U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON ENERGY AND COMMERCE

June 19, 2017

TO: Members, Subcommittee on Communications and Technology

FROM: Committee Majority Staff

RE: Legislative Hearing on "Defining and Mapping Broadband Coverage in America"

I. INTRODUCTION

The Subcommittee on Communications and Technology will hold a hearing on Wednesday, June 21, 2017, at 10:00 a.m. in 2123 Rayburn House Office Building. The hearing is entitled "Defining and Mapping Broadband Coverage in America."

II. WITNESSES

- Doug Brake, Senior Telecommunications Policy Analyst, Information Technology & Innovation Foundation;
- Bryan Darr, President and CEO, Mosaik;
- Brent Legg, Vice President of Government Affairs, Connected Nation;
- Carol Mattey, Principal, Mattey Consulting LLC; and
- Dr. Robert Wack, President, Westminster City Council, Westminster, MD.

III. BACKGROUND

High speed Internet access, known as broadband, is a critical component of the 21st century economy, and plays a role in nearly every aspect of modern American life. The need for robust and reliable connections has been demonstrated repeatedly, and the ever-growing consumer demand for broadband service suggests that this will continue.

However, deployment of broadband networks has long been inconsistent, while urban, easy to serve areas have been targeted for investment, rural and geographically challenging parts of the country lag behind. A variety of factors contribute to this disparity, and the government has taken a variety of steps to address the "digital divide" through subsidization of build-out as well as reducing barriers to deployment. This Committee will continue to promote private investment, considering draft legislation that would streamline federal permitting processes, create common forms and contracts for siting wireless facilities on federal property, and creating an inventory of federal assets.

While these are important inputs to stimulating investment, there will likely still remain parts of the country where a fully, privately funded solution is infeasible. In these instances, government funding can be a key component of deployment. In order to identify and target those areas most in need of subsidies, first, there must be an accurate accounting of high speed internet

coverage. This requires a few major components: a definition of what constitutes broadband service, collection of data on service levels across the country, and an aggregation of that data in a nationwide coverage map. This hearing will examine each of these pieces and their role in targeting areas most in need of broadband deployment.

a. Defining Broadband Coverage

Megabits per second (mbps) is the standard measure of broadband speed. According to the Federal Communications Commission's (FCC) Household Broadband Usage Guide, the Basic Service ranges from 1 to 2 Mbps, Medium Service from 6 to 15 Mbps, and Advanced Service exceed 15 Mbps. Basic Service include email, web surfing, and basic streaming video. Medium Service includes Basic Service as well as one high-demand application (for example, it could be streaming HD, video conferencing, or online gaming). Advanced Service includes high-demand applications running at the same time. Broadband usage is further divided into the categories of Light Use, Moderate Use, and High Use depending on the number of users and/or devices in the household.[1]

While demand for high speed, high capacity broadband connections have increased, innovation in the network has changed the speed and delivery dynamic. Through a variety of methods and technologies, content delivery networks (CDN) have rapidly advanced innovation in the use of Internet bandwidth. CDNs are a system of nodes in numerous locations over a number of backbones. Through complex algorithms, content is delivered quickly and efficiently to an end-user. The result is to decrease the cost of bandwidth and to speed load times. For example, at times, streaming Netflix may account for a third of broadband use in the United States. As such, that company has developed methods to improve the stream while using less data (and additional steps may be needed in countries that have slower Internet speeds).[2]

On January 29, 2015, on a 3-2 vote, the FCC approved the Broadband Progress Report, which changed the definition of fixed broadband.[3] Previously, the minimum download speed was 4 Mbps and minimum upload speed was 1 Mbps. After the FCC's change, minimum download speed became 25 Mbps and minimum upload speed became 3 Mbps. As a result, there was a significant change in the percentage of America that could be considered covered by broadband.

While a definition of broadband is an important component for identifying unserved areas of the country, continuing innovation and evolving consumer demand makes broadband a moving target. This hearing will examine the factors that should be considered in defining broadband service.

---

[1] https://www.fcc.gov/research-reports/guides/household-broadband-guide.
[2] http://variety.com/2015/digital/news/netflix-better-streaming-quality-1201661116/.
[3] In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act, GN Docket No. 14-126, available at https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-10A1.pdf.

b. Mapping Broadband Coverage

The American Recovery and Reinvestment Act of 2009 (ARRA) included provisions aimed at National Telecommunications and Information Administration (NTIA) and the Department of Agriculture to address broadband adoption. The Act provided $4.7 billion to NTIA to establish the Broadband Technology Opportunities Program (BTOP), through which NTIA awarded competitive grants to a variety of entities for broadband infrastructure, public computer centers, and to increase broadband access and adoption. The Act also provided $2.5 billion to fund access to broadband services in rural America. The Act expanded the Rural Utilities Service's existing authority to make loans and provided new authority to make grants that specifically facilitate broadband deployment in rural communities.[4]

Through ARRA, funds were made available to the states through BTOP for the purposes of collecting and aggregating data to populate the National Broadband Map, which was under the authority of NTIA. The State Broadband Initiative awarded $293 million in grants, used in part to assist states in gathering data on the availability, speed, and location of broadband service.[5] NTIA aggregated the state-submitted data, and the FCC generated data to update the map every six months. The map displayed coverage data by census block, with a block considered "served" if any portion of the block had broadband service. This resulted in a map that in many instances overstated coverage.[6]

Most states opted to create a public-private partnership to generate their state's map, incorporating their data into the national map, but many have failed to maintain their database since the funding from BTOP ended. The lack of funding prompted NTIA to transfer the National Broadband Map to the FCC.[7] The Map was last updated in June 2014, although the FCC continues to collect and report the data from their semi-annual Form 477 filing requirement.[8]

From the outset of ARRA's implementation, the Government Accountability Office stated that these programs would benefit from improved data collection in order to carry out their mission more effectively.[9] Without accurate, up-to-date, and accessible data, these programs are destined to misallocate resources, leaving deserving areas unserved. One of the most important lessons to be learned from the 2009 programs is that access to accurate data is paramount to ensuring that investments – both private and federal – are targeting areas that need service improvements the most. This hearing will examine ways to improve broadband data collection and mapping, and the associated challenges.

---

[4] American Recovery and Reinvestment Act of 2009 (Pub.L. 111-5), February 17, 2009, available at https://www.gpo.gov/fdsys/pkg/BILLS-111hr1enr/pdf/BILLS-111hr1enr.pdf.
[5] http://www2.ntia.doc.gov/sbdd
[6] https://prodnet.www.neca.org/publicationsdocs/wwpdf/11711drexel.pdf
[7] Federal Communications Commission Report and Order, June 27, 2013 https://apps.fcc.gov/edocs_public/attachmatch/FCC-13-87A1_Rcd.pdf.
[8] https://www.broadbandmap.gov/faq
[9] Government Accountability Office testimony before the Committee on Commerce, Science, and Transportation, U.S. Senate, October 27, 2009 available at http://www.gao.gov/assets/130/123616.pdf.

IV. STAFF CONTACTS

If you have any questions regarding this hearing, please contact Tim Kurth or Kelsey Guyselman of the Committee staff at (202) 225-2927.