

Congress of the United States
U.S. House of Representatives
Committee on Small Business
2361 Rayburn House Office Building
Washington, DC 20515-6515

Memorandum

To: Members, Subcommittees on Health and Technology and Agriculture, Energy, and Trade
From: Committee Staff
Date: March 6, 2018
Re: Hearing: “Disconnected: Rural Broadband and the Business Case for Small Carriers”

On Tuesday, March 6, 2018 at 10:00 a.m., the Subcommittees on Health and Technology and Agriculture, Energy, and Trade will meet in Room 2360 of the Rayburn House Office Building to examine the disparities between large, nationwide carriers and small, rural carriers that contribute to the urban and rural digital divide. Rural communities depend on small internet service providers where nationwide providers may choose not to deploy broadband, or provide minimal service. Deploying broadband in these high-cost areas requires significant investment in capital, time, and resources. The burgeoning cost of the investment, coupled with challenges unique to small, rural carriers in obtaining offsetting costs creates barriers to competition and sustainability for small and rural carriers in the mobile wireless marketplace. While the difficulties facing small rural carriers are numerous, this hearing examines a portion of the challenges inherent in the current regulatory and operational scheme that limit the ability of small carriers to deploy broadband in rural America.

I. Broadband Deployment in Rural America

Modern communications technology provides endless opportunities to small businesses in rural America. Past hearings held by this Committee have made clear that investing in rural broadband has far-reaching effects, improving the quality of life for citizens by promoting economic development, producing jobs, and creating efficiencies in the agricultural, energy, and healthcare sectors.¹ Continued oversight of the Federal Communications Commission (FCC) and of the mobile wireless marketplace by Congress is essential to ensure that small firms and enterprises located in rural America have equal access to technology and interconnectivity as their larger and more urban areas. The importance of equal access is underscored by the crucial role small firms play in this landscape: while small telecommunications (telecom) companies serve just under 5% of the United States population, this population is spread across approximately 37% of the United States.² Small carriers are often the only entities available to provide fixed, full-service networks in these areas.

¹ *Improving Broadband Deployment: Solutions for Rural America: Hearing Before the Subcomm. on Agric., Energy and Trade of the H. Comm. on Small Bus.*, 115th Cong. 2-3 (2017) (statement of Michael R. Romano, Senior Vice President for Indus. Affairs & Bus. Dev., The Rural Broadband Ass’n).

² *Id.*

A. Nationwide Providers Have Little Incentive to Deploy Broadband to Rural Areas while Small Carriers Provide Robust Coverage Incurring High Costs

Internet access is readily accessible and commonplace in affluent urban and suburban centers, but in rural communities, the lack of access is glaring. The disparity in service may be attributable to persistent industry dynamics which discourage large internet service providers (ISPs) from offering improved internet services. In many urban and suburban centers, including major roadways, a large provider leverages the high density of potential customers in these areas, spreading the cost of high-speed internet across the base. In rural areas, the inverse is true – a low density of potential customers creates disincentives for large providers from making the effort to connect them to the internet.³ Simply put, nationwide carriers believe it is unprofitable to make the investment in such sparsely populated areas, often resulting in these areas at the bottom of their network upgrade list. This poses significant challenges for citizens living and working in these areas.

Small, rural-based providers take an alternative approach by ensuring robust network coverage.⁴ These providers often live and work in the same communities and understand the economic need for robust coverage beyond just towns and major roadways.⁵ However, this decision to deploy network assets broadly requires these providers to make significant investments. The physicality of deploying broadband across hundreds or thousands of miles across sparsely populated, diverse terrain requires these providers to incur higher capital and operational expenses in the form of more towers, network equipment, facilities, maintenance, hardware and software upgrades, and administrative support.⁶ Unlike their larger counterparts, small carriers are frequently unable to leverage economies of scale and spread the costs across a large network inventory and customer base. Indeed, small carriers often pay higher per-unit prices than nationwide carriers for the latest equipment and devices because they are often unable to obtain bulk discounts from manufacturers and distributors.⁷

II. The Business Case for Small Carriers Investing in Rural Broadband is Vanishing

Making the business case to invest in providing scalable, robust, sustainable broadband for rural America is no simple task. Few lending sources operate in this risky space and, even if capital is available, it is often impossible to justify the loans needed for investing in deployment and maintenance of broadband in rural areas. If a carrier does not have the funds available to make network upgrades, it will be a significant competitive disadvantage. While nationwide providers are able to spread the cost of their services by leveraging their wide subscriber base,

³ Brian Fung, *Why the Agriculture Department is Giving out tens of millions of dollars for Internet access*, WASH. POST (July 20, 2015), https://www.washingtonpost.com/news/the-switch/wp/2015/07/20/why-the-agriculture-department-is-giving-out-tens-of-millions-of-dollars-for-internet-access/?utm_term=.7f9c0866c2c8.

⁴ *In the Matter of Wireless Telecommunications Bureau Seeks Comment on the State of Mobile Wireless Competition*, Comments of the Rural Wireless Association, Inc., WT Docket No. 16-137, 6 (May 31, 2016).

⁵ The need for robust coverage extends beyond the economic need; advances in medical technology and connectivity during emergency events also necessitates robust coverage in rural America.

⁶ *Supra* note 4.

⁷ *Supra* note 4.

small providers must rely on several funding streams in order to stay operational, primarily: 1) subscriber revenue; 2) the Universal Service Fund (USF); and 3) roaming revenue. Small carriers service only a fraction of subscribers compared to large nationwide carriers⁸ and cannot depend on adequate subscriber revenue to make their business case. Hence, any decline in revenue from these other two funding sources can jeopardize their operations. Unfortunately, support from the USF and roaming revenue has been declining.

A. *The Universal Service Fund (USF)*

The federal government has a number of programs in place that provide economic incentives for the development of broadband in rural and underserved areas.⁹ One of the most important for deploying broadband in rural areas is the Universal Service Fund High-Cost Program.

The USF, generally, is the money collected¹⁰ from all telecommunications companies and then allocated to carriers with the mission of providing universal telecommunication service to American citizens, including small businesses, at an affordable rate. On November 18, 2011, the FCC announced a comprehensive reform of the USF and the intercarrier compensation (ICC) system¹¹ to “ensure that robust, affordable voice and broadband service, both fixed and mobile, are available to Americans throughout the nation.”¹²

⁸ Most Rural Wireless Association members, who are generally small, rural carriers, have a subscriber base between 5,000 to 100,000 subscribers. Diana Goovaerts, *CTIA Exclusive: Rural Carriers in Fight for Their Lives as Roaming Income, USF Support Dry Up*, WIRELESS WEEK, (Sept. 08, 2016), <https://www.wirelessweek.com/news/2016/09/ctia-exclusive-rural-carriers-fight-their-lives-roaming-income-usf-support-dry>.

⁹ For more information on these individual programs, the role of the FCC, and on the Universal Service Fund, please refer to previous Committee hearings and memorandums. *Supra* note 1; *Is the FCC Responding to the Needs of Small Business and Rural America? Hearing Before the Comm. on Small Bus.*, 114th Cong. (2014).

¹⁰ Currently, all telecommunications companies that provide service between states, including long distance companies, local telephone companies, wireless telephone companies, paging companies, and payphone providers, are required to contribute to the federal Universal Service Fund. The USF is administered through four programs: High Cost; Low Income; Rural Health Care; and Schools and Libraries.

¹¹ Intercarrier compensation is referred to as the monetary compensation that is transferred between carriers when one carrier finishes a call started by another carrier.

¹² The principal goals of the comprehensive reform are to: “1) preserve and advance universal availability of voice services; 2) ensure universal availability of modern networks capable of providing voice and broadband services to homes, businesses, and community anchor institutions; 3) ensure universal availability of modern networks capable of providing advanced mobile voice and broadband service; 4) ensure that rates for broadband services and rates for voice services are reasonably comparable in all regional of the nation; and 5) minimize the universal service contribution on consumers and businesses.” *In Re Connect America Fund: A National Broadband Plan for Our Future; Establishing Just and Reasonable Rates for Local Exchange Carriers; High Cost Universal Service Support*, WC Docket Nos. 10-90, 07-135, 05-337, 03-109; GN Docket No. 09-51; CC Docket Nos. 01-92, 96-45; WT Docket No. 10-208, Report and Order and Further Notice of Proposed Rulemaking (FCC 11-161), 26 FCC Rcd 17,612 (2011) [hereinafter “USF/ICC Transformation Order”].

1. *Program Budget Levels Are Insufficient and Unstable*

The High Cost Program allows carriers who serve high-cost areas to obtain funds to help offset the significant expenses incurred providing service.¹³ One of the most important provisions for communication carriers is the restructuring and transition of the High-Cost Program to the Connect America Fund (CAF).¹⁴ The USF/ICC Transformation Order (Order) adopted a framework to impose limits on reimbursable funds and costs for wireline carriers serving the highest cost rural areas.¹⁵ While the changes are designed to prevent unwise capital spending by rural carriers, the CAF limitations might prevent such carriers from deploying broadband services as their costs might exceed CAF contributions. In addition, numerous other changes of the Order (such as how compensation is calculated between carriers finishing other carriers calls) may impose additional roadblocks to broadband deployment in high-cost areas.¹⁶

Despite the significant economic advantages the CAF provides to small carriers, the budget cap on the CAF has languished since 2011, even as the demand for small carriers to deliver robust broadband networks increases. While the FCC may be taking steps to revise and shift levels of funding within the USF budget, it is critical to note that existing support cuts or potential reductions in support create untenable situations for small carriers who are becoming increasingly unable to support broadband deployment. Any loss would force providers to determine where to cut their own costs, which includes turning down highest-cost sites, reducing investments on future broadband infrastructure, and increasing rates for rural customers.¹⁷ – the antithesis of the original purpose of the USF.

2. *Letter of Credit Requirements Impede Competition for Small Carriers and New Entrants*

The FCC uses competitive bidding procedures to select USF support recipients that are capable of accomplishing the program goals in a cost-effective manner.¹⁸ Winning bidders are often required to furnish a letter of credit (LOC) before the carrier can be authorized to receive USF support and secure its performance. While it is reasonable and recommended that the FCC act to protect against defaults and misuse of USF funding, the requirement to obtain an LOC can be prohibitively expensive for small carriers and new entrants.¹⁹

¹³ This program is in addition to the various financial programs available to carriers throughout the Rural Utilities Service (RUS). The RUS administers two funding programs to expand broadband: the Rural Broadband Access Loan and Loan Guarantee program; and the Community Connect Broadband grants.

¹⁴ USF/ICC Transformation Order, *supra* note 12, 26 FCC Rcd at 17,673.

¹⁵ *Id.* at 17,674.

¹⁶ Inner cities, where adoption of broadband is low, can result in high costs for the carriers as the number of subscribers to cover the cost may be as limited as in a very rural area.

¹⁷ *Supra* note 4, at 11.

¹⁸ *Connect America Fund et al.*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, 17663, para. 1 (2011) (*USF/ICC Transformation Order*). OR FCC-Circ 1802-03 (fact sheet on mobility Fund dated Feb 1, 2018, p.6).

¹⁹ *In the Matter of Connect America Fund Universal Service Reform – Mobility Fund*, Petition for Reconsideration of Buffalo-Lake Erie Wireless Systems, WC Docket Nos. 10-90, 10-208, L.L.C, 2 (Apr. 27, 2017).

LOCs are substantial – the FCC may require winning bidders, including small carriers, to put up significant capital (sometimes up to 100 percent of the LOC amount) in order to obtain an LOC.²⁰ The FCC recognizes that the costs associated with maintaining an LOC poses greater financial burdens on smaller bidders, which makes bidding considerably less attractive for a small carrier or new entrant, undercutting overall competition for USF support.²¹ These small bidders and new entrants will also factor in these higher LOC-related costs into their bids, which inflates bidding prices, making the small carrier a less attractive candidate for USF support to the FCC.²² Additionally, fees associated with maintaining a LOC can range by several percentage points; when applied to the amount of support that may be awarded to bidders over time, the costs of the LOC can become extremely costly, particularly for small carriers.²³ While the FCC has taken some steps to modify the LOC requirement for some of its programs,²⁴ the FCC may want to consider additional forms of relief or alternative sources of financial risk management that may be particularly suited for smaller carriers and new entrants.

B. Lack of Fair, Bilateral Data Roaming Agreements Negatively Impacts Mobile Wireless Competition for Small Carriers and Service for All Subscribers

A small subscriber base and diminishing USF funds force rural carriers to lean on income from roaming agreements with nationwide carriers to offset the costs of deployment in high-cost, rural areas. However, small rural carriers have faced increasing difficulty in obtaining these partnerships. This difficulty is further exacerbated by the current expectation held by American consumers expecting seamless and speedy comprehensive network coverage without additional off-network roaming fees. If a small, rural carrier is unable to meet this expectation, this puts them at a severe competitive disadvantage which may force the carrier out of business.

Small and regional mobile wireless providers simply cannot provide nationwide coverage since they lack the infrastructure and spectrum holdings beyond their own local or regional markets. Thus, they must rely on data roaming agreements with the largest nationwide carriers to fulfill this expectation for their subscribers.²⁵ Recognizing this, the FCC required that carriers are legally obligated to offer roaming access to all technologically-compatible requesting carriers at commercially reasonable rates, terms, and conditions.²⁶

While most large carriers have entered into bilateral roaming agreements with smaller requesting carriers, the relationship appears far more one-sided than originally intended by the FCC. For instance, in bilateral roaming agreements, nationwide carriers may restrict their own subscribers' access to roaming on rural carriers networks where the nationwide carriers lack

²⁰ *Id.*

²¹ FCC-Circ. 1802-03 (fact sheet on mobility Fund dated Feb 1, 2018, p.6).

²² *Id.*

²³ *Id.*

²⁴ The FCC modified its LOC requirements for Mobility Fund-II attempting to provide some relief to small companies. *Id.* at 4-9.

²⁵ *Supra* note 4, at 8.

²⁶ *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services*, Second Report and Order, WT Docket No. 05-265 (Apr. 7, 2011).

coverage of their own.²⁷ Thus, despite a robust, readily available rural network available for access by nationwide carrier subscribers, these consumers may have very poor or no service at all.²⁸ These restrictive actions are often based on the carriers' assessment that they would rather terminate service to their subscribers in these off-network areas, rather than pay the rural carrier for access.²⁹ This action not only restricts network subscribers' access to rural networks, even when available, but also harms a small carriers' ability to recoup much-needed revenue from these bilateral roaming agreements.

Even when subscriber access is not actively prohibited by the large carrier in bilateral roaming agreements, certain inactions taken by the large carrier may render the agreement functionally useless. For instance, regardless of the commercial terms and conditions in place, large carriers may decline to engage in, or finish, testing of roaming functionality in their rural partner's networks.³⁰ This decision makes it impossible for nationwide subscribers to roam on the rural carriers network – essentially the same outcome as restricting access in its entirety. Again, this creates reductions in revenue for small carriers depending on it to offset expenses incurred by operating in a high-cost, rural location.

Small rural wireless carriers have also discovered that some large carriers are unwilling to enter into bilateral agreements at all, choosing instead to utilize unilateral agreements – thus, rural customers can roam on the nationwide providers networks, but reciprocal roaming is unavailable for nationwide carrier's subscribers on the rural carriers network.³¹ While this technically fulfills the FCC rule that roaming access be offered to requesting carriers, *all* subscribers pay into the USF, which is used to deploy broadband in high-cost areas like rural areas, regardless of carrier. Thus, the lack of access to available rural networks is concerning.

Examining the reverse side of the equation, small, rural carriers typically do not default to restricting customer access to outside networks. However, for a rural subscriber, plugging into the nationwide carriers network could incur exorbitantly high roaming charges.³² In some instances, small carriers are forced to deny roaming capabilities to their subscribers because the

²⁷ *Supra* note 4, at 9.

²⁸ An exception would be to dial 911 in these off-network areas; however, the public safety is still threatened in that mobile users caught in these rural areas without bilateral agreements will be unable to communicate with first-responders. *Supra* note 4, at 10.

²⁹ An example of this activity was reported in 2017 when “Verizon terminated service for customers in rural areas because they were using “a significant amount of data while roaming off the Verizon Wireless network.” According to the carrier, “the roaming costs generated by the affected lines exceed what these consumers pay us each month.” In June of 2017, Verizon “terminated service for a “small group” of customers who were using “a vast amount” of data in rural regions... these people appeared to be supported by Verizon’s LTE in Rural Areas (LRA) program, where the national carrier partners with smaller regional companies to provide service in areas where it doesn’t have towers...” Cherlynn Low, *Verizon cutoffs mark an uncertain future for rural customers*, ENGADGET (Sept. 08, 2016), <https://www.engadget.com/2017/09/18/verizon-disconnection-rural-internet/>.

³⁰ *In the Matter of Improving Resiliency, Reliability, and Continuity of Mobile Wireless Communications Networks*, Comments of the Rural Wireless Association, Inc., and NTCA – The Rural Broadband Association, PS Docket Nos. 13-239, 11-60, 4 (May 31, 2016).

³¹ *Id.* at 4-5.

³² *Supra* note 8.

rural carrier cannot afford to subsume the cost.³³ In either case, it is ultimately the subscribers who pay the price when fair, bilateral roaming agreements are not in place.

Furthermore, all of these actions taken to limit roaming agreements have potentially serious public safety implications. Subscribers who are unable to access partnering networks cannot communicate with family or first responders in the event of an emergency or sudden disaster.³⁴

III. Access to Spectrum Poses Challenges to Small Carriers

Usable spectrum is the range of electromagnetic spectrum that can be used to transmit data on mobile devices, such as smart phones and tablets.³⁵ The rapid growth in mobile wireless technology and capabilities has enhanced the need for more spectrum not currently utilized for communication. In an effort to meet increasing demand, policies were developed to repurpose unused spectrum, making it available for mobile broadband and wireless internet access.

The FCC is responsible for allocating and licensing spectrum for all non-federal users and uses. In 1993, the FCC was authorized by Congress to issue licenses for spectrum³⁶ through competitive bidding, including giving the FCC auction authority in 1997.³⁷ Despite FCC's efforts, demand increased far more quickly than supply. Actions were taken to increase available spectrum including authorizing incentives³⁸ for broadcast licenses to relinquish spectrum usage rights to be repurposed for wireless service.³⁹ All of these auctions still operate under the 1993 law which requires that designated entities including small businesses be afforded the opportunity to purchase spectrum. Spectrum is a finite resource, so providing opportunities for small businesses to obtain their fair share of spectrum is essential.

A. Licenses for Spectrum at Auction

Congress set multiple goals for spectrum auctions, as described by the Congressional Budget Office: "In designing auctions for spectrum licenses, the FCC is required by law to meet multiple goals and not focus simply on maximizing receipts. Those goals include ensuring efficient use of the spectrum, promoting economic opportunity and competition, avoiding excessive concentration of licenses, preventing the unjust enrichment of any party, and fostering the rapid deployment of new services, as well as recovering for the public a portion of the value

³³ *Supra* note 8.

³⁴ *Supra* note 30, at 5-8.

³⁵ Electromagnetic spectrum is commonly referred to as "radio frequency spectrum," "wireless spectrum," and also "spectrum." The total amount of spectrum is limited by the laws of physics. Further limitations are imposed by the federal government. As a result, spectrum is a finite resource. R. HORAK, TELECOMMUNICATIONS AND DATA COMMUNICATIONS HANDBOOK 553 (2007).

³⁶ Spectrum other than that utilized by broadcast radio and television.

³⁷ The Balanced Budget Act of 1997 (Pub. L. No. 105-33) gave the FCC auction authority until September 30, 2007. This authority was extended to September 30, 2011, by the Deficit Reduction Act of 2005 (Pub. L. No. 109-171) and to 2012 by the DTV Delay Act (Pub. L. No. 111-4).

³⁸ Incentive auctions are a voluntary, market-based means of repurposing spectrum by encouraging licensees to voluntarily relinquish spectrum usage rights in exchange for a share of the proceeds from an auction of new licenses to use the repurposed spectrum.

³⁹ Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, § 6402-03, 126 Stat. 156, 224-30.

of the spectrum.”⁴⁰ Attempting to meet these goals while managing a complicated and finite resource means these auctions are undeniably complex – any number of factors impact competitive access to spectrum auctions, one being the size of the licenses being auctioned.

Licenses are typically auctioned by geographic area. Simply stated, if the geographic area is too large, small carriers cannot afford to purchase them or build out the appropriate network and infrastructure to maintain the area.⁴¹ Increasing the size of the geographic area of the license may limit deployment to the largest incumbent carriers, as well as create barriers to competition for small carriers and new entrants which would further widen the rural and urban digital divide.⁴² This leaves the purchasing power in the hands of large, nationwide providers. Additionally, the larger the geographic licenses, the greater likelihood that significant rural territory will be grouped together with highly-desirable urban areas. This increases the likelihood that the large providers holding these licenses recover their investment through building out where the possibility of recoupment is greatest – in the highly-populated, urban areas. Thus, they may not be incentivized to build out in rural lands that have been captured within their license. Significant portions of spectrum in these rural areas may remain unused.⁴³ Conversely, smaller geographic area-based licenses are more affordable to small, rural carriers and provide a closer match to the location of their service areas and customer base.⁴⁴

Another tool the FCC uses to improve competition is establishing bidding credits for smaller companies. Designated entities that meet the established criteria for size and revenue are awarded a credit against the purchase price of an auctioned license, based on these criteria.⁴⁵ Accordingly, when designing future spectrum auctions, the FCC may consider modifying auction rules to provide licenses with smaller area coverage and utilizing bidding credits to successfully encourage competitive access to spectrum auction by small rural providers.

B. Licenses for Spectrum on the Secondary Market

While obtaining licenses for spectrum at auction is already difficult for small, rural carriers, obtaining unused spectrum from the license-holder can be even more challenging. In order to fully utilize spectrum in all areas efficiently and effectively, including in rural areas, a closer look at the secondary market for fallow spectrum is recommended. Entities are currently able to partition and disaggregate spectrum to carve out smaller geographic areas, however the

⁴⁰ U.S. Government, Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2001-2010* (Washington, D.C., 2000), Appendix B.

⁴¹ *In the Matter of Amendments to Establish Uniform License Renewal, Discontinuance of Operation, and Geographic Partitioning and Spectrum Disaggregation Rules and Policies for Certain Wireless Radio Services, Second Report and Order and Further Notice of Proposed Rulemaking*, Re: Comments of the Rural Wireless Association, Inc., WT Docket No. 10-112, 4 (Oct. 31, 2017).

⁴² *Id.*

⁴³ *Id.*

⁴⁴ LINDA K. MOORE, CONG. RESEARCH SERV., R44433, *FRAMING SPECTRUM POLICY: LEGISLATIVE INITIATIVES 13* (2016).

⁴⁵ Presently, small businesses with average gross revenue of no more than \$40 million in the preceding three years receive a credit of 15%. A very small business, with revenue of \$15 million or less over three years, receives a credit of 25%. Rules governing eligibility for designated entity status include restrictions on the use of spectrum assets acquired through a successful bid at auction. *Id.* at 15.

transactional costs for nationwide carriers to do so may outweigh spectrum value – hence, there is a lack of incentive to partition out unused spectrum.⁴⁶ Spectrum leasing and management, and a “use or offer”⁴⁷ regime, are options for utilizing unused spectrum, but these methods create an imbalance in power; the large carrier has the leverage with little incentive to deal, particularly if that carrier has already successfully met its build-out requirements by serving urban areas and major roadways.⁴⁸

Several solutions have been proposed to fairly make available unused spectrum. A “keep what you serve” approach would require providers to serve an area or give it back to the FCC to re-license the unused spectrum.⁴⁹ This encourages providers to continue to invest in areas they otherwise would not, or be required to relinquish control of that spectrum. This solution also furthers the Congressional directive that the FCC “prevent stockpiling or warehousing of spectrum by licensees or permittees.”⁵⁰ Another approach may be to adopt a post-renewal construction requirement that requires licensees to demonstrate coverage of a significant percentage of their licensed areas in order to keep the entire licensed area; any underserved area would be made available for re-licensing.⁵¹ Such policies may put spectrum in care of providers who are willing and capable of making the investment to deploy wireless services in underserved, rural areas.

IV. Broadband Coverage Map is Inaccurate

The data currently used by the FCC to develop its broadband coverage map is based on data submitted by carriers; according to the FCC, the Commission lacks confidence in its own data by acknowledging that the coverage area map it uses to make funding and policy determinations may be overstating the actual extent of mobile coverage.⁵² This poses significant problems in that areas that are identified as covered (i.e; rural areas) and therefore ineligible for USF support, but may not actually be covered.⁵³ Additionally, the coverage map assumes that advertised speeds are available throughout the entire geographic region at all times.⁵⁴ However, signal strength is inconsistent and weaker in certain areas, typically at the edge of the cellular site. Even if a consumer has a connection, that connection may not be strong enough to transfer data or maintain a phone call. Similarly, data speeds are inconsistent throughout the cellular sector; bandwidth is a limited resource and can slow down when reaching full capacity.⁵⁵ Establishing the factual accuracy of this coverage map is critical to ensure fiscal responsibility and

⁴⁶ *Supra* note 41.

⁴⁷ This is when a licensee is required to use the spectrum (i.e; build out in rural areas) or engage in good faith negotiations with a third party that is interested in the unused spectrum. *Supra* note 41, at 7.

⁴⁸ *Supra* note 41, at 4-5.

⁴⁹ *Supra* note 41, at 5.

⁵⁰ 47 U.S.C. § 309(j)(4)(B)-(C)

⁵¹ *Supra* note 41, at 2-3.

⁵² *Improving Broadband Deployment: Solutions for Rural America: Hearing Before the Subcomm. on Agric., Energy and Trade of the H. Comm. on Small Bus.*, 115th Cong. 5 (2017) (statement of Tim Donovan, Senior Vice President for Legislative Affairs., Competitive Carriers Ass’n).

⁵³ *Supra* note 4, at 2-4.

⁵⁴ *Supra* note 4, at 3.

⁵⁵ *Supra* note 4, at 3.

deployment of broadband to uncovered, often rural, areas. To this end, Members of Congress have introduced a number of bills aimed towards addressing this issue.⁵⁶

To mitigate the overstatement of coverage areas, the FCC proposed a challenge process which would enable carriers to contest the coverage of a listed area.⁵⁷ In order to prove an area is not covered, the carrier must essentially prove a negative – that an area does not provide the claimed coverage. Small carriers, rather than large carriers, are incentivized to engage in these challenges since these are the areas in which they operate and thus they bear a disproportionate burden of initiating these challenges.⁵⁸ Given the substantial number of challenges that may be generated due to the unreliability of the FCC’s coverage map, these burdensome challenges may deplete valuable resources of the FCC and small carriers alike.⁵⁹ Furthermore, the burden of engaging in these challenges may be too great for a small carrier, who may choose to give in and forfeit the contested area.⁶⁰ Thus, small carriers are unable to access the funds reserved through the USF and the uncovered areas that remain uncontested continue to remain in a digital desert.

V. Conclusion

Small carriers face significant hurdles in deploying broadband to high-cost, rural areas. Chiefly among these hurdles is access to financing, in order to offset the high costs incurred. While the FCC and Congress have taken some steps to address the issues outlined in this memorandum, further discussion is necessary in order to ensure that broadband is deployed efficiently and effectively across all areas of the United States, particularly in these rural, high-cost areas.

⁵⁶ Examination of these bills is beyond the scope of this memorandum. H.R. 1546, the Rural Wireless Act of 2017 (Loeback, D-IA); H.R. 2903 the Rural Reasonable and Comparable Wireless Act of 2017 (McKinley, R-WV, and Welch, D-VT).

⁵⁷ *In the Matter of Connect America Fund Universal Service Reform – Mobility Fund*, Petition for Reconsideration and/or Clarification of The Blooston Rural Carriers, WS Docket Nos. 10-90, 10-208, 15-16 (Apr. 27, 2017).

⁵⁸ *Id.*

⁵⁹ *Id.* at 16.

⁶⁰ *Id.* at 16.