

**Responses to Questions for the Record of**

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**“Investing in America’s Broadband Infrastructure: Exploring Ways to Reduce Barriers to Deployment”**

**May 3, 2017**

**Senator Maggie Hassan**

**It’s clear there is major interest in improving access to broadband and the way we deploy broadband services. This national goal transcends party lines, and I’m pleased to be a part of this committee where I can work with colleagues on both sides of the aisle to make improvements. I would like to hear from you all, what is being done, and what *more* should be done to ensure rural Americans are not left behind as technology evolves and innovations emerge. Rural America is more complex and difficult to connect for many reasons, but every American should have the opportunity to reap the social and economic benefits of broadband connectivity. What are your thoughts?**

Rural residents are making great strides in both access and adoption of affordable broadband Internet, but continue to trail urban and suburban consumers.

Just last week, the Pew Research Center released new data on the digital divide.<sup>1</sup> The good news is that the rural divide continues to shrink, both in absolute and relative terms:

Nearly two-thirds (63%) of rural Americans say they have a broadband internet connection at home, up from about a third (35%) in 2007, according to a Pew Research Center survey conducted in fall 2016. Rural Americans are now 10 percentage points less

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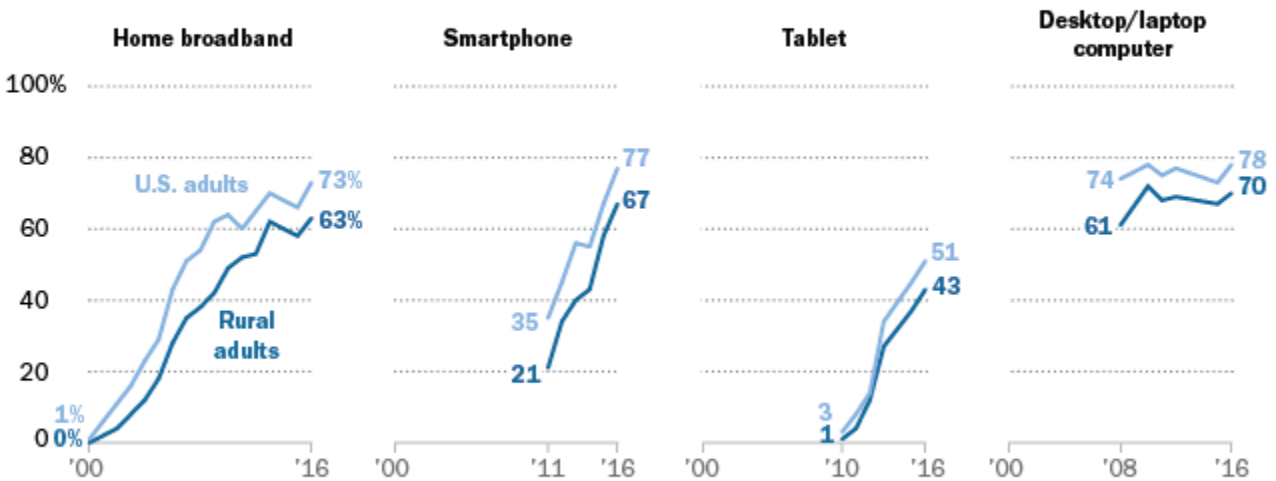
<sup>1</sup> Andrew Perrin, *Digital Divide Between Rural and Nonrural America Persists*, Pew Research Center, May 19, 2017, available at [http://www.pewresearch.org/fact-tank/2017/05/19/digital-gap-between-rural-and-nonrural-america-persists/?utm\\_campaign=Newsletters&utm\\_source=sendgrid&utm\\_medium=email](http://www.pewresearch.org/fact-tank/2017/05/19/digital-gap-between-rural-and-nonrural-america-persists/?utm_campaign=Newsletters&utm_source=sendgrid&utm_medium=email).

likely than Americans overall to have home broadband; in 2007, there was a 16-point gap between rural Americans (35%) and all U.S. adults (51%) on this question.

But, as Figure 1 makes clear, rural users continue to lag in adoption.

## Despite growth, rural Americans have consistently lower levels of technology adoption

*% of U.S. adults who say they have ...*



Source: Survey conducted Sept. 29-Nov. 6, 2016. Trend data from other Pew Research Center surveys.

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Figure 1

There are, of course, many explanations for the remaining gaps. As the Pew research notes, some rural parts of the country still lack access to basic broadband infrastructure. Where broadband is available, it may be less reliable or offered at slower speeds. And rural users may believe, rightly or wrongly, that Internet products and services are not relevant to their lives.

Indeed, according to multiple surveys, the largest impediment today to universal broadband adoption is neither availability nor cost—it's a perception by non-adopters that there's nothing online of interest to them. According to Pew, "[a] third of non-internet users (34%) did not go online because they had no interest in doing so or did not think the internet was relevant to their

lives.” Researchers reported that “Another 32% of non-internet users said the internet was too difficult to use, including 8% of this group who said they were ‘too old to learn.’”<sup>2</sup>

While access and price undoubtedly continues to play a significant role in non-adoption, in other words, many who remain offline wouldn’t use the Internet even if it were free. This conclusion was also reached by a recent NTIA survey, which found that over half of those who don’t have Internet service at home—largely rural and older Americans, and those with less education-- say they just don’t want or need it.<sup>3</sup>

As the improving relative and absolute adoption rates suggest, however, a combination of private and public-private initiatives aimed at both access and adoption gaps have and continue to make excellent progress in overcoming these real and perceived obstacles.

Basic technology costs continue to decline, and new infrastructure technologies are invented and rapidly improve. Together, these translate to high-speed access becoming increasingly cost-effective even in the most geographically remote parts of the U.S.

Cable providers continue to expand their networks, and new protocols increase the speed and reliability of those networks. Hybrid fiber/copper options that utilize existing telephone infrastructure have brought high-speed broadband to many areas that are otherwise too expensive to serve.

New wireless technologies, including fixed wireless systems utilizing existing 4G LTE networks, are both more cost-effective and competitive with wired solutions. And, as we heard at the hearing, low-orbit satellite broadband services have the potential to deliver competitive service without introducing latency that reduces the usefulness of some applications, notably high-definition video.

For those areas of the country where these alternatives remain difficult to cost-justify, programs administered by the FCC, including the Connect America Fund and Mobility Fund, have accelerated the push to provide needed capital for infrastructure investment. The agency has committed even more revenue from the Universal Service Fund to these programs, and there remains the potential for Congress, as part of a possible infrastructure bill, to increase those funds even more.

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<sup>2</sup> Monica Anderson and Andrew Perrin, *13% of Americans Don’t Use the Internet—Who are They?*, Pew Research Report, Sept. 7, 2016, available at <http://www.pewresearch.org/fact-tank/2016/09/07/some-americans-dont-use-the-internet-who-are-they/>

<sup>3</sup> National Telecommunications and Information Administration, *Digitally Unconnected in the U.S. Who’s Not Online and Why?*, Sept. 28, 2016, available at [www.ntia.doc.gov/blog/2016/digitally-unconnected-us-who-s-not-online-and-why](http://www.ntia.doc.gov/blog/2016/digitally-unconnected-us-who-s-not-online-and-why).

Just last month, FCC Chairman Pai announced the formation of a Rural Broadband Auctions Task Force,<sup>4</sup> tasked with implementing auction-based allocation of another \$6.5 billion in rural infrastructure funding.

Earlier in the year, Chairman Pai also announced the creation of a Broadband Deployment Advisory Committee.<sup>5</sup> The Committee, composed of leaders from both public and private sector organizations at the federal, state and local levels, has as its mission:

[T]o make recommendations for the Commission on how to accelerate the deployment of high-speed Internet access, or "broadband," by reducing and/or removing regulatory barriers to infrastructure investment. This Committee is intended to provide an effective means for stakeholders with interests in this area to exchange ideas and develop recommendations for the Commission, which will in turn enhance the Commission's ability to carry out its statutory responsibility to encourage broadband deployment to all Americans.

Supplementing these efforts, the Commission has initiated several Notices of Proposed Rulemaking to implement specific changes aimed at improving the speed and efficiency of both public and private broadband deployment initiatives.

Finally, for rural Americans for whom cost is a barrier to broadband adoption, both private and public efforts to reduce or subsidize the price of connection continue to bring more Americans online. Most major broadband providers, following the early efforts of Comcast, AT&T and others, have programs that provide reduced price service (about \$10 a month) for lower income Americans and their communities. Likewise, the FCC continues to transform Universal Service programs originally designed to subsidize wired voice service into programs aimed at both wired and mobile broadband.

### Recommendations

As I noted in my written testimony, however, there are still ways in which these positive developments can be further improved. Specifically, I identified eight reforms that Congress should consider including in future infrastructure spending or otherwise. (A detailed explanation for each can be found in my written testimony.)

- 1. Limit and carefully control direct investments.** Any direct infrastructure spending Congress approves should be targeted exclusively to the few remaining census tracts, mostly rural and tribal, where there is currently no competitive broadband service. Congress should consider setting aside a modest portion of its proposed infrastructure fund, say \$20 billion, for a one-time rural broadband acceleration program.

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<sup>4</sup> See [https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-344201A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-344201A1.pdf).

<sup>5</sup> See <https://www.fcc.gov/broadband-deployment-advisory-committee>.

- 2. Severely limit ongoing support.** To date, federal efforts to overcome the financial hurdles to deploying rural broadband infrastructure have suffered from a structural flaw. The FCC provides payments in the form of small ongoing annual subsidies, even in areas when all that was needed to overcome high infrastructure costs was an initial capital investment.

Future investments should avoid this error by offering instead carefully-calculated one-time subsidies. While some truly high-cost areas will continue to need both start-up capital and operating support, the emphasis for any new rural broadband infrastructure spending should be on those locations for which capital alone can overcome the need for further government subsidy.<sup>6</sup>

- 3. Extend “Dig Once.”** Lack of coordination between broadband and other infrastructure projects wastes time and resources, particularly when roads are being built or maintained. It is essential that we fully embrace a “Dig Once” rule, requiring installation of conduits for broadband equipment whenever roads are being dug up for any reason. According to the Government Accountability Office, “Dig Once” can reduce the cost of deploying fiber under highways in urban areas up to 33 percent and up to 16 percent in rural areas.<sup>7</sup>
- 4. Address other unproductive barriers to mobile deployments.** Congress should establish federal guidelines to eliminate unnecessary bickering over pole attachments, especially for poles that are municipally-owned or owned by regulated utilities. To avoid rent-seeking behavior that grinds the process to a halt, we need cost-based attachment fees, “climb-once” policies, and basic rules about notice and contractor qualifications. Network operators should not be penalized in either time or money for replacing or upgrading small cell equipment—applications that are often treated as full-scale installations of new towers.
- 5. Re-engineer government processes that hinder private investment.** Beyond pole and building access issues, both wired and mobile deployment is being held back unnecessarily by unproductive costs associated with dealing with slow and overly bureaucratic local governments. The problem is not so much local regulations as it is local processes—or often, the lack thereof. Best practices distilled from a long history of good and bad examples should be established at the federal level and included in the infrastructure bill as conditions for local jurisdictions to receive federal assistance.

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<sup>6</sup> See Blair Levin and Carol Matthey *In Infrastructure Plan, a Big Opening for Rural Broadband*, Brookings Institution, Feb. 13, 2017, available at, <https://www.brookings.edu/blog/the-avenue/2017/02/13/in-infrastructure-plan-a-big-opening-for-rural-broadband/>.

<sup>7</sup> See Letter from Government Accountability Office, June 27, 2013, available at <http://www.gao.gov/assets/600/591928.pdf>.

6. **Make investments technology-neutral.** Until now, Universal Service programs have either explicitly or implicitly favored wired technologies, for example by defining minimum broadband speeds above what is reasonably necessary or by setting latency standards in a way that intentionally excludes satellite-based solutions.<sup>8</sup> No matter how the infrastructure bill provides for broadband in the remaining unserved locations, it should do so on a technology-neutral basis to encourage continued development of new options.
7. **Address nonfinancial causes of the digital divide.** Many unconnected Americans don't know how to use a computer or even a smartphone, let alone how to install and maintain networking equipment inside or outside their home. Whatever funding the infrastructure law provides for broadband will be wasted if some of that support isn't directed to providing hands-on education and on-going support. Community groups and senior centers are natural conduits for these essential services, along with private programs that are today underfunded.
8. **Use the bully pulpit to encourage digital want-nots.** Public education about why the infrastructure bill is spending money on broadband will be critical to getting maximum value from any new investment. That effort should include, at a minimum, the White House and related Departments including those dealing with commerce, housing, health, energy and education.

Following these basic recommendations will maximize the value of any taxpayer money spent on broadband infrastructure. Even more, these simple steps will help multiply government spending with continued private investment, accelerating efforts to close the digital divide and bring the least-connected parts of the country into our growing digital conversation.

In Silicon Valley, that's we call a win-win-win.

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<sup>8</sup> See Doug Brake, *A Policymaker's Guide to Rural Broadband Infrastructure*, Information Technology and Innovation Foundation (April 2017), available at [http://www2.itif.org/2017-rural-broadband-infrastructure.pdf?mc\\_cid=4fb4705a17&mc\\_eid=98756dc702](http://www2.itif.org/2017-rural-broadband-infrastructure.pdf?mc_cid=4fb4705a17&mc_eid=98756dc702).