

ONE HUNDRED FOURTEENTH CONGRESS  
**Congress of the United States**  
**House of Representatives**  
COMMITTEE ON ENERGY AND COMMERCE  
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**MEMORANDUM**

**July 20, 2015**

**To: Subcommittee on Communications and Technology Democratic Members and Staff**  
**Fr: Committee on Energy and Commerce Democratic Staff**  
**Re: Subcommittee Hearing on “Promoting Broadband Infrastructure Investment”**

On Wednesday, July 22, 2015, at 2:30 p.m. in room 2322 of the Rayburn House Office Building, the Subcommittee on Communications and Technology will hold a hearing entitled “Promoting Broadband Infrastructure Investment.”

Without question, broadband is rapidly becoming a fundamental part of everyday life and ensuring its deployment and accessibility to all Americans is essential. Statistics indicate that the U.S. continues to lag in 16<sup>th</sup> place in the world for wired broadband penetration,<sup>1</sup> and reports show that penetration rates have slowed over the last few years in comparison with other developed nations.<sup>2</sup> Additionally, as of December 31, 2013, data indicates that 17% of Americans (or approximately 55 million people) live in areas unserved by a 25 Megabits per second (Mbps) upload/3 Mbps download or higher broadband service.<sup>3</sup> The 25 Mbps/3 Mbps capability is unavailable to 8% of Americans living in urban areas, compared to 53% living in rural areas and 63% living on Tribal lands and in the U.S. Territories.<sup>4</sup>

While efforts have been made in recent years to increase deployment through private investment, Federal grant programs, and modifications to existing programs under the Federal Communications Commission (FCC), more needs to be done to promote additional buildout of broadband services in order to remain competitive in the evolving digital economy.

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<sup>1</sup> See OCED Chart for Total fixed and wireless broadband subscriptions by country (June 2014) (online at [www.oecd.org/sti/broadband/oecdbroadbandportal.htm](http://www.oecd.org/sti/broadband/oecdbroadbandportal.htm)).

<sup>2</sup> See <http://broadbandnow.com/report/2013-broadband-penetration/#note-24-1>.

<sup>3</sup> See *2015 Broadband Progress Report and Notice of Inquiry on Immediate Action to Accelerate Deployment*, GN Docket No. 14-126, FCC 15-10, at ¶ 4 (rel. Feb. 4, 2015).

<sup>4</sup> *Id.* at ¶ 5.

## **I. BACKGROUND**

### **A. Private Investment**

The broadband industry continues to invest billions of dollars in broadband networks on a yearly basis. According to USTelecom, in 2013, cable, wireline, and wireless companies spent \$75 billion in 2013, with a total of over \$1.3 trillion spent since 1996.<sup>5</sup> On the wireless side, CTIA's annual survey indicates that wireless providers had \$32.1 billion in capital expenditures in 2014.<sup>6</sup> The FCC reported that wireless broadband investment likely will continue at a rate of approximately \$35 billion a year from 2013 to 2017.<sup>7</sup>

Of the thousands of Internet providers in the U.S., increasing numbers are providing service through fiber-optic cable, which provides faster speeds over longer distances than traditional copper-based DSL and cable technologies.<sup>8</sup> For example, Google Fiber is offering 1 Gigabit per second (Gbps) service in select cities with expansion plans in the works.<sup>9</sup> Reports estimate that Google spent \$84 million to provide its service to its first city, Kansas City, and that it would cost \$140 billion to build a nationwide fiber-optic network.<sup>10</sup> The cost to consumers for Google Fiber generally is \$70 per month for Internet-only 1 Gbps service, with an option for free monthly basic Internet service for 7 years for a one-time \$300 fee.<sup>11</sup>

### **B. Federally-Funded Grant Programs**

#### **1. Broadband Technology Opportunities Program**

The American Recovery and Reinvestment Act appropriated \$4.7 billion for NTIA to establish the Broadband Technology Opportunities Program (BTOP) to increase broadband access and adoption; provide training and support to schools, libraries, healthcare providers, and other organizations; improve broadband access to public safety organizations; and stimulate demand for broadband.<sup>12</sup> Since 2009, NTIA has invested approximately \$4 billion in 233

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<sup>5</sup> See <http://www.ustelecom.org/broadband-industry/broadband-industry-stats/investment> (accessed July 9, 2015).

<sup>6</sup> See <http://www.ctia.org/your-wireless-life/how-wireless-works/annual-wireless-industry-survey> (accessed July 9, 2015).

<sup>7</sup> See *2015 Broadband Progress Report* at ¶ 15.

<sup>8</sup> See <http://broadbandnow.com/Fiber>.

<sup>9</sup> Google Fiber currently offers service in Austin, Kansas City, and Provo, UT. "Upcoming" fiber cities include Atlanta, Charlotte, Nashville, Raleigh-Durham, and Salt Lake City. "Potential" Google Fiber cities include San Antonio, Phoenix, San Jose, and Portland. See <https://fiber.google.com/newcities>.

<sup>10</sup> See <http://www.businessinsider.com/the-cost-of-building-google-fiber-2013-4>.

<sup>11</sup> See <https://support.google.com/fiber/answer/2657118?hl=en>. Consumers also have the option to subscribe to Internet plus TV/video option for approximately \$120-130 per month (based on location).

<sup>12</sup> National Telecommunications & Information Administration, Broadband Technology Opportunities Program (BTOP) Quarterly Program Status Report (May 2015).

projects and \$293 million in 56 State Broadband Initiative projects.<sup>13</sup> Since the program began, BTOP grant recipients have deployed more than 113,963 miles of new or upgraded network infrastructure, connected approximately 25,446 community anchor institutions, and generated 671,000 new broadband subscribers.<sup>14</sup> As of the end of 2014, 212 projects had been completed and 67 remain active.<sup>15</sup>

A recent report by ASR Analytics concluded that the BTOP program has resulted in billions of dollars in economic benefits to the communities served, including increased economic output and higher levels of employment.<sup>16</sup> Specifically, the report noted that workforce and economic development objectives have been successfully met, with 79,000 year-long jobs resulting directly from BTOP investment and access to broadband helping community residents with job searching and growing small businesses.<sup>17</sup> According to the report, more than 64,000 new business broadband subscriptions produced nearly \$63 million worth of productivity benefits.<sup>18</sup> Furthermore, the report found that every dollar of BTOP money spent produced \$2.81 in economic output.<sup>19</sup>

## **2. Broadband Initiatives Program**

In 2009, as part of the American Recovery and Reinvestment Act, Congress provided the Department of Agriculture's Rural Utility Service (RUS) with \$2.5 billion to expand access to broadband services in rural America through the Broadband Initiatives Program (BIP).<sup>20</sup> With the expanded authority from the Recovery Act, RUS maximized its efforts by making grants, loans, and loan/grant combination awards, and has granted over \$2.33 billion in grants and \$1.19 billion in loans to 320 BIP projects.<sup>21</sup> Of the original projects, RUS indicates that 297 (92%) were for infrastructure,<sup>22</sup> and of those, as of March 31, 2015, 248 were complete or partially operational.<sup>23</sup> Additionally, based on reports from awardees, RUS estimates that 64,794 miles of

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<sup>13</sup> *Id.*

<sup>14</sup> *Id.*

<sup>15</sup> *Id.*

<sup>16</sup> ASR Analytics, Broadband Technology Opportunities Program Evaluation Study (Sept. 15, 2014).

<sup>17</sup> *Id.*

<sup>18</sup> *Id.*

<sup>19</sup> *Id.*

<sup>20</sup> American Recovery and Reinvestment Act, at 118.

<sup>21</sup> *Id.* Note: Due to program oversight, RUS indicated that it has rescinded 42 awards with a total of \$325 million returned to the Treasury after over the life of the program.

<sup>22</sup> *Id.*

<sup>23</sup> *Id.* at 3. RUS reported that 68 projects were complete, with the remaining 180 partially operational as of Mar. 31, 2015.

fiber have been deployed, 1,845 wireless access points placed, and 230,323 broadband subscribers receiving new or improved service.<sup>24</sup>

## **Other Federal Initiatives**

### **1. Broadband Deployment on Federal Property**

On June 14, 2012, President Obama released Executive Order 13616 to help facilitate broadband deployment on Federal lands, buildings, and rights of way, federally assisted highways, and Tribal lands.<sup>25</sup> EO 13616 noted that the Federal Government “controls nearly 30 percent of all land in the United States, owns thousands of buildings, and provides substantial funding for State and local transportation infrastructure” which provides additional ways to help expand broadband infrastructure,<sup>26</sup> and established the Broadband Deployment Federal Property Working Group to coordinate the effort. The Working Group provided a progress report to the Steering Committee on Federal Infrastructure Permitting and Review Process Improvement in August 2013. The report noted progress in “1) coordinating consistent and efficient Federal broadband procedures, requirements, and policies; 2) improving efficiency by coordinating use of one or more uniform contract, application, and permit terms (related to broadband infrastructure deployment); and 3) fostering deployment of conduit for broadband facilities in conjunction with Federal or federally assisted highway construction (i.e. “Dig Once”).”<sup>27</sup> The Working Group indicated it would continue to collaborate to implement additional actions, including efforts to incorporate “Dig Once”-related best practices and policies into broadband projects using highway rights-of-way.<sup>28</sup>

The concept of “Dig Once” has been a subject of Congressional interest in the past. The most recent example was the “Broadband Conduit Deployment Act of 2011” (H.R. 1695 – 112<sup>th</sup> Congress), introduced by Rep. Eshoo. The bill would require the Department of Transportation to construct broadband conduits in certain highway construction projects, and provide broadband providers access to those conduits on a neutral, non-discriminatory, and cost-based rate.

### **2. Broadband Opportunities Council**

On March 23, 2015, President Obama released a Memorandum on broadband deployment and adoption that addresses regulatory barriers to encourage investment and training by establishing the Broadband Opportunity Council (BOC).<sup>29</sup> The BOC, co-chaired by the

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<sup>24</sup> *Id.*

<sup>25</sup> Accelerating Broadband Infrastructure Deployment, Executive Order 13616, 77 Fed. Reg. 36903 (June 14, 2012).

<sup>26</sup> *Id.*

<sup>27</sup> Implementing Executive Order 13616: Progress on Accelerating Broadband Infrastructure Deployment (Aug. 2013) at 2 (online at [https://www.whitehouse.gov/sites/default/files/microsites/ostp/broadband\\_eo\\_implementation.pdf](https://www.whitehouse.gov/sites/default/files/microsites/ostp/broadband_eo_implementation.pdf)).

<sup>28</sup> *Id.* at 14.

<sup>29</sup> Memorandum for the Heads of Executive Departments and Agencies, Expanding Broadband Deployment and Adoption by Addressing Regulatory Barriers and Encouraging Investment and Training (*Expanding Broadband Presidential Memorandum*) (Mar. 23, 2015)

Secretaries of Commerce and Agriculture,<sup>30</sup> is directed to consult with the FCC and other stakeholders to identify and assess regulatory barriers and opportunities to determine possible actions.<sup>31</sup> The BOC is required to provide a report on “a coordinated and agreed prioritized list of recommendations on actions that agencies can take to support broadband deployment and adoption” by August 20, 2015.<sup>32</sup>

### **C. Municipal Broadband Initiatives**

Broadband networks that are wholly or partially-owned by local governments also can help increase access and competition, as well as provide additional consumer choice. Many towns and cities have attempted to build out such services,<sup>33</sup> but 20 states have imposed prohibitions or restrictions on public entities providing communications services.<sup>34</sup> In January, President Obama announced a plan to promote broadband competition that calls for the end of state laws that stifle new competition from municipalities seeking to provide broadband service, and establishes BroadbandUSA, a program through the Department of Commerce that will offer online and in-person technical assistance to communities.<sup>35</sup> In February 2015, the FCC adopted a Memorandum Opinion and Order that found state laws in North Carolina and Tennessee were barriers to broadband deployment, investment and competition, and used its preemption authority under the Communications Act to allow a community broadband provider in those states to expand its broadband service to areas previously excluded by state law.<sup>36</sup> The same day of the FCC vote, Rep. Blackburn introduced the “States’ Rights Municipal Broadband Act” (H.R. 1106) which would prohibit the FCC from preempting state laws regarding the provision of broadband internet access services.

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(online at <https://www.whitehouse.gov/the-press-office/2015/03/23/presidential-memorandum-expanding-broadband-deployment-and-adoption-addr>).

<sup>30</sup> *Id.* Additional members of the BOC include representatives from all of the other Executive Branch departments, as well as the EPA, GSA, SBA, Institute of Museum and Library Services, NSF, Council on Environmental Quality, OSTP, OMB, the Council of Economic Advisers, the Domestic Policy Council, the National Economic Council, National Security Council staff, and any other Federal agencies or entities as necessary.

<sup>31</sup> *Id.*

<sup>32</sup> *Id.*

<sup>33</sup> Community-Based Broadband Solutions: The Benefits of Competition and Choice for Community Development and High-Speed Internet Access, The Executive Office of the President, at 13 (Jan. 2015).

<sup>34</sup> See State Restrictions on Community Broadband Services or Other Public Communications Initiatives (as of June 1, 2015), The Baller Herbst Law Group.

<sup>35</sup> Community-Based Broadband Solutions at 18-19.

<sup>36</sup> See *City of Wilson, North Carolina Petition for Preemption of North Carolina General Statute Sections 160A-340 et seq., The Electric Power Board of Chattanooga, Tennessee Petition for Preemption of a Portion of Tennessee Code Annotated Section 7-52-601, Memorandum Opinion and Order*, FCC 15-25 (Rel. Mar. 12, 2015).

## D. FCC Actions

The Telecommunications Act of 1996 modified the mission of the FCC to “encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans.”<sup>37</sup> Additionally, in 2009, as part of the Recovery Act, Congress directed the FCC to create a National Broadband Plan in order to ensure that all Americans have access to broadband.<sup>38</sup> The FCC released its plan on March 17, 2010, and has taken numerous steps in recent years to increase broadband deployment. Some of the major actions are described below:

- **Connect America Fund:** In October 2011, the FCC unanimously approved comprehensive reforms of the Universal Service Fund (USF) and intercarrier compensation systems by creating the Connect America Fund (CAF) that is intended to extend broadband infrastructure over a six year period to approximately 7 million of rural Americans who lack access to broadband.<sup>39</sup> Carriers receiving CAF support must build out broadband to 40% of funded locations by the end of 2017, 60% by the end of 2018, and 100% by the end of 2020.<sup>40</sup> In April 2014, the FCC announced that it had (1) dispersed more than \$438 million in CAF Phase I funding which will provide new broadband service to more than 1.6 million unserved Americans within the next few years, (2) invested \$300 million to expand advanced mobile wireless service, and (3) invested \$50 million for better mobile voice and broadband on Tribal lands.<sup>41</sup> According to the FCC, phase II of the CAF will provide nearly \$10 billion over the next five years to expand broadband service in rural areas.<sup>42</sup> On June 16, 2015, the FCC announced that Frontier Communications accepted \$238.4 million from the CAF to expand and support broadband to over 1.3 million of its rural customers in 28 states.<sup>43</sup>
- **Mobility Fund:** Included as part of the USF-CAF reforms, the Mobility Fund is intended to expand advanced mobile broadband access to tens of thousands of road miles, and includes dedicated support for Tribal areas.<sup>44</sup> The FCC completed the first Mobility Fund

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<sup>37</sup> Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56, §706 (Feb. 8, 1996).

<sup>38</sup> American Recovery and Reinvestment Act of 2009, Sec. 6001, Pub. L. No. 111-5, 123 Stat. 115 (2009) (Recovery Act).

<sup>39</sup> See *Connect America Fund, et al.*, WC Docket No. 10-90 et al., Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (2011), pets. For review denied sub. Nom., In re FCC 11-161, 753 F. 3d (10<sup>th</sup> Cir. 2014) (*USF/ICC Transformation Order*).

<sup>40</sup> See *Frontier Communications Accepts Over \$238 Million Connect America Fund Offer to Expand and Support Broadband for 1.3 Million Rural Americans*, News Release (*Frontier CAF News Release*) (June 16, 2015).

<sup>41</sup> See *FCC Takes Major Strides Toward Further Expansion of Rural Broadband*, Press Release (Apr. 23, 2014) (online at [https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-326703A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-326703A1.pdf)).

<sup>42</sup> See *Frontier CAF News Release* at 2.

<sup>43</sup> *Id.* at 1.

<sup>44</sup> *USF/ICC Transformation Order* at ¶ 295 et seq.

Phase I auction in September 2012, with 33 winning bidders eligible to receive up to a total of approximately \$300 million in one-time support for 3G or better mobile voice and broadband services in previously unserved areas.<sup>45</sup> The Tribal Mobility Fund Phase I auction closed at the end of February 2014, with five winning bidders eligible to receive up to a total of approximately \$50 million in one-time support to provide 3G or better mobile voice and broadband services to Tribal lands.<sup>46</sup>

- **E-Rate Modernization:** In 2014, the FCC modernized the E-rate program to focus on providing support for high-speed broadband services to eligible schools and libraries sufficient to support digital learning and robust connectivity.<sup>47</sup>
- **Eighth Annual Broadband Progress Report:** The FCC is required to annually evaluate and report to Congress “whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion.”<sup>48</sup> The FCC released its latest Progress Report on February 4, 2015, finding that, although public and private-sector initiatives continue to advance deployment, it is not happening broadly enough or quickly enough,<sup>49</sup> and it adopted a new broadband service benchmark of 25 Mbps download and 3 Mbps upload.<sup>50</sup> The FCC also adopted a Notice of Inquiry to examine additional actions to take to fulfill the statutory mandate to remove barriers to investment in infrastructure and promote competition in order for all Americans to have access to advanced telecommunications services.<sup>51</sup>
- **Tower Siting:** In October 2014, the FCC adopted new rules to help promote deployment of the wireless infrastructure needed to provide advanced wireless broadband services by (1) updating how the FCC evaluates the impact of proposed deployments on the environment and historic properties; (2) implementing statutory limitations on State and local governments as required by the Middle Class Tax Relief and Job Creation Act of 2012; and (3) adopting an exemption from the environmental public notification process for temporary towers.<sup>52</sup>

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<sup>45</sup> See *Mobility Fund Phase I Auction Closes; Winning Bidders Announced for Auction 901*, AU Docket No. 12-25, Public Notice, 27 FCC Rcd 12031 (2012).

<sup>46</sup> See *Tribal Mobility Fund Phase I Auction Closes; Winning Bidders Announced for Auction 902*, AU Docket No. 13-53, Public Notice, 29 FCC Rcd 1974 (2014).

<sup>47</sup> See *Modernizing the E-Rate Program for Schools and Libraries*, Report and Order and Further Notice of Proposed Rulemaking, 29 FCC Rcd 8870 (2014) and *Modernizing the E-Rate Program for Schools and Libraries*, Second Report and Order and Order on Reconsideration, FCC 14-189 (rel. Dec. 19, 2014).

<sup>48</sup> 47 U.S.C. Sec. 1302(b).

<sup>49</sup> See *2015 Broadband Progress Report and Notice of Inquiry on Immediate Action to Accelerate Deployment*, GN Docket No. 14-126, FCC 15-10, at ¶ 4 (rel. Feb. 4, 2015).

<sup>50</sup> *Id.* at ¶ 3.

<sup>51</sup> See 47 U.S.C. § 1302(b).

<sup>52</sup> See *FCC Boosts Wireless Broadband by Easing Infrastructure Burdens*, Press Release (Oct. 17, 2014) (online at [https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-330008A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-330008A1.pdf)).

- **Pole Attachments and Rights of Way:** In April 2011, the FCC modified its pole attachment rules to “streamline access and reduce costs for attaching broadband lines and wireless antennas to utility poles.”<sup>53</sup> The action was a key component of the National Broadband Plan. The FCC also adopted a Notice of Inquiry in April 2011, regarding coordination between state, local, Tribal, and federal partners to improve policies for rights of way.<sup>54</sup>

## II. WITNESSES

The following witnesses have been invited to testify:

**Jonathan Adelstein**  
President and CEO  
PCIA

**Craig Moffett**  
Senior Research Analyst  
Moffett Nathanson

**Michael Slinger**  
Director  
Google Fiber Cities

**Deb Socia**  
Executive Director  
NextCentury Cities

**The Honorable Stephen Roe Lewis**  
Governor  
Gila River Indian Community, Arizona

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<sup>53</sup> See *FCC Promotes Robust, Affordable Broadband by Reducing Costs and Delays in Access to Infrastructure*, News Release (Apr. 7, 2011).

<sup>54</sup> See *Acceleration of Broadband Deployment: Expanding the Reach and Reducing the Cost of Broadband Deployment by Improving Policies Regarding Public Rights of Way and Wireless Facilities Siting*, WC Docket No. 11-59, Notice of Inquiry, 26 FCC Rcd 5384 (2011).