individuals opposed the bill
165 introduced in the North Carolina legislature in 2007 that would have impaired municipal
166 broadband initiatives.

167
168 In short, "broadband is unique in that the social returns of broadband investment exceed the
169 private returns to companies and consumers." Because broadband "facilitates enormous
170 economic opportunities that rise with the number of users," increasing the number of users is an
171 important public objective.

172
173 As a result, "the normal rule that 'the development of a technology should be left solely to the
174 marketplace' does not apply in the case of broadband, which promises an array of social and
175 economic benefits, ranging from distance learning to telemedicine to public safety to
176 democracy.""

177 *Capturing the Promise of Broadband for North Carolina and America, The Baller Herbst Law*
178 *Group, June 2008, http://www.e-nc.org/2008/pdf/Broadband_report_composite.pdf*

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181 **Broadband access does enhance economic growth and performance**

182 "The analysis we present here supports the view that broadband access does enhance economic
183 growth and performance. We find that between 1998 and 2002 (see Table 15), communities in
184 which mass-market broadband was available by December 1999 experienced more rapid growth
185 in (1) employment, (2) the number of businesses overall, and (3) businesses in IT-intensive
186 sectors. In addition, the effect of broadband availability by 1999 can be observed in higher
187 market rates for rental housing in 2000. This analysis is perforce preliminary because additional
188 data and experience are needed to more accurately address this important question; however, the
189 early results presented here suggest that the assumed (and oft-touted) economic impacts of
190 broadband are both real and measurable.

191
192 There are several clear implications for policy-makers. First, all of those who have been
193 spending their time worrying about promoting broadband should take comfort that their efforts
194 are not in vain.

195

196 Second, while the initial evidence suggests that there are significant economic impacts, more
197 research is needed to enhance the quality of these measures. An especially pressing problem is
198 the need for better microdata on how broadband is being used and on the quality of broadband.
199 The current definition of what constitutes broadband sets a pretty low threshold that does not
200 adequately distinguish between services that are only marginally better than legacy dialup and
201 real next generation broadband services that offer data rates of multiple MBps. Additionally,
202 knowing that broadband is available is not as useful as knowing whether and how it is being
203 used, or the state of broadband competition (which also will require better data on pricing and
204 market shares). Such data is inherently sensitive to collect, and so conducting rigorous empirical
205 analyses with which to inform public communications policy debates is challenging.
206 Nevertheless, such work is important and needs to be done if we are to frame effective policy.”
207 *“Measuring Broadband’s Economic Impact,” William H. Lehr, Carlos A. Osorio, Sharon E.*
208 *Gillett, Massachusetts Institute of Technology, Marvin A. Sirbu, Carnegie Mellon University,*
209 *Presented at the Thirty-third Research Conference on Communication, Information, and Internet*
210 *Policy (TPRC), September 23-25, 2005 Arlington, VA,*
211 http://cfp.mit.edu/groups/broadband/docs/2005/MeasuringBB_EconImpact.pdf, Revised as of
212 January 17, 2006

213 ***

214 **Economic benefits to the nation**

215 “Though it is widely understood that broadband technologies that allow rapid and “always on”
216 connections to the Internet will provide significant benefits to the U.S. economy, this report is
217 the first to estimate the economic benefits to the nation due to cost savings and output expansion
218 resulting from the use of broadband technologies for an important specific sub-group of the U.S.
219 population: the roughly 70 million Americans who are over 65 or under that age but have
220 disabilities.
221

222
223 Three types of benefits from broadband deployment and use are addressed: lower medical costs;
224 lower costs of institutionalized living; and additional output generated by more seniors and
225 individuals with disabilities in the labor force. Considered together, these three benefits are
226 estimated to accumulate to at least \$927 billion in cost savings and output gains in 2005 dollars
227 (with future benefits discounted for the “time value of money”) over the 25 year period, 2005 to
228 2030. This amount is equivalent to half of what the United States currently spends annually for
229 medical care for all its citizens (\$1.8 trillion). As large as these benefits may appear, they are line
230 with previous estimates for the benefits of broadband for the population as a whole.
231

232 Policies designed to accelerate the use of broadband for these populations, however, could
233 significantly add to the benefits, by cumulative amounts ranging from \$532 billion to \$847
234 billion (depending on the wages earned by the additional working seniors). The policy benefits
235 are as substantial as what the federal government is likely to spend on homeland security over
236 the next 25 years. Total cumulative benefits, under the right set of policies, could exceed what
237 the United States currently spends annually for health care for all its citizens.
238

239 Clearly, with so much at stake, policymakers have strong reasons to consider measures to
240 accelerate the deployment and use of broadband technologies for America’s seniors and
241 individuals with disabilities.”

242 “Great Expectations: Potential Economic Benefits to the Nation From Accelerated Broadband
243 Deployment to Older Americans and Americans with Disabilities,” Robert E. Litan, December,
244 2005, http://www.newmillenniumresearch.org/archive/Litan_FINAL_120805.pdf

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247 “Are you ready for the Exaflood”

248 Video: <http://www.ftthcouncil.org/?t=270&c=v>

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251 **InternetforEveryone.org initiative**

252 “To make sure everyone can benefit from the new economy and guarantee that all citizens play
253 an active role in our democracy, our nation must embark on a national campaign to connect
254 every person to a fast, affordable and open Internet. The InternetforEveryone.org initiative calls
255 on Congress and the president to act in the public interest by enacting a plan for the wired and
256 wireless Internet built upon the following principles:

- 257
- 258 • **Access**
259 Every home, business and civic institution in America must have access to a high-speed,
260 world-class communications infrastructure.
- 261 • **Choice**
262 Every consumer must enjoy real competition in lawful online content as well as among
263 high-speed Internet providers to achieve lower prices and higher speeds.
- 264 • **Openness**
265 Every Internet user should have the right to freedom of speech and commerce online in
266 an open market without gatekeepers or discrimination.
- 267 • **Innovation**
268 The Internet should continue to create good jobs, foster entrepreneurship, spread new
269 ideas and serve as a leading engine of economic growth.”

270 <http://www.internetforeveryone.org/>

271
272 ***

273 **American Internet Connectivity Grows, But Some Groups Not Interested**

274 Jul 2, 2008, News Report

275 Some 55 percent of all adult Americans now have a high-speed Internet connection at home,
276 according to a May 2008 survey conducted by the Pew Internet & American Life Project. The
277 percentage of Americans with broadband at home has grown from 47 percent in early 2007 and
278 42 percent in early 2005. Among individuals who use the Internet at home, 79 percent have a
279 high-speed connection while 15 percent use dialup.

280 The 17 percent growth rate from 2007 to 2008 represents is comparable to the 12 percent
281 growth rate recorded in the 2006 to 2007 timeframe. However, several groups exhibited little or
282 no growth in broadband adoption at home from 2007 to 2008:

- 283 • Among adults who live in households whose annual incomes are less than \$20,000
284 annually, home broadband adoption stood at 25 percent in early 2008, compared with 28
285 percent in 2007.
- 286 • Among African Americans, home broadband adoption stood at 43 percent in May 2008
287 compared with 40 percent in early 2007.

- 288 • "The flat growth in home high-speed adoption for low-income Americans suggests that
289 tightening household budgets may be affecting people's choice of connection speed at
290 home," said John B. Horrigan, associate director of research at the Pew Internet &
291 American Life project and author of the report. "Broadband is more costly on a monthly
292 basis than dial-up, and some lower income Americans may be unwilling to take on
293 another expense."
- 294 • Nonetheless, several groups exhibited strong growth in home broadband adoption from
295 2007 to 2008, namely:
- 296 • Older Americans: Those age 50 and over experienced a 26 percent growth rate in home
297 broadband adoption from 2007 to 2008. Half of Americans between the ages of 50 and 64
298 have broadband at home. Some 19 percent of those 65 and older had home broadband
299 access as of April 2008.
- 300 • Lower-middle income Americans: Those with household incomes between \$20,000 and
301 \$40,000 annually saw broadband penetration grow by 24 percent from 2007 to 2008.
302 Some 45 percent of those in that income range reported having broadband at home in
303 April 2008.
- 304 • Rural Americans: 38 percent of those living in rural American now have broadband at
305 home, compared with 31 percent who said this in 2007, or a growth rate of 23 percent
306 from 2007 to 2008.

307 While broadband adoption for low-income Americans has been flat, many broadband users
308 show a willingness to pay more for broadband in order to get faster speeds. Some 29 percent of
309 home broadband users say they subscribe to a more costly premium broadband service in order
310 to have a faster home high-speed experience. A few even have fiber optic connections at home --
311 2 percent of broadband users say they have fiber at home.

312 The Pew Internet study also explores the reasons why many Americans -- either dial-up users
313 or non-Internet users -- do not have high-speed Internet connections at home. Among the 10
314 percent of Americans (or 15 percent of home Internet users) with dial-up at home:

- 315 • 35 percent of dial-up users say that the price of broadband service would have to fall.
316 • 19 percent of dial-up users said nothing would convince them to get broadband.
317 • 10 percent of dial-up users -- and 15 percent of dial-up users in rural America -- say that
318 broadband service would have to become available where they live.
319 • Overall, 62 percent of dial-up users say they are not interested in switching from dial-up
320 to broadband.

321 Americans who are not online -- 27 percent of adults who do not use the Internet -- are likely
322 to be older (their median age is 61) and have low incomes. When non-Internet users are asked
323 why they don't use the Internet, here is what they say:

- 324 • 33 percent of non-users say they are not interested.
325 • 12 percent say they don't have access.
326 • 9 percent say it is too difficult or frustrating.
327 • 7 percent say it is too expensive.
328 • 7 percent say it is a waste of time.

329 "Economic factors play a large role in why some people don't have broadband, but about one
330 in 10 non-broadband users say that service isn't available where they live," said Horrigan.

331 "Beyond price and availability, some non-broadband users simply don't see the need for having a
332 high-speed connection at home."

333 Other key findings from the survey are:

- 334 • Broadband users report an average monthly bill of \$34.50 for high-speed service, 4
335 percent lower than the \$36 reported by broadband users in December 2005.
336 • Dial-up users report a monthly bill of \$19.70 for service, an increase of 9 percent over the
337 \$18 figure reported in December 2005.
338 • Always connected users: Some 34 percent of online users say they have gone online
339 away from home or work using a Wi-Fi connection on their laptop. Among this group, 64
340 percent say they use free Wi-Fi services when they do this. 58 percent use Wi-Fi in
341 public places such as an airport or coffee shop.

342 The Pew Internet Project's report on broadband adoption is based on the Project's April-May
343 2008 survey of 2,251 adults, 1,153 of whom were home broadband users.

344 http://www.govtech.com/gt/articles/375098?utm_source=newsletter&utm_medium=email&utm_campaign=DC_2008_7_8
345

346

347 *"Home Broadband 2008: Adoption Stalls for low-income Americans even as many broadband*
348 *users opt for premium services that give them more speed",*

349 http://www.pewinternet.org/PPF/r/257/report_display.asp, July 2, 2008

350

351 ***

352 **A United States in shambles**

353 *The nation's deteriorating infrastructure needs investment and a visionary new plan for the next*
354 *century*

355 OK, class, for today's pop quiz in American history, who was Albert Gallatin?

356

357 Don't remember? You probably have plenty of company.

358

359 Rep. Earl Blumenauer, D-Ore., may have come up a little short in his effort this year to raise
360 public awareness of Albert Gallatin's enormous contributions to the early United States. In
361 March, the U.S. House unanimously approved Blumenauer's resolution to celebrate Gallatin's
362 legacy, but the vote caused barely a ripple in the national media.

363

364 That's too bad. Gallatin, Thomas Jefferson's secretary of the treasury, crafted the 1808 plan for
365 America's national infrastructure. The plan implemented George Washington's vision of
366 connecting the interior settlements with East Coast markets and ports through a network of roads
367 and canals.

368

369 Blumenauer's point? National infrastructure planning and development was a high federal
370 priority for America's founders, and it should remain so today.

371

372 Instead, as The Oregonian's Jeff Kosseff reported this week, America is literally falling apart.
373 The nation's infrastructure -- from highways and bridges to power grids and telecommunications
374 systems -- is crumbling after decades of underfunding and appalling neglect.

375

376 The highway maintenance backlog is stupendous, yet we spend less on it each year than we
377 spend in Iraq. Even doubling our annual highway spending, currently at \$68 billion, would
378 produce only modest improvements between now and 2020.

379

380 At the same time, U.S. drinking water systems need \$277 billion in upgrades, and wastewater
381 treatment systems will need \$203 billion. Public transit, electrical transmission, flood control and
382 telecommunications systems will need hundreds of billions on top of that.

383
384 "We're facing the worst crisis over infrastructure in the nation's history," Blumenauer told The
385 Oregonian's editorial board. "That's why I will make this my primary political focus for the
386 remainder of this Congress."

387
388 As he pushes for a new national plan, he'll have help from other Oregon Democrats. Rep. Peter
389 DeFazio, chairman of the House subcommittee on highways and transit, will play a major role in
390 drafting a transportation funding bill next year. And Sen. Ron Wyden is calling for the
391 government to issue billions of dollars in bonds for highway and transit investments.

392
393 In 1908, one century after Gallatin laid out his ambitious plan, President Theodore Roosevelt
394 could see that the United States was at a crossroads over national infrastructure. He charted a
395 new economic development plan that foresaw the need to invest in electrical generation and laid
396 the groundwork for the interstate highway system.

397
398 Today, exactly one more century later, we're at another such crossroads, one more difficult than
399 ever before. Meeting the challenge will require a president with the vision of Gallatin and
400 Roosevelt, along with many more voices in Congress to join those of Blumenauer, DeFazio and
401 Wyden of Oregon.

402 *The Oregonian,*

403 [http://www.oregonlive.com/editorials/oregonian/index.ssf?/base/editorial/1214870110244300.x](http://www.oregonlive.com/editorials/oregonian/index.ssf?/base/editorial/1214870110244300.xml&coll=7)
404 [ml&coll=7](http://www.oregonlive.com/editorials/oregonian/index.ssf?/base/editorial/1214870110244300.xml&coll=7), Tuesday, July 01, 2008

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407 **Community Wireless: Policy and Regulation Perspectives**

408 "This paper began with an overview of the technical specifications of wireless Internet
409 networking, particularly looking at the advances in open source development and mesh
410 networking. This was followed by an examination of the potential for these new networks,
411 including so-called "free networking" and its applications in sharing connectivity among many
412 users. Objections to some of these developments were identified from the telecommunication
413 provider perspective which is that they retain rights and ownership over the services they
414 provide to their customers whatever the opportunities for redistribution (as for example through
415 wireless transmission). It was noted further that services such as wireless broadcasting are of
416 necessity both technically regulated and to be placed in the broader social and economic context
417 of public policy. As one example of the kinds of difficulties faced in policy creation, the on-
418 going political battle in America over municipal wireless was examined in some detail."

419 "*Community Wireless: Policy and Regulation Perspectives*", Matthew A Wong, University of
420 Toronto, *The Journal of Community Informatics*, Vol 3, No 4 (2007), [http://ci-](http://ci-journal.net/index.php/ciej/article/view/275)
421 [journal.net/index.php/ciej/article/view/275](http://ci-journal.net/index.php/ciej/article/view/275)

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424 **Digital Subscriber Line (DSL),**

425 Wikipedia, <http://en.wikipedia.org/wiki/DSL>

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Hybrid Fiber Coaxial (HFC)

Wikipedia, http://en.wikipedia.org/wiki/Hybrid_fibre-coaxial
 Society of Cable Telecommunications engineers, <http://www.scte.org/>

Fiber

This primer covers the key economic and technical issues surrounding fiber to the home.

- FTTH – that is, Fiber to the Home – is the only technology that will deliver enough bandwidth, reliably and at a low enough cost, to meet the consumer demands of the next decade.
- FTTH is affordable now, which is why hundreds of companies using hundreds of different business cases worldwide are racing to install it in thousands of locations. FTTH is also the only technology that will meet the needs of the foreseeable future, when 3D, “holographic” high-definition television and games (products already in use in industry, and on the drawing boards at big consumer electronics firms) will be in everyday use. Think 20 to 30 gigabits per second in a decade. Copper can’t do even 1/1000th of that bandwidth, and then not for more than a few hundred yards.
- FTTH is already delivering highmargin services that consumers are willing to pay far more for than traditional “cable TV.”

http://www.ftthcouncil.org/UserFiles/File/BBP_Apr08_FTTHPrimer.pdf
 See additional material at the FTTH Web site <http://www.ftthcouncil.org/>

WiMax

Wikipedia, <http://en.wikipedia.org/wiki/WiMAX>
 WiMax Forum, <http://www.wimaxforum.org/home/>

WiFi

Wikipedia, <http://en.wikipedia.org/wiki/Wi-Fi>
 WiFi Alliance, <http://www.wi-fi.org/>

OR Broadband Penetration

<i>Total Households</i>	Internet Use								No Internet Use	
	In the Home						Anywhere			
	Total		Dial-up		Broadband					
	No.	%	No.	%	No.	%	No.	%	No.	%
1,513	1,031	68.18	155	10.26	870	57.54	1,139	75.28	374	24.72

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Current Population Survey (October 2007), U.S. Census Bureau, <http://www.census.gov/cps/>

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OREGON

Persons without broadband: 1,607,600

Percent of homes without broadband: 57.5%

Reported at <http://www.internetforeveryone.org/> using data extracted from the Current Population Survey (October 2007), U.S. Census Bureau, <http://www.census.gov/cps/>

Oregon does pretty well for current generation broadband penetration

“Oregon does pretty well for current generation broadband penetration (cable modem, DSL), although not great. In March of 2008, Oregon Broadband penetration, including all technologies, was 56.1% of households. In 2007, Oregon had 53% broadband penetration, for a ranking of 22nd out of 48 continental states.

For next-generation, FTTH access, there are 58,000 subscribers, which is about 4% Penetration. 86% are in the Verizon, old GTE, territories. Bull Mountain and Tigard are in Washington County. Gresham is on the eastern side of Portland. Other service providers operating FTTH networks include: Monmouth Independence, City of Bandon, Gervais Tel. and others.

In Qwest territories, there is no FTTH deployment – except where demanded by a large Planned Community developer (Colorado and Arizona). In general, Qwest has minimal network capital expenditures in most of its territories, including Oregon, primarily servicing Portland and Eugene. Qwest was the victim of a greedy management team that emptied its treasury in the early 2000’s, is now debt-ridden, and has not been able to modernize its network. And, it will only provide token capital investment in the future. So, unless Verizon decides to go out-of-territory with its FTTH network, the only major move forward among the Telecom incumbents will be to convince Qwest to spend more on modernizing their network – a daunting task. Comcast and the other CATV MSO’s are improving their networks where there is competition from the incumbent Telco – primarily east coast versus Verizon. So, they get a pass on investing in Oregon because Qwest is not competing.”

Joe Savage, President, FTTH Council of North America, email July 09, 2008

Nielsen: US leading in Mobile Internet Penetration -- More evidence the US is not falling behind

New facts from independent sources continue to undermine the political charge that the U.S. is falling behind in broadband, the thinly-veiled charge that Big Government proponents use to justify the need for a national broadband industrial policy to replace the current free-market national Internet policy.

- A new [report](#) by Nielsen, the independent market research firm: "**Critical Mass: The worldwide state of the mobile web**"
 - Ranks the U.S #1 out of the 16 countries they measure in mobile Internet usage penetration -- ahead of the UK, Germany, France and Italy and others.
 - The report also concludes that **penetration of 3G-broadband-capable handsets is greater in the U.S. than in the EU** (28% vs 25% of consumers respectively.)

Why are these new independent findings important?

510 First, broadband mobility is as important to Americans as stationary broadband speed.
511 • Proponents of a national broadband industrial policy myopically focus on the importance
512 of broadband speed and ignore the importance of broadband mobility, so that they can
513 claim broadband-duopoly market-failure and justify replacing current free market
514 competition policy with a more regulator-driven, quasi-nationalization broadband policy.
515 ○ Consumer demand statistics prove that mobility is very important to American
516 consumers and can't be ignored by policymakers.
517 ▪ American consumers have substantially more wireless connections in use
518 than wireline and use substantially more wireless minutes than wireline
519 minutes per FCC statistics.
520 ▪ Roughly 16% of Americans now have "cut the cord" and only use a
521 wireless phone per industry estimates.
522 ○ Nielsen's findings that Americans have more penetration of mobile Internet than
523 other countries clearly fits what we know about American's strong demand for
524 mobility.
525 ○ This also comports with the latest FCC broadband statistics which show that
526 wireless broadband is the fastest growing segment of broadband use in America.

527 **Second, America is unlikely to fall behind in broadband mobility** for several more reasons.

- 528 • The U.S. leads the world in facilities-based wireless broadband competition and
529 investment -- with four well-capitalized national competitors: AT&T, Verizon, Sprint,
530 and T-Mobile -- and a fifth on the way with Clearwire's world-leading WiMax national
531 broadband wireless consortium of Sprint, Comcast, Time Warner, Intel and Google.
- 532 • The U.S. also has the most usage of wireless minutes in the world, over four times the use
533 of Europeans, and the lowest wireless prices in the world save for Hong Kong.
- 534 • Apple/AT&T's popular iPhone coupled with the 3G broadband upgrades throughout the
535 industry are also accelerating the transition from telephony to mobile Internet to wireless
536 broadband.
- 537 • And the U.S. is leading the world by a few years in actually bringing super-fast 700MHz
538 TV spectrum to market for wireless broadband use.
- 539 • Finally, the Nielsen study ranking the U.S. highly in mobile Internet penetration is yet
540 another respected independent source that tacitly rebuts the interpretation of the [OECD](#)
541 [broadband statistics](#) that the U.S is falling behind on broadband.
- 542 • The [2008 World Competitiveness Yearbook](#) came out in May and the **U.S. is ranked**
543 **#1 in world competitiveness again** -- for the fourteenth year in a row.
- 544 • In November 2007, the U.S. ranked #1 in the World Economic Forum's Global
545 competitiveness [Report](#) for 2007-2008.
- 546 • Last year, the [Economist Intelligence Unit's](#) latest Global Digital Rankings had the U.S.
547 tied for second in the world.

548 **Bottom line:** Proponents of a national broadband industrial policy ignore the totality of evidence
549 that the U.S. is not falling behind the world and losing its competitiveness.

- 550 • On the contrary, it is America's strong national policy to support free market competition
551 over government regulation that has enabled America to continue to lead the world now,
552 while also attracting the necessary private investment in broadband facilities of all types,
553 stationary, mobile, and others, critical to maintaining America's broadband Internet
554 leadership long term.

555 Submitted by Scott Cleland on Thu, 2008-07-10 17:28,
556 [http://www.precursorblog.com/content/nielsen-us-leading-mobile-internet-penetration-more-](http://www.precursorblog.com/content/nielsen-us-leading-mobile-internet-penetration-more-evidence-us-not-falling-behind)
557 [evidence-us-not-falling-behind](http://www.precursorblog.com/content/nielsen-us-leading-mobile-internet-penetration-more-evidence-us-not-falling-behind)

558
559 ***

560 **Testimony of Rey Ramsey. Chief Executive Officer of One Economy Corporation**

561 “Independent research and our own experience suggest that the principle barriers to people
562 adopting broadband in their homes have less to do with access and affordability and more to do
563 with helping people to understand the value of broadband, helping to alleviate concerns about
564 online safety, and a series of other educational and cultural issues. A 2007 survey by the Pew
565 Internet and American Life project asked non-Internet users why they are not online. You might
566 expect the number one reason to be cost. In fact, one-third of people not using the Internet said
567 they are just not interested. This is not to discount the importance of cost and the work that still
568 needs to be done in that area, but these findings show that even when broadband is available and
569 affordable, other concerns remain to be addressed.

570
571 At One Economy, we have **recently begun work with the Warm Springs Indian Reservation**
572 **in Oregon** [Ed. Note: boldface added for emphasis], home to nearly 4,000 members of the
573 Warm Spring, Wasco, and Paiute tribes—thanks in part to the efforts of a former member of this
574 committee, Congresswoman Elizabeth Furse. Broadband access is already available on the
575 reservation; the Warm Springs Tribe built a Motorola canopy-based wireless solution to provide
576 broadband to the local government and individuals. But uptake among residents has been slow,
577 in part because the average monthly cost is \$50—out of reach for many members of the tribes.

578
579 In the coming months, we will work with leaders in the reservation to make broadband a relevant
580 and affordable tool. In addition to lowering the cost of home access and creating public access
581 points, we will use broadband and the applications it makes possible to expand tribal member
582 participation in government, support small business development, preserve native culture, and
583 improve members' digital skills. Young people will be trained in technical and leadership skills
584 so they can become cultural bridges between their community and technology.

585
586 Government can play a role in stimulating demand, as the tribal government in Warm Springs is
587 doing. Creating public-purpose online media—media that puts vital information and tools
588 directly in the hands of citizens—can demonstrate the value proposition of bringing broadband
589 into their lives and homes. For low-income people, who are often caught in a web of government
590 programs and services, simple and direct online access to those programs can mean the
591 difference between missing a day of work to stand in line at a municipal building and getting
592 help in the comfort of one's home.“

593 *Testimony of Rey Ramsey. Chief Executive Officer of One Economy Corporation, Before the*
594 *House Committee on Energy and Commerce, June 24, 2008, [http://www.one-](http://www.one-economy.com/sites/all/files/TelecommCommitteeTestiomy%20062108.pdf)*
595 [*economy.com/sites/all/files/TelecommCommitteeTestiomy%20062108.pdf*](http://www.one-economy.com/sites/all/files/TelecommCommitteeTestiomy%20062108.pdf)

596
597 ***

598 **The Broadband Efficiency Index: What Really Drives Broadband Adoption Across the**
599 **OECD?**

600 “Broadband adoption is intimately tied to demand-side factors like income inequality and
601 education and, therefore, policies directed at those factors may be more cost effective than
602 supply-side subsidies and regulation. Programs that put computers in low-income schools and
603 train teachers may have a far broader impact on broadband adoption in the United States than
604 network subsidies.”

605 *Phoenix Center Policy Paper No. 33, The Broadband Efficiency Index: What Really Drives*
606 *Broadband Adoption Across the OECD?, George S. Ford, PhD, Thomas M. Koutsky, Esq.,*
607 *Lawrence J. Spiwak, Esq.,*

608 [http://www.govtech.com/gt/articles/365026?utm_source=newsletter&utm_medium=email&utm](http://www.govtech.com/gt/articles/365026?utm_source=newsletter&utm_medium=email&utm_campaign=GTEN_2008_5_28)
609 [campaign=GTEN_2008_5_28](http://www.govtech.com/gt/articles/365026?utm_source=newsletter&utm_medium=email&utm_campaign=GTEN_2008_5_28)

610
611 ***

612 **The major barriers to greater household subscribership**

613 A study released by The Center for Budget and Policy Priorities (CBPP) found: “The major
614 barriers to greater household subscribership are lack of computer ownership and not being aware
615 of the potential benefits of being online, not the price of Internet access, according to the Pew
616 Internet Project and the Park Associates market research firm.”

- 617
- 618 • Every country that leads the U.S. in broadband deployment and uptake does tax access,
619 often at rates 2-3 times greater than in the U.S..
 - 620 • Rates of broadband deployment and household subscriptions are no lower in states that
621 tax access than in states that do not.
 - 622 • Five of the states currently taxing access are among the first in which Verizon and AT&T
623 are deploying state-of-the-art fiber-optic networks.
 - 624 • In addition, state and local governments play a critical role in giving many low-income
625 people their first hands-on exposure to the Internet (e.g., in public libraries and schools)
626 and in making broadband more available (e.g., through municipal wireless networks in
627 small towns). Depriving states and localities of the funds they use to support these
628 services by permanently banning taxation of Internet access is likely to widen, not close,
629 the “digital divide.”
 - 630 • Taxation of Internet access is a “red herring” in the digital divide debate.

631 <http://www.cbpp.org/9-11-07sfp.htm>

632
633 ***

634 **FCC changes (June 12, 2008) in broadband reporting requirements include:**

- 635 • Reporting Broadband Connection Information by Census Tract vs. by zip code
- 636 • Form 477 revision to establish an increased number of transfer speed categories,
637 applicable to both download and upload service speeds.

638

639	200 Kbps up to 768 Kbps
640	768 Kbps to 1.5 Mbps
641	1.5 Mbps to < 3.0 Mbps
642	3.0 Mbps to < 6.0 Mbps
643	6.0 Mbps to < 10.0 Mbps

644 10.0 Mbps to < 25.0 Mbps
645 25.0 Mbps but < 100.0 Mbps
646 100.0 Mbps and beyond
647

- 648 • Mobile wireless broadband providers to report as residential subscriptions those
649 subscriptions that are not billed to a corporate account, to a non-corporate business
650 customer account, or to a government or institutional account.
- 651 • Requires interconnected VoIP providers to report information about the type(s) of
652 broadband connections, if any, they or their affiliates provide in conjunction with
653 interconnected VoIP service, and to report whether the interconnected VoIP service must
654 be used over a single predetermined broadband connection or can be used over any
655 broadband connection.
- 656 • Seeks comment on whether to require local exchange carriers and interconnected VoIP
657 service providers to report the number of voice telephone service connections, and the
658 percentage of these that are residential, at the 5-digit ZIP Code or Census Tract level
- 659 • Seeks comment on whether and how a nationwide broadband mapping program can
660 incorporate the data collected on Form 477, including information on broadband service
661 subscriptions by Census Tract and by speed tier.
- 662 • Seeks comment on effectively capturing meaningful information about actual speeds of
663 Internet access services experienced by consumers.
- 664 • Seeks comment on any additional metrics or standards to adopt to collect meaningful
665 comparative broadband price information in the presence of widespread service bundling,
666 promotional pricing, flux and variability in broadband service prices, and the variety of
667 optional features associated with services. Seeks comment on whether and in what form
668 the Commission should use the reported service price information.

669 *“Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of*
670 *Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data,*
671 *and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscribership”*,
672 *FCC WC Docket No. 07-38, Adopted: March 19, 2008, Released: June 12, 2008,*
673 http://hraunfoss.fcc.gov:80/edocs_public/attachmatch/FCC-08-89A1.doc

674
675 ***

676 **Extracts from an Educause report**

677 There appear to several common actions taken by state governors; some states have adopted
678 one of these strategies, while others have adopted a combination:

- 679 • Setting a goal for broadband adoption/availability: California, Kentucky, Maine, New
680 York, North Carolina, and Vermont.
- 681 • Creation of a new body focusing on broadband: California, Illinois, Kentucky,
682 Maine, Maryland, Michigan, New York, North Carolina, Ohio, South Carolina, and
683 Vermont.
- 684 • Funding broadband access with grants or low-interest loans: California, Georgia, Idaho,
685 Kentucky, Maine, Maryland, Michigan, Minnesota, North Carolina, South Carolina, and
686 Vermont.
- 687 • Regulatory bargains: telephone companies have been required to deploy greater
688 broadband in return for reduced regulatory requirements: California, Illinois, Maine,
689 and Vermont.

- 690 • Statewide video franchise legislation: 14 states (see below).
- 691 • Streamlining uses of rights-of-way (both state and municipal): California, Maine, and
- 692 Maryland.
- 693 • Public-private cooperation: California, Kentucky, Maryland, Minnesota, New York,
- 694 North Carolina, and Virginia.
- 695 • Mapping of broadband facilities: California and Kentucky.
- 696 • E-awareness: educating communities of the importance and/or availability of broadband
- 697 to increase adoption: California, Maine, New York, and North Carolina.
- 698 • Tax credits for investments in broadband facilities: California and Idaho.
- 699 • Focus on extending middle-mile fiber connectivity: Maryland, Ohio, and Virginia.

700 ...

701 **The Broadband Experiences of Other Countries and U.S. States and Municipalities**
 702 **Demonstrate Several Broadband Success Factors**

- 703 1. **Leadership and Goals:** The executives of almost every successful government
- 704 initiative began by announcing a broadband plan and setting specific
- 705 broadband goals.
- 706 2. **Public Funding:** Almost every successful government program has included
- 707 significant government funding.
- 708 3. **Open Broadband Networks:** One of the most popular models has been to require that
- 709 big broadband network providers provide service on a wholesale basis to multiple
- 710 retailers.
- 711 4. **Public-Private Partnerships:** Another consistently successful theme is government-
- 712 private sector cooperation in building broadband networks.
- 713 5. **Unbundling:** The policy of unbundling local copper networks has been used
- 714 successfully to stimulate broadband, although the application of unbundling to
- 715 fiber facilities is still under consideration.
- 716 6. **Fiber:** Except for Japan and South Korea, which are well ahead of the rest of the
- 717 world in deploying fiber, municipalities are taking the lead on fiber deployment.
- 718 7. **States Focus on Low-Speed Broadband:** Most of the state government initiatives
- 719 have focused on expanding low-speed broadband services to unserved areas, not big
- 720 broadband.

721 ...

722 **Principles for Enhancing U.S. Big Broadband Connectivity**

- 723 1. **Universal:** All communities, institutions, residences, businesses, nonprofits, educational
- 724 and health care institutions, and individuals should have equitable and affordable
- 725 access to big broadband services and to the widest possible range of content and service
- 726 providers.
- 727 2. **Deployment and Subscription:** Our big broadband policies should focus on both
- 728 deployment and subscription. We must enhance the investment in building the
- 729 network and also efforts to ensure that big broadband service is affordable so that all
- 730 consumers are able to subscribe.
- 731 3. **Public and Private Sectors:** Both the public and private sector can and must play
- 732 significant roles in the nation’s broadband deployment. Local governments have
- 733 shown that they can build broadband networks even where the private sector will
- 734 not. State governments have demonstrated that they are in the best position to know
- 735 where resources may be most needed and efficiently used. State and local

736 governments can promote economic development, education, health services, public
737 safety—goals that may not be reflected in corporate boardrooms. At the same time,
738 building broadband networks can be expensive and beyond the financial resources of
739 many governments acting alone. Thus, our policies should also include measures to
740 encourage the private sector to build broadband networks with supervision,
741 guidance, and funding from the public sector.

- 742 4. **Federal–State Cooperation:** Federal, state, and local governments should work
743 together, across traditional jurisdictional lines if necessary, to achieve the shared goals.
744 The United States is a large country, with many different geographic, income,
745 economic, and density zones. There is no one-size-fits-all solution. Different broadband
746 technologies may be required for different regions. Any federal government program
747 must be designed with flexibility to allow state and local governments to target federal
748 dollars to the best location.
- 749 5. **Big Broadband:** U.S. broadband policy should focus on the future. Cable modem,
750 DSL, and wireless technologies are unlikely to meet our future needs. The United
751 States needs to set its sights toward the 100 Mbps speeds that are commonplace in
752 Japan and increasingly the focus of European countries.

753 ...

754 **An Eight-Step Action Plan to Promote Big Broadband Connectivity**

- 755 1. Leadership, Vision, and Goals
- 756 2. Organization
- 757 3. Tax Incentives
- 758 4. A New Universal Broadband Fund
- 759 5. Openness
- 760 6. State and Municipal Broadband and Rights-of-Way
- 761 7. Enhancing Consumer Education Concerning the Benefits and Availability of
762 Broadband Services
- 763 8. Broadband Technology Research

764 *A Blueprint for Big Broadband -- An EDUCAUSE White Paper*

765 [http://connect.educause.edu/Library/Abstract/ABlueprintforBigBroadband/46209?time](http://connect.educause.edu/Library/Abstract/ABlueprintforBigBroadband/46209?time=1210810372)
766 [=1210810372](http://connect.educause.edu/Library/Abstract/ABlueprintforBigBroadband/46209?time=1210810372)

767

768 ***

769 **The U.S. healthcare system is in trouble**

770 “The U.S. healthcare system is in trouble. Despite investing over \$1.7 trillion annually in
771 healthcare, we are plagued with inefficiency and poor quality. Better information systems could
772 help. Most providers lack the information systems necessary to coordinate a patient’s care with
773 other providers, share needed information, monitor compliance with prevention and disease-
774 management guidelines, and measure and improve performance.

775

776 Other industries have lowered costs and improved quality through heavy investments in
777 information technology. Could healthcare achieve similar results? RAND researchers have
778 estimated the potential costs and benefits of widespread adoption of Health Information
779 Technology (HIT). The team also has identified the actions needed to turn potential benefits into
780 actual benefits.

781

782 Key findings:

- 783 • Properly implemented and widely adopted, Health Information Technology would save
- 784 money and significantly improve healthcare quality.
- 785 • Annual savings from efficiency alone could be \$77 billion or more.
- 786 • Health and safety benefits could double the savings while reducing illness and prolonging
- 787 life.
- 788 • Implementation would cost around \$8 billion per year, assuming adoption by 90 percent
- 789 of hospitals and doctors' offices over 15 years.
- 790 • Obstacles include market disincentives: Generally, those who pay for Health Information
- 791 Technology do not receive the related savings.
- 792 • The government should act now to overcome obstacles and realize benefits.”

793 “Can Electronic Medical Record Systems Transform Health Care? Potential Health Benefits,
794 Savings, And Costs,” *Health Affairs*, Vol. 24, No. 5, pp. 1103-1117,
795 http://www.rand.org/pubs/research_briefs/RB9136/index1.html, Hillestad, Richard, James
796 Bigelow, Anthony Bower, Federico Girosi, Robin Meili, Richard Scoville, and Roger Taylor,
797 2005

798
799 ***

800 **Investment in continuous training of the active workforce makes good business sense**

801 “The landscape of the workplace has changed across all sectors of the economy. Imbedded in
802 this change are the critical systems that involve information movement and management in all
803 phases of commercial and public enterprise. Projections for the future estimate that 75% of
804 American workers in the year 2010 will come from the current workforce. The impact of
805 information management will increasingly change the nature of many industries, therefore; an
806 investment in continuous training of the active workforce makes good business sense.”

807 *21st Century Workforce Commission Testimony*,
808 <http://www.workplacelearning.org/testimony.html>

809
810 ***

811 **“So what is a 21st century economy knowledge worker?”**

- 812 • A problem solver versus a production worker;
- 813 • A person who uses intellectual rather than manual skills to earn a living;
- 814 • An individual who requires a high level of autonomy;
- 815 • A manipulator of symbols; someone paid for quality of judgment rather than
- 816 speed of work;
- 817 • A worker who uses unique processes;
- 818 • Someone who possesses un-codified knowledge, which is difficult to duplicate;
- 819 • A worker who sources between his ears;
- 820 • Someone who uses knowledge and information to add to deeper knowledge and
- 821 information.”

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

824
825 ***

826 **2007 State New Economy Index: Benchmarking Economic Transformation in the States**
827 Report from 2007 that provides rankings in a number of categories. Many of these categories can
828 derive benefits from availability of broadband.

829 “*The 2007 State New Economy Index: Benchmarking Economic Transformation in the States*”,
830 <http://www.itif.org/index.php?id=30>

831
832 Oregon Rankings – major categories...

INDICATOR	OR’s RANK AMONG ALL STATES
KNOWLEDGE JOBS	19
GLOBALIZATION	28
ECONOMIC DYNAMISM	21
DIGITAL ECONOMY	20
INNOVATION CAPACITY	13

833 *Within each category there are additional rankings. Find them at*
834 <http://www.itif.org/files/Oregon.pdf>

835
836 ***

837 **Public Safety**

838 839 **Guidelines for Transforming Public Safety Communications in Oregon**

840
841 Whereas technology can provide the capability to link all parties, policy would determine the
842 circumstances for, and type of, communication. We have an opportunity to integrate 21st century
843 technology and thinking into our public policy decisions. New technologies are providing new
844 options. Most older public safety communications networks were designed to provide voice
845 communications on radio networks. As we rebuild and replace older radio systems it will be
846 useful to rethink the assumptions and applications of public safety communications in the light of
847 new technical opportunities. The opportunities in the new broadband digital age are much
848 different than they were in the age of narrowband analog voice communications.

849
850 Shifting to a new model to meet pressing public safety communications needs will not be easy,
851 *but the objective of ensuring that our public safety personnel have the best available*
852 *communications capabilities must be achieved!* The sooner all parties realize the opportunities
853 available to public safety by adopting an IP-based architecture, the closer we will be to a system
854 of interoperable, highly functional, and efficient public safety communications.

855
856 Local and state governments have a shared responsibility and distinct roles. Many experts agree
857 that emergency response is a local activity that must remain local. In particular, local public
858 safety agencies must remain in control of information and communications systems at the
859 logical/functional layer so they can perform their duties effectively. Therefore, the goal of a next-
860 generation architecture is to provide localities with greater tools and flexibility to meet their
861 particular needs—without having to manage the underlying technology.

862
863 The critical role for state governments is to develop the skills needed to oversee an integrated
864 emergency communications strategy. Ideally, this strategy would take a broad view of

865 emergency response, including the current state of E-911 technology. In any event, it certainly
866 would include developing shared resources where appropriate and ensure that all federal and
867 state funds were invested to advance migration to a next-generation architecture. States (or
868 regional authorities) should manage or oversee the underlying network functions so that they are
869 effective, are interoperable, and provide the necessary core services.

870
871 The ORTCC recommends using the following set of guidelines to evaluate any public safety
872 telecommunications approach.

873
874 **Mobile Broadband Digital Multimedia**
875 *Provide for a broad array of applications and types of connectivity that does not limit the*
876 *approach to serving public safety telecommunications needs.*

877
878 **Multiple Applications on the Same Network**
879 *Provide for multiple applications on the same network -- for example, voice, text messaging,*
880 *instant messaging, e-mail, database searching, image transmission, video conferencing and*
881 *other transmission of full motion video images.*

882
883 **Flexible, Secure Communications**
884 *Provide for the highest level of secured transmissions.*

885
886 **Universal Interoperability**
887 *Provide for the highest level of standards-based interoperability within federal, state and local*
888 *agencies and for linking local agencies to state and federal resources.*

889
890 **Scalable Architecture**
891 *Provide for a network design that is both scalable and independent of the type of terminal*
892 *equipment connected to the network.*

893
894 **Shared Networks**
895 *Provide for a multi-use shared network, one that appropriately leverages existing infrastructure*
896 *where feasible—public safety functions would have priority in that network—for both public*
897 *safety and other applications that will permit broadband Internet access for education, business,*
898 *healthcare and residents.*

899
900 **Transforming the PSAP—bi-directional broadband public safety communications centers**
901 *Provide for bi-directional broadband-enabled Public Safety Answering Points (PSAPs) that*
902 *transform 911 centers to E911 centers with automatic digital location identification information,*
903 *VoIP caller identification/location, reverse 911 services to alert people of dangers, and to*
904 *handle emergency "calls" made through e-mail, text messaging, digital video or other forms of*
905 *communication.*

906
907 **Flexible Frequency Options**
908 *Provide for digital interoperability independent of frequency.*

909
910 **Redundant Telecommunication Networks**

911 *Provide redundancy as an integral part of the infrastructure.*

912

913 **Expanded Cellular Coverage**

914 *Promote expansion of cellular phone service along all major routes in the state.*

915

916 *Report of the Oregon Telecommunications Coordinating Council presented to the Joint*
917 *Legislative Committee on Information Management and Technology on November 28, 2006 for*
918 *the Seventy-Fourth Legislative Assembly,*

919 <http://www.ortcc.org/PDF/ORTCCReportJLCIMT20063final.pdf>, pages 32 – 50

920

921 ***

922 PUBLIC LIBRARIES AND THE INTERNET 2008: STUDY RESULTS AND FINDINGS **

923 The ensuing state tables provide selected summary survey data for the states for which there
924 were adequate and representative responses (42 in all, plus the District of Columbia). The survey
925 data were weighted to enable state projections. The weighting used was based on three variables:

926

- 927 1. Metropolitan status of libraries in the state (urban, suburban, and rural);
- 928 2. Calculated poverty of the population served by the libraries in the state (less than 20
929 percent, 20-40 percent, and greater than 40 percent); and
- 930 3. Total number of libraries in the state.

931 *Information Use Management and Policy Institute, John Carlo Bertot, Charles R. McClure,*
932 *Susan Thomas, Kristin M. Barton, Jessica McGilvray (July 2007), The American Library*
933 *Association and The Bill & Melinda Gates Foundation*

934 http://www.ii.fsu.edu/plinternet_reports.cfm

935

936 **Group Urges Congress to Move Forward on Broadband Mapping**

937 The Communications Workers of America (CWA) is calling on House and Senate leaders to
938 support legislation to improve data collection about current broadband deployment, make
939 resources available to states to move forward on determining where gaps in broadband coverage
940 exist, and create public-private partnerships to expand broadband deployment and adoption.
941 In this effort, CWA has been joined by a broad-based alliance of health care, education, farm and
942 public interest groups, telecommunications and cable companies, and trade associations in urging
943 Congress to act now and move toward a needed national policy of broadband deployment.

944

945 The leading bills now before Congress -- [S. 1492](#), the Broadband Data Improvement Act and
946 [H.R. 3919](#), the Broadband Census of America Act -- provide a critical first step to developing a
947 national broadband policy, said the CWA in a release.

948

949 CWA President Larry Cohen stressed that "if our nation is going to realize the economic gains of
950 the Internet Age and ensure that a 21st century Internet is available for all, we need better data to
951 help us get there. These bills now before Congress will greatly improve the quality of that
952 information and will move us another step closer to bringing high-speed Internet access to every
953 American."

954

955 The diverse group of 30 organizations and companies, in a joint letter to key congressional and
956 committee leaders, outlined the critical need to move the nation to adoption of a national

957 broadband policy that will stimulate economic growth, create jobs, reduce healthcare costs and
958 have other far-reaching economic benefits.

959
960 "We believe Congress should adopt legislation this year that provides federal government
961 support for state initiatives using public-private partnerships to identify gaps in broadband
962 coverage and to develop both the supply of and demand for broadband in those areas," the group
963 wrote.

964
965 Recent studies estimate that the total annual economic impact of accelerating broadband access
966 across the United States would exceed \$134 billion, the group pointed out, with additional and
967 far-reaching economic benefits from an increase in telemedicine, distance learning and other
968 applications, including the potential for:

- 969 • \$92 billion through an additional 2.4 million jobs per year created or retained
- 970 • \$662 million saved per year in reduced healthcare costs
- 971 • \$6.4 billion per year in mileage savings from unnecessary driving
- 972 • \$18 million in carbon credits associated with 3.2 billion fewer pounds of CO2 emissions
973 per year in the United States
- 974 • \$35.2 billion in value from 3.8 billion more hours saved per year from accessing
975 broadband at home.

976
977 "We cannot afford to let another year go by without adopting policies that will stimulate the
978 economy in such ways, while expanding use of the networks that already are deployed and
979 providing broadband in previously underserved areas," the letter said, urging bipartisan efforts to
980 enact federal legislation this year.

981 *Government Technology, News Report,*

982 http://www.govtech.com/gt/articles/377186?utm_source=newsletter&utm_medium=email&utm_campaign=GTEN_2008_7_14, Jul 14, 2008,

983
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985 ***

986 **Local government Support of Community/Municipal BB Networks**
987 **NLC RESOLUTION #2007-57**

988 **LOCAL GOVERNMENT SUPPORT OF COMMUNITY / MUNICIPAL BROADBAND**
989 **NETWORKS**

990 **WHEREAS**, community/ municipal broadband networks provide an essential channel for
991 market competition, consumer choice, economic development, and universal, affordable Internet
992 access nationwide;

993 **WHEREAS**, historically local governments have ensured access to essential services by banding
994 together to provide those services that were not offered by the private sector at a reasonable cost.

995 This involvement has included electrification, public libraries, and other important services;

996 **WHEREAS**, President Bush, the Congress, and the Federal Communications Commission
997 (FCC) have identified the universal availability of affordable high speed Internet broadband
998 access for all citizens as a national priority;

999 **WHEREAS**, according to the International Telecommunications Union, the United States has
1000 fallen to 16th among industrialized nations in deploying broadband services;

1001 **WHEREAS**, local government leaders recognize that their economic health and survival
1002 depends on connecting their communities and they understand that it takes both private and
1003 public investment to bring this goal to fruition;

1004 **WHEREAS**, the availability of broadband can vary dramatically from one neighborhood to
1005 another even in heavily populated urban areas;

1006 **WHEREAS**, some incumbent private broadband providers have been attempting to stop further
1007 local government deployment of municipal broadband services by lobbying against it at the
1008 federal and state level;

1009 **WHEREAS**, opponents of community and municipally provided broadband have proposed
1010 various administrative procedures that they claim are designed to protect citizens and consumers
1011 from unwieldy local governments however, these safeguards really place over burdensome
1012 requirements on municipalities and act as unnecessary barriers;

1013 **WHEREAS**, in the vast majority of community/ municipal broadband networks built to date, the
1014 private sector has been involved in helping design, build, and operate the network – creating new
1015 business opportunities and jobs in the process; and

1016 **WHEREAS**, Congress is currently considering some legislation that would restrict the ability of
1017 local governments to offer high speed Internet and other communications services in their
1018 communities and as a result could slow down the deployment of broadband.

1019 **NOW, THEREFORE BE IT RESOLVED** NLC believes that the federal government should
1020 encourage deployment of broadband networks in a competitive and technologically neutral
1021 manner;

1022 **BE IT FURTHER RESOLVED** NLC opposes proposals, administrative or otherwise, that seek
1023 to burden cities through unnecessary procedural requirements and safeguards that duplicate the
1024 democratic process by which all cities govern themselves;

1025 **BE IT FURTHER RESOLVED** NLC embraces local governments ability to work
1026 cooperatively with the business sector to offer broadband services and does not believe it is
1027 incompatible with private sector competition; and

1028 **BE IT FURTHER RESOLVED** NLC supports federal proposals that promote community/
1029 municipal broadband and opposes any federal proposals that serve to preempt community/
1030 municipal authority to act in the interest of its citizens, by preventing local governments from
1031 installing and operating community/ municipally owned cable or telecommunications systems.

1032 *National League of Cities, 2007 National Congress of Cities conference,*

1033 [http://www.nlc.org/ASSETS/805BBA2C18954301808AE9B5517B14E8/Approved2007ITCResolu](http://www.nlc.org/ASSETS/805BBA2C18954301808AE9B5517B14E8/Approved2007ITCResolutions.doc)
1034 [tions.doc](http://www.nlc.org/ASSETS/805BBA2C18954301808AE9B5517B14E8/Approved2007ITCResolutions.doc)

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1036 ***

1037 **Alabama**

1038 EXECUTIVE ORDER NUMBER 42

1039 WHEREAS, effective economic development today requires unprecedented levels of collaboration and
1040 communication among business, local and state government, education, healthcare, tourism, and community leaders;
1041 and

1042 WHEREAS, high-speed internet access, also known as broadband, has become an essential element of economic
1043 vitality. Broadband availability increases individual worker productivity, breaks down the traditional geographic
1044 barriers to jobs and careers in high-paying fields, and connects Alabama businesses to international markets around
1045 the world; and

1046 WHEREAS, small towns and rural communities across Alabama are the cradle of the best of American ingenuity,
1047 potential, and values; yet without sufficient access to broadband and a high level of use of available technology,
1048 these communities and their residents will remain technologically, and thus economically isolated and competitively
1049 disadvantaged; and

1050 WHEREAS, the availability of broadband in Alabama is continuing to increase across multiple technological
1051 platforms; however, certain locations and/or communities are either underserved (e.g., insufficient speeds to fully
1052 leverage the benefits of broadband) or unserved; and

1053 WHEREAS, eliminating underserved and unserved areas in the state will provide educational, economic, health,
1054 governance and public safety benefits to all citizens of Alabama; and
1055 WHEREAS, all Alabama citizens, especially high-tech workers, require and will significantly benefit from
1056 expanded broadband access at work, at home, at school and for e-commerce; and
1057 WHEREAS, the basic requirements for successfully expanding the benefits of broadband internet to all citizens of
1058 Alabama are: (1) access to computers (privately owned or leased, or provided at public locations as a public benefit);
1059 (2) access to reliable broadband services at affordable prices and at speeds required for current and future
1060 applications; and (3) knowledge to effectively use those computers and the internet; and
1061 WHEREAS, broadband infrastructure allows communities to engage the world with their goods and services; allows
1062 industries reliant upon traditional manufacturing to use the internet to expand their markets and make their
1063 operations even more efficient; allows professionals in rural communities to work from home; and broadband brings
1064 educational opportunities, improved healthcare, more effective government services and a better quality of life to all
1065 residents; and
1066 WHEREAS, companies selling technology-intensive products and services, or companies with technologically
1067 advanced operations, generally provide faster growth in employment and income than companies in other sectors;
1068 and
1069 WHEREAS, studies show that as much as 85% of the growth in per-capita income over the past 150 years has
1070 resulted from technological change, and technology-intensive private sector jobs pay average wages of 85-95%
1071 higher than private sector jobs that are not technology-intensive.
1072 NOW THEREFORE, I, Bob Riley, Governor of the State of Alabama, by virtue of the authority vested in me by the
1073 Constitution and the laws of the State of Alabama, do hereby establish the Alabama Broadband Initiative (ABI). The
1074 mission of the Alabama Broadband Initiative shall be to extend the benefits of advanced broadband technology to
1075 every community in the state through collaborative partnerships with governmental and private sector stakeholders.
1076 BE IT FURTHER ORDERED that the Alabama Broadband Initiative shall be implemented and managed by a
1077 Director, who shall be appointed by and serve at the pleasure of the Governor and who shall also serve as Executive
1078 Director of the Advisory Board for the Alabama Broadband Initiative. The office of the Director shall operate as an
1079 arm of the Governor's Policy Office, and the Director shall report through the Governor's Policy Director to the
1080 Chief of Staff. Salary, administrative expenses and travel reimbursements and expenses for the Director, shall be set,
1081 approved and paid by the Governor's Office.
1082 BE IT FURTHER ORDERED that the fiscal agent for the Alabama Broadband Initiative will be the Alabama
1083 Department of Tourism and Travel.
1084 BE IT FURTHER ORDERED that there is created an Operating/Advisory Board, hereinafter referred to as "the
1085 Board", for the Alabama Broadband Initiative, which shall be comprised of the following fifteen ex-officio
1086 members, or their officially named designees, where appropriate, with the three legislative members not being
1087 entitled to name a designee, who shall coordinate the implementation of ABI with all appropriate agencies of state
1088 government:
1089 1. Director, Alabama Development Office,
1090 2. Director, Alabama Department of Economic and Community Affairs,
1091 3. Commissioner, Alabama Department of Agriculture and Industries,
1092 4. Director, Alabama Bureau of Tourism and Travel,
1093 5. Director, Alabama Rural Action Commission,
1094 6. Director, Alabama Department of Homeland Security,
1095 7. Chief Executive Officer, Alabama Supercomputer Authority,
1096 8. Commissioner, Alabama Commission on Higher Education,
1097 9. Chancellor, Alabama Department of Postsecondary Education,
1098 10. State Superintendent of Education,
1099 11. State Health Officer,
1100 12. Chief Information Officer, State of Alabama,
1101 13. One member from the Alabama Senate, appointed by the Governor
1102 14. Two members from the Alabama House of Representatives, appointed by the Governor
1103 BE IT FURTHER ORDERED that other members, including representatives of the broadband service providers in
1104 this state and any related industries or associations, may be added to the membership of the Board, in a non-voting
1105 capacity, as shall be determined by the Governor.
1106 BE IT FURTHER ORDERED that the Board shall receive any program transfer funds from the federal government,
1107 or its departments and/or agencies, or from other state departments or agencies, and any grants, awards,
1108 contributions, donations, or other funds awarded to the ABI, and shall, by majority vote, make grants and awards of

1109 any funds received, for the purposes outlined in this Executive Order, and shall establish the necessary rules,
1110 regulations, and guidelines for qualification to receive grants and awards from the ABI..
1111 BE IT FURTHER ORDERED that no funds received or awarded by the Board shall be used for salary, expenses,
1112 travel reimbursement, or other administrative costs or expenses of the Director, and that all funds received will be
1113 distributed to qualified agencies, departments, programs or for reasonable operating expenses or administrative
1114 costs.
1115 BE IT FURTHER ORDERED that the Board for the ABI shall advise the Governor regarding matters affecting
1116 broadband deployment and shall report periodically to the Governor and provide him with information and
1117 recommendations for his consideration.
1118 DONE and ORDERED this 22nd day of May, 2008.
1119 <http://governorpress.alabama.gov/pr/ex-42-2008-05-22.asp>

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1121 ***

1122 **Comprehensive analysis done in 2004 by the CA PUC**

1123 A lot has transpired since then, including the formation of broadband councils, broadband task
1124 forces, etc.

1125 *“Broadband Policies and Practices in the U.S.”, Independent Research Conducted by the*
1126 *California Public Utilities Commission, 2004,*
1127 http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/46428_D0505013_BBReport_Appendix_B
1128 [.PDF](#)

1129
1130 ***

1131 **The California Broadband Task force (CBTF) recommends seven key actions** to help our
1132 state achieve fast, reliable, and affordable broadband service:

- 1133 1. Build out high speed broadband infrastructure to all Californians
1134 *Advancing new incentives for deployment and improving existing programs will create a world-*
1135 *class broadband infrastructure in California.*
- 1136 2. Develop model permitting standards and encourage collaboration among providers
1137 *Developing a public-private partnership between local governments and broadband providers to*
1138 *endorse permitting standards will improve the speed with which broadband is deployed.*
- 1139 3. Increase the use and adoption of broadband and computer technology
1140 *Expanding the opportunities for Californians to access, use, and learn broadband, at home and*
1141 *in the community, will provide the foundation for a digitally literate society that is able to fully*
1142 *benefit from broadband technology.*
- 1143 4. Engage and reward broadband innovation and research
1144 *Promoting innovative uses of broadband technology and encouraging wider e-government use*
1145 *will result in quality-of-life improvements, while increasing demand for a robust broadband*
1146 *infrastructure.*
- 1147 5. Create a statewide e-health network
1148 *Implementing a sustainable statewide e-health network will improve quality of care across the*
1149 *state and simultaneously increase demand for broadband services.*
- 1150 6. Leverage educational opportunities to increase broadband use
1151 *Ensuring high-capacity broadband connections coupled with a robust technology support*
1152 *system, relevant curriculum, literacy standards, and off-campus educational partnerships will*
1153 *provide California’s students with the skills they need to compete in a 21st century economy.*
- 1154 7. Continue state-level and statewide leadership

1155 *Continuing the California Broadband Initiative and supporting the creation of Community*
1156 *Broadband Leadership Councils will strengthen the statewide leadership necessary to drive*
1157 *broadband access and adoption across California.*
1158

1159 “Principles to Guide Recommendation Implementation

- 1160 • Current-generation infrastructure will only suffice for a limited period of time.
- 1161 • Digital literacy and computer access are necessary prerequisites to any meaningful
1162 experience with broadband-based technologies.
- 1163 • Youth and young adults typically act as early adopters who are critical to the creation and
1164 adaptation of new technologies.
- 1165 • Different requirements drive the supply of and demand for broadband.
- 1166 • Flexibility in technology is critical if the marketplace is to accommodate and support
1167 innovation.
- 1168 • Technology and competitively neutral policies promote competition.
- 1169 • Broadband usage will increase by facilitating the shortest period between innovation and
1170 adoption by all.
- 1171 • Increased broadband usage brings remarkable environmental and economic benefits to
1172 California.
- 1173 • Certain populations, particularly the elderly and the disabled community, will gain
1174 tremendous opportunities from access to broadband-based technologies.
- 1175 • Empirically based metrics ensure that only policies that achieve measurable outcomes are
1176 continued.
- 1177 • Global competitiveness is dependent on a world-class broadband infrastructure.”
1178

1179 **CA Broadband Task Force – Working definition of broadband.**

- 1180 • Broadband is defined by the ability to perform online applications at a reasonable
1181 performance level for the end user.
- 1182 • Broadband is a range of speeds and will evolve over time as applications and needs
1183 change. It is a summation of the downstream data rate (transmission to the user) and
1184 upstream data rate (transmission from the user).
- 1185 • The ratio of the downstream and upstream must be a minimum of 10:1 (the ratio of the
1186 downstream and upstream data rates can increase from 10:1 to a fully symmetrical 1:1).
- 1187 • Broadband must have the capability to be always on, and have a sustainable steady state
1188 data rate.
- 1189 • Burst-able speeds provide benefit to users, but should not be considered in the same
1190 manner as steady data rates.
- 1191 • The minimum speed required to use the most basic of broadband-enabled applications is
1192 512 kbps, and this minimum data rate is expected to increase over time.
- 1193 • An increasing scale that continues to differentiate within speed tiers allows stakeholders to
1194 measure specific broadband availability over time.

1195 (see the report for a table showing applications by broadband speed range)

1196 *“The State of Connectivity—Building Innovation Through Broadband”, Final Report of the*
1197 *California Broadband Task Force, January 2008,*

1198 http://www.calink.ca.gov/pdf/CBTF_FINAL_Report.pdf
1199

1200 **Definition of unserved or underserved by broadband facilities from California PUC...**

1201 The following definition is reasonable to adopt as the benchmark for evaluating applications, and
1202 as a threshold for defining whether an area is unserved or underserved by broadband facilities. If
1203 an area is not served by any form of broadband, such that internet connectivity is available only
1204 through dial-up service, that area is unserved. Where area is served by broadband, but where no
1205 facilities-based provider offers service at speeds of at least 3 MBPS download and 1 MBPS
1206 upload, that area is considered underserved.

1207 *California Advanced Services fund*

1208 http://docs.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/76947.htm

1209 http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/76947.doc

1210

1211 ***

1212 **Hawaii**

1213 Hawaii 2007 H.B. 310, Act 2 (Special Session 2007) established Hawaii's Broadband Task
1214 Force. The task force is directed to remove barriers against broadband deployment by using a
1215 technology-neutral approach to encourage lower prices for broadband services and create more
1216 consumer choices. The task force's purpose is to gain wider access to public rights-of-way;
1217 identify opportunities for increased broadband deployment and adoption, including very high
1218 speed broadband services; and enable the creation and deployment of new advanced
1219 communication technologies in Hawaii.

1220 <http://www.hbtf.org/>

1221

1222 ***

1223 **Kentucky**

1224 ConnectKentucky, Kentucky's technology-based economic development partnership, is an
1225 alliance of technology-minded businesses, government entities, and universities working
1226 together to accelerate technology in the Commonwealth. ConnectKentucky supports statewide
1227 broadband infrastructure expansion, technology planning, and public policy.

1228 <http://www.connectkentucky.org/>

1229

1230 Per Casey Lide in a presentation to ENATO, August 25, 2008, "While Connected Nation is
1231 undoubtedly correct that a 7-percent increase in broadband adoption in every state would result
1232 in significant economic benefits for nation as a whole, there is no reasonable basis to assume that
1233 Connected Nation can achieve a similar 7-percent increase nationwide by applying in other states
1234 the broadband-stimulating practices that its affiliate ConnectKentucky has been using in
1235 Kentucky. Even assuming that ConnectKentucky was actually responsible for the growth in
1236 Kentucky for which it takes credit – a point about which there is considerable controversy, (see
1237 Jim Baller, "The ConnectKentucky Model: A Limited Step in the Right Direction,"
1238 *MuniWireless* (January 17, 2008), <http://tinyurl.com/234ske>) – it would be much more difficult
1239 for Connected Nation to achieve the same percentage increase in other states. That is so because
1240 Kentucky was, and still is, near the bottom of state rankings in broadband adoption. Thus, it is
1241 far easier to produce a 7-percent increase in Kentucky than in states that have higher bases of
1242 broadband adoption – i.e., nearly all other states. Furthermore, there is no reason to suppose that
1243 Connected Nation's methods would increase broadband adoption in states, including North
1244 Carolina and California, that are already using substantially more extensive broadband-
1245 stimulating programs than ConnectKentucky's."

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Maryland

The Maryland Task Force for the Deployment of Broadband in Rural Maryland was established during the 2003 General Assembly session, and in 2005, the General Assembly extended it through June 2006. The task force examined what works best in other regions of the country to expand broadband communications to rural communities. Next, the Task Force considered resources, infrastructure, and cost structures available in Maryland's rural regions to develop or access broadband communications. To establish and enhance broadband communications in the state's rural areas, the task force developed proposals and made recommendations to meet predetermined goals for deployment of effective broadband communications in unserved and underserved areas of the state. The task force recommended legislation, budget provisions or amendments, and changes in state procurement policy.

<http://www.marylandtedco.org/broadbandinmd/index.cfm>

Missouri

Missouri Governor George Blunt created, by [executive order](#), the Rural High-Speed Internet Access Task Force in November 2007 to identify opportunities to increase access to technology across the state. Blunt directed the task force to: 1) assess the current level of high-speed Internet access available in Missouri; 2) identify barriers to deployment to underserved areas including economic, geographic, regulatory, and market barriers; 3) identify potential options to increase the deployment of high-speed Internet access in underserved communities; 4) review best practices in other states to increase high-speed Internet access; and 5) recommend statutory, regulatory, and policy changes needed to increase the availability of high-speed Internet services across the state.

<http://www.ltgov.mo.gov/ruralhsi/index.htm>

Nebraska

Established by the **2005 L.B. 645** in October 2005, the Nebraska Broadband Services Task Force discussed issues related to broadband services in Nebraska. The task force identified positive trends regarding broadband deployment, changing consumer demands, and evolving technologies that impact both wholesale and retail broadband services. The task force concluded that private broadband providers are successfully deploying facilities to serve Nebraska's needs and that competition by public power suppliers in providing wholesale broadband services is unnecessary at this time. However, future technological developments require the state's attention to ensure citizens have access to changing broadband offerings. The Broadband Services Task Force's [Final Report](#) was released Nov 22, 2006.

<http://www.nitc.state.ne.us/reports/bstf.html>

New York

Governor Eliot Spitzer and First Lady Silda Wall Spitzer in December 2007 announced the formation of the New York State Council for Universal Broadband, which is charged with creating, via a competitive grant process, integrated and inclusive public/private partnerships to

1292 rapidly deploy affordable broadband services. The Council will recommend a comprehensive
1293 statewide strategy that charts a course towards affordable broadband access throughout the State.
1294 This approach will seek to leverage existing resources, consider new ways to extend high-speed
1295 Internet access beyond traditional means, and recommend approaches to increase digital literacy
1296 in underserved urban and rural communities.

1297 <http://www.oft.state.ny.us/oft/UniversalBroadband/overview.htm>

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1299 ***

1300 **Ohio**

1301 Similar to Washington, Ohio's plan includes leadership from the Governor's office. Washington
1302 passed legislation in 1996 that provided leadership for telecommunications developments

1303

1304 Navigating through this page, note the Governor's Executive Order.

1305 <http://www.ohiobroadbandcouncil.org/council/index.shtml>

1306 ***

1307 **Oregon**

1308 The state of Oregon already has established in statute a set of policy statements on the criticality
1309 of broadband telecommunications for its citizenry.

1310

1311 Oregon has established a broadband goal

1312 “...it is the goal of this state to promote access to broadband services for all
1313 Oregonians in order to improve the economy in Oregon, improve the quality of life in
1314 Oregon communities and reduce the economic gap between Oregon communities that
1315 have access to broadband digital applications and services and those that do not, for
1316 both present and future generations...” (ORS 759.016 (1))

1317

1318 Oregon has established guidelines for broadband development

1319 “That the goal set forth in subsection (1) of this section may be achieved by:

- 1320 (a) Expanding broadband and other telecommunications services;
- 1321 (b) Creating incentives to establish and expand broadband and other
1322 telecommunications services;
- 1323 (c) Undertaking telecommunications planning at the local, regional and
1324 state levels that includes participants from both the public and the
1325 private sectors;
- 1326 (d) Removing barriers to the full deployment of broadband digital
1327 applications and services and providing incentives for the removal of
1328 those barriers; and
- 1329 (e) Removing barriers to public-private partnerships in areas where the
1330 private sector cannot justify investments.” (ORS 759.016 (2) (a)-(e))

1331

1332 Telecommunications is viewed as essential infrastructure

1333 “The improvement, expansion and new construction of the state's sewage treatment
1334 works, water supply works, telecommunications infrastructure, roads and public
1335 transportation provide the basic framework for continuing and expanding economic
1336 activity in this state, thereby providing jobs and economic opportunity for the people

1337 of Oregon” (ORS 285B.413)

1338

1339 Telecommunications has a key role to play in the state’s economy

1340 “Focus on strategies and investments that maximize the economic benefit to the state

1341 of the global shift to an information, science and technology driven economy and on

1342 industries and companies that make significant use of the high-capacity

1343 telecommunications, science and technology-related manufacturing processes or

1344 knowledge transfer typical of these emerging economic sectors.” (ORS 285A.020)

1345

1346 Telecommunications has a role in public safety

1347 “It is the policy of the State of Oregon to encourage and support the rapid deployment

1348 of broadband telecommunications services in areas of the state where such services

1349 do not exist, to support redundancy of critical telecommunications assets in order to

1350 ensure homeland security protections in the state and to ensure that a secure conduit is

1351 available for emergency communications and public safety networks in all Oregon

1352 communities.” (ORS 401.706)

1353

1354 **Oregon PUC Staff Report...**

1355

1356 “This white paper provides an overview of the many factors associated with broadband data

1357 collection/mapping in the United States. It includes information on state data collection/mapping

1358 endeavors to date and identifies issues that hamper successful data collection. It also considers

1359 the focus or ultimate goal of broadband data collection/mapping efforts and recommends a

1360 course of action for Oregon.”

1361 ...

1362 “Staff recommends that the Governor or the Legislature first establish a comprehensive

1363 broadband program, including creation of an advisory task force and designation of a responsible

1364 agency, then do data collection and mapping in a manner that meets the needs identified by the

1365 program. The primary purpose of data collection and mapping would be to assess where the

1366 program should step in to promote provision of broadband services with grants and subsidies.

1367 The data collection and mapping project also would help focus demand-side efforts. As

1368 discussed above, a data collection and mapping project will be more meaningful, have greater

1369 impact, acquire greater legitimacy, and be carried out more proficiently if a comprehensive

1370 program is established first. In other words, such a project would be more cost effective. Federal

1371 data or funding may become available during the time frame in which this program is being

1372 developed, providing additional support.”

1373 “*Oregon Broadband Data Collection and Mapping*”, *Report to the Public Utility Commission of*

1374 *Oregon, Telecommunications Division Staff, June 18, 2008,*

1375 http://www.oregon.gov/PUC/telecom/Broadband_Mapping_2008_Staff_Report.pdf

1376

1377 ***

1378

1379 The Tennessee Broadband Task Force was created by the General Assembly in 2005. In its

1380 initial recommendations to the governor and the General Assembly, the task force cited the

1381 model established by Connected Nation in Kentucky and encouraged the initiation of similar

1382 efforts in Tennessee. In 2007, Connected Tennessee was established as an independent non-

1383 profit organization. Connected Tennessee aims to accelerate the availability and use of
1384 technology towards creating a better business environment, more effective community and
1385 economic development, improved healthcare, enhanced education, and more efficient
1386 government.

1387 *ConnectedTennessee*, <http://www.connectedtennessee.org/>,

1388

1389 ***

1390 **South Carolina**

1391 The Carolina Broadband Technology and Communications Study Committee was created by
1392 2007 [Act 169](#) to evaluate the state's broadband communications infrastructure and assess the
1393 availability of and need for broadband services in unserved and underserved areas within the
1394 state. The Committee's [final report](#), completed in February 2008, recommends that the state
1395 create a public-private partnership to promote the deployment and adoption of broadband
1396 services in the state.

1397 [http://www.scstatehouse.net/citizensinterestpage/BroadbandTechnology&CommunicationStudyC](http://www.scstatehouse.net/citizensinterestpage/BroadbandTechnology&CommunicationStudyComm/broadband.html)
1398 [omm/broadband.html](http://www.scstatehouse.net/citizensinterestpage/BroadbandTechnology&CommunicationStudyComm/broadband.html)

1399

1400 ***

1401 **Tennessee**

1402 *Tennessee 2005 H.B. 2152, Chapter 413, creating the Tennessee Broadband Task Force*

1403 The Tennessee Broadband Task Force was created by the General Assembly in 2005. In its
1404 initial recommendations to the governor and the General Assembly, the task force cited the
1405 model established by Connected Nation in Kentucky and encouraged the initiation of similar
1406 efforts in Tennessee. In 2007, Connected Tennessee was established as an independent non-
1407 profit organization. Connected Tennessee aims to accelerate the availability and use of
1408 technology towards creating a better business environment, more effective community and
1409 economic development, improved healthcare, enhanced education, and more efficient
1410 government.

1411 <http://www.connectedtennessee.org/>

1412

1413 ***

1414 **Vermont**

1415 The Vermont Legislature enacted [2007 H.B. 248, Act 79](#), creating the Vermont
1416 Telecommunications Authority (VTA), charging it to ensure that high-speed Internet and cell
1417 phone service is available in every corner of Vermont by the end of 2010. The VTA was charged
1418 with the following powers and duties: to issue revenue bonds up to \$40 M to fund broadband and
1419 wireless telecommunications projects; gather data on wireless and broadband infrastructure and
1420 services; provide financial assistance in the form of loans, grants, guarantees and other financial
1421 instruments to fill in gaps in wireless and broadband coverage; incorporate one or more non-
1422 profits to take advantage of grants and other financing available only to non-profits; own, lease,
1423 and contract for telecommunications facilities and services for unserved areas; provide assistance
1424 to municipalities to deploy infrastructure and attract services; and waive fees required for access
1425 to state-owned transportation rights of way for broadband and wireless telecommunications
1426 providers in exchange for comparable value to the state.

1427 <http://www.telecomvt.org/index.php>

1428

1429 ***

1430 **Virginnia**

1431

1432 In 2006, Governor Kaine signed [Executive Order 35](#) creating the Office of Telework Promotion
1433 and Broadband Assistance. The duties of the office include promoting and encouraging use of
1434 telework alternatives for public and private employees, including but not limited to appropriate
1435 policy and legislative initiatives, and supporting the efforts of both public and private entities
1436 within the Commonwealth to enhance or facilitate the deployment of, and access to
1437 competitively priced, advanced broadband services, among others.

1438 <http://www.otpba.vi.virginia.gov/>

1439

1440 On June 13, 2007, Governor Kaine announced the formation of a “Broadband Roundtable” to
1441 accelerate the attainment of his economic strategic goal of having affordable broadband
1442 connectivity to every business in the Commonwealth by 2010. The Broadband Roundtable is
1443 charged with delivering a “blueprint” to assist communities with broadband planning and
1444 deployment. Roundtable members include local, national, and international leaders with a strong
1445 track record of innovating in the telecommunications industry.

1446 http://www.otpba.vi.virginia.gov/broadband_roundtable.shtml

1447

1448 ***

1449 **Washington**

1450 Inquiry as to whether the state of Washington had a broadband policy.

1451

1452 "Not to any real degree. The state has a new strategy for mapping broadband
1453 availability. You can find more info here:

1454 <http://www.wutc.wa.gov/webimage.nsf/0/OC107F2AECEC013A8825733800684>

1455 [FCF](#)

1456

1457 Quote from the site:

1458 “The Utilities and Transportation Commission (UTC) is concluding its study of
1459 broadband technologies in Washington, and is scheduled to report the results of
1460 the study to the Legislature in July 2008.

1461

1462 We have been fortunate to receive extensive experience and insight from the
1463 public, private and non-profit sectors. We appreciate the efforts of the many
1464 people who have commented, contact us, or follow the progress of the project.”

1465

1466 **New Additions**

1467 **Broadband matters for every American. Broadband matters... ****

1468 **For families.** Broadband is changing the way families learn, communicate, play and prepare for
1469 their future. Critically important information about health care, scholarships, colleges, jobs, and
1470 community life such as driver's licenses or registering to vote is increasingly on the Internet, and
1471 sometimes only on the Internet.

1472 **For consumers.** The Internet is already transforming the way we live, work, and play. 31 billion
1473 emails are now sent each day. More than 12.4 million Americans telecommute full-time, and

1474 already more than 14 million Americans have placed a telephone call over the Internet. But the
1475 best is yet ahead.

1476 **For Rural Americans.** Nowhere is broadband opportunity as profound as it is in rural America.
1477 In too many rural communities, because jobs have migrated to urban areas, high school graduates
1478 often feel they have only two choices - go away, or go nowhere. Broadband is the connection to
1479 new markets, new jobs, and to distant family and friends.

1480 **For people with disabilities.** Broadband is an especially promising technology for the 54
1481 million Americans with disabilities -- able to provide breakthrough new benefits not possible in
1482 today's legacy phone network. As all Americans increasingly depend on e-mail and the Internet
1483 to work and communicate, it becomes even more important to ensure that people with disabilities
1484 are not left out of the digital revolution.

1485 **For seniors.** Policies designed to accelerate the use of broadband could save seniors more than
1486 \$800 billion by reducing health care costs. These benefits are as substantial as what the federal
1487 government is likely to spend on homeland security over the next 25 years, and under the right
1488 set of policies, could exceed what the United States currently spends annually for health care for
1489 all its citizens.

1490 **For the economy.** Ubiquitously available broadband could unleash:

- 1491 • an estimated \$500 billion in economic growth
- 1492 • create more than 1.2 million high-wage jobs
- 1493 • restore America's global competitiveness
- 1494 • boost business productivity -- which is essential to raising standards of living for
1495 all families in America
- 1496 • allow small businesses to reach global markets

1497 **For Homeland Security.** In a study of the communications failures on September 11, 2001, the
1498 National Academies of Science found that the Internet held up better than other communications
1499 technologies on that fateful day. On 9/11, 95% of cell phone calls at 11 a.m. failed to get
1500 through, the central office for the phone system cut off 300,000 landline phones, television
1501 stations were knocked off the air, and police and Fire Department radios failed. In contrast, only
1502 2% of Internet addresses remained off-line for an extended period. 9/11 demonstrated the
1503 Internet's overall resilience to attacks thru its flexibility, and adaptability. But 7 years after 9/11,
1504 America has not done enough to advance the broadband Internet technologies that can help avoid
1505 future communications failures.

1506 **For Public Safety.** Katrina, another catastrophic communications failure, highlighted once again
1507 how fragile and woefully outdated the emergency communications system in this country has
1508 become. During Katrina, 38 Public Safety Answering Points (PSAPS) failed preventing 911 calls
1509 from being answered -- which public safety leaders say could have been avoided if they had
1510 switched to IP based voice and data communication. Connecting public safety answering points
1511 to broadband, like we've connected schools and libraries, is the new post-Katrina
1512 communications imperative.

1513 **For Government.** Universal broadband could also have important advantages for the
1514 government itself, allowing government workers to communicate in more geographically-

1515 dispersed locations in an emergency. In the event of a major 9/11-type attack on Washington,
1516 offices could be inaccessible but employees will still need to communicate. Federal workers
1517 using broadband enabled phones could immediately work from home or other broadband enabled
1518 location -- improving continuity of government. Many government agencies are already making
1519 the switch to broadband enabled voice services, but without broadband at home, workers can't
1520 connect.

1521 Luckily, the Senate's hearing focuses on people rather than pipes. Because even as we come to
1522 recognize that broadband networks are the essential communications medium of the 21st
1523 century, those who could benefit the most from this economically empowering technology are
1524 also those most likely to be left without access because of where they live or how much money
1525 they make.

1526 *Now is the time for government leadership -- for making broadband as universal as telephone*
1527 *service is today and bringing its benefits to all Americans as soon as possible.*

1528 The Senate hearing will undoubtedly reach this answer: universal, affordable broadband access is
1529 as important to the advancement of the American ideal of equal opportunity in the 21st century
1530 as universal access to education and universal phone service was in the last. As broadband
1531 becomes more critical for everything from jobs, to education and even participation in modern
1532 campaigns - millions do not have access to affordable high-speed broadband - or any broadband
1533 choices at all. We have made great progress in extending broadband's reach, but, unfortunately,
1534 America faces a lingering broadband gap that is unlikely to be bridged by market forces alone.
1535 Now is the time for government leadership -- for making broadband as universal as telephone
1536 service is today and bringing its benefits to all Americans as soon as possible.

1537 [http://benton.org:80/node/16820?utm_campaign=Benton's+Headlines&utm_source=newsletter](http://benton.org:80/node/16820?utm_campaign=Benton's+Headlines&utm_source=newsletter&utm_medium=email&utm_content=2008/09/15/nid-16858)
1538 [&utm_medium=email&utm_content=2008/09/15/nid-16858](http://benton.org:80/node/16820?utm_campaign=Benton's+Headlines&utm_source=newsletter&utm_medium=email&utm_content=2008/09/15/nid-16858)

1539

1540 ***

1541 **Digital Quality of Life: Understanding the Personal & Social Benefits of the Information**
1542 **Technology Revolution ****

1543

1544 “It has now been slightly more than a decade since the Internet became a mass phenomena and
1545 the digital economy began to take off. The United States, and indeed the world, have benefited
1546 greatly from the changes, with faster productivity and income growth, more innovation, higher
1547 quality products and services, and increased opportunity and convenience for hundreds of
1548 millions of IT users around the globe. ... In short, although the emerging digital economy has
1549 produced enormous benefits, the best is yet to come. The job of policymakers in developed and
1550 developing nations alike is to ensure that the policies and programs they put in place actively
1551 spur digital transformation so that all their citizens can fully benefit.”

1552 Robert D. Atkinson & Daniel D. Castro, October 2008, <http://www.itif.org/index.php?id=179>

1553

1554 **Internet Traffic Begins to Bypass the U.S. ****

1555 “The era of the American Internet is ending. ...”

1556

1557 John Markoff, NY Times, August 29, 2008,

1558 <http://www.nytimes.com/2008/08/30/business/30pipes.html>

1559
1560 ***
1561 **The Effects of Broadband Deployment on Output and Employment: A Cross-sectional**
1562 **Analysis of U.S. Data (June 2007) ****
1563 “This study provides new estimates of the effects of broadband penetration on both *output* and
1564 *employment*, in the aggregate and by sector, using state level data. We estimate these benefits by
1565 using FCC data on broadband penetration for the lower 48 states over the 2003-05 period,
1566 controlling for a variety of other factors that also could account for the growth in output and
1567 employment during this time.”
1568 *Robert Crandall, William Lehr, and Robert Litan,*
1569 http://www.brookings.edu/papers/2007/06labor_crandall.aspx
1570
1571 ***
1572 **Casey Lide presentation to eNATO: BROADBAND AND ECONOMIC DEVELOPMENT ****
1573 A set of pertinent case histories.
1574 August 25, 2008 (contact J Irwin for a copy as no URL located for this presentation)
1575
1576 ***
1577 **Broadband : Economic Impacts & Metrics ****
1578 William Lehr, Massachusetts Institute of Technology. eNATO Seminar, *Broadband and*
1579 *Economic Development*, August 5, 2008 (contact J Irwin for a copy as no URL located for this
1580 presentation)
1581
1582 ***
1583 **Broadband Metrics Best Practices: Review and Assessment ****
1584 “This report provides an assessment of the current status and best practices experience of efforts
1585 to collect, share, and analyze data on broadband Internet access services for mass market
1586 consumers. It focuses on the efforts of states seeking to inventory the availability of broadband
1587 infrastructure and services, while also examining similar national and international efforts.
1588 Several core conclusions emerge from this analysis.
1589
1590 First, broadband markets are still in an early stage of their lifecycle. Broadband services are
1591 evolving rapidly and have only recently been recognized as essential infrastructure (since 2004).
1592
1593 Second, better metrics for broadband are necessary but pose a measurement challenge. This is
1594 due to the changing nature of broadband technology and markets. The appropriate standard for
1595 what constitutes broadband access and what needs to be measured will expand and evolve as the
1596 Internet continues to evolve.
1597
1598 Third, universal availability of broadband is still a goal to be achieved. While the majority of the
1599 population (living in metro areas) has had broadband available for several years, coverage gaps
1600 in rural and other areas persist. Even when universal availability is realized (elimination or near
1601 elimination of un-served areas), many areas will remain under-served due to a lack of
1602 competitive alternatives or due to a lack of advanced infrastructure capable of supporting higher
1603 quality broadband services.
1604

1605 Fourth, *digital divides* will continue because even when we have assured universal availability of
1606 an appropriate minimum standard of broadband, some citizens will have the option to purchase
1607 significantly faster, higher-quality service and some markets will offer more dynamic
1608 competitive choices than others. These will include Fiber-to-the-home (FTTH) offerings and
1609 wireless broadband services from multiple providers. It is unclear when, if ever,
1610

1611 Fifth, the challenge of collecting and analyzing meaningful broadband metrics will change over
1612 time, but will remain important. The focus will shift from addressing availability problems to
1613 focusing on the health of the market and its performance (quality, price, and selection of service
1614 offerings). Additionally, to assess economic impacts and evaluate trends, data will be needed for
1615 all communities, not just those that are perceived to be un- or under-served. Moreover, this data
1616 will need to be available on a comparable basis over time to allow before/after comparisons.
1617

1618 Sixth, the core data collection methodology will need to be GIS-based. This offers the best way
1619 to track data at a sufficiently geographically granular basis to appropriately address the local
1620 nature of broadband services. The tools and capabilities to address this challenge are evolving
1621 quickly, for reasons that go well beyond the need to have better data about broadband, our
1622 newest category of essential infrastructure.”

1623 William Lehr, Tony Smith-Grieco, Grace Rusi Woo, Massachusetts Institute of Technology,
1624 February 2008,

1625 www.masstech.org/broadband/docs/BroadbandMetricsBestPracticesSurveyFeb2008.pdf
1626

1627 **Illinois ****

1628 **Illinois Plants ‘Johnny Appleseed’ Projects Promoting Broadband in State.**

1629 In describing efforts to improve broadband in Illinois, Lieutenant Governor Pat Quinn uses this
1630 analogy: “We have to be the modern-day, 21st century Johnny Appleseeds, planting good
1631 technology projects all over the state. ...”

1632 *Drew Bennett, Special Correspondent, BroadbandCensus.com,*

1633 <http://broadbandcensus.com/blog/?p=561>
1634

1635 ***

1636 **Hawai’i Broadband Task Force ****

1637 Initial report to the governor.

1638 http://www.hbtf.org/files/Broadband_initial_report.pdf
1639

1640 ***

1641 **First in Broadband Mapping, North Carolina’s e-NC Now Wants Faster Speeds ****

1642 “For Jane Smith Patterson, executive director of the e-NC authority, the state’s central role is a
1643 matter of pride. “We did the first mapping from the data that we had” way back in 2001,
1644 Patterson said in an interview.
1645

1646 In the popular press, e-NC’s accomplishments have been somewhat eclipsed by the extensive
1647 media focus on Connect Kentucky, and the model that Connected Nation, Inc., has attempted to
1648 export to other states. Connected Nation is a non-profit organization funded by
1649 telecommunications carriers and state grants.
1650

1651 “Connect Kentucky first talked with us, and didn’t credit us” for work that e-NC had done, said
1652 Patterson. Not only was the North Carolina agency the first to extensively map out broadband, it
1653 originated the idea for e-community toolkits, and the concomitant effort to stimulate demand by
1654 talking up broadband across the state in more than 137 forums, she said.”

1655 <http://broadbandcensus.com/blog/?p=515>

1656

1657 ***

1658 **Why We Need Fat Pipes: The Top 5 Bandwidth-Hungry Apps ****

1659

1660 1. **High-Definition Telepresence:** This could be Cisco’s product or another setup from a
1661 different vendor. The point is this: high-definition telepresence requires 24 Mbps and
1662 about a 50 millisecond latency to recreate the feeling of sitting in a room speaking with
1663 people. Maybe it’s a luxury, but [the travel savings and potential business deals](#) that could
1664 be struck using such systems are impressive. Companies such as [Shangby, which is using](#)
1665 [standard video](#) to sell jewelry from China, would benefit from faster bandwidth that
1666 would allow them to show their products in HD.

1667 2. **Telemedicine and Remote Surgery:** Sure, [it’s the stuff of science fiction](#), but rural
1668 doctors have been sending [medical images to doctors overseas](#) for years. The next step is
1669 surgery done by robots or other doctors in consultation with remote physicians. Given the
1670 delicate nature of the job, this is a task that requires 10 Mbps and 1 millisecond latency
1671 for surgery.

1672 3. **Video Instant Messaging and Video Presence:** This one isn’t even close to reality and
1673 requires speeds of 10 Mbps on mobile networks (which won’t happen until we get LTE
1674 and fiber backhaul), but firms including [NTT DoCoMo](#) are working on the concept of
1675 having always-on video connectivity.

1676 4. **High-Definition Television:** Depending on compression algorithms and the network
1677 equipment, HD TV requires between 8 and 5 Mbps to deliver crisp video to consumer’s
1678 televisions.

1679 5. **Real-Time Data Backup:** This isn’t for those of us concerned about family photos — its
1680 aimed at Wall Street traders and businesses worried about interruptions to their
1681 operations and keeping their data secure. Such efforts require speeds of up to 2 Mbps and
1682 10 milliseconds of latency, and they may become more necessary as enterprises begin to
1683 store and save data in the cloud.

1684 *Stacey Higginbotham, August 12, 2008, [http://gigaom.com/2008/08/12/why-we-need-fat-pipes-](http://gigaom.com/2008/08/12/why-we-need-fat-pipes-the-top-5-bandwidth-hungry-apps/)*
1685 *[the-top-5-bandwidth-hungry-apps/](#)*

1686

1687 ***

1688 **Connected Nation's Private Interests Hit In FCC Comments ****

1689 “In recent comments filed with the Commission, the arguments on who should map broadband
1690 deployment fall into two categories. One side is those of Connect and its allies in the telephone
1691 companies, cable companies and labor. The other is the one made up of public agencies and
1692 publicly owned utilities which are wary of too much of the “private” side taking over the
1693 equation.”

1694

1695 “Let’s take a look at the Connect **Board of Directors**. There are 12 outside directors, eight of
1696 which are directly in the orbit of network operators. They are not small players. ...”

1697 <http://www.publicknowledge.org/node/1675>

1698

1699 ***

1700 **Study finds no national consensus for broadband policy ****

1701 CostQuest Associates releases state broadband policy survey results. The survey shows that
1702 although most states have undertaken broadband initiatives, there is neither a single national
1703 model nor a consensus on best practices.

1704 www.narucmeetings.org/Presentations/State_Broadband_Initiatives_Survey_CostQuest.pdf

1705

1706 ***

1707 **Better broadband is needed ****

1708 "...Unfortunately, not everyone has an on-ramp to this information superhighway. ..."

1709 By Senator Gordon Smith, July 24, 2008

1710 http://www.lakeoswegoreview.com/opinion/story.php?story_id=121684818589921200

1711

1712 ***

1713 **Municipal Provision of Wireless Internet – FTC ****

1714 "The decision of whether, and through what vehicle, a municipality should facilitate or provide
1715 wireless Internet service requires a highly fact-specific analysis that is not amenable to a one-
1716 size-fits-all policy recommendation. For example, the situation of a large metropolitan area
1717 served by multiple wireline telecommunications providers and high-speed cellular Internet
1718 technology is quite different from that of a small rural town with only one or no wireline
1719 telecommunications providers and low-speed cellular service. Moreover, municipalities offer
1720 their residents varying levels of governmental services, some of which may potentially be
1721 supported more efficiently through the addition of a wireless Internet network.

1722

1723 Accordingly, rather than attempt to provide a single answer, this report provides guidance for
1724 policymakers considering whether and how a municipality should involve itself in the provision
1725 of wireless Internet service. It sets forth a framework that recognizes that the relevance of
1726 arguments for and against municipal involvement may vary depending on the particular factual
1727 circumstances. In addition, by identifying a range of operating models, the framework suggests a
1728 variety of options available to policymakers. Guiding this approach is a concern for competition
1729 principles, and the framework's overall approach attempts to reduce the likelihood of
1730 competitive harm in this area. Finally, the report discusses process considerations, such as
1731 transparency and accountability, that can improve the decision-making process overall."

1732 www.ftc.gov/os/2006/10/V060021municipalprovwirelessinternet.pdf

1733

1734 ***

1735 **CWA and APT release report to help state legislators improve broadband ****

1736 First comprehensive, searchable database of state government initiatives for advancing
1737 broadband deployment. The searchable database outlines seven key areas where state initiatives
1738 have attempted to enhance the broadband infrastructure of their state: broadband commissions,
1739 task forces, and authorities; public-private partnerships; direct funding programs; state networks;
1740 telehealth initiatives; tax policies; and demand-side programs.

1741 <http://www.speedmatters.org:80/blog/cwa-apt-state-report.html>

1742