

BEFORE THE  
Federal Communications Commission  
WASHINGTON, D.C.

In the Matter of

A National Broadband Plan for Our Future

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GN Docket No. 09-51

**REPLY COMMENTS OF COMCAST CORPORATION**

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## EXECUTIVE SUMMARY

Evolving from a relatively simple communications network primarily used by academic engineers, the Internet today is a mainstream high-speed communications medium used by nearly every business, most schools, and nearly 80 million American households. This transformation required private sector investments of hundreds of billions of dollars in network infrastructure. As a result, the United States today has the most competitive broadband marketplace in the world.

Over 1,000 parties filed comments – an estimated 8,500 pages – to assist the Commission in developing the National Broadband Plan. Numerous commenters highlighted the successes of the broadband marketplace that are due in large part to the bipartisan pro-competition, pro-investment milieu adopted in the Telecommunications Act of 1996 and implemented by the Commission. The facts speak for themselves:

- The vast majority of Americans can choose from multiple facilities-based broadband Internet service providers.
- A rapidly growing number of U.S. households are adopting broadband Internet service; broadband Internet subscribership leaped from 55% in May 2008 to 63% in April 2009.
- Internet service providers are investing in facilities to deploy ever-increasing speeds to meet consumer demand. For its part, Comcast expects to offer speeds of up to 50 Mbps throughout its network by the end of 2010. At the same time, Comcast is doubling the speeds of its standard broadband Internet service to 12 Mbps downstream and 2 Mbps upstream, at no additional charge.
- The private sector is an indispensable engine of economic growth in the broadband marketplace that employs hundreds of thousands of Americans and is creating more jobs.
- Broadband Internet services continue to facilitate investment in developing innovative Internet content, applications, and services.

Commenters largely agreed that more could be done to build on this success, and that the Commission and the government can play a vital role in two key areas: (1) promoting the deployment of broadband Internet service to the small percentage of U.S. households where it currently is not available; and (2) convincing the millions of Americans who do not yet use broadband Internet service to adopt it. Commenters advanced scores of concrete, constructive proposals that would further the essential and reachable targets of ubiquitous deployment and widespread adoption. These ideas deserve further exploration in the context of developing the Plan, and we stand ready to assist the Commission in its effort to frame and execute targeted data-collection activities in support of these two key goals.

A handful of other parties used this proceeding to renew calls for regulations that would be inimical to Congress's and the Administration's goals of bringing broadband Internet service to all Americans and revitalizing the U.S. economy. Some commenters even called for the Commission to revisit *every* decision it has made related to broadband and unravel 13 years of consensus on Internet policy.

These parties rely largely upon their views of the broadband experiences of other countries. However, they fail to demonstrate causation between particular regulatory regimes and the levels of broadband adoption in those countries. In fact, data in the record shows a negative correlation between certain of those regulatory regimes and the deployment of modern, competitive broadband networks. Moreover, as we explain, a particular regulatory paradigm is just one of many factors that affect broadband adoption. And these parties often base their proposals on demonstrably flawed data sources, such as the OECD broadband rankings. Commenters have proven that the OECD data have severe limitations that render them unreliable for Commission decision-making.

Some commenters go on to urge that the Plan call for the United States to abandon its pro-competition, pro-investment regulatory policies in favor of intrusive regulatory paradigms – specifically the structural separation regime that was designed uniquely for the pre-divestiture monopoly Bell System, or the unbundling regime imposed uniquely on incumbent local exchange carriers in the 1996 Act. Any such rules would be a step backward for U.S. regulatory policy, and would serve to dampen investment in the *intermodal* competition the United States enjoys, and that is far more likely to generate sustained investment and innovation. No other nation on Earth enjoys the level of investment and the widespread deployment of multiple facilities-based competitors, and the concomitant consumer welfare that derives from this diversity of platforms that has developed in the United States.

The goal of the Plan should be to promote continuing investment in broadband networks, not stifle it through burdensome and unnecessary regulations. Data-driven decision making should lead the Commission to reject radical regulatory proposals and to embrace targeted, rational and practical proposals designed to ensure ubiquitous deployment of broadband Internet service and promote widespread adoption. Policies that encourage private investment in facilities in unserved areas, in upgrading networks to next-generation speeds, in increasing bandwidth to meet consumer demand, and in making the Internet more secure are what is needed.

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Comcast Corporation (“Comcast”) hereby replies to comments filed in response to the above-captioned Notice of Inquiry (“*Notice*”).<sup>1</sup>

**I. INTRODUCTION**

As befits the importance of the issues raised in the *Notice*, stakeholders from all corners of the Internet ecosystem filed comments offering scores of concrete suggestions and ideas for the National Broadband Plan (the “Plan”).<sup>2</sup> Within these comments, there was a widespread consensus on the two key priorities identified by Congress:

- The Plan should facilitate the deployment of broadband Internet service to the few remaining unserved areas and public facilities where such service is not currently available.
- The Plan should promote adoption by stimulating demand among those individuals and communities that have been slower to embrace broadband Internet service.

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<sup>1</sup> See *In re a National Broadband Plan for Our Future*, Notice of Inquiry, 24 FCC Rcd. 4342 (2009) (“*Notice*”).

<sup>2</sup> Commenters included a variety of competing broadband Internet service providers, including cable operators, incumbent local exchange carriers (“ILECs”), rural local exchange carriers (“RLECs”), and wireless and satellite companies; providers of Internet content, applications, services, and technologies; federal, state, and local agencies, and even foreign governments; advocacy groups across the political spectrum; groups representing the racial, ethnic, and cultural diversity of America; health IT and education advocacy organizations; electric cooperatives; equipment manufacturers; academic, Internet policy, and technology commentators; and individual consumers.

In developing the Plan, the Commission should include those constructive proposals that stand the best chance of having an immediate, measurable, and sustainable positive effect on broadband deployment and adoption.<sup>3</sup>

On the other hand, the Plan should not include certain parties' renewed calls for unnecessary regulation – notably those calling for the Commission to unravel 13 years of bipartisan consensus on Internet policy by imposing new regulations and government-mandated business models on companies that have never been subjected to them – that would be inimical to Congress's and the Administration's goals of bringing broadband Internet service to all Americans and revitalizing the U.S. economy.

The success of the broadband marketplace to date – with broadband Internet service deployed by multiple providers to the vast majority of U.S. households and nearly 80 million households adopting the service – is almost entirely due to private sector investment made in a competitive marketplace with targeted regulatory policies that fueled investment and job creation. Moving forward, ubiquitous deployment and widespread adoption will continue to depend on government and private sector collaboration that promotes private sector investment where possible, and provides government assistance where needed. The United States needs forward-looking broadband policies. This proceeding should not serve as a vehicle to revert to antiquated regulatory models from the days when unchallenged monopolies ruled the last mile and narrowband was the best consumers could expect.

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<sup>3</sup> AT&T Comments at ii (“Every proposal presented to the Commission in this proceeding should be evaluated carefully to determine whether it furthers these core goals. [P]roposals that do not directly further these goals should have no place in the Plan—however well-intentioned they might otherwise be.”). Unless otherwise noted, all references to “Comments” refer to filings submitted in GN Docket No. 09-51 on or about June 8, 2009.

Despite the wide breadth of questions asked in the *Notice*, the Plan needs to remain focused on completing the job of getting broadband to every corner of America and getting all Americans (or the greatest percentage possible) connected. Numerous proposals offered in the first round of comments will go a long way toward “pursu[ing] this vision of a more connected America” and ensuring our place as the most-connected nation in the world.<sup>4</sup>

## **II. BROADBAND INTERNET SERVICE IS AVAILABLE TO MOST U.S. HOUSEHOLDS, AND MORE AMERICANS CONNECT TO THE INTERNET WITH BROADBAND EVERY DAY.**

Many commenters submitted data concerning the current state of broadband Internet deployment and adoption in the United States. The data show that, with very limited exceptions, broadband Internet service is widely deployed throughout the country, and that the majority of people who have access to that service are purchasing it. “[T]he country’s record of broadband success [is] a record of significant investment that has led to dynamic innovation at the network, service, application, and device levels, resulting in extensive deployment and widespread adoption.”<sup>5</sup>

### **A. Private Industry Has Deployed Competitive Broadband Internet Services to the Vast Majority of U.S. Households.**

The comments demonstrated widespread consensus that private sector investment has been instrumental in deploying broadband Internet service to over 90 percent of U.S. households. Even under definitions of broadband that call for speeds higher than what the Commission has

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<sup>4</sup> Chairman Julius Genachowski, FCC, Remarks to the Staff of the FCC 3 (June 30, 2009) (“As the country’s expert agency on communications, it is our job to pursue this vision of a more connected America . . . .”), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-291834A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-291834A1.pdf).

<sup>5</sup> Alcatel-Lucent Comments at iii; see AT&T Comments at iv (“In less than a decade, broadband deployment and adoption have exploded.”).

traditionally considered broadband, commenters almost universally agree that, in large part, “[b]roadband is ubiquitously available in the U.S.,”<sup>6</sup> and that private sector competitors will continue to play the primary role in deploying broadband Internet service to new areas and upgrading broadband Internet services where they are already available.<sup>7</sup>

The comments showed that, in the 13 years since passage of the Telecommunications Act of 1996 (the “1996 Act”), cable and telephone companies have invested hundreds of billions of dollars of private risk capital in competitive broadband platforms.<sup>8</sup> In just the past two years, “[p]rivate U.S. broadband providers invested approximately \$120 billion in communications infrastructure throughout the nation.”<sup>9</sup> The National Cable & Telecommunications Association (“NCTA”) noted that cable operators’ investment of more than \$145 billion since 1996 has resulted in the deployment of broadband Internet services to 120 million households.<sup>10</sup> The United States Telecom Association (“USTelecom”) pointed out that, “[b]y some estimates,

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<sup>6</sup> Hahn & Wallsten Comments at 4 (filed by Scott Wallsten on June 10, 2009); *see* Consumer Fed’n of Am. & Consumers Union Comments (“CFA/CU”) at 11 (noting that fewer than 10 percent of U.S. households cannot access broadband Internet service); Verizon Comments at 12; AT&T Comments at 79 (noting that “broadband has spread explosively throughout the country”); U.S. Telecom Ass’n (“USTelecom”) Comments at 3-4, 11; Qwest Comments at 18; CTIA Comments at 2; Time Warner Cable Comments at 10; Free State Found. Comments at 3 (“Broadband is already accessible to over 90% of American households.”).

<sup>7</sup> *See, e.g.*, Moms In Business Network Comments at 2 (“MIBN hopes that the FCC will create a broadband plan that expands deployment of affordable broadband, while advancing continued investment and innovation. . . . There must be incentives for the private sector to continue to offer the best service and the best deals to attract customers.”); Nat’l Ass’n of Neighborhoods Comments at 1 (filed by Ricardo C. Byrd) (“The FCC’s plan should maintain private sector participation so prices can remain low and more Americans can afford broadband service.”); Brett Glass Comments at 2, 6-7; Ams. for Tax Reform Comments at 2-3; Consumer Elec. Ass’n (“CEA”) Comments at 2 (declaring that the Plan “should maintain pro-competitive, deregulatory policies that promote market-driven, facilities-based competition among multiple Internet service providers”); Latino Coal. Comments at 2; Ams. for Prosperity Comments at 1-2; Latino Inst. for Corp. Inclusion Comments at 2; Cisco Sys. Inc. Comments at 14; Telecomm. Indus. Ass’n (“TIA”) Comments at 4-5.

<sup>8</sup> *See* Free State Found. Comments at 4-5; Progress & Freedom Found. Comments at 19-21; Verizon Comments at 12; NCTA Comments at 1; USTelecom Comments at 11-12.

<sup>9</sup> Inst. for Policy Innovation Comments at 3 (filed by Bartlett D. Cleland) (emphasis added).

<sup>10</sup> *See* NCTA Comments at 9; *see also* Comcast Comments at 34.

cumulative capital expenditure by broadband providers from 2000-2008 were over half a trillion dollars.”<sup>11</sup> CTIA-The Wireless Association (“CTIA”) discussed the significant resources invested in the deployment and expansion of wireless broadband services, noting that, “as wireless networks and handsets evolve to support additional broadband applications[,] network providers have invested billions of dollars in network improvements.”<sup>12</sup> And ViaSat described its progress to date in helping bring broadband to Americans via satellite and its investment in launching the next generation of broadband satellites that are “designed to deliver cable-modem-like broadband services at affordable prices.”<sup>13</sup> In all, hundreds of billions of dollars of investment have flowed into the marketplace to deploy a variety of broadband technologies throughout the nation.<sup>14</sup>

As a result of this private sector investment, broadband Internet providers have deployed near-ubiquitous competitive wireline broadband networks. Nearly four-fifths of American homes have a choice between cable and telco broadband Internet services.<sup>15</sup> In addition to

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<sup>11</sup> USTelecom Comments at 3; *see* Verizon Comments at 12; AT&T Comments at iv, 79 (“Over the last decade, . . . broadband has spread explosively throughout most of the country. During this time, incumbent wireline carriers and the cable industry have spent far more than a hundred billion dollars to lay millions of miles of fiber, copper, and coaxial cable, and to deploy countless routers, multiplexers, and other equipment. More recently, wireless carriers have been investing in and expanding 3G and 4G wireless broadband services -- not to mention the investments of WiMAX and unlicensed Wi-Fi providers. Broadband-over-powerline (BPL) and satellite services offer yet more broadband access options.”).

<sup>12</sup> CTIA Comments at 25-26.

<sup>13</sup> ViaSat, Inc. Comments at 7.

<sup>14</sup> There is also clear recognition that broadband Internet service is one of many services that are delivered via broadband networks. *See* AT&T Comments at 14-15; Ctr. for Democracy and Tech. Comments at 21; Google Comments at 8-9. Free Press, for example, notes the broad range of “future possibilities for non-Internet broadband services,” and agrees that “these services will likely bring benefits that far exceed any harms resulting from their receiving the favorable (i.e. discriminatory) treatment that allows them to function.” Free Press Comments at 168.

<sup>15</sup> *See* USTelecom Comments at 3-4. Cable providers alone have made broadband Internet service available to 92 percent of American homes. *See* NCTA Comments at 10; Hahn & Wallsten Comments at 4. Commenters also widely acknowledged the Commission’s estimate that DSL service is available to 82 percent of homes passed by local telephone service, *see Indus. Analysis Div., Wireline Competition Bureau, FCC, High-Speed Services for* (footnote continued...)

increasing fiber deployment to 18 million homes by the end of 2010, Verizon said that its DSL service is available to an additional 20 million homes.<sup>16</sup> Even critics of the broadband marketplace like Consumer Federation of America and Consumers Union (“CFA/CU”) agree that, at most, only 10 percent of American homes remain unserved by a wireline broadband option.<sup>17</sup> Various studies were submitted in the record showing that the percentage of households without access to broadband Internet service may be as low as 5 to 6 percent,<sup>18</sup> and the recently released study by the Pew Internet & American Life Project found that only about 4 percent of all adults cite lack of availability as the primary impediment to adoption.<sup>19</sup>

In addition, commenters noted the extensive deployment of wireless broadband networks. Professors Robert Hahn and Scott Wallsten concluded that wireless broadband reaches 96 percent of Americans.<sup>20</sup> And, as is well-documented, they do so in a highly competitive marketplace. According to CTIA, more than 92 percent of Americans live in an area with more

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(...footnote continued)

*Internet Access: Status as of December 31, 2007*, at 3 (2008) (“December 2007 FCC High-Speed Internet Report”), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-287962A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-287962A1.pdf). See e.g., USTelecom Comments at 3-4; Qwest Comments at 18; Time Warner Cable Comments at 12.

<sup>16</sup> See Verizon Comments at 20.

<sup>17</sup> See CFA/CU Comments at 11.

<sup>18</sup> See Hahn & Wallsten Comments at 9; Free State Found. Comments at 3.

<sup>19</sup> Pew Internet & Am. Life Project, *Home Broadband Adoption 2009*, at 8 (June 2009) (“Pew Home Broadband Adoption 2009”), available at <http://www.pewinternet.org/~media/Files/Reports/2009/Home-Broadband-Adoption-2009.pdf>.

<sup>20</sup> See Hahn & Wallsten Comments at 4 (citing CostQuest Assocs., Inc., *U.S. 3G Mobile Wireless Broadband Competition Report* (July 14, 2008), available at [http://www.costquest.com/costquest/docs/CostQuest\\_3G\\_Competition\\_Report.pdf](http://www.costquest.com/costquest/docs/CostQuest_3G_Competition_Report.pdf)). The recently released Rural Broadband Strategy Report supports this conclusion, estimating that wireless broadband networks cover 95.6 percent of Americans. See Acting Chairman Michael J. Copps, Federal Communications Commission, *Bringing Broadband to Rural America: Report on a Rural Broadband Strategy*, GN Docket No. 09-29 ¶ 27 (May 22, 2009) (“Rural Broadband Report”).

than four 3G wireless broadband providers.<sup>21</sup> Notably, not only do these wireless companies compete with one another, but “competition between cable, wireline and wireless companies [is] continuing to force investment in faster and faster networks.”<sup>22</sup> And while “[w]ireless is not a perfect substitute for wireline broadband,” “as wireless networks improve[,] they become increasingly good substitutes for wired networks.”<sup>23</sup>

In all, the record evidence demonstrates that “[w]e have achieved nearly ubiquitous broadband deployment in large part through reliance upon market forces and facilities-based competition, aided by a ‘light touch’ regulatory framework that put a premium on infrastructure investment.”<sup>24</sup>

**B. The Record Shows That Broadband Providers Continue To Invest, Even During These Difficult Economic Times.**

Broadband industries have shown some resilience to the global economic downturn, with continued private investment flowing into the marketplace and providers improving their services, expanding their service areas, and generating more jobs. The broadband marketplace is

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<sup>21</sup> See CTIA Comments at 2. Verizon said that its 3G wireless broadband service passes 280 million Americans, and that 100 million people will have access to its 4G wireless service by the end of 2010. See Verizon Comments at 13.

<sup>22</sup> See USTelecom Comments at 6.

<sup>23</sup> See Hahn & Wallsten Comments at 3.

<sup>24</sup> Progress & Freedom Found. Comments at 16; see Consumers for Competitive Choice Comments at 1 (“The absence of overly restrictive ‘Net Neutrality’ regulations and the increased consumer demand for new applications and faster networks has encouraged providers to deploy new technologies faster and more efficiently[,] benefiting not only the everyday [I]nternet user but also our schools, health care system, small businesses and the environment.”); Verizon Comments at 7 (“The decision to apply a flexible, pro-growth regulatory approach to broadband and the Internet -- initiated during the Clinton Administration -- has directly resulted in tremendous levels of investment by broadband providers and the rapid spread of facilities-based competition and deployment of next-generation broadband networks.”); Free State Found. Comments at 6 (“The remarkable progress has been achieved under a generally deregulatory broadband environment that has encouraged massive private sector investment.”); Hahn & Wallsten at 17; Inst. for Policy Innovation at 1-2; SeniorNet Comments at 2; Am. Legislative Exch. Council Comments at 6; Motorola, Inc. Comments at 12-13; Nat’l Ass’n of Mfrs. Comments at 3 (filed by Marc-Anthony Signorino); Comcast Comments at 3-4; USTelecom Comments at 7; NCTA Comments at 2.

a sterling example of the proposition that the private sector is “the indispensable engine of economic growth.”<sup>25</sup>

The Progress and Freedom Foundation noted that the information and communications technology sector created nearly half of all new jobs in 2008, and “the broadband industries are an essential driver of growth and prosperity.”<sup>26</sup> Comcast alone employs almost 100,000 people in the United States; Verizon noted in its comments that it has “more than 200,000 tax-paying, domestic employees”;<sup>27</sup> and CTIA recently reported that wireless carriers employ more than 268,000 people and that wireless employment numbers have grown six percent year-over-year for the past four years.<sup>28</sup> Broadband Internet service also creates jobs indirectly by enhancing the technology available to other businesses, thereby improving productivity and reducing costs: the recent Rural Broadband Report found that communities with broadband Internet service had higher employment, more information and communications technology (“ICT”) businesses, and more businesses generally.<sup>29</sup>

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<sup>25</sup> *Nominations Hearing: Before the S. Comm. on Commerce, Science, and Transp.* 3 (June 16, 2009) (Statement of Julius Genachowski, Chairman-Designate, FCC), available at [http://commerce.senate.gov/public/\\_files/GenachowskiOpeningStatement.pdf](http://commerce.senate.gov/public/_files/GenachowskiOpeningStatement.pdf).

<sup>26</sup> Progress & Freedom Found. Comments at 25-26.

<sup>27</sup> Verizon Comments at 20.

<sup>28</sup> See CTIA Ex Parte Letter, GN Docket No. 09-51 (July 9, 2009). The CEA noted that consumer broadband devices play a significant role in the consumer electronics industry, which “accounts for more than 15 million American jobs and a trillion dollars of annual economic activity.” CEA Comments at 4.

<sup>29</sup> See *Rural Broadband Report* ¶ 16. Of course, as a recent Washington Post article comparing broadband in two rural Virginia towns concludes, deployment is only the first step; “getting people to subscribe to online services and translating the availability of broadband to economic growth is harder to achieve. . . . ‘In rural America, for broadband, adoption, skills and relevance still remain a barrier.’” Cecilia Kang, *Rural Riddle: Do Jobs Follow Broadband Access? Two Hamlets That Got High-Speed Lines Show Wildly Different Results*, Wash. Post, Apr. 23, 2009 (quoting John Horrigan, Director, Pew Internet & Am. Life Project), available at <http://www.washingtonpost.com/wp-dyn/content/article/2009/04/22/AR2009042203637.html>.

### C. Broadband Adoption in the United States Continues To Proceed at a Rapid Pace.

“[T]he development of the communications sector has moved so rapidly in the thirteen years since the Telecommunications Act was passed that a substantial majority of Americans have chosen broadband.”<sup>30</sup> Less than 15 years after the first introduction of residential broadband, 63 percent of Americans have adopted broadband at home.<sup>31</sup> Although estimates of the total number of broadband Internet connections vary,<sup>32</sup> one undisputed metric is that broadband adoption continues to grow. For example, the Pew Internet & American Life Project recently reported that the percentage of Americans that have adopted broadband Internet at home jumped from 55 to 63 percent in 11 months.<sup>33</sup> SNL Kagan recently reported that net subscriber additions for the first quarter of 2009 were 1.7 million households for cable and telcos.<sup>34</sup> Significantly, these reports do not include wireless broadband connections, which, as of December 2007, “served more than 15 million customers with advanced service line – nearly 20 percent of all advanced services.”<sup>35</sup>

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<sup>30</sup> CFA/CU Comments at 10; *see* Comcast Comments at 68; Cox Comments at 5; AT&T Comments at 4; Free State Found. Comments at 3; Inst. for Policy Innovation Comments at 5; Hahn & Wallsten Comments at 2; USTelecom Comments at 4; Free Press Comments at 48; Verizon Comments at 13; NCTA Comments at 11; Broadband Diversity Supporters Comments at 5.

<sup>31</sup> *Pew Home Broadband Adoption 2009*, *supra* note 19, at 3.

<sup>32</sup> OECD reported over 77 million connections in the United States as of December 2008. *See* OECD, *OECD Broadband Statistics: Total Number of Broadband Subscribers By Country* (Dec. 2008), available at <http://www.oecd.org/dataoecd/22/15/39574806.xls>. SNL Kagan, on the other hand, reported more than 73 million cable and wireline broadband connections as of the end of the first quarter of 2009. *See* Ian Olgeirson & Mari Rondeli, SNL Kagan, *Cable, Telco Data Growth Bounces in Q1*, *Broadband Tech.*, May 20, 2009.

<sup>33</sup> *Pew Home Broadband Adoption 2009*, *supra* note 19, at 3.

<sup>34</sup> *See* Olgeirson & Rondeli, *supra* note 32.

<sup>35</sup> CTIA Comments at 6; *see also* NCTA Comments at 13 (noting that, according to CTIA, there are more than 64 million wireless broadband-enabled 3G devices in the United States (citing CTIA-The Wireless Ass’n, *Wireless Industry Briefing*, available at [http://files.ctia.org/pdf/President\\_Obama\\_Transition\\_Team\\_Briefing\\_Background\\_Facts.pdf](http://files.ctia.org/pdf/President_Obama_Transition_Team_Briefing_Background_Facts.pdf)).

As several commenters note, Americans have adopted broadband rapidly – faster, in fact, than nearly all of the most important technologies introduced over the past 150 years.<sup>36</sup> In less than nine years, the United States reached “50 [percent] broadband household penetration . . . more rapidly than any other network technology and many critical information technologies.”<sup>37</sup> Verizon explained that the United States is in a period of “mass adoption” of broadband, and cited analyst reports that predicted that “the nationwide broadband penetration rate would exceed 80 percent within the next five years.”<sup>38</sup>

The record also shows that competition is driving broadband Internet service providers to deliver greater value to consumers, making broadband ever more attractive.<sup>39</sup> Unlike the citizens of practically every other country, the vast majority of Americans have a real choice among facilities-based broadband Internet providers. Verizon and AT&T reported that they continue to upgrade their networks to deploy faster speeds;<sup>40</sup> NCTA and others noted that cable operators are quickly deploying DOCSIS 3.0 technology to offer faster speeds to better compete;<sup>41</sup> and CTIA

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<sup>36</sup> See Comcast Comments at 68-69; USTelecom Comments at 4-5; Verizon Comments at 13; AT&T Comments at iv; Alcatel-Lucent Comments at iii; Inst. for Policy Innovation Comments at 6.

<sup>37</sup> See USTelecom Comments at 4.

<sup>38</sup> See Verizon Comments at 13-14 (citing Press Release, Strategy Analytics, Inc., *Strategy Analytics: US To Add 5 Million New Broadband Subscribers in 2009, Despite Recession* (June 2, 2009), available at <http://www.pr-inside.com/print1293686.htm>). As CEA noted in its comments, “just a seven point increase in broadband adoption could result in more than \$100 billion in direct economic impact and the creation of 2.4 million jobs.” See CEA Comments at 3.

<sup>39</sup> See Verizon Comments at 21; USTelecom Comments at 6; Sprint Nextel Comments at 6-7; Time Warner Cable Comments at 9; Cisco Comments at 4.

<sup>40</sup> See Verizon Comments at 20; AT&T Comments at vii n.13, 79 & n.214.

<sup>41</sup> See NCTA Comments at 16-17; Comcast Comments at 37-38.

Free Press seems to misunderstand the significance and capabilities of upgrading to DOCSIS 3.0. Specifically, it mistakenly claims that, when cable operators upgrade customer speeds, a “neighborhood with 200 customers each subscribing to 6 Mbps service from a shared 38.8 Mbps ‘pipe’ has just become a neighborhood with 200 customers each subscribing to 16 Mbps service from the same pipe.” Free Press Comments at 152. This is a complete mischaracterization of what cable operators are doing today, particularly in the case of Comcast. Comcast  
(footnote continued...)

reported that wireless broadband providers are investing heavily in 4G wireless technologies, such as Long Term Evolution (“LTE”) and WiMAX.<sup>42</sup> Contrary to Free Press’s assertion that “these markets are few and far between,”<sup>43</sup> the record evidence demonstrates that significant numbers of households will be able to enjoy a choice among telco-deployed fiber, DOCSIS 3.0, and 4G wireless broadband connections in the very near future.<sup>44</sup>

Not only are advanced next-generation networks being deployed, but the competitive marketplace is ensuring that consumers reap the benefits of price and service competition. Cisco described facilities-based competition as having “dramatically reduced prices for end users.”<sup>45</sup> And other commenters noted that “[b]roadband prices have dropped in recent years, due to private sector investment.”<sup>46</sup> As Verizon explained, “[c]onsumers are the beneficiaries of this robust, intermodal competition in broadband services, which is driving prices down and spurring companies to create faster and faster networks.”<sup>47</sup>

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(...footnote continued)

has been deploying a network technology known as “DOCSIS 3.0,” which increases the size of the network “pipe” by bonding multiple channels together to increase the bandwidth dedicated to broadband Internet service. Comcast Comments at 38. By bonding three or four downstream channels together, Comcast increases downstream Internet capacity by three or four times. As Comcast has rolled out DOCSIS 3.0, it has increased the download speed of its Performance tier from 6 Mbps to 12 Mbps. Therefore, Comcast doubled the per-subscriber maximum speed, but tripled or quadrupled the bandwidth available to support the subscriber speed increase. Thus, correcting Free Press’s example, in Comcast’s case, a neighborhood with 200 customers each subscribing to 6 Mbps service from a shared 38.8 Mbps “pipe” becomes, with the upgrade to DOCSIS 3.0, a neighborhood with 200 customers each subscribing to, at a minimum, 12 Mbps service from a 116.4 Mbps “pipe.”

<sup>42</sup> See CTIA Comments at 19-21.

<sup>43</sup> Free Press Comments at 264.

<sup>44</sup> See Comcast Comments at 39-40; CTIA Comments at 19-21; Verizon Comments at 13, 20; NCTA Comments at 11, 16-17; Sprint Nextel Comments at 36; Time Warner Cable Comments at 10.

<sup>45</sup> Cisco Sys. Inc. Comments at 4.

<sup>46</sup> Nat’l Ass’n of Neighborhoods Comments at 1; see Moms In Business Network Comments at 2.

<sup>47</sup> Verizon Comments at 21-22.

#### **D. Developments Since Comments Were Filed Demonstrate the Pace of Innovation and the Dynamism of the Marketplace.**

Even as the Plan is in its formative phases, competitive private sector companies continue to develop, expand, innovate, and deploy broadband Internet services to increasing numbers of Americans. Undoubtedly, the marketplace will look very different in February 2010 than it did when Congress mandated this report in February 2009. Consider the following recent developments:

- Comcast began deploying DOCSIS 3.0 in the Washington, D.C. metro area in June, and most Comcast customers in D.C. will see their speeds double for no additional charge.<sup>48</sup> Additional launches of DOCSIS 3.0 are already in the works, and Comcast is well on its way to meeting its goal of deploying DOCSIS 3.0 throughout its network by 2010. Moreover, Comcast now offers its “Extreme 50” service for \$99.95 per month, which represents a nearly 30 percent reduction in prices over the past few months.<sup>49</sup>
- Virgin Mobile USA launched a pay-as-you-go mobile broadband service called Broadband2Go. This 3G nationwide wireless Internet service has no annual contract, activation fee, or monthly subscription.<sup>50</sup>
- Cablevision announced that its customers had used its free Wi-Fi service (capable of speeds up to 3 Mbps) more than 2 million times since it introduced the service last September. Cablevision also said that its customers are averaging over one million free minutes online per day.<sup>51</sup>

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<sup>48</sup> See Press Release, Comcast Corp., *Comcast Rolls Out Extreme 50 Mbps High-Speed Internet Service in Washington, D.C. and Metro Area* (June 9, 2009), available at <http://www.comcast.com/About/PressRelease/PressReleaseDetail.ashx?PRID=876>.

<sup>49</sup> *Id.*; see also Eric Bangeman, *Comcast Breaks \$100 Barrier with 50 Mbps Broadband Price Cut*, Ars Technica, June 9, 2009, available at <http://arstechnica.com/telecom/news/2009/06/comcast-breaks-100-barrier-with-50mbps-broadband-price-cut.ars>.

<sup>50</sup> See Press Release, Virgin Mobile USA, *Virgin Mobile USA To Introduce Broadband2Go - 3G Nationwide Wireless Internet Access with No Annual Contract* (June 10, 2009), available at <http://virginmobileusa.marketwire.com/easyir/prssrel.do?easyirid=13135DE328B72AB2&version=live&prid=510059>.

<sup>51</sup> See Mike Reynolds, *Cablevision WiFi Usage Accelerates*, Multichannel News, June 11, 2009, available at [http://www.multichannel.com/article/279147-Cablevision\\_WiFi\\_Usage\\_Accelerates.php](http://www.multichannel.com/article/279147-Cablevision_WiFi_Usage_Accelerates.php). BendBroadband recently announced plans to launch a Wi-Fi service similar to Cablevision’s that will provide free mobile Internet service to BendBroadband high-speed Internet customers. See Kent Gibbons, *BendBroadband Plans Free Wi-Fi Extension*, Multichannel News, June 9, 2009, available at [http://www.multichannel.com/article/278867-BendBroadband\\_Plans\\_Free\\_Wi-Fi\\_Extension.php](http://www.multichannel.com/article/278867-BendBroadband_Plans_Free_Wi-Fi_Extension.php).

- On June 16, 2009, Clearwire Corp. launched its mobile 4G WiMAX service, “Clear,” in Atlanta, making it available to almost three million people over 1,200 square miles. And on July 21, 2009, Clearwire launched Clear in Las Vegas, making it available to 1.7 million people over about 638 square miles. Clearwire delivers WiMAX broadband speeds of up to 6 Mbps, with pricing plans ranging from \$20 to \$50 per month. Clearwire hopes to make WiMAX available to 120 million people in 80 markets by the end of 2012.<sup>52</sup>
- Hughes Network Systems announced its plan to launch a next-generation satellite in 2012 designed to deliver more than 100 Gbps throughput to significantly expand its broadband Internet service throughout the country.<sup>53</sup>
- Open Range Communications used part of its \$267 million RUS loan to sign a \$100 million 5-year contract for products and services with equipment provider Alvarion in order to deploy WiMax broadband service in 546 U.S. rural communities.<sup>54</sup>
- On June 19, 2009, Apple released its newest iPhone, the 3GS, and sold over one million units in its first weekend. The new iPhone supports broadband speeds of up to 7.2 Mbps (which AT&T Wireless says it will begin rolling out later this year).<sup>55</sup>
- On June 22, 2009, Verizon announced a nationwide speed increase for its FiOS broadband Internet service from 10 Mbps down/2 Mbps up to 15 Mbps down/5 Mbps up for its basic tier, and from 25 Mbps down/15 Mbps up to 35 Mbps down/20 Mbps up for its midtier.<sup>56</sup>

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<sup>52</sup> See *Clearwire Launches WiMAX in Atlanta*, Atlanta Bus. J., June 16, 2009, available at <http://www.bizjournals.com/atlanta/stories/2009/06/15/daily35.html>; Press Release, Clearwire Communications, LLC, *Clearwire Introduces CLEAR(TM) 4G Mobile Internet Service to Las Vegas* (July 21, 2009), available at <http://newsroom.clearwire.com/phoenix.zhtml?c=214419&p=irol-newsArticle&ID=1309444&highlight=>.

<sup>53</sup> See Press Release, Hughes Network Systems LLC, *Hughes To Launch 100 Gbps High Throughput Satellite in 2012* (June 16, 2009), available at [http://www.hughes.com/HUGHES/Doc/0/D4LOARTQG7E49FLH5F9BD6F466/06-16-09\\_Hughes\\_to\\_Launch\\_100\\_Gbps\\_High\\_Throughput\\_Satellite\\_in\\_2012.htm](http://www.hughes.com/HUGHES/Doc/0/D4LOARTQG7E49FLH5F9BD6F466/06-16-09_Hughes_to_Launch_100_Gbps_High_Throughput_Satellite_in_2012.htm).

<sup>54</sup> See Kevin Fitchard, *Open Range Taps Alvarion for Rural WiMax Network*, TelephonyOnline, June 17, 2009, available at <http://telephonyonline.com/wireless/news/range-alvarion-wimax-network-0617/>.

<sup>55</sup> See Shara Tibken, *Update: Apple's iPhone 3G S Sales Top 1M in Debut Weekend*, Wall Street J., June 22, 2009, available at <http://online.wsj.com/article/BT-CO-20090622-710455.html>.

<sup>56</sup> See Todd Spangler, *Verizon Boosts Broadband, Bows Local Channels in New York*, Multichannel News, June 22, 2009, available at [http://www.multichannel.com/article/295455-Verizon\\_Boosts\\_Broadband\\_Bows\\_Local\\_Channels\\_In\\_New\\_York.php](http://www.multichannel.com/article/295455-Verizon_Boosts_Broadband_Bows_Local_Channels_In_New_York.php).

- AT&T continued to expand the reach of its U-verse fiber-to-the-node and 3G wireless Internet services to new markets, and increased the downstream speed for all of its High Speed Internet Max customers from 10 Mbps to 12 Mbps “at no extra cost.”<sup>57</sup>
- On June 29, 2009, Comcast began its national rollout of its high-speed wireless data service, Comcast High-Speed 2go, in Portland, OR. This 4G wireless broadband service provides the fastest available wireless Internet via wireless data cards.<sup>58</sup>
- Midcontinent launched DOCSIS 3.0, offering broadband Internet speeds of up to 50 Mbps to 105,000 households across North Dakota and South Dakota and parts of Minnesota.<sup>59</sup>
- On July 20, 2009, Qwest began deploying broadband Internet service with speeds of 40 Mbps downstream and 5 Mbps or 20 Mbps upstream in Denver, Tucson, Salt Lake City, and Minneapolis/St. Paul, and plans to introduce these services to select areas in 23 other markets in New Mexico, Oregon, Utah, and Washington.<sup>60</sup>

In addition, the Pew Internet & American Life Project released a new study with significant findings about how Americans access and use the Internet. As noted above, Pew found that overall broadband adoption jumped from 55 percent to 63 percent from May 2008 to April 2009, a leap of 15 percent in 11 months.<sup>61</sup> Importantly, this growth cannot be attributed solely, or even principally, to the deployment of new or upgraded broadband facilities. Rather, this growth primarily comes from reducing what One Economy calls the “Broadband Deficit” –

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<sup>57</sup> See, e.g., Press Release, AT&T Corp., *AT&T U-verse Arrives in Central Illinois* (June 29, 2009), available at <http://www.att.com/gen/press-room?pid=4800&cdvn=news&newsarticleid=26891>; Press Release, AT&T Corp., *AT&T To Add Nearly 90 New Cell Sites in Arizona and Upgrade More Than 130 Sites to 3G* (June 25, 2009), available at <http://www.att.com/gen/press-room?pid=4800&cdvn=news&newsarticleid=26882>; Press Release, AT&T Corp., *AT&T Rolls Out More U-verse Enhancements at No Additional Cost to Customers* (June 16, 2009), available at <http://www.att.com/gen/press-room?pid=4800&cdvn=news&newsarticleid=26864>.

<sup>58</sup> See Press Release, Comcast Corp., *Comcast Begins National Rollout of High-Speed Wireless Data Service* (June 29, 2009), available at <http://www.comcast.com/About/PressRelease/PressReleaseDetail.ashx?PRID=887>.

<sup>59</sup> See Todd Spangler, *Midcontinent Launches DOCSIS 3.0 in Dakotas*, Multichannel News, July 10, 2009, available at [http://www.multichannel.com/article/314849-Midcontinent\\_Launches\\_DOCSIS\\_3\\_0\\_In\\_Dakotas.php?nid=2226&source=title&rid=9813543](http://www.multichannel.com/article/314849-Midcontinent_Launches_DOCSIS_3_0_In_Dakotas.php?nid=2226&source=title&rid=9813543).

<sup>60</sup> See Press Release, Qwest Communications, *Qwest Unveils 40 Mbps Downstream, 20 Mbps Upstream High-Speed Internet Service* (July 20, 2009), available at <http://qwest.mediaroom.com/VDSL2>.

<sup>61</sup> *Pew Home Broadband Adoption 2009*, *supra* note 19, at 9.

the “gap between availability and adoption” – which now stands at 29 percent.<sup>62</sup> As the Pew study noted, the “greatest growth in broadband adoption in the past year has taken place among population subgroups which have been below average usage rates.”<sup>63</sup> In particular:

- Senior citizens’ broadband adoption jumped from 19 percent to 30 percent, which marks 58 percent growth in 11 months.<sup>64</sup>
- Broadband adoption greatly improved in groups whose annual household income is \$20,000 or less (from 25 percent to 35 percent) and whose annual income is between \$20,000 and \$30,000 (from 42 percent to 53 percent). This amounts to a 36 percent growth in broadband adoption for people with annual incomes of less than \$30,000.<sup>65</sup>
- Other groups saw significant growth in adoption, including high-school graduates (from 40 percent to 52 percent), older baby boomers (from 50 percent to 61 percent), and rural Americans (from 38 percent to 46 percent).<sup>66</sup>

Other findings in this survey also highlight important facts about broadband adoption and usage in the United States:

- Consumers report that they are paying about 10 percent less for broadband Internet service than the OECD report says they do.<sup>67</sup>
- A majority of home broadband Internet users see their broadband connection as “very important” to at least one dimension of their lives and community.<sup>68</sup>

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<sup>62</sup> One Economy Comments at 8. One Economy identified the broadband gap as the different between the percentage of households that have adopted broadband as reported in Pew’s 2008 study and the percentage of households that have access to at least one broadband option other than satellite. *Id.* The data from Pew’s more recent study shows that the Broadband Deficit has narrowed significantly.

<sup>63</sup> *Pew Home Broadband Adoption 2009*, *supra* note 19, at 3.

<sup>64</sup> *See id.* at 13.

<sup>65</sup> *See id.* at 16-17.

<sup>66</sup> *See id.* at 17.

<sup>67</sup> *See id.* at 26 (“To put the average monthly broadband bill of \$39 into context, an assessment of prices across countries for broadband, conducted by the [OECD] finds an average monthly broadband bill in the United States of \$45.52. The OECD notes that in compiling its price average, it was not always possible to decompose the broadband price from ‘triple play’ offerings of voice, Internet, and video services; this may be a reason the OECD figure exceeds the one reported by users in this survey.” (internal citations omitted)).

<sup>68</sup> *Id.* at 33.

- Dial-up use has plummeted to 7 percent of Americans.<sup>69</sup>
- Fifty percent of non-users and dial-up users said they do not have broadband Internet service at home because they consider it irrelevant to their lives; just 19 percent cited price as the reason, and just 17 percent said it was unavailable.<sup>70</sup>
- Sixty-nine percent of home broadband Internet users said they have more than one provider in their area, and many reported three or four available providers. The study also found a “significant relationship between having more than one broadband provider available and having a lower monthly bill for broadband.”<sup>71</sup>

As these findings demonstrate, the broadband marketplace is dynamically changing at a rapid pace and is making tremendous strides in furthering the goals of ubiquitous deployment and widespread adoption of broadband Internet service.

**III. THERE IS BROAD CONSENSUS THAT THE PLAN SHOULD INCLUDE PROPOSALS FOR TARGETED MEASURES THAT WILL FACILITATE FURTHER DEPLOYMENT AND STIMULATE ADOPTION.**

Although the evidence in the record demonstrates that the broadband Internet marketplace is vibrant and broadband Internet service is available to nearly all, and adopted by a significant majority, of Americans, commenters almost unanimously agree that there is an important role for the Commission and government to play. Specifically, commenters generally agree that the Commission’s Plan must include specific proposals for how the government and private sector can work together (1) to ensure that broadband Internet service is deployed to the small percentage of Americans without access today, and (2) to stimulate demand for broadband Internet service and increase the number of people who adopt that service.<sup>72</sup> Commenters offer a

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<sup>69</sup> See *id.* at 39.

<sup>70</sup> See *id.* at 42.

<sup>71</sup> *Id.* at 23-24, 27.

<sup>72</sup> See, e.g., Global e-Sustainability Initiative Comments at 3 (filed by GeSI Secretariat) (“That’s why policies that do two things are important: (1) focus on deploying broadband to the remaining 10 million homes . . . , and (2) (footnote continued...)”) (footnote continued...)

broad array of proposals for the Commission to consider in furthering these dual goals. The Commission should discard those proposals that are based more on conjecture and theory than data-driven analysis, and include in the Plan those proposals that are achievable and most likely to lead to concrete, measurable, positive, and sustainable results.

**A. The Commission’s Approach Must Be Open, Transparent, Data-Driven, and Focused.**

Ensuring that all Americans benefit from broadband Internet service requires a flexible, open, and effective partnership among the Commission, the private sector, and the general public. Reflecting this ideal, the record in this proceeding reveals a remarkable degree of consensus among the parties regarding the need for the Commission’s process to be open and inclusive of a diverse array of viewpoints and stakeholders.<sup>73</sup>

The convergence of communications and information technologies is an important development that opens innumerable opportunities for commercial, cultural, political, and societal development. By “casting a wide net” and facilitating the participation of experts and representatives in the fields of healthcare, education, energy, public safety, and the environment, the Commission can ensure that a broad spectrum of perspectives are presented and debated fully. With this goal in mind, the Commission’s plan to host a series of workshops and hearings

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(...footnote continued)

entice, encourage and help the more than 40 million U.S. households that, today, don’t even subscribe to *dial-up* Internet access to connect to the broadband Internet . . .”).

<sup>73</sup> See, e.g., Google Comments at 7 (calling for a “more careful and searching process” to “ensure that the proper balance between private and public actions is struck”); N.J. Div. of Rate Counsel Comments at 78 (urging the Commission to include consumer representatives at any en banc hearings relating to the development of the Plan); Broadband Diversity Supporters Comments at 27-28.

on various broadband-related topics should go a long way to ensuring that there is significant public input and broad participation from interested parties.<sup>74</sup>

Comcast also reiterates its call, echoed by the Center for Democracy & Technology and others,<sup>75</sup> for the Commission to release for comment a draft version of the Plan. Even if the policy recommendations in the Plan are not “self-executing” and any policy changes will be the subject of further proceedings and public comment,<sup>76</sup> the release of the final Plan will itself be a milestone of great significance. Distributing a draft of the Plan for comment will advance a more open, transparent, and exacting procedural framework that will result in a final Plan that is data-driven and based on proven facts, rigorous critique, and full and fair input from the public.

**B. Commenters Universally Acknowledge That the Plan Needs To Address Deployment of Broadband Internet Service to the Remaining Unserved Households and to Hospitals, Schools, Libraries, and Other Public Facilities.**

In the Recovery Act, Congress “task[ed] the Commission with developing a national broadband plan [that] seek[s] to ensure that all people of the United States have access to broadband capability and . . . establish[es] benchmarks for meeting that goal.”<sup>77</sup> Despite the extensive deployment of broadband Internet service to date, there remain areas of the country and public facilities that currently lack access to broadband Internet service. Commenters

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<sup>74</sup> Presentation, FCC Open Meeting, *The FCC and Broadband: The Next 230 Days* 10-13 (July 2, 2009) (“*Broadband Plan Presentation*”), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-291879A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-291879A1.pdf); cf. Minority Media & Telecomm. Council Comments at 1 (proposing 15 field hearings).

<sup>75</sup> See Comcast Comments at 20; Ctr. for Democracy & Tech. Comments at 3; see also XO Communications Comments at 33.

<sup>76</sup> *Broadband Plan Presentation*, supra note 74 at 15.

<sup>77</sup> Notice ¶ 9 (citing the Recovery Act § 6001(k)(2)). Commenters unanimously support this effort. See, e.g., CFA/CU Comments at 1; MAP Comments at 6-7; Global e-Sustainability Initiative Comments at 3; Google Comments at 6; Alcatel-Lucent Comments at 19; NAACP Comments at 1; U.S. Hispanic Chamber of Commerce Comments at 1; Asian Bus. Ass’n Comments at 1 (filed by Dennis J. Huang); Verizon Comments at 11; AT&T Comments at v; USTelecom Comments at i-ii; Cox Comments at 4; Kodiak Kenai Comments at 11.

unanimously support the proposition that a primary focus of the Plan should be to get broadband Internet deployed to those unserved areas and public facilities expeditiously.<sup>78</sup>

**1. The Plan Should Adopt Aggressive but Achievable Benchmarks for Deploying Broadband Internet Service to All Americans.**

Comcast proposed an aggressive schedule for deploying broadband Internet service throughout the country, with Current Generation Broadband Internet Service deployed to 100 percent of U.S. households and businesses by 2012, Next Generation Broadband Internet Service deployed to 100 percent of U.S. households and businesses by 2014, and Next Generation Advanced Broadband Internet Service deployed to 100 percent of U.S. households and businesses by 2016.<sup>79</sup> Comcast believes these benchmarks are achievable and consistent with consumers' needs and demands. Other commenters offered similar deployment benchmarks. For example:

- **AT&T:** “The overarching goal of the National Broadband Plan should be to give every American, by 2014, the opportunity to safely and securely participate in the digital, broadband society of the 21<sup>st</sup> century . . . by ensuring they have access to broadband networks and enabling them to use broadband services in new and innovative ways.”<sup>80</sup>
- **USTelecom:** “[T]here can be little debate that the country must set an ambitious goal of providing *all Americans with meaningful broadband access – and USTelecom believes we should aim to get to that goal within five years.*”<sup>81</sup>

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<sup>78</sup> See, e.g., MAP Comments at 6-7; Benton Foundation Comments at 17; TCA Comments at 13; New Orleans City Council Comments at 4; Free State Found. Comments at 6; Inst. for Policy Innovation Comments at 4; PFF Comments at 8; TIA Comments at 22; NAACP Comments at 1; Moms in Business Network Comments at 1; ASPIRA Ass’n at 1 (filed by Ronald Blackburn Moreno); Nat’l Korean Am. Serv. & Educ. Consortium Comments at 1 (filed by Eun Sook Lee); Am. Women in Radio & Television Comments at 1; Verizon Comments at 24; AT&T Comments at 78; USTelecom Comments at 14-15; Qwest Comments at 11-12; CTIA Comments at 8-9; Cox Comments at 4; Time Warner Cable Comments at 5, 18; Kodiak Kenai Comments at 11.

<sup>79</sup> See Comcast Comments at 64-65.

<sup>80</sup> AT&T Comments at 3-4.

<sup>81</sup> USTelecom Comments at 8 (emphasis in original).

- **Free Press:** Recommended reform of universal service that will ensure that “every rural home will have access to broadband” in ten years.<sup>82</sup>
- **Cox Communications:** “[W]ith careful planning and judicious use of public and private sector funds and other financial incentives, Cox believes that the number of unserved households can be cut in half by the end of 2012.”<sup>83</sup> In addition, the Commission should “establish two additional broadband access targets to be met by 2012: (1) launching a national program to provide broadband connectivity to low-income households with school-age children; and (2) ensuring the availability of robust broadband interactivity in all K-12 classrooms in the country.”<sup>84</sup>

Although far more aggressive deployment proposals were put forward by a few parties (primarily with respect to deploying faster speeds in a faster timeframe),<sup>85</sup> the Commission should be cautious about adopting benchmarks that may set the Plan up for failure. For example, adopting a benchmark of deployment of 50 Mbps symmetrical broadband Internet service to all Americans by 2012 would be extremely difficult, if not impossible, to achieve. An achievable incremental deployment schedule that provides for increasing speeds over time, prioritizes unserved areas and public facilities, takes into account existing consumer demands, and relies primarily on private sector investment is much more desirable (and economically rational) than adopting benchmarks based on hypothetical predictions of future consumer demands.

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<sup>82</sup> Free Press Comments at 29.

<sup>83</sup> Cox Comments at 4-5.

<sup>84</sup> *Id.* at 4, 5-7.

<sup>85</sup> *See, e.g.*, Vermont Pub. Serv. Bd. Comments at 7 (proposing deployment of a minimum of 3 Mbps downstream and 1.5 Mbps upstream to all households by the end of 2011); Google Comments at 21 (proposing “a symmetrical standard of ‘Internet over broadband’ connectivity for all American residences, starting with 5 Mbps throughput by 2012”); *cf.* Cisco Sys. Inc. Comments at 10-11 (urging the Commission to “aspire to ensure that 100 percent of Americans have access to both (1) a connection, provided via fiber-optics, cable, wireless, or other technology, offering 100 Mbps per second [sic] both upstream and downstream; and (2) a 4G or better mobile connection”).

## 2. The Plan Should Put Forth Specific Proposals for Ensuring That the Deployment Benchmarks It Sets Can Be Met.

In areas where there is no broadband service, the Commission first should consider incentives to stimulate more private-sector investment to deploy broadband Internet service in unserved areas and to public facilities (this effort should of course take into account the efforts to construct facilities using public stimulus funds and private investment).<sup>86</sup>

Importantly, the Plan must “first, do no harm.” Much of the success of the last 13 years in deploying broadband and stimulating consumer adoption of broadband can be attributed to the pro-competition, pro-investment regulatory approach adopted in the 1996 Act. The Plan should build on that success by embracing proposals that “harness[] market forces” to encourage more investment in new and upgraded broadband networks.<sup>87</sup> For example, the Commission could recommend the development of tax incentives for investment in next-generation broadband networks in unserved areas and public facilities, provided the incentives are technologically and competitively neutral.<sup>88</sup> In addition, Congress should consider establishing a program that

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<sup>86</sup> See Latino Inst. for Corp. Inclusion Comments at 2 (“We believe that the FCC must draft a policy that will catapult private sector dollars during these difficult economic times to deliver broadband to all Americans.”); Competitive Enter. Inst. Comments at 1 (“Marketplace investment and private enterprise have driven broadband deployment in the United States, and the Commission would be wise to expand proven, market-driven broadband policies.”).

<sup>87</sup> One Economy Comments at 5; see also CEA Comments at 11. (“These investments create American jobs and lay the foundation for broadband products and services. Such commitments result from the do-or-die mentality of all sectors in the communications marketplace to stay ahead amidst robust competition to provide consumers and businesses with ever more robust broadband access.”). As discussed in more detail below, several parties suggest regulatory proposals that would seek to undo the successes of the last 13 years. See *infra* Section IV.A. For the reasons set forth below, those proposals should be rejected as inimical to Congress’s and the Administration’s objectives for the National Broadband Plan.

<sup>88</sup> See Comcast Comments at 65; AT&T Comments at 94-97; USTelecom Comments at 25; Verizon at 127.

ensures access to low interest-rate loans for deploying broadband Internet services to unserved or underserved populations, like public housing units.<sup>89</sup>

The Commission also should consider what other efforts the government can take to remove barriers to deployment. For example, commenters suggest that the Commission explore ways to facilitate access to rights-of-way and erecting of wireless towers, as well as what steps could be taken to minimize burdens from permitting and licensing.<sup>90</sup>

### **3. Direct Government Investment, Particularly Through a Reformed Universal Service Fund (“USF”), Can Play an Important Role in Achieving Ubiquitous Broadband Deployment.**

Although the Plan’s first goal should be to “stimulat[e], not usurp[.]” private sector investment,<sup>91</sup> the Plan also should propose actions that Congress and the Commission could take to facilitate deployment of broadband Internet service in those areas where private sector investment is uneconomical: “Where market forces alone are not meeting the nation’s broadband priorities, the plan should identify appropriately tailored public investment strategies.”<sup>92</sup> As Media Access Project noted, “A swift injection of capital to deliver affordable broadband to these areas would have the greatest benefit with the fastest return.”<sup>93</sup>

This is the approach recently adopted in the United Kingdom for current generation broadband, the Universal Service Commitment, with £200 million from direct public funding

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<sup>89</sup> See Comcast Comments at 65-66.

<sup>90</sup> See CTIA Comments at 15-19; Verizon Comments at 63-68; Comcast Comments at 50; AT&T Comments at 133 n.374; T-Mobile Comments at 21; PCIA Comments at 5-6; Clearwire Comments at 7-10; Wireless Internet Serv. Providers Ass’n Comments at 20-21.

<sup>91</sup> One Economy Comments at 5.

<sup>92</sup> Alcatel-Lucent Comments at 2. “*The government should focus on providing broadband access where such access is very limited or non-existent. Focusing on areas where access is limited or non-existent will yield policies that are less likely to result in market distortions.*” Hahn & Wallsten Comments at 16 (emphasis in original).

<sup>93</sup> MAP Comments at 7.

supplemented by funding from other sources being dedicated to ensuring that the remaining unserved households that “cannot enjoy a 2 Mbps connection” are reached by 2012.<sup>94</sup> In addition, the *Digital Britain Final Report* found that “true superfast broadband will be concentrated in the first two-thirds of the market in the next decade, leaving the ‘final third’ served only with current generation broadband.”<sup>95</sup> To address this issue, the United Kingdom created a new Next Generation Fund that “will provide a part subsidy for the deployment of next generation broadband to the ‘final third’ of homes and small businesses, bringing the cost of the initial deployment to the same level that operators face in the commercially economic parts of the market.”<sup>96</sup>

Although the United Kingdom’s approach is not ideal because, among other things, it imposes a new broadband tax on all broadband Internet users, the Commission should analyze whether initiatives similar to the United Kingdom’s are worthy of being incorporated into the Plan, possibly in conjunction with USF reform. There is broad recognition by commenters that

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<sup>94</sup> Dep’t for Culture, Media and Sport & Dep’t for Bus., Innovation and Skills, United Kingdom, *Digital Britain Final Report* 12 (June 2009) (“*Digital Britain Final Report*”), available at <http://www.culture.gov.uk/images/publications/digitalbritain-finalreport-jun09.pdf>.

<sup>95</sup> *Id.* at 13, 57-58.

<sup>96</sup> *Id.* at 14. For both of these programs, the United Kingdom has proposed establishing an independent Network Design and Procurement Group -- “at arm’s length from central government” -- which “will be responsible for structuring and running the procurement process, overseeing delivery, ensuring stakeholder engagement, and accountability for the value for money use . . . . To do this it will be necessary for the body to employ a range of strategic, business and technical competence, which will be supported by an advisory group containing representatives from the relevant, private, public and technical bodies.” *Id.* at 58; *see id.* at 65. Despite calls from British Telecom, the incumbent telephone company, to mandate a wholesale offering over Virgin Media’s cable network, the United Kingdom determined that, “[a]t this embryonic stage of the market’s development, regulatory action would be premature and market-led approaches to access are preferable.” *Id.* at 68. The *Digital Britain Final Report* did note that, “as demand for next generation services develop, commercially-based wholesale access to the cable network could benefit both the markets and the consumer.” *Id.* Given the importance of having “a climate and a set of governmental and regulatory frameworks that are conducive to investment, while retaining a competitive market for consumers and business users,” the United Kingdom proposed new legislation that would “amend the Communications Act 2003 to make promotion of investment in communications infrastructure one of Ofcom’s principal duties alongside the promotion of competition.” *Id.* at 66.

USF should play a role in facilitating broadband deployment to unserved areas.<sup>97</sup> Some parties, most notably those representing RLECs, urge the Commission to add broadband to the list of services supported by (and supporting) the High-Cost Fund,<sup>98</sup> but the majority of parties argue that the Commission should first substantially reform the USF and transition from funding old technology to funding broadband technology.<sup>99</sup> Moreover, commenters agree that the Commission should not impose a “broadband tax” on broadband subscribers,<sup>100</sup> or unfairly advantage any particular provider or set of providers.<sup>101</sup>

Another idea that received significant support was the proposal to focus USF and direct government investment efforts on deploying broadband Internet service to “anchor tenants” in unserved areas like schools, libraries, etc. The California Public Utilities Commission noted,

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<sup>97</sup> See, e.g., Free Press Comments at 29, 186-207; Verizon Comments at 8-9; AT&T Comments at 83; USTelecom Comments at 16; CTIA Comments at 47; Sprint Nextel Comments at 3, 38; T-Mobile Comments at 23, 26; American Cable Ass’n Comments at 12-13; Kodiak Kenai Comments at 12; Benton Found. Comments at 6; CFA/CU Comments at 17; Public Knowledge Comments at 17-19; Microsoft Comments at 6; NTCA Comments at 3; OPASTCO Comments at 31; Texas Statewide Tel. Coop. Comments at 9; RICA Comments at 11; TCA Comments at 14-15; NATOA Comments at 22; New Jersey Div. of Rate Counsel Comments at 29; NASUCA Comments at 36, 38; Mich. PSC Comments at 4-5; Mass. Broadband Inst. & Mass. Dep’t of Telecomms. & Cable Comments at 16-18; NY PSC Comments at 9-10; Vermont Pub. Serv. Bd. Comments at 3; Inst. for Policy Innovation Comments at 21-22; Ericsson, Inc. Comments at 9; Motorola Comments at 20; Cisco Sys. Inc. Comments at 20-23; TIA Comments at 23-24; Nat’l Rural Elec. Coop. Ass’n Comments at 9; Broadband Diversity Supporters Comments at 15; Global Disability Solutions Group Comments at 2; Am. Telemedicine Ass’n Comments at 3; Rural Health Care Pilot Program Comments at 1-3; NECA Comments at 14.

<sup>98</sup> See OPASTCO Comments at 2, 19; NTCA Comments at 4, 11-17; Texas Statewide Tel. Coop., Inc. Comments at 9; TCA Comments at 14.

<sup>99</sup> See Free Press Comments at 225-37; RICA Comments at 11; NATOA Comments at 22; N.J. Div. of Rate Counsel Comments at 29-31.

<sup>100</sup> See, e.g., Free Press Comments at 237 (“Because broadband is a developing market, any USF assessment, no matter how small, would likely result in a net decrease in total broadband subscribership nationwide.”). Certain parties urge the Commission to extend USF contribution requirements to broadband Internet services. See CFA/CU Comments at 17-20; NTCA Comments at 3. Such a proposal, however, will result in a substantial increase in the price of broadband Internet service, making it less affordable and depressing demand. See Free Press Comments at 237.

<sup>101</sup> CFA/CU Comments at 12-13 (“We believe that the best path to achieving universal broadband service . . . in the quickest manner possible is to adopt a policy that supports least cost, no regrets technologies in a neutral manner . . .”).

[U]niversal service funding decisions should take into consideration not only availability to the residential customer directly, but also availability of broadband to high volume locations such as senior centers, community centers, healthcare provider hubs (hospitals and medical centers), educational institutions (elementary, middle school, high school and colleges, libraries, employment training facilities), and fire/police and public safety personnel where a broader public benefit is maximized. Targeting high-use “hot spots” may pay greater dividends immediately than awarding funding for projects that serve a narrow or fixed pool of end-users in residential pockets.<sup>102</sup>

The government has an important role to play in facilitating deployment of broadband Internet service to the small percentage of households that still do not have access, as well as to certain public facilities. Although direct government investment may be necessary in some areas, the Commission must recognize that private-sector investment is and will continue to be the key driver in the deployment of new and upgraded broadband Internet services to the vast majority of households.

**C. Maximizing the Use of Available Broadband Internet Services Requires a Holistic Understanding of What Drives Adoption and What the Government Can Do To Stimulate It.**

Separate and apart from the task of spurring the availability of broadband Internet service is the challenge of promoting adoption – the actual use – of these services. While facilitating deployment to unserved areas will help increase the number of Americans who subscribe to broadband Internet service, lack of availability is cited by fewer than one-fifth of the 37 percent of Americans who have not subscribed.<sup>103</sup> A much bigger reason cited by many non-subscribing

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<sup>102</sup> Cal. PUC Comments at 22; *see* N.Y. PSC Comments at 9 (“These kinds of community gathering places act as incubation centers that, with properly managed public broadband access programs, in time would likely enhance digital literacy, drive demand and increase the economics and efficiencies in many of the areas where population density or low adoption rates had previously been a barrier to economic and efficient broadband service deployment and use.”).

<sup>103</sup> *See Pew Home Broadband Adoption 2009*, *supra* note 19, at 7-8 (finding that, of the 37 percent of American adults that have dial-up Internet service or are non-Internet users, 17 percent (or 4 percent of all adults) do not subscribe because Internet access is not available where they live).

consumers is that they do not see broadband Internet service as relevant to their lives or useful. In shaping proposals for broadband adoption, the Commission needs to know more about *why* many Americans do not subscribe to available broadband Internet access services.

**1. The Commission and Congress Need a Better Understanding of Why Some Consumers Do Not Subscribe to Broadband Internet Service.**

Congress established grants under the Broadband Data Improvement Act (the “BDIA”) to be used “to identify barriers to the adoption by individuals and businesses of broadband service,” “to collect and analyze detailed market data concerning the use and demand for broadband service,” and “to facilitate information exchange regarding the use and demand for broadband services between public and private sectors.”<sup>104</sup> As the legislative history to the BDIA explains, “The lack of comprehensive data regarding the availability and penetration of broadband in the United States has hampered the development of effective policies to promote widespread access to affordable broadband service.”<sup>105</sup> The report goes on to state that

data collected by the Census Bureau . . . could be updated for an Internet age to better identify the pace of broadband deployment and remaining obstacles to residential adoption. Similarly, understanding patterns in computer ownership, broadband use, device attachment, termination fees, and bundling practices could improve understanding of demand for broadband services. Further understanding will come from studying the

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<sup>104</sup> 47 U.S.C. § 1304(e)(3), (8) & (9); *see also id.* § 1301(3) (“Improving Federal data on the deployment and adoption of broadband service will assist in the development of broadband technology across all regions of the Nation.”).

<sup>105</sup> S. Rep. No. 110-204 (2007), *reprinted in* 2008 U.S.C.C.A.N. 1707, 1708. The lack of data regarding broadband adoption is also underscored by parties’ initial comments in this proceeding. *See, e.g.*, Google Comments at 10 (“Currently, despite the importance of broadband to our nation, there is a lack of reliable, up-to-date, and readily-accessible information about many vital aspects of broadband.”); *see also* Hahn & Wallsten Comments at 13 (“Good policy decisions rely on good data and analysis, and broadband policy is no exception. Government should avoid creating a broadband crisis by taking time to gather relevant data and do careful analysis to help ensure the development of sensible policies.”); Mass. Broadband Inst. & Mass. Dep’t of Telecomms. & Cable Comments at 7-10 (asserting that the data gathered through FCC Form 477 is “insufficient to provide an accurate portrayal of the current [broadband] market”).

demographics of areas without broadband service and the usage patterns of distinct user communities, like small businesses.<sup>106</sup>

More recent studies, while helpful, still leave considerable gaps in the collective understanding of precisely why some Americans do not subscribe to broadband Internet service and what (if anything) government can do to change their minds. The recent survey by the Pew Internet & American Life Project, for example, found that non-Internet users comprise 21 percent of American adults, a figure that is three times the proportion of adults who choose to subscribe to dial-up Internet access.<sup>107</sup> Within the larger group of non-Internet users, a total of 42 percent say they are “not interested” in getting online, do not “need or want” to use the Internet, are “too busy,” think the Internet is a “waste of time,” or just “don’t know” why they do not subscribe.<sup>108</sup> Even among the smaller (but presumably more Internet-savvy) group of dial-up Internet users at home, a total of 36 percent say they “don’t know” why they do not subscribe to broadband Internet service – or they say that “*nothing* would get them to change.”<sup>109</sup>

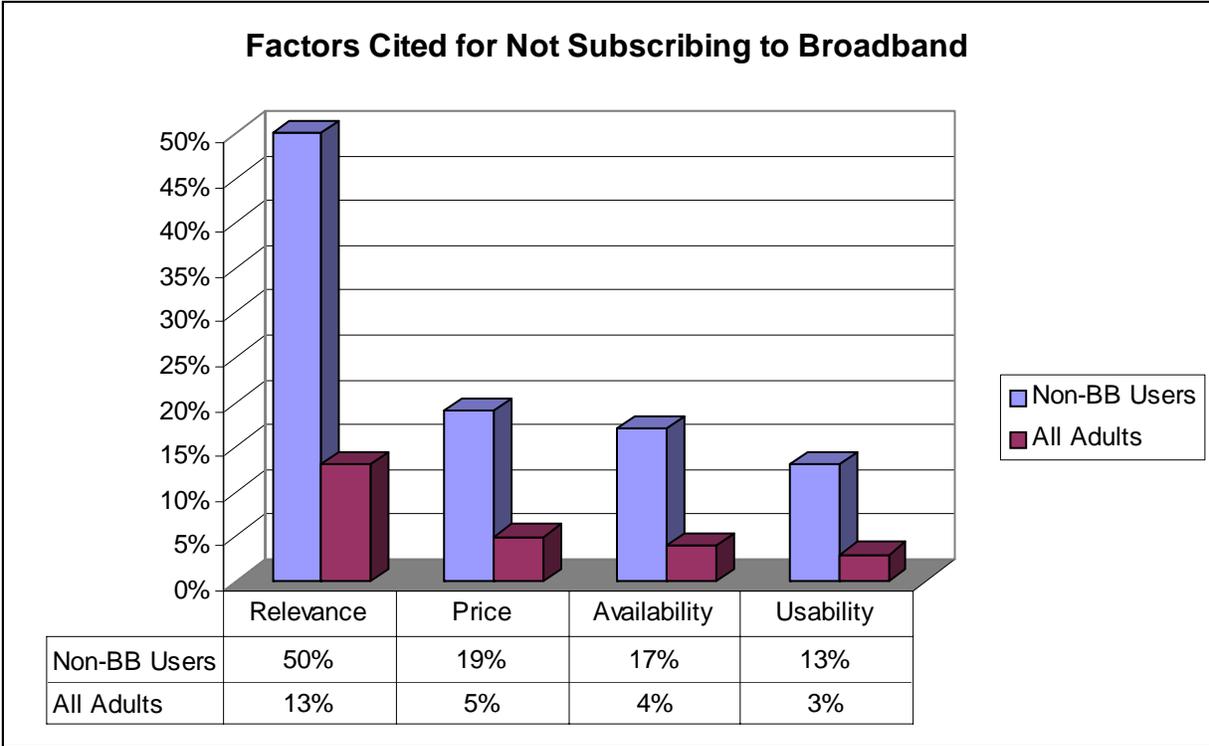
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<sup>106</sup> S. Rep. No. 110-204 (2007), *reprinted in* 2008 U.S.C.C.A.N. 1707, 1710-11.

<sup>107</sup> *Pew Home Broadband Adoption 2009*, *supra* note 19, at 7.

<sup>108</sup> *Id.* at 7-8 (where 22 percent of all non-user respondents stated that they are “not interested” in getting online, 6 percent don’t “need or want” to use the Internet, 4 percent are “busy,” 4 percent think it’s a “waste of time,” and 6 percent “don’t know”).

<sup>109</sup> *Id.* at 7 (emphasis added) (where 16% of all dial-up respondents stated that they “don’t know” why they don’t subscribe to broadband, and 20% stated that “nothing” would get them to change).



Source: Pew Internet & Am. Life Project, *Home Broadband Adoption 2009* (June 2009), available at <http://www.pewinternet.org/~media/Files/Reports/2009/Home-Broadband-Adoption-2009.pdf>.

The Commission and Congress need a better understanding of the many reasons why some consumers today still do not subscribe to broadband. The Plan should address proposals to improve data gathering on adoption rates and, more importantly, the reasons for adoption and non-adoption.<sup>110</sup> Among other things, the Commission should consider empanelling a group of survey experts to determine how it can best obtain good data.<sup>111</sup>

**2. The Government Can Help Remove Barriers to Broadband Internet Adoption.**

Despite the incomplete data and understanding about what actually *drives* broadband Internet adoption, the record usefully identifies several ways in which government can help

<sup>110</sup> See AT&T Comments at 35; Google Comments at 23.

<sup>111</sup> See Comcast Comments, App. at 19.

remove likely obstacles to such adoption.<sup>112</sup> Several parties provided concrete steps the Commission, in collaboration with other government agencies and the private sector, can begin working on *now*, even as the government gathers and analyzes more data on how it can promote broadband adoption in the longer term.<sup>113</sup>

The availability of computers and other devices that can be used to access the Internet is one barrier to adoption that the Commission should address in the Plan. As the New Jersey Division of Rate Counsel commented, some consumers do not have computers or other equipment needed to avail themselves of the economic and social benefits that broadband Internet service provides.<sup>114</sup> This problem may be addressed in large part by ensuring that computers and broadband Internet access are available at community and other “anchor” institutions, particularly with respect to regions or populations that lag others in broadband deployment and adoption.<sup>115</sup> Other approaches suggested by commenters focus on increasing home and individual access to computers.<sup>116</sup> In considering any such proposals, the Commission should acknowledge that devices other than laptops and desktops enable access to broadband Internet services, and may whet the appetite of consumers to use these services more

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<sup>112</sup> See, e.g., TCA Comments at 21-22; Mich. PSC Comments at 3-4; Alcatel-Lucent Comments at 25; TIA Comments at 6-8.

<sup>113</sup> See, e.g., Broadband Opportunity Coalition Comments (June 5, 2009); Common Sense Media Comments at 7-8; NASUCA Comments at 64; National Consumers League Comments at 7.

<sup>114</sup> See N.J. Div. of Rate Counsel Comments at 24; see also Public Knowledge Comments at 40 (recommending that the Commission “could help with ancillary activities such as computer training and access to computers”); Broadband Diversity Supporters Comments at 24 (advocating coordinated federal funding for school-provided portable computers for students in low-income communities).

<sup>115</sup> See Benton Found. Comments at 14; NAACP Comments at 1.

<sup>116</sup> See, e.g., NASUCA Comments at 64 (advocating programs that promote the refurbishment and distribution of computers to low-income households); Latinos in Info. Scis. & Tech. Ass’n Comments at 1 (filed by Jose A. Marquez-Leon) (noting that “when computers and broadband were provided to low-income neighborhoods, residents were 50% more likely to take a class online . . . apply for jobs, shop online, and manage their finances”).

intensively.<sup>117</sup> Moreover, to the extent further research reveals that even less expensive Internet devices are too costly for some Americans, Comcast urges the government to work collaboratively with device manufacturers and others within the industry to fill this gap.<sup>118</sup>

Parties to this proceeding also underscored the likelihood that inadequate education may serve as a barrier to adoption of broadband Internet service.<sup>119</sup> This may include a lack of “digital literacy” or other familiarity with broadband Internet devices and use,<sup>120</sup> some consumers’ lack of understanding regarding how broadband use may be relevant to their lives,<sup>121</sup> and some consumers’ lack of awareness regarding the availability of broadband Internet service in their areas.<sup>122</sup> As Common Sense Media explained, “Broadband investment won’t really bring

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<sup>117</sup> See National Consumers League Comments at 7 (urging support of pilot programs that connect low-income consumers with broadband-enabled wireless devices, including netbooks); Alcatel-Lucent Comments at 27-28 (stating that the Plan should encourage programs that foster distribution of low-cost Internet access hardware, such as the One Laptop per Child initiative).

<sup>118</sup> If, after further research and industry collaboration, the Commission determines that subsidies for broadband Internet devices are truly necessary, Comcast urges the Commission to recommend consumer tax credits or other targeted support from the Treasury to help low-income Americans acquire these devices. See also Verizon Comments at 33 (recommending a refundable tax credit program to help low-income families purchase computers or other devices to access the Internet); Intel Comments at 19-20 (providing examples of demand-side programs in other countries, including a tax rebate program for equipment in Australia). As Comcast explained with respect to economic support for broadband Internet service, the burden of any low-income subsidies should be borne equitably by taxpayers generally, rather than forcing the customers of universal service contributors to shoulder this burden alone. Comcast Comments at 94.

<sup>119</sup> See, e.g., SeniorNet Comments at 1 (describing how Internet adoption among senior citizens increased through their computer literacy programs); Dell Inc. Comments at 18 (supporting federal funding for computer skills training, particularly as it pertains to workforce training and retraining).

<sup>120</sup> See Broadband Diversity Supporters at 32; Verizon Comments at 31-32; Common Sense Media Comments at 6-7; TCA Comments at 21; Alcatel-Lucent Comments at 29. The ASPIRA Association described how their Community Technology Centers “enable students, parents and the community to learn about computers and the Internet through our workshops” and “also provide students with computers and Internet access to do their homework and access information online.” See ASPIRA Ass’n Comments at 1-2.

<sup>121</sup> See Connected Nation Comments at 16; *Pew Home Broadband Adoption 2009*, *supra* note 19, at 8 (concluding that half of dial-up or non-users cite a reason “that suggests they question the relevance of connecting to the Internet”). As described more fully below, some of what may make broadband Internet use relevant to consumers is the possibility that they can use this technology to transact business more easily with government.

<sup>122</sup> See *Pew Home Broadband Adoption 2009*, *supra* note 19, at 23 (reporting that 10% of home broadband subscribers did not know whether more than one provider was available).

the rewards we need unless we ensure that America's youth have the knowledge, skills, and ethics they need to harness the power and the potential of this increasingly digital world.”<sup>123</sup> To help address these issues, One Economy and Comcast recently launched the *Comcast Digital Connectors* program that will teach teens and young adults digital literacy skills and how to put that knowledge to work in a wide range of community service activities.<sup>124</sup> Through similar creative collaboration among other agencies and the private sector, the Commission can help overcome these societal impediments.

Parties also point out that another likely impediment to adoption of broadband Internet service is many consumers' understandable fear that use of this technology may expose them to invasions of their privacy and other Internet-related harms.<sup>125</sup> As the Center for Democracy & Technology noted, “[m]ore data is collected about individuals and retained for longer periods than ever before,” and some consumers are so concerned about data collection practices that they resist “engaging in even more established business models such as online shopping.”<sup>126</sup> Although Comcast and other broadband Internet service providers are working hard with others in the Internet ecosystem to address these concerns,<sup>127</sup> the government can do more to help

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<sup>123</sup> Common Sense Media Comments at 3.

<sup>124</sup> Press Release, One Economy Corp. & Comcast Corp., *Comcast, One Economy Roll Out National Digital Connectors Program in 22 Locations, Increasing Digital Literacy Skills, Leadership Training and Digital Community Service* (July 15, 2009), available at [http://www.one-economy.com/sites/all/files/ComcastDigitalConnectors\\_release\\_071409.pdf](http://www.one-economy.com/sites/all/files/ComcastDigitalConnectors_release_071409.pdf).

<sup>125</sup> See ASPIRA Ass'n Comments at 2 (noting that “parents, teachers, and school administrators must be able to protect children from inappropriate content” and asserting that “[p]roviders must have the authority to manage their networks to ensure that . . . safeguards are functional and in place”); Latinos in Info. Scis. & Tech. Ass'n Comments at 2 (“In order to ensure that users have the most secure and high-quality experience, these providers must have the authority to manage their networks.”).

<sup>126</sup> Ctr. for Democracy & Tech. Comments at 12-13.

<sup>127</sup> As Comcast noted in its comments, Comcast is a member of the Family Online Safety Institute, has a partnership with Internet Keep Safe Coalition, participates in the inter-industry PointSmart.ClickSafe coalition, and  
(footnote continued...)

educate consumers on how to create a hospitable Internet environment that protects children and addresses their other privacy and security concerns.<sup>128</sup>

In addition, some parties state that broadband Internet service is not “affordable” for some low-income Americans. Although some progress has been made in addressing this concern through community institutions,<sup>129</sup> these affordability questions remain complex and poorly understood.<sup>130</sup> As Comcast stated in its initial comments, available data suggests that a lack of demand-side incentives is a greater impediment to adoption than price.<sup>131</sup> The recent survey by the Pew Internet & American Life Project underscores the complexity of broadband affordability, especially as it pertains to price.<sup>132</sup> If the Commission’s data gathering indicates that adoption by low-income consumers requires economic support, Comcast urges the

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(...footnote continued)

is working with Common Sense Media to address online security and safety. Comcast Comments at 25. On July 8, 2009, the PointSmart.ClickSafe coalition released recommendations on best practices for online safety and literacy spanning all sectors of the Internet industry and intended to be applied selectively based on a company’s role and the types of services it offers. Press Release, NCTA, *Unprecedented Diverse Group of Stakeholders Concerned with Child Online Safety and Digital Literacy Announces Best Practices Recommendations* (July 8, 2009), available at <http://www.ncta.com/ReleaseType/MediaRelease/Child-Online-Safety-and-Digital-Literacy-Advocates-Announce-Best-Practice-Recommendations.aspx>.

<sup>128</sup> See, e.g., Family Online Safety Inst. Comments at 5 (“Educating our youth and adults about how to stay safe while engaging in online activities must be a fundamental component of any effort to increase broadband adoption rates and to ensure that new users and existing users alike continue to stay online.”); Common Sense Media Comments at 7; Competitive Enter. Inst. Comments at 8 (urging the Commission to focus “on educating consumers about privacy-enhancing technologies that enable broadband users to safeguard personal data on an individualized basis”).

<sup>129</sup> See, e.g., Connected Nation Comments at 25 (citing research that suggests that public-private partnerships incorporating the insight of community-based leadership have been successful).

<sup>130</sup> See, e.g., J. Scott Marcus Comments, GN Docket No. 09-47 ¶ 15 (Apr. 9, 2009) (discussing the complexities of making price comparisons); AT&T Comments, GN Docket No. 09-47, at 5-8 (Apr. 10, 2009) (discussing the difficulty in making broadband comparisons across communities, including comparisons of price).

<sup>131</sup> Comcast Comments at 93.

<sup>132</sup> Fewer than 20 percent of dial-up and non-Internet users note price as the reason they do not subscribe to broadband. See *Pew Home Broadband Adoption 2009*, *supra* note 19, at 7-8. That percentage drops to 10 percent for the non-Internet users, who comprise three-quarters of Americans who do not subscribe to broadband Internet services. *Id.*

Commission to recommend targeted, need-based support, preferably consumer tax credits or other subsidies from the Treasury.<sup>133</sup>

### **3. The Government Can Help Stimulate Demand for Broadband Internet by Updating How It Serves Citizens in the Digital Age.**

In addition to the suggestions already mentioned, the Commission should identify and pursue ways to spur use of broadband Internet services by updating how government itself operates in the digital age. As Public Knowledge stated, “[T]he Federal government should be an evangelist for broadband, by embracing new media technologies at all levels of government.”<sup>134</sup> A wide range of commenters agreed that all levels of government (i.e., local, state, and federal) should strive to deliver to the public more and improved services online.<sup>135</sup> Beyond online service delivery, government also should demonstrate the benefits of broadband by more fully integrating broadband technologies into the internal processes and workflow of every government agency. For example, government agencies should pursue telework policies and embrace telework best practices.<sup>136</sup> In addition, the Plan should include recommendations

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<sup>133</sup> Comcast urges the Commission, should it decide to pursue low-income subsidies through its universal service programs, to take steps first to adopt long awaited reforms of the outdated system of support and *compensation* of which universal service is a part. See Comcast Comments, WC Docket No. 05-337 (Nov. 26, 2008).

<sup>134</sup> Public Knowledge Comments at 48.

<sup>135</sup> See, e.g., Comcast Comments at 81-88; Cox Comments at 9-10; Verizon Comments at 34-35; AT&T Comments at 54 & 61-62; Inst. for Policy Innovation Comments at 18; Public Knowledge Comments at 48; Am. Legislative Exch. Council Comments at 6-7; Alcatel-Lucent Comments at 28.

<sup>136</sup> See Minority Media & Telecomms. Council Comments at 1-2 (emphasizing the transformative power of broadband to enable telepresence and telework); Asian Bus. Ass’n Comments at 1 (discussing the ability of broadband to facilitate telework business models); World Inst. on Disability Comments at 1-2 (“[I]n-home broadband technology allows people with disabilities throughout the world to telecommute . . .”). For example, at the United States Patent and Trademark Office, “a part-time telecommuting program was introduced over 10 years ago. By 2007, there were 220 trademark examiners and 600 patent examiners participating in the program — and plans to add 500 teleworking patent examiners in each of the next five years.” Robert D. Atkinson & Daniel D. Castro, Info. Tech. & Innov. Found., *Digital Quality of Life* 87 (2008), available at <http://www.itif.org/files/DQOL.pdf>.

that government enable more online political and voting-related activities,<sup>137</sup> revise Medicare to better support telemedicine programs,<sup>138</sup> and remove barriers to online education.<sup>139</sup>

These are just a few of the ideas proposed by Comcast and other parties for removing potential barriers to broadband Internet adoption that are part of a holistic policy approach to broadband, even as the Commission gathers the data to develop a better understanding of broadband adoption.<sup>140</sup> Ultimately, the goal of promoting adoption must be pursued on an ongoing, iterative, multi-agency basis. In doing so, the Commission should encourage collaborative experimentation between government and the private sector, and establish clear monitoring to see whether experiments are bearing fruit.<sup>141</sup> Moreover, the Commission should afford broadband providers and others in the Internet ecosystem the flexibility to respond to consumers' evolving needs for pricing options, service quality, privacy protections, etc., in ways that might encourage Americans to use broadband Internet services more fully.

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<sup>137</sup> See Broadband Diversity Supporters Comments at 6 (emphasizing broadband as an important tool for civic engagement).

<sup>138</sup> See American Telemedicine Ass'n Comments at 3 (encouraging better coordination between all government agencies affecting telemedicine). Several commenters emphasized the importance of network management to support telemedicine programs. See, e.g., Health Tech Strategies, LLC Comments at 1 (filed by Neal Neuberger) ("Providers must have the authority to manage their networks to control spam, worms, and viruses from slowing the delivery of critical messaging and data."); Univ. of Ark. Med. Scis. Comments at 1-2 (filed by Curtis L. Lowery, M.D.) (emphasizing that timely and reliable telemedicine service is necessary for patient care).

<sup>139</sup> See Common Sense Media Comments at 4-5 (suggesting the Plan should "[f]und professional development for educators"; "[c]reate basic resources for educating teachers, parents, and kids"; "[d]eliver education/technology resources in under-served schools and communities"; "[m]ake Digital Literacy and Citizenship essential parts of every school's basic curriculum"; and "[e]nsure strong interagency coordination").

<sup>140</sup> Commenters, including Comcast, also have suggested that the Commission and other agencies determine how broadband Internet services can best be used to facilitate Smart Grid projects. See, e.g., Comcast Comments at 88; Dell, Inc. Comments at 16. In addition, Comcast proposed that the Small Business Administration develop a grant program to help small businesses subscribe to the broadband Internet services they need to survive and grow. See Comcast Comments at 88.

<sup>141</sup> See Sun Fire Group Comments at 3 ("The objectives -- the *concrete* goals that the FCC seeks to achieve -- should be clearly defined and *measurable* so that progress can be monitored and corrections made as needed.") (emphasis in original).

**IV. THE COMMISSION SHOULD REMAIN FOCUSED ON THE GOALS IDENTIFIED BY CONGRESS, AND NOT GET DISTRACTED BY DEBATES OVER INAPPOSITE REGULATORY MODELS AND DATA SOURCES OF LIMITED VALUE.**

A number of parties to this proceeding call for sweeping regulatory actions based on conclusions reached from imperfect data sources, such as the OECD broadband rankings. A wide group of commenters, however, have demonstrated that the OECD data have severe limitations that render them unreliable for Commission decision-making. Similarly, some parties urge that the Plan call for the United States to abandon its pro-competition, pro-investment regulatory policies in favor of more intrusive regulatory paradigms based on those parties' views of the experiences of other countries. A close study of broadband Internet service in other countries, however, shows that no other nation has seen the level of investment and the widespread deployment of multiple facilities-based competitors, and the concomitant consumer welfare that derives from this diversity of platforms, that the United States enjoys.

**A. This Proceeding Should Focus on Delivering the Promise of Broadband to All Americans, Not Relitigating Previous Regulatory Decisions.**

The Commission should resist calls by some commenters to use this proceeding to advance novel legal theories or to revisit well-settled and well-grounded decisions that have proven to be in the public interest.

For instance, Media Access Project has suggested a new and unorthodox reading of the Constitution, arguing that the First Amendment requires the Commission to adopt strong and enforceable nondiscrimination and interconnection regulations.<sup>142</sup> Free Press has proposed that the Commission revisit, and presumably reverse, *every decision* the agency has made regarding

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<sup>142</sup> See MAP Comments at 1, 5-6.

broadband since 1996, and impose resale, wholesale, and unbundling burdens on broadband Internet service providers.<sup>143</sup> But nothing in the record, nor in the purpose of this proceeding, nor in the facts on the ground, justifies such a radical approach to the Plan.

Since the 1990s, various parties have warned that Internet service providers would block access to websites, applications, and other content if the Commission did not enact strict rules governing the conduct of network operators.<sup>144</sup> In 2002, Media Access Project warned that the Commission's order declaring cable modem service an "information service" marked the end of the Internet, and would lead to "censorship and other limitations that will, quite literally, stifle free speech, democratic discourse and artistic expression."<sup>145</sup> Of course, the exact opposite has proven true. Yet some commenters once again raise many of these Cassandra-like predictions and call for unnecessary regulations despite the fact that Americans enjoy vastly more speech and discourse and artistic expression in our society today, thanks to the Internet as it has grown and expanded, than at any other time in our history.<sup>146</sup>

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<sup>143</sup> See Free Press Comments at 26-27, 248-49; see Google Comments at 39.

<sup>144</sup> See, e.g., MindSpring Enters. Comments, CC Docket No. 98-146, at 11 (Sept. 14, 1998).

<sup>145</sup> Press Release, Media Access Project, *Media Access Project Says That FCC Takes Internet Back to the Future* (Mar. 13, 2002) (warning that, if cable companies "don't want their subscribers to say bad things about their local cable tv service, then you won't get to upload them to your web page. If they don't want you comparing prices between them and DBS systems, you won't get to see those pages."), available at <http://www.mediaaccess.org/archive/>.

<sup>146</sup> See, e.g., Free Press Comments at 136 ("Controlling content, vertically integrating and using market power to crush the threat of competitive entry is the path of least resistance -- it is the easiest way for network operators to capture value and increase their profit margins. They have a huge incentive to assert this control, and without nondiscrimination protections, they will do it."); MAP Comments at 6 (claiming that without nondiscrimination requirements, "broadband users will face real and potential constraints which would have a dramatic effect on the exercise of First Amendment rights to speak and to be heard in the marketplace of ideas. Prohibition of access to particular content or content providers or on the ability of devices to network with each other can all interfere with vibrant civic discourse."). More recently, Free Press has induced thousands of individuals to file unsigned form letters predicting that "corporate gatekeepers [will] keep prices high and speeds low, limit access to content and stifle innovation and market choice." See, e.g., Jeff Graver Ex Parte Letter, GN Docket No. 09-51 (July 15, 2009); Lynn Robins Ex Parte Letter, GN Docket No. 09-51 (July 15, 2009).

Internet content, applications, and services have thrived, taking advantage of the broadband speeds enjoyed by many consumers and, in turn, driving demand for more broadband connections and faster speeds. This symbiotic relationship, buttressed by strong consumer demand for access to all the Internet has to offer, ensures that broadband Internet service providers deliver unfettered access to Internet content, applications, and services.<sup>147</sup> And unquestionably this environment is, at least in part, attributable to regulatory decisions that encouraged investment in and deployment of broadband facilities to provide high-speed Internet services.

The goal of the Plan should be to continue to promote investment in broadband networks, not stifle it through burdensome and unnecessary regulations. The Commission needs to adopt policies that encourage private investment in facilities in currently unserved areas, in upgrading networks to next-generation speeds, in increasing bandwidth to meet consumer demand, and in making the Internet more secure.<sup>148</sup> It is well-accepted that heavy-handed regulatory intervention, like the kind suggested by Free Press, discourages the types of private investment

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<sup>147</sup> See Philip Weiser, *The Future of Internet Regulation*, U.C. Davis L. Rev. (forthcoming 2009) (U. Colo. Legal Stud. Res. Paper Series, Working Paper No. 09-02, at 9 (Feb. 2, 2009)) (“[C]ontrary to some of the depictions of network neutrality advocates, it is not generally in the interests of broadband platform providers to undermine the success of the applications that ride on their platforms. Indeed, under many circumstances, the economic incentives of a platform provider are to encourage and embrace development of new applications that will make its platform more valuable.”), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1344757](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1344757). And although there have been occasional disputes about whether certain necessary network management practices somehow impacted consumers’ access to Internet content, applications, and services, those disputes were eventually resolved by the marketplace under close Commission scrutiny. See, e.g., Timothy B. Lee, CATO Institute, *The Durable Internet: Preserving Network Neutrality Without Regulation* 17 (Nov. 12, 2008) (“By the time the FCC released a ruling on Comcast’s behavior in July [sic], the issue had already been rendered a moot point by technological and market developments.”), available at <http://www.cato.org/pubs/pas/pa-626.pdf>.

<sup>148</sup> See Verizon Comments, Declaration of Michael L. Katz at 5 ¶ 6 (“Absent investment, the infrastructure will not exist. . . . [M]any tens of billions of dollars of additional investment will be needed in order to reach the point where broadband services are ubiquitously available to Americans by a means other than satellite.”); see also *Broadband Plan Presentation*, supra note 74, at 6 (noting that the core objective of the Plan is to “Ensure that all people of the United States have access to broadband capability”).

that the Commission will want network operators to make in the coming years.<sup>149</sup> “[I]f open network practices destroy economic value for network operators, then a regulatory policy that imposes those open network practices on network operators will very likely reduce network investment and, consequently, harm consumers.”<sup>150</sup> As the National Association of Neighborhoods warns, “The FCC’s plan should maintain private sector participation so prices can remain low and more Americans can afford broadband service. It is our concern that prices will rise, leaving consumers with higher bills, if private sector providers do not see the value of investment.”<sup>151</sup>

**B. The Commission Should Be Wary of Misleading Comparisons to Other Countries’ Broadband Situations.**

Proponents of greater government regulation have pointed to other countries’ regulatory frameworks to attempt to prove that more regulation has led to higher broadband adoption in those countries.<sup>152</sup> The Commission should approach such assertions with significant skepticism. First, these arguments rely heavily on data collected by the OECD in 2007.<sup>153</sup> As

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<sup>149</sup> See Verizon Comments, Declaration of Michael L. Katz at 13 ¶ 26 (“[C]onsider the investment effects of public policies that mandate various forms of infrastructure sharing. . . . [M]andatory sharing can discourage both substitute investment and investment by the network providers subject to the mandatory sharing requirements.”); Thomas Hazlett & Anil Caliskan, *Natural Experiments in U.S. Broadband Regulation*, George Mason U.L. & Econ. Res. Paper Series, No. 08-04, at 9 (2008), at [http://ssrn.com/abstract\\_id=1093393](http://ssrn.com/abstract_id=1093393).

<sup>150</sup> See Verizon Comments, Declaration of Michael L. Katz at 12 ¶ 23.

<sup>151</sup> Nat’l Ass’n of Neighborhoods Comments at 1; see Consumers for Competitive Choice Comments at 1 (“Imposing unprovoked regulations on the Internet is a solution in search of a problem. Consumers will benefit the most if the FCC uses this opportunity to shape our nation’s broadband policy in a manner that encourages investment, innovation[,] and deployment.”).

<sup>152</sup> See Free Press Comments at 22 (“OECD countries with open access policies have broadband penetration levels nearly twice that of countries without these policies.”).

<sup>153</sup> See *id.* at 33 n.28. As Free Press’s discussion of the various international broadband reports and rankings makes clear, see *id.* at 33 n.29, the reliability of the data in those reports and rankings is highly suspect. Not only do different organizations utilize different criteria and arrive at different conclusions than one another, “[a]dding to the confusion,” policymakers refer to the findings of reports and rankings that vary even from other reports and rankings issued by the same organization. *Id.*

Comcast and others have shown, the OECD data are deeply flawed for a number of reasons, including the imperfect data collection methodology, the reliance on a *per capita* penetration metric, and the exclusion of business and wireless broadband connections.<sup>154</sup> Second, because there are so many variables between countries, particularly with regard to each country's existing broadband marketplace and other, non-regulatory steps that countries have taken to promote deployment and adoption, it is impossible to establish causation between a country's regulatory regime and its level of broadband adoption.

### **1. The Flaws of OECD Data and Other International Comparisons Limit Their Applicability to U.S. Broadband Policy.**

The OECD broadband-penetration ranking is the most frequently cited international assessment of broadband adoption. Before making any policy decisions based on these data, however, it is critical to understand their flaws and limitations. Some of the primary problems with the OECD data cited in the initial round of comments include:

- OECD does not verify all of the data it gathers directly from member country governments or harmonize the different data-collecting or -reporting methods those governments use.<sup>155</sup>
- OECD reports broadband penetration on a per-capita basis (rather than the more useful per-household basis), penalizing countries like the United States with larger household sizes.<sup>156</sup> The weakness of this method is highlighted by Professor Wallsten's observation that, "[i]n 2006 (before consumers started cutting their

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<sup>154</sup> See generally Comcast Comments, Appendix: *Analysis of International Broadband & Technology Rankings & Reports*; Hahn & Wallsten Comments at 2.

<sup>155</sup> See Comcast Comments app. at 4; Market Clarity, *Broadband Wars: The OECD's International Broadband Arms Race* 22 (May 23, 2007), available at <http://www.marketclarity.com.au/freebies/OECD-BB-Wars-23-May-2007.pdf>.

<sup>156</sup> See Hahn & Wallsten Comments at 2; Comcast Comments app. at 5; see also Commissioner Robert McDowell, FCC, Introductory Remarks at the Phoenix Center Workshop, *Understanding Broadband Metrics: The Broadband Adoption Index* 3 (July 15, 2009) ("July 15, 2009 Commissioner McDowell Remarks") ("[O]ne of the many concerns with the OECD's study is that it does not rank on a per household basis, which creates a statistical disadvantage for counties with larger household sizes.").

landlines in significant numbers), the U.S. ranked 45<sup>th</sup> in the world by this metric, despite 95 percent of all U.S. households having a telephone.”<sup>157</sup>

- OECD omits high-capacity broadband services serving businesses and wireless broadband, does not measure consumer use at work or universities, and makes no distinction between casual broadband use and intensive daily use.<sup>158</sup>

In addition to concerns about OECD’s methodology and the completeness of its data, it is impossible to draw conclusions about another country’s broadband Internet adoption based on its regulatory framework. There are many non-governmental factors that can play an important role in broadband adoption. For example, broadband Internet service availability may be affected by a country’s geography, the concentration of the population in urban areas, and other factors related to the costs of deploying broadband networks.<sup>159</sup> The OECD ranking also does not include analysis of factors related to broadband usage, including income, age, access to computers, and education level.<sup>160</sup> As other studies highlight, broadband penetration is very much affected by a variety of economic, geographic, and demographic factors.<sup>161</sup> For Free Press

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<sup>157</sup> Scott Wallsten, Tech. Policy Inst., *Understanding International Broadband Comparisons, 2009 Update 3* (June 2009) (“Wallsten 2009 International Comparisons”), available at <http://www.techpolicyinstitute.org/files/international%20broadband%20comparisons%202009%20update%20final.pdf>.

<sup>158</sup> See Hahn & Wallsten Comments at 2, 13; Comcast Comments app. at 5. Free Press claims that these flaws in the OECD analysis are nothing more than “mere diversions” and points to Iceland, which “has one of the lowest population densities in the world, but . . . has the fifth-highest broadband penetration in the OECD,” as evidence. See Free Press Comments at 37 n.35. Free Press conveniently disregards the fact that Iceland has a population of little more than 300,000 (less than any state in the United States) on an island that is less than 40,000 square miles (approximately the size of Kentucky), a substantial portion of which is “uninhabited (and uninhabitable), and most centres of population are situated on the coast.” See Iceland Tourist Bd., *Facts About Iceland*, at [http://www.icetourist.is/displayer.asp?cat\\_id=269](http://www.icetourist.is/displayer.asp?cat_id=269) (last visited July 16, 2009). In fact, 92 percent of Iceland’s population is located in urban areas. See CIA, *Europe: Iceland*, World Factbook, available at <https://www.cia.gov/library/publications/the-world-factbook/geos/IC.html>.

<sup>159</sup> See Comcast Comments app. at 6.

<sup>160</sup> See *id.*

<sup>161</sup> See *id.* at 7 (citing George S. Ford et al., *The Broadband Efficiency Index: What Really Drives Broadband Adoption Across the OECD?* 4, Phoenix Center Policy Paper No. 33 (May 2008), at <http://www.phoenix-center.org/pcpp/PCPP33Final.pdf>). In fact, some studies suggest that these factors explain 91 percent of the differences in broadband subscription rates for the 30 OECD countries. *Id.* at 7. Free Press’s own public statements conflict with its assertion that E.U. unbundling regulations alone cause broadband adoption rate differences. For  
(footnote continued...)

to point to government regulatory policies as the primary basis for the distinctions in adoption is unproven and misplaced.

Without enhancements, additional data gathering, and methodological improvements, the OECD data cannot be reasonably relied upon to make far-reaching regulatory decisions.<sup>162</sup> In fact, using the OECD data and methodology, even if 100 percent of American households adopted broadband Internet service, and the same were to occur in other OECD nations, the United States would still rank only 18<sup>th</sup> in the world in broadband penetration.<sup>163</sup> Thus, as Commissioner McDowell observed, “As a result, those who tout the OECD’s findings are doomed to fail at the hands of the very methodology they promote today – no matter what future U.S. policies may actually produce.”<sup>164</sup>

## **2. The U.S. Broadband Internet Marketplace Has Benefited from Intermodal Competition That Promotes Broadband Investment and the Deployment of Facilities.**

Urging their preference for a regulatory regime that was designed and developed for the regulation of conduct by a single dominant network facing little or no competition, some commenters ask the Commission to extend to all broadband Internet providers unbundling rules like those that Congress imposed on ILECs in the 1996 Act. Based on a skewed interpretation of regulation in other countries, these commenters are essentially asking the Commission to ignore

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example, Free Press notes that “geographic factors alone cannot explain why the United States lags behind. Factors like income, poverty, market competition and public policy play a far bigger role.” S. Derek Turner, Free Press, *‘Shooting the Messenger,’ Myth vs. Reality: U.S. Broadband Policy and International Broadband Rankings* 13 (July 2007).

<sup>162</sup> See Comcast Comments at 30; Hahn & Wallsten Comments at 2.

<sup>163</sup> Hahn & Wallsten Comments at 2; Comcast Comments at 30 n.74; see also Wallsten 2009 *International Comparisons*, *supra* note 157, at 3 (“[B]ecause the U.S. per capita rank will ultimately decrease over time, any policy will appear to fail if success is measured by per capita rank.”).

<sup>164</sup> July 15, 2009 Commissioner McDowell Remarks at 3.

the fact that the U.S. broadband marketplace largely has been a success delivering tremendous consumer benefits.<sup>165</sup> When the former AT&T (and later its progeny) had unchallenged monopolies in the market for last mile telephone service, such regulations were rational. Today, however, the vast majority of households have the option of *at least two*, and often *more than two*, facilities-based providers of broadband Internet service.<sup>166</sup> It is axiomatic that “the traditional model of common carriage -- premised on prescriptive rules, enforced by filings of tariffs, and often accompanied by rate regulation -- is ill-suited to the Internet’s dynamic and more competitive nature.”<sup>167</sup>

Unlike the intermodal competition in the United States – competition between two or more separate network operators – under the intramodal competition model dominant in Europe, the service is delivered over the same copper facilities of a single network, with the same fixed costs and same network capabilities regardless of which company provides the broadband Internet service to the end-user. Notably, almost all of the countries relying on *intramodal* competition have relatively little *intermodal* competition for broadband Internet services. For example, the vast majority of E.U. broadband subscribers use DSL, often provided by their country’s incumbent telephone carrier, such as France Télécom-Orange, Deutsche Telekom, and

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<sup>165</sup> See Public Knowledge Comments at 21.

<sup>166</sup> See Verizon Comments at 22.

<sup>167</sup> Weiser, *The Future of Internet Regulation*, *supra* note 147, at 5; *see id.* at 6 (“To be sure, the monopoly concerns of yesteryear do not justify the imposition of traditional common carrier regulation on Internet networks.”); Randolph J. May, *Deconstructing “Dismantling Digital Deregulation” Part II*, at 4 (May 22, 2009) (“It is possible to have a discussion about the extent to which existing and potential competitive forces presently operate in the broadband marketplace, but no one can reasonably maintain today’s landscape resembles the monopolistic one that prevailed at the time of *Computer II*.”), available at [http://www.freestatefoundation.org/images/Deconstructing\\_Dismantling\\_Deregulation\\_II.pdf](http://www.freestatefoundation.org/images/Deconstructing_Dismantling_Deregulation_II.pdf).

British Telecom.<sup>168</sup> The broadband marketplace in the United States, by contrast, is split almost evenly between DSL and cable providers, with ever-growing competition from fiber and wireless.<sup>169</sup>

These differences create two challenges for any cross-country comparisons. First, because European broadband is largely DSL, Free Press appears to rely solely on DSL penetration in its comparative analysis (presumably in an effort to make an apples-to-apples comparison). But this means that Free Press's analysis ignores adoption using all other broadband technologies, such as cable broadband, fiber-delivered broadband, and wireless broadband, which would logically be included in any comparative analysis involving countries with intermodal competition.<sup>170</sup> Because Free Press did not identify which countries it analyzed

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<sup>168</sup> In 2008, DSL accounted for approximately 79 percent of E.U. broadband market share versus cable's 16 percent. Parks Assocs., Industry Report, *Broadband Services: Global Outlook 19* (May 2009) ("*Parks Assocs. Report*"). This represents little change from 2004, when DSL accounted for approximately 78 percent of E.U. broadband market share. See J. Scott Marcus, *Broadband Adoption in Europe*, IEEE Communications Mag. (Apr. 2005). Factoring in Central and Eastern European countries might increase cable's market share somewhat, as cable has between 20 and 40 percent of market share in the Czech Republic, Hungary, Austria, and Poland. It is also important to note that, within the E.U., marketplace conditions often differ significantly by country. Belgium, for example, has a relatively high rate of cable broadband penetration as compared to other E.U. countries. Robert D. Atkinson et al., Info. Tech. & Innovation Found., *Explaining International Broadband Leadership* 36, tbl. 6 (May 2008) ("*Explaining International Broadband*") (reflecting cable's share of the Belgian broadband marketplace at 39 percent), available at <http://www.itif.org/files/ExplainingBBLLeadership.pdf>. France, in contrast, has relatively little. *Id.* (reflecting cable's share of the French broadband marketplace at 5 percent). The result of these differences is that Free Press's comparison of "EU countries" or "countries with line sharing and bitstream access" to the United States is difficult, akin to comparing apples and oranges. Where DSL constitutes the majority of the broadband marketplace, the E.U. local loop unbundling regulation likely will have more significant effect than where cable has greater market share.

<sup>169</sup> See Verizon Comments at 22 ("The United States is one of only a handful of countries in the world – and, with Canada, one of only two G-8 countries – where *two* wireline broadband platforms (cable and DSL) are available to the vast majority of households. The U.S. also is one of only a handful of countries – and the only large country – where private companies are investing to deploy next-generation fiber broadband networks on a large scale.") (emphasis in original); *Parks Assocs. Report*, *supra* note 168, at 23.

<sup>170</sup> Free Press's praise of the United Kingdom's broadband regulatory framework is based solely on intramodal competition between DSL providers. See Free Press Comments at 34 n.31. Free Press overlooks the presence of cable Internet competition from Virgin Media in parts of Britain. Virgin's broadband Internet service, which is not subject to unbundling requirements, was deployed as an alternative to the slower services offered by DSL and is now available to 11 million households and purchased by more than 3.6 million of those households. *Digital Britain Final Report*, *supra* note 94, at 60. Free Press's use of the United Kingdom as a model for broadband policy is  
(footnote continued...)

or what types of broadband it included in its analysis other than indicating that its tables show “Broadband Penetration and Open Access Policy, Average DSL Penetrations of Countries by Regulation Type, June 2008,” it is impossible to know for sure.<sup>171</sup>

Second, Free Press suggests a correlation between intramodal-oriented regulations and broadband penetration. But it remains unclear if such intramodal-oriented regulations would significantly impact household penetration rates in the United States given our more robust intermodal competition. In fact, intramodal unbundling and “open access” regulations may actually *impede* deployment of cable or fiber-based broadband facilities. As Professor Michael Katz notes, “Several empirical studies have concluded that mandatory infrastructure sharing fails to stimulate investment in competitive facilities and, in some circumstances, even reduces it.”<sup>172</sup> Professor Wallsten found that “countries that rely more on unbundled lines to provide broadband see *less investment* by incumbents in fiber than countries that rely less on unbundled lines and more on facilities-based entry.”<sup>173</sup> And the recently released *Digital Britain Final Report* noted,

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doubly strange because of Free Press’s full-throated opposition to and criticism of metered usage and the targeted management of P2P protocols, both of which are the accepted norm in the U.K. and consistent with its regulatory policy (like most other countries that mandate unbundling, e.g., France, Japan, etc.). *See, e.g.*, British Telecom, *BT Total Broadband Fair Usage Policy* (imposing monthly usage allowances of 10 GB and 20 GB on its lowest and midtier services, with charges of £1 for each GB over, and expressly noting that it “treat[s] P2P traffic differently from time-critical traffic (such as surfing, streaming or internet telephony) and appl[ies] speed restrictions to all P2P traffic at peak times”), at [http://bt.custhelp.com/cgi-bin/bt.cfg/php/enduser/cgi/bt\\_adp.php?p\\_faqid=10495&cat\\_lv1=346&p\\_cv=1.346&p\\_cats=346](http://bt.custhelp.com/cgi-bin/bt.cfg/php/enduser/cgi/bt_adp.php?p_faqid=10495&cat_lv1=346&p_cv=1.346&p_cats=346) (last visited July 21, 2009).

<sup>171</sup> We can only assume that this is the comparison Free Press makes in Figure 16 of its comments. We cannot be certain, however, because Free Press did not identify the countries it examined (neither those it identified as regulated nor those it considered unregulated), the specific regulations it purported to consider, or the countries that have adopted those regulations.

<sup>172</sup> *See* Verizon Comments, Declaration of Michael L. Katz at 15 ¶ 30.

<sup>173</sup> Scott J. Wallsten & Stephanie Hausladen, Tech. Policy Inst., *Net Neutrality, Unbundling, and Their Effects on International Investment in Next-Generation Networks*, 8 Rev. of Network Econ. 90, 102 (March 2009) (emphasis added), available at [http://www.techpolicyinstitute.org/files/wallsten\\_unbundling\\_march\\_2009.pdf](http://www.techpolicyinstitute.org/files/wallsten_unbundling_march_2009.pdf).

“as we look to move to the next generation of services, with higher data rates, increased symmetry and resilience and lower latency, the business case for investment is very different to the current generation.”<sup>174</sup> “[A]lthough proactive unbundling policies may have spurred broadband DSL adoption in some countries, aggressive unbundling policies, particularly of next-generation networks . . . , run the risk of limiting investment by both incumbents and competitors in these networks and may result in what might be termed modest-speed ‘DSL cul-de-sacs’ on their relatively short copper loops.”<sup>175</sup> One specific case in point: Professor William Webb, Head of Research and Development and Senior Technologist for the U.K.’s Ofcom, has noted that unbundling requirements have left British Telecom with a limited incentive to build out fiber or increase speeds.<sup>176</sup>

Not surprisingly, “the cross-country literature on the effects of unbundling largely concludes that inter-platform competition is more effective in stimulating new investment than is intra-platform competition.”<sup>177</sup> Moreover, although intramodal competition may initially increase broadband penetration, these studies go on to suggest that this effect dissipates over time.<sup>178</sup> Promotion of intermodal competition has long been Congress’s and the Commission’s goal and is a preferable public policy.<sup>179</sup> Accordingly, there is no sound basis to conclude that

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<sup>174</sup> *Digital Britain Final Report*, *supra* note 94, at 50.

<sup>175</sup> Atkinson, et al., *Explaining International Broadband Leadership*, *supra* note 168, at viii.

<sup>176</sup> See Philip J. Weiser, Aspen Inst., *A Framework for a National Broadband Policy* 21 (2008), available at [http://www.aspeninstitute.org/sites/default/files/content/docs/pubs/A\\_Framework\\_for\\_a\\_National\\_Broadband\\_Policy\\_0.pdf](http://www.aspeninstitute.org/sites/default/files/content/docs/pubs/A_Framework_for_a_National_Broadband_Policy_0.pdf); see also *Park Assocs. Report*, *supra* note 168, at 20 (“France Telecom, thus far has been hesitant to invest heavily in [fiber-to-the-home] primarily because of lack of regulatory direction on how unbundling mandates will affect the fiber infrastructure.”).

<sup>177</sup> Wallsten & Hausladen, *supra* note 173, at 102.

<sup>178</sup> See *Wallsten 2009 International Comparisons*, *supra* note 157, at 3.

<sup>179</sup> See *Reconsidering Our Communications Laws: Ensuring Competition and Innovation: Hearing Before the S. Comm. on the Judiciary*, 109<sup>th</sup> Cong. 6 (2006) (statement of Blair Levin, Managing Director, Stifel, Nicolaus (footnote continued...))

the regulatory frameworks adopted in other countries, which largely serve to promote intramodal competition, would be anything other than a step backward for the U.S. broadband Internet marketplace.

Notwithstanding the above, there are lessons to be learned from the efforts of other nations in promoting broadband adoption through targeted subsidies and demand-enhancement programs. In Sweden and the Netherlands, for example, the governments took steps to directly encourage significant private-sector investment in network infrastructure. Sweden provided financial incentives, including grants and tax relief packages, to stimulate broadband deployment in rural areas, and also provided tax deductions to companies buying personal computers for their employees' personal use.<sup>180</sup> In the Netherlands, the government provided grants for research on next-generation networks as part of its goal of achieving the highest broadband penetration rate in the world by 2010.<sup>181</sup> For its part, the Dutch government announced in 2006 that it intended to give all Dutch citizens a personalized Internet page where citizens could access their government documents, social security and tax information, and grant and license applications.<sup>182</sup>

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Congress's goal in tasking the Commission to prepare the National Broadband Plan was to develop a broad consensus on focused, achievable goals to make broadband Internet service

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& Co.) ("Given where we are, it is likely that the only way to drive more, bigger, cheaper, and ubiquitous broadband is through new, probably wireless, broadband facilities."), available at [http://judiciary.senate.gov/hearings/testimony.cfm?id=1937&wit\\_id=5421](http://judiciary.senate.gov/hearings/testimony.cfm?id=1937&wit_id=5421).

<sup>180</sup> See Atkinson, *Explaining International Broadband*, supra note 168, at G2, G4 (citing Martin Fransman, ed., *Global Broadband Battles: Why the U.S. and Europe Lag While Asia Leads* 243 (2006)).

<sup>181</sup> See *id.* at E1-E2.

<sup>182</sup> See *id.* at E3.

even more available and useful for Americans. This is not the proceeding for parties to promote regulatory agendas that do not accomplish this goal. Moreover, parties seeking the abandonment of the Commission's decade-old, pro-intermodal competition, and pro-investment regulatory policies have a high bar to overcome in light of the successes to date, and they have failed to clear that bar.

## V. CONCLUSION

The initial comments left no doubt that, under a pro-competition, pro-investment regulatory regime, deployment and adoption of broadband Internet services in the United States to date largely has been a success. The record shows that targeted government efforts can further the goals of ubiquitous broadband Internet deployment and widespread adoption, and it includes numerous constructive proposals highlighted hereinabove and in the comments that are likely to lead to continued success. We urge the Commission to maintain its commitment to an open and transparent process; we look forward to the opportunity to comment on a draft Plan; and we stand ready to assist the Commission in the goal of making America the most-connected nation on Earth.

Respectfully submitted,

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