

**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
)	
_____)	

**COMMENTS OF AT&T
ON THIRD FURTHER NOTICE OF PROPOSED RULEMAKING**

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I. Introduction

AT&T Services, Inc. on behalf of its affiliates (“AT&T”) files these comments in response to the Commission’s *Third Further Notice of Proposed Rulemaking* (“*Third Notice*”)¹ seeking comment on the additional steps required to implement the Broadband DATA Act.² AT&T supports the Commission’s efforts to modernize the collection of broadband deployment data as required by the Broadband DATA Act. Overall, the new requirements established in the Commission’s recent *Second Report and Order*³ struck the right balance between collecting more granular data, which will help the Commission better evaluate broadband availability for various public policy purposes while minimizing the burden on providers. The Commission must continue

¹ Establishing the Digital Opportunity Data Collection; Modernizing the FCC Form 477 Data Program, WC Docket Nos. 190195, 1110, *Second Report and Order and Third Notice of Proposed Rulemaking*, 85 FCC 160 (2020).

² Broadband Deployment Accuracy and Technology Availability Act, Pub. L. No. 116-130, 134 Stat. 228 (2020) (codified at 47 U.S.C. §§ 641-646 (“Broadband DATA Act”).

³ *Supra* note 1.

that same approach here and balance the utility of collecting even more data with the burden that would be imposed on the industry to produce such data. As discussed fully below, AT&T believes that the Commission can complete its task of fully implementing the remaining requirements of the Broadband DATA Act, including the verification requirements, challenge process, and other administrative requirements by implementing several of the proposals discussed in the *Third Notice*. However, AT&T is concerned that some of the proposals go too far and should be rejected as they are overly burdensome and will not improve accuracy in a meaningful way. AT&T respectfully comments as follows.

II. Standards for Reporting

The Commission seeks comment on whether it should require providers to submit “business-only” broadband service availability data.⁴ It should not. The Broadband DATA Act adopts the Commission’s existing definition of broadband internet access service, which is limited to “mass market” retail services,⁵ and thus restricts the data that must be collected only to those services sold on standard terms and conditions to residential and small business customers. Further, there is no need to make a distinction between “residential-only” services and “business and residential” services since both fall under the category of mass-market services. A provider that offers the same mass market broadband service to residential and business customers should be able to report the availability of that service in a single non-differentiated polygon for mass market broadband. In sum, business-only broadband data is unnecessary for the Commission to determine the availability of mass-market broadband service, and therefore should be excluded from the data collection.

⁴ *Third Notice* at ¶90.

⁵ See 47 CFR § 8.1(b).

The Commission incorrectly asserts that collecting business-only data could be beneficial for awarding broadband funding in the Universal Service E-Rate and Rural Health Care programs “[s]ince the Broadband DATA Act focuses on restricting subsidies to unserved areas and avoiding wasteful subsidized overbuilding”.⁶ However, insofar as neither of these programs currently limits funding to unserved areas or prevents overbuilding, there is no need to collect business-only data for USF purposes. If the Commission adopts such limitations to those programs in a future proceeding, the Commission could revisit collecting business-only data at that time. Until then, such a requirement would only add to the burden on providers with no regulatory purpose.

AT&T agrees with the Commission’s proposal to require fixed broadband services to be reported by dividing the reporting for services offered at speeds below 25/3 Mbps into two speed tiers: one for speeds between 200 kbps in at least one direction and 10/1 Mbps and another tier for speeds between 10/1 Mbps and 25/3 Mbps, and requiring providers to report the maximum advertised download and upload speeds for broadband services above 25/3 Mbps. This proposal allows providers to consolidate their reporting of lower speed tiers and provide more specific data on the availability of faster speed tiers, which are in higher demand given the increasing demand for bandwidth-intensive applications and entertainment.

The *Third Notice* also seeks comment on whether and how to collect latency information, i.e. the time it takes for a data packet to travel from one point to another in a network, for fixed broadband services.⁷ As the Commission notes, the Broadband DATA Act requires “the collection of latency information from fixed broadband providers, if applicable, and specifically requires that propagation model-based coverage maps submitted by fixed wireless providers reflect the “speeds

⁶ *Third Notice* at ¶90.

⁷ *Third Notice* at ¶92.

and latency” of the service offered by the provider.”⁸ As such, the Commission should ask all carriers to identify the latency capability of the fixed broadband service they are reporting. AT&T agrees with the Commission’s proposal to require all fixed broadband service providers to indicate whether the network round-trip latency associated with the service offered by each technology and each maximum speed combination in a particular geographic area is less than or equal to a threshold of 100 milliseconds (“ms”). In this scenario, providers would be required to certify that its services meet this requirement and would not be required to submit specific latency measurements for each polygon.

Further, AT&T believes all service technologies should be required to certify to the same latency threshold; however, if there is a need to differentiate among technologies with higher latency standards, the Commission could adopt additional thresholds such as “above 100 but below 300ms” and “above 300ms.”

III. Additional Standards for Mobile Broadband Reporting

Given the vast amount of new information that the Commission will now receive as a result of the *Second Report and Order*,⁹ the Commission should not require providers to submit “additional details of their propagation models and of the link budgets they use for modeling cell edge network throughput.”¹⁰ Nor should it require providers to submit a “description of sites or areas in their network where drive testing or other verification mechanisms demonstrate measured

⁸ *Id.*

⁹ Establishing the Digital Opportunity Data Collection; Modernizing the FCC Form 477 Data Program, WC Docket Nos. 190195, 1110, Second Report and Order and Third Notice of Proposed Rulemaking, XX FCC Rcd XXXX (2020).

¹⁰ *Id.* at ¶ 96.

deviations from the input parameter values or output values included in the link budget.”¹¹ This additional data is completely unnecessary for the Commission to assess or verify the accuracy of the mobile broadband coverage maps. As it stands, the Commission will soon begin to receive mobile broadband coverage maps that are more granular than ever before. Specifically, each map must reflect coverage where users should expect to receive the minimum required download and upload speeds (for each technology) with not less than a 90% cell edge coverage probability and a cell loading of not less than 50%. In addition, each map must have a spatial resolution of 100 meters or better, and providers must also submit details of their propagation models and of the link budgets they use for modeling cell edge network throughput, including detailed information regarding their radio network planning tools.¹² There is no reason to believe that this new information will not be adequate to “fully understand and assess”¹³ the propagation maps submitted. Unless and until the FCC can point to a specific shortcoming with the vast amounts of new information it will now receive, it cannot justify collecting additional information.

Similarly, the Commission should not require providers to submit additional coverage maps based on different speed thresholds, cell edge probability or cell loading factors. Under the

¹¹ *Id.*

¹² *Second Report and Order* at ¶¶ 38-49 (For link budgets, providers must submit: (1) all applicable link-budgets used to design their networks and provide service at the defined speeds, and all parameters and parameter values included in those link budgets; (2) a description of how the carrier developed its link budget(s) and the rationale for using specific values in the link budget(s); and (3) the name of the creator, developer or supplier, as well as the vintage of the terrain and clutter datasets used, the specific resolution of the data, a list of clutter categories used, a description of each clutter category, and a description of the propagation loss due to clutter for each; for network planning tool, providers must submit: (1) the name of the planning tool; (2) the version number used to produce the map; (3) the name of the developer of the planning tool; (4) an affirmation that the coverage model has been validated and calibrated at least one-time using drive test and/or other real-world measurements completed by the provider or its vendors (the affirmation should include a brief summary of the process used for calibration and date of calibration); (5) the propagation model or models used; and (6) the granularity of the models used (e.g., 3-arc-second square points, bin sizes, and other parameters).

¹³ *Third Notice* at ¶ 96.

current rules, a provider that offers mobile broadband using 3G, 4G LTE, and 5G-NR technology must submit four maps: a 3G map depicting a minimum speed of 200/50 kbps, a 4G LTE map depicting a minimum speed of 5/1 Mbps, and two 5G-NR maps (one depicting minimum speed of 7/1 Mbps and another depicting a minimum speed of 35 Mbps). This already goes well beyond the requirements of the Broadband DATA Act, which only mandates production of a 4G LTE map.¹⁴ The *Third Notice* suggests producing additional maps with different cell loading values or maps based on busy-hour utilization without identifying a specific regulatory need.¹⁵ While additional maps may be interesting to look at, they come at a cost to providers. As noted above, the Commission should first review and analyze the maps that will be produced under the recently adopted requirements and revisit whether additional maps are necessary if it finds its regulatory purposes cannot be served using those maps.

The *Third Notice* also revisits whether the Commission should prescribe modeling standards or minimum values for model parameters for providers to use to produce their maps. As AT&T has stated previously, the FCC should not set any additional modeling standards or further specify how providers should create their maps in any way.¹⁶ The Commission should limit the mapping requirements to those that it already imposed (setting the thresholds for minimum speed, the probability of coverage at the cell edge, and cell loading), and requiring providers to disclose the modeling parameters that were ultimately used to create the maps. Based on this information,

¹⁴ See Broadband DATA Act, 47 U.S.C. § 642(b)(2)(B).

¹⁵ *Third Notice* at ¶ 99.

¹⁶ See *AT&T Ex Parte Letter* from Mary L. Henze, AT&T, Assistant Vice President, Federal Regulatory to Marlene Dortch, FCC, Secretary, *Re: Digital Opportunity Data Collection, WC 19-195*, dated May 10, 2020 (“AT&T Ex Parte Letter dated May 10, 2020”). See also *AT&T Ex Parte Letter* from Brendan Haggarty, AT&T, Director, Federal Regulatory to Marlene Dortch, FCC, Secretary, *Re: Establishing the Digital Opportunity Data Collection, WC Docket No. 19-195; Modernizing the FCC Form 477 Data Program, WC Docket No. 11-10* dated August 18, 2020 (“AT&T Ex Parte Letter dated August 18, 2020”).

the Commission can determine whether the modeling approach was reasonable. The Commission must allow providers to use modeling parameters that reflect their actual networks if the goal is to generate maps that reflect providers' service availability at specific speeds. Standardizing, even a few of the modeling parameters, will generate maps that do not reflect the service that is actually provided by the carrier, which would serve no useful purpose.

Regarding the *Third Notice's* inquiry into whether it should standardize signal strength, practically speaking, a propagation map cannot be based on standardized signal strength and at the same time depict a provider's delivery of a defined service speed. The signal strength is only one factor in the delivery of service at a specific speed. If the provider models "actual coverage" for the specified service level, e.g. 5/1 Mbps at cell edge, it will result in dynamic signal strength results across the provider's network. Importantly, the link budget information that providers are required to submit will allow the Commission to review the model parameters and actual signal strength results. This will enable staff to better understand the role and variability of signal strength.

IV. Verifying Broadband Data

The Commission seeks comment on requiring mobile providers to submit mobile and stationary drive test data to satisfy the Broadband DATA Act's requirement that the Commission verify the broadband coverage data submissions.¹⁷ As AT&T previously explained, this proposal is unworkable given the cost that it would impose on carriers, and the difficulty in creating statistically valid samples for particular geographic areas given the variability of the terrain across the nation.¹⁸

¹⁷ *Third Notice* at ¶¶ 103-109.

¹⁸ *AT&T Ex Parte Letter* dated August 18, 2020.

In regard to cost, AT&T estimates that drive testing just 25% of the square kilometers of its nationwide 4G LTE coverage would cost approximately \$45 million each year and reducing it to only 10% of its coverage would still cost as much as \$18 million/year. Imposing costs of this magnitude across an industry is unacceptable as these dollars are better spent investing in networks.

In addition, the *Third Notice* proposes that providers submit this drive test data based on a sample “that is statistically appropriate for the area tested.” Without additional information as to what the Commission has in mind, AT&T and others cannot meaningfully comment on the merits of this proposal, whether it should be adopted and/or how it might be improved. Most importantly, the notice provides no guidance as to what the Commission means by the “area tested,” which is susceptible to myriad possible interpretations. For example, if a provider is submitting maps for its nationwide footprint, should the sample size be based on that footprint or some subset thereof, in which case, what subset would be appropriate? In addition, further challenges arise when considering the various terrain across the country. Would a statistically valid number of tests conducted in a forested area of a specific size be appropriate for cleared farmland encompassing an area of the same size? Presumably, no; but the Commission’s failure to provide more guidance makes it impossible to comment.

To be clear, AT&T does not dispute the Commission’s need to verify coverage per the Broadband DATA Act, but mandating network-wide drive testing is not the solution. Between the propagation model details and the results of the challenge process required by the DATA Act, the Commission should have enough information to conduct its verification without drive test data. If, after review of the data for a specific provider, the Commission determines it needs more

information, it could request additional documentation from that provider to clarify the perceived issue.

If, on the other hand, the Commission determines that the Act requires it to establish a specific process for verification purposes, it should consider collecting either the propagation model calibration report statistics for each propagation map submitted to the FCC, or the 5 infrastructure data elements proposed by AT&T, i.e. (1) the geographic location, including latitude and longitude of cell sites; (2) the site ID number for each cell site; (3) the ground elevation above mean sea level of each site; (4) the frequency bands used to provide service and channel bandwidth formation; and (5) the radio technologies used on each band, *but not both*.¹⁹

The comprehensive statistics associated with the calibration of each provider's propagation models will illustrate whether the model's results are within an acceptable margin of error. Specifically, Mean Error value of $-0.5 \text{ dB} < \Delta < +0.5 \text{ dB}$ and Sigma value of $\leq 8.0 \text{ dB}$ are the best metrics of model quality. The Commission can review these values and immediately determine whether the model results are reliable. Importantly, collecting the results of the calibration process minimizes the already substantial burden on providers as all facilities-based mobile broadband providers use calibrated models, supported by extensive drive tests, and should routinely maintain these data.

In the alternative, the Commission could collect the 5 infrastructure elements discussed above to verify broadband coverage data, which would be far less burdensome than drive testing. Still, collecting these data would impose significant burdens on providers, and require them to collect and organize data in ways they have not done before. Accordingly, the Commission should, if it so requires, provide carriers clear guidance regarding the data to be collected and submitted,

¹⁹ See *AT&T Ex Parte Letter* dated May 10, 2020.

and sufficient time to develop and implement processes to do so. Moreover, adopting this proposal will require the FCC to create a method to collect and organize the data before it will be useful for any analysis.²⁰ For these reasons, AT&T believes that requiring carriers to submit propagation model calibration statistics would be the most efficient way to verify data coverage without imposing undue burdens on carriers.

Regardless of what method the Commission adopts, the Commission should afford confidential treatment for any and all coverage verification data submitted by carriers. The calibration report data and infrastructure data are both competitively sensitive information. As the Commission is well aware, the wireless market is extremely competitive and both data sources include specific network architecture and/or testing details that are maintained on a confidential basis within the companies, which should be available to the Commission for verification purposes only and should not be disclosed to any third-party or the public.

V. Engineering Certification of Biannual Filings

AT&T supports the Commission's proposal to require providers to submit an engineering certification with their data submissions.²¹ The proposed certification that the engineer has "examined the information contained in the submission and that, to the best of the engineer's actual knowledge, information, and belief, all statements of fact contained in the submission are true and correct, and in accordance with the service provider's ordinary course of network design and

²⁰ If the Commission requires the submission of infrastructure data, providers should only be required to submit this data on an annual basis. While providers are constantly updating their networks, an annual submission is sufficient to enable the Commission to verify coverage.

²¹ *Third Notice* at ¶¶ 110-112.

engineering”²² should minimize errors as it will ensure that an engineer has thoroughly reviewed and verified the accuracy of the submissions.

VI. Challenge Process

The Broadband DATA Act requires the Commission to establish a “user-friendly challenge process through which consumers, State, local, and Tribal governmental entities, and others”²³ may submit coverage data to the Commission to challenge the accuracy of “the coverage maps, broadband availability information submitted by providers, or information included in the Fabric.”²⁴ The *Third Notice* proposes to meet this requirement by establishing distinct challenge processes for consumers, governments and others. AT&T believes this proposal is needlessly complex, and that the challenge process would operate more efficiently if the same rules applied to all potential challengers. At a minimum, however, any challenger must be required to submit certain, minimum information to allow service providers to respond to any challenge and to deter frivolous challenges.

Specifically, in addition to the information proposed in the *Third Notice*,²⁵ the Commission should require challengers to submit the make and model of the device used to conduct their tests, the latitude and longitude of the device at all points where their tests were taken, and the time of day of their tests. These additional data should be enough for a service provider to research and respond to a challenge.

²² *Id.* at ¶ 111.

²³ *See* Broadband DATA Act, 47 U.S.C. § 642(b)(5).

²⁴ *Id.*

²⁵ *Third Notice* at ¶ 130.

In addition, a challenger should be required to conduct its tests using a widely available speed test application that has been tested and “certified” to be reliable and secure. And, the challenge portal should require all data fields to be completed before the challenge is accepted for submission. These requirements will help minimize frivolous and erroneous data submissions, which will allow the Commission and service providers to focus on legitimate claims.

On the other hand, the Commission should not establish a one-kilometer grid as the basis for any speed testing requirements as proposed for government challenges.²⁶ As AT&T stated previously, the requirement associated with Mobility Fund II (“MFII”) to conduct enough speed tests to meet the 75% coverage requirements within each grid cell was nearly impossible to achieve.²⁷ So, rather than asking challengers to “test-to-the-grid,” the Commission should allow challengers to simply conduct speed tests in the area they seek to challenge and submit the test results (with latitude and longitude) as suggested above. The Commission could then plot the challenges and overlay the grid to assess the impact of the challenger’s testing. The provider would, then, receive the challenge information, the test plot with grid overlay and the Commission’s initial assessment. The grid can still play a role in the challenge process but using it in this fashion would make the challenge process available to a wide array of users. Admittedly, the Commission may need to seek comment to determine the minimum number of tests or any other requirements to ensure the validity of the data, but in all cases, it should avoid repeating the same mistakes inherent in the MFII grid approach where hundreds of thousands of speed tests were disqualified simply because two other tests were not taken in the same grid cell.

²⁶ *Id.* at ¶ 152.

²⁷ *AT&T Ex Parte Letter* dated August 18, 2020. *See also* Procedures for the Mobility Fund Phase II Challenge Process, *Public Notice*, WC Docket No. 10-90, WT Docket No. 10-208, rel. February 27, 2018.

AT&T also suggests the Commission establish a “trial” period to assess the challenge process and portal. The implementation requirements imposed on the Commission in the Broadband DATA Act are very aggressive, and require the Commission to make critical decisions that may have long-lasting implications on service providers and the Commission’s policy goals in a relatively short amount of time. Thus, it’s important for the Commission, service providers, and challengers to have the opportunity to participate and review the process for one year after implementation of the Broadband Serviceable Location Fabric (“Fabric”), and to submit comment on how the Commission might improve the process. It is important to note that implementation of the challenge process before the Fabric is ready will almost certainly result in disputes associated with geo-coding discrepancies that will be difficult to resolve. Thus, while the Commission is obligated by the statute to create a challenge process, it should build in a review and comment period during which providers are free from enforcement penalties as they fine-tune models and data collection efforts.

VII. Form 477 Reforms

AT&T agrees with the Commission’s tentative conclusion that if it publishes the new more granular broadband availability data in aggregated forms, it will allow comparisons with the data that is currently collected via the Form 477 process, which will comply with the Broadband DATA Act’s requirement concerning the ability to compare the new and existing data.²⁸

In addition, AT&T also agrees with the Commission’s conclusion that the plain language of the Broadband DATA Act requires it to revert to the Form 477 broadband subscription requirements in effect on July 1, 2019.²⁹ Therefore, the changes the Commission adopted in the

²⁸ *Third Notice* at ¶ 188.

²⁹ *Id.* at ¶ 190.

First DODC Order to the mobile broadband subscription requirements must revert back to the 477 requirements in effect July 1, 2019 for all reporting periods beginning December 31, 2020. AT&T further agrees that it should apply these changes to the collection requirements for mobile voice subscription data as well to ensure consistent reporting processes and to avoid confusion.

Finally, the FCC should limit the amount of time when fixed broadband providers must carry the burden of reporting deployment data using two different methodologies. The Commission proposes that providers continue the current census-based fixed deployment collection for *at least* one reporting cycle.³⁰ However, this timeframe is too ambiguous. The Commission should sunset the census-based fixed deployment collection after no more than one reporting cycle under the new more granular data collection begins. In light of the significant burden dual reporting obligations will place on fixed providers, one overlapping collection period is sufficient for the Commission's data collection program.

VIII. Conclusion

The Commission should update its broadband data collection to implement the Broadband DATA Act, but it should ensure that it does not create any unnecessary burdens on providers.

Respectfully submitted,

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³⁰ *Id.* at ¶ 191.