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

In the Matter of	)	
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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. 12-228

NINTH BROADBAND PROGRESS NOTICE OF INQUIRY

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By the Commission: Chairman Genachowski and Commissioners McDowell, Clyburn, Rosenworcel, and Pai issuing separate statements.

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I. INTRODUCTION

1. Section 706 of the Telecommunications Act of 1996, as amended (1996 Act), requires the Commission to determine and report annually on "whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion."[1] This Notice of Inquiry (Inquiry) initiates the Commission's ninth assessment of the "availability of advanced telecommunications capability to all Americans (including, in particular, elementary and secondary schools and classrooms)."[2] This Inquiry will culminate in a report to "determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion."[3] To help us fulfill our statutory responsibilities, we solicit data and information that will inform the Commission's determination and allow us to evaluate all of the factors that influence the availability of broadband to all Americans. Given the critical contribution of broadband to the opportunities for individuals to find and create jobs and prosperity, we examine critically how we should define "advanced telecommunications capability."[4] In particular, we seek comment on the criteria we should use to define "advanced telecommunications capability," whether we should establish separate benchmarks for fixed and mobile services, which data we should rely on in measuring broadband, and other issues.

2. As we described in our *2012 Eighth Broadband Progress Report*, tremendous efforts are being made by the private sector, the Commission, and other governmental entities to bring broadband to all Americans.[5] Wireless and wireline providers invest tens of billions of dollars annually in expanding their broadband networks, increasing speed and improving quality.[6] For example, recent trends show providers offering much higher speeds: Verizon is offering up to 300 Mbps/65 Mbps for FiOS,[7] while

[1] 47 U.S.C. § 1302. Section 706 of the Telecommunications Act of 1996, Pub. L. No. 104-104, § 706, 110 Stat. 56, 153 (1996) (1996 Act), as amended by the Broadband Data Improvement Act (BDIA), Pub. L. No. 110-385, 122 Stat. 4096 (2008), is now codified in Title 47, Chapter 12 of the United States Code. *See* 47 U.S.C. § 1301 et seq.

[2] 47 U.S.C. § 1302(b).

[3] *Id*. Section 706 also requires the Commission to compile "[d]emographic information for unserved areas." *Id*. § 1302(c) (requiring the Commission, in part, to "compile a list of geographical areas that are not served by any provider of advanced telecommunications capability"). The Commission must complete an international comparison of broadband service capability. *Id*. § 1303(b).

[4] *See id*. § 1302(d)(1).

[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*, GN Docket No. 11-121, Eighth Broadband Progress Report, FCC 12-90, Section I (rel. Aug. 21, 2012) (*2012 Eighth Broadband Progress Report*).

[6] *See, e.g.*, AT&T Comments, GN Docket No. 11-121, at 1–2 (adding that broadband deployment and investment—in both wireline and wireless technologies—continue to be robust, even as the economy overall languishes); MetroPCS Comments, GN Docket No. 11-121, at 9; USTelecom Comments, GN Docket No. 11-121, at iii, 5; *see also* TELECOMMUNICATIONS INDUSTRY ASSOCIATION, TIA'S 2012 ICT MARKET REVIEW AND FORECAST 1–3 (2012) (in 2011, investment in wireline and wireless network infrastructure rose 24 percent); *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, WT Docket No. 10-133, Fifteenth Report, 26 FCC Rcd 9664, 9735–40, paras. 108–15 (2011) (*Fifteenth Mobile Wireless Competition Report*), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-11-103A1_Rcd.pdf.

[7] *See, e.g.*, VERIZON, INTERNET OFFERS, http://www.buyverizon.com/fios-internet.aspx (offering up to 300 Mbps/65 Mbps); *see also* Press Release, Comcast, Comcast Doubles Speeds of Two Xfinity Internet Speed Tiers at No Additional Cost to Customers (July 24, 2012) (announcing plans to offer a 305 Mbps/65 Mbps service) (Comcast Press Release, July 24, 2012), *available at* http://www.comcast.com/About/PressRelease/PressReleaseDetail.ashx?PRID=1205&SCRedirect=true.

CenturyLink is offering up to 40 Mbps/5 Mbps.[8] In May 2012, Comcast raised the monthly data limit for its subscribers to 300 gigabytes (GB), up from 250 GB.[9] DOCSIS 3.0, which is capable of 100 Mbps speeds and even higher speeds,[10] has been deployed to 82% of U.S. households.[11] On the mobile front, change is accelerating. Providers have continued to expand their coverage,[12] but are also deploying new, faster, and more spectrally-efficient mobile network technologies, most notably LTE, which offers advertised download speeds as high as 5–12 Mbps.[13] Industry efforts are complemented by public efforts at federal, state, and local levels. In the recent *USF/ICC Transformation Order*, the Commission adopted transformative changes to the high-cost universal service program to bring broadband to millions of Americans over the coming years and set the country on a path to universal availability.[14]

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[8] CENTURY LINK, HIGH-SPEED INTERNET/DSL SERVICE OFFERS, http://www.centurylink.com/home/internet/ (offering up to 40 Mbps/5 Mbps). Comcast will double the speed of its $39.95 monthly Economy high-speed Internet tier from 1.5 Mbps to 3 Mbps, following plans to increase the speed of the broadband package. *See* Steve Donahue, *Comcast May Double Speed of Economy High-Speed Internet Tier*, FIERCECABLE, Feb. 1, 2012, *available at* http://www.fiercecable.com/story/comcast-may-double-speed-economy-high-speed-internet-tier/2012-02-01; *see also* OFFICE OF ENGINEERING AND TECH. & CONSUMER AND GOVERNMENTAL AFFAIRS BUREAU, FCC, 2012 MEASURING BROADBAND AMERICA JULY REPORT: A REPORT ON CONSUMER WIRELINE BROADBAND PERFORMANCE IN THE U.S. 6 (2012) (SECOND MEASURING BROADBAND AMERICA REPORT) (discussing the increase in faster services that are being subscribed to), *available at* http://transition.fcc.gov/cgb/measuringbroadbandreport/2012/Measuring-Broadband-America.pdf.

[9] Since 2008, Comcast has had a 250 GB monthly data usage threshold on residential accounts and has temporarily suspended its caps in nontest markets. *See* COMCAST, ANNOUNCEMENT REGARDING AN AMENDMENT TO OUR ACCEPTABLE USE POLICY, http://xfinity.comcast.net/terms/network/amendment/; Cathy Avgiris, *Comcast to Replace Usage Cap With Improved Data Usage Management Approaches*, COMCASTVOICES (BLOG), May 17, 2012 (ComcastBlog, May 17, 2012), http://blog.comcast.com/2012/05/comcast-to-replace-usage-cap-with-improved-data-usage-management-approaches.html.

[10] *See, e.g.*, Comcast Press Release, July 24, 2012 (announcing service offerings above 100 Mbps, including a 305 Mbps offering in select markets).

[11] NCTA, INDUSTRY DATA, http://www.ncta.com/Statistics.aspx.

[12] Best available estimates of mobile broadband coverage by 3G or better technologies (including CDMA EV-DO, EV-DO Rev. A, WCDMA/HSPA, HSPA+, mobile WiMAX, and LTE) indicate growth from 98.1% of the U.S. population in November 2009 to 99.4% in January 2012. *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, WT Docket No. 09-66, Fourteenth Report, 25 FCC Rcd 11407, 11487–88, para. 122 (2010) (*Fourteenth Mobile Wireless Competition Report*), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-10-81A1_Rcd.pdf (Nov. 2009 figure); Commission estimates based on census block analysis of Mosaik CoverageRight coverage maps, January 2012, with population data are from the 2010 Census (Jan. 2012 figure). In addition, the percentage of the population covered by at least four mobile broadband providers increased from 58 percent to 79 percent during that period. *Id*. at 11449, tbl. 7 (Nov. 2009 figure); Commission estimates based on census block analysis of Mosaik CoverageRight coverage maps, January 2012, with population data are from the 2010 Census (Jan. 2012 figure).

[13] *Fifteenth Mobile Wireless Competition Report*, 26 FCC Rcd at 9736–37, para. 109; VERIZON WIRELESS, NETWORK FACTS, http://aboutus.vzw.com/bestnetwork/network_facts.html.

[14] *See generally Connect America Fund; A National Broadband Plan for Our Future; Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Developing an Unified Intercarrier Compensation Regime; Federal-State Joint Board on Universal Service; Lifeline and Link-Up; Universal Service Reform—Mobility Fund*, WC Docket Nos. 10-90, 07-135, 05-337, 03-109, GN Docket No. 09-51, CC Docket Nos. 01-92, 96-45, WT Docket No. 10-208, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (2011) (*USF/ICC Transformation Order*), *pets. for review pending sub nom. In re* FCC 11-161*,* No. 11-9900 (10th Cir. filed Dec. 8, 2011); Order on Reconsideration, 26 FCC Rcd 17633 (2011); Second Order on Reconsideration, 27 FCC Rcd 4648 (2012); Third Order on Reconsideration, 27 FCC Rcd 5622 (2012); *see also* Press Release, FCC, FCC Kicks-Off "Connect America Fund" with Major Announcement: Nearly

3. Nevertheless, in the last three broadband progress reports, the Commission found that "advanced telecommunications capability" was not being deployed to all Americans in a reasonable and timely fashion.[15] The Commission found that "advanced telecommunications capability" at a minimum must permit an end user to download content at speeds of at least 4 megabits per second (Mbps) and to upload content at speeds of at least 1 Mbps over the broadband provider's network (4 Mbps/1 Mbps or benchmark).[16] Most recently, in the *2012 Eighth Broadband Progress Report*, the Commission found that despite the expansion of broadband, approximately 6 percent of Americans—nearly 19 million people—remain without fixed broadband service meeting the benchmark.[17] The data also indicate that people living in rural and on Tribal lands are disproportionately lacking such access and that 80 percent of E-rate recipients say that their broadband connections do not fully meet their needs. Based on these and other results, we concluded that broadband was not being deployed to all Americans in a reasonable and timely fashion.[18] The Commission also noted that consumers' uses are changing and higher speeds and capacity are necessary to continue driving innovation.

4. Section 706 defines "advanced telecommunications capability" 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."[19] In the past reports, the Commission has defined "advanced telecommunications capability" for this purpose (sometimes referred to simply as "broadband") principally with reference to a speed threshold in order to determine whether broadband was being deployed to all Americans in a reasonably and timely fashion.[20] However, in the *USF/ICC Transformation Order*, the Commission went beyond speed and considered latency and

(Continued from previous page)
400,000 Unserved Americans in Rural Communities in 37 States Will Gain Access to High-Speed Internet Within Three Years: Marks Beginning of Most Significant Public-Private Effort in History to Connect 19 Million Unserved Homes and Businesses by 2020 (July 25, 2012), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-315413A1.pdf.

[15] *2012 Eighth Broadband Progress Report*, Section III; *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, Seventh Broadband Progress Report and Order on Reconsideration, 26 FCC Rcd 8008, 8009, para. 1 (2011) (*2011 Seventh 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; A National Broadband Plan for Our Future*, GN Docket Nos. 09-137, 09-51, Sixth Broadband Progress Report, 25 FCC Rcd 9556, 9558, para. 2 (2010) (*2010 Sixth Broadband Progress Report*).

[16] *See 2012 Eighth Broadband Progress Report*, Section III; *2011 Seventh Broadband Progress Report*, 26 FCC Rcd at 8019, para. 15; *2010 Sixth Broadband Progress Report*, 25 FCC Rcd at 9563, para. 11. We note that the Commission's investigation of advertised versus actual speeds has shown that "[f]or most participating broadband providers, actual download speeds are substantially closer to advertised speeds" than in the past. *See* OFFICE OF ENGINEERING AND TECH. & CONSUMER AND GOVERNMENTAL AFFAIRS BUREAU, FCC, MEASURING BROADBAND AMERICA: A REPORT ON CONSUMER WIRELINE BROADBAND PERFORMANCE IN THE U.S. (2011) (FIRST MEASURING BROADBAND AMERICA REPORT), *available at* http://transition.fcc.gov/cgb/measuringbroadbandreport/Measuring_U.S._-_Main_Report_Full.pdf; *see also* SECOND MEASURING BROADBAND AMERICA REPORT at 4–5, 10 (finding that all technologies again showed improvement and now customers receive about 96% of their advertised speeds).

[17] *2012 Eighth Broadband Progress Report*, Sections I, IV.C.

[18] *Id.*, Section IV.G.

[19] 47 U.S.C. § 1302(d)(1).

[20] The Commission has historically defined broadband as synonymous with "advanced telecommunications capability" for these reports. *See, e.g.*, *2012 Eighth Broadband Progress Report*, Section I.

capacity as additional core characteristics that affect what consumers can do with their broadband service.[21] Based on these characteristics, the Commission adopted minimum service standards for broadband networks on speed, latency, and capacity because they "reflect technical capabilities and user needs that are expected at this time to be suitable for today and the next few years."[22] Consistent with the goal of the *USF/ICC Transformation Order* to ensure universal broadband capability,[23] section 706 requires the Commission to determine whether advanced telecommunications capability is being deployed to all Americans.[24] In this Inquiry, we seek comment about these three core characteristics—speed, latency, and data capacity—for the purposes of determining whether advanced telecommunications capability is being deployed to all Americans.

5. The Commission also established the separate Mobility Fund to ensure that all Americans have access to mobile networks capable of providing voice and data services where they live, work, and travel.[25] The Commission's policy goal in the *USF/ICC Transformation Order* was to ensure that Americans have access to *both* fixed and mobile broadband services, acknowledging that the two are complementary and have their own unique attributes.[26] Similarly, it may be appropriate to hold that access to both fixed and mobile broadband is necessary for broadband to be available under section 706—that is, that reasonable and timely deployment would exist only to the extent that both fixed and mobile capabilities are becoming available. Separate consideration of the benefits of mobile broadband would also seem consistent with comments opposing a singular focus on a speed threshold and advocating for the benefits of mobility.[27] Accordingly, we seek comment about evaluating mobile broadband availability using a different benchmark or benchmarks than we use for fixed broadband service. We also request input on which characteristics of mobile broadband service the Commission should consider in establishing such benchmarks, given the current and future state of the mobile broadband technologies. We seek comment on the concept that, in order for broadband to be available for purposes of our section 706 analysis, there either must be both fixed and mobile services meeting our respective broadband benchmarks, or the mobile service must satisfy the fixed broadband benchmark or benchmarks.

6. Finally, we ask parties to provide us with any data to assess the current state of the broadband market. The information gathered in this proceeding will help the Commission complete its annual task of assessing broadband availability and deployment, update our understanding of the current broadband market, and help shape our broadband policies to ensure progress toward universal broadband availability. We seek comment on what data we should use to further our understanding of availability for the purposes of these reports. In addition, we seek comment on whether and how we can ensure that we are not only making progress toward meeting our current broadband needs, but are on course to

[21] *See USF/ICC Transformation Order*, 26 FCC Rcd at 17696–702, paras. 90–104.

[22] *See id.* at 17703, para. 106.

[23] *Id.* at 17680, para. 48.

[24] 47 U.S.C. § 1302(b).

[25] *USF/ICC Transformation Order*, 26 FCC Rcd at 17680, para. 48.

[26] *See id.*; *see also* John Horrigan, *Broadband Adoption and Use in America* 24 (OBI Working Paper No. 1, 2010) (Horrigan, *Broadband Adoption and Use in America*) (finding that mobile broadband is a supplementary service for fixed broadband users), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296442A1.pdf.

[27] *See, e.g.*, CTIA Comments, GN Docket No. 11-121, at 17–18 ("[C]onsumers are increasingly relying on a variety of cutting-edge mobile broadband services to meet their communications needs—wherever they may be. Unfortunately, the Commission's current singular focus on throughput speeds ignores the enormous benefits that wireless broadband services provide to consumers, potentially hindering further wireless deployment and undermining the goals of the National Broadband Plan and the Administration. To improve its assessment of whether broadband is being deployed to all Americans in a reasonable and timely fashion, the Commission should account for mobility when defining broadband or advanced telecommunications capability."); *see also, e.g.*, MetroPCS Comments, GN Docket No. 10-159, at 12.

stimulate future development and innovation.

II. ISSUES FOR INQUIRY

A. What Is Advanced Telecommunications Capability?

7. We seek comment on an appropriate definition of "advanced telecommunications capability" for purposes of our *Ninth Broadband Progress Report*. Section 706 defines advanced telecommunications capability 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."[28] The benchmarks the Commission has used to determine which services qualify as advanced telecommunications capability, which we have also referred to as broadband, have evolved over time.[29] In 2010, the Commission raised the minimum speed threshold for broadband from services in excess of 200 kilobits per second (kbps) in both directions—a standard adopted more than a decade before in the *1999 First Broadband Deployment Report*[30]—to a 4 Mbps/1 Mbps service,[31] the threshold it has used in last three broadband reports released under section 706.[32] In the *2012 Eighth Broadband Progress Report*, the Commission recognized that the communications industry is rapidly evolving and that it may be time to update again how we benchmark broadband under section 706.[33] Reviewing the benchmark is consistent with the 2010 National Broadband Plan, which recommended that the Commission "review and reset" this benchmark every few years.[34] Specifically, we seek comment—in Section A.1 below—on the speed benchmark, as well as adding latency and usage capacity benchmarks, for fixed terrestrial broadband service.[35] In this section, we also raise issues specific to broadband offered via fixed satellite technologies. In addition, we seek comment about establishing separate benchmarks for mobile broadband services, as discussed in Section A.2 below. Furthermore, we seek comment on whether other characteristics of a service in addition to those specifically discussed in this section might be relevant to a determination of whether it should be considered "advanced telecommunications capability" within the meaning of section 706.

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[28] 47 U.S.C. § 1302(d)(1).

[29] *See 2012 Eighth Broadband Progress Report*, Sections I, III.

[30] *See 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,* CC Docket No. 98-146, Report, 14 FCC Rcd 2398, 2406, para. 20 (1999) (stating, in relevant part, that "broadband" and "advanced telecommunications capability" "hav[e] the capability of supporting, in both the provider-to-consumer (downstream) and the consumer-to-provider (upstream) directions, a speed . . . in excess of 200 [kbps] in the last mile").

[31] *See 2010 Sixth Broadband Progress Report*, 25 FCC Rcd at 9563, para. 11.

[32] *See 2012 Eighth Broadband Progress Report*, Section III; *2011 Seventh Broadband Progress Report*, 26 FCC Rcd at 8019, para. 15; *2010 Sixth Broadband Progress Report*, 25 FCC Rcd at 9563, para. 11. The 4 Mbps/1 Mbps broadband threshold was the same as the national broadband availability target the National Broadband Plan recommended for every household in America. *2010 Sixth Broadband Deployment Report*, 25 FCC Rcd at 9559–60, 9566, paras. 5, 14; *see also* OMNIBUS BROADBAND INITIATIVE (OBI), FCC, CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN, GN Docket No. 09-51, at 135 (2010) (2010 NATIONAL BROADBAND PLAN), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296935A1.pdf.

[33] *2012 Eighth Broadband Progress Report*, Section III.

[34] 2010 NATIONAL BROADBAND PLAN at 135 (suggesting that the benchmark be reviewed and reset every four years).

[35] *See USF/ICC Transformation Order*, 26 FCC Rcd at 17696–705, paras. 90–108 (discussing a speed threshold, as well as adding latency and usage capacity thresholds).

1. Fixed Services

a. Speed Threshold

8. As mentioned above, since the Commission began relying on the 4 Mbps/1 Mbps speed benchmark in 2010, broadband providers have developed and launched much higher speed networks and services. In addition, we recognize that consumers' broadband experiences are influenced by how they use broadband, and there is evidence that consumers are using faster speeds, greater total bandwidth, and more advanced applications. Furthermore, section 706 focuses on a consumer's ability to originate and receive certain specific services, including "high-quality voice, data, graphics, and video telecommunications."[36] Which of these services are Americans using most today? Which are seeing the highest growth? What role does speed play, separate from latency or usage capacity, in a consumer's ability to use these services via a fixed broadband connection?[37] What download and upload speeds are necessary for users to originate and receive each of these services?

9. With respect to video services in particular, when the Commission adopted the 4 Mbps/1 Mbps speed threshold, it determined that it adequately met consumers' needs for video over broadband at that time. Speeds of 4 Mbps/1 Mbps enable consumers to stream standard definition video in near real-time, which consumes anywhere from 1–5 Mbps depending on a variety of factors, while still using basic functions such as e-mail and Web browsing.[38] However, there is evidence that consumers are accessing and generating video content over broadband to a greater degree than in previous years, and are increasingly using their broadband connections to view high-quality video and use advanced video applications.[39] Cisco, in its latest report, predicts that Internet video traffic will account for 54% of all Internet data traffic by 2016, up from 51% in 2011.[40] North American Internet video traffic is predicted to achieve 20% compound annual growth from 2011 to 2016.[41] Higher-quality video can require additional bandwidth. High-definition video can require downstream speeds of 5–12 Mbps, commensurate with the quality of the video.[42] In light of the demand for more and higher-quality video services, should we raise the 4 Mbps/1 Mbps speed threshold for fixed terrestrial broadband services? To what extent does the 4 Mbps/1 Mbps threshold support advanced video services, such as two-way video conferencing and streaming high-definition video, or do these services require faster broadband speeds?[43] What do commenters believe is meant by the term "high-quality"[44] as it relates to video service? Should

[36] 47 U.S.C. § 1302(d)(1).

[37] Section II.A.1 addresses speed, latency, and capacity considerations for fixed broadband services. Special considerations for fixed satellite services are discussed in these sections as well. Potential benchmarks for mobile services are discussed in Section II.A.2, *infra.*

[38] *2010 Sixth Broadband Progress Report*, 25 FCC Rcd at 9563, para. 11; *see also* 2010 NATIONAL BROADBAND PLAN at 17.

[39] 2010 NATIONAL BROADBAND PLAN at 17; CISCO VISUAL NETWORKING INDEX: FORECAST AND METHODOLOGY, 2011–2016 at 2 (May 30, 2012) (CISCO VISUAL NETWORKING INDEX 2012), *available at* http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-481360.pdf.

[40] *See* CISCO VISUAL NETWORKING INDEX 2012 at 2.

[41] *See id*. at 13.

[42] SECOND MEASURING BROADBAND AMERICA REPORT at 13 (discussing video's higher bandwidth needs commensurate with the quality of the video); *see also* 2010 NATIONAL BROADBAND PLAN at 90.

[43] *2010 Sixth Broadband Deployment Report*, 25 FCC Rcd at 9563–64, para. 11 & n.51 (citing FCC Broadband Task Force, Status Update at the September Commission Meeting 23 (Sept. 29, 2009) (estimating that two-way video conferencing requires symmetrical broadband speeds of 2–5 Mbps and that streaming high-definition video requires a connection of at least 5–10 Mbps), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-293742A1.pdf.).

[44] 47 U.S.C. § 1302(d)(1).

it refer to high-definition (HD) video content, and a specific HD standard? For consumers who are primarily accessing streaming standard definition video content over broadband, does the 4 Mbps/1 Mbps speed threshold still allow them this ability today, or has the market changed in ways that require us to adopt a higher speed, even for the more basic services?

10. We also have observed that an increasing number of households are attaching multiple devices to a single, shared household broadband connection.[45] The bandwidth requirements of a household can increase as the number of devices sharing a broadband connection increases, particularly if multiple users are accessing video content with that connection.[46] How should this usage pattern affect our speed threshold analysis? The Commission in the *Household Broadband Guide* compared the minimum download speed needs for light, moderate, and high household use with one, two, three, or four devices at a time.[47] For example, if a household simultaneously uses three devices for basic functions and one high-demand application such as streaming HD, video conferencing, or online gaming, 6 to 15 Mbps could be required.[48] How many devices are Americans using to access broadband at home or on the go; how are these devices being used; and how does such usage affect the demand for broadband speed?

11. The 2010 National Broadband Plan recommended that the Commission set a goal of 100 million U.S. homes having affordable access to actual download speeds of at least 100 Mbps and actual upload speeds of at least 50 Mbps by 2020, to create the world's most attractive market for broadband applications, devices, and infrastructure.[49] We seek comment about whether the Commission should identify multiple speed tiers in these reports to assess the country's progress for our universalization goal, as well as additional goals—such as affordable access to 100 Mbps/50 Mbps to 100 million homes by 2020—to ensure that we remain forward thinking and are prepared to satisfy future needs as well as immediate demands.

12. Section 706 also requires us to examine broadband availability in elementary and secondary schools and classrooms. In the last report, we stated that "[w]hile school systems will need speeds substantially faster than the benchmark, we find, based on SBI Data, that providers offer download speeds of at least 25 Mbps to only 63.7 percent of the nation's schools, suggesting that many schools may not have a sufficient level of broadband service."[50] Should we adopt a speed threshold specifically for fixed broadband services to elementary and secondary schools? What speeds do most school systems need so that students are able "to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology?" What data or metrics are available to make this determination?

13. We ask parties to identify or provide any available supporting data in their comments or recommendations. Below we discuss the data sources the Commission has used in past reports to evaluate broadband availability, including the SBI Data on fixed broadband deployment. To what extent

[45] *See, e.g.*, FCC, HOUSEHOLD BROADBAND GUIDE (2011 HOUSEHOLD BROADBAND GUIDE), http://www.fcc.gov/guides/household-broadband-guide (providing a chart that suggests minimum broadband speeds, depending on the number of devices used by a household at the same time); *see also* Press Release, Verizon Wireless, Verizon Wireless Unveils New Share Everything Plans for Basic Phones, Smartphones, Tablets and More (June 12, 2012) (announcing a set of offerings where a set amount of data can be shared among "up to 10 Verizon Wireless devices"), *available at* http://news.verizonwireless.com/news/2012/06/pr2012-06-11e.html; Comcast Press Release, July 24, 2012.

[46] *See* 2011 HOUSEHOLD BROADBAND GUIDE (suggesting that households subscribe to faster broadband, the more devices the household uses at the same time).

[47] *Id*.

[48] *Id*.

[49] 2010 NATIONAL BROADBAND PLAN at 9.

[50] *See 2012 Eighth Broadband Progress Report*, Section IV.F.3.

should we consider the speed tiers used to collect data on broadband deployment when determining the speed benchmark for "advanced telecommunications capability" in the next report? Are there any other data sources or issues we should consider in setting a speed threshold and otherwise altering the benchmark for "advanced telecommunications capability" in the next report?

b. Latency Threshold

14. Latency is a measure of the time it takes for a packet of data to travel from one point to another in a network and often is measured by round-trip time in milliseconds. For example, real-time VoIP services can be supported with speed rates as low as 100 kbps, but require low latency for users to converse normally. High-quality one-way video, by contrast, can be delivered satisfactorily with somewhat higher latencies, but requires higher bandwidth.[51] Latency affects a consumer's broadband experience and may affect whether a consumer can "originate and receive high-quality voice, data, graphics, and video telecommunications using any technology."[52]

15. We seek comment on whether latency should be considered as an additional threshold in the next report. The Commission in the *USF/ICC Transformation Order* found that "latency affects a consumer's ability to use real-time applications, including interactive voice or video communication, over the network,"[53] and that for some applications, latency is more important than bandwidth.[54] For this reason, in the *USF/ICC Transformation Order*, the Commission required carriers to "offer sufficiently low latency to enable use of real-time applications, such as VoIP."[55] The latency of a service seems relevant to whether it provides "advanced telecommunications capability."[56] We therefore seek comment on whether we should add latency as a new benchmark for fixed terrestrial broadband services in the next report.

16. In the *USF/ICC Transformation Order*, the Commission observed that broadband measurement test results show that most terrestrial wireline technologies reliably provide latency of less than 100 milliseconds, and services exceeding this threshold typically do so by a wide margin.[57] Should we adopt a 100 millisecond latency threshold for our fixed-terrestrial broadband benchmark pursuant to section 706? How does latency affect a consumer's ability to use real-time applications, including interactive voice or video telecommunications? How does latency affect a user's ability to engage in other high-quality data and graphic services, which can be very latency sensitive? Some high-quality data and graphic[58] requirements are frequently used in cloud computing. Should the Commission take into account the latency requirements for these services for the purposes of section 706?[59] Are there other

[51] SECOND MEASURING BROADBAND AMERICA REPORT at 13 (discussing higher bandwidth needs commensurate with the quality of the video).

[52] 47 U.S.C. § 1302(d)(1).

[53] *USF/ICC Transformation Order*, 26 FCC Rcd at 17698, para. 96.

[54] *Id.*

[55] *Id*.

[56] 47 U.S.C. § 1302(d)(1) (defining "advanced telecommunications capability" as a service that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology).

[57] *USF/ICC Transformation Order*, 26 FCC Rcd at 17698, para. 96. For example, fiber-to-the-home had a latency averaging 17 milliseconds, and DSL ranged as high as approximately 75 milliseconds. *Id*. at 17698, para. 96 n.146 (citing the FIRST MEASURING BROADBAND AMERICA REPORT at 22); *see also* SECOND MEASURING BROADBAND AMERICA REPORT at 11–12.

[58] *See* 47 U.S.C. § 1302(d)(1).

[59] Some cloud computing applications, as well as online gaming, can double the latency burden because, in order to move your cursor, or character, on your screen, the broadband signal must do a full return trip to your home computer to represent the intended action.

latency-sensitive applications or services that would require a latency threshold of less than 100 milliseconds or is a higher threshold appropriate? Assuming we consider latency in benchmarking broadband under section 706, how should we measure it? Are these latency considerations different for business users? If so, what business uses require lower latency and how should we integrate such considerations for the purposes of these reports?

17. If we adopt a latency benchmark for fixed-terrestrial services, we seek specific comment on how we should address deployment of satellite services.[60] Should we adopt a similar or identical latency threshold for satellite services? Would such distinctions be consistent with section 706?[61] Satellite offers the benefit of ubiquity, it may be the only affordable option in more remote areas, and the speeds of satellite broadband services are improving significantly.[62] How should we address satellite broadband services in our next report if we adopt a latency benchmark of 100 milliseconds for fixed services?

c. Data Capacity Threshold

18. Capacity is the total volume of data sent and/or received by the end user over a period of time and often is measured in gigabytes (GB) per month.[63] We seek comment on the extent to which current capacity or usage limits affect a user's ability to "originate and receive high-quality voice, data, graphics, and video telecommunications using any technology" with a broadband service, as required by section 706.[64] Fixed broadband providers increasingly have been placing monthly data caps on subscribers' service limiting how much data can be downloaded and uploaded in a month, before subscribers have to pay overage charges or receive speed of service below the advertised data rates. For example, as of May 2011, AT&T's DSL offering had a 150 GB limit, and its U-verse offering had a 250 GB limit.[65] Comcast had a 250 GB monthly data usage threshold on residential accounts, and recently raised this limit to 300 GB.[66]

19. In the *USF/ICC Transformation Order*, the Commission required that any usage limits imposed by a carrier on its USF-supported broadband offering must be reasonably comparable to usage limits for comparable broadband offerings in urban areas.[67] The *USF/ICC Transformation Order* suggested that a 250 GB monthly data limit for fixed terrestrial broadband would likely be adequate and reasonably comparable to offerings in urban areas while a 10 GB threshold on broadband service would

[60] *See* Satellite Broadband Providers Joint Reply, WC Docket No. 10-90 at 8 (filed May 23, 2011). *But see* Letter from John Kuykendall, on behalf of BEK Communications, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-92, 96-45, GN Docket No. 09-51, WC Docket Nos. 03-109, 05-337, 07-135, 10-90, Attach. at 15 (filed Oct. 6, 2011) (criticizing satellite latency that cannot be improved by increased data speeds); *see also USF/ICC Transformation Order*, 26 FCC Rcd at 17698, para. 96 n.146.

[61] *See* 47 U.S.C. § 1302(d)(1) ("The 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*.") (emphasis added).

[62] *See* WILDBLUE, EXEDE12 PLANS, http://www.wildblue.com/options/availability-results?availabilityZip=22031 (offering 12 Mbps/3 Mbps data plans with monthly data caps of 7.5 GB for $50, 15 GB for $80, and 25 GB for $130).

[63] *See USF/ICC Transformation Order*, 26 FCC Rcd at 17698, para. 98.

[64] 47 U.S.C. § 1302(d)(1).

[65] Karl Bode, *AT&T Caps Have Arrived 150–250 Monthly Caps, $10 Per 50 Gigabyte Overages*, DSLREPORTS, May 2, 2011, http://www.dslreports.com/shownews/ATT-Caps-Have-Arrived-114012.

[66] ComcastBlog, May 17, 2012.

[67] *USF/ICC Transformation Order*, 26 FCC Rcd at 17698, para. 98.

be considered much too low to allow for full use of broadband.[68] Given the Commission's findings and industry developments, we seek comment on whether and how the Commission should consider capacity restrictions when benchmarking "advanced telecommunications capability" for fixed services. If we collect information on monthly usage capacity, does the Commission ultimately need more information related to price of service for the purposes of these reports? For instance, how should the Commission treat a provider that offers two tiers of service, one that offers unlimited use but is very costly and one that is 5 GB for $5 a month less?

20. If we add a data capacity threshold for fixed broadband in the next report, what data capacity threshold or thresholds should we adopt? What data capacity limits do most fixed broadband providers offer today? How often, and under what circumstances, do consumers exceed these limits? What reliable data sources exist to identify providers' offerings and consumers' use? How should we evaluate situations where a provider offers more than one data capacity package to its consumers at a different price or using a different technology? We seek comment on how prices and other terms and conditions should factor into our analysis of any data capacity limits included in service offerings. For instance, should the Commission adopt a data capacity benchmark for fixed broadband services that mirrors the requirement for USF recipients adopted in the *USF/ICC Transformation Order*? Services offered in non-urban areas would meet the benchmark if their monthly usage capacity limits were reasonably comparable to the limits offered in urban areas.[69] We also seek comment on whether a benchmark should focus on the amount of data consumers actually use, instead of what they are offered. What other considerations should we examine in considering a data capacity threshold?

21. Are there any capacity issues specific to satellite broadband service and if so, how should the Commission address such issues? Do satellite broadband plans typically contain usage capacity limitations? How many homes or businesses can be served by satellite broadband service before network capacity becomes constrained? We ask whether and how we should consider such potential constraints in establishing a broadband threshold?

2. Mobile Services

22. As mentioned above, mobile broadband providers have recently deployed higher-speed networks over larger areas of the country, and consumers are using mobile broadband to a greater degree than ever before. Mobile services generally have lower speeds than certain fixed technologies, and some mobile broadband data plans include usage capacity limitation. On the other hand, mobile services allow users to establish a broadband connection while away from a fixed location, such as home or work. The Commission identified mobility as a distinct universal service goal in the *USF/ICC Transformation Order*.[70] The Commission acknowledged that fixed and mobile broadband services are complementary and have their own unique attributes, and it established a policy goal of ensuring that all Americans ultimately have access to *both* fixed and mobile broadband services. The Commission, implementing Congress's directive in section 254, also provided funding for mobile services, separate from funds for fixed services, through Phase I and Phase II of the Mobility Fund.

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[68] *Id.* at 17699, para. 99. We also note that the Commission has already delegated authority to the Wireline Competition Bureau and Wireless Telecommunications Bureau "to monitor urban broadband offerings, including by conducting an annual survey, in order to specify an appropriate minimum for usage allowances, and to adjust such a minimum over time." *Id*.

[69] On July 26, 2012, the Wireline Competition Bureau proposed a survey that asks fixed broadband providers about their data caps on their broadband services. *See Wireline Competition Bureau Seeks Comment on Proposed Urban Rates Survey And Issues Relating to Reasonable Comparability Benchmarks And the Local Rate Floor*, WC Docket No. 10-90, Public Notice, DA 12-1199, para. 7, App. A.III (rel. July 26, 2012), *available at* http://transition.fcc.gov/Daily_Releases/Daily_Business/2012/db0726/DA-12-1199A1.pdf.

[70] *USF/ICC Transformation Order*, 26 FCC Rcd at 17667, para. 1.

23. We seek comment about whether mobile services should be evaluated separately from fixed services in the Commission's evaluation of broadband deployment and availability under section 706. Rather than comparing mobile offerings with fixed offerings, we plan to compare the range of mobile offerings to determine which of those qualify as advanced telecommunications capability. We seek comment on this approach. Are mobile broadband networks sufficiently different from fixed broadband networks that we should evaluate their deployment independently? Would it be consistent with the language of the statute to adopt different speed thresholds for fixed and mobile services?

24. We request input on which characteristics of mobile broadband service the Commission should consider in evaluating mobile broadband deployment and availability under section 706. What elements of mobile broadband service should the Commission benchmark to determine whether a mobile service is "advanced telecommunications capability" under the statutory definition? Should we also consider the types of services and applications that consumers use on their mobile devices when developing benchmarks? Are there other factors we should consider?

25. We also seek comment about 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, as defined using the respective benchmarks, or if the mobile service meets the benchmark for fixed broadband service. This approach is consistent with our recognition that high speed, high quality, and mobility are all important characteristics of broadband service today.

26. We also seek comment on how best to assess mobile broadband coverage. We note that the Commission recently identified hundreds of thousands of unserved road miles in census blocks lacking 3G or better wireless service for purposes of Mobility Fund Phase I.[71] Should the Commission similarly analyze mobile coverage by road miles in unserved census blocks for purposes of the next report?[72] Should the Commission evaluate mobile deployment to all Americans, or potential lack thereof, by using another assessment?

27. The Commission has always used a speed threshold in measuring broadband availability under section 706 and has used the 4 Mbps/1 Mbps speed threshold since 2010. To what extent should this threshold continue to be used as a mobile speed benchmark? Should a lower or higher speed threshold be used? The *USF/ICC Transformation Order* indicated that "while 4G mobile broadband services may meet our speed requirements in many locations, meeting minimum speed and capacity guarantees is likely to prove challenging over larger areas, particularly indoors."[73] In addition, the *2012 Eighth Broadband Progress Report* noted that the speed of an individual standard technology can vary depending on the version of the technology deployed, the configuration of the network, the amount of spectrum used, and the type of backhaul connection to the cell site.[74] How should we account for these factors, as well as indoor coverage, when establishing a mobile broadband speed benchmark?

28. What other factors besides speed should the Commission consider when establishing benchmarks for mobile broadband service? Should we consider latency, and, if so, which latency requirement would be appropriate for mobile service? Above, we seek comment on a latency requirement of 100 milliseconds for fixed broadband service. Should this apply to mobile broadband service as well?

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[71] *See Mobility Fund Phase I Auction Scheduled for September 27, 2012; Notice and Filing Requirements and Other Procedures for Auction 901*, AU Docket No. 12-25, Public Notice, 27 FCC Rcd 4725, 4729–4736, 4781–82 (2012) (*Mobility Fund Phase I Auction Procedures Public Notice*) (identifying road miles in unserved census blocks eligible for Mobility Fund Phase I support). This Public Notice and related information are available on the Auction 901 Web page at http://wireless.fcc.gov/auctions/901/.

[72] *USF/ICC Transformation Order*, 26 FCC Rcd at 17783, para. 330; *see also Mobility Fund Phase I Auction Procedures Public Notice*, 27 FCC Rcd 4725.

[73] *USF/ICC Transformation Order*, 26 FCC Rcd at 17701, para. 104.

[74] *2012 Eighth Broadband Progress Report*, Section IV.B.

To what extent do consumers use applications that require low latency levels when using their mobile devices? When using mobile VoIP services, what latency levels are mobile network providers able to achieve and with which technologies?

29. Many mobile broadband data plans have lower monthly usage capacity limits than service plans for fixed broadband. However, given the ways in which most consumers use their mobile devices, do many consumers exceed those capacity limits? Should we consider establishing a usage capacity benchmark for mobile broadband service? If so, what should that benchmark be? What factors, such as price, should we account for when developing the benchmark? Are there other factors such as quality, coverage, or reliability that we should also consider if we develop a separate benchmark for mobile broadband?

30. Finally, we seek comment on the role of Wi-Fi hotspots, including private in-home or in-building networks as well as public hotspots, in assessing mobile broadband deployment and availability. Many mobile devices, including certain tablets and smartphones, rely on Wi-Fi networks for broadband connectivity when they are within range of a Wi-Fi hotspot, which is then typically connected to a wireline broadband, last-mile connection. How is Wi-Fi influencing fixed and mobile broadband deployment? How should we consider Wi-Fi in our assessment of mobile broadband for section 706, particularly with respect to capacity and indoor coverage? For instance, if a mobile network has poor indoor coverage but a user's mobile device can switch to a Wi-Fi connection once indoors, should we consider the mobile service to be meeting our broadband benchmark? In addition, if mobile device users typically rely on mobile networks for broadband connectivity when away from home and on the go, but then switch to Wi-Fi once stationary inside a home or building and thereby remain within their capacity limit, should this affect whether and how we develop a mobile usage capacity benchmark? Should these reports attempt to account for Wi-Fi deployment on planes and trains, and if so, how should these reports categorize and assess such deployments?

B. How Should Broadband Deployment Be Measured?

1. Fixed-Terrestrial Broadband

31. In the *2012 Eighth Broadband Progress Report*, the Commission estimated deployment of fixed broadband by relying on the State Broadband Initiative data (SBI Data) collected by the National Telecommunications and Information Administration (NTIA).[75] The SBI Data are collected and used to create the National Broadband Map and are "the most comprehensive and geographically granular deployment data publicly available."[76] Our analysis of SBI Data revealed, as of June 2011, that approximately 19 million Americans lived in areas unserved by broadband capable of "originat[ing] and receiv[ing] high-quality voice, data, graphics, and video telecommunications."[77] While we believe SBI Data to be the best available regarding deployment, we recognize that these data may tend to overstate deployment, for example, because some customers within a census block may not be able to achieve the reported speeds.[78] To what extent is overstatement a concern, and how can we address those concerns to get even more accurate data? How could this be quantified?

[75] *Id*.; *see also 2011 Seventh Broadband Progress Report*, 26 FCC Rcd at 8017, para. 13 (noting that, in July 2009, NTIA established the SBI Grant Program to comply with requirements under the BDIA and the American Recovery and Reinvestment Act of 2009 (Recovery Act)); Recovery Act, Pub. L. No. 111-5, 123 Stat. 115, 516.

[76] *2012 Eighth Broadband Progress Report*, Section IV.B.

[77] *Id.*, Sections IV.C, G; 47 U.S.C. § 1302(d)(1).

[78] *See 2011 Seventh Broadband Progress Report*, 26 FCC Rcd at 8083–85, App. F paras. 14–19 (summarizing certain limitations of the SBI Data including, for example, that these data "do not differentiate between providers that offer service to residential and business customers").

32. As required by section 706, the Commission also compiled a list of unserved areas, including the population; the population density; and the average per capita income. The Commission also presented data showing the relationship between fixed broadband deployment and certain demographic characteristics. We seek comment on how to improve our assessment of broadband deployment, our identification of unserved areas, and our demographic analysis. Are there any improvements that could be made to the broadband deployment assessments and analyses in the *2012 Eighth Broadband Progress Report*? Should the Commission rely on any additional data sources to determine the extent of fixed broadband deployment? Are there new or better ways to analyze fixed broadband deployment? We expect to rely on the SBI Data—as the Commission has in the past. The SBI data are collected for certain speed tiers.[79] Should the Commission adjust the existing speed benchmark to upload and download speeds that match the available data, such as 3 Mbps/768 kbps or 6 Mbps/1.5 Mbps?[80] If we adopted a faster speed threshold, should we continue to use SBI Data to measure deployment? Because much of the SBI Data are publicly available, we encourage commenters to conduct and submit their own analyses of broadband deployment.

2. Mobile Broadband

33. In the most recent broadband progress report, the Commission presented its analysis of two sources of mobile broadband deployment data—SBI Data and Mosaik Solutions (Mosaik Data).[81] The Commission declined to rely on these data for broadband deployment estimates, however, because neither source provided sufficient information to determine accurately how much of the estimated mobile wireless coverage actually meets our broadband benchmark.[82] The Commission explained that both sources likely overstate the extent of mobile broadband coverage meeting our benchmark.[83] We seek comment on the concerns raised in the last report regarding the SBI Data and Mosaik Data. Are there any other data sources or reports that would allow us to identify deployment of mobile broadband that meets the Commission's broadband benchmark?

34. *SBI Data*. The *2012 Eighth Broadband Progress Report* used SBI Data reflecting network status as of June 30, 2011. Thus, these data include the older CDMA EV-DO/EV-DO Rev A and WCDMA/HSPA technologies as well as newer LTE, mobile WiMAX, and HSPA+ technologies that have been deployed since June 30, 2010.[84] The Commission explained that only the newer technologies are likely to deliver speeds that meet our 4 Mbps/1 Mbps benchmark. Unfortunately, however, the SBI Data do not distinguish between older and newer technologies within the mobile wireless coverage reported at 3 Mbps/768 kbps.[85] Is there a way to address the concerns the Commission raised in last year's broadband progress report about the mobile SBI Data so that the Commission could rely on these data to estimate mobile broadband deployment?

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[79] *2012 Eighth Broadband Progress Report*, Section IV.B (describing the SBI data as the most comprehensive and geographically granular deployment data publicly available).

[80] *See, e.g.*, *id.* (noting that the data relied upon in the last report are collected by pre-determined speed tiers, none of which are 4 Mbps/1 Mbps).

[81] Mosaik was formerly known as "American Roamer." *See* MOSAIK SOLUTIONS (FORMERLY AMERICAN ROAMER), http://www.mosaik.com/.

[82] *2012 Eighth Broadband Progress Report*, Sections IV.B, C.9.

[83] *Id.*

[84] *Id.*

[85] *Id*.

35. *Mosaik Data.* To date, the Commission has not relied on Mosaik data to determine where mobile services meet the Commission's broadband benchmark.[86] Whereas the SBI Data distinguish mobile services by speed but not technology, the Mosaik Data distinguishes mobile broadband service by technology (such as LTE, HSPA+, WiMax) but not by speed. However, these technologies' speeds can vary depending on the version of the technology deployed, the configuration of the network, the amount of spectrum used, and the type of backhaul connection to the cell site.[87] The Commission noted that in particular, HSPA+ speeds are especially dependent on these factors and show wide variability.[88] Absent more detailed information about the technology, we previously determined that we could not rely on the Mosaik Data for determining mobile broadband deployment. The Commission also indicated that even if we could distinguish the areas served by the newer LTE, mobile WiMax, and HSPA+ technologies, these technologies' speeds vary depending on the version of the technology deployed, the amount of spectrum used, and the type of backhaul connection to the cell site, raising similar concerns about overstatement.[89] We seek comment on possible ways the Commission could use Mosaik Data to estimate mobile broadband deployment.

3. Satellite Broadband

36. In the *2012 Eighth Broadband Progress Report*, the Commission declined to include satellite in its broadband deployment estimates, stating that, "[a]lthough the uniformity of satellite reporting has improved in the SBI Data over the past year, as of June 30, 2011, there was not a commercially available satellite offering that could provide 4 Mbps/1 Mbps broadband service to consumers."[90] The Commission also recognized, however, that some satellite providers have begun advertising satellite broadband that meets the broadband speed threshold.[91] As a result, satellite services soon may cover most of the contiguous United States with a service that meets the broadband speed threshold.[92] How should the Commission factor satellite broadband deployment into its analysis in the next report, particularly if we add latency and usage thresholds to our broadband benchmark as discussed above? How should we measure and account for capacity limitations that limit satellite providers to a small percentage of the residents in their service territory, and other issues related to satellite service? Are there any concerns with relying on SBI Data to estimate satellite deployment, at least on the basis of speed? Assuming one or more satellite providers are providing broadband that meets the Commission's speed threshold, would it be appropriate for the Commission to conclude that there are no unserved areas in America for purposes of section 706?

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[86] We note the Commission uses Mosaik Data in other contexts, most recently in its *Fifteenth Mobile Wireless Competition Report*, analyzing the mobile wireless service market conditions. *Fifteenth Mobile Wireless Competition Report*, 26 FCC Rcd 9664.

[87] *2012 Eighth Broadband Progress Report*, Sections IV.B, C.9.

[88] *Id.*

[89] *Id*.

[90] *Id*., Section IV.B; *see also 2011 Seventh Broadband Progress Report*, 26 FCC Rcd at 8023, para. 26 n.112 (excluding satellite due to incomplete SBI Data and evidence that these services were offered below the Fixed Broadband Benchmark). *See, e.g.*, HUGHESNET, PACKAGE DEALS AND OFFERS, http://internet.hughesnet.com/plans-and-pricing.html#serviceable (offering 2 Mbps/300 kbps in its "Fastest" package).

[91] *See 2012 Eighth Broadband Progress Report*, Section IV.B (stating that ViaSat began offering a 12 Mbps/3 Mbps satellite broadband service in January 2012); *see also* Press Release, Hughes, Hughes Echostar XVII Satellite with Jupiter High Throughput Technology Successfully Launched (July 6, 2012) (reporting the launch of HughesNet's new high speed satellite), *available at* http://www.hughes.com/HNS%20Library%20Press%20Release/07-06-12_EchoStar_XVII_Launch.pdf.

[92] *See* 2010 NATIONAL BROADBAND PLAN at 137.

C. Is Broadband Being Deployed to All Americans?

37. The present inquiry concerns the status of broadband to *all* Americans, including elementary and secondary schools and classrooms.[93] As the Commission previously explained, the Commission has interpreted "all Americans" as used in section 706 as having its ordinary meaning, and thus as establishing a goal of universal broadband deployment.[94] In the *2012 Eighth Broadband Progress Report*, the Commission found that lack of access to broadband is particularly pronounced for certain groups of Americans.[95] The Commission stated that the nation's broadband deployment gap remains significant and is particularly pronounced for Americans living in rural areas and on Tribal lands.[96] We also noted that efforts by the Commission and others are increasing broadband deployment and reducing barriers to deployment in many of these unserved areas.[97]

38. The Commission found in the *2012 Eighth Broadband Progress Report* that nearly 19 million Americans still lack access to broadband.[98] Nearly one quarter of the people living in rural areas lack broadband access, and 29% of people on Tribal lands are without access.[99] Thus the Commission determined that broadband is not available to all Americans.[100] Is broadband being deployed to residential consumers, rural communities, elementary and secondary students, minority consumers, persons with disabilities, and individuals living on Tribal lands? How should the Commission make this determination? In the past two reports, the Commission has drawn inferences about different demographic groups based in part on the demographics of the census tracts in which subscribers are located.[101] We seek comment on this approach and whether we could improve our analysis. Are there alternative approaches that would work better? For instance, are there consumer surveys or other data sources the Commission should use to determine whether broadband has been deployed to particular groups of Americans? In addition, is broadband deployed to Americans in other ways that we should include in our next analysis? For instance, should the existence of broadband at community anchor

[93] 47 U.S.C. § 1302(b) (requiring the Commission annually to "initiate a notice of inquiry concerning the availability of advanced telecommunications capability to *all Americans* (including, in particular, elementary and secondary schools and classrooms)") (emphasis added). In conducting this inquiry, the Commission must "determine whether advanced telecommunications capability is being deployed to *all* Americans in a reasonable and timely fashion." *Id*. (emphasis added).

[94] *2012 Eighth Broadband Progress Report*, Section IV.G; *2011 Seventh Broadband Progress Report*, 26 FCC Rcd at 8033, para. 48; *2010 Sixth Broadband Progress Report*, 25 FCC Rcd at 9574, para. 28 & n.119.

[95] *2012 Eighth Broadband Progress Report*, Section IV.C.8; *see also 2011 Seventh Broadband Progress Report*, 26 FCC Rcd at 8028–29, para. 38 (stating that "residents of unserved areas tend to have lower incomes, are less educated, and are more likely to self-identify as White than residents in served areas"); CHMN. JULIUS GENACHOWSKI, FCC, BRINGING BROADBAND TO RURAL AMERICA: UPDATE TO REPORT ON A RURAL BROADBAND STRATEGY, GN Docket No. 11-16, 26 FCC Rcd 8681, 8688, para. 10 (2011) (2011 RURAL BROADBAND UPDATE) (discussing how rural areas are relatively unserved), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-307877A1.pdf, *attached to Chairman Genachowski Releases Update to 2009 Rural Broadband Report*, GN Docket No. 11-16, Public Notice, 26 FCC Rcd 8680 (2011).

[96] *2012 Eighth Broadband Progress Report*, Sections IV.C, G.

[97] *Id.*, Section II (discussing Commission actions such as USF/ICC reform, Lifeline reform, and BTOP/BIP programs, among others).

[98] *Id.*, Sections IV.C, G.

[99] *Id.*, Sections IV.C.2–3.

[100] *Id.*, Sections IV.G.

[101] *Id*., Section IV.C.8; *see also 2011 Seventh Broadband Progress Report*, 26 FCC Rcd at 8029–31, 8038–39, paras. 39–45, 59–60; *2010 Sixth Broadband Progress Report*, 25 FCC Rcd at 9570–72, paras. 22–25.

institutions and publicly available Internet access points (e.g., Internet cafes, coffee shops, and other Wi-Fi hotspots) affect our consideration of broadband deployment and availability?[102]

39. In the last report, the Commission examined broadband deployment in the U.S. Territories.[103] We seek comment on whether broadband is being deployed to Americans living in the U.S. Territories as a whole and individually. Do some or all of the U.S. Territories face unique challenges? If so, what are those challenges, and what actions should the Commission take to address them? The Commission has in the past proposed to define "insular areas," for purposes of our universal service program, as "islands that are territories or commonwealths of the United States."[104] To what extent should we consider the barriers that insular areas face regarding broadband deployment, as part of or independent from any analysis we might make of U.S. Territories?[105]

40. We also seek comment on the deployment of broadband to elementary and secondary schools and classrooms.[106] The federal universal service fund, specifically the schools and libraries support mechanism (also known as the E-rate program), provides substantial support to such entities.[107] According to results of a recent survey of E-rate funded schools and libraries, as many as 80 percent of schools and libraries believe that their broadband connections do not meet their needs generally, and for 55 percent of these respondents, the primary reason is that their broadband speeds are too slow.[108] How should the Commission evaluate the adequacy of broadband connectivity for schools and libraries?

41. We seek comment on the deployment of broadband to Tribal lands.[109] Recognizing that Tribal lands face unique challenges and significant obstacles to the deployment of broadband infrastructure, the Commission sought comment on how it can better accelerate broadband deployment in

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[102] ECONOMICS AND STATISTICS ADMINISTRATION & NTIA, EXPLORING THE DIGITAL NATION: COMPUTER AND INTERNET USE AT HOME 38–39 (2011) (DIGITAL NATION NOV. 2011) (showing locations where broadband is used outside of the house), *available at* http://www.ntia.doc.gov/files/ntia/publications/exploring_the_digital_nation_computer_and_internet_use_at_home_11092011.pdf.

[103] *See 2012 Eighth Broadband Progress Report*, Section IV.C.4; *see also* AT&T Comments, GN Docket No. 11-121, at 25–26 (suggesting that the Commission should provide a separate analysis for such areas and separately determine whether broadband deployment in those areas is reasonable and timely).

[104] *Federal-State Joint Board on Universal Service: Promoting Deployment and Subscribership in Unserved and Underserved Areas, Including Tribal and Insular Areas*, CC Docket No. 96-45, Further Notice of Proposed Rulemaking, 14 FCC Rcd 21177, 21233, para. 137 (1999). The Commission has never formally adopted that proposed definition. *See also Federal-State Joint Board on Universal Service; High-Cost Universal Service Support*, CC Docket No. 96-45, WC Docket No. 05-337, Notice of Proposed Rulemaking, 20 FCC Rcd 19731, 19734, para. 38 (2005). Our rules regarding radio frequency allocation define "insular area" as a "jurisdiction that is neither a part of on of the several States nor a Federal district. 47 C.F.R. § 2.1; *see also* 47 C.F.R. § 2.105(a) nn.2, 3 (listing the insular areas).

[105] *See Eighth Broadband Progress Report*, Section IV.G (rejecting requests to make separate findings with respect to discrete portions of the country rather than a single overall finding about broadband deployment). Even if we retain that approach in future reports, we believe it is important to understand whether certain areas, such as U.S. Territories or insular areas, face special barriers to deployment.

[106] *See* 47 U.S.C. § 1302(b).

[107] *See* 47 C.F.R. §§ 54.500–.523.

[108] *See* HARRIS INTERACTIVE, INC., on behalf of the WIRELINE COMPETITION BUREAU, FCC, 2010 E-RATE PROGRAM AND BROADBAND USAGE SURVEY: REPORT 2 (2011).

[109] *See Eighth Broadband Progress Report*, Section IV.C.3 & App. B.

these areas.[110] What other concrete steps should the Commission take to assess and improve the state of broadband in Tribal lands?

42. *Relationship Between Fixed, Mobile, and Satellite Broadband*. As discussed above, we are seeking comment on whether the Commission should establish a separate set of benchmarks for mobile broadband service. In that context, we seek comment about 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, as defined using the respective benchmarks, or if the mobile service meets the benchmark for fixed broadband service. This approach is consistent with our recognition that high speed, high quality, and mobility are all important characteristics of broadband service today. To what extent do Americans currently subscribe to mobile broadband as their only form of Internet access, and what demographic or geographic differences correlate with this choice?

43. In addition, how should we address satellite services when determining whether an area is served? As mentioned above, satellite offers the benefit of ubiquity, it may be the only affordable option in more remote areas, and the speeds of satellite broadband services are significantly improving. However, the latency of satellite broadband service generally exceeds that offered by most terrestrial broadband services, and satellite broadband can become capacity constrained. Should we view satellite as a substitute for fixed terrestrial or mobile broadband, and if so, in what circumstances? Do customers rely on satellite broadband primarily because other broadband services are not available? How do satellite and mobile providers market their broadband services? Do they sometimes market their services as substitutes for fixed terrestrial service, and if so, under what circumstances? For example, are satellite services marketed most actively in rural areas?

D. Is Broadband Being Deployed in a Reasonable and Timely Fashion?

44. The Commission has determined that broadband "deployment" and "availability" are broader than physical deployment.[111] With respect to deployment, we seek comment on our interpretation and seek comment on what factors we should consider in determining whether broadband "is being deployed to all Americans in a reasonable and timely fashion."[112] The Commission has also interpreted the phrase "is being deployed" as referring to "existing deployment and current actions that will meaningfully affect broadband deployment in the near future. . . . [but not] general plans or goals to deploy broadband, particularly long-range plans or goals that are uncertain to be realized."[113] As part of the assessment required by section 706, the Commission must include information comparing the extent of broadband service capability in a total of 75 communities in at least 25 countries abroad.[114] The Commission found that the international broadband data suggested that the United States lagged behind a number of other developed countries in certain respects.[115] From this finding, the Commission also has concluded that broadband deployment is more likely to be reasonable and timely if communities in the

[110] *See Improving Communications Services for Native Nations*, CG Docket No. 11-41, Notice of Inquiry, 26 FCC Rcd 2672, 2679–83, paras. 10–20 (2011) (*Native Nations NOI*).

[111] *See 2012 Eighth Broadband Progress Report*, Section IV.A; *2011 Seventh Broadband Progress Report*, 26 FCC Rcd at 8021, para. 19 (stating that "[b]roadband service that is not, for example, of a quality sufficient to enable high-quality voice, data, image, graphics, and video telecommunications services does not satisfy [section 706's] goals.").

[112] For example, what other factors such as cost, quality, and adoption should we consider in assessing whether broadband is being deployed in a reasonable and timely fashion? *See infra* Section II.E.

[113] *See 2012 Eighth Broadband Progress Report*, Section IV.G.

[114] 47 U.S.C. § 1303(b)(1) ("As part of the assessment . . . required by section 1302 of this title, the Federal Communications Commission shall include information comparing the extent of broadband service capability . . . in a total of 75 communities in at least 25 countries abroad . . . .").

[115] *See 2012 Eighth Broadband Progress Report*, Section IV.E.

United States compare favorably to foreign communities on broadband service capability metrics and is less likely to be reasonable and timely if U.S. communities compare unfavorably. We seek comment on whether the Commission's interpretations of "is being deployed" and "reasonable and timely" remain appropriate. If we were to separately evaluate whether fixed terrestrial, mobile, and satellite broadband services are being deployed to all Americans in a reasonable and timely fashion under section 706, how should this affect our interpretation?

45. What other measures should we use to assess the reasonableness and timeliness of broadband deployment? For example, we indicated in the last report that the *USF/ICC Transformation Order*, a comprehensive overhaul, along with other significant universal service reforms and myriad private and governmental efforts to expand broadband deployment, are advancing our efforts to eliminate the broadband gap.[116] We indicated that we expect that these reforms, once fully implemented, will bring us further to reaching our goal of ensuring that all Americans have access to broadband.[117] What impact has, for example, the *USF/ICC Transformation Order* made at this point in eliminating the deployment gap?

46. Recognizing the unique difficulties in deploying broadband to rural areas and Tribal lands, in 2009, Congress allocated approximately $7 billion in grants and loans to expand broadband deployment and adoption in unserved and underserved areas through the Rural Utilities Service's (RUS's) BIP Program and the NTIA's BTOP Program.[118] As we explained in the last report, all of the funds have been dedicated to projects that will bring robust broadband to unserved and underserved areas of the country.[119] What is the impact of these projects on broadband deployment? Have any projects helped deploy, for example, fixed and mobile networks in unserved areas? Additionally, RUS administers the substantially underserved trust area (SUTA) provisions of the 2008 Farm Bill.[120] SUTA provides a pathway for Tribal lands to access the RUS telecommunications loan and grant programs more easily as a means for increasing the rate of deployment and adoption across all Tribal lands. What is the status of these and any other efforts to deploy broadband and how can we assess the impact of these programs in the next report? What impact have these programs had on broadband deployment on Tribal lands? Have there been sufficient changes in broadband deployment and availability that would warrant a different conclusion regarding the reasonableness and timeliness of broadband deployment in the next report?

E. Is Broadband Available to All Americans?

47. We also seek comment about broadband availability. As explained above, the Commission has determined that broadband "deployment" and "availability" are broader than physical deployment.[121] In particular, the Commission has determined that the inquiry required by section 706(b) is not limited to a narrow evaluation of physical network deployment.[122] Although the Commission has not adopted a definitive list of factors to assess broadband availability, the Commission has found that such factors as cost, quality, and adoption should be examined.[123] We seek comment on this interpretation and how we should measure and analyze broadband availability in the next broadband

[116] *See id.*, Section I.

[117] *See id*.

[118] *See id*., Section II.

[119] *See id*.

[120] *See id*.

[121] *See 2012 Eighth Broadband Progress Report*, Section IV.A.

[122] *See id*., Section IV.

[123] *See id*.

progress report. What other factors, if any, should the Commission consider in evaluating broadband availability, and how should they be measured?

48. Data indicate that the cost of broadband is a major reason why some consumers do not subscribe.[124] How should the Commission factor the price of broadband into its assessment of broadband availability in the next report?[125] In particular, are there any sources of data the Commission could use in its assessment? The Commission can determine the advertised price of broadband services on providers' websites or from commercial data sources for a particular geographic location.[126] However, it may be the case that customers routinely pay a price different from the advertised rates. Are there third party data sets that would further the Commission's understanding of broadband-service prices paid by subscribers?

49. Service quality may also be an important factor for consumers. How should the Commission factor service quality, or other characteristics of a service, into its assessment of broadband availability? In the last report, the Commission examined service quality by relying on the *First Measuring Broadband America Report* that presents the results of the Commission's nationwide study of fixed broadband performance (DSL, cable, and fiber-to-the-home).[127] The Commission also relied on the *Second Measuring Broadband America Report*, which provides an update on the *First Measuring Broadband America Report.*[128] We seek comment on the reports and the conclusions the Commission drew from them. Are there other data sources the Commission should use to assess broadband availability in next year's report?

50. We also seek comment on the Commission's adoption estimates. In last year's report, the Commission for the first time estimated geographically-specific fixed broadband adoption rates by comparing deployment and subscription data. The Commission relied on SBI deployment data to determine where broadband facilities had been deployed. The Commission then compared this with subscription data the Commission collects on Form 477 to determine what percentage of households purchase broadband in areas where fixed broadband is deployed.[129] We seek comment on this methodology and whether any changes should be made to obtain better estimates of broadband adoption. What are the implications of the Commission's results? Are there any other data sources the Commission should use to estimate broadband adoption? The Commission will be collecting broadband adoption information about Lifeline subscribers participating in the Broadband Pilot Program. To what extent can the Commission rely on that data for the purposes of these reports?

F. Other Data

51. We seek comment on new data sources and different ways of conducting our analysis that would improve the Commission's annual broadband progress reports. Are there any ongoing efforts to

[124] Horrigan, *Broadband Adoption and Use in America* at 5; *see also 2012 Eighth Broadband Progress Report*, Section V.

[125] The Commission is considering revisions in its Form 477 data collection. *See generally Modernizing the Form 477 Data Program*, WC Docket No. 11-10, Notice of Proposed Rulemaking, 26 FCC Rcd 1508 (2011).

[126] *See International Broadband Data Report*, GN Docket No. 11-121, Third Report, DA 12-1334 (IB rel. Aug. 21, 2012) (*2012 International Broadband Data Report*) (analyzing advertised offerings).

[127] *See 2012 Eighth Broadband Progress Report*, Section IV.F.

[128] *Id*.

[129] *See id*. Specifically, the Commission calculated the adoption rate by using the ratio of households that have elected to purchase the fixed broadband at a specified level of service quality (i.e., speed) (Form 477 Data) divided by the total number of households in the area with access to advertised broadband services of that service quality (SBI Data). *See id*., Section IV.D. The Commission recognized that this calculation does not account for households that use services for free at their local library, community center, or a retail establishment that offers free access to WiFi. *Id.*

collect broadband deployment or availability data that we should consider other than those discussed in this Inquiry?

52. *International Broadband Data Report*. We seek comment on the preparation of next year's *International Broadband Data Report* and how best to include this international comparison in the *Ninth Broadband Progress Report*.[130] Section 706 requires that the Commission include an international comparison of broadband service capability in its annual broadband progress report.[131] Specifically, the Commission must "include information comparing the extent of broadband service capability (including data transmission speeds and price for broadband service capability) in a total of 75 communities in at least 25 countries abroad for each of the data rate benchmarks for broadband service utilized by the Commission to reflect different speed tiers."[132] Previously, the Commission found that the available international broadband data, though not perfectly comparable to U.S. data, suggest that the availability of broadband in the United States may lag behind a number of other developed countries in certain respects, although we also compare favorably to some developed countries in other respects.[133] What improvements can be made to the data and analysis in the *2012 International Broadband Data Report*?[134]

53. In the *2012 International Broadband Data Report*, the Bureau compared the broadband prices among countries using exchange rates and purchasing power parity.[135] Should we continue to use both of these comparison tools in future reports? Should we consider other options, such as a comparison of broadband prices to GDP per capita?" In the *2012 International Broadband Data Report*, the Bureau focused on mean consumer speeds.[136] Should we consider examining median speeds in future data sets? Would median speeds better represent the broadband speed the average consumer in each country experiences? Would median speeds better account for the fact that broadband speeds are not regularly distributed and thus a few very high-speed connections could distort the picture of what average consumers experience?"

G. What Actions Can Accelerate Deployment?

54. Section 706 requires that, if the Commission finds that broadband is not being deployed to all Americans in a reasonable and timely manner,[137] it must "take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting

[130] *2012 International Broadband Data Report*.

[131] 47 U.S.C. § 1303(b).

[132] *Id*. § 1303(b)(1); *see also id*. § 1303(b)(2) ("The Commission shall choose communities for the comparison under this subsection in a manner that will offer, to the extent possible, communities of a population size, population density, topography, and demographic profile that are comparable to the population size, population density, topography, and demographic profile of various communities within the United States. The Commission shall include in the comparison under this subsection—(A) a geographically diverse selection of countries; and (B) communities including the capital cities of such countries."); *id*. § 1303(b)(3) ("The Commission shall identify relevant similarities and differences in each community, including their market structures, the number of competitors, the number of facilities-based providers, the types of technologies deployed by such providers, the applications and services those technologies enable, the regulatory model under which broadband service capability is provided, the types of applications and services used, business and residential use of such services, and other media available to consumers.").

[133] *See 2012 Eighth Broadband Progress Report*, Section IV.E.

[134] *See generally 2012 International Broadband Data Report*.

[135] *See, e.g.*, *id*. para. 31.

[136] *Id*. para. 27.

[137] 47 U.S.C. § 1302(b).

competition in the telecommunications market."[138] In the last report, the Commission found many barriers to infrastructure investment stating that the "[h]igh costs of deploying and operating broadband networks and low adoption rates present barriers."[139] The Commission further found that removing barriers to investment requires removing obstacles to deployment, competition, and adoption, which are all interrelated.[140]

55. We seek comment on the issues the Commission identified in its last report. These issues were: (1) costs and delays in building out networks; (2) broadband service quality; (3) lack of affordable broadband Internet access services; (4) lack of access to computers and other broadband-capable equipment; (5) lack of relevance of broadband for some consumers; (6) poor digital literacy; and (7) other reasons, such as consumers' lack of trust in broadband and Internet content and services, including concerns about inadequate privacy protections.[141] Are there other issues we should consider? How can we reduce the impact of these issues?

56. In light of these and other issues, what actions can and should the Commission take to accelerate broadband deployment and availability? What are relevant limitations on the Commission's authority? Are there any other issues the Commission should consider in this proceeding that might help the nation reach our goal of universal broadband? For example, we recognize that Tribal lands face unique challenges and significant obstacles to the deployment of broadband infrastructure.[142] To the extent particular groups have not benefitted from broadband deployment to the same extent as other Americans, we seek comment on what additional steps the Commission can take to address these issues?[143]

III. PROCEDURAL MATTERS

A. *Ex Parte* Presentations

57. The proceeding that this Inquiry initiates shall be treated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.[144] Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter's written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission

[138] *Id*.

[139] *See 2012 Eighth Broadband Progress Report*, Section V; *see also 2011 Seventh Broadband Progress Report*, 26 FCC Rcd at 8040, para. 65.

[140] *See 2012 Eighth Broadband Progress Report*, Section V.

[141] *See id*.

[142] *See Native Nations NOI*, 26 FCC Rcd at 2679–83, paras. 10–20 (seeking comment on a Native Nations Broadband Fund, on sustainable Native Nations deployment models, and how to improve broadband adoption and utilization in Native Nations).

[143] *See, e.g.*, *id*. at 2679–80, para. 12 (noting that "'Tribal-centric' business models—those that actively engage the Native Nation, its core community institutions, and members in deployment and adoption planning—have a greater chance of establishing sustainable services on Tribal lands").

[144] 47 C.F.R. § 1.1200 et seq.

staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (*e.g.*, .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.

B. Comment Filing Procedures

58. Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 CFR §§ 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS). *See Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (1998).

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: http://fjallfoss.fcc.gov/ecfs2/.

- Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

  Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

  - All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12th St., SW, Room TW-A325, Washington, DC 20554. The filing hours are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes and boxes must be disposed of before entering the building.

  - Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.

  - U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW, Washington DC 20554.

  People with Disabilities: To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (tty).

C. Paperwork Reduction Act

59. This document does not contain proposed information collection(s) subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. In addition, therefore, it does not contain any new or modified information collection burden for small business concerns with fewer than 25 employees, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 47 U.S.C. § 3506(c)(4).

IV. ORDERING CLAUSE

60. Accordingly, IT IS ORDERED that, pursuant to section 706 of the Telecommunications Act of 1996, as amended, 47 U.S.C. § 1302, and section 103(b) of the Broadband Data Improvement Act, 47 U.S.C. § 1303(b), this Notice of Inquiry IS ADOPTED.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

STATEMENT OF
CHAIRMAN JULIUS GENACHOWSKI

Re: *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. 12-228

Today, we deliver our annual Broadband Progress Report to Congress. It is the most accurate and comprehensive Report since its inception. The data in this Report paint the clearest picture yet about the progress we have made on broadband—and the urgent challenges that remain.

The U.S. has now regained global leadership in key areas of the broadband economy, including mobile, where we lead in mobile apps and 4G deployment; but, in this flat, competitive global economy, we need to keep driving toward faster broadband and universal access.

The Report's conclusions only reaffirm what I hear all too often from small business owners, parents, educators and others across the country—we can't let up on our efforts to unleash the benefits of broadband for every American. Increasing broadband deployment, increasing adoption, increasing speeds and capacity are vital throughout our country; they're essential to growing our innovation economy and driving our global competitiveness.

I heard this message just last month when I visited three rural communities in Nevada and California that either recently received new broadband, or will be getting it in the near future as a result of our new Connect America Fund.

These meetings were a vivid reminder of why Congress directed the FCC, each year, to conduct an "inquiry concerning the availability of advanced telecommunications capability to all Americans," and to "determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion." As we've refocused the FCC on broadband, we've significantly improved and expanded this Report. It's become a critical annual check-in on where we stand and what we still have to do.

This year's Report reflects the huge strides that both the private and public sector have made to extend broadband, while also explaining that there's more work to do. Fixed providers are offering higher speeds, including through the deployment of fiber and new technologies like DOCSIS 3.0. Mobile providers continue to expand their coverage and deploy new faster network technologies like LTE. In fact, we're leading the world in deploying 4G mobile broadband at scale.

At the Commission, we've adopted landmark reforms to our universal service programs, particularly those targeted at increasing broadband deployment and affordability to all Americans. We've created the new Connect America Fund, and just a few weeks ago, the Commission announced that nearly 400,000 residents and small business owners in 37 states will gain access to high-speed Internet within three years as a result of the new Fund. And we've made universal access to mobile service and express universal service goal for the first time ever—the first Mobility Fund auction in September will provide funding to extend mobile broadband to thousands of unserved road miles where Americans live, work, and travel.

We have also continued to push forward with our Broadband Acceleration Initiative to lower the costs and increase the speed of broadband build-out. We have adopted major reforms to facilitate access to utility poles and faster tower siting, and our National Broadband Plan recommended key initiatives in the President's recent Executive Order on accelerating broadband infrastructure deployment, including

the "Dig Once" initiative. We've laid out clear rules of the road to protect the openness of the Internet, promoting a virtuous cycle of innovation, investment, and competition. And we've taken numerous steps to unleash spectrum for broadband, both licensed and unlicensed.

Some look at the progress that's being made and say, "Mission Accomplished." I disagree. Our data show that 19 million Americans remain without access to fixed broadband. The residents and business owners I met with in California and Nevada will finally get broadband in the coming months—but millions more, especially in rural areas and Tribal lands, are still waiting. And until we fully implement our Connect America reforms, this gap won't close. In this context, we cannot declare that broadband deployment to all Americans is "reasonable and timely."

Our data also show that a significant broadband adoption gap remains—fewer than 70% of Americans have subscribed to fixed broadband, even counting speeds as low as 768 kbps. We have to continue striking at the barriers that are keeping Americans offline.

And while we've made great strides in the rollout of next-generation high-speed services, there's a lot left to do. Industry reports that the upgrade of cable infrastructure to DOCSIS 3.0 technology means that more than 80% of Americans have access to networks technically capable of 100 Mbps or more. But our data show that just 27% of Americans are being offered broadband services at those speeds today, and U.S. prices for these higher speed services exceed many other countries.

And while 100 Mbps is impressive progress from where we were, it's not where we want to end up. We need to see ongoing increases in broadband speed and capacity, so that we're routinely talking about gigabits, not megabits. Broadband abundance is the goal that will drive U.S. leadership in innovation, and our finding today reflects our belief that we need to keep our feet on the accelerator.

On mobile, passage of the incentive auction concept suggested in our National Broadband Plan reflects important progress, along with the other steps we are taking to free up new spectrum for mobile broadband. But demand for spectrum capacity continues to increase at a dramatic rate, so we can no more declare mission accomplished in mobile than we can in fixed broadband.

Having the very best data is critical to tackling each of these challenges. This is our first Broadband Progress Report ever to include extensive data on mobile broadband and the availability of next-generation, high-speed services. It incorporates the most robust analysis of international data that the Commission has ever done. And we're releasing it with new online, interactive maps, which show exactly where broadband is and isn't available and provide technology-by-technology deployment statistics for every county in the nation.

To ensure our Report keeps pace with changing demands, today we also adopt a Notice of Inquiry to seek public input on how to assess our Nation's progress toward its broadband goals in next year's Report. As the importance of mobile broadband continues to grow for American consumers and businesses, mobile broadband should be incorporated in our analysis in the Ninth Broadband Progress Report. And our Report needs to formally include an evaluation the deployment of next generation services, which promote a mindset of abundance, and fuel world-leading innovation. Today's Inquiry lays the foundation for these important updates.

It is our responsibility to ensure that our goals for broadband availability reflect the real needs of American consumers and businesses. One study projects that the average Internet household will generate over 130 gigabytes of traffic per month by 2016 at a compounded growth rate of 21% a year. Meanwhile, the average smartphone user consumed 435 MB a month in early 2011, an increase of 89% from the year before.

In short, the goalposts *are* moving. Every year consumers and businesses need higher speeds and more capacity to keep up, innovators need new test beds for the latest technologies, and our competitors around the world are pushing hard to gain a strategic advantage by deploying faster, higher capacity broadband to their citizens. As broadband providers respond to meet this incredible demand, so too our broadband benchmarks and our broadband policies must keep up with these changes to foster economic growth, job creation, and our global competitiveness.

I thank the staff of the Wireline Competition Bureau and Wireless Telecommunications Bureau for their excellent work on this item.

STATEMENT OF
COMMISSIONER ROBERT M. McDOWELL

Re: *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. 12-228

Pursuant to Section 706 of the Telecommunications Act of 1996, the Commission is required to issue an annual report determining whether "advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion."[1] I have dissented from all of the 706 reports since the 2010 report because I have not agreed with the majority's conclusion that broadband has not been deployed in a reasonable and timely fashion to all Americans. These conclusions were inconsistent with the underlying market data and were stark reversals of all reports released prior to 2010. Additionally, I have repeatedly raised concerns that such negative and inaccurate conclusions could ultimately be used to support a regulatory agenda with unintended and harmful effects. Unfortunately, on at least two occasions, the Commission misconstrued the language of Section 706 to convey upon itself sweeping new statutory powers that, in reality, do not exist.

We are now commencing the next Section 706 review process and do so by launching a Notice of Inquiry (NOI). As with previous Section 706 NOI's, I take seriously Congress's mandate that the FCC conduct this broadband review on an annual basis. I view this process as an opportunity to assess the progress of our nation's broadband deployment, which has proven to be the fastest penetrating disruptive technology in American history. Nevertheless, my support of this NOI should not be construed as an endorsement of analyses or conclusions in the previous Section 706 reports, or of similar language in this NOI, or as an endorsement of concepts that could be used in a manner to promote further regulation of the Internet. Section 706 implores the Commission to *de*-regulate to promote deployment, not erect new governmental obstacles.[2] The proliferation of broadband Internet access has been so swift and pervasive precisely because the government has taken a hands-off approach. In fact, Internet access has shown itself to be the fastest penetrating disruptive technology in human history. As I have said many times before, the Internet is the greatest de-regulatory success story of all time.

Moreover, I note that this NOI seeks comment as to new approaches the Commission may consider in its upcoming Section 706 review. It is my hope that the comments will be comprehensive and robust. Stakeholders should highlight, in particular, approaches that would not be true to the de-regulatory bent of the statute or would not be practical in developing an accurate assessment of our nation's broadband deployment progress. I look forward to reviewing these comments, and I remain hopeful that any concerns raised will be taken seriously as the next Section 706 report is developed.

[1] 47 U.S.C. § 1302(b) (Section 706 of the Telecommunications Act of 1996 has since been amended by the Broadband Data Improvement Act (BDIA), Pub. L. No. 110-385, 122 Stat. 4096 (2008) and is now codified in Title 47, Chapter 12 of the U.S. Code. It is commonly referred to as "Section 706").

[2] Congress stated that "[i]f the Commission's determination is negative, it shall take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market." 47 U.S.C. § 1302(b). Even the most imaginative interpretation of this section could not logically render a conclusion that *adding* more layers of regulation would "remove barriers to infrastructure investment."

STATEMENT OF
COMMISSIONER MIGNON L. CLYBURN

Re: *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. 12-228

I wish to commend the Staff on today's release of the *Eighth Broadband Progress Report* and *Notice of Inquiry for the Ninth Broadband Progress Report*. This year's Report is more detailed than ever before, and it closely reviews the actions taken by both the private and public sectors to advance the availability of broadband to all Americans.

In addition to the significant investments made by industry by way of deployment to date, the FCC has achieved many of the goals we set forth to make broadband available to those who do not currently have it. Since last year's *Report*, we have reformed the Universal Service Fund's high-cost program so that it directly supports the deployment of broadband-enabled networks in rural areas. We have taken important steps to address the availability of broadband for low-income consumers through the Lifeline program, including providing the flexibility for consumers to use their subsidy to purchase bundled voice and broadband services. We also have implemented a pilot project that will offer broadband service to low-income consumers. Moreover, the public-private initiative Connect-to-Compete was launched, and similar industry-led programs are entering their second year—all of which are providing low-cost service, equipment, and training to consumers who otherwise could not afford broadband.

As we continue to implement our reforms and further address the barriers to deployment and broadband adoption, I expect that the statistics presented in our annual assessment will continue to improve. But it is clear from today's *Report* that we are not ready to declare victory just yet, as approximately 19 million Americans still lack access to terrestrial fixed broadband services that meet our broadband definition, and the adoption gap still shows that about 1/3 of Americans do not subscribe to broadband. Broadband service has not been made available to *all* Americans in a reasonable and timely fashion. Moreover, for low-income consumers and residents of rural areas, Tribal Lands, and the Territories, this finding is even more acute. It is necessary, therefore, that we continue to promote reforms and policies that will ensure broadband availability to *all Americans* no matter where they live, work, or travel in this great nation.

While I am pleased that we have included a discussion specific to the Territories in this year's *Report* and request comment in the *NOI* on the broadband challenges in the Territories, it is clear that we must continue to pay particular attention to the specific needs of remote and insulated areas. The same holds true for Tribal Lands. We should continue to evaluate the impact of our reforms and policies in these areas and be open to further refining them. In doing so, it is my hope that we can make more progress in addressing the broadband needs in those areas.

I also believe that the *NOI's* review of the broadband definition, including whether we should modify our findings to include mobile service, are important discussions that I encourage interested parties to engage with us on. As noted in the *Report and NOI*, the marketplace is rapidly evolving. More consumers are relying upon their mobile devices to access broadband than ever before. We included in our *USF Transformation Order* the goal that consumers have access to mobile broadband and voice service, by allocating $300 million in Mobility Fund Phase I and $500 million annually in Phase II. Moreover, our inquiry includes questions about the speeds offered and consumed for fixed service, as well as the capacity of networks, including latency and data capacity. I am particularly interested in the

data the Commission would rely upon should we modify our *Ninth Broadband Progress Report*. In particular, the Commission has yet to complete its proceeding to update the Form 477 wherein we collect broadband subscriber information. Taking the necessary steps to ensure that the Commission has the relevant data to assess such additional broadband criteria will be crucial if we determine to include such data in the *Ninth Broadband Progress Report*.

STATEMENT OF
COMMISSIONER JESSICA ROSENWORCEL

Re: *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. 12-228

Today's report shows real progress in the deployment of advanced telecommunications capability to all Americans. It reveals that for some, broadband services are faster and more robust than ever. Consider, for instance, that more than 80 percent of households now have access to broadband at speeds as high as 100 Mbps.

But at the same time, this report demonstrates that broadband remains out of reach for 19 million Americans. The bulk of these Americans—14.5 million—live in rural areas that lack basic infrastructure for fixed broadband service. Furthermore, nearly one in three Americans do not subscribe to broadband, citing lack of relevance, lack of affordability, and lack of digital literacy.

These numbers are even more troubling when the United States is compared with the rest of the world. Today, this report cites data that show that the United States is ranked fifteenth in the world for fixed broadband penetration. We are ranked seventh in the world for mobile broadband penetration.

The United States should lead the world in broadband. Until the data unequivocally demonstrate that we do, how can the answer to our Section 706 inquiry—whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion—be anything but no? We know that in the 21st century access to broadband means access to opportunity. It means access to jobs, access to education, and access to healthcare. This is the platform that will drive innovation, boost productivity, and enhance our ability to compete with other nations. So we must make our markets the most attractive worldwide for investment in all aspects of the digital economy.

To do so, the Commission is already taking action to advance broadband deployment and adoption for the millions of Americans without access today. We are moving forward with comprehensive universal service reform, implementing the 21st Century Communications and Video Accessibility Act, and developing public and private partnerships to promote broadband adoption and digital literacy. We are also poised to carry out the world's first incentive auction to free up additional spectrum for mobile broadband services. These are exciting developments, though today's report is a thoughtful reminder that we still have work to do before every American has access and we unequivocally lead the world's broadband ranks.

Though there are challenges ahead, I believe that we are up for the task. The Notice of Inquiry we release today is a small step towards figuring out how to address these challenges, including a fresh perspective on the consumer experience. In particular, our inquiry includes factors beyond speed, like latency and capacity, that impact how consumers use their broadband connections. So I look forward to tackling these issues with my colleagues and thank Commission staff for their hard work on this report.

STATEMENT OF
COMMISSIONER AJIT PAI

Re: *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. 12-228

Pursuant to section 706 of the Telecommunications Act of 1996, as amended by the Broadband Data Improvement Act, we launch today our annual notice inquiring about the "availability of advanced telecommunications capability to all Americans."[1] Because Congress has directed us to make this inquiry each year and because my colleagues were willing to incorporate some important suggestions for improving this item, I have voted to approve it.

The most significant improvement is that the notice does not contain proposals or tentative conclusions, but instead only seeks comment on a wide variety of issues. I also appreciate that my colleagues were willing to incorporate other suggestions that I offered, including a paragraph seeking comment on the unique challenges to deployment facing Americans living in insular areas and U.S. territories.[2]

To be clear, my approval of this notice should not be seen in any way as an endorsement of the Eighth Report, from which I dissented. And given this notice's extensive reliance on the Eighth Report, I offer a few thoughts on the next iteration in this series.

First, I hope that our benchmarks with respect to broadband speed (and any revisions thereto) will be driven by concrete facts regarding consumer preferences. Just two years ago, the National Broadband Plan established an "aggressive" target: universal access to broadband at 4 Mbps download speed and 1 Mbps upload speed by 2020.[3] The Plan further recommended that we review this target in 2014 and every four years thereafter.[4] These are valuable goals, but a realistic assessment responsive to Congress' request requires that the Commission keep abreast of actual consumer demand and changes in the communications marketplace. For example, this year's report contains interesting information about the broadband speeds consumers choose to purchase in light of availability,[5] and I look forward to reviewing comments shedding light on how we should incorporate this information into our benchmarking analysis. I especially look forward to public input regarding a question we asked in last year's notice: "[W]ould the benefits of potential revisions to the threshold outweigh the benefits of having 'a relatively static point at which to gauge the progress and growth in the [broadband] market from one Report to the next?'"[6]

[1] 47 U.S.C. § 1302(b) (codifying Telecommunications Act of 1996, Pub. L. No. 104-104, § 706, 110 Stat. 153 (as amended)).

[2] *See Ninth Broadband Progress Notice of Inquiry* at para. 39.

[3] FCC, Connecting America: The National Broadband Plan, at 135 & Exh. 8-A (rel. Mar. 16, 2010) (National Broadband Plan).

[4] *Id.* at 135 & Box 8-1.

[5] *See* Eighth Report, Section IV.D.

[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*, GN Docket No. 11-121,

Second, I am quite skeptical of the relevance of data usage policies to our determination of whether any given service qualifies as "advanced telecommunications capability," *i.e.*, broadband.[7] After all, the statute speaks in terms of "capability," and if a service otherwise qualifies, I do not see how tying the cost of the service to usage makes a consumer any less capable of "originat[ing] and receiv[ing] high-quality voice, data, graphics, and video telecommunications."[8] An analogy: The Communications Act and our rules define interconnected voice over Internet Protocol (VoIP) service as one that "[e]nables real-time, two-way voice communications."[9] Yet I tend to doubt that we would let VoIP providers escape their E911 obligations[10] or universal service contribution obligations[11] if they imposed usage limits on their customers (and then claimed that they were not really offering interconnected VoIP service).

Third, I am pleased that the notice seeks to incorporate mobile broadband and satellite services into its deployment determination, all the more so considering the Commission's repeated neglect of the statutory requirement to evaluate broadband deployed "using any technology."[12] I will be paying close attention to record evidence of how consumers are using these services and how the marketplace is supplying them. I will be especially wary of setting benchmarks that might vitiate the investments the private sector has made in such broadband technologies. I also do not believe that an area should be considered served by "advanced telecommunications capability" only if both fixed and mobile broadband services are available. Such a standard, in my view, is at odds with the letter and spirit of section 706.

Fourth, section 706 requires us to "encourage" broadband deployment by "remov[ing] barriers to infrastructure investment" regardless of our determination in any given deployment report.[13] Accordingly, I am keenly interested in identifying how the Commission can clear obstacles to deployment, including but not limited to regulatory uncertainty; costs and delays associated with rights-of-way, pole attachments, and tower siting; overlapping and conflicting permitting processes at the federal, state, and/or local levels; and the diversion of capital from research and deployment to compliance with legacy regulation. And I hope stakeholders also pinpoint our statutory authority for taking such actions, since we must act within the legal boundaries Congress has outlined.

Fifth and finally, I caution that we must be humble in our expectations for this next report. After all, compiling the data and conducting the analysis using our existing benchmarks and datasets already

(Continued from previous page)

Eighth Broadband Progress Notice of Inquiry, 26 FCC Rcd 11800, 11804, para. 7 (2011) (second alteration in original).

[7] *See Ninth Broadband Progress Notice of Inquiry* at paras. 18–21, 29.

[8] 47 U.S.C. § 1302(d)(1).

[9] *Id.* § 3(25); 47 C.F.R. § 9.3.

[10] *See* 47 C.F.R. § 9.5.

[11] *Universal Service Contribution Methodology et al.*, WC Docket No. 06-122 et al., Report and Order and Notice of Proposed Rulemaking, 21 FCC Rcd 7518 (2006).

[12] 47 U.S.C. § 1302(d)(1); *see also 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. 11-121, Eighth Broadband Progress Report, FCC 12-90 (2012) (Dissenting Statement of Commissioner Ajit Pai) ("[W]e should consider all broadband services meeting the statutory definition regardless of the technologies used to deploy them.").

[13] 47 U.S.C. § 1302(a).

has strained the Commission's resources—and that does not even account for the difficulties we have had acquiring data to draw appropriate comparisons between deployments in America and abroad. The task we now undertake is even more resource-intensive, and Congress has given us only 180 days to complete it.[14] Although Congress is considering legislation giving the Commission additional time and flexibility to evaluate broadband deployment,[15] we must work with the law as it is. That means we must adjust our expectations appropriately.

[14] *Id.* § 1302(b).

[15] *See* Federal Communications Commission Consolidated Reporting Act of 2012, H.R. 3310 (passed U.S. House of Representatives May 30, 2012).