

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)
)
Promoting Investment in the 3550-3700 MHz) GN Docket No. 17-258
Band)
)
)

**COMMENTS OF FRONTIER COMMUNICATIONS
CORPORATION, WINDSTREAM SERVICES, LLC, AND
CONSOLIDATED COMMUNICATIONS, INC.**

Malena F. Barzilai
WINDSTREAM SERVICES, LLC
1101 17th Street, NW, Suite 802
Washington, DC 20036
(202) 223-7664

AJ Burton
Michael Saperstein
FRONTIER COMMUNICATIONS
1800 M Street, NW, Suite 850S
Washington, DC 20036
(202) 223-6807

Michael T. Skrivan
CONSOLIDATED COMMUNICATIONS, INC.
1 Davis Farm Road
Portland, ME 04103
207-535-4150

December 28, 2017

TABLE OF CONTENTS

I.	INTRODUCTION AND SUMMARY	1
II.	FRONTIER, WINDSTREAM, AND CONSOLIDATED HAVE EXPANDED RURAL BROADBAND TO MILLIONS OF RURAL AMERICANS AND ARE COMMITTED TO BUILDING ON THAT TRACK RECORD.	3
III.	3.5 GHZ BAND RULES ENABLING FIXED WIRELESS DEPLOYMENTS COULD GREATLY EXPAND BROADBAND AVAILABILITY AND SPEEDS IN RURAL AMERICA.	4
IV.	PRESERVING SMALLER CENSUS TRACT LICENSE SIZES IN RURAL AMERICA WILL PROMOTE BROADBAND DEPLOYMENT.	5
A.	While Larger License Sizes May Be Appropriate for Urban Areas, the Current License Size – Census Tracts – Will Best Promote Broadband Deployment in Rural America.	6
B.	The Current Secondary Market Does Not Mitigate Concerns with Larger License Sizes.	8
C.	County-Sized Licenses Would Be a Step in the Right Direction But Still Are Not Sufficiently Granular and Could Unfairly Benefit Cable Providers.	9
D.	Preserving the Opportunity for Rural Fixed Wireless Deployments in the 3.5 GHz Band Is Consistent with the Commission’s and Congress’s Priorities in Closing the Digital Divide.	10
V.	CONCLUSION.....	13

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)
Promoting Investment in the 3550-3700 MHz) GN Docket No. 17-258
Band)
)
)

**COMMENTS OF FRONTIER COMMUNICATIONS
CORPORATION, WINDSTREAM SERVICES, LLC, AND
CONSOLIDATED COMMUNICATIONS, INC.**

I. INTRODUCTION AND SUMMARY.

Frontier Communications Corporation (“Frontier”), Windstream Services, LLC (“Windstream”), and Consolidated Communications, Inc. (“Consolidated”) hereby submit comments to the *Notice of Proposed Rulemaking* regarding the 3550-3700 MHz band (“3.5 GHz Band”).¹ Collectively, these three carriers have successfully expanded broadband to millions of rural Americans and are eager to continue bringing faster broadband to millions more. Our companies believe that the 3.5 GHz Band could provide another key tool in the toolbox to reach the hardest to serve rural Americans if carriers are able to access the spectrum for rural fixed wireless deployments. In particular, by preserving smaller census tract license sizes in rural areas, the FCC can offer the opportunity for rural fixed wireless in the band and promote rural broadband deployment.

Although our companies did not participate in earlier iterations of the 3.5 GHz Band proceeding, we believe we provide a unique and valuable perspective on the benefits of

¹ *Promoting Investment in the 3550-3700 MHz Band*, Notice of Proposed Rulemaking, 32 FCC Rcd 8071 (2017) (“*NPRM*”).

maintaining sufficiently granular license sizes in rural areas and the potential benefits of fixed mid-band spectrum deployments for rural broadband. Our companies are in the process of investing more than three billion dollars to bring broadband to more than a million homes and businesses (representing more than two and a half million Americans) each year as part of Phase II of the Connect America Fund (“CAF”) program. Given this massive scale of investment in very rural areas – scheduled through year-end 2020 – expeditious and competitively neutral access to the 3.5 GHz Band in rural areas could enable our companies to magnify that investment to provide faster speeds to more customers in the most rural areas we serve. Larger license sizes – namely partial economic areas (“PEAs”) – are simply too large and too expensive and would preclude this potential participation from carriers considering deploying fixed wireless in very rural areas.

Rather, by preserving smaller census tract license sizes in rural areas, the Commission can encourage innovative rural use cases while still accomplishing its goals of attracting mobile investment to the band. Mobile investment is much more likely to be driven by urban deployment, and as we have seen with other bands, there is a comparative spectrum abundance in rural America. This mid-band spectrum, which is perfect for providing robust capacity in fixed deployments, is more likely to be intensively used by mobile carriers in urban and suburban areas, rather than rural areas where current spectrum holdings are underutilized. With the significant benefits that fixed deployments can bring to rural America today and the relatively insignificant costs and drawbacks of maintaining census tract licenses in rural areas, the Commission cannot risk stifling this innovation with across-the-board oversized PEA license areas that favor only mobile use cases.

II. FRONTIER, WINDSTREAM, AND CONSOLIDATED HAVE EXPANDED RURAL BROADBAND TO MILLIONS OF RURAL AMERICANS AND ARE COMMITTED TO BUILDING ON THAT TRACK RECORD.

Our companies have an extensive track record in bringing broadband to rural Americans, particularly in rural areas to which other large internet providers will not build. Even before the Commission adopted the CAF program as part of the *2011 USF/ICC Transformation Order*, Frontier, Windstream, and Consolidated made significant investments to bring high speed internet services to rural areas.² As the Commission explained in adopting the CAF, “[t]he fact that incumbent LECs’ have had a long history of providing service” in rural America “puts them in a unique position to deploy broadband networks rapidly and efficiently in [these] areas.”³ And the Commission’s prediction has proved true, with our companies continuing to make significant investments in rural America, including through the CAF program. For example, with CAF Phase I, our companies collectively deployed broadband to hundreds of thousands of previously underserved and unserved rural Americans.⁴

CAF Phase II has presented an even greater opportunity and is on track to be an even greater success. Our companies have collectively committed to bring speeds of 10/1 Mbps or faster to nearly 1.3 million households and businesses (covering an estimated 2.6 million rural Americans) by year-end 2020.⁵ We are already well on our way, with a deadline to reach 40

² See, e.g., *Ex Parte* of Frontier and CenturyLink, WC Docket 10-90 at 2 (Oct. 8, 2014).

³ *Connect America Fund*, Report & Order, 26 FCC Rcd 17663 ¶ 177 (2011) (“*2011 USF/ICC Transformation Order*”).

⁴ See, e.g., FCC, *Price Cap Carrier Resources* (last accessed Sept. 9, 2017), <https://www.fcc.gov/general/price-cap-resources#p1>.

⁵ See FCC, *State, County and Carrier Data on \$9 Billion, Six-Year Connect America Fund Phase II Support for Rural Broadband Expansion* (Sept. 15, 2015), available at <http://bit.ly/2yoy13r>.

percent of those homes and businesses – over 500,000 – by year-end 2017.⁶ We also continue to explore all possible avenues for further expanding broadband in high-cost rural areas, including through the CAF Phase II Auction. As we continue this effort to bridge the digital divide, we believe that wireless spectrum allocated with rules that accommodate fixed point-to-multipoint use in rural America would increase the broadband speeds our companies can offer at some locations and the number of Americans served in the most rural portions of our footprints.

III. 3.5 GHZ BAND RULES ENABLING FIXED WIRELESS DEPLOYMENTS COULD GREATLY EXPAND BROADBAND AVAILABILITY AND SPEEDS IN RURAL AMERICA.

Mid-Band Spectrum – particularly the 3.5 GHz Band – is prime spectrum for rural fixed wireless broadband deployment. This spectrum enables high-bandwidth applications while still allowing for non-line-of-sight deployments over considerable distance.⁷

Frontier, Windstream, and Consolidated believe that dedicated spectrum with rules that allow for fixed point-to-multipoint deployments in rural areas would allow us to serve additional hard-to-reach locations and enable faster speeds to others. As part of CAF Phase I and CAF Phase II, we have been deploying to very rural, high-cost areas where the Commission has determined that, absent a subsidy, there is not an economic case for buildout. Based on our experiences, in certain of the hardest to reach, most expensive areas to serve, fixed wireless is another tool we could use to reach more locations or upgrade underserved locations with fast

⁶ See, e.g., Frontier, *Frontier Communications Reaches Connect America Fund Milestone in Nine States: 40 percent Milestone Reached Well Ahead of Schedule* (July 18, 2017), <http://bit.ly/2fjG3Wx>.

⁷ See, e.g., Comments of Frontier, Windstream, and Consolidated, GN Docket No. 17-183 at 4-5 (Oct. 2, 2017).

speeds (25/3 Mbps and faster).⁸ Fixed point-to-multipoint is another effective way to leverage CAF's investments in driving fiber closer to less-densely populated areas of the nation and to reach Americans who otherwise would be too far or difficult to connect to broadband.

Frontier, for example, has already begun testing fixed wireless in very rural CAF areas. As Frontier's Chief Financial Officer has explained, Frontier believes that this could be a "good solution" to the deployment challenge "in very rural America[,] and if it works the way [Frontier is] expecting it to work, . . . [Frontier] will deploy more of that next year."⁹ As he continued, Frontier is a "big proponent[] of the FCC releasing more spectrum in the 3.5 and higher gig space that we can use. . . . [Frontier] see[s] [it] as another opportunity to . . . create a better broadband product" in rural America.¹⁰

With our companies already experimenting with fixed wireless deployments, and with our extensive ongoing investments in rural America, our companies stand ready and eager to deploy more broadband in the most rural parts of our footprint as soon as additional spectrum (and associated equipment) become available.

IV. PRESERVING SMALLER CENSUS TRACT LICENSE SIZES IN RURAL AMERICA WILL PROMOTE BROADBAND DEPLOYMENT.

Preserving the ability for carriers seeking to deploy fixed wireless to participate in the 3.5 GHz Band auction will best promote broadband deployment in rural areas. Simply put, a one-size-fits-all PEA approach would unnecessarily foreclose rural players like our companies

⁸ See also Petition for Rulemaking of the Broadband Access Coalition, RM-11791 at 17-18 (June 21, 2017) ("*BAC Petition*").

⁹ Perley McBride, CFO, Frontier Communications, *Interview at Goldman Sachs Annual Communacopia Conference* (Sept. 12, 2017), available at <http://bit.ly/2xeHbla>.

¹⁰ *Id.*

from the licensed portion of the 3.5 GHz Band and prevent our companies from potentially leveraging the band to its highest and best use as we complete our once-in-a-generation multi-billion-dollar expansion of rural broadband.

A. While Larger License Sizes May Be Appropriate for Urban Areas, the Current License Size – Census Tracts – Will Best Promote Broadband Deployment in Rural America.

Even if the Commission adopts larger license sizes for urban areas, retaining smaller license sizes for rural areas will promote broadband deployment and innovative use cases. As the Commission notes, several parties have explained that larger PEAs “could foreclose smaller entities from participating in the PAL auction” and “upend planned business models for targeted, local, and rural uses.”¹¹ Frontier, Windstream, and Consolidated believe this to be the case.

For our companies, traditional large area mobile licenses, such as PEAs, cover much too great of an area and drive up the costs of licenses too high to make fixed rural wireless feasible in the 3.5 GHz Band. As we are exploring leveraging fixed wireless technology as an important tool to increase broadband speeds and expand broadband coverage in rural portions of our service areas, PEAs necessarily would require us to acquire too large of a license at too great of a cost to make any project feasible. Although census tracts also may be large in certain cases, they at least offer the opportunity for smaller players and new wireless entrants to compete and ensure the company best situated to use that spectrum in a challenging rural environment is awarded the license.

Recognizing these challenges, the Commission asks whether “counties, or a combination of PAL license areas (e.g., a hybrid combination of PEAs in urban areas and census tracts in

¹¹ *NPRM* ¶ 21.

rural areas, or some other combinations) ensure a diversity of auction participants, differing technologies, and rural deployments?”¹² As discussed, we believe preserving census tracts would ensure precisely such a diversity of auction participants and differing technologies. Employing this type of hybrid approach recognizes – as the Commission has in other contexts – that rural economics of fixed and mobile broadband deployment are fundamentally different than in urban areas. Whereas urban areas may be able to attract several competitors, rural areas may require subsidies to attract investment. And whereas there may be a relative spectrum shortage in urban areas, there may be a comparative spectrum abundance in rural areas. Given challenging rural economics, smaller license sizes allow the entity best situated in that individual area to deploy the spectrum – and in rural areas, that may be a much smaller relevant area and a much different company than in urban areas. As we have learned from experience, very large spectrum license sizes seem to leave rural areas behind. The 3.5 GHz Band, which has been designed as a test band for next generation spectrum deployments, is the perfect place to test the best ways to encourage rural deployment, such as through a hybrid licensing scheme preserving census tract-sized licenses in rural areas.

Additionally, package bidding rules could mitigate concerns of allowing smaller license sizes in rural areas for companies concerned about minimum scale and exposure risk. The Commission routinely authorizes package bidding to reduce exposure risk and promote robust auction participation. If a carrier needed a certain level of rural penetration for a deployment to be viable (although it seems unlikely that rural areas would be make-or-break components of bidding packages for players seeking larger licenses or aggregations of licenses), package bidding ensures that these bidders will not be left high and dry if they only win a portion of their

¹² *Id.* ¶ 25.

bid. We understand larger carriers may be concerned about smaller carriers cherry-picking certain areas in an urban neighborhood, but there should be no concern in the most rural areas because they are the areas where attracting investment is already most difficult.

B. The Current Secondary Market Does Not Mitigate Concerns with Larger License Sizes.

The Commission asks whether “the ability to . . . partition licenses to customize service areas effectively address the concerns raised by commenters and promote robust deployment in the band.”¹³ As the Commission notes, “[s]everal commenters, including DSA, Southern Linc, and WISPA, oppose the concept of secondary market transactions as a replacement for smaller geographic areas.”¹⁴ In particular, commenters “argue that there is no guarantee that the licensee will lease or sell idle spectrum in the secondary market”¹⁵ Frontier, Windstream, and Consolidated echo these concerns – in our experience, whether due to transaction costs, business priorities, spectrum warehousing, technical impediments, legal fees, potential liability, or excessive regulations, among other potential factors, wireless spectrum licensees do not have the incentive or interest to negotiate targeted leases to fixed providers.

Even if mobile licensees are not actively using spectrum in a specific rural area, we have found that mobile companies are not interested in negotiating reasonable site-by-site access to fixed operators. This is not an attack on mobile companies – their business models likely do not align, for whatever reason, with subleasing site-by-site fixed wireless deployments. Based on

¹³ *Id.* ¶ 24.

¹⁴ *Id.* ¶ 30.

¹⁵ *Id.*

our experiences, we suspect the costs of such individual negotiations may be too great to attract the attention of mobile providers with so many competing business priorities.

The 3.5 GHz Band spectrum access system is designed precisely to avoid these types of barriers and transaction costs, and maintaining census tract license sizes in rural areas would allow the system to do so seamlessly. By minimizing the transaction costs of auctioning many licenses, it enables more granular and intensive deployments. Once a private party owns the spectrum, however, they do not seem to have the access or ability to redistribute spectrum rights in this efficient manner – in other words, there is no automated internal spectrum access system for large license holders. Particularly in rural areas, where the economic case for deployment is already difficult, these transaction costs create an insurmountable barrier to a functioning secondary market.

C. County-Sized Licenses Would Be a Step in the Right Direction But Still Are Not Sufficiently Granular and Could Unfairly Benefit Cable Providers.

While county-sized licenses, as proposed by NCTA and Charter,¹⁶ would be a step in the right direction for rural areas compared to PEAs, county-sized licenses would still be too large to promote rural broadband buildout. With a total of 73,057 census tracts compared to 3,143 county equivalents, there are still 23 census tracts for every county.¹⁷ While this ratio may be relatively higher in more urban areas and relatively lower in more rural areas, the more granular census tracts would allow more targeted bidding in rural areas. Additionally, county-sized licenses would unfairly favor just one type of competitor. Cable systems often track county lines

¹⁶ *Id.* ¶ 22

¹⁷ See United States Census Bureau, *2010 National Geographic Tallies* (last accessed Dec. 18, 2017), available at <http://bit.ly/2oFLN0S>.

and many franchises are awarded on the county-level.¹⁸ In contrast, other competitors do not track county lines in this manner – ILEC footprints, for instance, are based off of historical wire centers or central offices, which do not follow county lines (or any other standard geographical unit, including census tracts).

D. Preserving the Opportunity for Rural Fixed Wireless Deployments in the 3.5 GHz Band Is Consistent with the Commission’s and Congress’s Priorities in Closing the Digital Divide.

Preserving census tracts in rural areas, and thus the potential for competition from rural fixed wireless bidders, would further the Commission’s goal of closing the digital divide, including with programs such as CAF. The Commission, through the CAF program, has already identified the areas where fixed broadband deployment is uneconomic, and it is investing \$4.5 billion annually to encourage buildout in those areas – over \$500 million alone with the carriers that are making this filing.¹⁹ With the CAF Phase II Auction, the Commission explained that it is seeking to “maximize[] the extent of robust, scalable broadband service subject to the budget.”²⁰ As the Commission elaborated, it “want[s] to maximize the number of consumers served within our finite budget” and “want[s] to ensure that rural America is not left behind, and the consumers in those areas benefit from innovation and advances in technology.”²¹ Enabling fixed point-to-multipoint broadband deployments in the very near term would greatly further

¹⁸ See, e.g., GeoResults, *Cable MSO Boundaries* (last accessed Dec. 18, 2017), <http://bit.ly/2CzJKxm>.

¹⁹ See, e.g., *2011 USF/ICC Transformation Order* ¶ 18.

²⁰ *Connect America Fund*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 5949, ¶ 80 (2016) (citing *2011 USF/ICC Transformation Order* ¶ 179).

²¹ *Id.* ¶ 16.

those goals by providing another important avenue for reaching more of those hardest to serve Americans at faster speeds.²²

At the same time, Congress and the Commission have also been focused on new, innovative solutions for closing the rural digital divide, discussing the possibility of investing auction proceeds towards rural buildout.²³ Allowing for carriers seeking to deploy rural fixed wireless systems to compete for spectrum is entirely consistent with this policy – crafting spectrum rules that encourage rural deployment. By maintaining more granular census tract license sizes in rural areas, the Commission will ensure the carriers best able to serve rural America will do so to the fullest of their capacities.

Moreover, there is spectrum abundance in rural areas – for example, it is well documented that mobile carriers do not use spectrum as intensively in high-cost areas.²⁴ Chairman Pai has explained that a “wireless carrier may never build out to [rural high-cost] areas if it’s never required to do so, even though its exclusive license prevents anyone else from

²² See also Comments of GeoLinks, AU Docket No. 10-90 (Sept. 18, 2017) (arguing for spectrum policy that would enable fixed wireless deployments in CAF areas).

²³ See Remarks of FCC Commissioner Ajit Pai, *A Digital Empowerment Agenda*, The Brandery, Cincinnati, Ohio (Sept. 13, 2016) (“*Chairman Pai Digital Empowerment Remarks*”), <http://bit.ly/2pluTEe>; AIRWAVES Act, S.1682 (2017) (“[T]he Commission shall allocate 10 percent of the proceeds from each system of competitive bidding conducted under this Act for the deployment of wireless infrastructure in areas that the Commission has determined are underserved or unserved with respect to wireless broadband Internet access service.”), available at <https://www.congress.gov/bill/115th-congress/senate-bill/1682/text>.

²⁴ See, e.g., *Connect America Fund*, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 2152 ¶ 1 (2017); *Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless Including Commercial Mobile Services*, Nineteenth Report, 31 FCC Rcd 10534 ¶¶ 40-43, 99 (2016).

building out to that same area with that same spectrum.”²⁵ Given the relatively less intensive mobile usage in rural areas, at least making it possible for fixed wireless to compete in the 3.5 GHz Band makes good policy sense. As Alphabet, for example, explained with respect to similar spectrum, “many point-to-multipoint operations will be in the remote, unserved areas where fixed service is needed most,” while mobile carriers are more likely to use spectrum for “capacity improvements in urban areas.”²⁶

²⁵ *Chairman Pai Digital Empowerment Remarks.*

²⁶ Reply Comments of Alphabet Access, RM-11791 at 6 (Aug. 22, 2017).

V. CONCLUSION.

As the Commission is making substantial CAF investments to extend broadband to unserved rural Americans, it really has a once-in-a-generation opportunity to accelerate those multi-billion dollar investments to unleash faster broadband for more rural Americans. Maintaining census tract licenses – at least in rural areas – will help attract investment in the 3.5 GHz Band to rural areas and could enable fixed broadband deployments offering faster speeds to more rural Americans. When considering the relative spectrum abundance in rural America, the less clear mobile use case for the 3.5 GHz Band in those areas, and the potential for package bidding, the risks of foreclosing innovative and intensive spectrum use are too great not to preserve census tract licenses in rural areas.

Respectfully submitted,

FRONTIER COMMUNICATIONS

/s/ AJ Burton

Malena F. Barzilai
WINDSTREAM SERVICES, LLC
1101 17th Street, NW, Suite 802
Washington, DC 20036
(202) 223-7664

AJ Burton
Michael Saperstein
FRONTIER COMMUNICATIONS
1800 M Street, NW, Suite 850S
Washington, DC 20036
(202) 223-6807

Michael T. Skrivan
CONSOLIDATED COMMUNICATIONS, INC.
1 Davis Farm Road
Portland, ME 04103
207-535-4150

December 28, 2017