FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON

OFFICE OF
THE CHAIRMAN

February 26, 2016

The Honorable Fred Upton
Chairman
Committee on Energy and Commerce
U.S. House of Representatives
2125 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Upton:

Thank you for your letter regarding the Commission's assessment and reporting on the state of broadband deployment, the level of video competition, and the level of effective competition in the nation's mobile wireless market, as required by the Communications Act of 1934, as amended. Attached please find responses to your written questions.

The guiding principle of the Commission's broadband policy, as set forth by Congress, is that all Americans should have access to robust broadband services, no matter where they live. As I have said before, broadband is the most powerful and pervasive network in the history of the planet. Broadband networks are a key driver of economic and social activity today, connecting consumers across the country to one another and to new job opportunities, educational enrichment, health care services and civic engagement. This is particularly true for small and rural communities, where affordable access to high quality broadband can be the difference between economic decline and a vibrant future.

As you know, Section 706 of the Telecommunications Act of 1996 charges the Commission with ensuring that advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion. Promoting competition and fueling consumer demand are the best tools to get us to that critical goal. I remain fully committed to taking steps to remove barriers to investment in order to encourage competition and accelerate broadband deployment throughout the country.

Please let me know if I can be of any further assistance.

Sincerely,

Tom Wheeler

Responses to Questions

Question 1(a) – When the FCC changed the definition of broadband in 2010, what barriers to infrastructure investment were removed and how did the change promote competition? What specific improvements to broadband acceleration resulted from the FCC's actions?

Since becoming Chairman of the Commission in 2013, one of my chief objectives has been to promote competition and removing barriers to investment to encourage and accelerate broadband deployment. As you note, in the *2010 Sixth Broadband Progress Report*, which was released under the Chairmanship of my predecessor, Julius Genachowski, the Commission updated the speed benchmark for advanced telecommunications capability from 200 kilobits per second (kbps) in both directions to 4 megabits per second (Mbps) download and 1 Mbps upload (4 Mbps/1 Mbps).[1] The Commission's analysis recognized that technologies, retail offerings, and demand among consumers evolved in ways that required increasing amounts of bandwidth. The Commission thus adopted the minimum speed threshold of the national broadband availability target proposed in the National Broadband Plan.[2]

Since the *2010 Sixth Broadband Progress Report*, the Commission has continued its efforts to implement proposals set forth in the National Broadband Plan. These efforts include modernizing the E-rate program and transforming the federal universal service fund program (USF) and intercarrier compensation (ICC) system to make broadband more widely available and affordable in high-cost service areas.[3] The Commission has also taken steps to reduce barriers to infrastructure investment and promote competition that have resulted in increased broadband deployment. For example:

- In 2011, the Commission launched the Broadband Acceleration Initiative, through which the Commission, with its partners in state and local governments, reduced obstacles to

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[2] *Id.* at 9559, para. 5; *see also* FCC, Omnibus Broadband Initiative (OBI), Connecting America: The National Broadband Plan, GN Docket No. 09-51 at 135 (2010) (National Broadband Plan).

[3] *See, e.g., Schools and Libraries Universal Service Support Mechanism; A National Broadband Plan for Our Future*, CC Docket No. 02-6, GN Docket No. 09-51, Sixth Report and Order, 25 FCC Rcd 18762, 18764–65, para. 6 (2010); *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*, CC Docket Nos. 96-45, 01-92, GN Docket No. 09-51, WC Docket Nos. 03-109, 05-337, 07-135, 10-90, Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking, 26 FCC Rcd 4554, 4560–61, para. 10 (2011) (*Connect America Fund NPRM*).

broadband deployment, such as barriers to accessing utility poles and rights of way and to collocating and siting wireless antennas and towers.[4]

- In 2011, the Commission also adopted the *Pole Attachment Order*, which adopted a pricing methodology that lowered the pole attachment rate for wireline, wireless, and cable companies' broadband attachments to a level closer to the rate paid by cable providers, thus encouraging broadband competition and investment.[5]
- In 2011, the Commission also adopted the *USF/ICC Transformation Order*, which targeted the $4.5 billion spent annually to ensure rural connectivity towards support for fixed and mobile voice and broadband facilities in areas that would otherwise not have service, including rural and insular areas, and on Tribal lands.[6]
- In 2012, the Commission adopted the *Rural Health Care Reform Order* and created the Healthcare Connect Fund to expand health care provider access to broadband, particularly in rural areas, and to encourage the deployment of state and regional broadband health care networks.[7]
- In 2014, with the adoption of both the *E-rate Modernization Order* and the *Second E-rate Modernization Order*, the Commission made advancements to modernize the E-rate program by adopting goals for the program, including ensuring affordable access to high-speed broadband sufficient to support digital learning for schools and robust connectivity for libraries and corresponding connectivity targets to measure progress toward that goal.[8]

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[4] *The FCC's Broadband Acceleration Initiative Reducing Regulatory Barriers to Spur Broadband Buildout*, Public Notice (Feb. 9, 2011) (Broadband Acceleration Initiative), *available at* http://www.fcc.gov/Daily_Releases/Daily_Business/2011/db0209/DOC-304571A2.pdf.

[5] *Implementation of Section 224 of the Act, A National Broadband Plan for Our Future*, WC Docket No. 07- 245, GN Docket No. 09-51, Report and Order and Order on Reconsideration, 26 FCC Rcd 5240 (2011); *see also Implementation of Section 224 of the Act, A National Broadband Plan for Our Future*, WC Docket No. 07- 245, GN Docket No. 09-51, Order on Reconsideration, 30 FCC Rcd 13731 (2015) (amending the Commission's rules defining cost for the purpose of calculating the rates that telecommunications carriers pay for pole attachment, which built on the Commission's prior efforts to further broadband deployment by harmonizing pole attachment rates that cable and telecommunications service providers pay utility pole owners).

[6] *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*)..

[7] *Rural Health Care Support Mechanism*, WC Docket No. 02-60, Report and Order, 27 FCC Rcd 16678 (2012).

[8] *Modernizing the E-Rate Program for Schools and Libraries*, Report and Order and Further Notice of Proposed Rulemaking, 29 FCC Rcd 8870 (2014) (*E-rate Modernization Order*); *Modernizing the E-rate Program for Schools and Libraries*, WC Dockets No. 13-184, 10-90, Second Report and Order and Order on Reconsideration, 29 FCC Rcd 15538 (2014) (*Second E-rate Modernization Order*).

- Moreover, since July 2014, through the Mobility Fund, the Commission's Bureaus have authorized universal service support to five winning auction bidders and initial disbursements have been made totaling $16.6 million.[9]
- In 2015, the Commission also released the *Emerging Wireline Networks and Services Order*, adopting policies to encourage the ongoing transition to next-generation communications networks while ensuring that consumers are able to make informed choices; that new retail services meet consumers' fundamental needs; and competition continues to thrive.[10]
- In 2015, the Commission adopted the *Rate Parity Order on Reconsideration*, which removes any rate imbalance that would disfavor investment where pole attachments are federally regulated, and any disruption of investment in rural areas that might result from a large and sudden increase in pole attachment rates.[11]
- In 2015, the Commission also adopted the *2015 Open Internet Order* to support the Internet's virtuous cycle of investment and innovation by ensuring the continued freedom and openness of the Internet, which will drive further broadband investment and deployment.[12]

These and other Commission actions have led to increased investment and broadband deployment. For example, the Commission reported in the *2011 Seventh Broadband Progress Report* that the communications industry made great strides to bring better and faster broadband to most Americans by investing tens of billions of dollars annually in the networks that make broadband possible.[13] Investment and deployment of faster broadband speeds have continued to increase. For example, several wireless providers have built-out nationwide fourth-generation (4G) mobile broadband networks.[14] Moreover, in the *2015 Broadband Progress Report*, the Commission reported that wireless providers in the U.S. have spent more than $134 billion in capital investments during the past five years, and incremental capital investment by wireless

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[9] *Tribal Mobility Fund Phase I Support authorized public notices are available for support at the Commission's Auction 902 website, http://wireless.fcc.gov/auctions/902P.*

[10] *Technology Transitions et al.*, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, 30 FCC Rcd 9372 (2015).

[11] *See generally Implementation of Section 224 of the Act; A National Broadband Plan for Our Future*, WC Docket No. 07-245; GN Docket No. 09-51, Order on Reconsideration, 30 FCC Rcd 13731 (2015).

[12] *Protecting and Promoting the Open Internet*, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd 5601 (2015) (*2015 Open Internet Order).* The *Order* is currently in effect, pending judicial review in the D.C. Circuit Court of Appeals following legal challenge by a coalition of broadband service providers in *U.S. Telecom Ass'n v. FCC et al.*, docket No. 15-1063

[13] *2011 Seventh Broadband Progress Report*, 26 FCC Rcd at 8010-11, para. 3; *see also Eighth Broadband Progress Report*, 27 FCC at 10344, para. 2 (stating that "[t]hese providers invest tens of billions of dollars annually in the networks that make broadband possible, and since the 1996 Act, they are reported to have invested more than $1 trillion dollars combined.").

[14] *2011 Seventh Broadband Progress Report*, 26 FCC Rcd at 8010-11, para. 3.

providers rose by more than 10 percent from 2012 to 2013 to $33.1 billion.[15] In the most recent *2016 Broadband Progress Report*, the Commission reported that Verizon continues to invest in its FiOS network, which passes almost 20 million households and is testing next-generation 10 gigabits per second (Gbps) speeds over its all-fiber network.[16] In addition, AT&T has invested to expand its wireline IP broadband network to 57 million customer locations and extend fiber to 725,000 business locations and CenturyLink has also invested in the launch of 1 Gbps broadband service to 17 cities.

The Commission applauded this progress in our *2016 Broadband Progress Report*, recognizing that "actions of the Commission and the private sector have done much to accelerate the deployment of advanced telecommunications capability."[17] The Commission concluded, however, that more needs to be done and that it must continue its work to remove barriers to broadband deployment, competition, and adoption.

Question 1b. In light of the Commission's conclusion that 25 Mbps broadband is not being timely deployed, what "immediate action" are you prepared to take to remove barriers to infrastructure investment and promote competition? Please describe the specific steps and your proposed timetable.

The Commission will continue to work to remove barriers to deployment and promote competition. This work will be reflected in part by direct support, and in part by identifying and helping to reduce potential obstacles to deployment, competition, and adoption—concepts that the Commission continues to recognize are tightly linked. For example:

- *Supporting Broadband Deployment through Technology Transitions.* The Commission is reviewing the record in response to the *Emerging Wireline Networks and Services Further Notice of Proposed Rulemaking* in which the Commission sought comment on establishing clear standards to streamline transitions to an all-IP environment. The Commission has proposed taking action to provide carriers the guidance and clarity they need to implement new technologies at scale as quickly as possible.[18]
- *Lifeline and Broadband.* The Commission will continue improving access to broadband for our nation's most vulnerable populations through the Lifeline program, which provides discounted voice telephony service to qualifying low-income consumers.

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[15] *2015 Broadband Progress Report*, 30 FCC Rcd at 1383-84, para. 16.

[16] *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 15-191, 2016 Broadband Progress Report, FCC 16-6, para. 138 (Jan. 29, 2016) (*2016 Broadband Progress Report*).

[17] *Id.*, para. 6.

[18] *Technology Transitions et al.*, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, 30 FCC Rcd 9372 (2015).

Specifically, the Commission is reviewing the record in response to the *2015 Lifeline Further Notice*, which proposes to support broadband service through the Lifeline program while also proposing several important measures to reduce burdens on carriers providing Lifeline service, minimize burdens on ratepayers supporting the program, and to further curtail waste, fraud, and abuse in the program.[19]

- *Broadband in Rural Areas*. The Commission continues incenting the deployment of broadband in rural areas by implementing the reforms adopted by the Commission in the *2011 USF/ICC Transformation Order* and subsequent Connect America and related orders, which comprehensively reformed and modernized the high-cost program within the universal service fund to support networks capable of providing voice and broadband services, both fixed and mobile, to all Americans throughout the nation. The Commission will also continue its efforts to ensure access to robust and affordable mobile voice and broadband service through the implementation of the Mobility Fund, which uses auctions as a mechanism for distributing universal service support.[20]
- *Proposed Rate of Return Reform Order*. Most recently, I circulated an Order in February to modernize universal support for rate-of-return carriers. The proposed Order is the result of considered bi-partisan efforts to craft a solution that supports standalone broadband, ensures efficient use of universal service funding, and creates stability and certainty in the program. A fundamental component of the proposed Order are provisions to ensure that universal service support will be used to connect those rural Americans that remain unserved today.

Question 2: Please explain why the FCC settled at 25 Mbps downstream/3 Mbps upstream for the definition of broadband, including the facts about the market that led you to conclude that 25 Mbps is the appropriate minimum threshold to qualify as broadband. Please explain what specific factors led you to conclude that 4 Mbps downstream and 1 Mbps upstream was insufficient.

Section 706(b) of the Telecommunications Act of 1996 requires the Commission to conduct an annual inquiry into "the availability of advanced telecommunications capability to all Americans."[21] In the *2015 Broadband Progress Report*, the Commission increased the then-existing 4 Mbps download/1 Mbps upload benchmark for advanced telecommunications capability, which had been in place since 2010, to 25 Mbps download/3 Mbps upload.[22]

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[19] *See Lifeline and Link Up Reform and Modernization et al.*, WC Docket No. 11-42 et al., Second Further Notice of Proposed Rulemaking, Order on Reconsideration, Second Report and Order, and Memorandum Opinion and Order, 30 FCC Rcd 7818 (2015).

[20] Mobility Fund Phase I annual reports are available for viewing via the Commission's Electronic Comment Filing System (ECFS), http://apps.fcc.gov/ecfs/, by entering the docket number, WT No. 10-208.

[21] 47 U.S.C. § 1302(b). The purpose of this inquiry is to "determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion." *Id.*

[22] *2015 Broadband Progress Report*, 30 FCC Rcd at 1393, para. 26.

It is important to note that the 25 Mbps/3 Mbps speed benchmark is not a definition of "broadband." Rather, the benchmark is used to measure the deployment of those broadband services that are able to provide Americans with "advanced telecommunications capability."[23] As the Commission explained in the *2016 Broadband Progress Report*, "'advanced telecommunications capability' is a statutory term with a definition that differs from, and in fact includes, the term 'broadband.'"[24] In the Telecommunications Act of 1996, Congress entrusted the Commission with the task of interpreting terms, including "advanced," "high-speed," and "high-quality," and determining which broadband services provide "advanced telecommunications capability."[25]

The Commission's determination to set the 25 Mbps/3 Mbps benchmark was based on the speeds required to use high-quality video, data, voice, and other commonly used broadband applications, factoring in the needs of multiple simultaneous users in the average American household, and the increasing adoption by consumers of bandwidth-intensive services, such as HD video streaming.[26] The 25 Mbps/3 Mbps benchmark was also supported by prevailing trends in the broadband market, which demonstrated that providers were marketing 25 Mbps/3 Mbps services as appropriate to serve the needs of a typical household,[27] and by data showing rapidly increasing migration to services at or above 25 Mbps/3 Mbps by consumers, where such services were available.[28] In light of these trends, the Commission determined that 4 Mbps/1 Mbps no longer provided American households with sufficient bandwidth to make full use of "advanced" telecommunications services, including HD video streaming and video calling, online gaming, telehealth and telemedicine applications.[29]

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[23] *See* 47 U.S.C. § 1302(b).

[24] *See 2016 Broadband Progress Report* at 2, para 1 n.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. 15-191, Eleventh Broadband Progress Notice of Inquiry, 30 FCC Rcd 8823, 8824 n. 3 (2015); *2015 Broadband Progress Report*, 30 FCC Rcd at 1375, para. 1 n.1. Pursuant to section 706(d), "'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." 47 U.S.C. § 1302(d)(1).

[25] *See* 47 U.S.C. § 1302(b), (d)(1); *see also 2016 Broadband Progress Report* at 7, para. 13.

[26] *2015 Broadband Progress Report*, 30 FCC Rcd at 1395-1401, paras. 29-40.

[27] *Id.* at 1394, 1400, paras. 28, 38.

[28] *Id.* at 1401-03, paras. 41-44.

[29] *Id.* at 1403-04, paras. 45-47.

Question 3: Please identify all contexts and instances in which the FCC defines broadband. Why does the Commission not have a definition of broadband that it applies consistently?

The Commission has a responsibility within the context of its various efforts to maximize the availability and adoption of broadband to establish appropriate broadband service measurements. Different statutory directives and contexts, however, may call for different metrics. For example, as discussed above, in reaching a determination under section 706(b), the Commission has established, consistent with the statutory definition, a measurement for advanced broadband based on the deployment and availability of broadband services that "enable[] users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology," as required by section 706(b) of the Telecommunications Act of 1996.

Another example is the Commission's Connect America Fund proceeding. This proceeding is focused on supporting the deployment of broadband-capable networks to high-cost areas. Here, the measurement for broadband is necessarily different than that measurement established for advanced telecommunications capability in the Broadband Progress Report. This difference can be attributed to the fact that the Connect America Fund proceeding is responding to the statutory goal of universal service. Section 254 of the Telecommunications Act of 1996 directs the Commission to base its policies on the principle that consumers in rural, insular and high-cost areas of the country have access to advanced telecommunications and information services that are reasonably comparable to those services in urban areas, at reasonably comparable rates. The Commission works with available funds in order to extend broadband availability to areas where the marketplace alone does not currently provide even a minimum level of service, focusing on areas that face geographical challenges with deploying in relatively un-populated areas that lack high speed, high capacity infrastructure. The Commission has required carriers receiving Connect America Fund support to provide, at a minimum, service of 10 Mbps/1 Mbps, and we expect many locations will receive higher speeds. The broadband speeds supported by universal service will always be an evolving standard. We already have in place initiatives that will support faster service—for example, a number of our Rural Broadband Experiment winners will offer 25Mbps/5 Mbps or better.

Your letter also notes the Commission's *2015 Open Internet Order*, which adopted rules to protect and promote the open Internet for all Americans—today and into the future. In that Order, the Commission defined "broadband Internet access service" functionally as a "mass-market retail service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all Internet endpoints . . . ."[30] This approach reflects a view that consumers of broadband Internet access services—of all speeds—are entitled to a free and open Internet.

[30] *2015 Open Internet Order*, 30 FCC Rcd at 5682, para. 187.

Question 4: Please describe in detail why the Commission does not have a definition of competition that it applies consistently? How many choices in a given market would lead the Commission to find mobile wireless service effectively competitive? Please explain in detail why the Commission continues to fail to make a competitive finding for the wireless market?

While implementing its statutory responsibilities, the Commission must apply the terms of relevant statutory provisions. As described below, the statutory provisions applicable to the Commission's analysis of the mobile wireless marketplace are substantially different from those that apply to the provision of cable service.

In issuing the Mobile Wireless Competition Report, the Commission is complying with the requirement that Congress enacted in 1993 that the Commission report annually on "competitive market conditions with respect to commercial mobile services." At that time, Congress created the statutory classification of "commercial mobile services" ("CMRS") to promote the consistent regulation of mobile radio services that are similar in nature, and established the promotion of competition as a fundamental goal for CMRS policy formation and regulation. In particular, the statute requiring the annual report on CMRS competition states:

> The Commission shall review competitive market conditions with respect to commercial mobile services and shall include in its annual report an analysis of those conditions. Such analysis shall include an identification of the number of competitors in various commercial mobile services, an analysis of whether or not there is effective competition, an analysis of whether any of such competitors have a dominant share of the market for such services, and a statement of whether additional providers or classes of providers in those services would be likely to enhance competition.

Recent Reports have "analy[zed]" in great detail the "competitive market conditions with respect to commercial mobile services." The reports include, for example, a detailed view of total subscribers and connections and net additions and churn of leading CMRS providers, as well as information concerning their comparative revenues, average revenues, profitability, coverage, LTE coverage, penetration rates, geographic and demographic subscribership, spectrum holdings by frequency band, pricing levels and plans (including their effect on the subscriber's costs of switching providers), capital expenditures, and quality of service measures. The reports analyze the competitive rivalry between mobile wireless service providers and how that competitive rivalry has affected innovation and investment that benefit American consumers. Consistent with the Commission's first seven Reports, the most recent five Reports have not reached an overall conclusion or formal finding regarding whether or not the CMRS marketplace is "effectively competitive," but rather provide an analysis and description of industry metrics and trends.

As more recent Reports indicate, there is no definition of the general term "effective competition" that is widely accepted by economists or competition authorities. In the CMRS context, all of the foregoing factors are relevant to the question of "effective competition," which thus does not turn on a simple inquiry into the number of providers offering service, and will vary depending the geographic market. In fact, earlier Reports that reached a finding of effective competition offered no definition of the term in this context. For these reasons, and given the complexity of inter-related segments and services within the mobile wireless ecosystem, the analysis in the reports led to a determination that any single conclusion regarding the effectiveness of competition would be incomplete and potentially misleading with respect to CMRS, even in any one geographic market much less as a nationwide matter. Accordingly, in light of this determination, recent Reports have focused on presenting the best data available on aspects of competition throughout the mobile wireless ecosystem

In contrast to the commercial mobile services context, section 623(l)(1) of the Cable Television Consumer Protection and Competition Act of 1992 defines for the Commission four specific tests for "Effective Competition" when specifying the circumstances in which a franchising authority may regulate basic cable service tier rates and equipment. The four tests for "Effective Competition" are: (i) "Low Penetration Effective Competition" which is present if fewer than 30 percent of the households in the franchise area subscribe to the cable service of a cable system; (ii) "Competing Provider Effective Competition," which is present if the franchise area is (a) served by at least two unaffiliated MVPDs each of which offers comparable video programming to at least 50 percent of the households in the franchise area; and (b) the number of households subscribing to programming services offered by MVPDs other than the largest MVPD exceeds 15 percent of the households in the franchise area; (iii) "Municipal Provider Effective Competition," which is present if an MVPD operated by the franchising authority for that franchise area offers video programming to at least 50 percent of the households in that franchise area; and (iv) "Local Exchange Carrier (LEC) Effective Competition," which is present if a local exchange carrier or its affiliate (or any MVPD using the facilities of such carrier or its affiliate) offers video programming services directly to subscribers by any means (other than direct-to-home satellite services) in the franchise area of an unaffiliated cable operator which is providing cable service in that franchise area, but only if the video programming services so offered in that area are comparable to the video programming services provided by the unaffiliated cable operator in that area. Thus, language of section 623 enables the Commission to use readily available evidence to make determinations, based on the specifically delineated statutory factors, as to whether or not Effective Competition as defined in the statute is present within the relevant franchise area.

Promoting competition is a fundamental goal of the Commission's policymaking. Competition has played and must continue to play an essential role in the mobile wireless industry – leading to lower prices and higher quality for American consumers, while encouraging innovation and investment in wireless networks, devices, and services.

FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON

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February 26, 2016

The Honorable Greg Walden
Chairman
Subcommittee on Communications and Technology
Committee on Energy and Commerce
U.S. House of Representatives
2125 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Walden:

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[34] *The FCC's Broadband Acceleration Initiative Reducing Regulatory Barriers to Spur Broadband Buildout*, Public Notice (Feb. 9, 2011) (Broadband Acceleration Initiative), *available at* http://www.fcc.gov/Daily_Releases/Daily_Business/2011/db0209/DOC-304571A2.pdf.

[35] *Implementation of Section 224 of the Act, A National Broadband Plan for Our Future*, WC Docket No. 07- 245, GN Docket No. 09-51, Report and Order and Order on Reconsideration, 26 FCC Rcd 5240 (2011); *see also Implementation of Section 224 of the Act, A National Broadband Plan for Our Future*, WC Docket No. 07- 245, GN Docket No. 09-51, Order on Reconsideration, 30 FCC Rcd 13731 (2015) (amending the Commission's rules defining cost for the purpose of calculating the rates that telecommunications carriers pay for pole attachment, which built on the Commission's prior efforts to further broadband deployment by harmonizing pole attachment rates that cable and telecommunications service providers pay utility pole owners).

[36] *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*)..

[37] *Rural Health Care Support Mechanism*, WC Docket No. 02-60, Report and Order, 27 FCC Rcd 16678 (2012).

[38] *Modernizing the E-Rate Program for Schools and Libraries*, Report and Order and Further Notice of Proposed Rulemaking, 29 FCC Rcd 8870 (2014) (*E-rate Modernization Order*); *Modernizing the E-rate Program for Schools and Libraries*, WC Dockets No. 13-184, 10-90, Second Report and Order and Order on Reconsideration, 29 FCC Rcd 15538 (2014) (*Second E-rate Modernization Order*).

- Moreover, since July 2014, through the Mobility Fund, the Commission's Bureaus have authorized universal service support to five winning auction bidders and initial disbursements have been made totaling $16.6 million.[39]
- In 2015, the Commission also released the *Emerging Wireline Networks and Services Order*, adopting policies to encourage the ongoing transition to next-generation communications networks while ensuring that consumers are able to make informed choices; that new retail services meet consumers' fundamental needs; and competition continues to thrive.[40]
- In 2015, the Commission adopted the *Rate Parity Order on Reconsideration*, which removes any rate imbalance that would disfavor investment where pole attachments are federally regulated, and any disruption of investment in rural areas that might result from a large and sudden increase in pole attachment rates.[41]
- In 2015, the Commission also adopted the *2015 Open Internet Order* to support the Internet's virtuous cycle of investment and innovation by ensuring the continued freedom and openness of the Internet, which will drive further broadband investment and deployment.[42]

These and other Commission actions have led to increased investment and broadband deployment. For example, the Commission reported in the *2011 Seventh Broadband Progress Report* that the communications industry made great strides to bring better and faster broadband to most Americans by investing tens of billions of dollars annually in the networks that make broadband possible.[43] Investment and deployment of faster broadband speeds have continued to increase. For example, several wireless providers have built-out nationwide fourth-generation (4G) mobile broadband networks.[44] Moreover, in the *2015 Broadband Progress Report*, the Commission reported that wireless providers in the U.S. have spent more than $134 billion in capital investments during the past five years, and incremental capital investment by wireless

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[39] *Tribal Mobility Fund Phase I Support authorized public notices are available for support at the Commission's Auction 902 website, http://wireless.fcc.gov/auctions/902P.*

[40] *Technology Transitions et al.*, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, 30 FCC Rcd 9372 (2015).

[41] *See generally Implementation of Section 224 of the Act; A National Broadband Plan for Our Future*, WC Docket No. 07-245; GN Docket No. 09-51, Order on Reconsideration, 30 FCC Rcd 13731 (2015).

[42] *Protecting and Promoting the Open Internet*, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd 5601 (2015) (*2015 Open Internet Order).* The *Order* is currently in effect, pending judicial review in the D.C. Circuit Court of Appeals following legal challenge by a coalition of broadband service providers in *U.S. Telecom Ass'n v. FCC et al.*, docket No. 15-1063

[43] *2011 Seventh Broadband Progress Report*, 26 FCC Rcd at 8010-11, para. 3; *see also Eighth Broadband Progress Report*, 27 FCC at 10344, para. 2 (stating that "[t]hese providers invest tens of billions of dollars annually in the networks that make broadband possible, and since the 1996 Act, they are reported to have invested more than $1 trillion dollars combined.").

[44] *2011 Seventh Broadband Progress Report*, 26 FCC Rcd at 8010-11, para. 3.

providers rose by more than 10 percent from 2012 to 2013 to $33.1 billion.[45] In the most recent *2016 Broadband Progress Report*, the Commission reported that Verizon continues to invest in its FiOS network, which passes almost 20 million households and is testing next-generation 10 gigabits per second (Gbps) speeds over its all-fiber network.[46] In addition, AT&T has invested to expand its wireline IP broadband network to 57 million customer locations and extend fiber to 725,000 business locations and CenturyLink has also invested in the launch of 1 Gbps broadband service to 17 cities.

The Commission applauded this progress in our *2016 Broadband Progress Report*, recognizing that "actions of the Commission and the private sector have done much to accelerate the deployment of advanced telecommunications capability."[47] The Commission concluded, however, that more needs to be done and that it must continue its work to remove barriers to broadband deployment, competition, and adoption.

Question 1b. In light of the Commission's conclusion that 25 Mbps broadband is not being timely deployed, what "immediate action" are you prepared to take to remove barriers to infrastructure investment and promote competition? Please describe the specific steps and your proposed timetable.

The Commission will continue to work to remove barriers to deployment and promote competition. This work will be reflected in part by direct support, and in part by identifying and helping to reduce potential obstacles to deployment, competition, and adoption—concepts that the Commission continues to recognize are tightly linked. For example:

- *Supporting Broadband Deployment through Technology Transitions.* The Commission is reviewing the record in response to the *Emerging Wireline Networks and Services Further Notice of Proposed Rulemaking* in which the Commission sought comment on establishing clear standards to streamline transitions to an all-IP environment. The Commission has proposed taking action to provide carriers the guidance and clarity they need to implement new technologies at scale as quickly as possible.[48]
- *Lifeline and Broadband.* The Commission will continue improving access to broadband for our nation's most vulnerable populations through the Lifeline program, which provides discounted voice telephony service to qualifying low-income consumers.

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[45] *2015 Broadband Progress Report*, 30 FCC Rcd at 1383-84, para. 16.

[46] *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 15-191, 2016 Broadband Progress Report, FCC 16-6, para. 138 (Jan. 29, 2016) (*2016 Broadband Progress Report*).

[47] *Id.*, para. 6.

[48] *Technology Transitions et al.*, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, 30 FCC Rcd 9372 (2015).

Specifically, the Commission is reviewing the record in response to the *2015 Lifeline Further Notice*, which proposes to support broadband service through the Lifeline program while also proposing several important measures to reduce burdens on carriers providing Lifeline service, minimize burdens on ratepayers supporting the program, and to further curtail waste, fraud, and abuse in the program.[49]

- *Broadband in Rural Areas*. The Commission continues incenting the deployment of broadband in rural areas by implementing the reforms adopted by the Commission in the *2011 USF/ICC Transformation Order* and subsequent Connect America and related orders, which comprehensively reformed and modernized the high-cost program within the universal service fund to support networks capable of providing voice and broadband services, both fixed and mobile, to all Americans throughout the nation. The Commission will also continue its efforts to ensure access to robust and affordable mobile voice and broadband service through the implementation of the Mobility Fund, which uses auctions as a mechanism for distributing universal service support.[50]
- *Proposed Rate of Return Reform Order*. Most recently, I circulated an Order in February to modernize universal support for rate-of-return carriers. The proposed Order is the result of considered bi-partisan efforts to craft a solution that supports standalone broadband, ensures efficient use of universal service funding, and creates stability and certainty in the program. A fundamental component of the proposed Order are provisions to ensure that universal service support will be used to connect those rural Americans that remain unserved today.

Question 2: Please explain why the FCC settled at 25 Mbps downstream/3 Mbps upstream for the definition of broadband, including the facts about the market that led you to conclude that 25 Mbps is the appropriate minimum threshold to qualify as broadband. Please explain what specific factors led you to conclude that 4 Mbps downstream and 1 Mbps upstream was insufficient.

Section 706(b) of the Telecommunications Act of 1996 requires the Commission to conduct an annual inquiry into "the availability of advanced telecommunications capability to all Americans."[51] In the *2015 Broadband Progress Report*, the Commission increased the then-existing 4 Mbps download/1 Mbps upload benchmark for advanced telecommunications capability, which had been in place since 2010, to 25 Mbps download/3 Mbps upload.[52]

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[49] *See Lifeline and Link Up Reform and Modernization et al.*, WC Docket No. 11-42 et al., Second Further Notice of Proposed Rulemaking, Order on Reconsideration, Second Report and Order, and Memorandum Opinion and Order, 30 FCC Rcd 7818 (2015).

[50] Mobility Fund Phase I annual reports are available for viewing via the Commission's Electronic Comment Filing System (ECFS), http://apps.fcc.gov/ecfs/, by entering the docket number, WT No. 10-208.

[51] 47 U.S.C. § 1302(b). The purpose of this inquiry is to "determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion." *Id.*

[52] *2015 Broadband Progress Report*, 30 FCC Rcd at 1393, para. 26.

It is important to note that the 25 Mbps/3 Mbps speed benchmark is not a definition of "broadband." Rather, the benchmark is used to measure the deployment of those broadband services that are able to provide Americans with "advanced telecommunications capability."[53] As the Commission explained in the *2016 Broadband Progress Report*, "'advanced telecommunications capability' is a statutory term with a definition that differs from, and in fact includes, the term 'broadband.'"[54] In the Telecommunications Act of 1996, Congress entrusted the Commission with the task of interpreting terms, including "advanced," "high-speed," and "high-quality," and determining which broadband services provide "advanced telecommunications capability."[55]

The Commission's determination to set the 25 Mbps/3 Mbps benchmark was based on the speeds required to use high-quality video, data, voice, and other commonly used broadband applications, factoring in the needs of multiple simultaneous users in the average American household, and the increasing adoption by consumers of bandwidth-intensive services, such as HD video streaming.[56] The 25 Mbps/3 Mbps benchmark was also supported by prevailing trends in the broadband market, which demonstrated that providers were marketing 25 Mbps/3 Mbps services as appropriate to serve the needs of a typical household,[57] and by data showing rapidly increasing migration to services at or above 25 Mbps/3 Mbps by consumers, where such services were available.[58] In light of these trends, the Commission determined that 4 Mbps/1 Mbps no longer provided American households with sufficient bandwidth to make full use of "advanced" telecommunications services, including HD video streaming and video calling, online gaming, telehealth and telemedicine applications.[59]

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[53] *See* 47 U.S.C. § 1302(b).

[54] *See 2016 Broadband Progress Report* at 2, para 1 n.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. 15-191, Eleventh Broadband Progress Notice of Inquiry, 30 FCC Rcd 8823, 8824 n. 3 (2015); *2015 Broadband Progress Report*, 30 FCC Rcd at 1375, para. 1 n.1. Pursuant to section 706(d), "'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." 47 U.S.C. § 1302(d)(1).

[55] *See* 47 U.S.C. § 1302(b), (d)(1); *see also 2016 Broadband Progress Report* at 7, para. 13.

[56] *2015 Broadband Progress Report*, 30 FCC Rcd at 1395-1401, paras. 29-40.

[57] *Id.* at 1394, 1400, paras. 28, 38.

[58] *Id.* at 1401-03, paras. 41-44.

[59] *Id.* at 1403-04, paras. 45-47.

Question 3: Please identify all contexts and instances in which the FCC defines broadband. Why does the Commission not have a definition of broadband that it applies consistently?

The Commission has a responsibility within the context of its various efforts to maximize the availability and adoption of broadband to establish appropriate broadband service measurements. Different statutory directives and contexts, however, may call for different metrics. For example, as discussed above, in reaching a determination under section 706(b), the Commission has established, consistent with the statutory definition, a measurement for advanced broadband based on the deployment and availability of broadband services that "enable[] users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology," as required by section 706(b) of the Telecommunications Act of 1996.

Another example is the Commission's Connect America Fund proceeding. This proceeding is focused on supporting the deployment of broadband-capable networks to high-cost areas. Here, the measurement for broadband is necessarily different than that measurement established for advanced telecommunications capability in the Broadband Progress Report. This difference can be attributed to the fact that the Connect America Fund proceeding is responding to the statutory goal of universal service. Section 254 of the Telecommunications Act of 1996 directs the Commission to base its policies on the principle that consumers in rural, insular and high-cost areas of the country have access to advanced telecommunications and information services that are reasonably comparable to those services in urban areas, at reasonably comparable rates. The Commission works with available funds in order to extend broadband availability to areas where the marketplace alone does not currently provide even a minimum level of service, focusing on areas that face geographical challenges with deploying in relatively un-populated areas that lack high speed, high capacity infrastructure. The Commission has required carriers receiving Connect America Fund support to provide, at a minimum, service of 10 Mbps/1 Mbps, and we expect many locations will receive higher speeds. The broadband speeds supported by universal service will always be an evolving standard. We already have in place initiatives that will support faster service—for example, a number of our Rural Broadband Experiment winners will offer 25Mbps/5 Mbps or better.

Your letter also notes the Commission's *2015 Open Internet Order*, which adopted rules to protect and promote the open Internet for all Americans—today and into the future. In that Order, the Commission defined "broadband Internet access service" functionally as a "mass-market retail service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all Internet endpoints . . . ."[60] This approach reflects a view that consumers of broadband Internet access services—of all speeds—are entitled to a free and open Internet.

[60] *2015 Open Internet Order*, 30 FCC Rcd at 5682, para. 187.

Question 4: Please describe in detail why the Commission does not have a definition of competition that it applies consistently? How many choices in a given market would lead the Commission to find mobile wireless service effectively competitive? Please explain in detail why the Commission continues to fail to make a competitive finding for the wireless market?

While implementing its statutory responsibilities, the Commission must apply the terms of relevant statutory provisions. As described below, the statutory provisions applicable to the Commission's analysis of the mobile wireless marketplace are substantially different from those that apply to the provision of cable service.

In issuing the Mobile Wireless Competition Report, the Commission is complying with the requirement that Congress enacted in 1993 that the Commission report annually on "competitive market conditions with respect to commercial mobile services." At that time, Congress created the statutory classification of "commercial mobile services" ("CMRS") to promote the consistent regulation of mobile radio services that are similar in nature, and established the promotion of competition as a fundamental goal for CMRS policy formation and regulation. In particular, the statute requiring the annual report on CMRS competition states:

> The Commission shall review competitive market conditions with respect to commercial mobile services and shall include in its annual report an analysis of those conditions. Such analysis shall include an identification of the number of competitors in various commercial mobile services, an analysis of whether or not there is effective competition, an analysis of whether any of such competitors have a dominant share of the market for such services, and a statement of whether additional providers or classes of providers in those services would be likely to enhance competition.

Recent Reports have "analy[zed]" in great detail the "competitive market conditions with respect to commercial mobile services." The reports include, for example, a detailed view of total subscribers and connections and net additions and churn of leading CMRS providers, as well as information concerning their comparative revenues, average revenues, profitability, coverage, LTE coverage, penetration rates, geographic and demographic subscribership, spectrum holdings by frequency band, pricing levels and plans (including their effect on the subscriber's costs of switching providers), capital expenditures, and quality of service measures. The reports analyze the competitive rivalry between mobile wireless service providers and how that competitive rivalry has affected innovation and investment that benefit American consumers. Consistent with the Commission's first seven Reports, the most recent five Reports have not reached an overall conclusion or formal finding regarding whether or not the CMRS marketplace is "effectively competitive," but rather provide an analysis and description of industry metrics and trends.

As more recent Reports indicate, there is no definition of the general term "effective competition" that is widely accepted by economists or competition authorities. In the CMRS context, all of the foregoing factors are relevant to the question of "effective competition," which thus does not turn on a simple inquiry into the number of providers offering service, and will vary depending the geographic market. In fact, earlier Reports that reached a finding of effective competition offered no definition of the term in this context. For these reasons, and given the complexity of inter-related segments and services within the mobile wireless ecosystem, the analysis in the reports led to a determination that any single conclusion regarding the effectiveness of competition would be incomplete and potentially misleading with respect to CMRS, even in any one geographic market much less as a nationwide matter. Accordingly, in light of this determination, recent Reports have focused on presenting the best data available on aspects of competition throughout the mobile wireless ecosystem

In contrast to the commercial mobile services context, section 623(l)(1) of the Cable Television Consumer Protection and Competition Act of 1992 defines for the Commission four specific tests for "Effective Competition" when specifying the circumstances in which a franchising authority may regulate basic cable service tier rates and equipment. The four tests for "Effective Competition" are: (i) "Low Penetration Effective Competition" which is present if fewer than 30 percent of the households in the franchise area subscribe to the cable service of a cable system; (ii) "Competing Provider Effective Competition," which is present if the franchise area is (a) served by at least two unaffiliated MVPDs each of which offers comparable video programming to at least 50 percent of the households in the franchise area; and (b) the number of households subscribing to programming services offered by MVPDs other than the largest MVPD exceeds 15 percent of the households in the franchise area; (iii) "Municipal Provider Effective Competition," which is present if an MVPD operated by the franchising authority for that franchise area offers video programming to at least 50 percent of the households in that franchise area; and (iv) "Local Exchange Carrier (LEC) Effective Competition," which is present if a local exchange carrier or its affiliate (or any MVPD using the facilities of such carrier or its affiliate) offers video programming services directly to subscribers by any means (other than direct-to-home satellite services) in the franchise area of an unaffiliated cable operator which is providing cable service in that franchise area, but only if the video programming services so offered in that area are comparable to the video programming services provided by the unaffiliated cable operator in that area. Thus, language of section 623 enables the Commission to use readily available evidence to make determinations, based on the specifically delineated statutory factors, as to whether or not Effective Competition as defined in the statute is present within the relevant franchise area.

Promoting competition is a fundamental goal of the Commission's policymaking. Competition has played and must continue to play an essential role in the mobile wireless industry – leading to lower prices and higher quality for American consumers, while encouraging innovation and investment in wireless networks, devices, and services.