Universal Service: Ensuring Ubiquitous Mobile Broadband

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Chairman Wicker, Ranking Member Schatz, and members of the Subcommittee, thank you for inviting me to testify about supporting mobile broadband in rural America. I appreciate the opportunity to speak on an issue so critical to life in rural America, and welcome the Committee's continued focus on ensuring ubiquitous mobile broadband and the Universal Service Fund (USF). I am here today on behalf of Competitive Carriers Association (CCA), the nation's leading association for competitive wireless providers and stakeholders. CCA membership comprises about 100 carrier members including small, rural providers serving fewer than 5,000 customers as well as regional and national providers serving millions of Americans. CCA also represents nearly 200 Associate Members – small businesses, vendors, and suppliers that serve carriers of all sizes. Most CCA members serve areas that are primarily rural in nature, and have invested significant amounts of private capital, along with USF support, to deploy mobile wireless services in some of the hardest to serve parts of our nation. Whether directly or through partnerships and other strategic alliances, all CCA members have an interest in ensuring that Americans have access to the latest mobile broadband services, including those in rural and high cost areas.

Congress created the USF high-cost program to provide Americans in rural areas with "reasonably comparable" services as those in urban areas with the help of sufficient and predictable support. In today's world, "reasonably comparable" services must include fast, affordable mobile broadband services. It is clear that the Federal Communications Commission (FCC) agrees. Just last week, as per Congressional mandate, the FCC released its 2016 Broadband Progress Report (Broadband Progress Report), which assesses the deployment of advanced telecommunications services in the United States. In its Broadband Progress Report, the Commission found that "Americans increasingly rely on mobile devices as indispensable tools of daily life" and therefore, "the availability of advanced telecommunications capability requires access to both fixed and mobile services." FCC Chairman Tom

Wheeler summed it up: "consumers need access to both fixed and mobile broadband in today's world." Indeed, the opening paragraph of the FCC's most recent Mobile Competition Report, released late last year, begins by stating that "[m]obile wireless services are an essential part of Americans' daily lives" and notes that the mobile wireless ecosystem is "one of the most important sectors in the national economy." The FCC's Universal Service policies, particularly as they relate to High-Cost Program funds, must reflect this reality.

<u>Background</u>

Wireless service has evolved well beyond making and receiving voice calls. In 2016, Americans use mobile broadband services in almost every aspect of their daily lives. Americans rely on their mobile network to quickly access information on healthcare, education, and public safety, to manage their finances, to connect with their personal and professional communities through social media, and to download the latest season of House of Cards. All are necessary and desirable uses of the powerful technology enabled by modern mobile broadband access. Failure to support mobile broadband services in rural America will perpetuate the continuing digital divide between those who can use the latest technology to improve their lives and economic welfare, and those who are left behind.

Leaving rural America on the wrong side of the digital divide can jeopardize economic investment, productivity, jobs, and even put lives in danger. The FCC has acknowledged that, "[i]n emergency situations, Americans often use mobile devices to contact first-responders when a fixed connection is not readily available, whether at home, at work, or when traveling." Access to mobile broadband has spurred innovation in some of the most important economies in rural America, like precision agriculture advances that make farming more efficient and effective. In a pilot project with 2,000 farmers who have employed precision agricultural technology into their work, Accenture found a

56 percent year-over-year increase in sales and an average increase in crop productivity of 15 percent, including an increase of up to 30 percent for some cash crops.

Mobile broadband is required for access to distance medicine and telehealth, which IHS, a market analyst firm, has projected to grow from $240 million in 2013 to $1.9 billion in 2018. This is a 56 percent increase in just five years. Mobile service also powers wearable devices. Cisco estimates this burgeoning market will grow from 109 million in 2014, to 578 million in 2019.

While access to mobile broadband is critically important today, it is absolutely vital to growing the economy through next generation, or 5G, services and the Internet of Things (IoT). In fact, Gartner, an IT market research firm, projects this market will grow 30 percent over the next year alone, and to 21 billion devices by 2020, compared to 6.4 billion in 2016. Rural communities should not be left out of this coming tide of innovation. Qualcomm estimates that there will be 5 billion non-handset connected devices by 2018. IDC, another IT market research firm, says the IoT market will nearly triple worldwide from $655 billion in 2014 to $1.7 trillion in 2020. Additionally, Chetan Sharma, a technology and strategy consultant, estimated in his "First Quarter 2015 Report" that United States consumers used an average of 2.5 GB of cellular data per month. Following this trend, Ericsson predicts that smartphones in the United States and Canada will average 25 GB of mobile data traffic per month by 2021 – a ten-fold increase just five years from now.

According to the Pew Research Center, 88 percent of rural Americans have a cell phone and over 42 percent of rural adults live in a wireless-only household. Over half of all rural Americans now own smartphones, and of this group, 15 percent report their only form of home broadband Internet access is with a smartphone. It's clear that all consumers, including rural consumers, are cutting the cord.

It is time for USF policies to reflect this reality. Rural America should not be excluded from meaningfully participating in a world increasingly powered by affordable access to rapid mobile broadband. This means providing adequate support to both preserve existing service in rural areas while incentivizing expansion of latest mobile broadband deployment in places that remain unserved and underserved. USF support is needed for both preservation and expansion – anything less will impede investment and keep rural Americans on the wrong side of the digital divide. The FCC has reported that 97 percent of rural Americans have LTE service. Anyone who has driven outside the city and urban centers knows that coverage estimate is exaggerated. If lack of coverage is not addressed, and support is not provided to preserve service available today, rural America will not have the mobile broadband infrastructure that it needs to support indispensable tools of daily life.

Since establishment of the FCC by the Communications Act of 1934, Universal Service has been a core policy. In 1996, Congress codified specific principles for USF in the Telecommunications Act. Under FCC rules allowing competitive eligible telecommunications carriers (CETCs)—including wireless carriers and competitive local exchange (LECs)—to receive USF support, carriers including many CCA members, leveraged that support with their own investment to deploy and expand mobile wireless services in rural America. As the industry grew, the total number of cell sites nationwide nearly tripled, from 127,000 to nearly 300,000 over a ten-year period.

In 2008, the FCC adopted the "CETC Interim Cap Order," freezing support for wireless carriers in each state at the level that wireless carriers were eligible to receive as of March 2008. This blunt instrument capped overall wireless support at approximately $1.2 billion nationwide. Despite the cap, the wireless industry continued to grow as a result of an increasing consumer demand for wireless service. Total support for wireless services through the High-Cost fund peaked in 2008 long before the mobile data explosion we are experiencing today. Despite massive growth of wireless use since 2008

and increasing consumer demand, support to mobile networks through the High-Cost fund has only decreased.

In 2011, the FCC adopted the "USF/ICC Transformation Order," (Transformation Order) which created the Connect America Fund (CAF) within the High-Cost Program, and the Mobility Fund, which is specifically dedicated to support mobile service in unserved and underserved areas. With this step, the FCC recognized that while mobile networks might be able to provide coverage to fixed locations under limited circumstances, a fixed network cannot provide true mobile service with the functional benefits mobility provides consumers. While the FCC's goals for the Mobility Fund were laudable - to support and close gaps in mobile coverage and broadband capacity - the total amount budgeted for wireless carriers through CAF and the Mobility Fund was significantly smaller than the amount wireless carriers received under previous capped High-Cost Program support.

Under the Transformation Order, Mobility Fund support was to be distributed in two phases: Phase I provided $300 million in one-time support to expand mobile networks; and, Phase II was designed to provide $500 million in ongoing support to sustain and expand mobile voice and broadband. In the Transformation Order, the FCC explicitly recognized that there are areas in this country in which mobile service cannot be maintained or upgraded without ongoing universal service support. Despite the Commission's efforts to support mobility in rural America, the allocated funding under the Mobility Fund Phase I was not sufficient to accomplish the FCC's goals. By way of comparison, the National Broadband Plan estimated requiring at least $6.3 billion, if leveraging incentive-based partnerships, to $15.7 billion to buildout a nationwide mobile broadband network for public safety users. Demand far exceeded the resources made available under Mobility Fund Phase I, with bids exceeding the $300 million available. Further, the $500 million budget dedicated for ongoing support in the originally proposed Mobility Fund Phase II represents less than half of the approximately $1.2 billion wireless

carriers received prior to the Transformation Order and one-eighth of the approximately $4 billion that wireless carriers contribute annually to the fund.

The Transformation Order also began phasing down legacy support for wireless carriers, reducing support over five years through annual 20 percent reductions. Fortunately, the FCC ordered that the phase down would be suspended if Mobility Fund Phase II, including Tribal Mobility Fund Phase II, was not operational by June 30, 2014. With no Mobility Fund Phase II in place, the legacy High-Cost Program fund continues to provide approximately $600 million per year for wireless services - 60 percent of previous levels. In this regard, it is very important that the Congress made clear that the FCC cannot, for the balance of this appropriations year, resume the phase down of legacy support to without an operational Phase II Mobility Fund. Thank you for taking this step, which we urge you to continue beyond September 30, 2016.

While it is important that there are no further reductions in support until adequate replacement mechanisms are operational, there are steps that the FCC can take immediately to support mobile broadband in rural America through USF.

Complete Disbursements for Mobility Fund Phase I

The FCC announced winning bidders for the Mobility Fund reverse auction in October 2012, with bids and proposed builds surpassing the amount of resources available. While CCA urged the FCC to make greater resources available through the auction, the awarded funding represents an important part of the overall investment made by winning bidders. Unfortunately, there are CCA members today that have built out and certified completion of projects, yet have not received the USF funding they were promised. As a result, precious capital is tied up in projects that may not otherwise have been economical, and carriers are discouraged from improving and expanding services. This is not what the FCC intended. I strongly encourage the FCC to release these funds to carriers who in good faith invested

and spent their resources in accordance with Mobility Fund Phase I awards, but have not yet been reimbursed. To date, only $66.08 million has been disbursed.

Additionally, over $70 million of Mobility Fund I awards have been returned to the Commission as a result of consolidation and/or defaults. These resources should be reinvested in expanding mobile access in rural areas.

<u>No Further Reductions in Support until a Replacement Mechanism is Operational</u>

Next, it is important for carriers to have the certainty that even reduced amounts of support will be predictable. Despite the Transformation Order's requirements to stop the phase down of legacy support absent an operational Mobility Fund Phase II, subsequent questions in the FCC's 2014 Further Notice of Proposed Rulemaking have caused significant concern in the industry that additional cuts may be made without providing for new support. This has a chilling effect on investment in upgrading existing and deploying new service, as carriers cannot confidently rely on FCC funds as they budget for maintenance and deployment plans.

While not sufficient, the reduced amount of support available at today's 60 percent paused phase-down amount provides important resources to maintain services built with USF investment. Unfortunately, there are CCA members that have sold part or all of their network operations, or simply exited the market, as a result of already reduced support and uncertainty on what support may be available in the future. For example, in Ruby Valley, Montana, reductions in USF contributed to Cellular One exiting the market. As a direct result, on July 31, 2014, almost 2,000 customers in Ruby Valley lost all wireless service despite promises to the contrary. This impacts not only Cellular One customers, but all residents of Ruby Valley and any others that might be passing through, as customers using other service providers would need to roam onto Cellular One's network. Not only does this impact rural

Montanans' quality of life but also safety and security – local Sheriff Dave Schenk has noted his "major concerns about this in terms of public safety."

I commend Congress for providing some degree of certainty on this issue through a rider in the Consolidated Appropriations Act late last year. While carriers must plan network investment on longer time frames than a budget year, reaffirming that there will be no further reductions in support absent an operational replacement mechanism helps to provide certainty while also encouraging the FCC to focus on creating a sufficient Mobility Fund Phase II.

<u>Mobility Fund Phase II Must Provide Sufficient and Predictable Support for Mobile Broadband</u>

Looking forward, the ongoing Mobility Fund Phase II must adequately support both preserving existing service and expanding service to areas currently unserved by 4G LTE service. CCA has advanced a proposal that meets the FCC's overarching goals of ensuring universal high speed mobile broadband availability where it is otherwise uneconomical to continue or expand service, and supports putting the program on a budget, basing funding decisions on real world data. This proposal has two components: providing support to preserve existing mobile services, and supporting further upgrades and expansion of services.

It is critical to recognize that the job of building out mobile broadband service in rural America is not yet done. The FCC itself acknowledges in its latest Mobile Competition Report that the way it calculates mobile service coverage overstates actual coverage. Describing the FCC's methodology, when the so-called "centroid" of a census block has a particular level of service, the FCC counts each and every person in the census block as having that service, even when coverage is inconsistent or weakens over distance. In rural areas, where census blocks are geographically much larger than in urban areas, it is much more frequently the case that people are counted as having a high level of service, when in fact they are unserved or underserved. Focusing on all wireless coverage (not just LTE), Dr. Raúl L. Katz,

Director of Business Strategy Research at the Columbia Institute for Tele-Information, Adjunct Professor in the Division of Economics and Finance at Columbia Business School, and President of Telecom Advisory Services, LLC, declared that wireless coverage in rural counties can range as low as 76.7 percent of the population in West Virginia, or 86.3 percent in New Hampshire.

And, of course, one of the great benefits of mobile service is that you can use it in places other than where you live or work – whether on or off road, or away from population centers. By the FCC's own data in the latest Mobile Competition Report, only 78 percent of the U.S. land mass is covered by any mobile wireless provider. As this Committee is keenly aware, 42 percent of U.S. land can contain only 1 percent of the population. The job is not finished, and claiming otherwise leaves rural Americans on the wrong side of the digital divide and outside of all the innovations and economic opportunities provided by mobile broadband coverage. And simply because an area is served today does not mean that it will remain served in the future without sufficient USF support–look no further than Ruby Valley for an unfortunate real world example.

I commend several Members of this Committee and FCC Commissioners that have supported increased support for wireless carriers through the Mobility Fund. To protect scarce USF resources already invested in mobile broadband, the FCC should provide sufficient support so that towers constructed with both private and public investments remain operational. Congress and the FCC must preserve network diversity that exists in rural America, and to ensure that competitive carriers have access to a variety of roaming partners, regardless of the technology used. Anything less will leave behind rusty towers and unused infrastructure, reducing consumer choice and carrier innovation. Further, relying on a single network alone will not preserve widespread roaming, and will not protect against potentially high, anticompetitive monthly fees. This does not mean providing carriers with blank checks. Carriers must prove need for USF support. To appropriately guard USF investment, preservation funding should be based on the facts of real and projected expenses and revenue.

The FCC also should provide funding for expanding mobile broadband services to unserved and underserved areas of the country. Understanding that there will not be enough resources to build mobile broadband services where needed all at one time, the FCC should offer several rounds of expansion support, disbursing resources in conjunction with the overall Mobility Fund Phase II budget every two to four years.

<u>Other Factors Can Also Support Mobile Broadband in Rural Areas</u>

In addition to USF support, there are additional operational inputs that are critical to providing mobile broadband in rural America. Spectrum, for instance, is the lifeblood of the wireless industry and the invisible infrastructure on which networks are built. All carriers need access to spectrum to meet their customers' growing demands. Low band spectrum, with excellent propagation characteristics, is particularly important for expanding coverage in rural areas. Spectrum must be available in ways that carriers seeking to serve rural America can utilize this finite resource, such as through small geographic license sizes and with interoperable devices. I am pleased that the upcoming 600 MHz incentive auction will utilize Partial Economic Areas and require interoperability, and I thank the Committee for their support of these issues. And CCA will continue to urge use of smaller geographic license sizes, even with higher band spectrum now being contemplated.

The 600 MHz auction is just the beginning of unleashing access to additional spectrum. As mobile broadband use continues to grow, additional spectrum will be required to maintain existing coverage and advance new technologies that promise faster, more efficient access. For example, deploying LTE-Advanced and LTE-U will require maximized use of licensed and unlicensed frequencies. We also must consider new ways to make unused spectrum in rural areas available for carriers willing to provide coverage. This is why CCA supports bills like the Rural Spectrum Accessibility Act, championed

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by Senators Fischer and Klobuchar, and appreciate the bipartisan support for the bill from other members of the Committee, including Senators Wicker, Sullivan, and Manchin.

Additionally, carriers must be able to deploy physical infrastructure - the towers, base stations, and wires that transmit and carry wireless service in a timely manner to keep pace with consumer and network demands. Service in underserved and unserved rural areas is often dependent on the ability to site on federal lands and facilities, yet unfortunately carriers face delays and other obstacles while working through the siting process. Meaningful shot clocks, established points-of-contact, and inventories are critical. CCA supports the concepts in the MOBILE NOW Act that will help carriers of all sizes maintain and expand mobile broadband services, through both access to spectrum and easing barriers to deployment, and thanks Chairman Thune and several members of the Committee for their leadership on these issues.

All carriers must be able to provide both the devices consumers demand and nationwide services, regardless of their local footprint. For competitive carriers, that means access to the latest devices and reasonable roaming for voice and data services. On both fronts, CCA members are working hard to help themselves, and we appreciate Congress's and the FCC's support for these important policies where intervention is necessary to ensure competition in the industry.

Finally, carriers must be able to cost effectively serve their customers as well as connect with each other. Like roaming, this means Congress and the FCC should implement policies that support reasonable interconnection, and ensure carriers have access to backhaul and special access at competitive terms and conditions. CCA is hopeful that the FCC will finally conclude, during Chairman Wheeler's tenure, the decade-long special access proceeding, providing regulatory certainty to carriers over these critical network components and direct benefits to consumers.

Conclusion

CCA members work hard to maintain and expand mobile broadband service throughout the country while providing important competition and innovation within the industry. Despite significant efforts to deploy mobile broadband in rural areas, including through significant private investment paired with USF support, Congress and the FCC have a long way to go before the goal of ubiquitous mobile broadband service is realized. It is essential for all Americans to participate in the latest technological innovations and compete in the modern mobile economy. Universal Service policies must match this goal to fulfill Congress's mandate to provide reasonably comparable services in urban and rural areas, and USF support must be available to preserve and sustain service where available today and to expand networks nationwide.

Thank you for your interest in these issues and holding today's important hearing. I look forward to continuing to work with you and the FCC to make these policies a reality, and welcome any questions you may have.