

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Inquiry Concerning the Deployment of)	
Advanced Telecommunications Capability to)	
All Americans in a Reasonable and Timely)	GN Docket No. 14-126
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)	

**COMMENTS OF VERIZON ON THE
TENTH BROADBAND PROGRESS NOTICE OF INQUIRY**

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I. INTRODUCTION AND SUMMARY

The Commission should conclude that broadband is being deployed throughout the United States in a reasonable and timely fashion. Broadband providers have invested hundreds of billions of dollars in deploying next-generation broadband networks,¹ which, as confirmed by the most recent data underlying the National Broadband Map, already reach more than 99 percent of the population of the United States.² With substantial upgrades to wireline infrastructure to enable higher-speed services and with the extensive deployment of competing 4G wireless broadband services, these networks are continuing to expand to cover even more Americans and to offer more robust services.

In completing its tenth annual broadband progress report, the Commission should correct several analytical mistakes from past reports. First, the Commission should include wireless services in analyzing broadband availability. Although wireless networks may not currently offer the same range of speeds as some next-generation wireline broadband networks, the increasingly widespread deployment and adoption by consumers of wireless broadband services and of 4G services in particular show the need to consider wireless broadband services in any assessment of the broadband marketplace. Consumers have embraced wireless broadband services for a wide range of uses, including video. The NTIA includes wireless broadband in its National Broadband Map, and the most recent data underlying that map show that wireless

¹ See, e.g., USTelecom, *Broadband Investment*, <http://ustelecom.org/broadband-industry/broadband-industry-stats/investment> (noting that, as of 2012, “[t]he broadband industry has invested more than \$1.2 trillion since 1996”).

² See National Telecommunications and Information Administration (NTIA), *Broadband Statistics Report: Access to Broadband Technology by Speed*, at 3, <http://www.broadbandmap.gov/download/Technology%20by%20Speed.pdf> (“*Broadband Statistics Report: Access to Broadband Technology by Speed*”) (data as of Dec. 2013; report published July 2014).

broadband (with download speeds in excess of 3 Mbps and upload speeds in excess of 768 kbps) is available to more than 98 percent of the population, and that 97.5 percent of Americans have access to wireless broadband download speeds greater than 10 Mbps.³ As of the end of 2013, there were approximately 100 million 4G LTE subscribers in the U.S., which represents half of all worldwide 4G LTE connections.⁴

Second, consistent with the language of Section 706, the Commission should distinguish broadband availability from broadband adoption in determining whether broadband is being deployed consistent with statutory objectives. That a small and declining percentage of the country’s population currently does not have access to broadband at home is not a basis for a nationwide finding that broadband is not in fact being *deployed* in a reasonable and timely manner. That is particularly true today, in light of ongoing efforts to deploy new fixed wireless and satellite broadband technologies to these historically underserved areas.

Furthermore, the Commission should avoid adopting new requirements for defining “broadband” that would unnecessarily complicate the Commission’s analysis and hinder the proper assessment of broadband deployment. Section 706 states that “[t]he term ‘advanced telecommunications capability’ is defined, without regard to any transmission media or technology,” “using any technology.”⁵ Thus, Congress contemplated that all types broadband –

³ *Broadband Statistics Report: Access to Broadband Technology by Speed* at 3 (data as of Dec. 2013).

⁴ Andrew Burger, *Mobidia: U.S. LTE Subscribers Reach Nearly 100 Million* (Feb. 24, 2014), <http://www.telecompetitor.com/mobidia-u-s-lte-subscribers-reach-nearly-100-million/>; CTIA, *US Represents 50 Percent of World’s LTE Connections* (Mar. 24, 2014), <http://www.ctia.org/resource-library/facts-and-infographics/archive/US-LTE-Connections> (“CTIA, *US Represents 50 Percent of World’s LTE Connections*”) (citing *Informa Telecoms & Media Group’s World Cellular Information System (WCIS) Plus* database, subscribers by geography and technology (last visited Mar. 6, 2014), and CTIA estimates).

⁵ 47 U.S.C. § 1302(d)(1).

whether wireline, wireless, satellite, or otherwise – should be considered, and the Commission’s analysis should reflect this. If the Commission is interested in tracking higher-speed services – such as services capable of 10 Mbps or more – it should do so. But even as it does so, the Commission should not artificially narrow the definition of broadband to require certain capabilities (such as the ability to stream HD video to multiple users simultaneously), and should instead study the full range of services that consumers demand and the variety of services they are using to fill these varied needs. Moreover, the Commission need not and should not find *both* fixed and mobile broadband must be universally available before the Commission concludes that broadband is being deployed in a timely fashion to all Americans. Nor should the Commission avoid consideration of certain broadband services based on other attributes of these services, including that particular services may be billed based on usage. The issue here is broadband deployment, and, in any event, the Commission itself has previously recognized that usage-based services benefit consumers by allowing them to pay only for what they need, and this mechanism also allows for more efficient use of scarce spectrum resources in the case of wireless services.

Finally, the Commission should promote continued broadband investment and innovation by pursuing policies that (i) increase available spectrum for wireless broadband services; (ii) forego unnecessary regulation of broadband, including any reclassification of such services under the antiquated Title II regime; and (iii) encourage policies that promote access to rights of way and facilitate wireless tower siting. 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. Broadband providers are responding to competition as one would hope: By deploying

more and better facilities, expanding the speeds and capacities of their service offerings, and offering consumers competitive prices. The flexible approach pursued over the last two decades by policymakers of both parties has been central to these successes, and it continues to provide the foundation for innovation and investment that serves consumers well.

II. BROADBAND IS BEING DEPLOYED IN A REASONABLE AND TIMELY FASHION

The broadband marketplace in the United States is thriving, as competition and consumer choices continue to expand. Traditional telephone companies, cable operators, wireless providers, and satellite providers continue to invest substantial sums in deploying new broadband technologies, such as fiber-to-the-premises, DOCSIS 3.0, 4G LTE wireless services, fixed wireless, and next-generation satellite broadband. Consumers increasingly have a multitude of options for broadband service, particularly with the rapid deployment of 4G wireless broadband services that combine higher speeds and advanced capabilities with the significant benefit of mobility. In short, broadband deployment and competition are flourishing.

The data underlying the National Broadband Map,⁶ which the Commission has described as “the most comprehensive and geographically granular deployment data publicly available,”⁷

⁶ NTIA, *National Broadband Map*, <http://www.broadbandmap.gov/>.

⁷ *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*, Eighth Broadband Progress Report, 27 FCC Rcd 10342, ¶ 28 (2012) (“*Eighth Broadband Progress Report*”); *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*, Ninth Broadband Progress Notice of Inquiry, 27 FCC Rcd 10523, ¶ 31 (2012) (“*Ninth Notice of Inquiry*”).

confirm the success of broadband deployment.⁸ Armed with the information supplied by state-level entities and in consultation with the Commission, in July 2014 NTIA released its most recent iteration of the Broadband Statistics Report (with data as of December 2013) and issued a revised nationwide map of broadband availability.⁹ The NTIA's most recent data (which, as noted, include wireless broadband) show that 99.06 percent of household units and 99.33 percent of the population in the United States have access to broadband service with download speeds in excess of 3 Mbps and upload speeds in excess of 768 kbps.¹⁰ In addition, more than 98 percent of household units and approximately 99 percent of the population have access to broadband service with download speeds in excess of 10 Mbps, approximately 85 percent of U.S. household units and the population already have access to broadband service with download speeds in excess of 25 Mbps, and over 82 percent of U.S. households units and population already have access to broadband service with download speeds in excess of 50 Mbps.¹¹ The NTIA's data

⁸ The Broadband Data Improvement Act requires the NTIA, in coordination with the Commission, to oversee the state-level process of collecting and processing detailed information about broadband services, including availability, speed, and technology. This effort is funded as part of the American Recovery and Reinvestment Act. *See* Broadband Data Improvement Act of 2008, Pub. L. No. 110-385, 122 Stat. 4096 (codified at 47 U.S.C. §§ 1301-04); NTIA, *State Broadband Data and Development Grant Program*, Notice of Funds Availability and Solicitation of Applications, 74 FR 32545 (2009). The NTIA's collection of deployment data will expire in 2014, and the Commission will "assume[] the responsibility for collection of broadband deployment data, with some modifications to streamline and reduce the burdens on providers while making other modest improvements," through the Commission's Form 477 reports. *See Modernizing the FCC Form 477 Data Program*, Report and Order, 28 FCC Rcd 9887, ¶ 3 (2013) ("Modernizing Form 477 Order").

⁹ *See* NTIA, *National Broadband Map*, <http://broadbandmap.gov/>; Anne Neville, *Blog: Faster Broadband, Reaching More* (July 17, 2014), <http://www.broadbandmap.gov/blog/3189/faster-broadband-reaching-more/>.

¹⁰ *See Broadband Statistics Report: Access to Broadband Technology by Speed* at 3 (data as of Dec. 2013; report published July 2014).

¹¹ *Broadband Statistics Report: Access to Broadband Technology by Speed* at 4.

confirm that broadband has been successfully deployed, and service providers continue to improve their offerings since the Commission’s last broadband progress report. See Table 1. Thus, although the NTIA’s broadband map is a work in progress,¹² this evidence confirms that broadband has been deployed on a reasonable and timely basis throughout the United States, and that the capabilities of the available broadband services continue to improve.

Table 1. The NTIA’s SBI Data Confirm That Broadband Has Been Successfully Deployed			
	Percent of U.S. Population with Access to Broadband		
	At Least 3 Mbps/ 768 kbps	At Least 25 Mbps Downstream	At Least 50 Mbps Downstream
June 2011 <i>Eighth Broadband Progress Report</i>	98.26%	63.66%	54.57%
December 2012	98.75%	82.88%	79.76%
December 2013	99.33%	85.66%	82.79%

Sources: NTIA, *Broadband Statistics Reports*, <http://www2.ntia.doc.gov/files/broadband-data/Technology%20by%20Speed%20JUNE%202011.pdf> (data as of June 2011, released Feb. 2012); http://www2.ntia.doc.gov/files/broadband-data/Technology_by_Speed_DEC_2012_aug.pdf (data as of Dec. 2012, released July 2013); <http://www.broadbandmap.gov/download/Technology%20by%20Speed.pdf> (data as of Dec. 2013, released July 2014).

Moreover, the availability of broadband is continuing to expand at a rapid pace, particularly with the increasingly widespread deployment of 4G wireless broadband services. Verizon is a leader in deploying both next-generation wireline and wireless broadband. Verizon began the rollout of its all-fiber network in 2004, and it continues to invest in and deploy this network. Verizon’s fiber network is available to approximately 70 percent of the premises in its wireline footprint, or more than 19 million premises.¹³ The number of premises with access to

¹² See NTIA, *About National Broadband Map*, <http://www.broadbandmap.gov/about> (“The SBI data is an ongoing, collaborative data collection, review and revision process. . . . [B]roadband deployment in the United States is continually changing and developing.”).

¹³ Verizon, *2014 Investor Quarterly: Second Quarter*, at 6 (July 22, 2014), http://www.verizon.com/investor/DocServlet?doc=bulletin_vz_2q_2014.pdf (“*Verizon 2Q 2014 Investor Quarterly*”); Thomson Reuters StreetEvents, *VZ – Verizon at Jefferies Global*

FiOS Internet service increased by approximately 1.7 million since the Commission's last broadband inquiry.¹⁴ Verizon's current FiOS Internet offerings range from 25 Mbps to 500 Mbps downstream, with most customers now subscribing to the FiOS Quantum plans that offer download speeds of 50 Mbps or more.¹⁵ In July 2014, Verizon began upgrading FiOS Internet service so new and existing customers receive upload speeds that match their download speeds, at no extra charge.¹⁶

Of course, Verizon is not alone in investing heavily in broadband networks, and its investments in next-generation broadband prompt other providers to respond. AT&T and CenturyLink continue to expand their broadband fiber offerings. In late 2012, AT&T announced it will invest \$6 billion to deliver high-speed IP broadband to 57 million customer locations by 2015.¹⁷ More recently, AT&T has stated that its proposed merger with DIRECTV would enable

Technology, Media & Telecom Conference, at 14 (May 6, 2014), http://www.verizon.com/investor/DocServlet?doc=jefferies_conf_vz_trans_2014.pdf (statement by Verizon EVP and CFO Fran Shammo).

¹⁴ *Compare Verizon 2Q 2014 Investor Quarterly* at 15, with Verizon Communications, *Investor Quarterly: Second Quarter 2012*, at 14 (July 19, 2012), http://www22.verizon.com/idc/groups/public/documents/adacct/2012_q2_quarterly_bulletin.pdf.

¹⁵ Verizon News Release, *Verizon's FiOS Customers To Receive Upload Speeds That Match Their Current Download, Setting a New Standard for Fast Internet Service and Sharing Content* (July 21, 2014), <http://newscenter.verizon.com/corporate/news-articles/2014/07-21-fios-upload-speed-upgrade/>; Verizon, *FiOS – The Power You Need*, <http://www.verizon.com/home/fios/#fios-buzz>.

¹⁶ Verizon News Release, *Verizon's FiOS Customers To Receive Upload Speeds That Match Their Current Download, Setting a New Standard for Fast Internet Service and Sharing Content* (July 21, 2014), <http://newscenter.verizon.com/corporate/news-articles/2014/07-21-fios-upload-speed-upgrade/>.

¹⁷ AT&T News Release, *AT&T To Invest \$14 Billion To Significantly Expand Wireless and Wireline Broadband Networks, Support Future IP Data Growth and New Services* (Nov. 7, 2012), <http://www.att.com/gen/press-room?pid=23506&cdvn=news&newsarticleid=35661&mapcode=>. As of the end of 2013, AT&T was marketing its U-verse services to

the combined company to expand broadband deployment further still, “to at least 15 million customer locations across 48 states, with most of those locations in underserved rural areas.”¹⁸

CenturyLink passes nearly 8 million homes with fiber-to-the-node,¹⁹ and in August 2014 announced that symmetrical broadband speeds up to 1 Gbps are now available to residential and business customers in select locations in 16 cities.²⁰ Other companies that have deployed fiber networks in rural and more sparsely populated areas include Hiawatha Broadband Communications and Consolidated Telecommunications Company in Minnesota; Valley Telecommunications in South Dakota; ValuNet in Emporia, Kansas; United Communications in middle Tennessee; LISCO in Iowa; Smithville Communications in southern Indiana; Empire Access in upstate New York; and many smaller telephone companies.²¹

approximately 27 million customer locations. AT&T Inc., *2013 Annual Report*, at 22-23, http://www.att.com/Investor/ATT_Annual/2013/downloads/ar2013_annual_report.pdf.

¹⁸ Description of the Transaction, Public Interest Showing, and Related Demonstrations, *Applications of AT&T, Inc. and DIRECTV for Consent To Assign or Transfer Control of Licenses and Authorizations*, MB Docket No. 14-90, at 1-2 (FCC filed June 11, 2014) (“*AT&T/DIRECTV Public Interest Statement*”).

¹⁹ *Q4 2013 CenturyLink, Inc. Earnings Conference Call – Final*, FD (Fair Disclosure) Wire, Transcript 021214a5264306.706 (Feb. 12, 2014) (statement by CenturyLink Inc. President and CEO Glen Post).

²⁰ CenturyLink News Release, *CenturyLink Expands Its Gigabit Service to 16 Cities, Delivering Broadband Speeds Up to 1 Gigabit per Second* (Aug. 5, 2014), <http://ir.centurylink.com/file.aspx?IID=4057179&FID=24718666>.

²¹ See, e.g., Hiawatha Broadband Communications, Inc. News Release, *HBC Expands Fiber Network in Red Wing* (June 2, 2014), <http://www.hbci.com/2014/06/hbc-expands-fiber-network-in-red-wing/>; Consolidated Telecommunications Company, <http://www.connectctc.com/>; Valley Telecommunications, <http://www.valleytel.net/?s=fiber>; ValuNet, <http://myvalunet.com/>; United Communications, <http://www.united.net/about-united-communications/>; LISCO, <http://www.lisco.com/>; Smithville Communications News Release, *Smith Communications To Turn Up Free Gigabit Connectivity for All Internet Fiber Residential Customers in March* (2014), <https://www.smithville.net/news/gigabit-connectivity>; Empire Access, <http://www.empireaccess.com>; Telecommunications Industry Association, *TIA’s 2014-2017 ICT Market Review and Forecast* at 3-27 (2014).

In recent years, the cable companies have also invested billions of dollars to upgrade their broadband infrastructure, most recently to deploy DOCSIS 3.0.²² As analysts have noted, “[w]ith DOCSIS 3.0, cable operators can advertise cable modem downstream speed levels of over 100Mbps.”²³ Cable’s DOCSIS 3.0 broadband networks are now available to more than 85

²² See, e.g., Applications and Public Interest Statement of Comcast Corp. and Time Warner Cable Inc. at 9, 2, *Applications of Comcast Corp. and Time Warner Cable Inc. for Consent To Transfer Control of Licenses and Authorizations*, MB Docket No. 14-57 (FCC filed Apr. 8, 2014) (“*Comcast/Time Warner Cable Public Interest Statement*”) (“Comcast has deployed DOCSIS 3.0 to 99.8 percent of its footprint,” and “stands ready to implement DOCSIS 3.1 (the next-generation broadband standard),” while “[Time Warner Cable] has upgraded its entire network to DOCSIS 3.0 and has plans to improve speeds and further digitize its network.”); Charter Communications, *2013 Annual Report*, at 6, <http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9NTM3ODY5fENoaWxkSUQ9MjIOTk3fFR5cGU9MQ==&t=1> (“Approximately 94% of our estimated passings have DOCSIS 3.0 wideband technology, allowing us to offer multiple tiers of Internet services with speeds up to 100 Mbps download to our residential customers.”); *Cablevision Systems Corp. at Citi Global Entertainment, Media, and Telecommunications Conference – Final*, FD (Fair Disclosure) Wire, Transcript 010610a2654293.793 (Jan. 6, 2010) (statement by Cablevision COO Tom Rutledge: “[Cablevision] deployed DOCSIS 3.0 and we deployed it across our entire footprint. We offer 101-megabit service. . . .”); Cox Communications News Release, *Cox High Speed Internet Rated Fastest in U.S. by PCMag.com* (Sept. 19, 2011), <http://cox.mediaroom.com/index.php?s=43&item=560> (Cox had deployed DOCSIS 3.0 in all of its service areas in 2011); *DOCSIS 3.0 Market Thriving*, Zacks Equity Research (Dec. 17, 2013), <http://www.zacks.com/stock/news/117193/DOCSIS-30-Market-Thriving> (noting that “[m]ajor cable TV operators in the U.S. are aggressively deploying high-speed Wideband network based on the DOCSIS 3.0 technology,” with a 14% spike in annual investment expected for 2014).

²³ Matt Davis & Amy Lind, IDC, *Verizon Raises the Stakes on Upstream Broadband Speeds* (July 21, 2014). See also Comcast Corp., Form 10-K at 5 (SEC filed Feb. 12, 2014), <http://www.sec.gov/Archives/edgar/data/902739/000119312514047522/d666576d10k.htm> (“We offer a variety of high-speed Internet services with downstream speeds of up to 105 Mbps, and we also have introduced downstream speeds of up to 505 Mbps in limited markets.”); Comcast News Release, *Xfinity Internet: The Insanely Fast Speed You Need* (Apr. 26, 2013), <http://corporate.comcast.com/comcast-voices/usain-bolt-on-xfinity-internet-all-the-insanely-fast-speeds-consumers-need> (“By investing in an advanced, fiber-based network and innovative technologies like DOCSIS 3.0, we’ve built the infrastructure that enables us to constantly increase speeds for our customers, often for no additional cost. In the past 11 years, we’ve increased speeds 11 times and we’ll keep increasing them again in the future.”); Cox Press Release, *Cox Communications Kicks Off Plan To Offer Residential Gigabit Speeds* (May 22, 2014), <http://cox.mediaroom.com/index.php?s=43&item=753> (Cox will begin market-wide deployment of gigabit speeds to residential customers by the end of 2016).

percent of U.S. households, which enabled a 450-percent increase in cable broadband speed in 2013.²⁴ Cable’s upgraded infrastructure will facilitate increasing broadband speeds in the future – to DOCSIS 3.1 – with speeds exceeding 1 Gbps.²⁵ This widespread upgrade to DOCSIS 3.0 makes cable currently the most widely available of the higher-speed wireline broadband services.

Google also offers one-gigabit connectivity through its “Google Fiber” FTTH network initiative.²⁶ Google built a network and began providing service in Kansas City, Mo. in November 2012,²⁷ and a year later began offering service in Provo, Utah, after upgrading the existing fiber network there.²⁸ In Provo, Google has offered everyone who signs up for its first wave of local installations its Free Internet plan for seven years – up to 5 Mbps downstream and

²⁴ NCTA, *Industry Data*, <https://www.ncta.com/industry-data> (citing NCTA analysis of company data, SNL Kagan estimates, and NCTA estimates for DOCSIS 3.0 data, and company-reported data and SNL Kagan for cable broadband speed).

²⁵ See Jeff Baumgartner, *DOCSIS 3.1 Speeds Ahead*, Multichannel News (Apr. 28, 2014), <http://www.multichannel.com/news/news-articles/docsis-31-speeds-ahead/374179>; Telecommunications Industry Association, *TIA’s 2014-2017 ICT Market Review and Forecast*, at 3-25 (2014) (“The rollout of DOCSIS 3.0 with channel bonding has increased maximum possible speeds, and the DOCSIS 3.1 specification, expected to be adopted in 2014, will enable speeds of up to 10 Gbps downstream and 1 Gbps upstream without the need to run FTTH.”). See also Nick Marshall et al., ABIREsearch, *Small Cell Backhaul*, at 12 (Oct. 16, 2013) (“The future DOCSIS 3.1 specification is targeting capacity of at least 10 Gbps downstream and 1 Gbps upstream and should be available in the 2014 to 2015 period.”). “Comcast expects to start deploying [DOCSIS 3.1] soon after the expected finalization of the specifications in 2015 (assuming equipment availability), ahead of any other broadband provider. DOCSIS 3.1 technology will be capable of delivering speeds of several Gigabits per second.” *Comcast/Time Warner Cable Public Interest Statement* at 35.

²⁶ Google, *Google Fiber*, <https://fiber.google.com/about2/>.

²⁷ Alana Karen, Director, Service Delivery, Google Fiber, *Google Fiber Installations Kick Off Today*, Google Fiber Blog (Nov. 13, 2012), <http://googlefiberblog.blogspot.com/2012/11/google-fiber-installations-kick-off.html>.

²⁸ Mike Kretschmer, Customer Solutions Specialist, Google Fiber, *Installations Have Begun in Provo*, Google Fiber Blog (Nov. 13, 2013), <http://googlefiberblog.blogspot.com/2013/11/installations-have-begun-in-provo.html>.

1 Mbps upstream – for just a one-time, \$30 installation fee.²⁹ Google is building out fiber in Austin, Tex., and plans to start connecting customers later this year,³⁰ and in February 2014, Google announced that it has invited 34 cities across the country to “explore what it would take to bring them Google Fiber.”³¹

With respect to wireless broadband, Verizon is a leader here as well, investing heavily to add capacity and density to its 4G LTE network. Verizon Wireless introduced its 4G LTE network in December 2010, and today Verizon Wireless’s 4G LTE service is available to 98 percent of the U.S. population – nearly 308 million people in more than 500 markets.³² In May 2014, Verizon Wireless announced the deployment of Advanced Wireless Services (AWS) spectrum in the 4G LTE network, referred to as XLTE, which is capable of delivering faster peak

²⁹ John Richards, Head of Operations for Google Fiber in Provo, *Re-opening Fiber Sign-Ups in Provo: \$30 Through September*, Google Fiber Blog (July 1, 2014), <http://googlefiberblog.blogspot.com/2014/07/re-opening-fiber-sign-ups-in-provo-30.html>; John Richards, Head of Operations for Google Fiber in Provo, *Provo: New Fiber Deadlines Are Coming Up!*, Google Fiber Blog (Mar. 24, 2014), <http://googlefiberblog.blogspot.com/2014/03/provo-new-fiber-deadlines-are-coming-up.html>; John Richards, Head of Operations for Google Fiber in Provo, *New Year, New Internet Choice for Provo Residents*, Google Fiber Blog (Jan. 22, 2014), <http://googlefiberblog.blogspot.com/2014/01/new-year-new-internet-choice-for-provo.html>.

³⁰ See Jeff Baumgartner, *Google Fiber’s Austin Buildout Is Underway*, Multichannel News (July 10, 2014), <http://www.multichannel.com/news/technology/google-fiber-s-austin-buildout-underway/375828> (citing e-mail from Google Fiber spokeswoman Jenna Wandres).

³¹ Milo Medin, VP, Google Access Services, *Exploring New Cities for Google Fiber*, Google Fiber (Feb. 19, 2014), <http://googlefiberblog.blogspot.com/2014/02/exploring-new-cities-for-google-fiber.html>. Google reported in May 2014 that “[e]ach city has been busy tackling a checklist of items to help prepare for a big local fiber construction project,” and that Google has “been impressed by the enthusiasm and engagement of every one of these cities, and all of them have, for the most part, completed their checklists.” Jill Szuchmacher, Google Fiber Expansion Team, *Checking in on the Checklist*, Google Fiber Blog (May 1, 2014), <http://googlefiberblog.blogspot.com/2014/05/checking-in-on-checklist.html>.

³² Verizon Wireless, *The 4G LTE Difference*, <http://www.verizonwireless.com/aboutus//technology/network.html>.

data speeds to 4G LTE customers in high-traffic areas.³³ XLTE is currently available in more than 350 markets.³⁴ Verizon Wireless recently announced that this AWS spectrum overlay will be completed by the end of 2014.³⁵ Verizon Wireless is also continuing to expand its 4G LTE network to rural areas,³⁶ and is working with rural communications companies to collaboratively build and operate a 4G LTE network in rural areas using the tower and backhaul assets of the rural company and Verizon Wireless's core 4G LTE equipment and 700 MHz upper C-block spectrum. There are now 21 participants in the Verizon LTE in Rural America program, 18 of which have launched their networks, together covering more than 2.3 million people and more than 70,000 square miles.³⁷

Investment by other providers in next-generation wireless broadband also is extremely robust. AT&T's 4G LTE network already covers more than 290 million people, and the

³³ Verizon Communications Inc., Form 10-Q, at 22 (SEC filed July 29, 2014), <http://www.sec.gov/Archives/edgar/data/732712/000119312514284281/d741984d10q.htm>; Debi Lewis, *XLTE: America's Best Network Gets Even Better*, Verizon Wireless News Center (Aug. 21, 2014), <http://www.verizonwireless.com/news/article/2014/05/verizon-wireless-xlte.html>.

³⁴ Paul Macchia, *XLTE by the Numbers*, Verizon Wireless News Center (Aug. 21, 2014), <http://www.verizonwireless.com/news/article/2014/05/xlte-by-the-numbers-infographic.html>.

³⁵ Thomson Reuters StreetEvents, *Verizon Communications Inc at Oppenheimer Technology, Internet & Communications Conference Transcript*, at 4 (Aug. 12, 2014) (statement by Verizon Communications, Inc. EVP and CFO Francis Shammo).

³⁶ The area covered by Verizon's current LTE in Rural America agreements span 158 counties in 14 states, with 2.8 million people across 179,000 square miles – larger than the states of California and Maryland combined. Robin Nicol, *4G LTE Network Launches in Rural Alaska*, Verizon Wireless News Center (Sept. 4, 2013), <http://www.verizonwireless.com/news/article/2013/09/4g-lte-rural-america-program-alaska.html>.

³⁷ Robin Nicol, *Bluegrass Cellular Helps Kentucky Sheriff Keep the Peace*, Verizon Wireless News Center (Aug. 11, 2014), <http://www.verizonwireless.com/news/article/2014/08/bluegrass-cellular-helps-kentucky-sheriff-keep-the-peace.html>; Robin Nicol, *LTE in Rural America Continues To Grow*, Verizon Wireless News Center (May 30, 2014), <http://www.verizonwireless.com/news/article/2014/05/lte-rural-america-continues-to-grow.html>.

company expects to complete its deployment to 300 million people by the end of this summer.³⁸ Sprint recently reported that it was ahead of schedule for its 4G LTE deployment, now covering 254 million people, and that Sprint Spark – an enhanced LTE service – should be available to 100 million people in approximately 100 cities by the end of 2016.³⁹ In March 2014, Sprint announced an agreement with NetAmerica Alliance as part of NetAmerica Alliance’s Smart Market Alliance for Rural Transformation (SMART) program to build out networks for carriers who wish to expand their networks or create a wireless capability.⁴⁰ Under the program, NetAmerica Alliance members “agree to build a Sprint Vision-compliant 4G LTE network for their local market, allowing Sprint customers to ‘share’ that network when in territory.”⁴¹ Sprint reported that “NetAmerica has seen a strong response from rural service providers who are interested in using the SMART program to build an extended network. . . . [As of June 16, 2014],

³⁸ *Q2 2014 AT&T Inc Earnings Call - Final*, FD (Fair Disclosure) Wire, Transcript 072314a5409005.705 (July 23, 2014) (statement by AT&T Inc. SVP IR Susan Johnson); AT&T Inc., Form 10-K, at 2 (SEC filed Feb. 21, 2014), http://www.sec.gov/Archives/edgar/data/732717/000073271714000010/ye13_10k.htm.

³⁹ *Q2 2014 Sprint Corp Earnings Call - Final*, FD (Fair Disclosure) Wire, Transcript 073014a5433113.713 (July 30, 2014) (statement by Sprint Nextel Corporation Chief Network Officer John Saw); Sprint News Release, *Sprint Spark* (June 24, 2014), <http://newsroom.sprint.com/presskits/sprint-spark.htm>; Sprint News Release, *Sprint Celebrates America’s Newest Network with a Satisfaction Guarantee Offering Wireless Users a 30 Day Risk-Free Trial* (June 23, 2014), <http://newsroom.sprint.com/news-releases/sprint-celebrates-americas-newest-network-with-a-satisfaction-guarantee-offering-wireless-users-a-30-day-riskfree-trial.htm>.

⁴⁰ Sprint News Release, *Sprint, Competitive Carriers Association and NetAmerica Alliance Join Forces To Accelerate Deployment and Utilization of 4G LTE Across the United States* (Mar. 27, 2014), <http://newsroom.sprint.com/news-releases/sprint-competitive-carriers-association-and-netamerica-alliance-join-forces-to-accelerate-deployment-and-utilization-of-4g-lte-across-the-united-states.htm>.

⁴¹ Bernie Arnason, *Sprint Partners with CCA and NetAmerica To Expand Rural 4G LTE*, Telecompetitor (Mar. 27, 2014), <http://www.telecompetitor.com/sprint-partners-cca-netamerica-expand-rural-4g-lte/>.

NetAmerica completed preliminary agreements with 14 companies and has engaged in discussions with approximately 40 additional companies in more than a dozen states.”⁴² T-Mobile’s 4G LTE network covers more than 233 million people, which the company plans to expand to more than 250 million people by the end of 2014, and to more than 280 million people by mid-2015.⁴³

Mobile providers are racing to deploy 4G LTE services to meet consumer demand for broadband. As industry analysts have noted, “LTE is the fastest-growing cellular technology in history in terms of subscription-number growth.”⁴⁴ As observed by the White House Office of Science and Technology Policy and the National Economic Council, annual investment in U.S. wireless networks grew from \$21 billion in 2009 to \$30 billion in 2012.⁴⁵ The wireless industry estimates that in 2013, wireless carriers in the U.S. invested \$34 billion in their networks,⁴⁶ and

⁴² Sprint News Release, *Sprint To Expand 4G LTE Roaming Through 12 New Agreements with Carriers Covering a Population of Over 34 Million* (June 16, 2014), <http://newsroom.sprint.com/news-releases/sprint-to-expand-4g-lte-roaming-through-12-new-agreements-with-carriers-covering-a-population-of-over-34-million.htm>.

⁴³ *Q2 2014 T-Mobile US Inc Earnings Call - Final*, FD (Fair Disclosure) Wire, Transcript 073114a5396442.742 (July 31, 2014) (statement by T-Mobile US Inc. President & CEO John Legere).

⁴⁴ Paul Lambert, *Successful LTE Strategies: How To Use LTE To Build a Compelling Broadband Strategy*, Informa Telecoms & Media, at 4 (July 2012), <http://www.informatandm.com/wp-content/uploads/2012/07/Successful-LTE-strategies-white-paper.pdf>.

⁴⁵ The White House Office of Science and Technology Policy and the National Economic Council, *Four Years of Broadband Growth*, at 2 (June 2013), http://www.whitehouse.gov/sites/default/files/broadband_report_final.pdf.

⁴⁶ CTIA, *US Invests Four Times More in Networks* (Mar. 13, 2014), <http://www.ctia.org/resource-library/facts-and-infographics/archive/us-investment-networks> (citing Didier Scemama, et al., Bank of America Merrill Lynch, *2014 Wireless Capex: BRICs & Europe To Pick Up the Slack*, Global Telecom Equipment, at Table 2 (Jan. 13, 2014). See also Glen Campbell, Bank of America Merrill Lynch, *2014: The Year Ahead; Global Wireless Matrix 4Q13*, at Tables 1 and 2 (Jan. 8, 2014)). See also 4G Americas, *4G Americas Global*

studies project capital expenditures by U.S. wireless broadband providers of around \$35 billion a year from 2013 to 2017, up from around \$25 billion a year for 2010 to 2012.⁴⁷ The result of this investment is clear: The NTIA's data show that as of the end of 2013, 97.5 percent of Americans have access to wireless broadband download speeds greater than 10 Mbps.⁴⁸ Even more recent data show the United States now represents half of the world's LTE connections, despite representing only five percent of the world's wireless connections.⁴⁹

There is also significant investment being made or planned in alternative broadband technologies, including satellite and fixed wireless. Satellite companies have invested heavily to upgrade their broadband services. In January 2012, following the October 2011 launch of its ViaSat-1 satellite, ViaSat began providing its Exede high-speed Internet service at 12 Mbps downstream and 3 Mbps upstream on all plans, beginning at \$50 per month.⁵⁰ ViaSat has announced plans to launch another satellite, ViaSat-2, in mid-2016, which is expected to

Deployments Status – 15 Aug 2014,
http://www.4gamericas.org/UserFiles/file/Global%20Status%20Updates/Aug%2015/01_Canada%20US%208_15_14.pdf (listing 4G LTE deployments by U.S. carriers).

⁴⁷ See Declaration of Andres V. Lerner ¶ 100 & Figure 13, *attached as Exhibit 2 to Comments of Verizon and Verizon Wireless, Framework for Broadband Internet Service*, GN Docket No. 10-127 (FCC filed July 15, 2014).

⁴⁸ NTIA, *Analyze>Summarize>Nationwide*,
<http://www.broadbandmap.gov/summarize/nationwide>.

⁴⁹ CTIA, *US Represents 50 Percent of World's LTE Connections*. See also Roslyn Layton & Michael Horney, Mercatus Center, George Mason University, *Innovation, Investment, and Competition in Broadband and the Impact on America's Digital Economy*, Working Paper No. 14-22, at 9 & Table 1 (Aug. 2014), <http://mercatus.org/sites/default/files/Layton-Competitionin-Broadband.pdf> (comparing availability of 4G LTE to population at 94 percent in the U.S. and only 26 percent in the European Union).

⁵⁰ ViaSat Press Release, *Exede High-Speed Internet To Be Offered by DIRECTV in New Video/Broadband Bundle* (May 17, 2012), <http://www.viasat.com/news/exede-high-speed-internet-be-offered-directv-new-videobroadband-bundle>; Exede Internet, *About Exede*, <http://www.exede.com/what-is-exede>.

“facilitate a significant expansion of Exede services and coverage areas.”⁵¹ EchoStar acquired satellite broadband provider Hughes Network Systems in 2011, in a transaction valued at approximately \$2 billion.⁵² In October 2012, following the July 2012 launch of the EchoStar XVII satellite, EchoStar began providing HughesNet Gen4 broadband Internet services in North America.⁵³ In the fourth quarter of 2012, EchoStar enhanced its SPACEWAY 3 satellite platform to supplement coverage areas for Gen4 services.⁵⁴ HughesNet Gen4 plans range from 5 Mbps downstream and 1 Mbps upstream, to 15 Mbps downstream and 2 Mbps upstream,⁵⁵ and the service is “ideal for those living in areas in which high-speed landline connections are just

⁵¹ ViaSat Press Release, *ViaSat Launches Exede Business Internet Service* (May 7, 2014), <https://viasat.com/news/viasat-launches-exede-business-internet-service>. The ViaSat-1 satellite allows ViaSat to provide the 12 Mbps/3 Mbps Exede service to “75% of the Continental U.S., plus most populated areas of Alaska, Hawaii, and Canada,” and the areas that are not covered by this satellite are currently covered by “enhanced 5 Mbps service offered in areas within the footprint of ViaSat’s other Satellite assets.” ViaSat, *Fact Sheet — ViaSat-1*, https://viasat.com/files/assets/news/web/Fact%20Sheet%20High-Cap_Sat_VS-1.pdf; ViaSat, *High Capacity Satellite System*, <https://viasat.com/broadband-satellite-networks/high-capacity-satellite-system>.

⁵² EchoStar Press Release, *EchoStar Corporation To Acquire Hughes Communications, Inc.* (Feb. 14, 2011), <http://www.echostar.com/NewsEvents/PressReleases/PressRelease.aspx?prid=1172>; EchoStar Press Release, *EchoStar Completes Hughes Acquisition* (June 8, 2011), <http://www.echostar.com/NewsEvents/PressReleases/PressRelease.aspx?prid=1160>.

⁵³ EchoStar Press Release, *HughesNet Gen4 Satellite Internet Service Goes Live with Speeds Up to 15 Mbps* (Oct. 1, 2012), <http://www.echostar.com/NewsEvents/PressReleases/PressRelease.aspx?prid=1114>; EchoStar Corp., Form 10-K, at 4 (SEC filed Feb. 20, 2014), <http://www.sec.gov/Archives/edgar/data/1415404/000104746914001113/a2218344z10-k.htm>.

⁵⁴ See EchoStar Corp., Form 10-K, at 49 (SEC filed Feb. 20, 2014), <http://www.sec.gov/Archives/edgar/data/1415404/000104746914001113/a2218344z10-k.htm>; HughesNet, *Frequently Asked Questions: 3: Where Is HughesNet Gen4 Available?*, <http://gen4.hughesnet.com/learn-more/questions>.

⁵⁵ HughesNet, *Plans and Promotions*, <http://www.hughesnet.com/index.cfm?page=Plans-Pricing>.

not available.”⁵⁶ HughesNet has signed a contract for its next satellite, JUPITER 2/EchoStar XIX, which is scheduled to launch in 2016 as “the world’s highest-capacity broadband satellite.”⁵⁷

In connection with its proposed acquisition of DIRECTV, AT&T has stated that the combined company “will commit to deploy fixed wireless local loop (‘WLL’) technology to bring high-speed broadband to approximately 13 million largely rural customer locations. By using a fixed antenna, this service is designed to perform as well as services with advertised speeds of 15-20 Mbps.”⁵⁸ AT&T further states that “[a]lmost 20 percent of the 13 million customer locations where AT&T’s fixed WLL service will become available have no access to terrestrial broadband services today.”⁵⁹

Finally, the Commission’s own recent data further confirm the reasonableness and timeliness of broadband deployment. The June 2014 *Measuring Broadband America* report found, for example, that “most broadband providers continue to improve service performance by delivering actual speeds that meet or exceed advertised speeds during the past year,” with ISPs providing 101 percent of advertised download speeds during peak usage hours.⁶⁰ Among other

⁵⁶ EchoStar Press Release, *HughesNet Gen4 Satellite Internet Service Goes Live with Speeds Up to 15 Mbps* (Oct. 1, 2012), <http://www.echostar.com/NewsEvents/PressReleases/PressRelease.aspx?prid=1114>.

⁵⁷ Pradman Kaul, President, Hughes, *Hughes: Year in Review*, Sat Magazine (Dec. 2013), <http://www.hughes.com/resources/hughes-year-in-review-1#>.

⁵⁸ *AT&T/DIRECTV Public Interest Statement* at 5.

⁵⁹ *Id.* at 44.

⁶⁰ FCC News Release, *FCC Releases Fourth “Measuring Broadband America” Report* (June 18, 2014), https://apps.fcc.gov/edocs_public/attachmatch/DOC-327722A1.pdf; Office of Engineering & Technology and Consumer & Governmental Affairs Bureau, FCC, *Measuring Broadband America: A Report on Consumer Fixed Broadband Performance in the U.S.*, at 14

things, the study found that, during peak periods, fiber-to-the-home services (such as Verizon's FiOS Internet service) sustained an average of 113 percent of advertised download speeds and approximately 114 percent of advertised upload speeds.⁶¹

III. THE COMMISSION SHOULD ENSURE THAT ITS ASSESSMENT OF BROADBAND DEPLOYMENT FULLY REFLECTS THE EXPANDING RANGE OF CHOICES NOW AVAILABLE TO CONSUMERS

Following enactment of the 1996 Act, the Commission repeatedly found that broadband services were being deployed in a reasonable and timely manner, even where deployment had not yet reached isolated pockets of the country where the economics of deployment are extremely challenging.⁶² Nonetheless, in its last three published broadband progress reports, the Commission reversed course and found that broadband was not being deployed to all Americans

(June 2014), <http://data.fcc.gov/download/measuring-broadband-america/2014/2014-Fixed-Measuring-Broadband-America-Report.pdf> (“*2014 Measuring Broadband America Report*”).

⁶¹ *2014 Measuring Broadband America Report* at 26-27 & Chart 8.

⁶² See, e.g., *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 14853, ¶ 44 (2005); *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd 16978, ¶ 272 (2003); *Petition for Forbearance of the Verizon Telephone Companies Pursuant to 47 U.S.C. § 160(c)*, Memorandum Opinion and Order, 19 FCC Rcd 21496, ¶ 19 (2004); see also *Connecting America: The National Broadband Plan*, at 20 (2010) <http://download.broadband.gov/plan/national-broadband-plan.pdf> (“*National Broadband Plan*”) (finding that “[t]oday, 290 million Americans – 95% of the U.S. population – live in housing units with access to terrestrial, fixed broadband infrastructure capable of supporting actual download speeds of at least 4 Mbps”) (citations omitted); *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; A National Broadband Plan for Our Future*, Sixth Broadband Progress Report, 25 FCC Rcd 9556, ¶ 1 (2010) (“*Sixth Broadband Progress Report*”) (finding based on 2008 data that 14 to 24 million Americans, out of a total population of approximately 310 million did not have access to broadband).

in a reasonable and timely fashion.⁶³ This finding was premised upon several analytical mistakes that the Commission should now correct.

First, the Commission must include mobile wireless Internet access services in analyzing broadband availability. The Commission thus far has declined to consider this popular form of Internet access due to concerns about the accuracy of data regarding mobile broadband speeds and coverage.⁶⁴ Particularly now that 4G LTE services are widely deployed, there is no reasonable basis not to consider wireless broadband.

4G wireless broadband services continue to be rapidly deployed and upgraded, and they generally exceed the Commission's current broadband speed benchmark. As noted above, the NTIA includes wireless broadband in its National Broadband Map, and the most recent data underlying that map show that wireless broadband (with download speeds in excess of 3 Mbps and upload speeds in excess of 768 kbps) is available to more than 98 percent of the population, and that 97.5 percent of Americans have access to wireless broadband download speeds greater than 10 Mbps.⁶⁵ Moreover, a very large and increasing share of consumers subscribe to these services. As of the end of 2013, there were approximately 100 million 4G LTE subscribers in

⁶³ *Eighth Broadband Progress Report* ¶ 1; *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*, Seventh Broadband Progress Report and Order on Reconsideration, 26 FCC Rcd 8008, ¶ 1 (2011) (“*Seventh Broadband Progress Report*”); *Sixth Broadband Progress Report* ¶ 2.

⁶⁴ *Eighth Broadband Progress Report* ¶¶ 31-40; *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*, Tenth Broadband Progress Notice of Inquiry ¶ 34, GN Docket No. 14-126, FCC 14-113 (rel. Aug. 5, 2014) (“*Notice of Inquiry*”).

⁶⁵ *Broadband Statistics Report: Access to Broadband Technology by Speed* at 3-4 (data as of Dec. 2013).

the U.S.⁶⁶ Although some have questioned whether wireless broadband is fully competitive with certain advanced wireline broadband, that is the not relevant issue in this proceeding. The issue here is broadband deployment, and the facts show that 4G has been and is being widely deployed and also widely adopted by consumers.

The significance of excluding wireless broadband is evident from the Commission's determination in its last broadband progress report that "approximately 19 million Americans live in areas still unserved by terrestrial-fixed broadband."⁶⁷ The Commission can arrive at this figure only by excluding wireless broadband services. Indeed, with a population of 321.3 million in the United States with 99.33 percent of the U.S. population having access to high-speed broadband, including wireless broadband, NTIA's most recent data reflect that less than one percent of residents lack access to broadband service with download speeds in excess of the Commission's benchmark.⁶⁸ NTIA properly includes wireless broadband in its analysis of

⁶⁶ Andrew Burger, *Mobidia: U.S. LTE Subscribers Reach Nearly 100 Million* (Feb. 24, 2014), <http://www.telecompetitor.com/mobidia-u-s-lte-subscribers-reach-nearly-100-million/>.

⁶⁷ *Eighth Broadband Progress Report* ¶ 1. See also *Notice of Inquiry* ¶ 40 ("This lack of access to broadband continues today, as June 2013 SBI Data suggest that 22 percent of Americans living on rural areas lack access to 4 Mbps/1 Mbps broadband, and 18 percent of Americans living on Tribal lands are without such access."). But see NTIA, *Broadband Statistics Report: Broadband Availability in Urban vs. Rural Areas*, at 7, <http://www.broadbandmap.gov/download/Broadband%20Availability%20in%20Rural%20vs%20Urban%20Areas.pdf> ("*Broadband Statistics Report: Broadband Availability in Urban vs. Rural Areas*") (reporting 98.0 percent availability of speeds greater than or equal to 3 Mbps/768 kbps in rural areas as of Dec. 2013).

⁶⁸ See *Broadband Statistics Report: Broadband Availability in Urban vs. Rural Areas* at 7; *Broadband Statistics Report: Access to Broadband Technology by Speed* at 3 (broadband availability data as of Dec. 2013). Although the Commission's benchmark for determining whether broadband is available is a threshold service offering actual speeds of 4 Mbps/1 Mbps, the Commission has "relied on 3 Mbps/768 kilobits per second (kbps) as a proxy for the 4 Mbps/1 Mbps benchmark" in making its statutory assessment of deployment. *Notice of Inquiry* n.34; *Eighth Broadband Progress Report* ¶ 29.

national broadband availability, consistent with the facts on the ground about the widespread availability and adoption of this technology, and the Commission should take the same approach.

Contrary to the Commission’s suggestion in its last two reports, concerns about speeds cannot justify excluding wireless broadband services from the Commission’s analysis. The Commission’s past reports expressed concern about the available data regarding wireless broadband, noting that it might overstate the extent to which such services meet the speed benchmark because providers might not be delivering the speeds reported, and because the conditions under which the benchmark speeds were met were relatively rare.⁶⁹ Those concerns are no longer valid. Verizon Wireless’s 4G LTE broadband customers – working in real-world, fully-loaded network environments – have experienced typical download speeds of 5 to 12 Mbps and typical upload speeds of 2 to 5 Mbps.⁷⁰ Following a test “through the 125 largest metros, all 50 states, and across the entirety of the U.S. itself” during the first half of 2014, RootMetrics, an independent mobile analytics firm, concluded that Verizon’s rollout of its XLTE service relying on both C-Block and AWS spectrum has allowed it to double capacity available to consumers in cities around the country in recent months.⁷¹ Other recent independent testing of Verizon Wireless’s 4G service in 30 cities nationwide confirmed average download speeds of 19.6 Mbps

⁶⁹ *Eighth Broadband Progress Report* ¶¶ 36-38.

⁷⁰ See Verizon Wireless, *4G LTE Speeds vs. Your Home Network*, <http://www.verizonwireless.com/insiders-guide/network-and-plans/4g-lte-speeds-compared-to-home-network/>. With its ongoing upgrade to XLTE, Verizon hasn’t changed its “promised LTE speeds of 5 Mbps to 12 Mbps on the download and 2 Mbps to 5 Mbps on the upload.” Matt Hamblen, *Verizon’s XLTE Promises ‘Faster Peak Speeds’ with Double the Bandwidth*, Computerworld (May 20, 2014), http://www.computerworld.com/s/article/9248460/Verizon_s_XLTE_promises_faster_peak_speeds_with_double_the_bandwidth (citing Verizon spokeswoman Debra Lewis).

⁷¹ Patrick Linder, RootMetrics, *The RootMetrics Midyear Mobile Network Performance Report* (Aug. 18, 2014), <http://www.rootmetrics.com/us/special-report-2014-1h-us>.

and upload speeds of 9.3 Mbps.⁷² These test results also show download speeds for other 4G LTE providers in excess of the Commission’s threshold.⁷³ See Table 2.

Table 2. PCMag.com’s LTE “Fastest Mobile Networks 2014” (Speed in Mbps)				
	Verizon Wireless	AT&T	Sprint	T-Mobile
Average download speed	19.6	11.9	6.8	16.8
Maximum download speed	84.3	62.9	54.0	63.5
Average upload speed	9.3	6.3	3.3	9.7
Maximum upload speed	44.3	24.6	14	30.2
<i>Source:</i> Sascha Segan, <i>Fastest Mobile Networks 2014</i> , PC Mag (June 11, 2014), http://www.pcmag.com/article2/0,2817,2459186,00.asp (national LTE results).				

With the deployment of these wireless broadband networks, consumers increasingly rely upon a host of mobile devices, such as smartphones and tablets, to meet their broadband needs.⁷⁴

⁷² Sascha Segan, *Fastest Mobile Networks 2014*, PC Mag (June 11, 2014), <http://www.pcmag.com/article2/0,2817,2459186,00.asp>.

⁷³ Download speeds for 4G LTE services advertised by these carriers exceed the Commission’s threshold. AT&T reports “typical download speeds range from approximately 5 Mbps up to 12 Mbps in most markets.” AT&T, *Broadband Information*, <http://www.att.com/gen/public-affairs?pid=20879>. “Based on [its] internal testing and testing commissioned from third-party vendors, T-Mobile expects customers with broadband-capable devices will experience the following speeds on [its] network: 4G (LTE) network: typical download speeds of 6-20 Mbps and upload speeds of 2-5 Mbps.” T-Mobile, *Company Information*, http://www.t-mobile.com/company/companyinfo.aspx?tp=Abt_Tab_ConsumerInfo&tsp=Abt_Sub_InternetServices. Sprint’s 4G LTE customers can “[e]xpect to experience download speeds of 6-8Mbps and upload speeds of 2-3Mbps,” while Sprint’s enhanced LTE service, Sprint Spark, is “designed to deliver average wireless speeds of 6-15Mbps and peak wireless speeds of 50-60Mbps today on capable devices.” Sprint, *Important Coverage Information*, http://shop2.sprint.com/en/coverage/support/important_coverage_info_popup.shtml; Sprint News Release, *Sprint Celebrates America’s Newest Network with a Satisfaction Guarantee Offering Wireless Users a 30 Day Risk-Free Trial* (June 23, 2014), <http://newsroom.sprint.com/news-releases/sprint-celebrates-americas-newest-network-with-a-satisfaction-guarantee-offering-wireless-users-a-30-day-riskfree-trial.htm>.

⁷⁴ See, e.g., Brian Haven & Ramon T. Llamas, IDC, *U.S. Mobile Phone and Smartphone Installed Base 2014-2018 Forecast*, IDC #247750, at 17, Table 7 (Apr. 2014) (forecasting U.S. smartphone users will grow from 157.1 million at the end of 2012 and 188.5 million at the end of

These devices allow consumers to send and receive e-mail, engage in social networking, share photographs and music, and store and retrieve data, including books, newspapers, magazines, and videos.⁷⁵ 4G wireless service also allows consumers to watch streaming video, which the Commission has recognized is possible at download speeds of 4 Mbps and above.⁷⁶

Consumers have found mobile broadband devices particularly appealing in light of the large variety of data plans that are available at attractive prices to meet their different needs and budgets, and mobile broadband providers continue to improve the capabilities of these services as reflected in large increases in the usage allowances of mobile data plans over time. In February 2014, Verizon Wireless introduced “More Everything” shared-data plans that provide a

2013, to 209.2 million at the end of 2014, 228 million at the end of 2015, and 241.7 million at the end of 2016); Brian Haven et al., IDC, *U.S. LTE Subscriber 2014-2018 Forecast*, IDC #248390, at 12-13 & Table 4 (May 2014) (“IDC estimates that there were 91.0 million LTE subscribers at the end of 2013, up 164.3% from 34.4 million at the end of 2012. . . . Total LTE subscribers will reach 140.8 million by the end of 2014. Total wireless subscribers will reach 342.3 million by the end of 2018, with LTE subscribers reaching 263.3 million, or 76.9% of overall subscribers”); *Cisco Visual Networking Index: Forecast and Methodology, 2013-2018*, at 14, Table 16 (June 10, 2014), http://www.cisco.com/c/en/us/solutions/collateral/service-provider/ip-ngn-ip-next-generation-network/white_paper_c11-481360.pdf (projecting growth of monthly mobile data and Internet traffic in North America, from 389 PB in 2013 to 625 PB in 2014, 969 PB in 2015, and 1,453 PB in 2016); Tom Mainelli, IDC, *Worldwide and U.S. Tablet Plus 2-in-1 Forecast Update: June 2014*, IDC #249510, at 27, Table 15 (June 2014) (estimating 5.6 million 4G-capable tablets and Windows-based tablet/PC hybrid devices shipped in 2012 and 6.7 million in 2013, growing to 13.0 million in 2014, 15.8 million in 2015, and 17.4 million in 2016); compare Yankee Group, *2012 US Consumer Survey*, at 17 (June 2012) (29 percent of respondents had one or more tablets in the household, with 6 percent having two or more), with Yankee Group, *2014 US Connected Devices Survey (Consumer): June/Wave 2*, at 17 (June 2014) (48 percent of respondents had one or more tablets in the household, with 14 percent having two or more).

⁷⁵ See, e.g., *Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services*, Sixteenth Report, 28 FCC Rcd 3700, ¶¶ 354, 356 & Table 54 (2013) (categories of applications used by applications downloaders with smartphones).

⁷⁶ FCC, *Broadband Speed Guide*, <http://www.fcc.gov/guides/broadband-speed-guide>.

1 GB data allowance for \$40, 2 GB for \$50, and other packages of up to 100 GB.⁷⁷ By the end of June 2014, approximately 55 percent of Verizon Wireless’s retail postpaid accounts were “More Everything” plans.⁷⁸ Analysts have noted the increasing popularity of these shared data plans among consumers,⁷⁹ and that “[e]very one of the four major operators now offers shared data plans, allowing varying degrees of devices – from smartphones to tablets to other connected devices – friends/relatives spectrums, and quantities per device.”⁸⁰ AT&T reported that approximately 49 percent of accounts for Mobile Share, a similar shared data plan, “have chosen the 10 gigabyte or higher plans.”⁸¹

With declining prices for mobile broadband service and with mobile broadband-enabled devices being more affordable than desktops and laptops, it is no surprise that penetration of desktop computers is declining while penetration of smartphones, tablet computers, e-readers,

⁷⁷ Verizon Wireless, *The MORE Everything Plan*, <http://www.verizonwireless.com/wcms/consumer/shop/shop-data-plans/more-everything.html>. Verizon Wireless also recently began offering a new plan for individual subscribers that offers unlimited voice, texting, and 2 GB of data for \$60 per month – \$30 per month less than the comparable “More Everything” plan. See Phil Goldstein, *Verizon Undercuts AT&T with \$60 Plan for Unlimited Talk, Text and 2 GB for Individuals*, FierceWireless (Aug. 18, 2014), <http://www.fiercewireless.com/story/verizon-undercuts-att-60-plan-unlimited-talk-text-and-2-gb-individuals/2014-08-18>; Laura Merritt, *More Value with Extra Data on the Nation’s Largest, Most Reliable Network*, Verizon Wireless News Center (Aug. 18, 2014), <http://www.verizonwireless.com/news/article/2014/08/more-value-with-extra-data-on-the-nations-largest-most-reliable-network.html>.

⁷⁸ Verizon Communications Inc., Form 10-Q, at 22 (SEC filed July 29, 2014), <http://www.sec.gov/Archives/edgar/data/732712/000119312514284281/d741984d10q.htm>.

⁷⁹ See, e.g., Colby Synesael et al., Cowen and Company, *Wireless Survey – 2Q14*, at 1, 21, Figures 33 & 34 (July 16, 2014) (reporting the percentage of AT&T and Verizon postpaid survey respondents on shared data plans increasing from 50.4 percent to 58.4 for AT&T, and from 62 percent to 63.6 percent for Verizon, from the first quarter of 2014 to the second quarter of 2014).

⁸⁰ Amy Lind et al., IDC, *IDC United States Consumer Communications Services QView Update, 4Q 13*, IDC #248940, at 8 (June 2014).

⁸¹ AT&T Inc., Form 10-Q, at 26 (SEC filed Aug. 1, 2014), http://www.sec.gov/Archives/edgar/data/732717/000073271714000110/q2_10q.htm.

and netbooks continues to grow.⁸² Indeed, many consumers increasingly rely primarily on mobile services for broadband access,⁸³ and this trend is particularly pronounced among certain demographics. comScore estimates that “[n]early one out of every five Millennials (18 percent) are mobile-only internet users.”⁸⁴ A 2013 survey by the Pew Internet & American Life Project found that 34 percent of all adult cell phone owners “mostly use their phone to access the internet, as opposed to other devices like a desktop, laptop, or tablet computer.”⁸⁵ The survey found that “several demographic groups – young adults, non-whites, the less educated, and the less affluent – have said that they go online mostly using their cell phone at consistently high rates,” including 50 percent of cell Internet users ages 18-29, 43 percent of black cell Internet users, 60 percent of Latino cell Internet users, and 45 percent of cell Internet users with a household income below \$30,000.⁸⁶ comScore reported that in May 2014, “[m]obile platforms – smartphones and tablets – combined to account for 60% of total digital media time spent, up

⁸² See, e.g., Consumer Electronics Association, *16th Annual CE Ownership and Market Potential Study*, at 23, Figure 18 & 26, Figure 22 (Apr. 2014) (penetration of desktop computers has declined from a peak of 75 percent of U.S. households in 2010, to 58 percent in 2014; during the same period, penetration of smartphones grew from 33 percent to 64 percent, penetration of e-readers grew from 6 percent to 28 percent, and penetration of laptop and netbook computers grew from 60 percent to 66 percent, and penetration of tablet computers grew from 8 percent in 2011 to 45 percent in 2014).

⁸³ See, e.g., Strategy Analytics, *Service Provider Strategies (SPS), North America Broadband Forecast 2014* (Apr. 2014) (estimating the share of U.S. broadband users relying on wireless platforms (3G/4G/WiMax, etc.), rather than DSL, cable, and fiber, as the primary access method to the Internet, at 7 percent in 2011, 7.9 percent in 2012, 8.9 percent in 2013, and 9.2 percent in 2014).

⁸⁴ Adam Lella & Andrew Lipsman, comScore, Inc., *Marketing to Millennials*, at 5 (Feb. 5, 2014), <https://www.comscore.com/Insights/Presentations-and-Whitepapers/2014/Marketing-to-Millennials-5-Things-Every-Marketer-Should-Know>.

⁸⁵ Maeve Duggan & Aaron Smith, *Cell Internet Use 2013*, Pew Research Internet Project (Sept. 16, 2013), <http://www.pewinternet.org/2013/09/16/cell-internet-use-2013/>.

⁸⁶ *Id.*

from 50% a year ago. And perhaps more impressively, mobile apps accounted for more than half of all digital media time spent in May, coming in at 51%.”⁸⁷ Within specific content categories, the share of time spent on mobile platforms instead of desktops is dramatically higher, including digital radio and photo activity (both 96 percent mobile), maps (90 percent mobile), games (86 percent mobile), and social networking (71 percent mobile).⁸⁸

Under these circumstances, the Commission simply cannot turn a blind eye to wireless broadband services in determining whether broadband is being deployed in a reasonable and timely fashion.⁸⁹

Second, the Commission should not conflate broadband adoption with broadband availability, giving the United States a nationwide failing grade for broadband deployment until everyone in the country has access *and* has decided to subscribe to the service. This approach cannot be reconciled with the language of Section 706, which requires an assessment of whether broadband “is being deployed to all Americans in a reasonable and timely fashion.”⁹⁰ By speaking in terms of “deploy[ment]” and incorporating a progressive tense formulation that plainly contemplates a forward-looking, ongoing effort, Congress directed the Commission to conduct a reasoned analysis of broadband deployment in light of relevant circumstances. The Commission ignored this directive by focusing solely on whether the ultimate goal of universal

⁸⁷ Andrew Lipsman, *Major Mobile Milestones in May: Apps Now Drive Half of All Time Spent on Digital* (June 25, 2014), <http://www.comscore.com/Insights/Blog/Major-Mobile-Milestones-in-May-Apps-Now-Drive-Half-of-All-Time-Spent-on-Digital>.

⁸⁸ *Id.*

⁸⁹ *Notice of Inquiry* ¶ 34.

⁹⁰ 47 U.S.C. § 1302(b).

availability had already been satisfied.⁹¹ That some customer *somewhere* in the country does not have access to broadband is not a basis for finding that broadband is not in fact being deployed in a reasonable and timely manner anywhere.

The Commission should adjust course and provide the more realistic, reasoned analysis required by Section 706. As evidenced by the plain language of Section 706, the deployment and upgrade of America’s broadband infrastructure will be an ongoing – likely never-ending – process. At a minimum, the Commission should more expressly limit any negative findings under Section 706 to those few areas (which, according to NTIA’s most recent data, cover a minuscule percentage of the population) that remain truly unserved today and are unlikely to be reached by private investment in the near future.

IV. THE COMMISSION SHOULD NOT ADOPT NEW CRITERIA THAT WILL UNDERMINE A PROPER ASSESSMENT OF BROADBAND DEPLOYMENT

The Commission’s notice seeks comment on several issues that, if adopted, would unnecessarily complicate the Commission’s analysis and hinder the proper assessment of broadband deployment required by Congress.

First, the Commission’s inquiry seeks comment on whether mobile services should be evaluated separately from fixed services, using a separate benchmark, and whether a household or geographic area should be considered served by “advanced telecommunications capability” only if it has access to *both* fixed and mobile broadband services meeting the Commission’s benchmarks.⁹² There is no basis in the statute that requires these analyses, or that justifies separate treatment based on technology. Section 706 clearly states that “[t]he term ‘advanced

⁹¹ See *Eighth Broadband Progress Report* ¶ 135 & n.347, ¶ 138; *Seventh Broadband Progress Report* ¶ 48; *Sixth Broadband Progress Report* ¶ 28 & n.119.

⁹² *Notice of Inquiry* ¶¶ 24, 31-32.

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*.”⁹³ It therefore makes no sense to conclude that broadband is not being deployed on a timely basis until every conceivable type of service is available to every consumer.

Second, the Commission’s inquiry seeks comment on whether to incorporate latency and data capacity as core characteristics for determining whether advanced telecommunications capability is being deployed to all Americans.⁹⁴ The addition of these characteristics to the Commission’s analysis is unnecessary. With respect to latency, there is no substantial variation among terrestrial broadband and 4G mobile broadband offerings that would make latency a significant, core characteristic. In its recent *Measuring Broadband America* report on fixed broadband performance, the Commission found that “the latencies measured here for all of the terrestrial-based technologies should be adequate for common latency-sensitive Internet applications, such as VoIP.”⁹⁵ Moreover, the Commission’s own analysis conceded that latency “primarily depends upon factors intrinsic to a specific architecture and is largely outside the scope of improvement if networks are appropriately engineered.”⁹⁶ Thus, there is no reason to

⁹³ Telecommunications Act of 1996, Pub. L. No. 104-104, § 706, 110 Stat. 56, 153 (1996); 47 U.S.C. § 1302(d)(1) (emphasis added).

⁹⁴ *Notice of Inquiry* ¶¶ 25-26.

⁹⁵ *2014 Measuring Broadband America Report* at 35.

⁹⁶ Office of Engineering and Technology and Consumer and Governmental Affairs Bureau, FCC, *2012 Measuring Broadband America: February Report; A Report on Consumer Wireline Broadband Performance in the U.S.*, at 11 (July 2012), <http://transition.fcc.gov/cgb/measuringbroadbandreport/2012/Measuring-Broadband-America.pdf>. See also *2014 Measuring Broadband America Report* at 35 (“We continue to believe that for properly engineered networks the primary causes of latency are intrinsic to the service architecture and are primarily determined by load independent effects.”).

include a 100-millisecond latency threshold as a benchmark for broadband services. Moreover, latency is much less of an issue with 4G mobile services,⁹⁷ which are now widely deployed, and provide a further basis to include mobile broadband services in the 706 inquiry.

With respect to data capacity, the Commission should not allow pricing terms, such as usage-based billing approaches, to factor into its determination of broadband deployment. The issue here is broadband *deployment*, and there is no question that 4G services have been widely deployed and adopted, as demonstrated above. Carriers have offered a wide variety of pricing plans for 4G services, to appeal to customers of all types, and there is no basis to exclude certain plans from the Commission’s analysis. Indeed, with respect to usage-based plans in particular, the Commission has previously recognized the potential benefits of such plans, noting that “prohibiting tiered or usage-based pricing and requiring all subscribers to pay the same amount for broadband service, regardless of the performance or usage of the service, would force lighter end users of the network to subsidize heavier end users. . . . [and] would also foreclose practices that may appropriately align incentives to encourage efficient use of networks.”⁹⁸ In short, usage-based plans enable broader availability by allowing consumers who use less broadband to choose to pay less, and ensure that all users are able to “originate and receive high-quality voice, data, graphics, and video telecommunications using any technology” by curbing the effects of

⁹⁷ See, e.g., Verizon Wireless, *Verizon 4G LTE: The Next-Generation Network*, 4G LTE Tech Brief (2011), http://business.verizonwireless.com/content/dam/b2b/resources/LTE_TechBrief.pdf (“The benefits of Verizon Wireless 4G LTE” include “[l]ow latency to support real-time applications (below 50 ms end-to-end round-trip delay),” and “[b]elow 50 ms network-to-device (one-way) latency.”); Sprint, *Important Coverage Information*, http://shop2.sprint.com/en/coverage/support/important_coverage_info_popup.shtml (“Sprint 4G LTE network: Expect to experience . . . average device to network edge round-trip latency of less than 60ms. The average speed and latency of our 4G LTE network is suitable for video and audio streaming, web browsing and other general Internet usage.”).

⁹⁸ *Preserving the Open Internet*, Report and Order, 25 FCC Rcd 17905, ¶ 72 (2010).

abuse by high-volume users. The Commission also asks if it should adopt a usage threshold in evaluating broadband availability, and the impact usage allowances have on a setting a benchmark.⁹⁹ The Commission should not discount broadband deployment simply because carriers offer consumers a range of service plans. The existence of plan-specific capacity and usage terms does not mean broadband is not available, and therefore the Commission should not adopt minimum service standards.

Third, the Commission's inquiry seeks comment on whether to adopt a new speed benchmark, such as 10 Mbps.¹⁰⁰ The data confirm that the availability and adoption of higher-speed services continue to steadily increase, and it may well make sense for the Commission to monitor progress with respect to such higher-speed services. At the same time, the data confirm that services providing 4 Mbps/1 Mbps are still popular and meaningful to consumers. The FCC's own analysis showed in 2012 that the adoption rate of services at or above the benchmark level (even where faster services are available) is 40.4 percent, and where higher speeds (*i.e.*, at least 6 Mbps/1.5 Mbps) are available, is 27.6 percent for those higher-speed services.¹⁰¹ Moreover, for the sake of consistency and to ensure meaningful comparisons over time, the Commission should maintain a relatively stable benchmark for defining broadband, even if the Commission also sees a benefit of tracking the availability and adoption of higher-speed services.

Finally, the Commission seeks comment on how to incorporate satellite broadband deployment into its next report, asking if the reasons why satellite was not included in its 2012

⁹⁹ *Notice of Inquiry* ¶¶ 27-28.

¹⁰⁰ *Id.* ¶¶ 15-17.

¹⁰¹ *Eighth Broadband Progress Report* ¶ 97, Table 17.

broadband progress report are still valid today.¹⁰² As described in Section II, *supra*, satellite providers, including ViaSat and HughesNet, have invested heavily to upgrade their services, and are currently offering services with downstream and upstream speeds that exceed the Commission’s current speed benchmark. ViaSat and HughesNet offer services of up to 12 Mbps/3 Mbps and 15 Mbps/2 Mbps, respectively; and while these services had only recently been introduced at the time of the last broadband inquiry, today they report serving more than 1.5 million subscribers combined.¹⁰³ Moreover, the Commission’s most recent *Measuring Broadband America* report found that satellite broadband service delivered nearly 140 percent of its advertised upload and download speeds during peak Internet periods, and for the past two years, satellite’s sustained download and upload ratios were higher than DSL, cable, and fiber.¹⁰⁴ In 2013, the Commission’s *Measuring Broadband America* report recognized that “[s]atellite broadband has made significant improvements in service quality,” and that the new generation of satellites launched by providers offer “performance as much as 100 times superior to the previous generation.”¹⁰⁵ There is no reason for the Commission to apply latency or usage

¹⁰² *Notice of Inquiry* ¶ 35.

¹⁰³ See EchoStar Corp., Form 10-Q, at 40 (SEC filed Aug. 7, 2014), http://www.sec.gov/Archives/edgar/data/1415404/000110465914057709/a14-13929_110q.htm (reporting 935,000 HughesNet broadband subscribers as of June 30, 2014); *Q4 2014 ViaSat Earnings Conference Call – Final*, FD (Fair Disclosure) Wire, Transcript 052014a5382292.792 (May 20, 2014) (statement by ViaSat Inc. Chairman and CEO Mark Dankberg, reporting “about 641,000” Exede subscribers).

¹⁰⁴ *2014 Measuring Broadband America Report* at 26-27 & Chart 8 (Sept. 2013 data); Office of Engineering and Technology and Consumer and Governmental Affairs Bureau, FCC, *2013 Measuring Broadband America: February Report; A Report on Consumer Wireline Broadband Performance in the U.S.*, at 20-21 & Chart 4 (Feb. 2013), <http://transition.fcc.gov/cgb/measuringbroadbandreport/2013/Measuring-Broadband-America-feb-2013.pdf> (“*2013 Measuring Broadband America Report*”) (Sept. 2012 data).

¹⁰⁵ *2013 Measuring Broadband America Report* at 4, 7. The Commission recognized that “ViaSat and other satellite industry operators have reduced overall latency by making

thresholds to its broadband benchmark for satellite services, or to consider satellite technology separately for purposes of determining whether broadband has been deployed, contrary to the requirements of Section 706.

V. THE COMMISSION SHOULD ADOPT APPROPRIATELY TAILORED POLICIES THAT WOULD ACCELERATE DEPLOYMENT AND FURTHER THE GOAL OF UNIVERSAL AVAILABILITY OF BROADBAND

Even though approximately 99 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, the Commission must pursue policies that promote continued broadband investment and innovation. These appropriately tailored policies would 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.

First, consistent with its recognition that “[w]ireless broadband is poised to become a key platform for innovation in the United States over the next decade,”¹⁰⁶ the Commission should continue to increase available spectrum for wireless broadband services.¹⁰⁷ As the National

improvements to other elements of their architecture.” *2014 Measuring Broadband America Report* at 18.

¹⁰⁶ *National Broadband Plan* at 75.

¹⁰⁷ See, e.g., Roslyn Layton & Michael Horney, Mercatus Center, George Mason University, *Innovation, Investment, and Competition in Broadband and the Impact on America’s Digital Economy*, Working Paper No. 14-22, at 39-43 (Aug. 2014), <http://mercatus.org/sites/default/files/Layton-Competitionin-Broadband.pdf> (“To be sure, a limiting factor to realizing the mobile future is the availability of spectrum. The United States has taken advantage of technologies to improve the utilization of spectrum, but relying on efficiency enhancement alone is not enough.”); Comments of Verizon and Verizon Wireless on the Seventh Broadband Deployment 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. 10-159, at 35-36 (FCC filed Sept. 7, 2010).

Broadband Plan found, “[t]he growth of wireless broadband will be constrained if government does not make spectrum available to enable network expansion and technology upgrades . . . [resulting in] higher prices, poor service quality, an inability for the U.S. to compete internationally, depressed demand and, ultimately, a drag on innovation.”¹⁰⁸ The Commission should move quickly and aggressively to identify and reallocate additional spectrum for mobile broadband use. For example, in 2012, the Commission allocated 40 MHz of spectrum in the 2 GHz band for the provision of terrestrial mobile broadband service,¹⁰⁹ and the Commission recently adopted rules to “recover a portion of ultra-high frequency (‘UHF’) spectrum for a ‘forward auction’ of new, flexible-use licenses suitable for providing mobile broadband services.”¹¹⁰ Only with the reallocation of this and other substantial blocks of spectrum for future mobile broadband use will the mobile broadband market realize its full potential. Moreover, to ensure that spectrum is used most efficiently and in the best interests of consumers, the Commission should not impose restrictions on who is eligible to bid for this spectrum, or otherwise attach strings that would affect how this spectrum may be used other than standard technical requirements.

¹⁰⁸ *National Broadband Plan* at 77; see also The White House, *Presidential Memorandum: Unleashing the Wireless Broadband Revolution* (June 28, 2010), <http://www.whitehouse.gov/the-press-office/presidential-memorandum-unleashing-wireless-broadband-revolution> (“America’s future competitiveness and global technology leadership depend, in part, upon the availability of additional spectrum. . . . Expanded wireless broadband access will trigger the creation of innovative new businesses, provide cost-effective connections in rural areas, increase productivity, improve public safety, and allow for the development of mobile telemedicine, telework, distance learning, and other new applications that will transform Americans’ lives.”).

¹⁰⁹ *Service Rules for Advanced Wireless Services in the 2000-2020 MHz and 2180-2200 MHz Bands*, Report and Order and Order of Proposed Modification, 27 FCC Rcd 16102, ¶ 1 (2012).

¹¹⁰ *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Report and Order, 27 FCC Rcd 16102, ¶ 1 (2014).

Second, the Commission should maintain the light-touch regulatory approach that has been pursued on a bipartisan basis since the Clinton administration and that has fostered the tremendous investments and innovation that have brought broadband, usually from multiple providers, to virtually all Americans.¹¹¹ Maintaining a flexible, consumer-driven approach to Internet services will continue to ensure the success of the open Internet while fostering the needed ongoing investments in broadband infrastructure. The Commission should reject proposals to reverse course by reclassifying broadband Internet access service as a “telecommunications service.”¹¹² As Verizon has explained in its comments on that issue, this radical departure from well-established precedent would be contrary to the facts and the law.¹¹³ The ultra-regulatory “Title II” approach would raise the specter of rate regulation, entry and exit regulation, and a broad array of other requirements, prompting investors to withdraw capital from the communications sector (as they did when the idea was first considered in 2010).¹¹⁴

Finally, the Commission should facilitate access to rights of way and wireless tower siting, policies that the Commission is currently evaluating.¹¹⁵ As Verizon and Verizon Wireless

¹¹¹ See, e.g., Comments of Verizon and Verizon Wireless, *Framework for Broadband Internet Service*, GN Docket Nos. 10-127 & 14-28, at 10-16, 29-36 (FCC filed July 15, 2014) (“*Verizon Open Internet Comments*”).

¹¹² *Protecting and Promoting the Open Internet*, Notice of Proposed Rulemaking, GN Docket No. 14-28, FCC 14-61, ¶ 111 (rel. May 15, 2014).

¹¹³ *Verizon Open Internet Comments* at 46-69.

¹¹⁴ See generally Cecilia Kang, *A Look at How the FCC’s Move Can Affect Stocks*, Wash. Post Tech Blog (May 7, 2010), http://voices.washingtonpost.com/posttech/2010/05/a_look_at_how_the_fccs_move_ca.html (showing that, the day after Chairman Genachowski floated his “Third Way” reclassification proposal, “shares of cable and telecom stocks were trading 300 to 400 basis points lower than the overall market”).

¹¹⁵ See *Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies*, Notice of Proposed Rulemaking, 28 FCC Rcd 14238 (2013); cf. *2004 and 2006 Biennial Regulatory Reviews – Streamlining and Other Revisions of Parts 1 and 17 of the Commission’s*

have explained,¹¹⁶ local ordinances often impose a number of hoops that providers must jump through before they can upgrade service, even where a tower or other such facility has previously been approved. In these instances, providers typically need only to add or change antennas to deploy upgraded broadband services (such as LTE) and do not need to expand or otherwise materially modify the underlying facility that supports the antennas. These types of activities do not affect historic properties and should be excluded from historic preservation reviews. Nor do they implicate the core “zoning” interests that Congress preserved for localities to address.¹¹⁷ The Commission should determine how it can assist federal agencies in implementing the provisions of Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012¹¹⁸ as rapidly as possible so as to promote further broadband deployment. Commission involvement here is particularly important for the expansion of broadband in rural areas, because in large parts of the nation that include such rural areas, the federal government owns and controls access to buildings and rights of way.

Rules Governing Construction, Marking and Lighting of Antenna Structures, Report and Order, WT Docket No. 10-88, FCC 14-117, ¶ 6 (rel. Aug. 8, 2014) (taking steps “to streamline our rules [to] improve efficiency and reduce regulatory burdens, which we anticipate may enhance compliance and air safety”).

¹¹⁶ See, e.g., Comments of Verizon and Verizon Wireless, *Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies*, WT Docket No. 13-238, at 4-8 (FCC filed Feb. 3, 2014).

¹¹⁷ See 47 U.S.C. § 332(c)(7).

¹¹⁸ Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, § 6409(a), 126 Stat. 156, 232 (2012); 47 U.S.C. § 1455(a).

VI. CONCLUSION

The Commission should confirm that broadband services are being deployed in a reasonable and timely fashion in the overwhelming majority of the country, and the Commission should continue to pursue policies that encourage broadband investment and innovation.

Respectfully submitted,

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