Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion	)	GN Docket No. 18-238

REPLY COMMENTS OF
NTCA–THE RURAL BROADBAND ASSOCIATION

I. INTRODUCTION

NTCA–The Rural Broadband Association ("NTCA")[1] hereby submits these reply comments in response to comments filed in the Fourteenth Broadband Deployment Report Notice of Inquiry released by the Federal Communications Commission (the "Commission").[2] The record supports NTCA's view that while mobile broadband offers distinct and significant value, it is not an effective marketplace substitute for fixed broadband and should not be considered equivalent to such service when determining whether advanced telecommunications capability is being deployed.[3]

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[1] NTCA represents nearly 850 independent, community-based telecommunications companies and cooperatives and more than 400 other firms that support or are themselves engaged in the provision of communications services in the most rural portions of America. All of NTCA's service provider members are full service rural local exchange carriers and broadband providers.

[2] *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, Fourteenth Broadband Deployment Report Notice of Inquiry, GN Docket No. 18-238, FCC 18-119 (rel. Aug. 9, 2018) ("NOI").

[3] *See* Comments of NTCA, GN Docket No. 18-238, filed Sep. 14, 2018.

II. MOBILE SERVICES' PRACTICAL AND TECHNICAL LIMITATIONS PREVENT THEM FROM BEING SUBSTITUTES FOR FIXED SERVICES

Mobile wireless services provide valuable capabilities to users; however, given the practical and technical limitations of these services in rural areas especially, they do not currently provide a reliable, robust platform for essential functions such as teleworking, telehealth, and many other applications that consume significant bandwidth and depend upon high speeds and low latency. These functions are essential to businesses and individuals, and equally so in rural and urban areas alike. The Foundation for Rural Service, for instance, recently released a study demonstrating that, when "compared to urban areas, rural residents: use Wi-Fi in their homes at the same rate; use the internet for approximately the same amount of time each day; connect the same types of devices to the internet; use smartphones to connect at nearly the same rate; and use the same types of broadband access as urban dwellers."[4]

Yet mobile services, particularly in rural areas, do not yet provide the same kind of reliable, robust experience consumers and businesses experience through fixed broadband. Employers' networks would almost certainly be rapidly overloaded if they relied solely on a mobile connection, while even where an employer permits wireless connectivity for teleworking,[5] teleworkers might also rapidly reach data limits using a mobile connection –

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[4] "A Cyber Economy: The Transactional Value of the Internet in Rural America," Infographic, https://www.frs.org/sites/default/files/styles/original_resolution/public/images/2018-04/2018-FRS%20Infographic-Printer.png?itok=NlMvmuA5 (last visited Sep. 26, 2018).

[5] *See, e.g.*, Virtual Call Center Home Office Requirements, the balance careers, https://www.thebalancecareers.com/virtual-call-center-home-office-requirements-3542604 (last visited Sep. 25, 2018).

even under "unlimited" plans. Similarly, although certain telehealth devices may leverage wireless access for monitoring, many critical telehealth applications require a fixed broadband connection for the simple fact that wireless services cannot adequately relay high quality videos and photos to distant locations in real time.[6] The Open Technology Institute demonstrated in its comments that video streaming also often connects to a Wi-Fi network in order not to exceed data usage caps and to avoid buffering in the midst of a video.[7] Indeed, even wireless *voice* calls sometimes benefit from a Wi-Fi connection in order to obtain cellular service in areas that otherwise would not receive a signal.

Some commenters suggest the Commission should include mobile services in the Section 706 Report because the services are "evolving" and "the promise of 5G" will allow mobile services to have greater speeds and functionality. However, fixed services also continue to evolve[8] and already offer reliable service that is not typically subject to data caps, reduced speeds or higher latency. Furthermore, until new services are actually deployed by providers and used by businesses and consumers in rural and urban areas alike, neither the providers nor the Commission can assess how the services are being used and if the services are capable of providing the full range of services anticipated – without disruptions caused by data caps that slow or stop service,

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6 *See, e.g.*, Mapping Broadband Health in America, https://www.fcc.gov/health/maps (last visited Sep. 21, 2018).

7 *See* Comments of New America's Open Technology Institute, GN Docket No. 18-238, at 22 (Sep. 17, 2018) ("OTI Comments"). *See also*, Comments of WTA – Advocates for Rural Broadband, GN Docket No. 18-238, at 3 (Sep. 10, 2018).

8 *See, e.g.*, OTI Comments at 2 ("A year-over-year comparison will become a self-fulfilling prophecy as broadband providers are always investing in their networks.").

latency, or other limitations inherent in the spectrum used.[9] Put another way, the law requires an assessment of real-world progress, not a prognosis of hopes, aspirations, and promises with respect to technology evolutions yet-to-come commercially in the marketplace.

Mobile services have inherent technical limitations due simply to the spectrum used to provide the service. For instance, wireless signals are often dropped or even unavailable in certain terrains or in buildings. This is particularly true in rural areas where densities are low, distances are great, and natural barriers complicate service delivery – areas where a distinct Mobility Fund reserved specifically, by definition, for mobile services is attempting to overcome barriers to deployment and limited coverage today.[10] Additionally, even in more populated areas where there is greater demand on the network, it does not take complex mathematics to recognize that the bandwidth available for wireless services, combined with the number of users and the amount of

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[9] *See* Comments of Common Cause and Public Knowledge, GN Docket No. 18-238, at 13 (Sep. 17, 2018) ("[T]he term '5G' has evolved to mean different products over time and potentially even different deployment plans. … It is also unclear what percentage of the new capacity carriers will allocate to … non-consumer uses such as connected cars or other IoT dedicated networks. … These uncertainties add more credence that the Commission should not give blanket treatment to anything labelled '5G,' … as a substitute for fixed broadband.").

[10] *See* Comments of NTCA, WT Docket No. 10-90 *et al.*, at 5 (Nov. 8, 2017) ("Foliage in the path of the communication link has been found to play a significant role on the quality of service for wireless communications over many years.") citing Karaliopoulos, M. S. and F. N. Pavlidou, "Modelling the land mobile satellite channel: A review," IEE Electron. Commun. Eng. J., Vol. 11, No. 5, 235–248, 1999 ; Bertoni, H. L., Radio Propagation for Modern Wireless Systems, Prentice Hall PTR, New Jersey, 2000; Rogers, N. C., A. Seville, J. Richter, D. Ndzi, N. Savage, R. Caldeirinha, A. Shukla, M. O. Al-Nuaimi, K. H. Craig, E. Vilar, and J. Austin, "A generic model of 1–60 GHz radio propagation through vegetation," Tech. Report, Radiocommunications Agency, May 2002. *See also*, "Rural America worries it will miss out on 5G," Ali Breland, The Hill, https://thehill.com/policy/technology/408416-rural-america-worries-it-will-miss-out-on-5g (last visited Sep. 26, 2018) ("5G broadband requires very high frequencies, which don't travel well over the long distances that are common in rural areas.").

data being transmitted to and from those users, can result in severe limitations on all of the uses to be carried out "on demand."[11]

Finally, the plain language of Section 706 should dictate that the Commission must account for the fact that high latency services remain unable to support consumers' use of certain applications.[12] Likewise, strict data usage limits should be a critical part of the Section 706 inquiry. Fixed broadband subscribers generally do not face service delays or inaccessibility due to latency or data usage. By contrast, while some mobile wireless providers have moved to unlimited data plans, many consumers, particularly on wireless networks, continue to have their speed, and thus quality of service, reduced based on network demands at any given time. Strict data caps are also a common feature of satellite broadband service.[13] To the extent that data caps not only affect price but also affirmatively prevent or limit users from being able "to originate and receive high-quality voice, data, graphics, and video telecommunications," as required by Section 706, the

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[11] *See, e.g.*, CTC Technology & Energy, "Mobile Broadband Service Is Not an Adequate Substitute for Wireline," (Oct. 2017), cited in Comments of Communications Workers ofAmerica in GN Docket No. 18-238 (Sep. 17, 2018), available at https://www.cwa-union.org/sites/default/files/ctc_mobile_broadband_white_paper_-_final_-_20171004.pdf (last visited Sep. 21, 2018).

[12] *See* Vantage Point, *Satellite Broadband Remains Inferior to Wireline Broadband*, at p. 1 (Sep. 2017), https://ecfsapi.fcc.gov/file/1090792953817/VPS-Satellite%20Broadband%20Remains%20Inferior%20to%20Wireline%20Broadband%2009-07-17.pdf ("satellite broadband service continues to be plagued by high latency … This aspect of satellite broadband service significantly degrades or makes unusable many real-time applications, such as voice, emergency notifications, health services and virtual private networks.") (last visited Sep. 26, 2018). The paper also states that "[t]errestrial blockage, periodic solar outages and weather interference are all reliability issues that continue to persist…. As customers increasingly rely on broadband for critical services, such as eHealth, satellite-based services are not able to meet the necessary reliability requirements." *Id*.

[13] *Id.* at p. 2 ("All the current data plans offered by Hughes Network Services and ViaSat have capacity thresholds that are substantially less than the average customer's usage.").

technologies that use them should not be considered "advanced" telecommunications capabilities.

III. CONCLUSION

Section 706 directs the Commission to report on the status of *already deployed* broadband services that contain "advanced telecommunications capability." Only those services that meet such a definition – presently, not possibly in the future – should be considered when preparing the resulting report. While other capabilities serve an important purpose, that alone does not make them capable of offering advanced telecommunications services any more than "plans" to do so in the future changes the services offered today.

Respectfully submitted,

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