

DISCONNECTED: RURAL BROADBAND AND THE BUSINESS CASE FOR SMALL CARRIERS

HEARING

BEFORE THE

SUBCOMMITTEE ON HEALTH AND TECHNOLOGY

JOINT WITH

SUBCOMMITTEE AGRICULTURE, ENERGY, AND TRADE

OF THE

COMMITTEE ON SMALL BUSINESS UNITED STATES

HOUSE OF REPRESENTATIVES

ONE HUNDRED FIFTEENTH CONGRESS

SECOND SESSION

HEARING HELD
MARCH 6, 2018



Small Business Committee Document Number 115-060
Available via the GPO Website: www.govinfo.gov

U.S. GOVERNMENT PUBLISHING OFFICE

28-783

WASHINGTON : 2018

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TUESDAY, MARCH 6, 2018

HOUSE OF REPRESENTATIVES,
COMMITTEE ON SMALL BUSINESS,
SUBCOMMITTEE ON HEALTH AND TECHNOLOGY,
JOINT WITH THE
SUBCOMMITTEE ON AGRICULTURE, ENERGY, AND TRADE,
Washington, DC.

The Subcommittees met, pursuant to call, at 10:03 a.m., in Room 2360, Rayburn House Office Building, Hon. Aumua Amata Coleman Radewagen [chairman of the Subcommittee on Health and Technology] presiding.

Present from the Subcommittee on Health and Technology: Representatives Radewagen, Brat, Marshall, and Lawson.

Present from the Subcommittee on Agriculture, Energy, and Trade: Blum, Comer, Curtis, and Schneider.

Also Present: Representative Chabot.

Chairwoman RADEWAGEN. Talofa. Good morning. This hearing will come to order.

First, I would like to thank our witnesses for taking the time to share their thoughts with us today. I look forward to your testimony.

I would also like to thank Chairman Blum for co-leading this important discussion.

Today's joint hearing of the Subcommittee on Health and Technology and the Subcommittee on Agriculture, Energy, and Trade will focus on challenges facing small internet service providers deploying broadband to rural high-cost areas. This hearing expands upon past conversations started in Committee and recently continued in a hearing led by Chairman Blum a few short weeks ago.

This topic is of particular significance to the people of American Samoa as our telecommunications and internet connectivity is severely lacking, especially in the wake of Tropical Cyclone Gita.

As our world becomes increasingly dependent on a robust telecommunications service and wireless internet, the lack of it in places like American Samoa and rural America becomes even more glaring. These high-cost areas depend upon the industriousness and commitment to deploying robust, accessible broadband by small, rural, and regional internet service providers.

However, challenges facing these carriers in obtaining adequate financing can impede forward progress, further exacerbating the disparities between urban and rural communities.

Having this connectivity is critical, not only to stimulate economic growth, but also to ensure a basic level of connectivity for our citizens, such as the ability to place a call to loved ones and first responders in the event of an emergency or a disaster.

As we begin to examine the current state of America's infrastructure and take steps to improve our Nation's highways and buildings, we need to ensure that broadband is at the front and center of all infrastructure discussions.

I now yield to Ranking Member Lawson for his opening statement.

Mr. LAWSON. Thank you, Madam Chair.

Today's hearing will offer the opportunity to examine the many changes of broadband development. The technology and telecommunications sector is a major contributor to the U.S. economy and a lifeline for small business connecting with customers all over the world.

With the potential to create new jobs and keep millions of employees at work in the broadband sector, some carriers stand ready to capture the economic gains brought on by this technology. More small businesses are embracing broadband than ever before and it is rapidly changing the way business is conducted.

Consumers have seen the benefit broadband technology can bring to our daily lives in a variety of ways, yet the percentage of rural and small businesses without access to broadband is twice as high than in urban areas.

Even though broadband subscriptions have steadily increased, rural and low-income communities are being outpaced by the rest of the country due to a lack of network development. Unfortunately, the adoption gap may further widen without adequate support of broadband deployment.

This is especially true for small carriers in the forefront of the buildout in rural areas. Federal loans and grant programs have helped economically disadvantaged communities gain access to high speed internet, resulting in attracting businesses, low unemployment rates, and skilled workers.

However, there is an estimated 200 million shortfall in the Universal Service Fund program, the primary funder for rural development efforts. Among other funding challenges for small, rural carriers are declining roaming charges and broken promises to include rural broadband development in the infrastructure package. Instead, President Trump gave the States \$50 billion of the \$200 billion to States' rural infrastructure.

Let's be clear. This will likely mean bridges and roads and not broadband investment. While I agree to the improvement to our Nation's transportation infrastructure is necessary, so is our investment in ensuring everyone, especially those in rural communities, have access to adequate internet access. Omitting clear funding language to broadband infrastructure hurts our communities who need it the most.

In advance of the testimony, I want to thank all our witnesses for traveling here today for both their participation and insight into the important topic.

Thank you, and I yield back.

Chairwoman RADEWAGEN. I now yield to Chairman Blum for his opening statement.

Chairman BLUM. Thank you, Chairman Radewagen.

And welcome to our panelists today. I appreciate you all being here.

Today's joint hearing focuses on a topic that is particularly important to many Iowa family farmers and rural community members I represent back in my home district of northeast Iowa. While rural broadband was touched upon at the last hearing I chaired in February, I thank the chairwoman for the opportunity to take a deeper dive into the specific challenges facing rural broadband deployment in our conversation today.

It is easy to recognize the importance of seamless and robust internet and telecommunications service connecting rural America to the rest of the country. However, it is critically important that we fully understand how to get to that point and how we can continue to nurture that growth.

Small, rural internet service providers shoulder a heavy burden deploying broadband across hundreds of miles of diverse and sparse terrain. The significant investment required to deploy, maintain, update, and continually service these high-cost rural areas should not be taken lightly. It is imperative—imperative—that we identify and help mitigate the difficulties identified by small, rural carriers in deploying broadband so we can begin to close the urban and rural digital divide.

The ability to deliver a high quality of life to rural Americans, spur job growth and job creation, improve access to education, health services, and innovation in the agritech sector are all dependent on the ability to transmit data and communication information quickly, efficiently, and at low cost.

Echoing the sentiment expressed by the chairwoman, as we look ahead at plans to improve our Nation's infrastructure we need to make sure that rural broadband is part of that conversation. The progress of our Nation depends on it.

I look forward to the testimony of our witnesses to identify the challenges for small, rural carriers and potentially uncover solutions that Congress may consider to ensure that the mobile wireless marketplace is competitive and fair for all businesses.

Madam Chairwoman, I yield back the balance of my time.

Chairwoman RADEWAGEN. I now yield to Ranking Member Schneider for his opening statement.

He is not here, so we will continue.

If Committee members have an opening statement prepared, I ask that they be submitted for the record.

I would like to take a moment to explain the timing lights for you. You will each have 5 minutes to deliver your testimony. A light will start out as green. When you have 1 minute remaining, the light will turn yellow. Finally, at the end of your 5 minutes, it will turn red. I ask that you try to adhere to that time limit as much as possible.

I would now like to formally introduce our witnesses.

Our first witness is Ms. Erin Fitzgerald, regulatory counsel to the Rural Wireless Association, or RWA. Ms. Fitzgerald has extensive experience on a wide range of issues, including broadband de-

ployment, universal service, spectrum auctions, data roaming, and wireless licensing.

Erin advocates in rulemaking and policymaking proceedings on behalf of the RWA and frequently appears before the Federal Communications Commission.

We look forward to hearing from you today.

Our second witness today is Mr. Tim Donovan, senior vice president of legislative affairs for the Competitive Carriers Association, or CCA.

Mr. Donovan advocates on the CCA's behalf on issues impacting wireless telecommunications providers, including broadband deployment, universal service, access to spectrum roaming, and other issues that affect the businesses of these carriers.

Mr. Donovan has previously appeared before the Committee in the same capacity, and we welcome you back today.

Our third witness is Mr. Paul Carliner, cofounder and CEO of Bloosurf, LLC. Bloosurf is one the fastest growing independent rural high speed internet companies in the State of Maryland.

Prior to cofounding Bloosurf, Mr. Carliner served nearly 20 years in the Federal Government, both on the Hill as a Senate staffer and later as a consultant.

I now yield to Ranking Member Lawson to introduce our final witness.

Mr. LAWSON. Thank you, Madam Chair.

It is my pleasure to introduce Mr. Derrick Owens, senior vice president of government and industry affairs at WTA, which advocates for rural broadband.

Prior to joining WTA, he worked at the U.S. Department of Commerce's National Telecommunications and Information Administration.

Mr. Owens has a master's degree in public policy from the University of Maryland School of Public Policy and received his bachelor's degree in political science from Allegheny College in Pennsylvania.

Welcome, Mr. Owens, to the Committee.

Chairwoman RADEWAGEN. Thank you.

Before the witnesses start their testimony, I would like to yield to Mr. Schneider, who is with us.

Mr. SCHNEIDER. Thank you, Madam Chairwoman.

And thank you for joining us today to the witnesses.

It is an important hearing today. As a powerful tool for both consumers and entrepreneurs, the internet serves small businesses in a multitude of ways.

Unfortunately, 34 million Americans still lack access to high speed internet, of which 39 percent live in our rural communities, compared to just 4 percent of those in urban communities.

With more than 3.2 billion people online worldwide, internet use has increased almost sevenfold in the last 15 years. However, for small firms in rural areas, the lack of broadband access too often means trouble attracting new businesses, creating jobs, or breaking into new markets.

Time and again we have seen how the internet can connect companies large and small with new markets and new customers, something especially important for rural small businesses.

The internet has helped small businesses across the country grow, and we want to ensure that rural small businesses are not left behind due to poor connectivity or an unreliable network.

This is why we must support the expansion of broadband infrastructure in rural areas. All of America's entrepreneurs deserve a level playing field regardless of where they are based.

Today we will hear more about how we can help small businesses connect to high speed internet. On that note, I want to thank today's witnesses for being here, and I look forward to hearing your testimony.

Chairwoman RADEWAGEN. Ms. Fitzgerald, you are now recognized for 5 minutes.

STATEMENTS OF MS. ERIN FITZGERALD, REGULATORY COUNSEL, RURAL WIRELESS ASSOCIATION, INC., WASHINGTON, DC; MR. TIM DONOVAN, SENIOR VICE PRESIDENT, LEGISLATIVE AFFAIRS, COMPETITIVE CARRIERS ASSOCIATION, WASHINGTON, DC; MR. PAUL CARLINER, CO-FOUNDER, BLOOSURF, LLC., SALISBURY, MD; AND MR. DERRICK OWENS, SENIOR VICE PRESIDENT OF GOVERNMENT & INDUSTRY AFFAIRS, WTA—ADVOCATES FOR RURAL BROADBAND, WASHINGTON, DC

STATEMENT OF ERIN FITZGERALD

Ms. FITZGERALD. Chairmen Radewagen and Blum, Ranking Members Lawson and Schneider, and members of the Subcommittee, thank you for this opportunity. I am Erin Fitzgerald, regulatory counsel for RWA, which represents wireless carriers with fewer than 100,000 subscribers. Our members are passionate about ensuring that rural America is not left behind.

RWA members operate in areas where low population density, extreme weather conditions, and difficult terrain make doing so an expensive and challenging task. Insufficient spectrum access, a dysfunctional data roaming market, and declining universal service support exacerbate these challenges.

Nevertheless, networks operated by small, rural-based wireless service providers promote public safety and encourage innovation and economic development each and every day.

I want to start by briefing discussing Mobility Fund Phase II, the Universal Service Fund program designed to support mobile broadband network deployment and maintenance in areas where there isn't a business case for unsubsidized coverage.

At top of mind for RWA members is the Commission's recently released initial eligible areas map. RWA is concerned that the Commission's process has failed to yield an accurate picture of mobile wireless service throughout the country. Issues regarding a too-low support budget, an onerous challenge process, and costs imposed by letter of credit requirements are also cause for concern.

I would like to talk a bit about some of the business issues at play in the marketplace. Rural carriers make every effort to offer robust coverage throughout their entire service area, unlike larger carriers which tend to focus coverage on towns and major highways.

The decision to offer robust coverage results in additional capital expenses in the form of more network equipment, towers, and backhaul facilities. Operational expenses are higher as well, and small carriers typically pay higher per-unit prices for the latest and greatest mobile devices because they are seldom offered volume discounts.

Unlike nationwide providers, small rural carriers are not able to average the costs of their rural sites with more return-on-investment-friendly urban and suburban sites.

I would like to turn your attention now to spectrum. Spectrum access promotes marketplace competition, and Section 309(j) of the Communications Act requires the FCC to ensure that spectrum is available to rural telephone companies and small businesses.

When designing future spectrum auctions, the FCC should ensure that it uses appropriately sized geographic licenses and bidding credits that will encourage auction participation by small providers.

The secondary spectrum market is frequently touted as a silver bullet to address small and rural carrier spectrum needs. But leasing and partitioning do not provide small and rural entities with the spectrum needed for targeted local deployments. In fact, the secondary market works for consolidating spectrum in the hands of a few rather than dispersing spectrum among many.

In order to keep spectrum in rural areas from lying fallow, RWA supports a keep-what-you-serve approach to spectrum licensing where if a licensee is not providing service to 90 percent of its geographic license area after a 5-year post-renewal period, any unserved area should be made available for relicensing to providers who wish to serve it.

This approach provides an incentive for existing licensees to continue to invest in market buildout and also promotes the rapid deployment of wireless services in rural America.

Roaming issues are also of serious concern to RWA's members. The country's nationwide carriers often refrain from offering their own subscribers roaming on small carrier networks even when their own coverage is inferior or nonexistent.

While the FCC's roaming rules allow this practice, it is harmful to American consumers who are unable to access rural networks, networks those same consumers have supported through contributions into the Universal Service Fund.

Further, this practice could threaten public safety. In the event of debilitating failure of one carrier, an untold number of consumers, including frontline public safety users, would be unable to communicate without bilateral roaming in place.

Another problem lurking is the issue of VoLTE roaming. VoLTE, which stands for Voice over LTE, is the ability to make a telephone call over a 4G LTE network. Nearly all the Nation's mobile carriers are using 4G LTE networks. The country's nationwide carriers are also actively shutting down their circuit-switched 2G and 3G networks.

What will happen when all mobile wireless carriers are LT only and no longer use circuit-switched networks to complete voice telephone calls. Will rural consumers be unable to place a simple tele-

phone call because large carriers refuse to enter into VoLTE roaming agreements?

There is anecdotal evidence to suggest that this is happening now, and action must be taken before 2G and 3G networks are shut down to make sure that all wireless consumers in America can make VoLTE voice calls when roaming.

As I discussed earlier, universal service support is tremendously important to rural broadband network deployment and maintenance. The FCC is preparing to hold two reverse auctions for Universal Service Fund support. Before a winning bidder can receive support, it must obtain an irrevocable standby letter of credit.

RWA and its members are concerned that obtaining the necessary letter of credit will be a burdensome and costly process. RWA has worked with the National Association of Surety Bond Producers and the Surety and Fidelity Association of America to explore the possibility of utilizing surety bonds as an alternative.

Also, RWA has suggested that the FCC eliminate its LOC requirement entirely. The FCC has all the security it needs with respect to Commission licenses: the threat of revocation, or non-renewable license should a universal service recipient commit any misconduct.

On behalf of RWA, your interest in the challenges facing rural wireless carriers is greatly appreciated. Thank you for inviting me to be with you today. I look forward to your questions.

Chairwoman RADEWAGEN. Thank you, Ms. Fitzgerald.

Mr. Donovan, you are recognized for 5 minutes.

STATEMENT OF TIM DONOVAN

Mr. DONOVAN. Thank you, Chairwoman Radewagen, Ranking Member Lawson, Chairman Blum, Ranking Member Schneider, and members of the Subcommittee. Thank you for inviting me to testify on rural broadband and the business case for small carriers.

I am here on behalf of CCA representing nearly 100 wireless carriers as well as the companies that make up the wireless ecosystem. The vast majority of CCA's members are small businesses who employ the same consumers that live and work in their communities.

Since I testified before your Committee last June, the Rural Prosperity Task Force has found that e-Connectivity is essential, and the administration, Congress, and the FCC have all proposed steps to support the business case to close the digital divide. This Committee's hearing just a few weeks ago on restoring rural America underscored the importance of rural broadband access, and today we will talk about policies to make that happen.

Mobile broadband use continues to increase exponentially. In 2016, Americans consumed 1.8 exabytes of data per month using wireless connections. That is 1.8 billion gigabytes—or, put another way, more than 7,000 times the total of all information stored in the Library of Congress each month—and data use will grow another five times over the next 5 years.

This staggering data consumption reflects the ways that mobile broadband powers every aspect of life, from jobs and economic growth to public health and safety. Amidst talk of infrastructure

for the next century, including broadband, areas without mobile coverage cannot be left behind.

Tech companies recently announced plans to deploy 4G mobile broadband on the moon. Yet too many in rural America are unserved or underserved despite millions invested by CCA members in their communities.

With my full statement in the record, I would like to focus on three key issues that directly impact small carriers.

First, you cannot manage what you cannot measure. Reliable coverage data is critical to determine where funding should flow, including the FCC's \$4.5 billion for Mobility Fund Phase II through the Universal Service Fund and any new funding made available by Congress to improve infrastructure.

While progress has been made since we discussed this issue last year, the underlying map for areas deemed initially eligible for Mobility Fund II support, released just last week, could prevent your districts from being eligible for support dollars.

The updated data should have reduced overstated coverage and allow carriers to challenge claim service in those areas. It is now clear that the parameters selected by the FCC were not sufficient to produce a map that reflects the experience you have as you travel your districts.

This is an acute problem for small carriers who do not have the time and resources to drive test vast geographic areas. Any areas that are presumed to be served and are not challenged, regardless of the consumer experience on the ground, will not be eligible for a decade of USF support.

Second, rural areas suffer when small carriers must navigate a regulatory maze to deploy infrastructure. Application review delays, burdensome fees, and redundant studies increase uncertainty and make it more expensive to upgrade and expand service.

And while technology has evolved, these rules have not. Today the same review process applies to deploy a small cell the size of a backpack as it does to build a tall tower.

Congress has dozens of bills pending, including bills sponsored by members of this Committee, to streamline deployment, and CCA urges swift action.

This hearing is timely as last week the FCC announced that it will vote on March 22 to make sure the U.S. is 5G ready. This is important, not only for the future, but for deployments of all base stations, technologies, and sizes today.

To be clear, carriers are deploying small cells in urban and rural areas alike. In fact, today FCC Commissioner Carr is in Edinburg, Virginia, a town with no stoplights, viewing the economic benefits of smaller-scale network deployments in a rural area with CCA member Shentel.

Third and finally, small carriers must access the resources all carriers need to provide service. This includes invisible resources like spectrum. Carriers need greater access to spectrum at high, mid, and low bands.

Congress can support small carriers in this regard by first enacting the Spectrum Auction Deposits Act to eliminate a roadblock currently preventing the FCC from holding any spectrum auctions. Second, keeping the 600-megahertz incentive auction repack on

time so that carriers can use this spectrum to serve consumers. And third, ensuring that all carriers can access spectrum in higher-frequency bands.

The largest two carriers have a head start in these spectrum bands, and to catch up, Congress must push for rapid auction of all bands ready for wireless use.

Beyond spectrum, carriers must also have reasonable access to equipment both for their networks and the devices consumers demand. This is not only a competitive issue, but a lack of access to devices and equipment can make it harder or impossible to follow regulatory mandates premised on the latest technology.

Bottom line, this issue disproportionately affects small carriers who lack the economies of scale enjoyed by the largest companies.

Policies established by Congress and implemented by the FCC determine whether small businesses in rural America have access to the latest services or are left behind the modern mobile economy. Competitive carriers want to be part of the solution.

Thank you again for holding today's hearing, and I welcome any questions.

Chairwoman RADEWAGEN. Thank you, Mr. Donovan. We appreciate your testimony.

Mr. Carliner, you are recognized for 5 minutes.

STATEMENT OF PAUL CARLINER

Mr. CARLINER. Thank you, Chairwoman Radewagen, Chairman Blum, Ranking Member Lawson, and Ranking Member Schneider. I am Paul Carliner, cofounder and CEO of Bloosurf, and I want to thank you for the opportunity to appear before you today.

Bloosurf is a rural high speed internet service provider headquartered in Salisbury, Maryland. Our company was founded in 2009 with the goal of providing affordable and sustainable high speed internet service on the lower Eastern Shore of Maryland. We provide services to homes, businesses, schools, hospitals, even to residents living on an island in the middle of the Chesapeake Bay.

In 2010, our company was awarded \$3.2 million by the U.S. Department of Agriculture's Rural Utility Service to build a new state-of-the-art fixed wireless LTE network covering approximately 100,000 households across three rural Maryland counties on the lower Eastern Shore.

I want to thank the Rural Utility Service's Telecommunications Program, particularly Mr. Ken Kuchno and Mr. Rick Gordon, who were so instrumental in helping our company and many others build out the rural infrastructure, as well as the State of Maryland and the Maryland Broadband Cooperative, two critical partners in our ability to bring rural high speed internet service.

I would like to share with you our experiences and lessons learned as a small rural ISP.

First, I think it is clear that the only way that rural America will cross the digital divide is through a sustained public investment by the local, State, and Federal governments. Without public investment, rural high speed internet companies will be limited in their ability to grow and sustain service over the long-term. If a rural community has a higher percentage of unserved households, the need for public investment is even greater.

I want to applaud the FCC for moving forward with the Connect America Fund II Reverse Auction to allocate up to \$2 billion for rural broadband this year. This will be a very critical and important step to help the buildout of the infrastructure.

Without public investment, the case for private investment in rural broadband is extremely difficult. Capital expenditures are very high and revenue and the subscriber base are low. This market structure is very unfavorable to traditional debt financing, and there is a limit to the amount of equity financing that a small business can accommodate. This is why public investment is so essential.

Each community needs a customized solution because each rural area is different. Small rural ISPs understand and know the territory they operate in and are able to customize solutions that both work from a technologically as well as from a business standpoint.

Second, any Federal strategy to expand rural high speed internet service must focus on the last mile, that part of the network that actually brings service directly into the home and business.

Previous public investments focused heavily on the middle mile, that fiber or cable under the county road or county highway, and after a decade or more of public and private investment in the middle mile, we believe the Federal Government should focus now on how to monetize that investment and actually provide service into the homes and businesses. These rural communities have paid for this infrastructure through their tax dollars, and we believe it is time they actually get the service from it.

Federal funds should be used also to encourage local and State governments to adopt comprehensive last mile strategies that work with local internet service providers that combine both middle mile and last mile solutions into a sustainable and affordable solution for high speed internet service to rural communities.

Onerous financial requirements for accessing Federal funds should be revised. These onerous requirements, such as large lines of credit, as Ms. Fitzgerald mentioned, arbitrary operating margins, debt-to-equity ratios are not always the most important criteria in assessing an ISP's liability, and nor do they offer much guidance in judging future performance. Instead, emphasis should be on past performance metrics and not exclusively on traditional financial metrics.

Access to spectrum is another issue that was mentioned that is also critically important. Our company uses licensed spectrum, and it makes a huge difference in the quality of our service and the coverage area that we are able to achieve. We hope that the FCC—as mentioned, both Mr. Donovan and Ms. Fitzgerald mentioned, that access to the spectrum, a dedicated spectrum for the rural ISPs, such as Bloosurf, is very, very important.

Finally, I think there should also be a mechanism to share information between the Federal Government and ISPs on things such as cybersecurity. Oftentimes small companies like ours who are critical network operators don't always access the latest information or data when it comes to cybersecurity, and having a formal mechanism with Federal agencies to do that to keep us up to speed will be very, very helpful.

Access to affordable internet service is critical for all rural communities to attract jobs, improve education, and provide basic services such as medical care. Rural ISPs are at the forefront of this, and we local companies are enjoying great popularity as we expand our service.

And with companies like ours, there is a multiplier effect in the communities that you don't have with the large national carriers. We hire local companies, local contractors, sales and marketing people, and there is a multiplier effect in communities with companies like ours that simply is not always there with some of the larger companies.

Finally, I encourage Federal agencies to adopt policies that encourage incentivized rural internet service providers to invest and grow in the marketplace and work with companies like Bloosurf to expand that coverage.

Thank you, Madam Chairman.

Chairwoman RADEWAGEN. Thank you, Mr. Carliner. We appreciate your testimony.

Mr. Owens, you are recognized for 5 minutes.

STATEMENT OF DERRICK OWENS

Mr. OWENS. Thank you.

Good morning, Chairwoman Radewagen, Chairman Blum, Ranking Member Lawson, Ranking Member Schneider, and members of the Subcommittee. Thank you for the opportunity to testify today. I am Derrick Owens, senior vice president of government affairs and industry affairs for WTA—Advocates for Rural Broadband.

WTA represents more than 340 small, rural telecommunications providers from across the country. Our members provide voice, broadband, and video-related services to some of the most rural high cost areas in the Nation.

Imagine having to provide communication services to 3,900 subscribers across 3,200 square miles. This is the reality for Golden Belt Telephone Association based in Rush Center, Kansas.

Why do small companies build in these remote areas? Because decades ago larger providers didn't build there because it was too difficult to make a business case to do so.

This is the reason why small, rural local exchange carriers, RLECs, came into existence, and why without them rural America would be left behind in this digital age.

I would like to highlight a few areas where policymakers can make a difference when it comes to helping our member companies deploy broadband in rural America.

First, there must be stability and predictability with the Universal Service Fund. The Communications Act requires universal service support to be sufficient and predictable.

In 2011, the FCC adopted a \$2 billion budget for the RLEC portion of the USF High Cost Program. To remain under budget, a budget control mechanism was adopted that reduces support automatically if the budget is exceeded.

While the FCC approves several other cuts and constraints, the BCM, as we call it, is probably the most onerous. Last year, a WTA member testified before this Committee about the importance of USF and how the frozen support level, as well as the cap on the

High Cost Program and the imposition of the BCM, was making it difficult to invest.

In the last year alone, a member company in Kansas and one in Illinois have seen their USF support reduced by over \$400,000 and \$800,000, respectively, because of the BCM. These are just two examples. There are a couple more in my testimony. These unpredictable year-to-year support reductions are certainly proving to disrupt and discourage investment.

We are beginning to see a change in that direction, however. A proposal by FCC Chairman Ajit Pai before his fellow commissioners is a step in the right direction, in our opinion. It seeks to restore some of the cuts in USF support while asking important questions about the overall sufficiency and size of the USF budget going forward. We greatly appreciate the work several members of this Committee have done to help get us to that point.

Point two. It is encouraging to see much attention being placed on rural infrastructure in Congress and within the administration. WTA supports the \$20 billion that is called for in the February budget agreement, and we support the \$50 billion in the President's infrastructure outline presented to Congress a few weeks ago.

However, these proposals don't go far enough. There needs to be dedicated funding for rural broadband infrastructure.

We should also do more to ensure the broadband infrastructure needs in Tribal areas are being met. WTA supports a proposal by the National Tribal Telecommunications Association that would increase an RLEC's USF high cost support if those companies actually serve Tribal areas. We understand a variation of this proposal is being considered at the FCC and may be part of Chairman Pai's proposal.

Finally, when it comes to government regulation there is no argument that government needs to keep track of where and how Federal funds for broadband and USF dollars are being used. The debate is not about regulation and reporting versus no regulation and reporting, but how much, how often, and what kind.

Regulation can often be helpful when it comes to ensuring small businesses that lack market power can compete against much larger companies. For example, our members benefit from regulations requiring large providers to interconnect with smaller ones so our communications networks function properly.

Our member companies can also benefit from updated video regulations. Again, at times, regulations can enhance competition.

There is also the case that some regulations are unnecessarily burdensome. Several of our companies have analyzed how much time and money they spend completing filings for the FCC, RUS, and other entities, estimates that run around \$80,000 to \$90,000 annually. Environmental and historical preservation reviews are also costly and add significant cost for small businesses.

While some rules, regulations, and reviews are necessary, others can be eliminated or reduced without any significant adverse impact to the public. For instance, all regulated telecommunications providers are required to complete the FCC's Local Competition and Broadband Report, known as the Form 477. That is twice a

year. The data are used to produce an annual report to Congress and to update the national broadband map.

The FCC estimates the average company will spend 387 hours per semi-annual filing, or 774 hours per year. WTA believes this proposal can be completed annually.

WTA has been supportive of several bills that would provide regulatory relief to small carriers. For example, a bill introduced by Representative Curtis would expedite environmental reviews for broadband projects using existing operational rights of way on Federal lands.

Our member who testified last year had to wait 9 months to get an environmental approval to install fiber along a Federal highway after receiving a Federal stimulus grant/loan combo. Another company who wanted to lay conduit along a Forest Service road was forced to pay for an environmental impact assessment even though the road is regularly repaved and the area around the road is sprayed with herbicide. These types of reviews add 18 to 24 months to the length and 10 to 20 percent to the cost of broadband projects.

In closing, WTA members work hard and under difficult circumstances to bring broadband to their communities. Government has an important role to play here. Predictable support and smarter rules and regulations will help rural telcos put their limited resources to best use.

Thank you for this opportunity to testify. I look forward to answering your questions.

Chairwoman RADEWAGEN. Thank you, Mr. Owens.

Now we will begin the first round of questioning. I now recognize myself for 5 minutes.

This question is for all the witnesses. What does it take for a small carrier to develop broadband in isolated areas, such as American Samoa, Puerto Rico, the various islands of the Marianas, or some of the most remote parts of Alaska? These are places that you can't drive to. You have to take a boat or fly to.

Mr. DONOVAN. Well, Chairwoman, one thing that is important in serving remote areas like Alaska, like your home district, is making sure that you have certainty around the timelines when you need to use helicopters and boats and other mechanisms that you don't need to use to deploy services in places like Washington, D.C. You need to be able to schedule that ahead of time.

This has really been seen with some of the recent natural disasters in several areas, including American Samoa, about how certainty about what you can do and when you can bring equipment in needs to be lined up with the permitting process and streamline that, especially as you are looking to expand coverage or restore service where it has been out so that you can actually provide service in some of these very remote areas where it is already very high cost to serve.

Chairwoman RADEWAGEN. Ms. Fitzgerald.

Ms. FITZGERALD. I agree with that. I also think that, you know, we talked about the business case here, and in some of these very remote, very rural places you lack subscribers. There are not enough subscribers to make the business case.

And so in that case, universal service is critical. Adequate and reliable universal service support is what makes or breaks those networks.

Chairwoman RADEWAGEN. Mr. Carliner.

Mr. CARLINER. I certainly agree with that, that for a solution for an island, for example, is going to require really competitive planning and bringing the stakeholders together. It is going to be a mix of technologies, a mix of areas and communities.

And I would say the most important thing, from our experience, is to make sure that the engineering and the technology matches with the business plan. They have to go together, and it is important that they fit together to make it both sustainable as well as affordable for the community.

So proper planning and bringing the elements together, technology and business and the stakeholders together, is, I think, the most important first step.

Chairwoman RADEWAGEN. Mr. Owens.

Mr. OWENS. Thank you.

I would add that, again, sufficiency and predictability and universal service is by far one of the biggest issues, because those dollars are actually used to build networks. And without the underlying infrastructure in place, you are not going to get some of the other technologies that you would use to complement the services that you are bringing to very rural and remote areas.

Chairwoman RADEWAGEN. Ms. Fitzgerald, can you discuss what geographic area size might be attractive to small and regional providers as they compete for spectrum at auction and provide some background on why the FCC may have chosen not to employ smaller geographic area licenses in past spectrum auctions?

Ms. FITZGERALD. Sure.

In terms of spectrum auctions, geographic license size is always a point of contention, usually between large nationwide carriers and small rural providers.

RWA has largely supported an area called a cellular market area, or a CMA, which is a subdivision. They go as large as nationwide and they go as small as census tract. So we tend to favor sizes around the CMA area. There are, I believe, a little over 700 of those nationwide. We have also supported, for instance, in the current CBRS proceeding, support county size or census tract license sizes.

And, generally, if I am a small carrier, I have maybe a two- or three-county service area, first of all, I can't afford a nationwide license. I can't even afford licenses significantly smaller than nationwide. I want a license size that I can afford that I am going to be able to utilize to provide support to these service areas and a license size that I can afford to build out. Obviously there are build-out requirements tied to licenses won at auction. So if you win one of those licenses, you need to be able to build it out.

From a nationwide carrier, smaller licenses mean more administrative minutia. And so it also means you have to compete in more markets to win licenses to cover the territory you want to cover. So we support smaller license sizes because it increases the number of bidders in an auction and it doesn't depress auction turn out.

Chairwoman RADEWAGEN. Thank you.

I am running out of time here. So, Mr. Donovan, what is your current view of the FCC's approach to mitigating overstated coverage areas on the broadband map? And can you elaborate on the disproportionate impact this might have on small carriers?

Mr. DONOVAN. Sure. Thank you for the question.

So the map that is out right now for the initial eligible areas for Mobility Fund II was supposed to have a better starting point, looking more like coverage on the ground.

I think if you looked at the map, you would be surprised, Dr. Marshall, that most of the Big First has coverage of 4G LTE across just about the entire district.

For Ranking Member Schneider, that St. Elizabeth is served, and you have to drive hundreds of miles to find a dead spot based on this initial area.

The problem there is that if these areas are not challenged by a small carrier that wants to seek support in this area, and that means go buy a phone, go buy a plan, drive-test it, submit that data to the FCC for the chance to participate in an auction, which is costly in itself, then these areas we are going to keep going on marked as served, and support will not be eligible for them.

Chairwoman RADEWAGEN. Thank you.

I now recognize Mr. Lawson.

Mr. LAWSON. Thank you, Madam Chair.

And I am going to start with Mr. Owens. And I preface this by saying that I know that the administration, any administration, starts to look at cuts that they could make in the 2019 budget, but the broadband cuts that have been sent are by 15 percent of the cuts to 23 million in the distance learning program, and then 10 percent to 24 million.

How would these cuts affect rural wireless carriers and the Rural Wireless Association that are recommended by the administration.

Mr. OWENS. So thank you for the question.

Our association, we represent the wired portion of companies. We don't necessarily represent them on the wireless side.

But I will say this. Obviously, the cuts in programs are going to be extremely onerous on a company's overall business opportunities, whether they offer just voice, landline, broadband, fixed service, or wireless service.

So the cuts, we wouldn't be supportive of them, because if you are trying to get broadband out and you are looking at all the modes and ways to do that, in some areas wireless is going to be a complementary service to a fixed service just because it is going to be extremely costly to try to wire an area, where if you can use wireless service to do so, we see that as, again, a complementary service. So having cuts to that part of the program is probably not beneficial.

Mr. LAWSON. Mr. Carliner.

Mr. CARLINER. I would agree, Mr. Ranking Member. I think that for many small rural ISPs, these grant programs are very important in helping them build out their networks.

And we certainly benefited from that in 2010. It was critical for us launching our network. And I think that for many other communities around the country, a sustained Federal investment in these grant programs, even small ones, is really, really important. People

forget sometimes how small these communities are and how small the companies are.

Mr. LAWSON. Mr. Donovan.

Mr. DONOVAN. Thank you.

So I think the bigger point with your question that is important in the infrastructure debate going on right now is, what kind of a country do we want to be? Do we want to be a country that has mobile broadband available across the entire Nation, including these rural areas, or do we only want to focus on some and let some areas fall behind?

If we want to have service nationwide, ubiquitous mobile broadband coverage, then we need to actually look at the problem and then size a solution to fit that and meet the needs. Small ISPs are going to be a critical part of serving that, but we need to take a step back and look at what the overall need is.

Mr. LAWSON. Ms. Fitzgerald.

Ms. FITZGERALD. I agree with the previous witnesses. I think that these broadband loan and grant programs are crucial. It is particularly true for small and rural companies because of the difficulties that they sometimes have in getting financing. And so these Federal programs really meet a need that doesn't get met anywhere else.

Mr. LAWSON. Okay. And anyone can respond to this. I don't have much time.

When the President recommended giving to the States \$50 billion of the \$200 billion for infrastructure, do you think that is going to all go to roads and bridges and so forth, which is it was really needed. How would that affect you? Anyone care to respond.

Mr. OWENS. If I may, I definitely want to answer this question.

Yeah, we have a concern with these dollars being block-granted to the States. Clearly there are some States who may have broadband operations or consortiums in the State that the governor could say, okay, these are going to be the folks who are actually going to decide where our money goes.

But we have a concern that, again, as I said in my testimony, rural infrastructure for broadband needs to be identified so that that doesn't happen, where those dollars don't go just for roads and bridges but they actually do go to build rural broadband infrastructure.

Mr. LAWSON. Anyone else? I have about 36 seconds.

Mr. DONOVAN. Sure.

So part of that is recognizing—we appreciate that the administration's proposal would allow governors to use up to 100 percent of those rural funds for broadband. Is that likely to be the case? Probably not. And encourage for Congress to step in there and make sure that there are funds particularly dedicated for use for broadband purpose.

Mr. LAWSON. I yield back, Madam Chair.

Chairwoman RADEWAGEN. I now would like to recognize Mr. Blum, Chairman of the Subcommittee on Agriculture, Energy, and Trade.

Chairman BLUM. Thank you, Chairwoman Radewagen.

I would also like to take this opportunity to recognize Chairman Chabot, who is Chairman of our full Small Business Committee. Thank you for being here today.

Mr. Carliner, in your testimony, you said in 2010 your company, Bloosurf, was awarded \$3.2 million by the U.S. Department of Agriculture to do a project. In the next paragraph in your testimony, it says, and this is kind of unbelievable, you built the network on time and returned \$1 million to the government.

Mr. CARLINER. Yes.

Chairman BLUM. What went wrong? You are to be commended for returning \$1 million. We don't often see that type of testimony.

Mr. CARLINER. Thank you, Mr. Chairman.

I will say that we were very fortunate in that we made a decision—and this is an example of how technology changes so rapidly—our original design was a mix of WiFi and WiMAX. But what happened is, as time went on, LTE came out as a new standard for wireless communication. We reengineered our network very quickly to adopt this new technology, and that helped lower the cost of our network. And, fortunately, with USDA's approval, they approved our redesign, and we ended up saving a million dollars to the government. We are very proud about that.

Chairman BLUM. Congratulations. You are to be commended.

I just have a quick technological question before I get into the other questions I want to ask you all.

Mesh networks. I have heard about mesh networks. Mr. Donovan, you are grinning. And I know a little bit about them to be dangerous. Is this part of the solution? Is this not going to be part of the solution as far as rural goes?

Mr. DONOVAN. So, Mr. Chairman, since we talked about this last year, I have gone back and made sure I did my homework before coming back before you, appreciating your focus on mesh networking.

To have the mesh you need to have cells close enough to each other. So in order to facilitate this, this really is a focus on streamlining deployment of small cells or smaller telecommunications equipment so that you can have overlapping areas. To do that, there currently are significant barriers to being able to deploy and that increase the cost, environmental review, et cetera.

I think last time we talked about how you could deploy a small cell on the side of your house if you were willing to go through an environmental assessment, historical review, pay the associated fees. And you made it very clear that you were not going to do that. And that is the case facing carriers who are working to densify networks today.

Chairman BLUM. Is it a technologically limited type of an issue? Is it an equipment limited issues? Or, in theory, does a mesh network make sense? In theory. In theory.

Mr. DONOVAN. In theory, I mean, the technology is evolving, and that is where we are going. You do still need to be able to bring that network back to backhaul access to fiber. And so that depends on permitting on how many hops away you can get from that until you truly have a mesh network.

Chairman BLUM. It is an intriguing idea. That is why I asked.

The hearing title today is “Rural Broadband and the Business Case for Small Carriers.” And we get it, the business case is not typically good. The income per square mile, when there is not a dense population, is low, and the cost to get the service there because of the square mileage we are talking about is high. Typically not a good model for small business.

So I only have like a minute and a half here, but I would like to get from each of you quickly. What is the number one thing that Congress can focus on to help make the business case for small providers in rural areas? What is the number one thing we should focus on?

Ms. FITZGERALD. I talked plenty about USF, so I will turn my attention to roaming.

Data roaming is incredibly important, and rural carriers are seeing their roaming revenues decline because the large carriers are simply unwilling to pay it. That leaves nationwide customers often without service in rural areas, and it also impacts the rural carriers’ ability to make a business case for serving your area.

Chairman BLUM. Thank you.

Mr. Donovan.

Mr. DONOVAN. So I think in rural areas we are seeing an evolving business case. At your hearing a couple weeks ago, I appreciated one of your witnesses compared farm ag tech to right now with the mobile networks, that it rides on driving a Ferrari down a gravel road.

That is not good enough. There are going to be new applications, particularly Internet of Things and narrow band Internet of Things in rural areas. Right now the role for Congress is how do we make sure that we can do the “if you build it” side of the “if you build it, they will come” equation.

Chairman BLUM. Mr. Carliner.

Mr. CARLINER. I would say, Mr. Chairman, the most important thing to be able to do would be to use Federal funds to provide direct grants for capital construction for the last mile. That is the most difficult nut to crack in rural broadband. And if we had assistance, direct grant assistance, to small rural ISPs to help do the construction element over the last mile, then you would make the operating plan sustainable.

Chairman BLUM. Thank you.

Mr. Owens.

Mr. OWENS. Mr. Chairman, I would say predictability and universal service, again, is important. Our companies need that predictability and stability. The high cost fund needs to be—the size of it needs to be increased as well.

Chairman BLUM. Thank you. And my time has expired.

I would now like to recognize the gentleman from Illinois, Mr. Schneider, for 5 minutes.

Mr. SCHNEIDER. Thank you, Mr. Chairman.

Again, thanks for your testimony today and your perspective and insights on this issue.

I want to pick up a little bit on the mesh networks for a second. Looking forward, I think, Mr. Donovan, you mentioned just in passing 5G. 5G is not available today, but it is on the horizon. What

will be the implications for 5G as we are looking at getting broadband into rural communities?

Mr. DONOVAN. Sure. So 5G is not just one thing, which is what is so exciting about it right now, that it is many things. And in rural areas, it is everything from precision agriculture to monitoring cattle on ranchlands to the ultra high speed distance learning and telehealth applications.

All of those are built on 4G networks. So as we are talking about policies to deploy 5G, it is not just a future issue. This is something that we really need to focus on today.

At CCA we have a saying of you have to keep up with your G's as you go from 2G, 3G, 4G. And if we can't keep up with our G's, then these rural areas will be left behind as we are in a global race for 5G dominance.

Mr. SCHNEIDER. Ms. Fitzgerald.

Ms. FITZGERALD. I also wanted to note it is important to remember that 5G applications use—small cell applications are very useful in certain applications. But I think the business case for 5G in rural America is still really evolving. You can't cover hundreds of thousands of square miles with small cells. It doesn't work like that.

So 4G LTE, those LTE technologies are still incredibly important in terms of building out the wide spaces that exist in rural America.

Mr. SCHNEIDER. Well, I think it will be important, as we move to 5G, that that bridging technology is protected, and that is a role I think the Federal Government will have a say in.

Anyone else want to add?

Mr. CARLINER. Yeah.

Mr. SCHNEIDER. Mr. Carliner.

Mr. CARLINER. One thing I want to mention is that we currently have the ability, we have a fixed wireless provider, we are not in the mobile space, and we have the ability to deliver 100 megabits per second to a customer if they so desire. Even with that capability in our rural area, we have not had one customer come to us and ask for 100 megabit per second service. The vast majority of our customers are looking for 10 to 25 megabits per second into their territory.

So I think it is terrific to push the envelope of technology and to keep the rural areas with their urban, suburban counterparts, but I would not want to see that come at the expense of providing much more affordable basic service to people who need it. Twenty-five megabytes per second is a great, is a robust high speed capability in most homes and businesses, and that, I think, is the first hurdle we all need to meet before we leap too much into new technology.

Mr. SCHNEIDER. Again, picking up on something that Mr. Donovan said, I want to get it right, the implication of rural communities falling behind.

What are the implications? Because with each G—and after 5G, there may be 6G, Apple skipped 9G on their telephone. But technology is constantly moving forward. As that moves forward without the investment, what happens to the communities, rural communities?

Mr. DONOVAN. So I will pick up on a theme, again, that your Subcommittee talked about a couple weeks ago in restoring rural America, that it is not only important for some of the ag tech and exciting innovations that are taking place on farmlands and ranchlands in rural areas, it also has to do with the quality of life where you have families and individuals that want to be able to participate in the modern economy but also want the quality of life of growing up where—or staying where they grew up and raising a family there. Being able to connect them means that it is not only about the farms and ranchlands, but it is about everything else that goes on in those communities.

Mr. CARLINER. I will give two anecdotal examples in the area we serve, which is we have been told that, by economic development officials on one of the counties we serve, a company wanted to build a warehouse facility and bring jobs to that particular county. When they found out they would not have the internet service they required, that was the deal breaker. They would not invest there.

The second example is we have heard actually from real estate agents in some of our territory that the biggest barrier to selling a home in these areas now is lack of high speed internet to the home. If there is no internet service to the home, the property values actually decline and it takes much longer to sell the home.

Mr. SCHNEIDER. Ms. Fitzgerald.

Ms. FITZGERALD. I also, in my testimony, mention this move from 2G and 3G voice service to 4G LTE. I mean, this is a change that could really decimate voice roaming in areas, which means that if that is not your home carrier, you may not have voice service, you couldn't make an emergency phone call. We want to make sure that the level of service is preserved as these technologies move forward.

Mr. SCHNEIDER. In the last couple of seconds, in the half minute I have, it also affects education, telehealth, things that are moving throughout the country will affect rural communities, if they are left behind it will make it harder for people to go back home, as you said. I think it is important that we maintain that.

Mr. Carliner.

Mr. CARLINER. I would say we have one school district in an area near where we serve where the kids at night, the parents drive them to the parking lot of the school at night to get the free WiFi because they don't have internet service at home, and they do their homework in the car in the parking lot.

Mr. SCHNEIDER. Well, thank you.

With that, my time has expired. I yield back.

Chairman BLUM. Thank you, Mr. Schneider.

I would also like to mention that Mr. Schneider is the Ranking Member on our Subcommittee on Agriculture, Energy, and Trade.

I would now like to recognize the gentleman from Utah, Mr. Curtis, for 5 minutes.

Mr. CURTIS. Thank you, Mr. Chairman. We know a little bit about rural in Utah.

And I would like to thank our witnesses for being here today.

Mr. Owens, you were kind enough to refer to my Rural Broadband Permitting Efficiency Act of 2018. And I would like to just go back to that for just a minute.

Is it your experience that Federal reviews and permitting requirements are a major challenge? And especially if you think about the West, where I have some counties that are 90 percent Federal land.

And would you mind just expressing your opinion on that? And will this bill help?

Mr. OWENS. Yeah. Thank you for the question.

We believe this bill will help expedite the processes. As you alluded to and as I indicated in my testimony, we had some of our members that took many, many more months and almost a couple of years before they could actually get a project approved. So we think this will be helpful going forward.

We do want to talk a little bit more about the State permitting authority, to understand that a little bit more. But we ultimately believe the bill is a good one.

Mr. CURTIS. Thank you.

I must admit, as I listened to the four of you, I formed a picture of David and Goliath in my mind. And you must feel at times as if you have little pebbles, right, that you are throwing at this big monster.

I guess one of the questions I have for you is, can we get there from here? And you have got some fundamental building blocks. You have got subscriber revenue. You have got the USF fund and roaming revenue. You have all brought up some flaws, especially with the latter two of those.

Are you comfortable that we have the model in place to help you be successful?

Mr. Donovan, you are ready to answer that question.

Mr. DONOVAN. Yeah. So I think if you set the right policies, then David has got a fighting chance here.

With respect to your bill and your work with Senator Hatch on this, thank you for those efforts. One of our members, Union Wireless in Wyoming and parts of Utah, when I visited them last summer, on their yard they had rows and rows of conduit that were waiting to go in. They were waiting to bring service to cell towers that will bring LTE service, but because of Federal permitting to deploy this fiber along a highway, the conduit was just sitting there in their yard.

So some of these policies to streamline deployment, if I can leave one point, it is not only talking about downtown urban areas, that it is critical to providing service in all these rural parts. And with regard to your bill, especially, that being able to deploy the fiber assets is a critical part of the wireless delivery that consumers enjoy today.

Mr. CURTIS. Good.

Ms. FITZGERALD. I will echo that. And Union Wireless is also a member of ours, so they are well represented here.

I think streamlining, permitting, all of those issues are tremendously important. And let's not forget the cost that goes into what—you know, they have the spectrum. They are paying for the

spectrum. They have all of these plans. And they are just waiting to put them in place.

And so the cost involved with the permitting process and the waiting is tremendous. And so to the extent that we can move that process along, and I think your bill is helpful in doing that, more the better.

Mr. CURTIS. Thank you.

Ms. Fitzgerald, you talked about letters of credit. I am pretty sure that anybody that put a requirement for a letter of credit in has never had to apply and get a letter of credit.

So I would just like to take this time to emphasize your point that that is hugely problematic. Oftentimes when we require a letter of credit it takes the same capital to hold that letter of credit that we are asking for. And so no doubt very problematic.

I would also like to highlight and emphasize a point that at least two of you made, maybe more, that we have a flawed map. And I don't know if any of you would like to revisit that again and talk about it.

I know, Mr. Donovan, you talked about we are stuck with this for 10 years. And if we have a model that is tough enough as it is for you, right, and then we introduce something that is a flawed map that makes it very, very difficult, if not impossible for some of you to be successful, where do we go with that?

Mr. Owens.

And then, Mr. Donovan, if you will follow up.

Mr. OWENS. Thank you.

We actually polled our membership after the map came out and asked them what were some of the difficulties or if the map was actually accurate. And we got from a good number of our folks saying the service areas were highly inaccurate, the map was inaccurate, the map didn't reflect the most recent broadband bandwidth increases that they had had or their fiber to the home locations.

We believe the map is important, and you need to have a map to show where service is. But, again, with the 477 data, that needs to be updated and have more accurate data there.

Mr. CURTIS. Mr. Donovan, I am out of time. But let me just end my comments with a big exclamation point behind your concerns, and let's make sure this hearing recognizes that that is a major problem.

Chairman BLUM. Thank you, Mr. Curtis.

I now recognize the gentleman from Kansas, Mr. Marshall, for 5 minutes.

Mr. MARSHALL. Okay. Thank you, Chairman.

Mr. Owens, you mentioned Rush County, Rush Center, Kansas. And I think sometimes we just don't paint a good picture. I think most of us understand why the people in Rush County, Kansas, need internet, high speed internet access.

Why does the rest of the world care? Why would the rest of the world care about Rush Center.

And two businesses come to mind there. One is the Mid-State Farmers Co-Op in Rush Center and one is the LaCrosse Livestock Market.

Why would the rest of the world even care? I think that they understand. I can paint this picture that I need a train to get those goods to California and then ship to Japan, who pays a premium for this good Kansas beef we have. And everybody wants our high protein wheat as well.

So why would the rest of the world even care that we have high speed internet in Kansas, in rural America?

Mr. OWENS. Dr. Marshall, thank you for the question.

Because it could mean—again, I think, as Mr. Donovan said, it is the quality of life. You don't have to move to a city in order to live out on a farm. You can sell your products and goods across the world, not just locally. And you can do it at a cost that is probably much cheaper than actually going and having to do this in an urban environment.

So those are some of the reasons why it is important to have high speed broadband connectivity in these rural areas.

Mr. MARSHALL. And, Mr. Donovan, I know you have got quite a presence as well, in my district as well. And I am trying to understand your map here. I was looking at the little map you were talking about.

Does it drive the cost down for consumers, the fact that La Crosse, Kansas, has high speed internet, I hope?

Mr. DONOVAN. So I think you are right in talking about how the world wants the products that are created in Kansas.

And a lot of these products are more efficient. We talked a little earlier about how you can have higher yields and use less resources if you have precision agriculture technology. There is a lot of focus now on self-driving vehicles. Well, rural America has had those for years. They are just made by John Deere, Case, and others.

Those don't work if you don't have the mobile network that actually provides them that, then, in turn leads to greater productivity, drives down the cost for these goods for consumers all around the world while also increasing profitability for your constituents.

Mr. MARSHALL. So describe, for the world that doesn't know what today's farmer looks like, how technologically dependent they are. You know, a farm that used to have—maybe it would take 20 or 30 people to run it. Now it has got one or two. What does today's farm look like?

Mr. DONOVAN. I mean, today's farmer is more of an agriculture engineer than what you think of, of a blue jean wearing out in the field.

Everything is connected. And if you don't have the network that powers those connections, everything from soil monitoring, that you can now have an application that ties together the seeds that you have in the ground with the weather forecast telling you how many pounds of products you need to put on what parts of your farm, because rain is coming, you are not going to be able to get there.

How do we make sure that that is available to today's farmer so that they can continue to compete in a global economy?

Mr. MARSHALL. Right. And I know my farmers are so ecologically minded today, and they always have been. They have been the greatest caretakers of Mother Nature, as we have water con-

servation issues going on in Kansas and we try to protect the environment by putting less fertilizers on.

Ms. Fitzgerald, do you want to talk a little bit? How does today's farmer use technology for water conservation and maybe decreasing the input? It is not just to drive the cost down, but also to help ecology.

Ms. FITZGERALD. Sure. We say that supporting rural America strengthens all America. And I think that is especially true when it come to the case for ag tech and things like that. I mean, certainly anything that the farmers out there can use to make them more efficient and certainly take steps to preserve the land, I think that they are more than happy to do so, but they need the connectivity to do it.

And I will remind the Committee that those connections don't occur right next to the road all the time. And so it is really important that those networks spread into pastures, into fields, and are able to connect with the machines that are available out there.

Mr. MARSHALL. Yeah. I have shared this story before, but my mother was raised on a farm where she was the last farm on a dead-end road that didn't have electricity until eighth grade. And I am just trying to imagine what that farm would be like from a production standpoint without electricity.

And this is the 21st century. Getting electricity to that last farm. And we are blessed to live in a country where we spend 8 percent of our domestic product on groceries, on food, where most world leaders are spending 18, 25 percent. And I can't help but think that this high speed internet is part of that solution to why we can do that.

Mr. Carliner, do you want to add anything to that? Give you a pulpit.

Mr. CARLINER. No question. In our service area, Dr. Marshall, the Delmarva area is a large poultry processing, poultry growing region. And we have heard from poultry processors and farmers who are desperate for high speed internet for remote sensing, monitoring chicken houses. Farmers are a group that demands the internet more than any other group, I think, in our area. We hear from farmers all the time for precision agriculture, monitoring, remote sensing. It is as important to them now, as you just mentioned, as electricity in the 1930s, and then phone service. Internet service is a critical utility to a farmer today as anything I can engage.

Mr. MARSHALL. Yeah. And for the record, it was the 1940s. I don't want to make my mom older than she is. She is going to turn 80. Let me see, what is today's date? I think it is tomorrow or the next day. Whenever March the 8th is.

Thank you, Chairman. I yield back.

Chairman BLUM. Thank you, Dr. Marshall.

The gentleman from Kentucky, Mr. Comer, is recognized for 5 minutes.

Mr. COMER. Thank you, Mr. Chairman.

My first question is for Mr. Donovan.

You describe in your testimony recent actions by policymakers to alleviate some of the administrative burdens to deployment of rural

broadband. Are there administrative burdens that policymakers have not yet addressed?

Mr. DONOVAN. Thank you for the question. And as a table setting, it is an important issue for all carriers. Recently a group of—the leaders from several of my members, 24 non-nationwide carriers, including Bluegrass Cellular in your district, weighed in on just how important this is.

It is spring training, so maybe I will take it that maybe we don't need to swing for the fences and hit a home run. We can score a lot of runs with singles. And so where the FCC can act this month to start streamlining that process, they should. Where there are other spaces for Congress to act, like some of the bills that we have discussed today, that is another great opportunity.

There are several pain points. And so we have prepared a flow-chart that is going to be way too small for you to see on all the steps to site infrastructure. I am happy to provide it for the Committee.

All of those are pain points that there are opportunities for relief from policymakers so that we can actually spend these dollars and time on getting broadband out into your communities instead of spending it on a team of lawyers in D.C. and trying to navigate through this maze.

Mr. COMER. Good answer.

Mr. Carliner, from your perspective as cofounder of a small internet service provider, can you walk us through your calculus as you determine whether the business case is strong enough to justify deploying broadband in rural, high cost areas?

Mr. CARLINER. Yes, sir.

When we look at an area where we are going to deploy internet service, two things are critical, or three things. The first is, what infrastructure already exists? Do we have access to a fiber network somewhere? Are there existing tower assets somewhere? And, finally, what is the population density?

And we match the capital cost of construction versus what we anticipate the revenue stream will be. We assume a very low penetration rate, a very low subscriber rate, so we have to make the case each site to be sustainable and profitable for each tower, each site.

And if we are able to do that, then we will go ahead and make that investment. But we make that calculation literally per tower per site.

Mr. COMER. At what point are the costs too high to justify investing in these rural areas?

Mr. CARLINER. I think it goes back to sort of the long-term of the return on investment and how long it takes to get that return on investment. If it is going to be many, many years to get that investment, we won't make that investment. We look for a return on investment that is in a reasonable timeframe that we can support, and that really is the issue. It is the time and the return on the investment.

Mr. COMER. Let me follow up. This will be my last question. What happens if you are unable to offset your expenditures?

Mr. CARLINER. If we can't offset our expenditures, then we will probably have to shut down that site. It simply costs us too much

money. It is a loss. So we would probably be in a position where we would eventually just turn off the site and not provide that service.

Mr. COMER. Have you ever had to do that in any area?

Mr. CARLINER. Thus far, fortunately, we have not. But there have been cases where we almost did, and it would have been a mistake. But we are very, very careful in how we do that.

We were careful in our business plan that we made the case to USDA and to others that our goal is not necessarily to cover 100 percent of a territory or a county, but to cover 80 percent of the population. And that is a critical difference. When you start with that basic, you make it affordable. If you try and cover an entire territory on a map, that last 20 percent blows your business case.

Mr. COMER. Thank you, Mr. Chairman. I yield back.

Chairman BLUM. Thank you, Mr. Comer.

Before I give my closing statement, I just have one further question. Dr. Marshall took one of my questions about the importance of rural broadband for ag, and that is a good question.

I would like to have whoever feels qualified to give an answer to how important is rural broadband, tell the rest of the country here in terms they can understand for healthcare. And where do you see telemedicine? Where do you see the healthcare market going?

Because in rural counties, and I have 17 of them, of my 20 counties, are rural, folks have to drive a long way to receive healthcare. Veterans have to drive a long way.

And just in layman's terms, how important is rural broadband to the healthcare market?

Ms. FITZGERALD. I think it is tremendously important. You see rural markets that have a difficult time attracting and retaining healthcare professionals. So to the extent that you can do video exams for minor cases, to the extent that you can utilize that technology to help folks that have a difficult time making sometimes very long trips, it is tremendously important, and it helps keep the costs down as well.

Chairman BLUM. Mr. Donovan.

Mr. DONOVAN. I would just add on to that that it matters in the day-to-day as well. An important aspect of telehealth is some of the monitoring programs. And one of our rural carriers that serves Sunflower County in the Mississippi Delta has already saved the State Medicare program hundreds of millions of dollars from a remote diabetes monitoring program. That has reduced the need to go visit hospitals, and it is transforming these patients' lives, so it is important.

Chairman BLUM. Where is that at, Mr. Donovan?

Mr. DONOVAN. In Sunflower County in the Mississippi Delta.

Chairman BLUM. Has saved how much?

Mr. DONOVAN. Has saved the State of Mississippi over \$100 million so far just on monitoring. So these are real dollars and real changes in patients' lives.

The comparison to electricity is an adequate one and one that the CEO of Qualcomm had made earlier this year, that 5G is going to be just as transformational as electricity or the automobile. That means that it affects every other industry that it touches, including

healthcare. So it is that important to make sure that these areas have access to these services.

Chairman BLUM. You are right, that is real money, even in Washington, D.C.

Mr. Carliner.

Mr. CARLINER. I would also say, Mr. Chairman, that it is also important, people don't realize in urban areas how important rural areas are in this field. For example, being in a rural area, it allows us to be a test-bed for new technologies and new approaches that you simply can't do in an urban area.

For example, in our lifetime, we are going to see drones become regular parts of our lifetime. Drones are going to need networks to connect to. And I think rural areas are going to be the test-beds for drones and for this new world in the IoT and Internet of Things, that rural areas provide great test-beds, telemedicine, tele-learning approaches and technologies and services that can be validated in a rural area that don't lend themselves to the urban area first.

So I would say to folks who are living in the cities why rural areas are so important is because a lot of the technologies and services that have just been talked about start in the rural area first and then are adopted in the urban area.

Chairman BLUM. Interesting.

Mr. Owens.

Mr. OWENS. I would agree exactly with that point. Our companies are definitely innovators. They bring a lot of these new technologies to life early on, and then they get expanded upon and made better when they come to the cities. So I would totally agree with that.

I would also add that it is important that we talk about fiber building in order for these services to work, especially for medical. When you talk about digital imaging and things of that nature, you need fiber in the ground in order for those pictures and those diagrams and x-rays and things of that nature to actually go as quickly as possible, because in many instances you may have life-or-death circumstances.

And I am sure you probably remember when AOL first came out, how long it took for you to actually download a picture. With fiber you are able to now do that instantaneously.

So I don't want us to lose sight that you need to have a fiber backhaul and fiber in the ground to make even medical imaging work properly.

Chairman BLUM. Thank you very much for those insightful answers.

I would like to recognize Dr. Marshall for as much time as he may need.

Mr. MARSHALL. Well, thank you so much, Chairman. My eyes lit up to talk about telemedicine and how important this is.

I represent 63 counties. I think I have been to every hospital. People often ask me, what are rural hospitals of tomorrow going to look like? And they are going to be centered around this emergency room.

If you think about a rural healthcare, you think about trauma and you think about strokes and heart attacks. Those are probably

the three main reasons that people come to a healthcare facility in a rural community.

Colby, Kansas, Citizens hospital, little Colby, Kansas, but they have an ER that is connected 24/7 to a trauma center. And we now have heart protocol and stroke protocols in place. So when a person presents, it is so important in that first 30-minute window to give them a blood thinner, a tPA drug, that can literally save their life.

From a healthcare cost efficiency, if you prevent that stroke, think how much stroke patients cost to rehab, and they spend maybe 60, 90 days in a hospital, and then months in a facility.

So having access to that and just having a nurse on the other line 24/7, there are big complications from tPAs. You don't want to give it to the wrong patient have them bleed out on you.

And then the second thing I am seeing that is incredible is in the veterans health. We have a minibus that goes from community to community, stopping at State fairs, focused on veterans health issues. And they are able to hook up with telemedicine back to the VA center where the psychologists or the psychiatrists are, the counselors.

We are losing 22 veterans a day to suicide. Those folks aren't going to drive 300 miles to the VA center from rural America. This is a minivan going out to them and asking how they are doing.

When it comes to telemedicine, what special needs are there for this minivan versus the ER versus, maybe, what, a farmer? Is it the same needs or is it different?

Ms. FITZGERALD. I think in many ways it is the same. I mean, any time you are doing sort of realtime video, you need a strong mobile network, particularly in the vans that you mentioned. You know, they may be parked in a parking lot somewhere. So you really do need strong download and upload speeds, strong network to convey that realtime back-and-forth data. I mean, that is the trick.

Mr. MARSHALL. Yeah. The realtime is the thing. I don't quite understand what that would take.

Mr. Donovan.

Mr. DONOVAN. I think the one biggest distinction between when you are at a fixed location like a hospital versus the van is by its very nature it is mobile. And so you need access not just to the strong fiber connections, but to strong enough mobile signals that you can actually still maintain that connectivity over the wireless network. You are not going to be able to drive very far if you have to haul the fiber behind you as you are driving around the State.

Mr. MARSHALL. We try to.

Mr. Carliner, do you have anything to add?

Mr. CARLINER. Yeah, I would agree. And, also, I think we are living in a world where wearable technology now, the wearable devices are going to put further and further pressure. And also great opportunities. As these devices become better and better, the need for that connectivity with hospitals is going to be even more important.

So I think the technology is going to drive the demand for these services even more than it is, than it is right now. And I think more critical, we serve an island in the middle of the Chesapeake

Bay. And before we were able to get internet service, they had no connectivity.

So now they have connectivity. It makes a big difference to be able to have a teleconference with a local hospital than have to get in a boat in the middle of winter and cross that bay.

There are thousands of other examples like that around the country. But the wearables technology I think is going drive this demand even more.

Mr. MARSHALL. Sounds great.

Mr. Owens, what is going on in my district with healthcare and telemedicine that you know about?

Mr. OWENS. Unfortunately, I can't comment too much on that. But I know Golden Belt Telephone is doing its best to make sure that the hospitals are connected with fiber connections and working with other carriers to make sure, as you heard Mr. Donovan say, ensuring mobility as well.

Mr. MARSHALL. They all do a great job. All the carriers, the rural carriers, just are very committed to doing the right thing. Love working with them. Think that their heart is in the right place. We just have to empower them to do their job.

Thank you.

Chairman BLUM. Thank you, Dr. Marshall.

Now I would like to recognize the Ranking Member, Mr. Lawson, for as time as he may take.

Mr. LAWSON. I won't take too much, Mr. Chairman.

Mr. Donovan, there are numerous recommendations for promoting broadband infrastructure deployment, as we discussed today. And then there are many who have proposals to create new Federal programs in various departments to make capital available for broadband infrastructure.

What are your views on these proposals? And are any better suited to address the needs of rural areas?

Mr. DONOVAN. Thank you for that question.

I think part of it goes back to making sure that agencies that have an understanding of how these carriers operate and where service is available is a fundamental part of it. That is, of course, premised on having accurate data available to those agencies.

So if any funding coming available, there is not enough Universal Service Fund support, just full stop. But for any of the programs, I think my colleagues on the panel would agree with that, anything to provide additional resources to those carriers is important.

We also, in that same vein, the Universal Service Fund is not an appropriated budget item, and we don't want it to become one. It is hard to build out with a certainty that you may have through a couple-week continuing resolution, that you need to have long-term certainty in order to deploy in these networks. Goes back to Congress, in creating the fund, Congress directed reasonably comparable services, and we have heard before today with sufficient and predictable support. So how can we make sure that that happens?

Mr. LAWSON. Okay. Anyone else care to comment on that?

Mr. OWENS. I would just add, obviously, any moneys that are appropriated should be targeted to make sure that we are able to,

again, make the most use of those dollars in building out the networks and using those dollars to work with the Universal Service Fund. As Mr. Donovan said, it is not appropriated dollars for USF, but any appropriated dollars that do come, I think it would help make it easier and better to build out additional broadband.

Mr. LAWSON. I grew up in a very rural community. And when I was a kid my brother and I were fascinated when the electricity finally came. And when the light came on in the area, we stayed up all night trying to see when it was going to go out because we had never seen it before.

In the rural area now with broadband, it kind of reminds me of people who don't have access, how extremely important it was for us to get electricity because they didn't bring it out there. It was the rural electricians who brought it out there.

Do you see a similar type situation with broadband in the rural areas similar to what I am speaking of?

Mr. DONOVAN. So we hear time and time again from customers served by rural wireless carriers how it is a breath of fresh air when you go from having unreliable mobile broadband coverage or constant dead spots to being able to seamlessly connect. So I think that experience is being enjoyed now. We need to make sure that more and more Americans are able to have that breath of fresh air.

Ms. FITZGERALD. I agree. It really is a matter of quality of life. It is your kids being able to do their homework. It is you being able to be driving on a road at night and calling 911 if you need to. It is about public safety. It is about all of those things. Starting a small business. It is really about the quality of life that we want our citizens to have throughout the country and also in rural areas.

Mr. CARLINER. And also, Mr. Lawson, we have found that even areas where there was no internet service, people were using their cell phones. And their cell phone bills every month were \$400, \$500 a month because they were blowing through their data limits because they had no other alternative.

When high speed internet arrives, that goes down to \$40 or \$50 a month as opposed to \$400 or \$500 a month. So there is real immediate impact even beyond the need for the service itself.

Mr. OWENS. Yeah. I would add that as wireline broadband providers are carriers, when they get a certificate area for service, they have to serve that whole area. So they just can't pick and choose where they are going to serve.

And we have carriers who are saying customers at the far extreme of their service territory are extremely happy when they get broadband. It may not be the full 25/3. It could be 4/1 or 10/1. But they are extremely excited once they get it, because they have not had it before.

Mr. LAWSON. I yield back, Mr. Chairman.

Chairman BLUM. Thank you, Mr. Lawson.

You may not have had electricity, but I will bet you had a basketball hoop.

Mr. LAWSON. Oh, yeah. Absolutely.

Chairman BLUM. I would like to thank our witnesses today for your excellent testimony. Make sure you stay in touch with the members of this community, because I think everyone would agree

it is the most important issue, especially for those of us who represent rural counties.

We have heard just how difficult it can be for small rural carriers and new entrants to maintain a viable and sustainable business. As with any small business, access to capital and adequate financing is the key to stability and success.

We are reminded that should these carriers become unable to sustain their business models, the outcome most likely would be disastrous. The end result is that our communities and our citizens located in these high cost rural areas pay the price.

The path to a comprehensive infrastructure plan should include solutions to improve rural broadband in fair competition for our small carriers. Our family farms, our rural entrepreneurs, small towns, and the next generation of innovators depend on it.

I ask unanimous consent that members have 5 legislative days to submit statements and supporting materials for the record. Without objection, so ordered.

We are adjourned.

[Whereupon, at 11:28 a.m., the Subcommittees were adjourned.]

A P P E N D I X



Statement by

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Washington, DC

Before the

United States House of Representatives
Committee on Small Business
Subcommittees on Health and Technology and Agriculture, Energy, and Trade
Disconnected: Rural Broadband and the Business Case for Small Carriers
Washington, DC

March 6, 2018

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INTRODUCTION AND BACKGROUND

Chairmen Radewagen and Blum, Ranking Members Lawson and Schneider, and Members of the Subcommittees, thank you for this opportunity to testify today to discuss rural broadband and the business case for small carriers. I am Erin Fitzgerald, Regulatory Counsel for the Rural Wireless Association, Inc. (RWA), which represents wireless carriers with fewer than 100,000 subscribers.

RWA's members consist of both independent wireless carriers and wireless carriers that are affiliated with rural telephone/broadband companies. Through their parent companies, many RWA carrier members have provided service in their respective rural communities for more than 50 years. Our members are passionate about ensuring that rural America is not left behind.

RWA members operate in areas where low population density, extreme weather conditions, and difficult terrain make doing so an expensive and challenging task. Insufficient spectrum access for small and rural broadband service providers, a dysfunctional data roaming market, and declining universal service support exacerbate those challenges. Nevertheless, networks operated by small, rural-based wireless service providers promote public safety, encourage innovation and economic development, enable more efficient energy and agriculture production, and support telehealth and distance learning applications.

RURAL-BASED CARRIER COVERAGE AND THE COST DIFFERENTIAL

With respect to many parts of rural America, the four nationwide providers¹ tend to focus coverage only on towns and major highways, and place sparsely populated areas at the very bottom of their network upgrade list. This "sparse coverage" strategy may be acceptable to subscribers who are merely passing through a rural area, but it is not adequate to meet the needs of consumers that live and work there. In contrast, rural-based providers tend to prioritize and value customer experience when it comes to network coverage by making every effort to provide robust coverage throughout all parts of their service area, even outside of towns and miles from public roads.

Rural-based providers also are very aware of the numerous economic reasons for bringing reliable mobile coverage to sparsely populated areas. For example, the use of Internet of Things (IoT) devices and machine-to-machine (M2M) communications is becoming more prevalent in agriculture and energy development applications. IoT devices and M2M communications include smart tractors, connected combines, remote-controlled Center Pivot Irrigation systems, livestock monitoring systems, and other precision agricultural devices, all of which allow producers to make significant gains in real-time productivity and cost management. Further, the oil and gas industries use wireless technology for remote monitoring and control (turning pumps on and off,

¹ *Policies Regarding Mobile Spectrum Holdings*, Report and Order, WT Docket No. 12-269, GN Docket No. 12-268, at ¶ 24 (rel. June 2, 2014) (stating the number of nationwide facilities-based wireless service providers has decreased by a third from six to four – Verizon Wireless, AT&T, Sprint and T-Mobile).

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evaluating tank levels), equipment diagnostics, surveillance, and workforce connectivity (scheduling load transfers). Wind farms use M2M for remote monitoring, equipment repair and service, and emergency shut-downs. M2M capabilities allow turbines to be redirected to best capture available wind energy. These technologies benefit all Americans (not just those living in rural markets), and depend upon reliable wireless connectivity. But IoT devices and M2M connections are often located in the sparsely populated areas that are far away from towns and major highways. Rural-based providers deploy network assets to these areas to ensure coverage is available where it is needed.

A rural-based provider's decision to provide robust coverage throughout its entire service areas, rather than only providing service along major transportation routes or in population centers, results in additional capital expenses in the form of more radio access network equipment, more towers, and more "greenfield" backhaul facilities in adverse climates and terrains. In turn, these higher capital expenses result in higher operational expenses in the form of increased annual maintenance, administrative support, and software and hardware upgrades. Small rural-based providers are not able to spread capex and opex costs across a large network inventory and customer base like nationwide providers. Indeed, rural carriers typically pay higher per-unit prices for access to the latest and greatest mobile device because they are seldom offered volume-based discounts from original equipment manufacturers and distributors. Conversely, nationwide providers are able to average the costs of their rural sites with their numerous and more return-on-investment-friendly urban and suburban sites. Rural-based providers simply do not have this option.

SPECTRUM ACCESS

Access to spectrum promotes competition and is critical to ensuring that rural wireless carriers have the opportunity to participate in the provision of spectrum-based services. Section 309(j) of the Communications Act² specifically requires the Federal Communications Commission (FCC) to ensure that spectrum is available to rural telephone companies and small businesses. The FCC can ensure a broad range of entities have an opportunity to acquire spectrum through auction design. Accordingly, when designing future spectrum auctions, the FCC should ensure that it uses geographic license sizes that are attractive to small and regional providers. It should also utilize bidding credits that will encourage auction participation by small rural providers.

Geographic License Sizes.

Spectrum licenses are often auctioned by geographic area. Geographic license sizes vary widely – from a nationwide license to licenses the size of a census tract. Determining geographic license size is a contentious issue in nearly every spectrum auction. Nationwide carriers prefer large

² In regards to the design of competitive bidding systems, § 47 U.S.C. 309(j)(3) provides that the FCC must "promot[e] economic opportunity and competition and ensur[e] that new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses [and] rural telephone companies."

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license areas because fewer licenses mean less administrative minutiae. Small carriers prefer small license areas because they can afford them and target the license area to their service area. If a geographic area is too big, small carriers can't afford to bid on them at auction (and even if they could, they couldn't afford to construct the network as required).

The use of small geographic license sizes is good for wireless competition, and RWA urges their use. Bidders that wish to serve large geographic areas simply must be the winner for all of those areas and then aggregate them. Small license areas can serve as building blocks for large license areas and encourage broad auction participation, whereas initially establishing large license areas limits the bidding pool to a few nationwide carriers.

Bidding Credits.

The 2015 AWS-3 Auction (Auction 97) yielded more than \$40 billion in net bids, but the results for rural carriers and their subscribers were far less positive. More than half of the eligible bidders (38 out of 70) were rural telephone companies, rural telephone company affiliates or subsidiaries, or groups comprised of these entities. However, of 31 winning bidders, only 11 were rural entities, and at the close of the auction rural bidders accounted for just 25 (or 1.55%) of the 1,611 total licenses won.

After Auction 97, RWA and other stakeholders successfully persuaded the FCC to adopt and use a 15% rural service provider bidding credit in the 2017 600 MHz Broadcast Incentive Auction in addition to bidding credits designed for small businesses. More than 50 rural carriers participated in the 600 MHz Broadcast Incentive Auction – either on their own or jointly with others in bidding entities. Eligible rural service provider bidders saved \$18 million, and were able to secure low-band spectrum – spectrum well-suited for rural networks due to favorable propagation characteristics. The rural service provider bidding credit enhanced auction competition and boosted wireless broadband deployment in rural areas.

Spectrum Secondary Market.

The secondary spectrum market is frequently touted as a rationale for why small license sizes are not necessary in spectrum auctions. But the fact that these mechanisms exist for entities that were unable to obtain spectrum at auction does not automatically make such access sufficient. Leasing and partitioning are neither predictable nor effective means to provide small and rural entities with spectrum access needed for targeted, local deployments. There are no guarantees that any licensee will be willing to partition its spectrum or that they would offer reasonable terms and conditions to do so.³

³ See generally, Federal Communications Commission, CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN (2010), noting, “While the FCC currently has rules that enable secondary markets, the record is mixed” and that some public comments provide “that unused or underutilized spectrum is not being made available to smaller providers, especially in rural areas where spectrum goes unused.”

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A report prepared in advance of the 600 MHz Incentive Auction, stated that “there are many examples of large operators acquiring spectrum from smaller players. . . [but] little recent history of the larger carriers leasing, disaggregating or partitioning large sections of spectrum where they already have service.”⁴ A more recent survey done by the Wireless Internet Service Providers Association shows that “large wireless carriers are generally unwilling to make licensed spectrum available on the secondary market.”⁵ Further, one need only review the FCC’s Universal Licensing System to see that partitioning and disaggregation of licenses is not robust and that the secondary market works for consolidating spectrum in the hands of a few rather than dispersing spectrum among many.

“Keep-What-You-Serve” Spectrum Licensing.

In order to prevent spectrum in rural areas from lying fallow, RWA supports a “keep-what-you-serve” approach to spectrum licensing. RWA supports a five-year post-renewal construction requirement where licensees must demonstrate coverage to 90% percent of their license area to be able to keep the entire licensed area. If a licensee is not providing service to 90% of its geographic license area after the post-renewal five-year period, any unserved area should be made available for re-licensing to providers that want to serve it. Such an obligation at the post-renewal five-year mark would encourage investment in wireless networks and facilitate access to spectrum resources where no investment is made, thereby promoting the rapid deployment of wireless services to rural Americans. After the renewal date, there should also be an expectation that the licensee will lose any unserved area not served at the end of the next license term.

This “keep-what-you-serve” approach allows licensees to continue to provide service in the geographical areas that are constructed and operational, while ensuring that rural spectrum does not lie fallow. Under this approach, if a licensee fails to meet its five-year post renewal construction deadline or its end of renewal term 100% coverage requirement, its authorization to operate will terminate automatically for those geographic areas where it is not providing service to 90% of the geography on the date of the post-renewal five-year deadline or to 100% at the end of the renewed license term, and those areas will become available for reassignment by the Commission. This approach provides an incentive for existing licensees to continue to invest in the buildout of their market after renewal of a license, and also provides a clear path toward better wireless broadband service in rural areas.

ROAMING CONCERNS

In the United States today, there are four nationwide or near-nationwide mobile wireless carriers, and dozens of small, rural and regional mobile wireless carriers. Small and regional mobile wireless providers depend on data roaming agreements with the nationwide carriers to ensure

⁴ Richard Marsden, Dr. Chantale LaCasse, and Jonathan Pike, *Local and Regional Licensing for the US 600 MHz Band* (January 2014), listing dozens of recent transactions in which large providers obtained spectrum from small providers.

⁵ *Promoting Investment in the 3550-3700 MHz Band*, Comments of the Wireless Internet Service Providers Association, GN Docket No. 17-258 (Dec. 28, 2017).

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nationwide coverage. The ability to offer nationwide coverage to subscribers is a competitive necessity for facilities-based, domestic mobile wireless providers. American consumers have come to expect nationwide coverage without added retail roaming rates, and small and regional providers simply cannot provide facilities-based nationwide coverage with spectrum holdings that are limited to local or regional markets. Nonetheless, the country's nationwide carriers are often hesitant to enter into bilateral voice and data roaming agreements at commercially reasonable rates, terms and conditions.

Furthermore, these same nationwide carriers often refrain from offering their own subscribers access to rural roaming coverage on small carriers, including RWA members, even when their own coverage is inferior or non-existent. In these situations, a nationwide provider will suspend its customers' outbound roaming privileges in rural markets despite the fact that the nationwide provider's coverage in those markets is not as extensive as the potential roaming partner's coverage. This means that a nationwide provider's own subscribers do not have access to available networks. While this business practice is legal under the FCC's roaming rules, the resulting deprivation of service is extremely harmful to hundreds of millions of American consumers who do not get access to rural carriers' networks – networks that those same consumers have supported through payments into the Universal Service Fund.

This practice harms wireless consumers and rural-based mobile wireless providers, but more importantly, it creates an environment where public safety is threatened as well. In the event of a natural disaster or debilitating failure (even if just temporary) to one carrier, without bilateral roaming in place, an untold number of mobile users, including front-line public safety users, will be unable to communicate. Bilateral roaming agreements benefit all consumers and ensure that urban consumers travelling into rural markets that are outside their nationwide carrier's footprint have access to mobile broadband coverage.

Additionally, the lack of bilateral roaming eliminates a source of non-federal revenue that small rural providers can then in turn use to offset network costs. If small, rural-based providers enter into truly bilateral roaming relationships with nationwide providers and the nationwide providers provide their customers with the ability to roam on rural-based providers' networks, rural-based providers' finances would greatly improve and that in turn would lessen their reliance on both state and federal universal service support. Indeed, rural-based providers would have the ability to invest more capital in network expansion and modernization, which would improve mobile broadband coverage in rural America.

Another huge problem lurking on the horizon for rural wireless consumers – and one that is all but unknown outside of those on the front lines of our industry – is the issue of VoLTE roaming. For the uninitiated, VoLTE, which stands for Voice over LTE, is simply the ability to make a voice telephone call over a 4G LTE network. What is the looming VoLTE problem? First, all of the country's mobile carriers, large and small, are now using 4G LTE networks. This in itself is good. However, all four of the country's nationwide or near-nationwide carriers are also actively shutting down, at varying paces, their circuit-switched 2G and 3G networks. The problem with this otherwise beneficial migration to an all-IP network architecture is that for decades, all voice telephone calls placed over cellular networks in a roaming context were treated, unambiguously,

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as circuit-switched telecommunications services. This means they are afforded greater regulatory protections than packet-switched commercial data roaming services. What will happen when all mobile wireless carriers in the U.S. are LTE-only and no longer use circuit-switched networks to complete voice telephone calls? Will this mean that rural consumers will be unable to place a simple voice telephone call because large carriers refuse to enter into VoLTE roaming agreements? There is anecdotal evidence to suggest that this is precisely what is happening now, and action must be taken before 2G and 3G networks are shut-down to make sure that all wireless consumers in America can make VoLTE voice calls when roaming.

BARRIERS TO HIGH-COST UNIVERSAL SERVICE

The FCC is preparing to hold two reverse auctions for universal service fund support in the next few years. Before a winning bidder can be authorized to receive support, it must obtain an irrevocable stand-by letter of credit (LOC) from an eligible bank that covers the first year of support for all of the winning bids in the state. Before a recipient can receive its support for the coming year, the recipient must modify, renew, or obtain a new LOC to ensure that it is valued at a minimum at the total amount of support that has already been disbursed plus the amount of support that is going to be provided in the next year. The costs related to obtaining and maintaining LOCs can be burdensome, particularly for small and rural carriers that lack resources to tie up capital in LOCs over many years.

RWA appreciates the Commission's effort to broaden the range of options Mobility Fund Phase II (MF-II) auction participants have in meeting its LOC requirements, by expanding the number of financial institutions that can furnish a LOC.⁶ Further, RWA welcomes the Commission's recent decision to permit a MF-II recipient to reduce the value of an LOC following verification of reaching certain performance milestones for the supported area(s).⁷

Despite these changes, however, RWA and its members remain concerned that obtaining the necessary LOCs will be a burdensome and costly process for small and rural carriers, will tie up funds for 3-7 years, and siphon funds away from wireless broadband deployment. As RWA has previously noted, some of its members are still carrying LOCs from Mobility Fund Phase I at a cost of \$500 a day in bank fees on top of keeping much needed capital tied up in the LOC. RWA members anticipate that meeting the LOC requirements will increase bid amounts by 4-5% - a percentage that will rise with interest rates. These are funds that could be put toward additional wireless broadband deployment.

RWA has proposed alternatives to traditional LOCs. First, RWA has worked with the National Association of Surety Bond Producers and the Surety & Fidelity Association of America to

⁶ *In the Matter of Connect America Fund; Universal Service Reform – Mobility Fund*, Report and Order and Further Notice of Proposed Rulemaking, WC Docket No. 10-90, WT Docket No. 10-208, FCC 17-11, at ¶¶ 174-180 (rel. Mar. 7, 2017).

⁷ *In the Matter of Connect America Fund; Universal Service Reform – Mobility Fund*, Second Order on Reconsideration, WC Docket No. 10-90, WT Docket No. 10-208, at ¶ 5 (rel. Feb. 27, 2018).

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explore the possibility of utilizing surety bonds as an alternative to LOCs and revise the nature and scope of the secured obligation to make the financial security more widely available to small businesses. Surety bonds offer additional prequalification screening benefits and, in many cases, could be less costly for small businesses.

Also, RWA is unaware of an instance in which the Commission has executed on a single LOC as a result of a recipient's default. The FCC receives no measurable benefit from carrier expenditures to comply with the LOC rules, because it has all the security it needs with respect to Commission licensees—the threat of revocation or non-renewal of a license should a universal service recipient commit any misconduct. RWA has suggested that the FCC eliminate its LOC requirement and make clear that program recipients that do not use funds as intended will be barred from future participation, subject to monetary forfeitures, and potentially the loss of one or more Commission licenses either through revocation or non-renewal.

ONEROUS REGULATORY FILINGS

RWA supports efforts to streamline and reduce the number of regulatory filings imposed on wireless carriers. The most concerning issue isn't necessarily the complexity of the forms, but the sheer volume of forms that must be submitted. RWA's members, and other similarly situated small and rural carriers, have limited personnel resources to dedicate to regulatory compliance. Small staffs manage substantial workloads, and regulatory compliance costs divert important resources that would otherwise be used to ensure the optimum performance of providers' networks.

Hearing Aid Compatibility Reporting Requirements.

All handset manufacturers and wireless service providers are currently required to file annual status reports with the FCC on their hearing aid compatibility (HAC) deployment and compliance efforts. The FCC has sought industry input on whether to amend the FCC's rules to exempt non-nationwide, wireless service providers from the annual reporting requirement. RWA supports this initiative and urges Congressional support as well.

RWA fully supports the availability of hearing aid compatible handsets to customers that need them. However, the FCC's annual wireless HAC reporting requirements have proven to be extremely problematic for small carriers. These requirements cause RWA members and other small carriers to spend substantial resources throughout the calendar year ascertaining the HAC status and ratings of various handsets, which requires the continuous review of multiple resources. Because of the need to report on HAC handset inventories on a month-by-month basis, the amount of work to aggregate the data is substantial. RWA supports the elimination of this reporting requirement for non-nationwide carriers, as well as the creation of a standardized FCC database of current handset HAC ratings.

FCC Form 477.

Accurate and reliable mobile broadband deployment data is critical to policymakers as well as to consumers. Obtaining meaningful data in the mobile context is challenging because a user's

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mobile service experience is affected by factors such as terrain, indoor/outdoor location, distance from a tower, weather, congestion, and the type of connected device. RWA has long expressed concerns about the accuracy of self-reported data collected semiannually on Form 477, and the lack of a common coverage standard governing Form 477 data collection.

Mobile service providers currently report and certify coverage data based on the minimum advertised speeds associated with a certain network technology in a frequency band, but do not utilize a common coverage reporting standard. Because mobile service providers select their own methodologies for determining the coverage and speeds provided, these methodologies tend to vary among providers. These varying methodologies make it difficult for the Commission to compare coverage areas and minimum reported speeds, as the underlying meanings of what the coverage and speed information depict may differ among mobile service providers. This lack of common coverage standards meant that data yielded by Form 477 filings proved to be unusable for the purposes of determining which areas should be eligible for MF-II support. *All* mobile wireless carriers with 4G LTE service were required to make an *additional* filing for this purpose. Mobile wireless service providers should not be required to file information that would create non-comparable coverage data, nor should they have to compile and submit several different data sets for the same type of service in the same service areas.

RWA supports switching to annual, instead of semi-annual, reporting for all Form 477 filers. RWA sees no down side to making this change, and believes that data does not change enough during a 12-month period to justify the costs associated with making a semi-annual filing. Preparing one annual filing (rather than two semi-annual filings) would ease the regulatory burden on small rural carriers, who would save personnel resources, as well as attorney and consultant fees.

CONCLUSION

On behalf of RWA, your interest in the challenges facing rural wireless carriers is greatly appreciated. Thank you for inviting me to be with you today. I look forward to your questions.

Disconnected: Rural Broadband and the Business Case for Small Carriers

Testimony of Tim Donovan
Senior Vice President, Legislative Affairs
Competitive Carriers Association

Before the

United States House of Representatives Committee on Small Business
Subcommittee on Health and Technology
And
Subcommittee on Agriculture, Energy, and Trade

March 6, 2018

Chairman Radewagen, Ranking Member Lawson, Chairman Blum, Ranking Member Schneider, and Members of the Subcommittees, thank you for the opportunity to testify about the challenges competitive carriers face as they work to preserve and expand mobile broadband service in rural and remote areas throughout the United States.

I am testifying on behalf of Competitive Carriers Association (“CCA”), the nation’s leading association of competitive wireless providers. CCA is made up of nearly 100 carrier members ranging from small, rural providers serving fewer than 5,000 customers to regional and national providers serving millions of customers. CCA also represents nearly 150 associate members – small businesses, vendors, and suppliers that serve carriers of all sizes. The vast majority of CCA’s members are small businesses or work closely with small businesses.

As this Committee knows well, small businesses play vital roles in the communities they serve. Small and rural carriers are critical to closing the digital divide through continued investment in their hometowns. The majority of CCA’s members live and work in the communities they serve, and therefore share in the potential success of ubiquitous mobile broadband service and the deployment of next-generation technologies. CCA members invest in their hometowns, not only through providing wireless service, but by employing their neighbors, sponsoring local events and hometown teams, and hosting community service events.

There is no question that access to mobile broadband is a fundamental part of participation in the 21st century, and a key economic driver for all. Earlier this year, the President’s newly created Interagency Task Force on Agriculture and Rural Prosperity presented a report focused on e-Connectivity for Rural America, finding that access to broadband “is not simply an amenity – it has become essential.”

This concept was further underscored in the Presidential Executive Order on Streamlining and Expediting Requests to Locate Broadband Facilities in Rural America, finding that “Americans need access to reliable, affordable broadband Internet service to succeed in today’s information-driven, global economy.” CCA is pleased to see that closing digital divide plaguing rural America is a top priority for Congress, the Federal Communications Commission (“FCC”), and the Administration, and now is the time to capitalize on that priority.

Consumer demand for mobile broadband data is undeniable and growing at an exponential rate. In 2016, Americans consumed 1.8 exabytes of data on their smartphones, tablets, and other devices connected to wireless networks. That is 1.8 billion gigabytes, or put another way, more than *7,000 times* the total of all information stored in the Library of Congress.

This data riding over mobile broadband services is being used in incredible ways, with limitless potential for innovations. For example, mobile broadband networks and next generation services are transforming healthcare through remote monitoring and new health treatments. These networks also power drones and autonomous vehicles, both of which will become commonplace in a 5G world. Access to mobile broadband offers distance learning capabilities and sparks educational opportunities to teach students from hundreds of miles away from traditional educational environments. And, as this Committee explored last month, mobile broadband networks enable precision agriculture technologies that reduce economic resources and increase productivity on our nation’s farmlands and ranchlands. The wireless “consumer” is no longer limited to individual people, and competitive carriers serving rural America have led the way to new and innovative mobile broadband uses.

CCA is proud of the work our members do to provide mobile broadband services in rural and remote areas. And while they have invested millions of dollars into their communities, the job is not yet done. We look forward to continued work with policymakers to achieve Congress’s mandate to deploy

reasonably comparable services in urban and rural areas alike. To close the digital divide, competitive carriers must have sufficient funding, streamlined deployment processes, and access to spectrum and equipment to provide service.

Congress Must Provide Sufficient and Predictable Funding for Mobile Broadband in High Cost Areas Based on Reliable Data

Congressional action to close the digital divide must include funding for areas where private capital alone does not support a business plan for mobile broadband deployment. This can be achieved through adequate appropriated funding and a reliable Universal Service Fund (“USF”) program. To start, the Bipartisan Budget Act, enacted in February 2018, included \$20 billion over the next two fiscal years for rural infrastructure. CCA urges Congress to make significant amounts of that funding available for mobile broadband. Further, the Administration has proposed allocating an additional \$50 billion for rural infrastructure in the President’s recent infrastructure proposal. While the proposal provides funds as block grants to governors and allows funding to be used for broadband projects, we strongly urge you to dedicate significant amounts specifically for mobile broadband as an economic multiplier throughout local communities.

Any funding provided through an infrastructure package does not replace the need for ongoing support through USF. Regardless of whether funding comes through USF or another program, policymakers must first make sure that funding decisions are based on reliable coverage data that reflects consumers’ experiences and demands.

Congress created the USF high-cost program to provide Americans in rural areas with “reasonably comparable” service as those in urban areas through support that is sufficient and predictable. In establishing the Mobility Fund Phase II (“MF II”), providing ongoing USF program to preserve and expand mobile broadband service, the FCC rightly recognized that reliable data was

needed to make accurate funding decisions for \$4.5 billion that the program would make available over 10 years. This decision reflected bipartisan outreach from Congress attesting to the unfortunate reality of insufficient and inaccessible wireless coverage throughout the United States. To solve this problem, the FCC directed a new, one-time data collection by carriers to produce a more reliable map, and established a challenge process to fine tune areas eligible for MF II support. This updated data should have reduced the areas where coverage is overstated and allow carriers to target those areas in dispute.

Last week, the FCC released its MF II initial eligible areas map, and it is unfortunately clear that the technological parameters selected by the FCC were not sufficient to produce a map that would reflect the presumptive coverage you experience as you travel throughout your districts. This presents a particular problem for small carriers, as it may be difficult or impossible for any challenge process to appropriately update the eligible areas to make sure places that need and deserve USF support through MF II are eligible for the MF II auction. CCA has long championed an efficient challenge process that strikes a reasonable balance of being robust and targeted without overly burdening small carriers. Unfortunately, the initial eligible areas map defies this objective, as carriers lack the time and resources to drive test vast geographic areas. Inevitably, the FCC's current approach risks stranding consumers in areas that remain ineligible for support.

The Commission applied unrealistic time and resource estimates to this undertaking and assumed carriers would incur no cost in acquiring, assembling, and providing the data, without reasonable justification. In reality, many competitive carriers, especially rural and regional providers have had to invest in new data systems, provide for processing and maintenance of these systems, and expend their personnel resources, all with a limited number of staff and resources to dedicate for compliance purposes. Many carriers rely on contract engineers or third-party vendors to prepare and submit such deeply technical information, adding costs and fees the FCC once again did not take into consideration. Yet carriers serving areas with overstated coverage depend on USF support to operate,

and will have to participate in the challenge Process to ensure an accurate coverage picture in their service territories. The sheer undertaking of participating in the FCC's challenge process will give many rural and regional carriers pause, will affect their ability to improve their networks, and in some cases, maintain current service areas. These unreasonable burdens placed on smaller carriers will negatively affect not only their business operations, but consumer's livelihoods as well.

Streamlined Infrastructure Siting Policies are Paramount to Advancing Ubiquitous Mobile Broadband Service

While consumers have come to rely on wireless connectivity, the network itself depends on physical infrastructure – towers, small cells, wires, and fiber, to connect. Competitive carriers must timely and efficiently deploy this infrastructure. Currently, however, providers must navigate a regulatory maze to gain approval to serve their communities, facing significant application review delays and burdensome, unforeseen fees while working through the federal, state, and local siting processes. This inertia increases uncertainty and costs as carriers seek to deploy service in already high cost areas. For example, under current siting policies, certain regulations apply to tall towers and macro deployments, in addition to boutique equipment like small cells and antennas that are used to densify and upgrade service to meeting increasing consumer demand. These policies affect all providers, large and small; just last week twenty-four non-nationwide CEOs and senior executives from CCA member companies joined together to urge the FCC to streamline infrastructure policies by providing regulatory certainty around siting processes, timelines, and fees to deploy and upgrade mobile broadband services. A copy of that letter has been attached to this testimony.

Adding another barrier to infrastructure deployment, fees and administrative burdens attached to historic and environmental review processes have escalated sharply in recent years, and these costs and permitting delays will continue to rise as CCA members deploy to meet consumers' increasing data

demands. Without Congressional and FCC intervention, deployment fees will become an increasingly exorbitant cost barrier to ubiquitous broadband deployment. For example, one CCA member operating in portions of Kansas, Colorado, and Nebraska paid over \$107,000 to 36 Tribes for the deployment of just seven towers, in a seven-month period. This is an average of over \$15,000 per tower, solely for Tribal review fees. One CCA associate member was assessed nearly \$3 million in Tribal fees to deploy just under 3,000 nodes across the United States in a one-year period, from 2017-2018. Expending these enormous funds is not sustainable, especially considering future networks will require denser deployment scenarios.

Fortunately, help is on the way. CCA applauds Congress's focus on the issue, and recent steps taken by the Administration and FCC to reduce regulatory burdens, increase certainty, and eliminate needless costs. Members of Congress, including members of this Committee, have introduced dozens of bills addressing these issues, several with bipartisan support. The President has issued Executive Orders and Presidential Memorandums directing the federal government to streamline and prioritize broadband deployment. And last month, the White House released its proposal regarding a "Legislative Outline for Rebuilding Infrastructure in America." CCA agrees with the Administration's report that small cells, in particular, are materially different than their predecessors, regarding both size, and visual or actual impact on historic or environmental property. Current law should therefore be amended to expedite small cell deployment and "eliminate unnecessary reviews" related to historic and environmental compliance. And to be clear, small cells are not only being deployed in downtown urban areas. In recent conversations with CCA members serving the most rural portions of our country, I have heard stories of using small cells to enhance coverage in county seats, schools and meeting centers, and even a popular boat ramp in a recreation area.

Later this month, the FCC plans to vote on an Order that will streamline infrastructure siting policies for mobile broadband. As proposed, this Order will exclude small wireless facilities from the

environmental and historic review procedures that were designed for large macrocell deployments, update the Section 106 Tribal consultation process, and adopt a shot clock for the FCC's own processing of Environmental Assessments. CCA urges Congress to support these efforts, and stands ready to help ensure these policies are enacted.

It is important to underscore that infrastructure reform need not pit wireless carriers against the municipalities and states they serve. Instead, streamlined processes will save resources for both carriers and government agencies by eliminating redundant and unnecessary reviews and spurring investment in local communities. Enhancing access to rights-of-way, reducing and eliminating fees, and streamlining siting processes will allow rural communities to connect exciting and innovative new technologies, including precision agriculture, telehealth, and the Internet of Things. Your constituents deserve nothing less.

A Myriad of Spectrum Resources is Necessary for Mobile Broadband

In addition to physical infrastructure, wireless carriers must have access to a variety of spectrum bands which provide the invisible infrastructure connecting users to towers and base stations. Spectrum is a finite resource, and only available for use through a license or lease granted by the FCC. As demand for mobile service explodes, all carriers must have access to low-, mid-, and high-spectrum to deploy next-generation mobile broadband and, eventually, 5G networks. With consumers' insatiable demand for data, competitive carriers in particular must deploy spectrum that is interoperable within bands to support an equipment ecosystem driven by the scaled economies of the largest carriers. Likewise, it is equally important that spectrum is auctioned in sufficiently small geographic license sizes that balance local access to spectrum and the laws of physics with regard to power levels and interference. CCA recommends the following to ensure Congress encourages access to spectrum for carriers to serve rural America:

Auction Deposits. Absent Congressional action to allow depositing auction upfront payments in the U.S. Treasury, FCC Chairman Pai has indicated that the FCC will be hamstrung from auctioning spectrum in the near-term. Auctions are particularly important for competitive carriers that may not have the size, resources, or access to purchase spectrum licenses on the secondary market. While other nations are moving forward with spectrum auctions, it is critical that the United States does not fall behind. Congress must authorize this change in the auction process and encourage the FCC to auction additional bands for mobile broadband use as soon as possible.

600 MHz. The first-of-its-kind 600 MHz incentive auction closed on March 30, 2017, with total bids nearing \$20 billion, with most of the winning bids coming from CCA members. This spectrum was voluntarily relinquished by broadcasters, following well-thought out Congressional direction. Now that the auction has closed, both the wireless and broadcast industries are in the midst of a Congressionally based 39-month “repack” process to clear broadcasters out of the 600 MHz band and allow winning bidders carriers to put this spectrum to use as safely and efficiently as possible. The propagation characteristics of the 600MHz band make this spectrum particularly important for serving rural America. For this reason, completing the transition within the timeline or sooner is critical for economic stimulation and job opportunities across rural areas. Any delay would be detrimental to competition, the public interest, and the economy.

mmW. As carriers seek to densify their networks, and as standards are developed for tomorrow’s 5G technologies, unique spectrum bands that have been newly allocated for mobile broadband use are in high demand. To ensure that competitive carriers are not left behind, policymakers must rapidly auction several high frequency millimeter-wave (“mmW”) bands, including the 24 GHz, 28 GHz, 37 GHz, 39 GHz, and 47 GHz bands. The nation’s two largest carriers have established a foothold in these several of these bands through secondary market transactions. Ensuring that these bands are available as soon as practical to all carriers through auction, therefore, will mitigate

risks that AT&T and Verizon exploit a first mover advantage, frustrate competition, and equipment availability in the industry. This action is essential to supporting a healthy, competitive mobile wireless ecosystem.

As demand for mobile broadband shows no signs of slowing down, policymakers must remain focused on promoting efficient use of finite spectrum resources and reallocating frequencies to ensure this finite resource is available for carriers of all sizes to access for mobile broadband use.

A Healthy Mobile Ecosystem Must Support Reasonable Access to Equipment

Consumers may best recognize the wireless industry by its latest handsets and devices, making access to equipment a critical component to offering modern mobile broadband service. While popular devices such as the iPhone may seem ubiquitously available to some, many small carriers serving rural America continue to struggle to get access the latest devices, and often are 12 to 24 months delayed as compared to the largest providers. This not only harms competition, it is an arbitrary denial of modern technology for certain consumers.

As equally frustrating for consumers as it is for competitive carriers, lack of access to devices and other equipment also can make it harder or nearly impossible to comply with regulatory mandates that are premised on the latest technology, including Next Generation 9-1-1 services and Wireless Emergency Alerts. Even where rural and regional carriers have access to devices or network equipment, they may face increased costs based on reduced economies and purchase order size. While smaller carriers have taken steps to help themselves through consortium efforts, including the CCA Device Hub, policymakers should ensure that Americans in rural areas are not blocked from participation in the mobile world because of inaccessible equipment.

Today's hearing on rural broadband and the business case for small carriers provides a timely examination into an issue critical to ensuring prosperity in rural America. CCA's members are key to connecting these communities. During this time of transition from legacy voice wireless networks to 5G and IoT applications, policymakers must guarantee that rural America is not left behind. With the right policies in place, including sufficient funding based on real-world experiences, streamlined deployment processes, and access to spectrum and equipment, CCA members will continue to connect communities for the next-generation of mobile broadband services. CCA looks forward to continued collaboration with Congress, the Administration, and the FCC to ensure legislation and policies support ubiquitous mobile broadband service for all consumers.

Thank you for your attention to these issues and for holding today's important hearing. I welcome any questions you may have.



February 27, 2018

BY ELECTRONIC FILING

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: **NOTICE OF EX PARTE**
WT Docket No. 17-79: Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment;
WT Docket No. 15-180: Revising the Historic Preservation Review Process for Wireless Facility Deployment;
WC Docket No. 17-84: Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment

Dear Ms. Dortch:

We are CEOs and senior-ranking officers representing wireless carriers serving customers in cities, small towns, and rural areas throughout the United States. Streamlined infrastructure reform is critical to serving consumers in low density, hard-to-reach areas, and we support the Federal Communications

Commission's ("FCC" or "Commission") work to address barriers to mobile broadband deployment. To bridge the digital divide in rural America, we urge immediate action by the Commission to spur investment and increase certainty as we work to preserve and expand service in the most challenging locales in the United States.

Non-nationwide carriers serving rural and regional consumers are actively engaged in the communities they serve. We connect critical services such as telehealth to patients for monitoring and cutting-edge cures, and enable students to access the same educational resources as their peers in urban centers. On farmlands and ranchlands, our networks often cover more cattle than people, and mobile broadband helps farmers leverage modern farm equipment in today's thriving agriculture community to conserve resources and increase yields. And in times of emergency or disaster, we are the critical link to public safety networks and services.

With the move towards next-generation technologies, the time is ripe to adopt streamlined infrastructure policies that promote investment, expedite processes, and remove red tape. Specifically, streamlined regulations should reflect advancement in technology, and regulations for tall towers should not apply to small cells and Distributed Antenna System ("DAS"). The FCC should take immediate steps to declare that small cells and DAS technology do not require duplicate and redundant review actions which slow or cease mobile infrastructure deployments. Likewise, the Commission should adopt targeted policy reforms that streamline historic and environmental application review processes, and encourage collaboration between Tribal entities and state and local governments, to reduce or eliminate burdensome deployment procedures for all stakeholders.

The Commission's commitment to reforming mobile broadband infrastructure deployment processes is shared by nationwide, rural, and regional carriers alike. We commend the work done thus far and remain eager for continued collaboration with the Commission, Congress, Tribes, and states to streamline and update infrastructure siting policies and help close the digital divide in rural America.

This letter is being filed electronically with your office pursuant to Section 1.1206 of the Commission's rules.

Respectfully submitted,



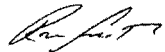
W. Allen Gillum
East Kentucky Network, LLC
d/b/a Appalachian Wireless



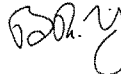
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Atlantic Tele-Network



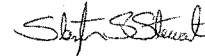
Brian Gelfand
Blue Wireless



Ron Smith
Bluegrass Cellular



Ben Moncrief
C Spire



Slayton Stewart
Carolina West



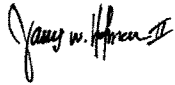
Steven K. Berry
CCA



Jonathan Foxman
MTPCS, LLC d/b/a Cellular One



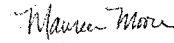
Brian Spurgeon
Chat Mobility



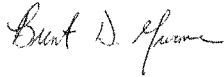
James W. Hofman, II
Docomo Pacific



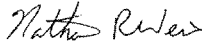
F. Bradley Erwin
FTC Communications



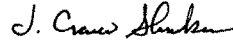
Maureen Moore
GCI



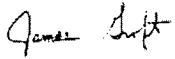
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HTC



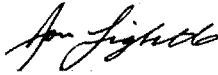
Nathan Weiss
Inland Cellular



Craven Shumaker
iWireless



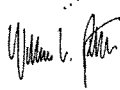
James Groft
James Valley
Telecommunications



Jon Lightle
Nex-Tech Wireless



Roger Bundridge
Northwest Missouri Cellular



Willy Pirtle
Shentel



Michael Beehn
SI Wireless



Edwin Eichler
Thumb Cellular



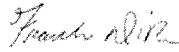
Craig Gates
Triangle Communications



Eric Woody
Union Wireless



Ken Meyers
U.S. Cellular



Frank DiRico
Viaero

cc (via email): Rachael Bender
Jay Schwarz
Claude Aiken
Louis Peraertz
Erin McGrath
Amy Bender
Will Adams
Travis Litman
Umair Javed

Testimony of Paul Carliner**Co-Founder of Bloosurf LLC before a Joint Hearing of the
House Small Business Committee Subcommittee on Health and
Technology
and the Subcommittee on Agriculture, Energy and Trade****March 6, 2018**

Chairman Chabot, Ranking Member Velazquez and members of the Committee, I am Paul Carliner, co-founder and CEO of Bloosurf. Thank you for the opportunity to appear before you today.

Bloosurf is rural high-speed internet service provider located in the Salisbury, Maryland. Our company was founded in 2009 with the goal of providing affordable and sustainable high-speed internet service on the lower Eastern Shore of Maryland. We provide service to homes, businesses, schools, hospitals and even to residents living on an island in Chesapeake Bay.

The digital divide between urban and rural America is growing and getting worse. As major urban and suburban areas continue to see robust capital investment in internet infrastructure, including the rollout of new 5G mobile service later this year, rural America is struggling with providing basic internet service.

In 2010, Bloosurf was awarded \$3.2 million by the U.S. Department of Agriculture's Rural Utility Service to build a new, state of the art fixed wireless LTE network covering approximately 100,000 households across three rural Maryland counties on the lower Eastern Shore.

We built our network on time and returned over \$1 million to the government. We designed, built and now operate a state of the art last mile network covering three counties for \$2.2 million. We have validated a new low-cost model for providing high speed internet service to rural areas. As a small rural internet service provider (ISP), I'd like to share with you our experience, lessons learned and recommendations for the future.

We are grateful to the Rural Utility Service's Telecommunications Program in particular Ken Kuchno and Rick Gordon who were instrumental in helping us and so many other companies build out the rural broadband infrastructure. Their leadership and hard work has brought internet service to thousands of rural homes and businesses for the first time.

The state of Maryland and the Maryland Broadband Cooperative, in particular Pat Mitchell and Drew Van Dopp, have been critical in helping our company provide internet service to the rural communities we serve. As a state chartered cooperative, Maryland Broadband provides a public fiber network that connects to

Bloosurf's wireless last mile network. It is a national model of local public-private partnerships that combine middle mile assets with last mile solutions to serve rural communities.

First, it is abundantly clear that the only way rural America will cross the digital divide is with sustained public investment by the local, state and federal governments. Without public investment, rural high-speed internet companies will be limited in their ability to grow and sustain service over the long term. If a rural community has a high percentage of unserved households, the need for public investment is even greater.

We applaud the Federal Communications Commission (FCC) and Chairman Pai for moving forward with the Connect America Fund II Reverse Auction to allocate up to \$2 billion for rural broadband expansion this year. This auction will be a critical step in furthering the build-out of rural broadband infrastructure for many rural communities across the country.

Without public investment, the business case for private investment in rural broadband is poor. The capital expenditures are high and the revenue stream is low. The median income of many rural areas is often well below their urban and suburban counterparts, further limiting revenue. This is why large national wireless companies and cable companies do not invest in the rural market. The market structure is unfavorable to debt financing and there is a limit to the amount of equity financing that a small business can accommodate. This is why public investment is so essential.

The most effective and efficient form of public investment would be in direct capital grants to assist small rural ISPs in building the last mile infrastructure. By covering the capital costs including design and construction it allows a small ISP to provide high speed internet service to a small subscriber and revenue base. This is one of the most effective incentives for promoting the expansion of rural high-speed internet.

Small rural internet service providers are key to building the rural broadband infrastructure. Rural ISPs know their communities, have existing relationships with local and state governments and can engineer local solutions that meet each community's unique needs in a way that large national corporations can't. When it comes to providing high speed internet service in rural communities, we know from experience that one size does not fit all. Every rural community is different. Some communities have hills and mountains, some are surrounded by water, some are completely flat and population densities vary widely. Engineering a solution that works for each community and that is affordable and sustainable for each community is what rural ISPs do best.

Each community needs a customized solution that uses the correct technology solution appropriate and sustainable for that community. In some communities, fiber to the premises may be a viable option, but in other areas, fixed wireless or satellite may be more appropriate or a combination of all three. The companies best suited to make these decisions are already working in these communities but need the support of all levels of government to help provide high speed internet service to this hard to reach market.

Second, any federal strategy to help expand rural high-speed internet service must focus on the last mile—that part of the network that actually brings internet service directly into the home and business.

Previous public investments focused heavily on the middle mile—the fiber or cable under the highway or county road. After a decade or more of public and private investment in the middle mile, the federal government should focus on how to monetize that investment by actually providing service into homes and businesses. Rural communities paid for this infrastructure through their tax dollars, now it's time they actually get service.

Federal funds should be used to encourage local and state governments to adopt comprehensive last mile strategies with local internet service providers that combine the middle mile and last mile into sustainable and affordable high-speed internet service for rural residents. Some states have already started on this path.

Delaware is one of the state leading this effort. Last year under the leadership of Gov. John Carney, the Delaware Department of Technology and Information initiated a pilot project to demonstrate the feasibility of fixed wireless technology as a cost effective last mile solution for rural areas. Bloosurf participated in this effort and the data being collected will help shape a larger statewide initiative to provide affordable and sustainable high-speed internet service to all rural residents and businesses in Delaware.

Several counties in Virginia have established broadband authorities to build last mile networks and the state of Maryland under Gov. Hogan's leadership established a rural broadband task force to explore options to expand high speed internet service to all rural parts of the state. The federal government should follow the lead of these states and focus on the last mile as the cornerstone of any new national rural broadband initiative.

Third, federal agencies must adopt policies and regulations that encourage and incentivize rural internet service providers to invest and grow in the rural marketplace. This begins with looking at ways to lower the barrier to entry in this market by making it easier for small rural ISP's to access critical federal funds.

Onerous financial requirements for accessing federal funds such as large lines of credit, arbitrary operating margins and debt to equity ratios are not the most important criteria in assessing an ISP's viability and do not offer guidance in judging future performance. Instead, these requirements, although well intentioned, simply discourage small ISP's from participating in the first place. The emphasis should be on past performance metrics and not exclusively on traditional financial metrics. Through monitoring and oversight, the federal government can protect the taxpayer interest instead of setting a financial bar so high that rural ISP's can't compete.

One option to ensure financial viability and protect taxpayer investment would be to simply require a performance or construction bond, rather than a complex set of financial requirements. This would ease the path to participate for the ISP, protect the taxpayer investment and reduce the workload on the federal government.

Access to affordable licensed spectrum for small rural ISPs is another critical element to providing affordable and sustainable broadband service in rural areas. Licensed spectrum has two important benefits to rural ISPs. For the consumer, it means greater speeds and faster service. For the ISP, it means lower operating costs and higher margins. Licensed spectrum lowers the cost for ISPs because it allows wireless service to travel much farther than unlicensed spectrum. Bloosurf uses licensed spectrum and we've seen the results. We have a business customer nineteen miles away from a tower that's getting 10 Mbps of service—more than enough to stream video and search the web.

Achieving that level of service can only be done with licensed spectrum. It only took the construction of one tower to reach that customer. If Bloosurf did not have licensed spectrum, we could not have reached the customer or we would have had to build additional towers which would have made it too expensive. The FCC must find a way to allocate licensed spectrum in rural areas to local ISPs that is affordable to those companies.

Bloosurf partnered with three public universities in our service area, Salisbury University, WorWic Community College and the University of Maryland Eastern Shore to sublease their licensed spectrum in exchange for providing high speed internet service to the university communities and sharing revenue generated from that service. We are grateful to all three universities for the leadership in their communities and for this partnership that has brought high speed internet service to rural communities in Maryland that previously had little or no access to affordable internet service.

Small rural ISPs are also laboratories of innovation for implementing new approaches and the latest technologies to provide high speed internet service. Our company uses commercial off the shelf components, open source software and partnerships with manufacturers and local and state governments to improve the quality of service while reducing costs. Technology, particularly wireless technology is changing rapidly. ISPs can adapt new technologies quickly and serve as incubators for innovation in this space.

Finally, there should also be a mechanism to share and exchange information between the federal government and rural ISPs when it comes to issues such as cybersecurity. A network is only as strong as its weakest link. Many ISPs do not have the expertise and resources to invest in the latest cybersecurity technology and are often forgotten when setting national policies or allocating federal resources. There should be a program, policy and mechanism to assist rural ISPs in meeting basic cybersecurity protocols and updating them as necessary.

Access to affordable high-speed internet service is critical for rural communities to retain and attract new jobs, improve the quality of education and provide basic services such as medical care. Rural ISPs are at the forefront of this effort and have been for some time. Unlike the large national cable and wireless network companies, we are local companies employing local residents

and hiring local companies. There is a multiplier effect with a rural ISP that you simply do not get with a large national company.

I hope that sharing our experience will assist you and this Committee in its important work in helping small businesses and improving the lives of rural residents by ensuring that they have access to affordable high-speed internet service. The digital divide between urban and rural America is growing. The solution is easy. We just need the will to move forward.

Thank you.

**Statement of Derrick B. Owens
Senior Vice President of Government & Industry Affairs
WTA – Advocates for Rural Broadband**

**Before the House Small Business Committee's
Subcommittee on Health and Technology
and Subcommittee on Agriculture, Energy and Trade**

Disconnected: Rural Broadband and the Business Case for Small Carriers

March 6, 2018

Chairwoman Radewagen, Chairman Blum, Ranking Member Lawson, Ranking Member Schneider, and Members of the Subcommittees, thank you for the opportunity to submit testimony on the important topic of improving broadband deployment in rural America.

I am the Senior Vice President of Government & Industry Affairs at WTA – Advocates for Rural Broadband. WTA represents more than 340 small telecommunications providers serving some of the most remote areas of the country, and they've been doing it for decades, bringing the latest telecommunications technology to the homes, businesses, farms, ranches, villages and Tribal areas beyond the reach of the providers who serve densely populated areas and urban population centers. Nearly all our member companies are defined as small businesses by the Small Business Administration, and most have fewer than 50 employees.

Universal Service Fund

Providing telecommunications services to the sparse populations, large expanses and rugged terrain of rural America is very costly, and it could not be done in the remote areas our member companies serve without the federal Universal Service Fund (USF). In June of last year, one of our member company representatives from southern Texas, Dave Osborn of VTX1 Companies, testified before the Subcommittee on Agriculture, Energy and Trade about broadband. He discussed the importance of USF in helping rural broadband providers build and maintain their networks and noted that USF support for small, independent companies has been capped at 2011 levels during a now seven-

year period during which access to high-speed broadband services has become more and more necessary for rural residents and businesses to participate in the 21st Century economy and society. A chart (Appendix 1) depicts how the portion of USF devoted to rural local exchange carriers (RLECs) has remained virtually flat since 2010. Many companies have seen their support drastically and unpredictably cut over the last year as a result of the Budget Control Mechanism (BCM) that was put in place to prevent USF High Cost support from exceeding the 2011 cap. For instance, in the last year alone one member company in Kansas has seen its USF support drop by \$420,000; a company in Illinois has seen a reduction of over \$800,000; another in Arkansas has experienced a \$309,000 loss; and another in Arizona has taken a \$350,000 hit. For small companies that have to obtain and repay 15-to-20 year loans in order to finance substantial broadband upgrades, these unpredictable year-to-year BCM support reductions are proving to disrupt and discourage investment as much as the discredited Quantile Regression Analysis.

Since 2011, with the help of advocates on this Committee and others in Congress, we have been making the case to the Federal Communications Commission (FCC) that these freezes, caps and cuts are the exact opposite of what we should be doing and will not increase broadband build-out in rural America. Thankfully, we have seen a change in direction recently.

FCC Chairman Ajit Pai has a proposal under consideration by his fellow Commissioners – one that we believe is a positive initial step in bringing some predictability and much needed relief for RLECs – that would reverse some of these cuts in support by providing additional support to carriers that were eligible to take model-based, or Alternative Connect America Model (ACAM), support but that are not receiving the full amounts that the ACAM model initially recommended. The proposal would also provide additional support to non-model carriers – the ones that are experiencing the largest cuts in support – to eliminate the effects of this year's BCM reductions. In an effort to mitigate the BCM's effect in the future years, Chairman Pai's proposal also contains a Notice of

Proposed Rulemaking asking whether the current USF budget is adequate to encourage and enable the investment necessary to meet future broadband needs.

WTA believes that the High Cost Program, which supports rural broadband networks within USF, needs to be sufficiently funded so that the principles of reasonably comparable services at reasonably comparable prices enshrined in the Telecommunications Act of 1996 can be fulfilled. WTA notes that the High Cost Program supports the underlying networks used by all rural residents and businesses, and that it can both improve access to, and render more effective and efficient, the facilities and services supported by the Schools and Libraries, Lifeline, and Rural Health Care programs. *At the very least*, an inflationary adjustment to the High Cost Program is warranted so that current problems regarding the sufficiency and predictability of support are not exacerbated as prices and costs increase. WTA has made this case to lawmakers on Capitol Hill and we will continue making this case to the FCC in the NPRM process.

Rural Broadband Infrastructure

It is encouraging to see policymakers devote an increased level of attention to rural broadband over the past several years. The President's recently released *Legislative Outline for Rebuilding Infrastructure in America* is a good first step, though we think more direction should be given when it comes to broadband infrastructure. As currently proposed, the President's plan provides \$50 billion to the states to direct to rural infrastructure. However, there is no requirement that any of that money be used to upgrade broadband networks or expand broadband access. We believe Congress should directly allocate a portion of that money specifically for rural broadband infrastructure purposes. Ideally, this would be administered at the federal level by one of two agencies that have the expertise and experience in this area – namely the FCC or the Rural Utilities Service (RUS) at the U.S. Department of Agriculture (USDA). These agencies have the resources, experience and processes in place to ensure these finite dollars would be spent effectively where needed and not used inefficiently for potential overbuilding situations.

In addition, we were encouraged to see \$20 billion for infrastructure included in the February 8, 2018, Budget Agreement that was approved by Congress. WTA has sent letters (Appendix 2) to the House and Senate Appropriations Committees asking them to ensure that rural broadband infrastructure is included in any funding in the next two fiscal years. It is important that rural broadband infrastructure be made a priority among competing infrastructure needs.

Infrastructure needs in Tribal areas also must be addressed. If we wish to ensure that all people living in rural areas have access to the latest technologies, then more must be done to connect those who are living on Tribal lands. Over the past several years, WTA has been supportive of a proposal by the National Tribal Telecommunications Association (NTTA) that would incorporate a percentage increase, a Tribal Broadband Factor, in a carrier's High Cost support for serving Tribal areas. We understand a version of this proposal is being considered at the FCC and may be included in the NPRM mentioned above. In talking with our Tribal member companies and those that serve Tribal areas, the additional support would be helpful in their efforts to bring broadband services to their communities.

Reforming Regulatory and Reporting Requirements and Data Collection

When it comes to government regulation, there is no argument that government needs to keep track of where and how federally administered USF support is being used. At the same time, it should be clear that there is a trade-off between regulation and investment and that the more that regulatory monitoring and reporting obligations and costs can be reduced, the more net USF dollars will be available for broadband deployment and service upgrades.

The debate is not about "regulation and reporting vs. no regulation and reporting" but about how much, how often, and what kind, etc. To this point, several member companies of ours have analyzed how much time and money are spent completing filings for the FCC, RUS and other entities. The estimates run around \$80,000 to

\$90,000 annually. Environmental and historical preservation reviews are also costly and add significant costs for small businesses. Some rules, regulations, and reviews are necessary, while others can be eliminated or reduced without any significant adverse impact to the public.

There are clearly instances where regulation is needed to protect consumers and small businesses from the unfair practices of large businesses with much more market power. For instance, in the telephone marketplace, there has long been an interconnection requirement. This does not exist in the broadband world, but could become necessary to keep rural broadband services affordable if large backbone providers make good on suggestions in recent years that they may require small providers to bring traffic to distant peering points or charge exorbitant prices to reach the Internet backbone.

The area of call completion is another example. For too long, many calls to rural areas have been purposely dropped to reduce the costs and increase the profits of certain toll service providers, which has had damaging effects on small businesses and poses serious public safety concerns. Fortunately, we believe this practice is about to change with the President recently signing into law S. 96, the Improving Rural Call Quality and Reliability Act. This law more closely regulates the transfer of telephone calls to ensure they are being completed in rural areas by requiring intermediate providers of voice service – those that take the call from the originating carrier and transfer it to the terminating carrier or end-user – to register and comply with FCC service quality standards.

A third situation where regulation can be helpful to balance market power inequalities is in retransmission consent fee negotiations between small, rural video providers and large broadcasters. For WTA members that offer video-related services, retransmission consent negotiations are negotiations in name only. In reality, they are “take it or leave it” demands that must be met if rural customers are to receive the basic commercial network broadcast stations. Retransmission consent fees have increased by a factor of 30 over the last decade, even though network primetime audiences have fallen by more

than half and even though over-the-air broadcast signals often fail to reach some rural households. Small, rural video providers can do nothing about these fee increases other than drop the broadcast station from their channel line-up, which, in the end, hurts the video consumer's access to local content. Some of WTA's members have given up on providing video service altogether. For example, four small providers in Missouri quit offering video between 2016 and 2017. Another WTA member serving a Tribal area in Arizona was forced to terminate their video service at the end of last year, which left many of its less privileged residents without any option to watch local news because over-the-air broadcast station signals fail to reach many homes in that service territory and because they could not afford the luxury of satellite TV service.

However, there are various ways in which regulation and reporting can be streamlined or made more efficient. For example, all regulated telecommunications providers are required to complete the FCC's Local Competition and Broadband Report, known as FCC Form 477, twice a year (March and September). The FCC uses this data to produce an annual report to Congress and to update its National Broadband Map. The FCC estimates that the average company will spend 387 hours per semi-annual filing (or 774 hours per year) meeting this requirement. This is a significant amount of time for a small business, especially for one with a small staff that has to perform many functions within the company. WTA believes the Form 477 should be reduced to a once-a-year filing requirement, thereby at least halving the substantial time commitment. An annual 477 report on behalf of the provider should be sufficient to ensure that the FCC and Congress have reliable data on local competition and broadband deployment. This is but one of many suggestions WTA made to the FCC last year to reform reporting and regulatory burdens.¹

¹ Comments of WTA - Advocates for Rural Broadband, CB Docket No. BO 16-251, filed on May 4, 2017, available at <http://w-t-a.org/wp-content/uploads/2017/05/Rules-Elimination-Filing-5.4.17.pdf>; See also Comments of WTA - Advocates for Rural Broadband, WC Docket No. 17-84, filed on June 15, 2017, available at <http://w-t-a.org/wp-content/uploads/2017/06/WTA-Broadband-Infrastructure-Comments-J6.15.17.pdf>.

In addition, various bills have been introduced in the House of Representatives that would help small telecommunications providers deal with federal regulations. Bipartisan legislation introduced by Reps. Latta (OH) and Schrader (IL), H.R. 3787, the Small Entity Regulatory Relief Opportunity (SERRO) is one such proposal. Among other things, SERRO directs the FCC to establish streamlined, cost-saving procedures for small companies to obtain relief through case-by-case waivers of specific regulatory obligations and defers the imposition of new regulatory burdens on small companies for one year after the regulations first apply to larger entities.

Another bill that would provide some relief is H.R. 3523, which has been introduced by Rep. Young (AK) – a version has already passed the Senate. The legislation requires the Government Accountability Office to analyze the filing requirements for all recipients of USF support and provide recommendations on how to consolidate redundant filing requirements.

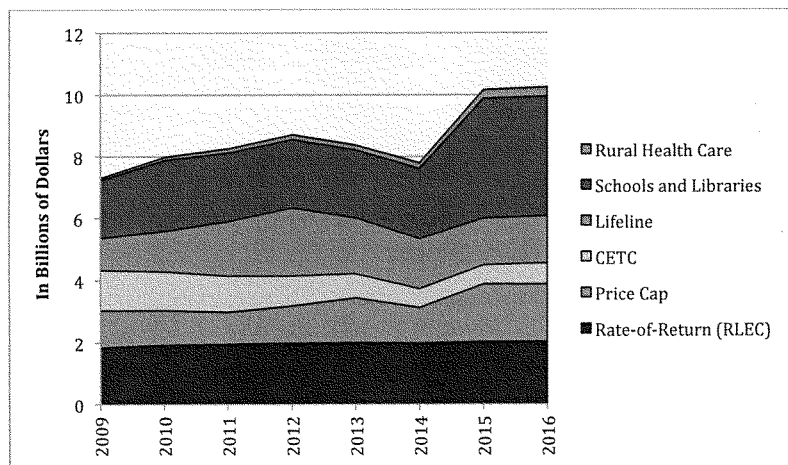
Small broadband providers also confront barriers to deployment in regards to permitting on federal lands and National Environmental Protection Act reviews for federally funded projects. As Mr. Osborn testified last year, his company received both a Broadband Initiatives Program (BIP) loan/grant combination from USDA and a Broadband Technology Opportunity Program (BTOP) grant from the Department of Commerce to construct fiber-optic infrastructure as part of the American Recovery and Reinvestment Act stimulus program. The intent of these programs was to be shovel ready, but his company had to wait nine months for environmental reviews to be completed in order to bore underground within 20 feet of the center line along a federal highway.

Another WTA member company in Idaho wanted to bury conduit along an existing road on Forest Service land. While the Forest Service regularly sprays the sides of the road to keep vegetation from encroaching on the road, the company had to pay for an environmental assessment to judge the potential for environmental harm. We have received estimates from our member companies that these types of reviews can add 18-24 months to the length and 10-20% to the cost of broadband projects.

We are pleased to see legislation, H.R. 4824, the Rural Broadband Permitting Efficiency Act, introduced earlier this year by a member of this Committee, Rep. Curtis (UT), that would expedite environmental reviews for broadband projects on existing, operational rights-of-way on federal lands. Various other Committees are considering permitting legislation, and WTA is glad to see this topic receive so much attention.

Conclusion

In conclusion, the members of WTA provide a lifeline to their communities. These small businesses are hard at work, under tough circumstances, bringing advanced communications services to areas where there are few people and little financial reward. They do this so their communities don't fall on the wrong side of the digital divide; they want them to be active participants in this digital era and global economy. Programs like USF help to make this possible and are invaluable in spurring the deployment of broadband networks in rural America. I have no doubt that with smarter rules and regulations, WTA members and other small rural telcos can put their limited resources to work in continuing to meet the needs of their customers.

USF Expenditures by Program 2009-2016

Source: Universal Service Administrative Company Annual Reports



March 2, 2018

The Honorable Thad Cochran
Chairman
Senate Committee on Appropriations
Washington, D.C. 20510

The Honorable Patrick Leahy
Vice Chairman
Senate Committee on Appropriations
Washington, D.C. 20510

The Honorable Rodney Frelinghuysen
Chairman
House Committee on Appropriations
Washington, D.C. 20515

The Honorable Nita Lowey
Ranking Minority Member
House Committee on Appropriations
Washington, D.C. 20515

Dear Chairman Cochran, Vice Chairman Leahy, Chairman Frelinghuysen, and Ranking Member Lowey:

As you are aware, Congress recently reached a two-year budget agreement deal that calls for the allocation of \$20 billion in spending for rural infrastructure. As you are also aware, the President released his Infrastructure Outline for Congress, which calls for \$200 billion in direct federal spending for infrastructure, of which \$50 billion would be for rural infrastructure projects specifically. Unfortunately, neither proposal actually specifies any of the dollars be designated/allocated solely for "rural broadband infrastructure." Therefore, I am writing on behalf of the members of WTA – Advocates for Rural Broadband to request that as you consider funding priorities for the next several fiscal years, that allocating dollars for this specific purpose will go a long way in helping to achieve the important goal of ensuring Americans who live in rural areas have access to affordable, robust broadband networks.

WTA represents more than 340 small, rural telecommunications carriers that are providing broadband and voice services to some of the most remote and hardest to reach parts of the country. The members of your Committees are well aware of the benefits that broadband has on communications, civics, education, health care, and commerce. However, vast swaths of the country risk being left behind in this area. Ensuring that *all* Americans benefit from modern communications technology was one of the goals of the Telecommunications Act of 1996, and your Committees can play a significant role in helping to meet this goal by ensuring any direct appropriated funds for infrastructure are specifically designated for "rural broadband infrastructure" projects.


Last February, WTA along with several other major trade associations representing many of the telecommunications providers serving rural America sent a letter to the Chairmen of the authorizing committees laying out principles for any broadband infrastructure spending. I have attached this letter and the principles for your review. Various worthy Congressional proposals

have been introduced to reduce bureaucratic inefficiencies and streamline permitting processes. Many of these bills, if enacted into law, would be helpful in ensuring small rural telco providers are able to more effectively, efficiently and quickly deploy broadband infrastructure in rural America. Most importantly however, direct federal funding is needed, which will help support the private sector resources already being deployed.

As your Committees consider both the FY2019 Budget Agreement and the President's Infrastructure proposals, I respectfully request that you consider including specifically designated and federally administered resources for broadband infrastructure. This concept has support of numerous Members of Congress in both parties who have communicated this through public letters and statements. WTA encourages your Committees to help ensure rural Americans have access to reasonably comparable communications services as those living in urban America.

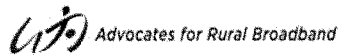
Thank you for considering our request.

Sincerely,

A handwritten signature in black ink, reading "Derrick B. Owens". The signature is fluid and cursive, with the first name "Derrick" being the most prominent part.

Derrick B. Owens
Senior Vice President of Government & Industry Affairs

Attachments (2)



February 27, 2017

The Honorable John Thune
Chairman, Senate Committee on Commerce,
Science, & Transportation
511 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Bill Nelson
Ranking Member, Senate Committee on
Commerce, Science, & Transportation
716 Hart Senate Office Building
Washington, DC 20510

The Honorable Greg Walden
Chairman, House Committee on Energy and
Commerce
2185 Rayburn House Office Building
Washington, DC 20515

The Honorable Frank Pallone, Jr.
Ranking Member, House Committee on
Energy and Commerce
237 Cannon House Office Building
Washington, DC 20515

Dear Chairman Thune, Ranking Member Nelson, Chairman Walden, Ranking Member Pallone:

Our associations are composed of well over a thousand companies and cooperatives that today offer robust broadband over networks spanning thousands of miles and reaching millions of rural consumers and businesses. Yet, extending these networks into parts of rural America still lacking access, delivering affordable services, and upgrading existing networks to allow rural consumers to benefit from the capabilities of broadband all remain formidable challenges. Just over a year ago, the FCC found that over 39 percent of Americans living in rural areas still lack access to advanced telecommunications capability. It was nearly seven years ago that the very first sentence of the FCC's National Broadband Plan declared that "[b]roadband is the great infrastructure challenge of the early 21st century." Indeed, that remains the case.

We are encouraged that one of the foremost priorities of the new Administration is to improve the infrastructure supporting the lives and livelihoods of all Americans. We are heartened by the recognition of how critical broadband infrastructure has been and will continue to be in improving Americans' collective well-being. Broadband has unleashed new capabilities in delivering health care, educating children, promoting public safety, and managing energy. It has enabled, and holds the promise of continuing to enable, the birth of entire new industries, in the process creating new jobs while also offering job seekers unprecedented access to employment opportunities presented in established industries. It facilitates the vast sharing of

February 27, 2017
Page 2

knowledge and has spawned a “sharing economy.” Its position as an engine of economic growth is manifest.

All of these benefits of broadband, however, are only available to those who have access. In light of the benefits of universal broadband access coupled with its currently remaining an unrealized national ambition, we urge you to ensure that broadband infrastructure is a key priority in any new, comprehensive federal infrastructure investment program. And in making it so, we recommend several foundational principles to ensure that such broadband investment maximizes consumer benefits, ensures efficiency, produces results quickly, and is subject to accountability.

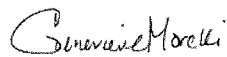
Any new broadband investment program must ensure sufficient resources to meet the challenges of delivering broadband to rural America. In order to truly realize universal broadband access by all Americans, in all regions of the nation, any funding should flow to areas currently lacking meaningful access to broadband services in order to establish and sustain such services. Adequate broadband services must meet reasonable and realistic service parameters – e.g., with respect to speed, latency, and price – and funding should flow to broadband investment that best meets national broadband goals regardless of the technology or technologies employed. To promote fiscal responsibility, funding should not be made available for duplicative networks that overbuild another provider’s existing broadband infrastructure.

In addition, leveraging existing federal expertise, gained through programs such as the Federal Communications Commission’s Connect America Fund, in promoting and sustaining broadband access will maximize speed-to-market and efficiency of distribution mechanisms, and minimize administrative burdens and costs. Strict yet reasonable accountability for broadband program investments is essential, and requirements should include build-out and performance targets. Federal and state tax regulatory, permitting, and other requirements should be coordinated and reconciled to maximize the benefits of the broadband investment program.

February 27, 2017
Page 3

We are at the beginning of an exciting new process to address our nation's critical infrastructure needs and to contribute to an improved way of life for all Americans. There is much work to be done in the coming months. We look forward to engaging with you on how to ensure that this work results in all Americans reaping the myriad benefits that new broadband infrastructure investment will foster.

Sincerely,



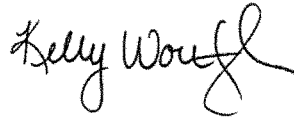
Genevieve Morelli
President
ITTA – The Voice of Mid-Sized
Communications Companies



Shirley Bloomfield
CEO
NTCA – The Rural Broadband Association



Jonathan Spalter
CEO and President
USTelecom – The Broadband Association



Kelly Worthington
Executive Vice President
WTA – Advocates for Rural Broadband



The voice of mid-size communications companies



USTELECOM
THE BROADBAND ASSOCIATION



Advocates for Rural Broadband



THE RURAL
BROADBAND
ASSOCIATION

The principles below are designed to ensure that any new federal infrastructure investment program supports broadband by maximizing consumer benefits, minimizing cost, producing results quickly, and including accountability.

Broadband a Priority – Any new federal investment program must prioritize broadband deployment.

Funding – Any new broadband investment program must ensure sufficient resources to meet the challenges of delivering broadband in rural America.

Targeted Support – Funding should flow to areas where it is needed to establish and sustain robust broadband services.

No Duplication – Funding should not be made available for duplicative networks to overbuild another provider's existing broadband infrastructure.

Service Standards – Broadband services must meet reasonable and realistic service parameters (e.g. speed, latency, price).

Balanced Approach – Funding should flow to whatever broadband investment best meets the program goals and requirements regardless of the technology or technologies employed.

"Speed-to-Market" – Leveraging existing federal expertise in promoting and sustaining broadband access will maximize speed-to-market and efficiency of distribution mechanisms.

Accountability – Strict accountability for broadband program funds is essential.

Governmental Support and Coordination – Federal and state tax, regulatory, permitting, and other requirements should be coordinated and reconciled to maximize the benefits of any broadband investment program.



March 3, 2018

Chairwoman Auma Amata Coleman Radewagen
House of Representatives
Small Business Committee
Subcommittee on Health and Technology
2361 Rayburn House Office Building
Washington, D.C. 20515

Ranking Member Al Lawson
House of Representatives
Small Business Committee
Subcommittee on Health and Technology
2069 Rayburn House Office Building
Washington, D.C. 20515

Chairman Rodney Blum
House of Representatives
Small Business Committee
Subcommittee on Agriculture, Energy, and Trade
2361 Rayburn House Office Building
Washington, D.C. 20515

Ranking Member Brad Schneider
House of Representatives
Small Business Committee
Subcommittee on Agriculture, Energy, and Trade
2069 Rayburn House Office Building
Washington, D.C. 20515

Dear Chair Members and Ranking Members,

Thank you for holding the joint Small Business Committee Subcommittee hearing titled, "Disconnected: Rural Broadband and the Business Case for Small Carriers." I am Shirley Bloomfield, CEO of NTCA—The Rural Broadband Association, which represents nearly 850 rural, community-based member companies that provide broadband and other telecom services in 46 states. In addition to the many important rural broadband issues that will be discussed at the hearing, I appreciate the opportunity to highlight another significant issue confronting certain small broadband providers.

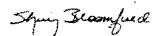
In 2012, the Jumpstart Our Business Startups (JOBS) Act amended the Exchange Act registration requirements with the Securities and Exchange Commission (SEC) for companies (other than certain kinds of banks) that have 500 or more shareholders and \$10 million or more in total assets. Specifically, the shareholder threshold for SEC registration was increased from 500 or more persons to either (1) 2,000 or more accredited persons, or (2) 500 or more persons who are non-accredited investors. The JOBS Act also provided a special exemption for certain banks, increasing their threshold for registration to 2,000 shareholders regardless of "accreditation."

While the JOBS Act provided ease of SEC reporting requirements for some, the registration thresholds still pose substantial challenges for small community-based businesses (including some NTCA members) in the form of more expensive audits and SEC reporting requirements, especially upon certain triggering events like mergers and acquisitions or gifting and splitting of shares among families and other members of rural communities.

Most shareholders in the case of rural small businesses are often community members and customers, rather than the kind of high income and high net worth shareholders that would be subject to a higher threshold for registration. In effect, this means that any small rural business with 500 or more community-based shareholders must register with the SEC. By comparison, the precedent set by the JOBS Act provided community-based banks a statutory exemption from the 500-plus investor registration threshold. There is therefore precedent for such a measure, and other small community-based businesses need and deserve similar relief.

Access to broadband has a huge impact on the economic development of the most remote areas rural America. Our industry's priority is broadband deployment and this requires the use of every resource available to a small business to get the job done. Therefore, on behalf of the members of NTCA, I ask Congress to level the playing field by supporting H.R. 5051, the Public Company Registration Threshold Act, sponsored by Representative Sean Duffy (R-WI-7) which amends Section 12(g)(1)(A) of the Exchange Act, to grant small community-based businesses, including small rural community-based communications providers, the same exemption as the 2,000-shareholder trigger that exists today for banks in Section 12(g)(1)(B). Thank you again for holding this hearing. I look forward to working with your Subcommittees on this and other important issues impacting rural broadband providers.

Sincerely,



Shirley Bloomfield

CEO, NTCA—The Rural Broadband Association