From:	Rachael Bender
To:	BOCrfc2015
Cc:	Allison Remsen
Subject:	Broadband Opportunity Council - Comments of Mobile Future
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Attached please find comments of Mobile Future for the Broadband Opportunity Council. Please let me know if you have any questions or would like additional information.

Best regards,

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June 10, 2015

Via Electronic Filing

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Rural Utility Service
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Re: Broadband Opportunity Council Notice and Request for Comment, *Docket Number 1540414365-5365-01*

I. INTRODUCTION

Mobile Future appreciates the opportunity to respond to the Notice and Request for Comments on the Broadband Opportunity Council ("BOC" or "Council").[1] We share the goal outlined in the President's memorandum launching this effort, which is "expanding broadband deployment and adoption by addressing regulatory barriers and encouraging investment and

[1] Mobile Future is an association of cutting-edge technology and communications companies and a diverse group of non-profit organizations working to support an environment, which encourages investment and innovation in the dynamic wireless sector. More information is available at www.mobilefuture.org.

training," and we are proud of the role our member companies continue to play in making this important and shared national objective a reality.

Today the United States is the envy of the connected world for the more than $1.3 trillion in private capital investment that has poured into U.S. broadband infrastructure since 1996[2] to deliver ever faster, more advanced and expanding networks across our vast nation. It is critical that U.S. policies spur continued broadband investment, deployment and adoption—and the many benefits this connectivity brings to our economy and quality of life.

Nowhere is our nation's connected progress more transformational than in mobile broadband. Indeed, our nation has come a long way since President Obama first stood before Congress in his 2011 State of the Union and challenged the public and private sectors to work together to see at least 98% of Americans connected to 4G mobile broadband. In March of this year, the Administration rightly declared victory in reaching this moonshot milestone.

The progress goes much deeper and broader than this one landmark statistic. A full 97% of American consumers have a choice of at least three wireless carriers.[3] Our nation has the largest 4G LTE population on earth—139 million subscribers and counting.[4] More than 40 wireless providers now offer 4G LTE service to U.S. consumers. And, approximately 87% of Americans have an active 3G or 4G connection—trouncing the 38% global average.[5] Formidable new competitors continue to make their way into this market, most recently Google.

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[2] USTelecom, *Broadband Industry Stats,* (last accessed June 5, 2015), *available at* http://www.ustelecom.org/broadband-industry/broadband-industry-stats/investment.
[3] CTIA, "Annual Wireless Survey," (June 17, 2014).
[4] CTIA, "U.S. LTE Subscriptions Reached Over 139 Million," (Dec. 23, 2014), *available at* http://www.ctia.org/resource-library/facts-and-infographics/archive/us-lte-subscriptions-reached-over-139-million.
[5] "Digital, Social & Mobile in 2015," We are Social, (Jan. 20, 2015), *available at* http://www.slideshare.net/fullscreen/wearesocialsg/digital-social-mobile-in-2015/8.

And, taking full advantage of all that U.S.-led mobile innovation offers, American consumers use among the most wireless data of any people on the planet—and pay among the least per megabyte for it—with 34% of Americans reporting their wireless bill is under $50 a month.[6]

The question before us now: How can we build on this rapid and remarkable, world-leading progress? Mobile Future is encouraged by the Council's focus on steps the federal government can take to promote broadband deployment, adoption, and competition, and is particularly interested in the Council's desire to identify and remove regulatory barriers unduly impeding investments in mobile broadband networks, including in rural areas.

These will relate primarily to the dual imperatives of continued U.S. mobile leadership: (1) Ensuring U.S. policies actively encourage the continual, massive private capital investment flows necessary to ensure American consumers and our economy continue to enjoy state-of-the-art mobile broadband infrastructure and (2) Making sure adequate spectrum resources are made available so wireless companies can keep pace with fast-rising consumer demand.

Constructive policies that advance these objectives include making more licensed and unlicensed spectrum available for commercial use, removing hurdles to deployment of wireless infrastructure, and examining existing federal programs to ensure they are effectively administered to maintain the confidence of the public and an effective, laser focus on connecting the unserved.

Equally important is identifying misguided policies that threaten U.S. broadband leadership. Without question, our nation's mobile leadership today would not have been possible without the light-touch regulatory approach that Administrations, Congress and the FCC have

[6] Aaron Smith, "U.S. Smartphone Use in 2015," PEW Research Center, (April 1, 2015), *available at* http://www.pewinternet.org/2015/04/01/us-smartphone-use-in-2015/.

embraced for more than 25 years. The FCC's recent decision to reclassify mobile broadband under Title II of the Communications Act represents an abrupt reversal of this proven precedent and presents a serious roadblock to continued investment in U.S. mobile networks.[7] The vague and overbroad standards the Commission adopted have increased uncertainty and hampered investment, ultimately at the expense of consumers.[8] Thus, if the primary task before the Council is to identify regulatory barriers that must be removed to advance our nation's broadband future, then a legislative or regulatory fix that eschews Title II while upholding the universally embraced principles of an open Internet is an essential item that belongs high on the to-do list.

Whether it is to support a student downloading an educational video on a tablet, a parent using a smartphone to upload a video of a child's first baseball game, or a veteran in a remote area using a mobile telehealth application to video chat with a medical specialist, the President is right to seek to galvanize the nation behind expanding these opportunities to all Americans. The progress achieved to date is proof positive of the deep commitment that exists across the public and private sectors. As we seek to build on these advances, it is critical that we 'double down' on unifying policies rooted in constructive collaboration that have served our connected nation so well and stand ready to unlock even more opportunities for all of our citizens.

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[7] *Protecting and Promoting the Open Internet*, GN Docket No. 14-28, FCC 15-24, Report and Order on Remand, Declaratory Ruling, and Order, 80 Fed. Reg. 19737 (2015).

[8] Hal Singer, *Three Ways the FCC's Open Internet Order Will Harm Innovation*, Progressive Policy Institute (May 2015), *available at* http://www.progressivepolicy.org/wp-content/uploads/2015/05/2015.05-Singer_Three-Ways-the-FCCs-Open-Internet-Order-Will-Harm-Innovation.pdf; Kevin A. Hassett and Robert J. Shapiro, *The Impact of Title II Regulation of Internet Providers on Their Capital Investments*, Sonecon, at 17-18 (November 2014), *available at* http://www.sonecon.com/docs/studies/Impact_of_Title_II_Reg_on_Investment-Hassett-Shapiro-Nov-14-2014.pdf.

II. THE COUNCIL SHOULD PROMOTE POLICES THAT ENCOURAGE MOBILE BROADBAND INFRASTRUCTURE DEPLOYMENT

Mobile broadband networks depend on the deployment of wireless infrastructure of all types, including high-power mobile base stations, distributed antenna systems and small cells. The federal government can play a role in two key areas to enable greater infrastructure deployment. First, in some areas of the country it is not economical for commercial carriers to deploy networks without support from the FCC's Universal Service Fund ("USF") or other federal grant and loan programs. Second, the federal government controls nearly 30 percent of all land in the United States, owns thousands of buildings, and provides substantial funding for State and local transportation infrastructure. As a result, there are significant opportunities for executive departments and agencies to help streamline and facilitate broadband infrastructure deployment.

In 2011, the FCC reformed the portion of the USF that provides funding to fixed and mobile broadband providers to offer service in remote, high-cost areas of the country. The Commission established a specific goal of ensuring access to voice and 3G or 4G mobile broadband networks for all Americans, including those in rural areas. The recognition of mobile broadband as a priority was welcomed, but four years later this annual $500 million funding program has yet to be established, and there is little evidence that it will be anytime soon. The Council should encourage the FCC to make this a priority and should ensure that other federal agencies that have a role to play in mobile broadband deployment are actively involved. For example, the Department of Interior should ensure that any historical and environmental preservation laws do not slow deployment of networks in unserved areas. Additionally, agencies involved in tribal issues should examine the opportunity to take all possible steps to ensure that the up to $100 million that is available annually for deployment on tribal lands is put to use.

In addition to funding, the Council should hold federal agencies accountable for the numerous recommendations made in the National Broadband Plan and in the President's June 2012 "Accelerating Broadband Infrastructure Deployment" Executive Order ("Infrastructure EO").[9] The National Broadband Plan recommended, among other things, that the "Executive Branch should develop one or more master contracts to expedite the placement of wireless towers on federal government property and buildings and the FCC should improve the collection and availability of information regarding the location and availability of poles, ducts, conduits and rights-of-way,"[10] which Congress statutorily mandated in the 2012 Spectrum Act.[11] The FCC recently adopted an important Order to facilitate the timely deployment of infrastructure by prohibiting state and local governments from unreasonably delaying wireless infrastructure.[12] More needs to be done at the federal level on this front in order to facilitate broadband deployment on federal lands, buildings and rights of way. As the Infrastructure EO states, "decisions on access to Federal property and rights of way can be essential to the deployment of both wired and wireless broadband infrastructure."[13]

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[9] Exec. Order No. 13,616, *Accelerating Broadband Infrastructure Deployment*, 77 Fed. Reg. 36903 (June 20, 2012), *available at* https://www.whitehouse.gov/the-press-office/2012/06/14/executive-order-accelerating-broadband-infrastructure-deployment ("Infrastructure EO").

[10] *National Broadband Plan*, at 109.

[11] Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, § 6409(b) ("2012 Spectrum Act").

[12] *Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies*, WT Docket No. 13-238, *et al.*, Report and Order, 29 FCC Rcd 12865 (2014).

[13] *See* Infrastructure EO, 77 Fed. Reg. at 36903.

In particular, federal agencies should adopt objective policies that promote widespread wireless communications facilities deployment, including DAS and small cells, on federal property. Reasonable timelines for critical steps in the siting process should be established (*e.g.*, receipt of applications, determinations of completeness, execution of lease agreements, performance of interference studies and environmental reviews, and approval), and those timelines should provide for expedited approval of upgrades, modifications, collocations and lease renewals as compared to new site applications. In addition, the General Services Administration ("GSA") should continue its efforts to develop a standard application form,[14] along with common online processes and master lease agreements that would apply to all federal agencies. The standard terms of those leases should extend to at least 20 years. Finally, consideration should be given to designating a "decision maker" for siting on federal property, such as a single office or point of contact for each agency, empowered to expedite project completion.

III. FEDERAL SPECTRUM POLICY SHOULD FOCUS ON CLEARING ADDITIONAL RESOURCES FOR EXCLUSIVE COMMERCIAL USE

In an Executive Memorandum in 2010, President Obama directed that 500 MHz of new spectrum be allocated for mobile and fixed broadband use.[15] Mobile Future commends the

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[14] *See, e.g.*, GSA, Notice and Request for Public Comments, 80 Fed. Reg. 13004 (Mar. 12, 2015) (seeking comment by May 11, 2015 on new form, the "Wireless Telecommunications Industry Application," intended to streamline the collection of information and accelerate the approval process used when a commercial wireless company wishes to install a wireless antenna on a Federal asset for the expansion of a wireless network).

[15] Presidential Memorandum, *Unleashing the Wireless Broadband Revolution*, 75 Fed. Reg. 38387 (July 1, 2010) ("2010 Presidential Memorandum"), *available at* http://www.whitehouse.gov/the-press-office/presidential-memorandum-unleashing-wireless-broadbandrevolution.

Department of Commerce and the FCC for their joint efforts to identify spectrum used by federal agencies that has and will be cleared for commercial use. Most recently, the FCC completed an auction of Advanced Wireless Service licenses in the 1695-1710 MHz, 1755-1780 MHz, and 2155- 2180 MHz bands (collectively, the "AWS-3" bands), which was recovered from government agencies and raised more than $41 billion in net proceeds.[16] This was by far the highest grossing spectrum auction of all time, with 31 bidders winning a total of 1,611 licenses. There are three key lessons the Council should take into account to encourage further reallocation of additional spectrum resources.

First, when federal spectrum is repurposed for commercial use, the private sector uses these resources in a way that brings massive benefits to consumers and the economy. The White House and NTIA must continue to push federal agencies to identify spectrum to reallocate and clear for commercial use, and then create transition plans for these agencies.

Second, when all wireless carriers are permitted to compete on an equal playing field, spectrum auctions are a proven tool to widely distribute spectrum to providers of all sizes and raise substantial revenue for the Treasury. Given that the Council is particularly interested in how to ensure deployment in rural areas, it is also important for policymakers to understand that foreclosing large nationwide carriers from fully participating in spectrum auctions results in less buildout, most notably in rural areas. As the FCC prepares for the broadcast incentive auction, currently scheduled to occur in 2016, and other future auctions, policymakers should recognize the importance of ensuring that all companies have an equal opportunity to acquire the spectrum

[16] Public Notice, *Auction of Advanced Wireless Services (AWS-3) Licenses Closes: Winning Bidders Announced for Auction 97*, 30 FCC Rcd 630 (2015), *available at* https://apps.fcc.gov/edocs_public/attachmatch/DA-15-131A1.pdf.

they need in all markets to keep up with soaring consumer demands and ensure buildout in rural America.

Policymakers should resist requests from some companies for spectrum set-asides or other government auction manipulation to acquire low-band spectrum to serve rural areas. As an example, Sprint and T-Mobile are the primary proponents of setting aside "reserve spectrum" for themselves and certain other carriers in the upcoming incentive auction, arguing among other things that they need the reserve to acquire spectrum to provide service in rural America. But these nationwide companies have not built out in rural areas where they already hold spectrum. In the five most rural states in the contiguous U.S., T-Mobile holds an average of 32 MHz and Sprint holds an average of 84 MHz of highly coveted spectrum.[17] Yet the companies don't provide service of their own in 177 of the 231 counties in those states.[18] Meanwhile, AT&T and Verizon have each invested significantly to acquire low-band spectrum and have invested in infrastructure to cover 308 million Americans with LTE over their own networks, including the highest percentages of rural customers.[19] Further buildout in rural America could very well be delayed if auction policy limits participation for the nationwide providers that are actually investing, deploying and serving millions of rural consumers.

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[17] Diane Smith, *The Truth About Spectrum Deployment in Rural America*, Mobile Future and American Rural, at 2 (March 2015), *available at* http://mobilefuture.org/wp-content/uploads/2015/03/031615-MF-Rural-Paper-FINAL.pdf.

[18] *Id.*

[19] See AT&T, News, "About our Network," available at http://about.att.com/news/wireless-network.html (last visited June 2, 2015); Verizon Wireless, News Center, "The Verizon Wireless 4G LTE Network," *available at* http://www.verizonwireless.com/news/LTE/Overview.html (last visited June 2, 2015)

Further, open spectrum auctions are a proven mechanism of distributing spectrum to a variety of providers, both large and small. During the past eleven auctions offering spectrum for terrestrial mobile broadband services from 2003 through 2015, all of them open auctions, non-nationwide operators and small businesses have won nearly half (48.28%) of the spectrum offered.[20] And in the FCC's 2006 AWS-1 auction, the only spectrum auction held during the past twelve years in which all four nationwide operators participated, T-Mobile acquired more spectrum (26% of all MHz-POPs) than AT&T and Verizon combined (25%).[21] Conversely, the FCC experimented with auction set-asides in its 1996 PCS auction with disastrous results, including spectrum deployment delays of between three and ten years and a loss in consumer welfare of more than $70 billion.[22] In short, when all providers are permitted to participate, consumers are the ultimate winners.

Third, due to the growing array of consumer benefits and increasing demand for high-capacity mobile broadband networks, the priority must be to reallocate government spectrum for exclusive commercial use. While spectrum-sharing techniques show promise and should continue to be explored, complex and unproven sharing models and business plans are no substitute for the cleared spectrum necessary for effective mobile broadband services. Mobile Future supports a concerted effort to improve spectrum-sharing opportunities, but we are particularly concerned about the specific recommendation for the FCC to identify "spectrum

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[20] *FCC Spectrum Auctions and Secondary Market Policies: An Assessment of the Distribution of Spectrum Resources Under the Spectrum Screen*, at 20 (Nov. 2013), *available at* http://mobilefuture.org/wp-content/uploads/2013/11/Paper-Distribution-of-Spectrum-Resources.pdf. The analysis was done on a MHz-POPs basis.

[21] *Id.* at ii.

[22] Robert Earle and David W. Sosa, *Spectrum Auctions Around the World: An Assessment of International Experiences with Auction Restrictions*, at 7-10 (July 2013), *available at* http://mobilefuture.org/wp-content/uploads/2013/07/Spectrum-Auctions-Around-The-World.pdf.

allocated for non-federal uses that can be made available to agencies on a shared or exclusive basis."[23] To meet the massive growth in demand for mobile broadband, which has significant benefits for federal users who are increasingly using commercial services, the focus must remain on repurposing federal spectrum for commercial use. The existing marketplace provides many opportunities for federal users to utilize commercial bands and technologies. The Council should be wary of introducing new and untested sharing mechanisms into spectrum management at a critical time of growth for the mobile ecosystem.

IV. THE COUNCIL SHOULD FOCUS ON ADMINISTERING FEDERAL PROGRAMS TO FACILITATE MOBILE BROADBAND USE

Finally, agencies should examine federal programs to ensure that they are effectively administered to incentivize mobile use. Agencies should promote innovative ways to use mobile in sectors like education, healthcare, energy and basic government services.

For instance, online tools are improving education outcomes across the board. Schools are rapidly adopting one-to-one digital learning initiatives where every student is provided with, or expected to have, a laptop, tablet or smartphone to access online learning tools and educational content. High speed broadband – fixed and mobile – connects students to cutting-edge learning tools and gives students and teachers access to interactive content that enables individualized learning and distance-learning opportunities like never before.

The Department of Education recognizes this and is leading the ConnectED Initiative to get Internet connectivity and educational technology into classrooms and into the hands of students and teachers. The initiative includes commitments from multiple nationwide wireless

[23] Presidential Memorandum, *Expanding America's Leadership in Wireless Innovation*, 78 Fed. Reg. 37431, 37434 Section 7(b) (July 20, 2013), https://www.whitehouse.gov/the-press-office/2013/06/14/presidential-memorandum-expanding-americas-leadership-wireless-innovatio.

carriers to provide discounted monthly wireless broadband service for hundreds of thousands of students. For example, AT&T has committed to provide a broad array of services that enable a comprehensive tablet-based education capability to 50,000 middle and high school students, and Verizon will be expanding one of its key education initiatives, the Verizon Innovative Learning Schools, by introducing the Verizon Mobile Learning Academy which offers critical support for administrators, technology coaches and teachers by sharing best practices and principles on the most effective mobile learning classrooms and environments.

These private sector commitments are significant, but it is also important to examine existing government-funded education technology programs to ensure they are designed to facilitate the adoption of mobile broadband technologies for students and teachers. Additionally, while the FCC should be applauded for taking steps to upgrade the E-rate program to focus on broadband, the Commission should not effectively phase out support for mobile broadband services, unless it is in the rare instance where a school does not have access to a broadband connection sufficient to support a wireless local area network.[24] Wi-Fi is an important component of school broadband connectivity, but support for mobile broadband solutions is also needed to solve the problem. The Commission should act on pending petitions for reconsideration to ensure that schools, teachers and students can benefit from the many benefits of mobile broadband for education.[25]

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[24] *Modernizing the E-rate Program for Schools and Libraries*, WC Docket No. 13-184, Report and Order and Further Notice of Proposed Rulemaking, 29 FCC Rcd 8870 (2014).

[25] Petition for Reconsideration and Clarification of T-Mobile USA, Inc., WC Docket NO. 13-184, WC Docket No. 10-90 (filed Mar. 6, 2015), *available at* http://apps.fcc.gov/ecfs/comment/view?id=60001025819.

Mobile broadband can also make a substantial impact on the lives of Americans by enabling telemedicine applications and services, including mobile video consultation and remote patient monitoring, particularly in rural areas where medical specialists are often locally unavailable. Digital health tools "offer convenience critical to improving consumer engagement and clinician responsiveness."[26] It is well documented that telemedicine can save costs for healthcare providers and consumers and, more importantly, has been shown to improve patient outcomes. The FCC has updated its Rural Healthcare Program to support high-capacity broadband networks for rural healthcare providers through the establishment of the Healthcare Connect Fund.[27] Providing support for healthcare providers to get connected to broadband is important, but it is equally important that the Department of Health and Human Service and other relevant federal and state agencies examine existing policies to encourage the adoption of telemedicine services.

Other government agencies can also use the power of mobile broadband to facilitate consumer goods and services. Abiding by the President's directive to optimize government services for mobile[28] can help streamline the process to apply for government assistance, save time at the passport office or find tax forms from the IRS. Federal, state and local agencies can encourage the use of smart meters and other mobile-enabled products in relation to utilities. For

[26] *See National Broadband Plan*, at 204-207.

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

[28] Presidential Memorandum, "Building a 21st Century Digital Government," (May 23, 2012), *available at* https://www.whitehouse.gov/the-press-office/2012/05/23/presidential-memorandum-building-21st-century-digital-government.

instance, private-public partnerships can help water officials monitor for leaky pipes.[29] Cities can connect roads, parking meters and traffic lights to sync seamlessly and provide a better user experience. And public safety and law enforcement officials can better coordinate rapid emergency response.

V. CONCLUSION

The federal government has an important role to play in facilitating the deployment of mobile broadband networks and unleashing the enormous consumer benefits such networks provide. The Council must work to free up additional spectrum for commercial use, streamline the process for the deployment of wireless infrastructure, and encourage the use of mobile technologies in all sectors of the economy.

Respectfully Submitted,

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[29] Aaron Tilley, "AT&T and IBM Team Up to Connect Water Pipes to the Internet," Forbes, (June 1, 2015), *available at* http://www.forbes.com/sites/aarontilley/2015/06/01/att-ibm-water-leaks/.