

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

In the Matter of)	
)	
Establishing the Digital Opportunity Data Collection)	WC Docket No. 19-195
)	
Modernizing the FCC Form 477 Data Program)	WC Docket No. 11-10
)	

**REPLY COMMENTS
of
NTCA–THE RURAL BROADBAND ASSOCIATION**

NTCA–The Rural Broadband Association (“NTCA”)¹ hereby submits these reply comments in response to comments addressing the Second Further Notice of Proposed Rulemaking (“*Notice*”) issued in the above-captioned docket.² The *Notice* seeks comment on ways to ensure that the newly established Digital Opportunity Data Collection (hereinafter “DODC”) can “evolve to align with changes to technology, markets, and policy needs.”³

I. THE RECORD SUPPORTS THE PURSUIT OF MAPPING ACCURACY THROUGH (1) COMMON TECHNICAL STANDARDS UNDERLYING THE REPORTING OF BROADBAND AVAILABILITY; (2) CROWDSOURCED DATA TO SPOT TRENDS IN INACCURACIES; AND (3) A ROBUST CHALLENGE VALIDATION PROCESS TO REFINE BASELINE MAPPING DATA PRIOR TO ITS USE IN ANY POLICY OR FUNDING DECISIONS.

As NTCA stated in initial comments, the DODC represents a watershed step in the movement away from census block-based depictions of broadband availability toward a more

¹ NTCA is an industry association composed of nearly 850 rural local exchange carriers (“RLECs”). While these entities were traditional rate-of-return-regulated telecommunications companies and “rural telephone companies” as defined in the Communications Act of 1934, as amended, all of NTCA’s members today provide a mix of advanced telecommunications and broadband services, and many also provide video or wireless services to the rural communities they serve.

² *Establishing the Digital Opportunity Data Collection*, WC Docket No. 19-195, *Modernizing the FCC Form 477 Data Program*, WC Docket No. 11-10, Report and Order and Second Further Notice of Proposed Rulemaking, FCC 19-79 (rel. Aug. 6, 2019) (“*Report and Order*” or “*Notice*”).

³ *Notice*, ¶ 76.

granular representation of which consumers are already served or lack access to high-quality services. However, this new effort will be a wasted opportunity if the Commission does not pursue both granularity and accuracy with equal vigor. The latter can and should be achieved with (1) common technical standards underlying reporting “on the front end,” (2) the use of crowdsourced data to identify troubling trends in assertions of service availability, and (3) a “back-end” refinement of mapping data via a challenge process used specifically in the context of policy or funding decisions that would rely on such maps.

With respect to the pursuit of accuracy on the “front-end,” under current rules, a provider can claim 25/3 Mbps service coverage across a wide swath of a rural area even if it has neither tested nor vetted the ability of its network to reach specific locations. Because of this, consumers can be trapped in broadband deserts and unable to benefit from funding because the area in which they live is considered “served.” The *Report and Order* takes important steps to help address this concern both by migrating to more granular reporting⁴ and by tying such reporting to actual network capability (rather than assertions linked merely to what a firm chooses to advertise).⁵ More is needed, however, to ensure that network capability will be estimated and reported on the basis of realistic assumptions, if not underlying network tests that measure actual performance. In particular, a predetermined set of common technical standards underpinning the reporting of service availability will be critical to ensure broadband coverage is realistically reported and can be evaluated on an “apples-to-apples” basis. With these common standards as predetermined assumptions tied to the technology used to deliver service,

⁴ *Report and Order*, ¶ 2.

⁵ *Id.*, ¶ 13.

a provider would not be able to claim coverage for an individual coverage polygon at a specific speed absent a network in place capable of actually serving *every* customer within that polygon.

More specifically, as NTCA proposed in initial comments, for wireline providers, claims of broadband availability should be based on specific engineering standards tied to the technology utilized to deliver service (fiber, cable, DSL). As an example, reporting for providers using DSL technology should be based on standard assumptions with respect to loop length and the specific DSL technology utilized, as well as an estimation of how those factors influence the ability to serve every customer within a coverage polygon at the speed claimed. Similar assumptions should be used for fixed wireless⁶ and satellite providers.⁷ Reporting should, for any technology used, also incorporate oversubscription assumptions so that the effects of any shared capacity and its influence on the ability to serve each and every serviceable location within a coverage area are taken into account. To further illustrate how this would work in practice, a fixed wireless provider using a particular spectrum band would only be able to claim coverage for an individual coverage polygon at 100/20 Mbps speed with latency sufficient for real-time applications if the provider has access to enough spectrum that has the necessary propagation characteristics in place to actually serve *every* customer within that polygon. The same would be true for a DSL provider with certain lengths of copper still in its distribution plant.

⁶ For fixed wireless services, reporting on broadband availability should be based on detailed engineering and propagation standards and capacity constraints specifically tied to the spectrum band utilized to deliver service. How those factors influence the ability to serve every customer within a coverage polygon at the speed claimed should be part of the assumptions as well.

⁷ For satellite providers, reporting on broadband availability should be specifically tied to standard capacity assumptions and how this factor influences the ability to serve every customer within a coverage polygon at the speed claimed.

Like NTCA, WISPA recognizes that common technical standards underpinning the reporting of broadband service availability are a critical part of improving the accuracy of any coverage data submitted and in promoting the “consistently reliable results” that the Commission is seeking.⁸ As WISPA states, for wireless providers (fixed and mobile), these standards should be “band-specific” and should “account for the particular usage (*e.g.*, licensed or unlicensed), the equipment and technology deployed, and the sharing environment and propagation characteristics of individual frequency bands (including terrain, clutter and congestion).”⁹ Put another way, as NTCA did in initial comments, reporting on fixed wireless broadband availability should be based on detailed engineering and propagation standards and capacity constraints specifically tied to the spectrum band utilized to deliver service as well as oversubscription assumptions so that the effects of any shared capacity within the spectrum and backhaul capacity can be taken into account.

WISPA also notes that the Commission should account for the fact that fixed wireless “providers have significant technological and operational differences that necessitate different, tailored reporting metrics.”¹⁰ This is true to some degree, in the sense that given spectrum bands, placements of antennas, and topographical and other factors all can and will of course affect the coverage any particular spectrum-based provider can report. At the same time, this is not to say that *the standards themselves* should be malleable and tailored; rather, presumptions and assumptions should be uniformly stated with respect to coverage capabilities, and a provider can then determine how its individual tailored deployment and the factors it faces “on

⁸ Notice, ¶ 79.

⁹ Comments of the Wireless Internet Service Providers Association (“WISPA”), WC Docket Nos. 19-195 & 11-10 (fil. Sep. 23, 2019), p. 3.

¹⁰ *Id.*, p. 3.

the ground” affect what it can report based upon the presumptions and assumptions. Baking in such standards up front, and enabling providers to assess then how their own operations conform to those standards, will ensure that a provider claiming service availability at every serviceable location within a coverage polygon only makes that claim if the spectrum they use as well as the topography of their service area has been factored into that representation *before* it is made.

Common technical standards underpinning reporting as an upfront measure should greatly improve the consistency of reported broadband availability data across providers, but just as with the momentum toward making maps more granular, such an effort will not by itself ensure accuracy. For a number of reasons, the record supports¹¹ a “back-end” refinement via both a well-defined use of crowdsourced information and a robust challenge validation process as critical steps to ensure that data are as accurate and current as possible prior to making any policy or funding decisions.¹²

To be clear, crowdsourced data, while a useful part of improving the accuracy of any broadband maps, should serve a distinct but related purposes from a challenge process. Importantly, as a number of commenters note, crowdsourced data have limitations,¹³ most

¹¹ See Comments of GVNW Consulting, Inc. (“GVNW”), WC Docket Nos. 19-195 & 11-10 (fil. Sep. 23, 2019), p. 4; WTA – Advocates for Rural Broadband (“WTA”), WC Docket Nos. 19-195 & 11-10 (fil. Sep. 23, 2019), pp. 6-10.

¹² Under NTCA’s proposed challenge process, parties wishing to challenge the accuracy of coverage maps submitted by broadband providers pursuant to the DODC should submit information such as consumer surveys, “secret shopper” tests, or other preliminary indicators that the challenged provider does *not* in fact operate throughout the area that it claims at the levels of performance it claims. The “challenged” provider should then have 60 days to respond to such a challenge filing, providing technical and operational information that provides clear and convincing evidence of actual service availability (*e.g.*, billing records, engineering documentation showing the presence and capabilities of network facilities sufficient to provide service at the speed claimed consistent with the Commission’s prescribed technical standards, etc.).

¹³ See Comments of USTelecom – The Broadband Association (“USTelecom”), ITTA – The Voice of America’s Broadband Providers (“ITTA”) and the Wireless Internet Service Providers Association (“WISPA”) (collectively, the “Joint Commenters”), WC Docket Nos. 19-195 & 11-10 (fil. Sep. 23, 2019), pp. 26-38; GVNW, pp. 5-6; WTA,

importantly the fact that because broadband service as experienced by the consumer can often be influenced by modems, routers, and other consumer-installed customer premises equipment, consumer-run performance tests influenced by the very same factors could prove unreliable. That said, crowdsourced data can and should be used as part of an ongoing process to help identify and evaluate *trends* in coverage reports, as a complement to a challenge process. As NTCA noted in initial comments, this data can serve in particular to provide the Commission with “heat maps,” highlighting where a confluence of reports indicates persistent broadband gaps notwithstanding reporting on a more granular basis pursuant to common technical standards.

A challenge process, however, is the ultimate “sanity check” on the accuracy of data prior to use in significant policy or funding decisions. Quite simply, the Commission must account for the fact even more granular reporting, upfront standardization and crowdsourced input will not capture the potential for every flaw in mapping; no map will be able to keep “real-time” track of deployments in progress, construction completed, abandonment of service, or a provider “reaching capacity” and no longer having the ability to add new subscribers at advertised speeds in certain areas. A “back-end” challenge validation process – paired with standardization and crowdsourced driven corrections – will ensure that any significant policy or funding decisions to be made in reliance upon the underlying data are made with the most accurate mapping data at hand.

While some may assert that a challenge process could be burdensome or “too much work,” that should not be the case given the limited circumstances under which it would arise

pp. 10-16; NCTA – The Internet & Television Association (“NCTA”), WC Docket Nos. 19-195 & 11-10 (fil. Sep. 23, 2019), pp. 9-17.

and in light of all of the additional efforts to improve the quality of maps before a challenge process is ever needed. Indeed, because a challenge process would take place as a “final check” at such time as the Commission is proposing to use the maps for funding or other significant policy decisions, the burden it will impose should be minimal. Moreover, because of all of the other steps that the Commission is taking to improve the maps through more granular reporting and the application of other measures aimed at improving accuracy, the need for challenge processes and disputes over coverage should be fewer and much farther between than was the case when census block-based maps showing advertised speeds were the norm. Finally, because the challenge validation process would be conducted by those closest to the “facts on the ground” – among others, local and state policymakers and other providers in or near a given area often have a good awareness of where service actually does or does not exist – this back-end refinement is the best and most efficient way for the Commission to ensure that the DODC ultimately produces the most accurate depiction of broadband availability when making important decisions.

II. THE COLLECTION OF CERTAIN METRICS THAT DETERMINE THE QUALITY OF BROADBAND SERVICE IS CRITICAL TO FUNDING DECISIONS AND SHOULD BE PART OF THE DODC.

The Commission should include latency and usage limits as important metrics that should be reflected on any DODC-produced maps. These are critical components of service performance as experienced by the consumer,¹⁴ and thus they should be considered critical components of measurements of availability in practice.

¹⁴ Hence, their inclusion as performance requirements in the context of the Commission’s universal service programs. *Connect America Fund*, WC Docket No. 10-90, Order, DA 18-710 (rel. Jul. 6, 2018).

Latency, for its part, can affect a consumer's ultimate experience with an available connection, whether it be with the ability to watch (without frequent buffering) a live sporting event via a streaming application or the ability to use critical applications ranging from distance learning to over-the-top Voice over Internet Protocol with the quality of service that has been the part of the public switched telephone network for so long. In this regard, latency can in many cases affect what consumers and businesses can do, or not, with the broadband connection "available" to them. Put another way, a subscriber unable to use certain latency sensitive applications via their broadband connection may wonder if broadband is truly "available" to them. Usage limits are a similarly important metric – a consumer with "access" to a broadband connection that is throttled back halfway through the month because a data cap has been hit is likely to feel that the availability promised was a charade.

The quality of service that consumers can expect is thus informed by latency and usage limits and having these data points is vitally important – the DODC-produced map will have far-reaching implications, as funding decisions at the state and federal level will almost certainly look to these maps as such decisions are made. Ultimately, the DODC-produced map is going to be the tool that policymakers use when deciding where to invest limited resources, and policymakers should have the ability to decide if service with higher levels of latency or usage caps is "good enough" or if consumers deserve better.

By contrast, the Commission should decline to collect pricing data via the DODC. Broadband adoption is certainly a critical measure for Commission consideration as well, and there is no question that price can affect adoption and use of broadband networks. At the same time, it is not directly related to the availability of a network to deliver service in the first instance in the same manner that speed, latency, and usage limits are. Moreover, when making

funding decisions and identifying unsubsidized competition, pricing is not a component of such analyses. Finally, unlike “pure” performance characteristics, pricing is dynamic, susceptible to frequent change due to market demands, competitive pressures, and bundling practices. Thus, any report with respect to pricing is almost guaranteed to be outdated at individual locations or even across wider areas soon after it is filed.

To be clear, adoption is a critical part of the broadband policy discussion. It should not and cannot be ignored. NTCA members for their part have led the way in terms of making service for available and affordable and thus have adoption rates in rural areas that many providers would envy.¹⁵ Moreover, NTCA members are proud of the fact that their communities are focused on not only availability but also adoption and how to make great use of this technology. Numerous rural communities served by NTCA members have been recognized as “Smart Rural Communities,” those that utilize robust networks to jumpstart economic growth and improve access to first-rate education, healthcare, and government services.¹⁶ Yet, at bottom, the DODC is and should be first and foremost about availability – where broadband simply does and does not exist at all and where federal and state agencies should therefore invest limited funding or make other decisions to stimulate deployment. Separate conversations can and should be had about how to drive adoption, but those should be incorporated into policy initiatives designed to address what is a complicated and multifaceted problem while the DODC should focus on tackling the broadband availability challenge.

¹⁵ A recent NTCA survey found that its members report an overall take rate for broadband service of 72 percent. NTCA 2016 Broadband/Internet Availability Survey Report, <https://www.ntca.org/sites/default/files/documents/2018-01/2016ntcabroadbandsurveyreport.pdf>.

¹⁶ Promoting Rural Broadband Networks and Applications, Smart Rural Communities, <https://www.ntca.org/member-services/smart-rural-communities>.

III. CONCLUSION

For the reasons discussed above, the Commission should pursue accuracy and granularity in broadband availability maps with equal vigor and should include latency and usage caps as important metrics for policymakers' consideration.



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