

**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 VERIZON ON THE
THIRTEENTH SECTION 706 REPORT NOTICE OF INQUIRY**

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Broadband deployment in the United States is proceeding in a reasonable and timely manner. As Verizon and others have explained in detail, year after year and in various dockets, broadband providers’ substantial investments in next-generation fixed and mobile broadband networks have provided U.S. consumers with access to an ever-growing array of innovative and high-quality services.² The Commission historically has agreed with that assessment, reversing

¹ The Verizon companies participating in this filing (“Verizon”) are the regulated, wholly-owned subsidiaries of Verizon Communications Inc.

² See generally, e.g., Comments of Verizon, *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, WT Docket No. 17-69, at 8-32 (filed May 8, 2017) (“Verizon CMRS Comments”); Comments of CTIA, *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. 16-245, at 3-21 (filed Sept. 6, 2016) (“CTIA Twelfth NOI Comments”); Comments of Verizon, *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. 15-191, at 3-7, 9 (filed Sept. 15, 2015) (“Verizon Eleventh NOI Comments”); Comments of Verizon on the Tenth Broadband Progress Notice of Inquiry, *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, at 4-27 (filed Sept. 4, 2014) (“Verizon Tenth NOI Comments”). Of course, as Verizon and others have also noted,

course only in the past several years – ironically, at a time when broadband deployment has expanded even further, particularly due to the widespread deployment of mobile broadband services in general, especially 4G LTE services.

As the Commission embarks on its latest broadband progress inquiry, it should undo its recent practice of manufacturing new tests purpose-built to justify a negative view of the status of broadband deployment in the United States. Instead, the Commission should assess objectively “whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion.”³ This analysis should take into account the presence of either mobile or fixed broadband service, without assuming that *both* fixed and mobile broadband options must be present in order to conclude that advanced telecommunications capability is being deployed in a reasonable and timely manner. The Commission should also refrain from adding new unnecessary or unreliable criteria (such as latency and consistency/reliability of service) to its assessment.

In short, the Commission should find that mobile and fixed broadband are widely deployed and generally satisfy the statutory standard for “reasonable and timely” deployment throughout much of the country. Where there are certain areas of the nation that do not have access to sufficient broadband capabilities – and to preserve and advance ongoing deployment – the Commission can continue to promote broadband investment and innovation, and forego unnecessary broadband regulation. In particular, the Commission should continue to pursue policies that: (i) make additional spectrum available quickly, for example by making additional

continued classification of broadband internet access services under Title II has restricted and could threaten continued investment and innovation. *See, e.g.,* Comments of Verizon, *Restoring Internet Freedom*, WC Docket No. 17-108 (filed July 17, 2017) (“Verizon Restoring Internet Freedom Comments”).

³ 47 U.S.C. § 1302(b).

bands available that were identified in the Spectrum Frontiers proceeding, by identifying flexible uses for mid-band spectrum at 3.7 GHz and above, and by improving incentives for private investment in the Priority Access Line framework in the Citizens Broadband Radio Service; (ii) streamline wireless infrastructure siting; (iii) reform the pole attachment process; (iv) streamline copper retirement and service discontinuance; (v) advance the CAF Phase II and Mobility Fund Phase II universal service efforts; and (vi) reverse the misguided decision to subject broadband to common carrier regulation and return to the successful light-touch regulatory framework for broadband. Continuing to advance these policies would allow the Commission to address the gaps that exist in broadband availability while also ensuring that Americans continue to enjoy the benefits of next-generation wireline and wireless broadband networks.

I. Broadband Is Being Deployed In A Reasonable And Timely Fashion

Broadband deployment, including of next-generation networks, continues to be robust in most parts of the country. As the Commission already is well aware, broadband providers of all types and with all kinds of platforms – traditional telephone companies, cable operators, wireless providers, and satellite providers – are investing heavily to deploy new broadband technologies, such as fiber-to-the-premises, DOCSIS 3.1, 4G LTE and soon 5G wireless services, and next-generation satellite broadband. The resulting broadband deployment nationwide is staggering. For example, under the definition the Commission proposes to maintain (25 Mbps download/3 Mbps upload),⁴ the Commission’s most recent broadband progress report – using data that are nearly three years old – show that at least 90 percent of the U.S. population has access to fixed

⁴ *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, Thirteenth Section 706 Report Notice of Inquiry, GN Docket No. 17-199, FCC 17-109, ¶ 12 (rel. Aug. 8, 2017) (“*Thirteenth NOP*”).

broadband services.⁵ These figures represent a substantial increase from the 83 percent of the U.S. population with access the previous year.⁶

Mobile broadband is even more ubiquitous than fixed broadband, and also has become a popular option for large numbers of consumers. As a result of U.S. wireless providers' substantial investments in their networks – more than \$26 billion in 2016 alone, and nearly \$489 billion since 1985⁷ – 99.7 percent of the U.S. population lives in areas with 4G LTE coverage (100 percent of the non-rural population, and 98.4 percent of the rural population).⁸ Virtually all U.S. consumers not only enjoy mobile broadband access, but fierce mobile broadband competition: 98.8 percent of the population has access to two or more 4G LTE providers, 95.9 percent has three or more 4G LTE providers, and 89.1 percent has four or more 4G LTE providers.⁹

⁵ *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*, 2016 Broadband Progress Report, 31 FCC Rcd 699, ¶ 79 (2016) (data as of Dec. 31, 2014) (“2016 Broadband Progress Report”).

⁶ *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*, 2015 Broadband Progress Report and Notice of Inquiry on Immediate Action to Accelerate Deployment, 30 FCC Rcd 1375, ¶ 79 (2015) (data as of Dec. 31, 2013) (“2015 Broadband Progress Report”).

⁷ CTIA, *Annual Year-End 2016 Top-Line Survey Results*, <https://www.ctia.org/docs/default-source/default-document-library/annual-year-end-2016-top-line-survey-results-final.pdf?sfvrsn=2> (last visited Sept. 20, 2017).

⁸ *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, Nineteenth Report, 31 FCC Rcd 10,534, Charts III.A.2 & III.A.5 (2016) (data as of Dec. 2015) (“Nineteenth CMRS Report”).

⁹ *Nineteenth CMRS Report*, at Chart III.A.2 (data as of Dec. 2015). See also Andres V. Lerner & Janusz A. Ordoover, *An Economic Analysis of Title II Regulation of Broadband Internet Access Providers*, ¶¶ 42-43 & n.31 (July 17, 2017), attached as Exhibit A to Verizon Restoring Internet

Verizon has been a leader in 4G LTE deployment. As noted by economists Andres V. Lerner and Janusz A. Ordover, “Verizon was the first and leading wireless provider to roll out 4G LTE in the U.S., and is considered ‘the pioneer in LTE deployment.’”¹⁰ Verizon’s 4G LTE service is now available to more than 98 percent of the U.S. population – approximately 322 million people.¹¹ Other providers also offer service in most areas. For example, AT&T offers 4G LTE coverage to at least 98 percent of the population, T-Mobile to 96 percent, and Sprint to 93 percent.¹² Regional and local providers also offer 4G speeds, including in hard-to-serve rural areas.¹³ As a result, the Commission’s own data show that 99.7 percent of the U.S. population has access to 4G LTE, and 95.9 percent has access to three or more providers for 4G LTE.¹⁴

Verizon and other providers have also invested to further expand the capabilities of wireless broadband networks, including through the development of 5G technology and deployment of other advancements to increase 4G LTE broadband speeds, such as 4x4 MIMO technology and 256 QAM for downloads.¹⁵ Meanwhile, wireless competitors are activating new bands of spectrum (such as the recently auctioned 600 MHz licenses¹⁶) that will help them more

Freedom Comments (“Lerner & Ordover Decl.”) (noting these numbers likely understate the share of the population covered).

¹⁰ *Id.*, ¶ 47 (citing Marguerite Reardon, *T-Mobile Launches 4G LTE Network*, CNET (Mar. 26, 2013), <https://www.cnet.com/news/t-mobile-launches-4g-lte-network/>).

¹¹ Verizon Wireless, *When It Really Really Matters, We’re Right There with You*, <https://www.verizonwireless.com/featured/better-matters/> (last visited Sept. 20, 2017).

¹² Lerner & Ordover Decl., ¶ 48 (citing the *Nineteenth CMRS Report*, n.18 & Census Bureau population data).

¹³ *See, e.g.*, Verizon CMRS Comments, at 20-22.

¹⁴ *Nineteenth CMRS Report* at Chart III.A.2 (data as of Dec. 2015).

¹⁵ *See* Lerner & Ordover Decl. ¶ 43.

¹⁶ *See Incentive Auction Closing and Channel Reassignment Public Notice: The Broadcast Television Incentive Auction Closes; Reverse Auction and Forward Auction Results Announced; Final Television Band Channel Assignments Announced; Post-Auction Deadlines Announced*,

broadly deploy mobile broadband. And carriers are deploying fiber to micro cells ever closer to customers to more efficiently use spectrum resources and to meet customer demand for better and faster services. For example, in April of this year, Verizon announced that it had entered into a three-year minimum purchase agreement with Corning to purchase up to 12.4 million miles of optical fiber each year from 2018 through 2020, with a minimum purchase commitment of \$1.05 billion.¹⁷ That fiber will spur our development of a next-generation fiber platform that will support all of our businesses, including delivering high-speed broadband to homes and businesses of all sizes, improve our 4G LTE coverage, and speed the deployment of 5G. In fact, Verizon is rolling out pre-commercial 5G service to pilot customers in 11 markets in 2017 – with 8 markets already up and running -- using its 5G network encompassing several hundred cell

Public Notice, 32 FCC Rcd 2786 (2017); T-Mobile, News Release, *T-Mobile Lights Up World's First 600 MHz LTE Network at Breakneck Pace* (Aug. 16, 2017), <https://newsroom.t-mobile.com/news-and-blogs/cheyenne-600-mhz.htm> (Using its 600 MHz spectrum, T-Mobile will “increase total LTE coverage from 315 million Americans today to 321 million by year’s end.”).

¹⁷ Corning, News Release, *Verizon Agrees to \$1.05 Billion Three-Year Minimum Purchase Agreement with Corning for Next-Generation Optical Solutions* (Apr. 18, 2017), <https://www.corning.com/worldwide/en/about-us/news-events/news-releases/2017/04/verizon-agrees-to-1-point-05-billion-dollar-three-year-minimum-purchaseagreement-with-corning-for-next-generation-optical-solutions.html>.

sites that cover several thousand customer locations.¹⁸ AT&T, T-Mobile, Sprint, and U.S. Cellular continue to move forward on 5G market testing and trials.¹⁹

As a result of increasing competition, investment, and innovation in mobile wireless broadband, in just the last year every major mobile wireless provider began offering aggressive unlimited data plans and promotions. As one analyst commented, the introduction of unlimited plans is “reshaping the wireless competitive landscape.”²⁰ These plans by Verizon,²¹ T-

¹⁸ *Q2 2017 Verizon Communications Inc. Earnings Call*, Thompson Reuters StreetEvents Transcript, at 6 (July 27, 2017), <http://www.verizon.com/about/file/22839/download?token=rXYojBe6> (“On the 5G wireless front, we are up and running in 8 out of the 11 pre-commercial fixed wireless broadband trials on the millimeter wave spectrum. We have the first batch of customers on the network. We will have trial results towards the end of the year that will give us valuable insights for commercial deployments.”); Verizon News, *Verizon To Deliver 5G to Pilot Customers in 11 Markets Across U.S. by Mid 2017* (Feb. 22, 2017), <http://www.verizon.com/about/news/verizon-deliver-5g-service-pilot-customers-11-markets-across-us-mid-2017> (announcing 5G pre-commercial services to select customers in Ann Arbor; Atlanta; Bernardsville, N.J.; Brockton, Mass.; Dallas; Denver; Houston; Miami; Sacramento; Seattle; and Washington, D.C.).

¹⁹ *See, e.g.*, AT&T News Release, *AT&T Details 5G Evolution* (Jan. 4, 2017), http://about.att.com/story/att_details_5g_evolution.html (describing AT&T’s plans for its evolution to 5G – 5G Evolution, including peak theoretical speeds of 1 Gbps at some cell sites in 2017, and mobile and fixed wireless trials in the second half of 2017); AT&T News Release, *AT&T Launches Ultra-Fast Wireless Network in Indianapolis* (July 12, 2017), http://about.att.com/story/5g_evolution_now_live_in_indianapolis.html (AT&T launched 5G Evolution in Indianapolis and plans to make 5G Evolution available in over 20 metro areas by the end of 2017, including Atlanta, Boston, Chicago, Los Angeles, Nashville, and San Francisco); Juan Pedro Tomás, *5G Trials in the U.S.*, RCRWireless News (Feb. 16, 2017), <http://www.rcrwireless.com/20170216/carriers/5g-trials-u-s> (describing 5G trials in the U.S., noting that “Verizon Communications is one of the most active operators in terms of 5G development”). *See also* Verizon CMRS Comments at 17-18 (summarizing wireless companies’ statements regarding 5G plans).

²⁰ RBC Capital Markets Equity Research, *Wireless Pricing/Promotions Update* at 2 (Mar. 16, 2017).

²¹ *See* Verizon, *Plans*, <https://www.verizonwireless.com/plans/verizon-plan/> (last visited Sept. 21, 2017) (offering unlimited 4G LTE data, talk, and text, for one line for \$75, two lines for \$130, three lines for \$150, and four lines for \$160).

Mobile,²² Sprint,²³ and AT&T²⁴ include variations on unlimited 4G LTE, talk, and text and continue to change to better meet customer interests, and provide further basis for the Commission to fully incorporate mobile broadband services into a robust analysis of services widely available to and used by consumers.

Fixed broadband deployment continues to progress rapidly, too. Verizon's all-fiber Fios broadband is available to nearly 14.3 million premises in Verizon's wireline service territory.²⁵ Fios offers symmetrical upload and download broadband speeds, as well as high-quality voice and video. And Fios broadband is now available at near gigabit speeds in many markets.²⁶ As deployment of fixed broadband services accelerates, Verizon faces competition nearly everywhere it has deployed broadband, including its Fios service.²⁷ To keep pace, cable operators are rapidly deploying the latest generation of cable technology known as DOCSIS

²² T-Mobile, *Plans*, <https://www.t-mobile.com/cell-phone-plans> (last visited Aug. 23, 2017) (offering unlimited plan of one line for \$70, two lines for \$100, three lines for \$140, and four lines for \$160 in which taxes and fees are included).

²³ Sprint, *Sprint Unlimited Data, Talk & Text Cell Phone Plans*, <https://www.sprint.com/en/shop/plans/unlimited-cell-phone-plan.html?INTNAV=TopNav:Shop:UnlimitedPlans> (last visited Aug. 23, 2017) (unlimited plan with unlimited talk, text, and data for one line for \$60, \$100 for two lines, \$130 for three lines, \$160 for four lines, and \$190 for five lines).

²⁴ AT&T, *AT&T Plans*, <https://www.att.com/plans/unlimited-data-plans.html> (last visited Aug. 23, 2017) (offering unlimited plan with its fastest data speeds for one line for \$90, two lines for \$145, three lines for \$165, four lines for \$185, and additional lines for \$20 each).

²⁵ Verizon Communications Inc., *Financial and Operating Information As of June 30, 2017*, at 16, <http://www.verizon.com/about/file/22831/download?token=GNb3A70T>. See also Verizon News, *Verizon begins offering Fios in first Boston neighborhoods as revolutionary citywide fiber-optic rollout gets underway* (Dec. 6, 2016), <http://www.verizon.com/about/news/verizon-begins-offering-fios-first-boston-neighborhoods-revolutionary-citywide-fiber-optic>.

²⁶ Verizon News, *Verizon launches Fios Gigabit Connection service delivering millions of customers the speeds they deserve* (Apr. 24, 2017), <http://www.verizon.com/about/news/verizon-launches-fios-gigabit-connection-service-delivering-millions-customers-speeds-they>.

²⁷ Lerner & Ordoover Decl. ¶¶ 65-72.

3.1.²⁸ Meanwhile, in lieu of deploying DOCSIS 3.1, Altice USA, which acquired Cablevision and Suddenlink, has stated it will instead focus on an FTTP upgrade over the bulk of its footprint in the next five years.²⁹

In sum, there is abundant evidence that broadband services – both fixed and wireless – are being deployed widely throughout the United States on a reasonable and timely basis.

II. The Commission Should Not Undermine Its Section 706 Report With Unnecessary Conditions or Criteria

A. The Commission Should Not Condition A Positive Finding Under Section 706 On the Availability of Both Fixed and Mobile Services

While the Commission should incorporate mobile broadband into its analysis and track the country’s progress in access to mobile broadband networks, it should reject the suggestion in the *Thirteenth NOI* that every consumer must have access to *both* fixed and mobile options

²⁸ *Q1 2017 Comcast Corp Earnings Call*, Thompson Reuters StreetEvents Transcript, at 10 (Apr. 27, 2017), http://files.shareholder.com/downloads/CMCSA/5243474920x0x939776/9E61E036-413A-4E2C-BF76-ACCE38F457FA/Comcast_1Q17_Earnings_Call_Transcript.pdf (statement by Comcast Corp. EVP and Comcast Cable President and CEO David Watson that Comcast has deployed DOCSIS 3.1 in numerous markets and expects to deploy it in 65 percent of its service area by the end of this year). See Jeff Baumgartner, *Comcast Lights Up DOCSIS 3.1 in More Markets*, Multichannel News (May 31, 2017), <http://www.multichannel.com/news/distribution/comcast-lights-docsis-31-more-markets/413152>; Jeff Baumgartner, *Cox Enters Next Phase of Gigabit Rollout*, Multichannel News (July 28, 2017), <http://www.multichannel.com/news/cable-operators/cox-enters-next-phase-gigabit-rollout/414291> (Cox has “plans to have gigabit speeds available to 40% of the homes it serves by the end of 2017, and expand from there.”); Daniel Frankel, *Charter Network DOCSIS 3.1 Ready, Rutledge Says; RFP for New Modems Is Out*, Fierce Cable (Mar. 8, 2017), <http://www.fiercecable.com/cable/charter-network-docsis-3-1-ready-rutledge-says-rfp-for-new-modems-out> (Charter has indicated that “all the hardware inside our network is DOCSIS 3.1-ready. We could light that up today,” and has issued a Request for Proposal for modems that would enable Charter to turn on these capabilities to consumers).

²⁹ Jeff Baumgartner, *Altice USA to Skip DOCSIS 3.1, Roll Out All-Fiber Network*, Multichannel News (Dec. 23, 2016), <http://www.multichannel.com/news/distribution/altice-usa-skip-docsis-31-roll-out-all-fiber-network/409330>.

before broadband will be deemed to have been deployed in a reasonable and timely fashion.³⁰

There is no legal or policy basis for requiring the presence of multiple different technologies to make an affirmative finding under Section 706.

First, this proposal is contrary to Section 706’s mandate. To meet its statutory responsibilities, the Commission must determine simply “whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion,”³¹ not whether such capability is being deployed using each of multiple technological platforms. Indeed, Section 706 is technology-neutral: “[t]he term ‘advanced telecommunications capability’ is defined, *without regard to any transmission media or technology*, as high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications *using any technology*.”³² Congress thus intended that the Commission consider all types of broadband in its analysis. The *Thirteenth NOI* itself acknowledges as much, noting “the statutory instruction to evaluate the deployment of advanced telecommunications capability ‘without regard to any transmission media or technology.’”³³ That “instruction” prohibits the Commission from carving up its analysis of broadband deployment based on technology.

Moreover, although advanced fixed and mobile broadband options may have different advantages and disadvantages, depending on the situation, consumers have already demonstrated how much they value mobile broadband services. For instance, in 2016, consumers spent 69 percent of digital media time on mobile devices, compared to only 31 percent on desktop

³⁰ *Thirteenth NOI*, ¶ 10.

³¹ 47 U.S.C. § 1302(b).

³² 47 U.S.C. § 1302(d)(1) (emphasis added).

³³ *Thirteenth NOI* ¶ 9 (citing 47 U.S.C. § 1302(d)(1)).

devices.³⁴ Time spent in mobile apps grew 69 percent in 2016, and time spent in social and messaging apps grew by 394 percent compared to 2015.³⁵ For example, as of 2016, approximately 58.9 percent of Facebook users accessed the social network exclusively from a mobile device.³⁶ There are now more Google searches from mobile devices than PCs, and for many industries, searches from mobile devices far exceed searches from PCs, such as the food and beverage industry, for which 72 percent of online searches were initiated on a mobile device.³⁷

Verizon agrees with the Commission's proposal to evaluate areas that have access to either just fixed or just mobile differently than those areas with both.³⁸ This approach removes some of the binary nature of past 706 inquiries. Instead, the Commission's review should assess four types of areas: (i) those with both mobile and fixed, (ii) those with mobile but no fixed, (iii) those with fixed but no mobile, and (iv) those with neither. Classification using these four types

³⁴ comScore, *2017 U.S. Cross-Platform Future in Focus*, at 7 (2017), <http://www.comscore.com/layout/set/popup/Request/Presentations/2017/2017-US-Cross-Platform-Future-in-Focus?req=slides&pre=2017+U.S.+Cross-Platform+Future+in+Focus>. See also Mary Meeker, Kleiner Perkins, *Internet Trends 2017 – Code Conference*, at 9 (May 31, 2017), <http://www.kpcb.com/internet-trends> (citing eMarketer data showing that in 2016, the average adult spent over 40 percent more time each day on mobile devices than on desktops and laptops).

³⁵ Simon Khalaf, *On Their Tenth Anniversary, Mobile Apps Start Eating Their Own*, Flurry Analytics Blog (Jan. 12, 2017), <http://flurrymobile.tumblr.com/post/155761509355/on-their-tenth-anniversary-mobile-apps-start>.

³⁶ Emil Protalinski, *Facebook Passes 1 Billion Mobile-Only Monthly Users*, VentureBeat (Nov. 2, 2016), <https://venturebeat.com/2016/11/02/facebook-passes-1-billion-mobile-only-monthly-users/>.

³⁷ Greg Sterling, *Report: Nearly 60 Percent of Searches Now from Mobile Devices*, SearchEngineLand (Aug. 3, 2016), <http://searchengineland.com/report-nearly-60-percent-searches-now-mobile-devices-255025> (citing Google and Hitwise data); Hitwise, *Mobile Search: Topics and Themes* (July 5, 2016), <http://hitwise.connexity.com/rs/371-PL-119/images/hitwise-mobile-search-report-us.pdf>.

³⁸ *Thirteenth NOI* ¶ 11.

would help maintain consistency with the statute while allowing flexibility for separate fixed and mobile Universal Service Fund programs.³⁹ This may help providers and regulators focus efforts where most needed and better align needs with programs.

In taking into account the “totality of the evidence,” as the NOI proposes,⁴⁰ the Commission also should not limit itself to looking at a snapshot of current deployment data, but should instead take into account the investment in broadband now being made by providers, and where appropriate, consider its policies that encourage or fund broadband deployment. Further, the Commission itself has already committed billions of dollars a year to the Connect America Fund program, which is on track to bring broadband to many locations with no or only slow broadband today. The price cap LEC program under the Connect America Fund, for example, has deployment milestones that begin in 2017 and will reach 100 percent of funded locations by 2020. The Commission must account for this ongoing investment and progress in its analysis.

In short, the Commission must account for deployment overall, including the ways in which consumers may use mobile broadband to supplement or substitute for fixed broadband. To do so, it will need to recognize that consumers use broadband for an immensely broad set of purposes. Inordinate focus on one specific use would distort the agency’s analysis and fail to reflect consumers’ diverse needs.

B. The Commission Should Not Add Criteria That Will Undermine a Proper Assessment of Broadband Deployment

The *Thirteenth NOI* posits that various other factors relating to broadband service may be relevant to the Commission’s inquiry, and it seeks comment on how the Commission should consider them. But as Verizon has explained previously, the Commission should not undermine

³⁹ *Thirteenth NOI* ¶¶ 9-11.

⁴⁰ *Id.* ¶ 30.

its assessment of broadband deployment by adding criteria that are unnecessary, unreliable, or otherwise inappropriate for purposes of the inquiry required by Section 706.⁴¹ The statute directs the Commission to pursue one inquiry: “whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion.”⁴² This specific statutory inquiry does not justify a government assessment of quality of service.

The additional criteria discussed in the *Thirteenth NOI* do not assist the Commission in fulfilling its statutory mission and should not be adopted. First, the Commission should avoid becoming distracted by the selection of one or more specific speed thresholds and should instead focus on evaluating the steady and continued deployment of ever more advanced services, like the rapid migration from widely-deployed 3G to similarly ubiquitous 4G LTE deployments.⁴³ Repeated resetting of speed benchmarks and evaluating progress according to those artificial thresholds hampers the ability to ensure that consistent progress is made over time. In any event, any threshold the Commission adopts for mobile broadband, at a minimum, must capture the widely deployed⁴⁴ – and widely adopted – 4G LTE wireless services offered by Verizon and other providers. Verizon advertises these services as providing “typical” download speeds of 5-12 Mbps and upload speeds of 2-5 Mbps – although customers often experience far greater speeds as Verizon has deployed LTE Advanced, carrier aggregation and other technical advances

⁴¹ See Verizon Tenth NOI Comments, at 27-32; Verizon Eleventh NOI Comments, at 10-13.

⁴² 47 U.S.C. § 1302(b).

⁴³ See *Thirteenth NOI* ¶¶ 14, 19 (seeking comment on the adoption of various speed benchmarks).

⁴⁴ See *Nineteenth CMRS Report* at Charts III.A.2 & III.A.5 (data as of Dec. 2015, showing that 99.7 percent of the U.S. population lives in areas with 4G LTE coverage – 100 percent of the non-rural population, and 98.4 percent of the rural population).

to enhance service.⁴⁵ An assessment of broadband deployment that ignores these broadly deployed, world-leading mobile broadband services would fail to meet the goals of the statute.⁴⁶

Second, in evaluating broadband speeds, the Commission should maintain consistency across its programs and consider the various speeds that are capable of providing value to consumers. In the Mobility Fund II proceeding, the Commission adopted 10 Mbps downstream/1 Mbps upstream as a goal for areas that receive funding, but also adopted a different speed – 5 Mbps downstream – as the standard for determining whether an area has adequate LTE coverage.⁴⁷ The Commission’s questions about uniformity of mobile coverage and speed have been addressed in that proceeding,⁴⁸ and the Commission should evaluate that discussion as it considers changes to Form 477. The Commission should not do anything in its Section 706 inquiry that creates separate standards or tests.

Third, consideration of a latency threshold as part of the Commission’s inquiry is unnecessary and should not be incorporated into a benchmark for evaluating the availability of broadband.⁴⁹ Selecting a single latency benchmark that would apply in all circumstances, for broadband in general or even mobile broadband in particular, is not a straightforward exercise. The Commission has acknowledged this problem in the past, developing a mechanism to address

⁴⁵ Verizon, *4G LTE Speeds vs. Your Home Network* (May 9, 2013), <https://www.verizonwireless.com/articles/4g-lte-speeds-vs-your-home-network/>; *Q2 2017 Verizon Communications Inc. Earnings Call*, Thompson Reuters StreetEvents Transcript, at 6 (July 27, 2017), <http://www.verizon.com/about/file/22839/download?token=rXYojBe6> (describing network improvements including multi-carrier aggregation, cell densification, spectrum re-farming, use of unlicensed spectrum).

⁴⁶ See *Thirteenth NOI* ¶ 19.

⁴⁷ *Thirteenth NOI* ¶ 20.

⁴⁸ See *Connect America Fund*, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 2152 (2017).

⁴⁹ *Thirteenth NOI* ¶¶ 15, 17, 22.

both low and high latency bids in the Connect America Fund Phase II auction⁵⁰ and correctly noting that mobile latency can vary by mobile technology.⁵¹

Fourth, the Commission should not develop or rely on a standard for “consistency/reliability of service.”⁵² Section 706 is concerned with measuring *deployment*, which should be evaluated separate and apart from more subjective and difficult-to-measure criteria such as service reliability or consistency, however those concepts may be defined. As discussed above, broadband is widely deployed,⁵³ and there is no basis in the statute or elsewhere for the Commission to include only some portion of that deployment based on an amorphous and arbitrary notion of what may constitute “consistent” service.

Apart from this legal limitation, practical constraints preclude the use of any sort of service consistency or reliability metric in assessing broadband availability. The Commission has acknowledged that assessing quality of service for mobile services is particularly difficult, since mobile broadband travels with the user and thus will vary depending on location.⁵⁴ While

⁵⁰ See *Connect America Fund*, Report and Order and Order on Reconsideration, 32 FCC Rcd 1624, ¶¶ 11-18, 31-34 (2017).

⁵¹ *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*, Eleventh Broadband Progress Notice of Inquiry, 30 FCC Rcd 8823, ¶ 40 (2015) (“*Eleventh NOI*”) (“mobile latency can vary significantly based on technology, with LTE generally experiencing lower latency”); see also *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, Eighteenth Report, 30 FCC Rcd 14,515, ¶ 134 (2015) (regarding FCC tests for mobile latency, “[i]t is possible that consecutive tests in the same place, on the same service provider, and at about the same time may test to different servers”).

⁵² *Thirteenth NOI* ¶¶ 17, 22.

⁵³ See *supra* Section I.

⁵⁴ *Eleventh NOI*, ¶ 45 (“[B]ecause mobile broadband travels with the user, service quality may vary at different locations due to a variety of factors, including the particular network technology deployed in a given area, network congestion, or physical interference.”); see also *Eleventh NOI*

these common aspects of mobile broadband options do not prevent these services from being used for many of the same purposes as fixed broadband services, they would greatly complicate the development of a single, nationwide benchmark for consistency of service.

Fifth, the Commission should avoid any focus on “other benchmarks” or “additional characteristics” that are not relevant to broadband deployment.⁵⁵ The statute does not allow for factors like data allowances to inform the mandated inquiry.⁵⁶ In any event, as CTIA explained, “[t]he increasing demand for data has brought more innovation in data plan offerings,” including “the introduction of free data plans offering access to targeted bundles of content that do not count against a customer’s allocation of data.”⁵⁷ “[C]arriers are also providing increased flexibility in their plan offerings, shared data plans, and plans with rollover policies for customer data use,” and the market has driven carriers to offer unlimited data plans, expand data-only plan offerings, and compete on network quality and innovation.⁵⁸ The range of choices that consumers enjoy merely underscores how robust broadband deployment has been.

Sixth, the Commission should continue to rely on Form 477 data for information on service provider coverage. Additional reporting obligations would shed little light on the state of broadband deployment, and compliance costs would burden providers and divert resources away from additional deployment. The Commission should refrain from reliance on non-scientific,

¶ 41 (suggesting that the Commission “consider the effect of weather conditions and physical obstacles on service quality”).

⁵⁵ *Thirteenth NOI* ¶¶ 16, 22.

⁵⁶ *Id.*

⁵⁷ CTIA Twelfth NOI Comments, at 12.

⁵⁸ *Id.*, at 14-15. *See also* Verizon CMRS Comments at 11-26.

crowd-sourced data such as the Measuring Mobile Broadband America data.⁵⁹ Moreover, the Commission is currently collecting comments on proposals to modify and improve its Form 477 data collection program⁶⁰ and is collecting one-time information on mobile broadband service availability for its Mobility Fund program.⁶¹ The Commission should consider the comments and experiences in those proceedings to make any relevant changes to its data collection programs.

Finally, the Commission should not incorporate new international comparisons in its Section 706 analysis of whether deployment is being carried out “in a reasonable and timely fashion.”⁶² While they may have some surface level appeal, international comparisons are fraught with apples-to-oranges comparison problems and don’t, in any event, help much with the analysis required by Section 706. There is no question that world-class networks are being deployed in the United States. The question is the extent and speed at which they are becoming available to Americans in different areas of the country. Thus, the Commission should instead focus more closely on availability differences between different localities in the United States.

⁵⁹ See CTIA Twelfth NOI Comments at 28-30; Letter from Krista Witanowski, CTIA, and Elizabeth Barket, Competitive Carriers Association, to Marlene H. Dortch, FCC, GN Docket Nos. 12-264 & 14-28, WT Docket No. 16-137 (filed Aug. 10, 2016).

⁶⁰ See *Modernizing the FCC Form 477 Data Program*, Further Notice of Proposed Rulemaking, 32 FCC Rcd 6329, ¶ 6 (2017).

⁶¹ See *Connect America Fund; Universal Service Reform – Mobility Fund*, Order on Reconsideration and Second Report and Order, 32 FCC Rcd 6282, ¶ 7 (2017).

⁶² *Thirteenth NOI* ¶ 38. The Commission has an obligation distinct from its Section 706 analysis to include information “comparing the extent of broadband service capability” in different international communities. 47 U.S.C. § 1303(b).

III. The Commission Should Focus On Appropriately Tailored Policies To Accelerate Broadband Deployment

Even though approximately 99.7 percent of Americans have access to at least one form of broadband today and the capabilities of wireline and wireless broadband networks continue to improve at a rapid pace, Verizon supports policies that promote even greater broadband investment and innovation.⁶³ The Commission should continue – as it is already doing in multiple proceedings – to advance policies that will drive deployment of broadband to areas that currently lack adequate broadband service through a framework that encourages maximum broadband investment where the market will deliver, but also targets support toward areas unserved by those market forces. As we have explained in those other pending proceedings, these policies should be appropriately tailored to help address the gaps that exist in broadband availability and ensure that Americans continue to enjoy the benefits of next-generation wireline and wireless broadband networks. Such appropriate policies include the following:

First, the Commission should continue to identify and allocate more licensed and unlicensed spectrum for broadband services. This includes maintaining the reasonable balance struck between satellite and wireless providers on high band spectrum in the Spectrum Frontiers proceeding and freeing up additional spectrum bands identified in that proceeding to make way for more cutting edge 5G services. We also encourage the Commission to move forward quickly toward proposed (and eventually final) rules to permit flexible use of the 3.7-4.2 GHz band.⁶⁴

⁶³ See 47 U.S.C. § 1302(a) (“The Commission ... shall encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans ... by utilizing ... price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment”).

⁶⁴ *Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz*, Notice of Inquiry, 32 FCC Rcd 6373 (2017).

This mid-band spectrum is likely to be globally harmonized for next generation mobile service and is critical to ensure continuing U.S. leadership in the global mobile ecosystem. Also, the Commission should launch a rulemaking to make modest and reasonable changes to the Priority Access License (PAL) framework in the Citizens Broadband Radio Service (CBRS) established in the 3550-3700 MHz (“3.5 GHz”) band, consistent with CTIA’s recent petition.⁶⁵ CBRS in the 3.5 GHz band represents a unique opportunity to leverage 150 MHz of flexible-use, mid-band spectrum for the next generation of wireless service and by taking simple actions, the Commission would greatly improve incentives for private investment in the PAL framework and bolster development and innovation in the 3.5 GHz band as a whole.

Second, the Commission has teed up a variety of proposals that could speed broadband deployment and the transition to next-generation broadband in its infrastructure proceedings. Among these, the Commission should reform pole attachment policies to spur broadband deployment.⁶⁶ In particular, the Commission should allow attachers to use approved contractors who would coordinate and do all work to add a new attachment – that is, it should authorize

⁶⁵ See Comments of Verizon, *Amendment of the Commission’s Rules with Regard to Commercial Operations in the 3550-3650 Band*, GN Docket No. 12-354 (filed July 24, 2017); CTIA Petition for Rulemaking, *Amendment of the Commission’s Rules with Regard to Commercial Operations in the 3550-3650 Band*, GN Docket No. 12-354 (filed June 16, 2017). Specifically, the Commission should: (i) extend the PAL license term from three years to the industry standard, 10 years; (ii) provide an expectation of renewal for PALs, in keeping with Commission precedent; (iii) modify PAL geographic areas to consist of Partial Economic Areas; and (iv) prohibit the public disclosure of CBRS device registration information.

⁶⁶ See generally, Comments of Verizon, *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, WC Docket No. 17-84, at 4-16 (filed June 15, 2017) (“Verizon Wireline Infrastructure Comments”); Reply Comments of Verizon, *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, WC Docket No. 17-84, at 1-14 (filed July 17, 2017) (“Verizon Wireline Infrastructure Reply”).

One-Touch Make-Ready as an alternative to the current pole attachment process.⁶⁷ The Commission should also adopt a rule that incumbent LEC pole attachers are entitled to the telecom rate and the Commission should exclude capital costs from pole attachment rates.⁶⁸

Third, the Commission should remove barriers to wireless broadband infrastructure by taking actions to expedite small cell deployment.⁶⁹ To implement 5G technology, Verizon and other providers will need to deploy spectrum in dense areas, using multiple “small cells” connected by fiber-optic cables. To meet consumer demand and unlock the economic promise of more advanced 4G and 5G, carriers’ networks will require an estimated 10 to 100 times more antenna locations than today’s 3G or 4G networks.⁷⁰ However, many local ordinances and officials (or their consultants) do not take into account the differences between traditional wireless cell sites and small cell facilities, and instead burden the small cell siting process with requirements at least as, if not more, cumbersome than those that apply to much larger facilities. To remove these barriers, the Commission should: (i) clarify that Sections 253 and 332(c)(7) of the Communications Act bar state or local actions that erect substantial barriers to wireless facilities deployment; (ii) adopt rules under Section 253 barring certain state or local actions as

⁶⁷ See Verizon Wireline Infrastructure Comments, at 4-8; Verizon Wireline Infrastructure Reply, at 4-10.

⁶⁸ See Verizon Wireline Infrastructure Comments at 10-15; Verizon Wireline Infrastructure Reply at 11-13.

⁶⁹ See Comments of Verizon, *Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment*, WT Docket No. 17-179, WC Docket No. 17-84 (filed June 15, 2017) (“Verizon Wireless Infrastructure Comments”); Reply Comments of Verizon, *Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment*, WT Docket No. 17-179, WC Docket No. 17-84 (filed July 17, 2017) (“Verizon Wireless Infrastructure Reply”).

⁷⁰ Majed Al Amine, *et al.*, Accenture Strategy, *Smart Cities: How 5G Can Help Municipalities Become Vibrant Smart Cities* at 1 (2017), <http://www.ctia.org/docs/default-source/default-document-library/how-5g-can-help-municipalities-become-vibrant-smart-cities-accenture.pdf>.

per se unlawful; (iii) deem applications granted when the applicable Section 332(c)(7) shot clock expires without action; (iv) adopt a 60-day shot clock for certain small cell applications; (v) exclude certain small cells from tribal reviews, provide guidance on when tribal fees are appropriate, and adopt a 30-day shot clock for tribal reviews; (vi) modify existing exclusions from historic preservation reviews and adopt a new exclusion for “twilight towers”; and (vii) exclude certain facilities constructed in flood plains from redundant environmental reviews.⁷¹

Fourth, the Commission should encourage next-generation broadband by streamlining copper retirement and service discontinuance.⁷² To allow reasonable allocation of resources and encourage the transition to newer technologies, providers seeking to deploy and expand broadband facilities need better tools to efficiently retire legacy copper networks and discontinue outdated services. The copper retirement notice procedures need to be revamped to remedy possible customer confusion, and to shorten the timeline. Customer notices should be linked to the customer’s specific migration to fiber, and not to the actual retirement of their copper. And providers should be able to quickly and efficiently discontinue services that are outdated or better served by other technologies.

Fifth, Commission should continue to advance broadband deployment where it is lacking through the Connect America Fund and Mobility Fund, both moving rapidly toward Phase II implementations. The programs will play a significant role in expanding via neutral processes the deployment of broadband in underserved areas.⁷³ Through these programs, the Commission

⁷¹ See Verizon Wireless Infrastructure Comments, at 5-64; Verizon Wireless Infrastructure Reply, at 4-41.

⁷² See Verizon Wireline Infrastructure Comments at 16-42; Verizon Wireline Infrastructure Reply at 15-32.

⁷³ Indeed, the Commission’s programs are the most targeted programs for bringing service to unserved areas, identifying down to the census block level where broadband is lacking.

can give a needed helping hand to deploy fixed and mobile services where market forces, even with advancements in the policies discussed above, otherwise would not support service.

Finally, the framework should drive investment in broadband by restoring the national, light regulatory touch and removing common carriage regulation from broadband internet access services.⁷⁴ Consumers should be able to access the legal content of their choice when and how they want, while providers should be able to invest in networks and create new products with confidence. But Title II isn't working and ultimately will handcuff innovation, stifle investment, and hurt consumers. The Commission should reverse its Title II classification and Congress should set in place reasonable rules that protect the open Internet once and for all.

Adherence to these policies would allow the Commission to address the limited gaps that exist in broadband availability and ensure that Americans continue to enjoy the benefits of next-generation wireline and wireless broadband networks.

IV. Conclusion

For these reasons, the Commission should ensure that its methodology for assessing broadband deployment reflects all broadband options available to and used by consumers, including in particular mobile broadband options; avoid reliance on criteria or metrics that are unnecessary or unreliable as it pursues its analysis of broadband deployment; and act in a manner that promotes continued broadband investment and innovation.

⁷⁴ See Verizon Restoring Internet Freedom Comments; Reply Comments of Verizon, *Restoring Internet Freedom*, WC Docket No. 17-108 (filed Aug. 30, 2017); Craig Silliman, "Net Neutrality: A Path Forward," *Verizon News* (Mar. 21, 2016) <http://www.verizon.com/about/news/net-neutrality-path-forward>.

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