

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)
)
Inquiry Concerning Deployment of Advanced) GN Docket No. 17-199
Telecommunications Capability to All Americans)
in a Reasonable and Timely Fashion)
)

COMMENTS OF USTELECOM ASSOCIATION

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SUMMARY

The ultimate goal of this inquiry is simple: to ensure that all Americans have access to high-speed broadband that will enable them to use any technology to send and receive high-quality voice, data, graphics, and video telecommunications. USTelecom and its member companies have been focused on broadband deployment for decades, leading the charge to expand and upgrade networks with fiber and internet protocol (IP) technology to deliver the best advanced telecommunications capability available in the world.

A full and honest assessment of broadband deployment efforts requires an assessment of the progress that has been made since the last inquiry. Although a speed benchmark can provide a useful snapshot view of the state of broadband deployment, the 25 Megabits per second (Mbps) download, 3 Mbps upload (25/3) benchmark was arbitrarily selected based on a hypothetical family's hypothetical bandwidth requirements for simultaneous use of multiple devices engaged in bandwidth-intense activities. At the same time, it would be disruptive for the Commission to change or eliminate the current benchmark without evidence that broadband at those speeds does not meet the need of consumers as they typically use broadband services today. The Commission should also consider whether a single benchmark can appropriately take into account the differences in broadband service technologies or variations in consumers' perspectives about what is adequate deployment.

Basing section 706 determinations solely on what percentage of the U.S. population has access to broadband that meets a particular speed benchmark ignores whether progress is being made in our efforts to deploy broadband to all Americans. Considerable weight must therefore be given to the actual overall deployment progress made from year to year, including consideration of real world conditions and a verifiable assessment of whether consumers' broadband needs are being met, taking into account the strides the Commission is making in high-cost areas by continuing and increasing investments through the Connect America Fund program.

Finally, if the Commission finds that broadband is not being deployed in a reasonable and timely fashion, the best way to remedy that finding is to adopt policies and, where necessary, regulations to promote continued broadband deployment by removing barriers to investment. We continue to firmly believe that any effort to promote competition that does not focus on facilitating and removing barriers to infrastructure investment will likely fail.

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The USTelecom Association (USTelecom) respectfully submits these comments in response to the Federal Communications Commission’s (FCC or Commission) request for input on the current state of advanced telecommunications capability, or broadband, deployment and availability.¹

I. INTRODUCTION

We welcome this opportunity to take a fresh look at how the section 706 inquiry has been undertaken in recent years, and to propose a more effective approach that objectively – without ulterior motives or prebaked outcomes – conducts this process as Congress intended, for the purpose of determining whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion, and if not, determining what actions are necessary to bring about such deployment. As noted in our comments to the 2016 Notice of Inquiry,²

¹ *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 17-199, Thirteenth Section 706 Report Notice of Inquiry, FCC 17-109 (rel. Aug. 8, 2017) (*Thirteenth Broadband Progress NOI*).

² Comments of the United States Telecom Association, GN Docket No. 16-245 (Sep. 6, 2016) (USTelecom 2016 NOI Comments).

which we incorporate herein by reference, USTelecom and its members strongly support policies that promote continued broadband deployment by removing barriers to infrastructure investment.

II. EVIDENCE SUGGESTS THAT BROADBAND IS BEING DEPLOYED IN A REASONABLE AND TIMELY MANNER.

A. Broadband Speed and Availability Have Steadily Increased.

According to an analysis of the Commission's most current broadband availability data by USTelecom and CensusNBM, U.S. broadband providers continue to deploy and upgrade networks rapidly, bringing consumers across the nation ever-faster service and choice.³ The full report of this research is attached to these comments. The vast majority of Americans have available broadband services that allow them access to information, entertainment, employment options, and other services and products that they have come to expect and rely on. As of mid-2016, 96 percent of Americans had at least one wired broadband service offering available to them – 98 percent, if terrestrial fixed wireless service is included in the analysis.⁴ Nearly all Americans could get broadband service via mobile wireless, with 99.5 percent able to get mobile broadband via fourth generation (4G) LTE (Long Term Evolution) technology as of mid-2016.⁵ All of the country could get service via satellite broadband.⁶

Services at higher speeds are also widely available. As of mid-2016, wired broadband service at 10 Megabits per second (Mbps) download and 1 Mbps upload (10/1) was available to

³ Patrick Brogan, USTelecom, *U.S. Broadband Availability Mid-2016* (August 25, 2017), available at <https://www.ustelecom.org/sites/default/files/US%20Broadband%20Availability%20Mid-2016%20formatted.pdf> (visited Sep. 5, 2017) (USTelecom Mid-2016 Broadband Availability Report).

⁴ USTelecom Mid-2016 Broadband Availability Report at 3-4.

⁵ *Id.* at 4.

⁶ *Id.* at Appendix A.

93 percent of Americans – 95 percent if terrestrial fixed wireless is included. Wired broadband service at 25 Mbps download and 3 Mbps upload (25/3) was available to 89 percent of Americans – 90 percent if terrestrial fixed wireless is included. Wired broadband service at 50 Mbps download and 5 Mbps upload was available to 88 percent of Americans – 89 percent if terrestrial fixed wireless is included.⁷ Wired broadband service at 100 Mbps download and 10 Mbps upload was available to 68 percent of Americans – 76 percent with download speeds less than 10 Mbps.⁸

Moreover, broadband deployment at higher speeds has been growing rapidly. Availability of broadband at 25 Mbps download grew from 49 percent in 2010 to 90 percent in 2016, while broadband at 50 Mbps download showed similar growth. Availability of broadband at 100 Mbps download grew from 10 percent in 2010 to 76 percent in 2016. Gigabit broadband did not exist as a practical matter in 2010, but by mid-2016, it had grown to 9 percent of households, and it continues to grow.⁹ Indeed, that percentage may have as much as doubled in the past year, with recent reports suggesting that as many as 57.5 million Americans now have access to Gigabit connectivity.¹⁰

⁷ *Id.* at 6-7.

⁸ *Id.* at 7-8. Including fixed wireless does not alter the result at 100 Mbps download. *See also* FCC, *Internet Access Services: Status as of June 30, 2016*, at 15 (Apr. 2017) (June 2016 Internet Access Status Report), available at https://apps.fcc.gov/edocs_public/attachmatch/DOC-344499A1.pdf (indicating that almost all residential connections with download speeds of 100 Mbps or greater have upload speeds of 3 Mbps or greater).

⁹ *Id.* at 8. 2010 data in the USTelecom Mid-2016 Broadband Availability Report are from the National Telecommunications and Information Administration (NTIA) National Broadband Map at broadbandmap.gov (visited Sep. 5, 2017). For comparison to 2010, data are available only for wired broadband and download speeds.

¹⁰ *See* Carl Weinschenk, telecompetitor, *Gigabit Report: 57.5 Million Americans Now in Gigabit Reach, Chicago and California Lead* (Sep. 7, 2017), available at <http://www.telecompetitor.com/gigabit-report-57-5-million-americans-now-in-gigabit-reach-chicago-and-california-lead/>.

Additionally, the vast majority of Americans benefit from competitive choice in broadband providers. In mid-2016, there were competing wired broadband services available in 84 percent of the country – 89 percent if terrestrial fixed wireless is included in the analysis. Competitive availability of wired broadband (*i.e.*, at least two wired options) at higher speeds is growing rapidly as providers upgrade their widely deployed broadband networks. For example, competitive availability at 10/1 to households was 65 percent, up from 55 percent in 2010; and competitive availability of broadband at 25/3 was 49 percent, up from 23 percent in 2010.¹¹ Terrestrial fixed wireless was available to 37 percent of Americans as of mid-2016; and when we include fixed wireless, 41 percent of Americans had three or more fixed broadband options as of mid-2016. 4G LTE broadband was available from three or more providers to 95 percent of Americans.¹²

Despite some regulatory decisions that have lessened incentives for broadband investment,¹³ there are ample market incentives for providers to deploy better and faster broadband in most of the country, and certainly no systemic market failure when it comes to deploying broadband in the U.S. Broadband providers have invested more than \$1.5 trillion over the last two decades and more than \$70 billion per year to deploy and upgrade their networks.¹⁴ And to the extent the market incentives are not sufficient to attract broadband investment in

¹¹ USTelecom Mid-2016 Broadband Availability Report at 2.

¹² *Id.* at 4.

¹³ *See, e.g., Restoring Internet Freedom*, Notice of Proposed Rulemaking, WC Docket No. 17-108, FCC 17-60, ¶ 4 (rel. May 23, 2017) (acknowledgement by the Commission that Title II regulation of broadband internet access service “has put at risk online investment and innovation,” resulting in a decline in broadband network investment and a “pull [] back on plans to deploy new and upgraded infrastructure and services to consumers”).

¹⁴ USTelecom, Broadband Industry Stats, Historical Broadband Provider Capex, available at <https://www.ustelecom.org/broadband-industry-stats/investment/historical-broadband-provider-capex> (visited Sep. 2, 2016).

certain high-cost portions of the country, the Commission is actively identifying these areas and promoting broadband through the Connect America Fund (CAF) program. These significant ongoing investments, in combination with the broadband deployment data, highlight that U.S. broadband providers continue to deploy and upgrade networks, bringing the vast majority of consumers across the nation ever-faster service and choice in a reasonable and timely fashion.

B. The Section 706 Inquiry Should Include Both Fixed and Mobile Services.

USTelecom supports the Commission’s proposal to incorporate both fixed and mobile services into this section 706 inquiry.¹⁵ We agree this is the most consistent reading of the statute’s definition of “advanced telecommunications capability,” which refers to high-speed capability “without regard to any transmission media or technology.”¹⁶ Today, it is evident that mobile communications are among the technologies providing capability that enables a large majority of Americans to utilize high-speed broadband.

Consistent with our comments to the last two section 706 inquiries, USTelecom supports evaluating reasonableness and timeliness of deployment based on availability of either fixed broadband *or* mobile broadband, not both fixed *and* mobile broadband. The statute calls for some form of advanced telecommunications capability to be deployed and available, not a particular form or multiple forms. Given the advances in mobile technology, including LTE and emerging fifth generation (5G) services that enable speeds matching or exceeding some wired technologies, it no longer makes sense to exclude mobile services from this inquiry.

To the extent the Commission or other commenters believe that mobile broadband must be declared a substitute for fixed broadband to merit inclusion, we dispute that notion. The two

¹⁵ *Thirteenth Broadband Progress NOI*, ¶ 5.

¹⁶ 47 U.S.C. §1302(d)(1).

need not be perfect or complete economic substitutes; if the Commission confirms that both meet the definition of “advanced telecommunications capability,” the Commission must evaluate both in this inquiry. To be clear, it is appropriate for the Commission to recognize relevant differences between fixed and mobile broadband, but it need not exclude mobile broadband – in particular as an option for providing service in some remote areas because it may be the most economically viable way of serving such areas.

We also do not find compelling arguments that mobile broadband should be excluded because fixed and mobile broadband are complements not substitutes.¹⁷ From real-life observations, we know that consumers increasingly use mobile devices and services, including usage in fixed locations, interchangeably for many voice, data, graphics, and video applications. There is also evidence that some consumers are cutting the cord, choosing not to subscribe to fixed services at all and instead using mobile broadband exclusively. Pew Research Center reported that 12 percent of adults surveyed in 2016 had smartphones but no fixed home broadband.¹⁸ According to Pew, some portion of consumers who have chosen only smart phones report having available to them adequate fixed broadband alternatives.¹⁹ Deployment of high-quality mobile broadband, such as LTE networks and emerging 5G networks, has encouraged consumers to shift more usage to mobile devices and services where possible. The wide

¹⁷ See, e.g., Letter from United States Senators All Franken, Sherrod Brown, Tammy Baldwin, Richard Blumenthal, Heidi Heitkamp, Amy Klobuchar, Elizabeth Warren, Brian Schatz, Edward J. Markey, Tom Udall, Kirsten Gillibrand, and Ron Wyden to Chairman Pai and Commissioners Clyburn, O’Rielly, Carr and Rosenworcel (Aug. 31, 2017) (filed in GN Docket No. 17-199).

¹⁸ Pew Research Center, Internet & Technology, *Mobile Fact Sheet* (Jan. 12, 2017), available at <http://www.pewinternet.org/fact-sheet/mobile/> (visited Sep. 6, 2017).

¹⁹ Aaron Smith, Pew Research Center, Internet & Technology, *U.S. Smart Phone Use in 2015* (Apr. 1, 2015), available at <http://www.pewinternet.org/2015/04/01/us-smartphone-use-in-2015/> (visited Sep. 6, 2017).

availability of unlimited data plans has further encouraged this shift. This all strongly suggests that fixed and mobile broadband are, in fact, treated by many consumers for many purposes as substitutes.

The Commission should evaluate the extent to which mobile broadband serves the goals of section 706 by monitoring usage trends and marketplace developments, and encouraging more empirical analysis. Voice telephony provides an example of how consumers are embracing mobile technologies and how consumer preferences change over time; the portion of U.S. households that rely on wireless-only telephone service grew from 3 percent in 2003 to more than 50 percent as of 2016.²⁰ The Commission therefore should not dismiss emerging evidence that mobile may already be functioning as a substitute for fixed broadband, and should evaluate mobile broadband based on whether it provides the functional capabilities that consumers need and use.

C. The Commission Should Retain the 25/3 Benchmark for Fixed Service as a Goal, but Also Consider Other Metrics for Measuring Broadband Deployment Success.

The Commission adopted the 25/3 benchmark without demonstrating that a single threshold was the best approach to measuring the success of broadband deployment, or that this particular threshold was an adequate measure of what Congress had in mind as “advanced telecommunications capabilities” (despite claims that its decision was “[b]ased on the record”).²¹ For example, in considering what broadband speeds consumers need to enjoy advanced

²⁰ USTelecom Mid-2016 Broadband Availability Report at 5.

²¹ *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*, Broadband Progress Report and Notice of Inquiry on Immediate Action to Accelerate Deployment, 30 FCC Rcd 1375, 1403-04, ¶ 47 (2015) (2015 Broadband Progress Report and NOI).

capabilities, the Commission described a hypothetical household of two or more people using multiple devices simultaneously, and concluded that 25 Mbps downstream is necessary to provide “all households” high-quality voice, data, graphics, and video.²² This conclusion, of course, was speculative and never was borne out, considering that nearly two years after Chairman Wheeler declared a 25 Mbps connection to be “table stakes,”²³ 90 percent of consumers had 25/3 or better broadband service available, but just under half of them had chosen to subscribe to it.²⁴ Moreover, the Commission uses different (and lower) standards in the context of its Universal Service programs, under which it supports the deployment of fixed broadband at 10/1, sending a mixed message as to what the Commission really believes constitutes adequate advanced telecommunications capability.

Discrete speed thresholds viewed at a single point in time do not, by themselves, reflect the dynamic process of broadband deployment and upgrades, nor do they provide insight on the progress being made toward meeting the goals of section 706. Nevertheless, USTelecom conditionally supports the Commission’s proposal to maintain speed thresholds as one factor in its section 706 evaluation, taking into account consumer needs and demand based on actual

²² *See id.* (justifying its selection based on the need for 5 to 8 Mbps per HD video stream, and approximately 25 Mbps for more advanced video services).

²³ *2015 Broadband Progress Report and NOI*, Statement of Chairman Tom Wheeler.

²⁴ *See* USTelecom Mid-2016 Broadband Availability Report at 7. *See also* June 2016 Internet Access Status Report at 15 (indicating that 38.5 million residential broadband connections were between 25 Mbps and 100 Mbps download, and 17.7 million were at least 100 Mbps download, for a total of 56.2 million at 25 Mbps or greater). Based on census data indicating that there were 125.8 million U.S. households in 2016, approximately 113.2 million households could get broadband at speeds of 25 Mbps download or greater (125.8 million households x 90 percent) and 49.6 percent of these households (56.2 million connections out of 113.2 million households) had chosen to subscribe. *See* U.S. Census, Historical Household Tables, Table HH-1, available at <https://www.census.gov/data/tables/time-series/demo/families/households.html> (visited Sep. 5, 2016).

current usage patterns and reasonably projected demand. A key challenge for the Commission is to develop a process that is sufficiently flexible to keep up with technology and demand shifts, while maintaining objectivity and not interfering with rational economic decisions where markets are functioning properly.

At the same time, it is not necessary to establish a hard and fast rule for what benchmarks should be established and when they should be adjusted. A consistent and objective framework is important to the Commission's ability to rationally determine when the objectives of section 706 are being met. Ideally, the Commission would weigh factors and evidence regarding consumer use and perception about the adequacy of their broadband choices in meeting their broadband needs in addition to whether established speed and other benchmarks are being met. It is likely that competition will do more to ensure that providers' broadband offerings meet consumers' ultimate test, perhaps even more than mandated speed benchmarks.

1. Fixed and mobile services need not be measured by the same benchmarks.

Fixed Benchmark. At this time, lowering the current fixed service benchmark would be unduly disruptive. Raising the benchmark would also be disruptive and unwarranted, absent record evidence that providers are not meeting consumer broadband needs. USTelecom therefore supports the Commission's proposal to maintain the 25/3 benchmark for fixed services adopted in 2015 until an updated framework is in place.²⁵

Although 90 percent of Americans already had access to at least 25/3 fixed broadband in mid-2016,²⁶ according to the Commission's broadband connections data, 40.5 percent of residential broadband connections subscribed to service between 25 Mbps and 100 Mbps

²⁵ See *Thirteenth Broadband Progress NOI*, ¶ 12.

²⁶ See *supra* note 7.

download (and the vast majority of these, 40.1 percent of residential connections, got at least 3 Mbps per second upload).²⁷ The share of fixed residential connections in the 25/3 speed tier was greater than any other residential tier. The next largest group was the 22.5 percent that received service between 10 Mbps and 25 Mbps download (19.7 percent with upload speeds of 1 Mbps or more, and 2.9 percent with upload speeds less than 1 Mbps). At that time, 18.6 percent of connections were at download speeds of 100 Mbps or greater (practically all with upload speeds greater than 3 Mbps).²⁸ In other words, not only was the largest group of connection in the 25 Mbps tier, there were more connections at the next lower tier than at the next higher tier. Therefore, the data do not support increasing the benchmark beyond the current 25/3 threshold. This is particularly true with regard to services at 100 Mbps or greater download speeds, the next speed tier after 25/3 for which the Commission publishes data. According to USTelecom's Mid-2016 Broadband Availability Report, 76 percent of Americans already have access to broadband service at 100 Mbps broadband.²⁹ Yet just less than 19 percent of broadband connections were 100 Mbps download or greater.³⁰

Mobile Benchmark. USTelecom supports a mobile broadband benchmark based on deployment of LTE technology. The most readily available data for mobile broadband services collected by the Commission is currently based on that technology, which makes it well-suited for the Section 706 deployment analysis. LTE is capable of providing average speeds between

²⁷ June 2016 Internet Access Status Report at 15.

²⁸ *See id.* at 15. At lower speeds, 14.3 percent received service at download speeds between 3 Mbps and 10 Mbps download, and 4.1 percent received service as speeds lower than 3 Mbps.

²⁹ USTelecom Mid-2016 Broadband Availability Report at 8.

³⁰ June 2016 Internet Access Status Report at 15.

10 Mbps download and 20 Mbps download,³¹ and consumers are clearly using LTE services to access advanced voice, data, graphics, and video communications.

USTelecom does not recommend that the Commission adopt a speed benchmark for mobile broadband in the current inquiry. The many challenges associated with measuring mobile broadband speeds and footprints, including, for example, determining the appropriate geographic level for measuring mobile availability, weigh in favor of collecting more data before settling on a mobile benchmark. Should the Commission decide to proceed now, we recommend setting a mobile benchmark consistent with existing availability data for LTE.

The Commission should not apply the current fixed broadband benchmark of 25/3 to mobile broadband. Because it is well understood that LTE does not currently offer speeds that typically would meet that threshold,³² adopting a 25/3 threshold might be aspirational, but as a practical matter would be self-defeating. Moreover, just as the Commission rationally set a lower threshold for mobile broadband services to be supported by Universal Service,³³ it should likewise set a more realistic threshold for mobile broadband in the section 706 context.

³¹ OpenSignal, State of Mobile Networks: USA (Feb. 2017), available at <https://opensignal.com/reports/2017/02/usa/state-of-the-mobile-network> (visited Sep. 6, 2017) (stating that average 4G download speeds during the fourth quarter of 2016 for the top four providers were: 16.9 Mbps for Verizon; 16.7 Mbps for T-Mobile; 13.9 Mbps for AT&T; and 9.0 Mbps for Sprint).

³² *Id.*

³³ See, e.g., *Connect America Fund, Universal Service Reform - Mobility Fund*, 32 FCC Rcd 2152, 2173, n.129 and accompanying text (2017) (adopting a minimum download speed of 5 Mbps for Mobility Fund-II eligibility).

2. The Commission should consider other benchmarks only as appropriate to measure the progress of broadband deployment.

The Commission asks whether it should establish other benchmarks, such as data allowances or other limitations on services, in evaluating broadband deployment.³⁴ USTelecom opposes considering data allowances at this time in determining benchmarks for advanced telecommunications capability for either fixed or mobile services. Data allowances generally address pricing and network management practices, not deployment, and section 706 does not call for an analysis of pricing or network management. Similarly, other characteristics of mobile service such as reliability of service and latency³⁵ do not directly or meaningfully affect mobile deployment, and seem far removed from the core section 706 inquiry. The Commission therefore should not expand the inquiry to include benchmarks for such criteria.

3. The Commission’s framework for the section 706 inquiry should be based on factors that directly impact broadband deployment.

We agree with the Commission that the proper framework for conducting the annual section 706 inquiry should be consistent and objective, “using predictable, reliable, and regularly-released public data from [reliable] sources.”³⁶ Whether deployment is being accomplished in a reasonable and timely manner can be influenced by many factors, perhaps most importantly consumer experience. The statute compels such a finding by defining “advanced telecommunications capability” based on whether users are able “to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology.”³⁷ For many consumers, broadband at speeds lower than the 25/3 benchmark will

³⁴ *Thirteenth Broadband Progress NOI*, ¶16.

³⁵ *See id.*, ¶ 22.

³⁶ *Id.*, ¶ 23.

³⁷ 47 U.S.C. §1302(d)(1).

provide the requisite capability much of the time. Although the Commission should not aim just for adequacy, the need to update benchmarks should not serve as a license for overreaching in order to secure the perpetual ability of the Commission to avail itself of the regulatory authorities granted *conditionally* in section 706(b).³⁸

The impacts of industrial and technological change are important to consider,³⁹ but should not be employed to influence a particular outcome. For example, attempting to capture the impact of emerging uses such as the so-called “Internet of Things” (IoT) would lead to speculation, at best. What would such a criterion measure, and how would it factor into evaluating the reasonableness and timeliness of deployment? While USTelecom acknowledges the potential social and economic benefits of the IoT, section 706 does not address connected “things” or Internet-based applications. There is also scant evidence on the extent to which the various devices and sensors that comprise the IoT will place demand on broadband networks or affect consumers’ access to high-quality connectivity. Therefore, USTelecom believes that the Commission should not expand its inquiry to include a benchmark that attempts to capture the impact of the IoT at this time.

D. The Commission Should Measure Comparative Progress in Determining Whether Broadband is Being Deployed to All Americans in a Reasonable and Timely Manner.

No American should be left out of the digital revolution. Therefore, it is important that the Commission look at deployment in all areas of the country. At the same time, the

³⁸ 47 U.S.C. §1302(b) (directing that if the Commission does not find adequate deployment, “it shall take immediate action to accelerate deployment [] by removing barriers to infrastructure investment and by promoting competition in the telecommunications market.” *See also* 47 U.S.C. §1302(a) (specifying regulatory authorities including price cap regulation and regulatory forbearance).

³⁹ *See Thirteenth Broadband Progress NOI*, ¶ 28.

Commission must acknowledge – as it has through implementation of the CAF in high-cost areas – that deployment in some areas will progress at a significantly faster pace than others, in particular where competition is robust because of dense population. Whereas, it may take years to achieve deployment of the highest speed broadband in other areas due to rough terrain or other environmental conditions, or a lack of demand. As such, under the current methodology for measuring deployment by taking a snapshot view of the entire country, our broadband deployment efforts may never be deemed successful.

In comments to the *2015 Broadband Progress NOI*, USTelecom proposed that the Commission focus on the progress of actual deployment from year-to-year rather than on the percentage of broadband adopters at a particular speed.⁴⁰ We continue to believe that such an assessment is most consistent with how Congress apparently intended to have the Commission measure deployment success. The statute seeks a finding that broadband *is being deployed* on a reasonable and timely basis, so 100 percent deployment, while the aspirational goal, cannot be the right test.

For this reason, USTelecom supports the Commission’s proposal to evaluate reasonableness and timeliness of deployment on the basis of progress rather than a snapshot of a single benchmark at a point in time.⁴¹ That is, the Commission should employ a comparative approach that assesses progress rather than only results.

1. Any deployment analysis must start with an understanding of where underlying infrastructure has already been deployed.

Deployment of faster, higher-quality broadband is a typically a matter of upgrading infrastructure, *e.g.*, by deploying new terminal equipment or extending faster access media, such

⁴⁰ USTelecom 2016 NOI Comments at 2-3.

⁴¹ *Thirteenth Broadband Progress NOI*, ¶¶ 30, 36.

as fiber, closer to customer premises. And, as we noted earlier, access to higher speed services has grown rapidly over time.⁴²

The Commission collects data that can track progress over time. If the Commission does adopt an analysis that measures the ongoing progress of deployment, the analysis should take into account the economics of extending and upgrading networks, including the demand and cost characteristics of incremental build-outs and upgrades. The Commission might look to past deployment and upgrade cycles, accounting for any differences in cost and complexity between new and old technologies. The Commission might also look to past competitive responses. The Commission would want to account for differences in adoption, competition, and growth potential compared to the past, as well as how those factors affect the average cost of deploying new technology. Finally, the Commission might account for differences among various broadband access technologies in terms of demand, costs, and upgrade cycles.

The Commission might also look at factors such as revenue spent on broadband deployment, new fiber routes and other infrastructure, and even proposed deployments. It could look at where broadband deployment supported by Universal Service dollars are taking place and planned. This would aid in helping to identify areas where broadband is not likely to be deployed in the near future, and help focus money and facilities to such areas, where measures that promote competition and remove barriers to investment will do the most good.

2. A finding that broadband is being deployed in a reasonable and timely fashion need not deprive the Commission of authority to take remedial action where needed.

Apart from the mandate to “take immediate action to accelerate deployment,” if it finds that advanced telecommunications capability is not being deployed in a reasonable and timely

⁴² See *supra* note 9 and accompanying text.

fashion, the Commission also is directed to “encourage” such deployment using “price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment.”⁴³ Notwithstanding any lingering debate about the extent of authority granted to the Commission under section 706,⁴⁴ we note that the Commission’s directive to *encourage* deployment is not conditioned on a finding that broadband is not being deployed on a reasonable and timely basis.

We therefore encourage the Commission to adopt a realistic and holistic approach that goes beyond merely assessing whether consumers have access to broadband at a certain speed. Although it may have been convenient (or even necessary) to use speed as a proxy for “capability that enables users to originate and receive high-quality voice data, graphics, and video telecommunications using any technology”⁴⁵ for the first few years of the section 706 inquiry, there is no excuse for not moving beyond that limited framework for future inquiries.

a. The Commission should measure reasonable and timely deployment based on multiple factors.

A full assessment of deployment success requires a review of the progress being made by those investing in and building infrastructure, as well as the improvements in quality and availability of advanced telecommunications capability from the perspective of broadband consumers.

⁴³ 47 U.S.C. §1302(a), (b).

⁴⁴ *But see USTelecom v. FCC*, 825 F.3d 674, 733 (D.C. Cir. 2016) (“As to section 706, this court concluded in *Verizon* that it grants the Commission independent rulemaking authority.”) (citing *Verizon v. FCC*, 740 F.3d 623, 635-42 (D.C. Cir. 2014)).

⁴⁵ 47 U.S.C. §1302(d)(1).

Is broadband investment steady or increasing? Robust investment and infrastructure building are key indicators that broadband is being timely and reasonably deployed. Therefore, the Commission should incorporate into its section 706 inquiry an assessment of year-to-year expenditures on broadband infrastructure, taking into account external factors (in particular, those within the Commission’s control such as regulations) that may affect investments and buildout. Specifically, the Commission should compare expenditures it directs for broadband deployment from the Universal Service Fund, as well as private investment in broadband infrastructure. If expenditures are increasing or remaining steady, the Commission should deem this to be evidence of reasonable and timely deployment.

Is broadband coverage steady or increasing? As noted earlier, the ultimate goal of the section 706 inquiry is to ensure that all Americans have access to high-quality, broadband-enabled telecommunications. This inquiry therefore should make a year-to-year assessment of whether more Americans are gaining access to broadband coverage by assessing deployment in all areas of the United States. For example, the Commission could determine progress with each inquiry by examining how many areas currently unserved by broadband become served, how many areas that are currently underserved get more service, and how many areas that are currently served get more competitive services.⁴⁶ Measurable progress should be deemed evidence of reasonable and timely deployment.

Are the quality and accessibility of broadband service improving? Broadband availability should keep pace with consumers’ needs and appetites for more and faster broadband. The Commission therefore should examine consumer use of broadband to determine

⁴⁶ See *infra* section D.2.b.i. for a discussion of how to define the terms “unserved,” “underserved” and “served.”

whether, for example, average consumer use is increasing, and whether generally available speeds are increasing to keep pace with demand.

b. An overall finding that broadband is being reasonably and timely deployed need not end the inquiry.

Examination of the foregoing criteria would inform an overall determination of whether deployment is reasonable and timely. If the Commission finds overall deployment to be reasonable and timely, but a more granular examination results in a negative determination in certain areas, the Commission would still be empowered to continue taking remedial action as it traditionally has in response to such findings. These actions historically have been nationwide in scope, and not targeted to specific areas. That is, the Commission has not before undertaken to target its section 706 remedial action specifically to areas where it affirmatively finds a lack of reasonable and timely deployment.

Nothing in the statute dictates such an approach, however. Even where the Commission finds overall deployment to be reasonable and timely, it nevertheless, could find progress to be lacking on an area-by-area basis. Under such circumstances, the Commission could target remedial action to encourage broadband deployment where it is most needed.

i. Unserved, underserved and served areas should be defined using reasonable corresponding speed and technology benchmarks.

In defining the terms “unserved,” “underserved” and “served,” the Commission should assess coverage based on realistic considerations about how broadband is being used to access the internet. For example, because we know Americans have been steadily migrating to mobile broadband service use and frequently using such services even when they have other options, mobile services of an acceptable speed should be deemed advanced telecommunications capability for purposes of this inquiry. It therefore would be reasonable to conclude that mobile

broadband capable of achieving speeds of 10 Mbps download, such as LTE services, would meet typical consumer needs, especially since the Commission funds fixed broadband deployment at that download speed.⁴⁷ In fact, because the 25/3 benchmark was based on a household size of 2.58 persons,⁴⁸ 10 Mbps per person using mobile broadband is roughly equivalent to that benchmark. Thus, unserved areas could be defined as those without an offering of broadband at 10 Mbps download or greater, regardless of technology.

Similarly, underserved areas could be defined as those areas that have two or fewer options at the 10 Mbps download speed or greater, which would provide some competitive, albeit limited alternatives. Served areas could be defined as areas with at least three competitive broadband choices, all of which provide 10 Mbps or greater download speed, and at least one of which meets the current benchmark of 25/3.

ii. Only unserved and underserved areas should be subject to remedial action.

Light-touch regulation of the internet and services such as broadband is the policy of the United States.⁴⁹ Therefore, rather than the broad-based, national regulatory actions the Commission has traditionally taken in response to previous negative findings about the adequacy of broadband deployment, any future action should be targeted only to areas where there is an affirmative finding that broadband is not being deployed in a reasonable and timely manner. That is, only unserved and underserved areas, as defined above or using other rational criteria, should be subject to remedial action taken under the Commission's section 706 authority. Areas not falling into either of these categories should not be subject to such remedial action.

⁴⁷ See *Connect America Fund, et al.*, 29 FCC Rcd 15644 (2014) (adopting a minimum download speed of 10 Mbps for CAF II high-cost support eligibility).

⁴⁸ *2015 Broadband Progress Report and NOI*, 30 FCC Rcd at 1403, n.207.

⁴⁹ See, e.g., 47 U.S.C. §230(b).

Additionally, action should be narrowly tailored to remedy the lack of broadband availability that exists in each unserved or underserved area. To some degree, the Commission already takes this approach with the Universal Service Fund, funneling support to high-cost areas that would be unserved without support. The Commission should also provide incentives for private investment and infrastructure building that recognize a greater need for broadband in some areas over others.

iii. Benchmarks should be examined periodically to ensure they reflect the current state of broadband use.

As earlier noted, to minimize disruption as the Commission transitions to a new framework for assessing broadband deployment, USTelecom supports retaining the current benchmark of 25/3 for wired broadband as a baseline for future progress reports. We also support subjecting mobile broadband to a more appropriate speed benchmark commensurate with the levels currently achieved, which seems to meet the needs of a majority of consumers. As consumer needs change, so should the benchmarks. We recommend that speed benchmarks be examined and adjusted, if necessary, at least every three years,⁵⁰ and that they be based on the speeds of broadband services commonly purchased and used by consumers, with the goal of determining if availability is keeping pace with consumer demand. For example, the Commission might select benchmarks based on the speed of broadband commonly purchased and used by consumers, and determine that broadband is being deployed on a reasonable and

⁵⁰ Although the Commission must conduct the section 706 inquiry annually, it could reasonably determine, based on typical consumer usage, that annual speed benchmark adjustments would be unnecessary and/or unduly burdensome.

timely basis if an area has broadband at that benchmark or at speeds that fall within one or two standard deviations of that benchmark.⁵¹

c. Use of objective criteria and verifiable data will improve the credibility of the section 706 inquiry.

Employing objective criteria that measure multiple aspects of overall deployment efforts would be far less arbitrary than the current inquiry, which ignores progress and focuses only on whether a specific benchmark is met. Given the massive yearly investment in broadband infrastructure from private sources as well as the Universal Service Fund, the current methodology for assessing the adequacy of broadband deployment, which has consistently yielded negative findings, seems fundamentally flawed. The Commission has ample authority and flexibility to take a common sense approach and make a common sense finding that the progress of broadband deployment in this country is not only adequate, but should be acknowledged as a success story.

This approach also facilitates the targeting of remedial action only to those areas that need it; *i.e.*, where consumers are unserved or underserved. Moreover, by taking into account consumers' actual broadband use and experiences, the goal of extending broadband to all Americans in a reasonable and timely manner, as intended by section 706, can finally be fully achieved and acknowledged.

⁵¹ Alternatively, the Commission could find the availability of broadband to be reasonable and timely if an area has broadband speeds that fall within one or two standard deviations of the *average* speed of commonly purchased and used broadband.

III. THE COMMISSION SHOULD USE FORM 477 DATA IN ITS ANALYSIS OF BROADBAND DEPLOYMENT.

USTelecom supports the continued use of Form 477 broadband deployment data for section 706 analysis.⁵² We are not aware of other sources that provide the same level of granular detail, targeted to the specific question of broadband deployment.

The Form 477 data may overstate deployment in some areas; for example, the Census block level data may over-count some unserved locations in a given census block, particularly in more geographically spacious census blocks in rural areas. While the FCC's data are not perfect, they are far superior to earlier used data sets, and any overstatement due to reporting at the census block level is likely to be relatively small at broad geographic levels such as the county, state and national levels. In fact, census block data are quite granular by historical and international standards. The FCC data are an improvement over the National Broadband Map data that the National Telecommunications and Information Administration (NTIA) previously collected through 2014; and the NTIA data were a vast improvement over previous estimates based on aggregations of public company statements and hypothetical models. For analysis at broad geographic levels, the current FCC and NTIA data are likely to provide an accurate picture of broadband availability.

To the extent there are flaws in the 477 data collection, it would be impractical and inappropriate to delay the section 706 inquiry pending their resolution. The Commission instead should address any such concerns in the context of the Form 477 Modernization proceeding⁵³

⁵² See *Broadband Progress NOI*, ¶ 41.

⁵³ See *Modernizing the FCC Form 477 Data Program*, WC Docket No. 11-10 (rel. Aug. 4, 2017).

and incorporate any improved measurements into future section 706 inquiries and benchmark updates.

IV. THE COMMISSION SHOULD CONTINUE TO PROMOTE THE ACCELERATION OF BROADBAND DEPLOYMENT.

Regardless of the findings in this inquiry, the Commission should adhere to the spirit of section 706 by taking measures to encourage deployment, using all options available to it. Broadband deployment in this country is a success story, but the story could be even better if the Commission fully financed broadband infrastructure in high-cost areas, and if incumbent local exchange carriers (ILECs) were given relief from requirements to maintain and lease their costly and decreasingly used legacy networks that employ copper and outdated technology. Chairman Pai acknowledged in a recent speech that the Commission's rules can make it more expensive to build broadband networks:

Broadband networks are expensive to build. And they don't have to be built. Capital doesn't have to be spent. Risks don't have to be taken. So the more difficult government makes the business case for deployment, the less likely it is that broadband providers, big and small, will invest the billions of dollars needed to connect consumers.⁵⁴

Every dollar spent on maintenance of legacy networks is a dollar not spent on high-speed broadband deployment. It is time to treat ILECs like all other competitors providing high-speed broadband services and allow them to continue to focus their efforts on deploying new, modern broadband networks. Modern fiber and IP-based networks are the only viable solution to supporting high-speed advanced telecommunications capability that will meet current and future consumer and business needs.

⁵⁴ Remarks of FCC Chairman Ajit Pai at the Institute for Policy Innovation's Hatton W. Sumners Distinguished Lecture Series, Irving, Texas (Sep. 7, 2017).

One way to accomplish giving ILECs such relief would be through forbearance of leftover regulations that were appropriate when Bell Operating Companies had monopolies on local service, but have outlasted their usefulness. There are no monopolist broadband providers today; in fact, due to the prevalence of mobile, cable, and satellite broadband, ILECs are not even the largest providers of broadband services. We encourage the Commission to examine any remaining legacy ILEC requirements and give serious consideration to whether, in the context of broadband service, they remain necessary in the public interest to ensure just and reasonable broadband service or to protect consumers.

Additionally, although the Commission continues to make great strides under the CAF program in reaching the dwindling proportion of Americans left unserved, the upcoming CAF II auction and implementation of the Remote Areas Fund will cover only a fraction of the costs projected by the Commission as necessary to bring service to those lacking service at 10/1 Mbps or greater. Specifically, these remaining funds will provide roughly \$300 million of the over \$1 billion in projected annual costs. The Commission has already targeted areas where services are not being deployed due to lack of customer density and excessive costs of deployment (high-cost areas), helping to expand service to millions of Americans where market incentives to deploy broadband were insufficient to spur private investment. Providing additional CAF funding would be another effective way to further encourage reasonable and timely broadband deployment to all Americans.

Finally, we also applaud the Commission's establishment of the Broadband Deployment Advisory Committee, which will be developing model codes and making recommendations on how to promote competitive access to broadband infrastructure and speed broadband

deployment.⁵⁵ This and other similar measures will help ensure that the Commission successfully fulfills the mandate of section 706.

V. CONCLUSION

We have made great progress toward universal high-speed broadband deployment in this country, and our collective efforts should be heralded. Although some work remains to be done, it is hard to dispute that deployment is robust and ongoing. Does that mean that advanced telecommunications capability is being deployed in a timely and reasonable manner? The evidence suggests it does. Providers continue to deploy networks such that nearly all Americans can access the internet via high-speed broadband using multiple modes, devices, and carriers. Today, at least 90 percent of Americans enjoy access to advanced telecommunications capability at the current 25/3 benchmark, and availability at this benchmark continues to grow even as fixed and mobile providers deploy broadband services at higher speeds and of higher quality.

⁵⁵ See *Broadband Progress NOI*, ¶ 47.

The Commission should therefore find that the deployment requirements of section 706 are being met. If and where it does not so find, it must strictly adhere to its limited section 706 authority by adopting policies and imposing only necessary requirements to promote continued broadband deployment by removing barriers to infrastructure investment.

Respectfully submitted,

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ATTACHMENT

U.S. Broadband Availability Mid-2016