WRITTEN STATEMENT

of

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UNITED STATES CELLULAR CORPORATION

before the

UNITED STATES SENATE COMMITTEE
ON
COMMERCE, SCIENCE AND TRANSPORTATION

"BROADBAND: OPPORTUNITIES AND CHALLENGES IN RURAL AMERICA"

OCTOBER 4, 2018

Chairman Thune, Ranking Member Nelson, and members of the Committee, my name is Grant B. Spellmeyer, and I am the Vice President, Federal Affairs and Public Policy at United States Cellular Corporation. Thank you for the opportunity to discuss opportunities and challenges facing mobile broadband providers in rural America.

I. Introduction.

U.S. Cellular provides mobile wireless telephone and broadband services in nearly 200 markets across 23 states located in regional clusters across the country. We serve overwhelmingly rural areas in many states represented on this committee, including Missouri, Nebraska, Kansas, Washington, West Virginia, New Hampshire, Oklahoma, Wisconsin, and Illinois.

Much of our business involves finding ways to build cell towers in small towns and along rural roads, as well as in areas where population density, income levels, and commercial development are often well below those in our nation's urban areas. Consequently, we are constantly thinking about ways to address the economics of providing vital services to areas that present financial challenges to build, maintain, and upgrade.

Our nation's business success in the 20th Century was built upon our backbone infrastructure – our rail network, our interstate highway system, our electrical grid, and our fixed line telephone system – all of which blossomed with the active engagement of the public and private sectors. If the United States is to lead in the 21st Century, we must make a similar commitment to public and private sector investments to deploy essential broadband infrastructure, providing coverage throughout the country that delivers high-quality 4G LTE and

5G fixed and mobile broadband. Ubiquitous, high-quality mobile broadband is essential to your communities and the reasons are numerous and expanding daily. I will highlight just four of the many benefits that come from mobile broadband connectivity:

- Public Safety. The ability to use 911/E-911/Text-to-911 and eventually NG911, depends 100% on high quality coverage, to fully enable location-based services.[1] When disaster strikes, first responders depend on mobile wireless and broadband networks, which are the first to return to service.

- Health Care. Mobile devices and applications capable of diagnosing, monitoring and treating various conditions are burgeoning and revolutionizing health care.[2] These advances improve patient outcomes, and increase efficient delivery of services, saving millions of dollars. It is now possible for a diabetic patient to continuously monitor, store, and transmit glucose levels to health care providers through a mobile device.[3] Mobile video conferencing is increasingly important to emergency medical services and in delivering health care to remote areas where facilities are not easily accessible.[4] These applications are but a small fraction of the incredible health care tools enabled by mobile broadband.

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[1] The FCC estimates that 70% of 911 calls are placed from wireless phones, and that percentage is growing. *See,* https://transition.fcc.gov/cgb/consumerfacts/wireless911srvc.pdf.

[2] A list of hundreds of approved mobile medical applications (last updated on July 25, 2018) can be found at: https://www.fda.gov/MedicalDevices/DigitalHealth/MobileMedicalApplications/ucm368784.htm.

[3] http://www.dexcom.com/g5-mobile-cgm (describing a mobile continuous glucose monitoring system that provides real-time glucose readings for patients with type 1 or type 2 diabetes every five minutes). Someday soon, patients may wear a contact lens that constantly measures glucose level through tears, transmitting the data to attending physicians. *See*, https://verily.com/projects/sensors/smart-lens-program/ (describing work on smart ocular devices, including a glucose-sensing lens for continuous monitoring of glucose levels).

[4] The FCC's Connect2HealthFCC initiative is a powerful example of how broadband data can be used to improve health care. *See,* https://www.fcc.gov/about-fcc/fcc-initiatives/connect2healthfcc; https://www.fcc.gov/reports-research/maps/connect2health/#ll=39.909736,-95.039063&z=4&t=insights&inb=in_bb_access&inh=in_diabetes_rate&dmf=none&inc=none&slb=90,100&slh=10,22 (*Mapping Broadband Health in America 2017*); and https://www.fcc.gov/document/commissioner-clyburn-continuation-connect2health-task-force (FCC Commissioner Clyburn statement that the Connect2Health Task Force "will continue to ensure that the Commission is equipped with the data and information it needs to understand the rapidly evolving landscape for broadband-enabled healthcare"). In addition, the FCC recently initiated an inquiry into how it can help advance and support the movement in telehealth towards connected care everywhere and improve access to the life-saving broadband-enabled telehealth services it makes possible. *Promoting Telehealth for Low-Income Consumers*, WC Docket No. 18-213, Notice of Inquiry, FCC 18-112 (Aug. 3, 2018).

- The Internet of Things. Soon, almost any object will be capable of connecting to the Internet. Statista projects 30.73 billion IoT devices will be deployed worldwide by 2020, and 75.44 billion will be deployed by 2025.[5] According to General Electric, the Internet of Things will add as much as $15 trillion (not a typo) to worldwide GDP growth by 2030.[6]

- Precision Agriculture. As agriculture technology has developed and expanded, it has made "mobile broadband … an essential service for agricultural operations that form the economic heart of many American rural communities." Deere has explained that, "[a]s these [precision agriculture] machine populations continue to grow and our solutions continue to rely on high speed machine connections, our reliance on rural broadband coverage will only increase …."[7]

None of the benefits described above will be available to rural Americans unless high-quality mobile broadband coverage is available everywhere people live, work, and travel. It is critical that rural America not be left with 20th Century infrastructure in an age where access to technology and innovation are essential to economic success. Below, I discuss opportunities and challenges to improving broadband in rural America.

II. The Economics of Broadband Deployment are Challenging for Many Rural Communities and for the Carriers That Seek to Serve Them, Without Some Level of Government Support.

Building broadband infrastructure in rural areas where it is uneconomic to do so is a brute force problem – it can only be solved with sufficient funding to stand up and maintain networks. In many rural areas we serve, if there were a marketplace solution, it would have already appeared sometime in the nearly thirty years since the FCC awarded the first cellular licenses. The public and private sectors must work together to provide incentives and rewards

[5] *See*, https://www.statista.com/statistics/471264/iot-number-of-connected-devices-worldwide/.

[6] *See*, https://www.visioncritical.com/internet-of-things-stats/.

[7] *See,* Deere & Company Comments, FCC GN Docket No. 17-199 (filed Sept. 21, 2017), at 2-3.

for entrepreneurs to deliver services, while ensuring that any support program is efficient and effective.

The primary driver of public funding for mobile broadband is the FCC's Mobility Fund. In the upcoming Mobility Fund Phase II, the Commission has allocated $4.53 billion over ten years ($453 million per year) to support the deployment of 4G LTE service at a median download speed of 10 Mbps and upload speed of 1 Mbps ("10/1"). Mobility Fund II support will be awarded by reverse auction, with the lowest bidders receiving the exclusive right to a ten year stream of payments. At this stage, there is no plan to develop Mobility Fund Phase III that we are aware of.

U.S. Cellular views the current level of support for mobile broadband, as well as what's proposed for Mobility Fund Phase II, as clearly insufficient to address the needs that many of the Senators at this hearing know afflict their communities. Our sense is that the size of Mobility Fund II, $453 million annually, has been somewhat constrained by program budgets, rather than calibrating the program's size to address need. In its orders adopting the Mobility Fund (going back a number of years), the Commission has never adopted a methodology that would, (1) set a specific goal to deliver high-quality terrestrial mobile 4G LTE broadband service everywhere that people live, work and travel, (2) estimate the cost of meeting that goal, and (3) determine how many years it should take to achieve the goal.

In 2017, CostQuest Associates estimated that providing 4G LTE service to the areas that the FCC believed to be unserved at that time (using Form 477 data) would require

approximately 37,500 new towers, at a cost of $12.5 billion.[8] In addition, annual operating expenses for these towers would cost approximately $21 billion over ten years, for a total of approximately $33.5 billion. From this estimate, the FCC could determine how much public and private capital should be devoted to the task. What we know sitting here today is that the size of the hole dwarfs the amount of dirt we apparently intend to use to fill it. Hoping that $453 million per year will solve the problem should not be our strategy. What we should do is accurately assess the size of the challenge and set target goals and then determine what is the appropriate approach to meeting those goals. The basis of that effort must come from solid, reliable, verifiable, and empiric data.

Only by going through such an analysis can the Commission hope to accomplish the task that Congress set before it in the 1996 Telecom Act, to ensure that universal service support is "sufficient to achieve the purposes"[9] set forth in Section 254, including providing consumers in all regions of the Nation, including low-income consumers and those in rural, insular, and high cost areas with access to telecommunications and information services that are reasonably comparable to those services provided in urban areas, at reasonably comparable rates.[10]

A budget of $453 million per year is simply not going to accomplish the goal set by Congress to deliver reasonably comparable services at reasonably comparable prices any time

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[8] *See*, CostQuest Associates, *Cost Study for 4G Unserved Areas*, accessed at: https://ecfsapi.fcc.gov/file/10217086509033/2017%200216%20CQ%20Cost%20Study%20for%20Unserved%20Areas%20FINAL.pdf.

[9] 47 U.S.C. Section 254(e).

[10] 47 U.S.C. Section 254(b)(3). *See also,* S.2418, co-sponsored by Senators Klobuchar, Capito, King, and Cortez Masto, which proposes to establish a national standard to determine whether commercial mobile services, commercial mobile data services, and broadband Internet access services available in rural areas are reasonably comparable to those services provided in urban areas, as required by Section 254(b)(3).

soon, if ever. If by 2029, Mobility Fund Phase II delivers mobile broadband to rural America at 10/1 speed, which is currently being surpassed in urban areas, U.S. Cellular believes rural America will be farther behind urban areas than it is today.

We must have a sense of urgency because as 5G services begin to roll out in 2019, the Commission will need to begin working to ensure that rural Americans have access to 5G broadband, as envisioned by Section 254(b)(3). CostQuest has estimated several 5G deployment scenarios for the US, with total capital investment ranging from $61 billion to achieve ubiquitous coverage to $250 billion to deploy a network capable of autonomous vehicle support and future demand.[11]

At last week's 5G summit at the White House, lawmakers and stakeholders came together to discuss how the United States can extend the nation's lead in 4G LTE technology into the rapidly approaching 5G world. Among other things, releasing suitable 5G spectrum, deployment standards, public safety, and protecting the supply chain were all on the table. It is just the kind of event that is needed to focus industry and policymakers.

In addition to the vital topics covered at this meeting, my sense is that additional focus is required to advance universal service in a 5G world. For decades, our federal universal service mechanism has been the biggest driver of telecommunications infrastructure deployment in rural areas. As wireless speeds and capacity continue to increase, reforming the contribution mechanism and ensuring competitive neutrality must be addressed in the coming

[11] *See,* Cost Quest Associates, *The 5G Mobile Ubiquity Price Tag Costs for Full U.S. Deployment Of 5G – With and Without Support for Autonomous Driving* (2017), at: https://www.costquest.com/uploads/pdf/5g-mobile-ubiquity-costs-summary.pdf.

years to ensure that rural citizens can access advanced telecommunications and information services that are reasonably comparable to those available in urban areas.

Moving America into a 5G world requires bold action. Most important, in order to accelerate mobile and fixed wireless broadband, which is the most cost-effective means of serving sparsely populated areas, the Commission must have the will to increase the size of the federal universal service fund dedicated to these tasks.

III. The FCC's Current Coverage Maps Significantly Overstate 4G LTE Coverage.

To efficiently invest federal universal service support in rural areas, the Commission must accurately target funds to unserved areas. Everyone understands that mapping where people have access to mobile broadband, and at what speeds, is a difficult challenge, because radio waves must be mapped to a specific location, either with radiofrequency propagation maps or actual field testing. However hard it is to do, we must have accurate maps so that policymakers have confidence that our limited funds are targeting communities that most need reliable service.

A. How the FCC Developed the Challenge Map.

In early 2017, the Commission acknowledged that its FCC Form 477 data did not identify mobile broadband coverage with sufficient accuracy to launch the Mobility Fund II auction. The Form 477 submissions allowed each carrier to determine where it has coverage using its own standards. Under Chairman Pai's leadership, the Commission moved away from using Form 477 data, instead requiring carriers providing 4G LTE service to submit improved data in a "one-

time" filing.[12] This one-time submission, which consisted of data files developed from radiofrequency propagation models, was used to create a new challenge map. The Commission intended to limit variations in model inputs so that each carrier submitted data that produced consistent coverage maps.

For example, the Commission required model inputs specifying a coverage area showing where service is available at a download speed of 5 Mbps at the cell edge, with 80 percent probability and a cell loading factor of 30 percent. In rough terms, the model should show an area to be covered where a person can initiate a data session at the edge of a cell site's coverage at 5 Mbps of speed, with 80 percent certainty, if the cell site is running at 30 percent capacity.

I was personally involved in developing a wireless industry consensus on this one-time data collection. Although the FCC accepted many of industry's recommendations, some final decisions on the model parameters and the subsequent challenge process procedures undermined the challenge map's accuracy and made it extraordinarily difficult for carriers and third parties to mount challenges. Industry, including CTIA and CCA, recommended 90 percent certainty that a 5 Mbps session could be initiated at the cell edge, and that the network should be loaded at the 50 percent level, *consistent with how mobile broadband networks are designed*. Other technical suggestions from some parties, such as those relating to thermal noise density and standardizing power assumptions for handsets, were not adopted.

Importantly, parties submitting data using a radiofrequency model, with inputs set at the Commission's chosen parameters, were not required to do any field testing to validate their

[12] *See, Connect America Fund*, Order on Reconsideration and Second Report and Order, FCC 17-102 (Aug 4, 2017).

model, nor did the Commission do any independent validation, not even a statistically significant sampling, before releasing the challenge map. It was left to challengers to field test after the fact, to determine the accuracy of maps produced by the parameters. And here is the key issue: If the map output is generally accurate, then the areas needing to be tested and challenged are relatively small. If the map output significantly overstates coverage, then challengers must test a much larger area.

B. The Process Obstacles for Challengers.

On February 27, 2018, the Commission released a 53-page public notice explaining how the challenge map would be generated, the procedures for filing a challenge, and how the FCC would process challenges.[13] The process has proven to be extremely complicated for challengers, so much so that even U.S. Cellular will be unable to drive test the vast majority of areas within its rural service footprint.

Let me explain the process and consider how difficult it is to comply with such standards. Under the current procedures, mapping data from the Commission must be downloaded via a government portal to analyze which areas warrant a challenge. A challenger must demonstrate the absence of coverage in each one square kilometer block specified by the FCC. Inside each block, tests must be conducted no further than 800 meters apart from one another, and done between 6:00 AM and 12:00 AM local time. Vehicle based drive testing must be done on accessible roads, which in rural areas can be far apart or otherwise inaccessible due to private or public restrictions, seasonal closures, or other factors. The tests

[13] *See, Procedures for the Mobility Fund Phase II Challenge Process*, Public Notice, DA 18-186 (Feb. 27, 2018).

must include all unsubsidized wireless companies claiming coverage inside that block. Handsets enumerated by each operator must be purchased from each operator claiming coverage in the area, and rate plans must be subscribed to and constantly monitored to ensure service is not throttled or subject to data caps. A challenger must either purchase, mount and calibrate test equipment, or hire a testing company to perform the tests.

Drive testing the area requires understanding where the vehicle is in relation to the one square kilometer blocks eligible to be challenged, and conducting testing at the required locations inside the blocks, that is, at the minimum distance separation of 800 meters. This requires the purchase of separate GPS tracking equipment. To accomplish this project also requires access to drivable roads sufficient to demonstrate the lack of coverage in 75% of the grid being challenged.

In U.S. Cellular's experience, nearly half of the blocks in our footprint have proven to be untestable because there are insufficient roads to be driven to cover the 75% benchmark, as one might expect when testing in rural communities. Those blocks are off the table and essentially bullet proof from a challenge, notwithstanding that in many remote areas, it is easy to make a common sense observation from the lack of coverage on the roads that do exist that there can be no service in the balance of the surrounding area either. Yet, the Commission's testing procedures do not allow such observations to be submitted and off-road testing would require the challenger to mount equipment on horses, drones or all-terrain vehicles. I am not kidding about those options, as US Cellular has actually used horse-drawn sleds to access remote sites for building some of our cell towers and infrastructure. Clearly, requiring such

methods to reach areas in question is practically impossible given the time and money required to do so.

We've attached as Exhibit A several photographs taken by U.S. Cellular's drive testers while in the field depicting inaccessible roads that prevent challenges from being completed consistent with the FCC's rules. In addition, we've attached as Exhibit B a summary of the Commission's drive testing regime, along with materials from the Universal Service Administrative Company web site, to give the Committee a sense of how difficult it is to conduct tests consistent with the Commission's rules.

To date, U.S. Cellular has conducted drive testing in 19 states including Colorado, Kansas, Minnesota, Missouri, Nebraska, New Hampshire, Oklahoma, South Dakota, Washington, Wisconsin, West Virginia, and Illinois.[14] In doing so, we have spent nearly $2 million conducting testing in compliance with the FCC's challenge process rules and have only covered 3% of the challengeable areas in our ETC coverage footprint. Accordingly, despite the Commission having granted an additional 90 days within which to submit challenges, U.S. Cellular has no hope of addressing even ten percent of the areas that should be tested.

If one extrapolates U.S. Cellular's experience across the nation, a huge portion of rural areas that could be challenged are not going to be verified. Regrettably, these areas will be doomed to whatever level of service they have today; it will be the apex of their experience for the next 10 years. We will lock them in to the status quo during a period of rapid technological growth.

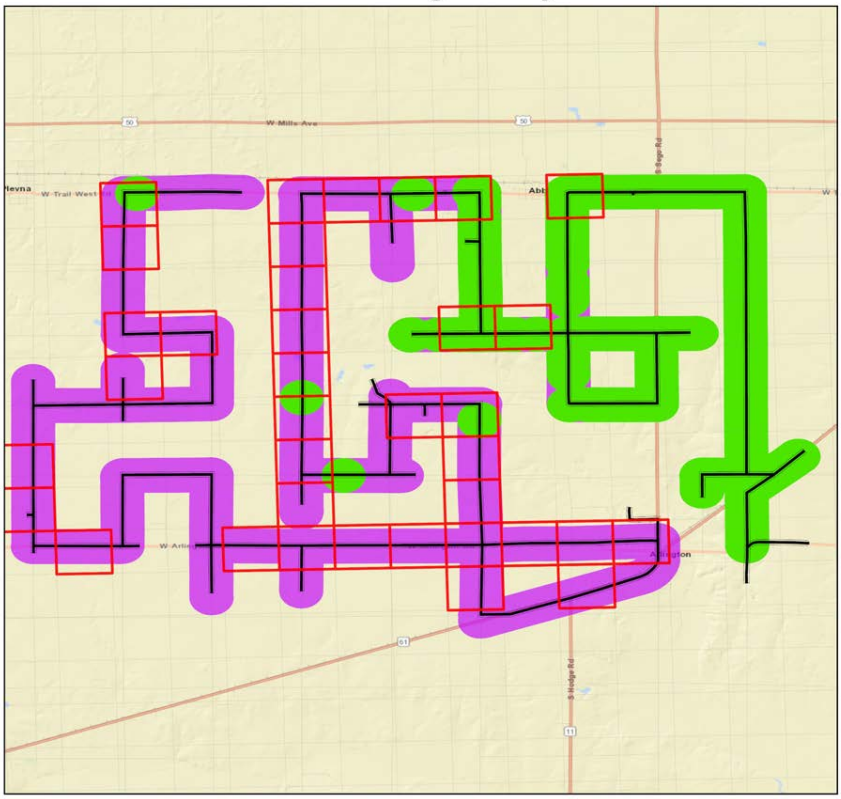
[14] A short video demonstrating the difficulties U.S. Cellular has encountered in drive testing in and around Lewisburg, West Virginia can be found here: https://youtu.be/L2rM7i3ivas.

C. The Map Outputs Significantly Overstate Coverage.

As a policy matter, if the current maps understate coverage, then it is likely that scarce universal service funds would be used to construct facilities in areas that already have service at the threshold level. This error, which should be avoided, is trivial when compared to the damage potentially done when an unserved area is deemed to be served by an overstated map. I feel as if I must repeat the reason overstating coverage maps is so troublesome for your states and your communities: Let's be perfectly clear, any area deemed to be served today by these maps will be blocked from even bidding for support for at least ten years – the life of the funding from Mobility Fund II. In areas where our rural citizens need service, getting this challenge map right is a huge issue and as crafted today will preclude the communities hoping for help from having the right to bid for support.

Let me also explain the extensive work we have undertaken in the past few months. So far, we have taken over 16 million data readings (10 terabytes of data) during drive testing of areas the FCC maps deem covered. U.S. Cellular observes that on average fully 34% of the locations tested showed no coverage or coverage at speeds below the FCC's 5 Mb standard. If even a quarter of the challenge area is overstated nationwide, there is a huge disparity between what the maps show to be served to the standard and what areas are actually served. To give the Committee a sense of the disparities we've encountered in testing, here are three examples of drive test results we've undertaken:

MFII Challenge Analysis



CQA

KS-1343-1

- Grids - challenge wins
- Grids - Boundary
- Drive Route

Drive Result 400m Buffer

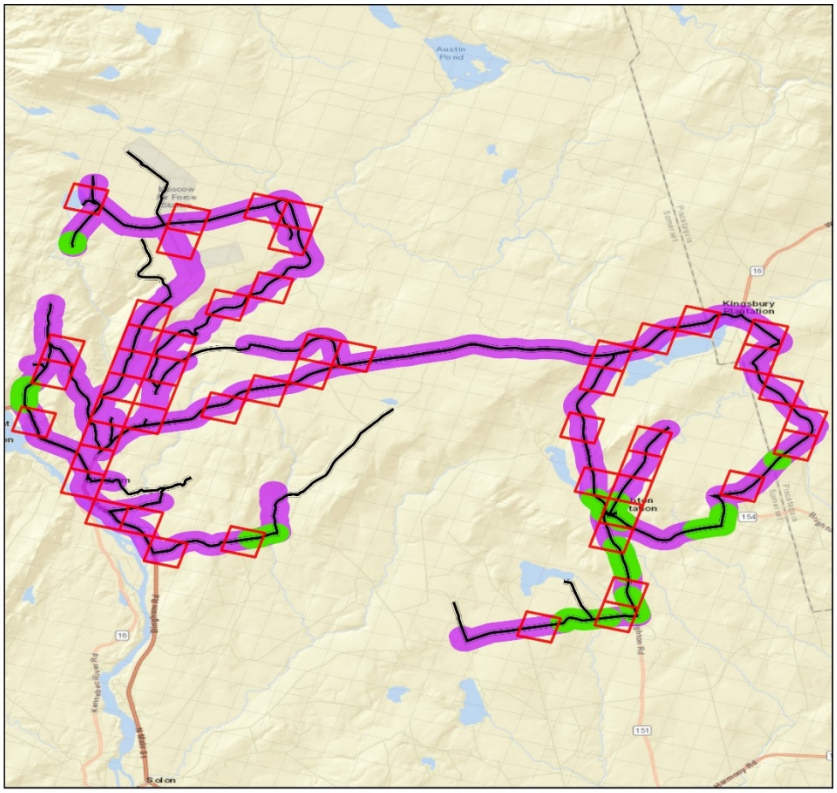
- >= 5 Mbps
- < 5 Mbps

2.5 Miles

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

Date: 9/28/2018

MFII Challenge Analysis



CQA

ME-400-1

- Grids - challenge wins
- Grids - Boundary
- Drive Route

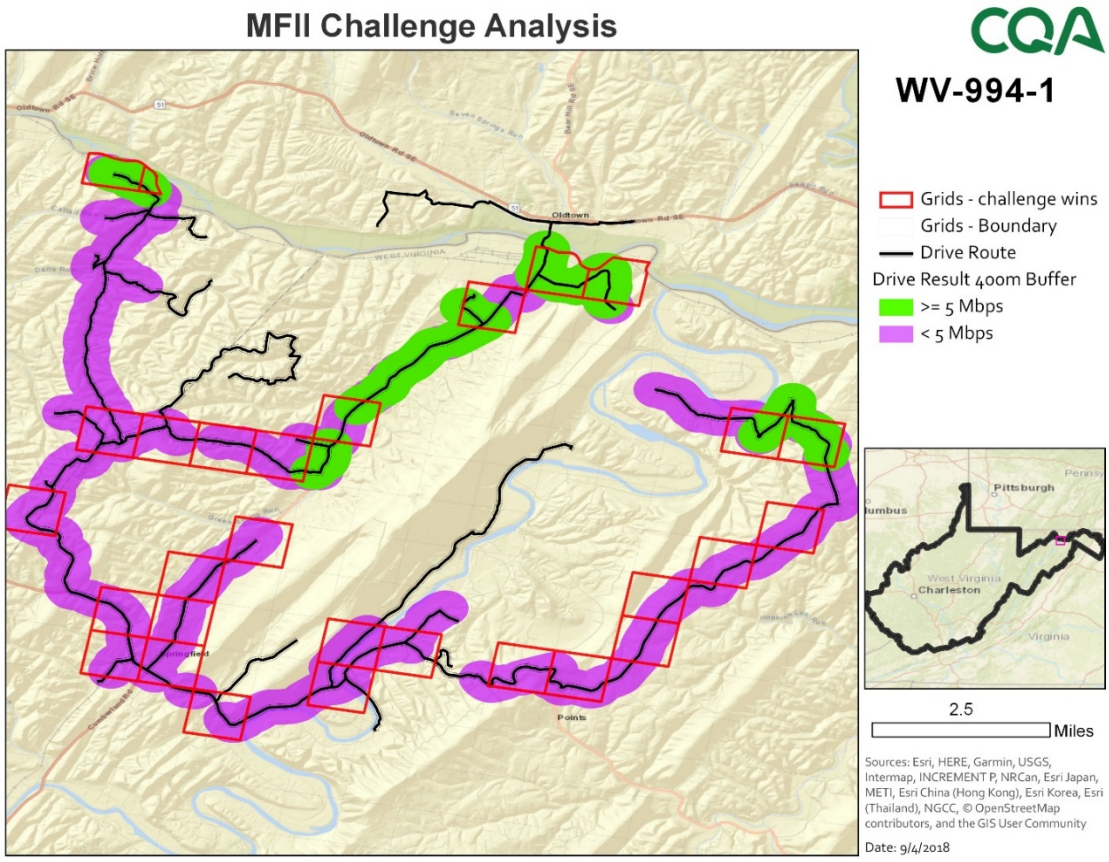
Drive Result 400m Buffer

- >= 5 Mbps
- < 5 Mbps

4.35 Miles

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

Date: 9/4/2018



Just last month, in response to a request from members of the Senate's Committee on Indian Affairs, the U.S. Government Accountability Office (GAO) released a report concluding, among other things, that "limitations in the FCC's existing process for collecting and reporting broadband data have led the FCC to overstate broadband access on tribal lands."[15] GAO recommended that the Commission develop methods for collecting and reporting accurate and complete data on broadband access specific to tribal lands. The specific findings, conclusions, and recommendations set forth in the GAO Report could be similarly applied to the challenge process maps.

[15] *See Broadband Internet, FCC's Data Overstate Access on Tribal Lands,* GAO-18-630 (Sept. 2018) at: https://www.gao.gov/products/GAO-18-630.

Anecdotally, I know from conversations with many of the Senators on this Committee who drive throughout their states, that you know there are many more unserved areas than the maps show. At the recent oversight hearing, a bipartisan group of senators affirmed that the maps are not accurate and urged the FCC to update the maps and reset the program so that funds are accurately targeted to our nation's rural areas.[16]

D. The Challenge Process Has Not Worked As Intended.

Chairman Pai inherited FCC Form 477 data that was woefully inadequate and he called for better data. For example, under Form 477 an entire census block is considered to be covered if a carrier provides service to even one customer within the block, or if it can provision service to the block without extraordinary effort, even if such service has never been built.[17] Recognizing these and other shortcomings, Chairman Pai, the rest of the Commission, as well as industry stakeholders, have diligently worked to increase accuracy of mobile broadband mapping for Mobility Fund Phase II. Unfortunately, the process provided no way to test the challenge map output before commencing the challenge process. As a result, a significantly overstated coverage map has left challengers an extraordinary task: they must use a very difficult, cumbersome, and expensive process to test an enormous geographic area. When the time period for filing challenges expires on November 26, 2018, there will not be a complete and clear picture of the scope of wireless broadband coverage in rural America.

[16] See, *Oversight of the Federal Communications Commission* (Aug. 16, 2018) at: https://www.commerce.senate.gov/public/index.cfm/hearings?ID=BD64E539-0863-41B5-AA8A-2B40D3FEF89C.

[17] *See,* FCC Form 477, Local Telephone Competition and Broadband Reporting, Instructions, OMB Control No. 3060-0816 (Dec. 5, 2016) at: https://transition.fcc.gov/form477/477inst.pdf.

In sum, either the challenge process must be revised to allow more common sense testing methodologies or the challenge map must be revised to more accurately depict current 4G LTE coverage, so that the areas that need to be challenged can be significantly reduced. Once the FCC does fix the maps, there remain a number of additional issues that must be addressed for Mobility Fund II including how support will be allocated between flat states and mountainous states where funds are distributed in a reverse auction that clearly favors bidders aiming to serve open and flat terrain. Other issues include a number of auction procedure related items such as reserve prices for the auction.

Some people I've talked to have expressed concern that if we fix these maps the Mobility Fund Phase II auction will be delayed. While I agree that we need to move quickly to invest in infrastructure that is the foundation of a 5G future, any delay needed to get the map right will substantially accelerate the time within which support gets to the right places. If we get this wrong now, in some or even many areas where support is deployed incorrectly, it will delay coverage and upgraded technology in areas that need it, by as much as a decade. I think NTIA director David Redl got it right at last week's White House summit, in committing to develop improved mapping data from many available sources, a resource that the FCC could use to more accurately target Mobility Fund II support.

IV. U.S. Cellular Supports Additional Steps to Accelerate Broadband Deployment.

A. The AIRWAVES Act.

U.S. Cellular fully supports the efforts of Senators Gardner and Hassan regarding S.1682, the "Advancing Innovation and Reinvigorating Widespread Access to Viable Electromagnetic

Spectrum Act." U.S. Cellular has long been a proponent of an "all of the above" strategy for broadband deployment, with fiber, mobile wireless, fixed wireless, licensed spectrum, unlicensed spectrum, and satellite all having an important role in knitting together broadband networks that meet the needs of every American.

Among other things, the AIRWAVES Act requires the FCC to release a steady stream of mid-band and high-band spectrum. By giving the FCC specific deadlines for completing auctions, it allows the FCC to put spectrum to use promptly, removing external pressure on the Commission to schedule auctions to maximize revenue while providing potential bidders with increased certainty to plan for future auctions. This is the right policy choice because the economic and long term societal benefits of putting spectrum to use far exceed whatever short-term auction revenues might yield.

U.S. Cellular is also pleased to see that ten percent of AIRWAVES Act auction proceeds will be set aside for deployment of rural infrastructure. This reflects a Congressional policy priority – to develop a steady stream of auction proceeds that can target places most in need of infrastructure development. Congress has set aside proceeds in the past for spectrum clearing and other salutary purposes; this is a smart policy choice that will have lasting benefits. U.S. Cellular notes that Auction 101 for spectrum in the 28 GHz band commences in November 2018, with Auction 102 for spectrum in the 24 GHz band to follow immediately thereafter. Accordingly, immediate passage of the AIRWAVES Act is needed to capture ten percent of those auction revenues.

B. The STREAMLINE Small Cell Deployment Act

Senators Thune and Schatz have introduced S.3157, the Streamlining The Rapid Evolution And Modernization of Leading-edge Infrastructure Necessary to Enhance Small Cell Deployment Act, which would modernize federal law governing small cell deployment and adopt shot clocks to move application proceedings along, while maintaining local authority over placement, construction, and modification of telecom facilities. U.S. Cellular supports this effort to ensure that the nation leads in critical small cell 5G deployment.

C. Allowing E-Rate Support to be Used for Wi-Fi Access on School Buses.

Senators Udall and Gardner have introduced S.2958, a bill to make the provision of Wi-Fi access on school buses eligible for E-rate support. In many rural and Tribal areas, children travel via bus to and from school, sometimes for several hours. U.S. Cellular supports allowing E-rate funding to be used to furnish Wi-Fi connectivity on school buses, to permit that time to be used for homework projects and related school activities.

D. Streamlining Broadband Infrastructure Permitting.

Senators Wicker and Cortez Masto have introduced S.1988, the Streamlining Permitting to Enable Efficient Deployment of Broadband Infrastructure Act of 2017 (the "SPEED Act"), a bill to streamline permitting on established public rights-of-way. Among other things, the bill would exempt certain colocations, small cell deployments, and deployments in existing rights-of-way from review under the National Environmental Policy Act of 1969 ("NEPA"). The bill

would also require a GAO report on delays in siting telecommunications equipment on federal lands.

Also addressing deployment concerns on federal lands, we thank Senators Heller and Manchin for introducing S. 1363, the Rural Broadband Deployment Streamlining Act. Importantly, this bill would create a timeline for considering applications to locate facilities on land administered by the Department of the Interior and the Forest Service and requires additional review of the accuracy of coverage data for the National Broadband Map.

U.S. Cellular supports prompt passage of both of these bills, because NEPA reviews should not delay projects, for example, in situations where equipment is being collocated on structures that have already passed NEPA review. In addition, U.S. Cellular has, and is aware of others, who have encountered significant delays in acquiring permits needed to construct wireless telecommunications facilities on federal lands, especially those operated by the Bureau of Land Management and the U.S. Forest Service. While appropriate environmental reviews are necessary to preserve and protect our vital lands and our people, there must be a sense of urgency to complete reviews in a timely fashion, and not require redundant efforts on facilities that have already been reviewed, sometimes on multiple occasions.

E. Accelerating 5G in Rural America

There has been a great deal of discussion in this Committee regarding the promise of 5G in rural America. We agree that the promise is great. In particular, I want to flag the importance of clearing sufficient mid-band spectrum, especially 3.7-4.2 GHz, to ensure that at least four providers in every market have an opportunity to each to deploy robust 5G services.

Mid-band is particularly important to bringing service to rural areas given its superior propagation characteristics compared to the high band spectrum that FCC will also auction, coupled with more bandwidth than is available at lower frequencies.

In addition, US Cellular urges Congress and the FCC to conduct the mid-band auctions via a traditional FCC-sponsored public auction. Some have called for the use of a private sale mechanism. We believe the use of a private sale mechanism will severely disadvantage non-national bidders and adversely impact rural service.

Closing Remarks

Thank you for your attention to the needs of rural America. It is critical that these communities are not left behind in the 21st Century economy. We all benefit when everyone is connected and we must find ways to use our precious public funding in the most efficient ways possible. That is our goal, and I know it's yours.