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**VIA ECFS**

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
455 12th Street SW  
Washington, DC 20554

**Re: Modernizing the Form 477, WC Docket No. 11-10**

Dear Ms. Dortch,

NCTA – The Internet & Television Association (NCTA) submits this letter in response to the April 12 letter submitted by USTelecom, ITTA, and WISPA (collectively the Broadband Mapping Consortium or BMC). The BMC Letter attempts to create confusion regarding NCTA’s proposal to reform the Form 477 broadband reporting regime and ignores the significant problems with BMC’s own proposal in this docket. As between the two proposals, only the NCTA proposal offers the Commission a path to improved broadband data in a timely manner.

**Background**

NCTA has proposed that the Commission modify the Form 477 regime for reporting broadband availability by moving from the current census block-based approach to a framework based on submission of shapefiles that represent the area where each provider makes service available.<sup>1</sup> By requiring submitted shapefiles to be based on each provider’s service area, NCTA’s proposal would address the problem of unserved areas being inaccurately treated as served if they are located within served census blocks. NCTA also has proposed that the Commission use crowdsourcing to supplement its verification process and create a permanent feedback loop designed to continually improve the accuracy of the national broadband map.

The BMC also has submitted a proposal in this docket, but its proposal is not focused on the submission of Form 477 data. Rather, the BMC has proposed creating a Broadband Serviceable Location Fabric that is envisioned as a database of every location in America that

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<sup>1</sup> Letter from Steven F. Morris, NCTA, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 11-10 (Feb. 28, 2019) (NCTA Proposal); Letter from Steven F. Morris, NCTA, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 11-10 (Apr. 10, 2019) (NCTA April 10 Letter).

might require broadband service.<sup>2</sup> Once this “fabric” is created for the Commission by a third-party vendor, broadband providers would somehow submit their availability data on top of the fabric and the Commission would, in theory, be able to determine the exact location of every household and business in America – both those with broadband service and those without. But the BMC has provided no meaningful detail on how the Form 477 process would work under its proposal.

### **The BMC Letter Mischaracterizes the NCTA Proposal**

As described in prior submissions, the heart of NCTA’s proposal is a transition from the current requirement to report a list of census blocks where broadband is available to a new regime where providers would submit shapefiles representing the area where they make service available. The record in this proceeding supports replacing the current census block-based approach with a shapefile-based reporting mechanism. For example, NTCA has expressed support for NCTA’s shapefile proposal as an initial step in reforming the Form 477 process.<sup>3</sup> Significantly, the BMC Letter concedes that “submitting shapefiles may be one of several viable methods of reporting broadband coverage.”<sup>4</sup> Indeed, one of the three BMC members – WISPA – has advanced its own proposal to use shapefile reporting for fixed wireless services.<sup>5</sup>

Notwithstanding its acknowledgement that shapefiles represent a viable reporting method, the BMC suggests that there are “several shortcomings” with shapefiles.<sup>6</sup> The primary shortcoming that the BMC has raised is that the resulting data may not be sufficiently accurate. As a threshold matter, it is important to put the issue of accuracy into perspective. A consistent theme in the BMC Letter is that only through the use of a yet-to-be-created common template for geocoding locations can broadband data collection and mapping be accurate.<sup>7</sup> But somehow the imperfect GIS tools that exist today are powering a wide variety of services, like Airbnb and Zillow, that may not be 100% accurate but nevertheless deliver substantial value to society. Rather than waiting around for a theoretically perfect approach to broadband data collection to materialize, the Commission should move forward with structuring a program that is tolerant of the imperfections that are inherent in any data exercise of this magnitude.

Beyond the conceptual flaw in the BMC’s argument, none of the examples cited by the BMC demonstrate any serious shortcomings with a shapefile-based approach. First, the BMC Letter replicates a hypothetical map that was included in an NCTA blog post explaining the difference between census block reporting and shapefile reporting. While recognizing that the

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<sup>2</sup> Letter from Lynn Follansbee, USTelecom, et al., to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 11-10 (Apr. 12, 2019) (BMC Letter).

<sup>3</sup> See Letter from Michael R. Romano, NTCA – The Rural Broadband Association, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 11-10, at 3-4.

<sup>4</sup> BMC Letter at 4.

<sup>5</sup> See Letter from S. Jennell Trigg, Counsel to the Wireless Internet Service Providers Association, To Marlene H. Dortch, Secretary, Federal Communications Association, WC Docket No. 11-10 (Oct. 22, 2018), Attachment at 3.

<sup>6</sup> BMC Letter at 4.

<sup>7</sup> *Id.* at 2, 4.

illustration does, in fact, demonstrate that shapefile reporting will produce a much tighter, more accurate representation of a provider's service area, the BMC suggests that shapefiles are still problematic because there may be "additional unserved locations proximate to the area" within the shapefile but not shown on this illustration.<sup>8</sup> The intent of the picture was to show all the locations in the area, but even if there were additional unserved locations in this area, they would not be included within the shapefile representing the served area because that would be inconsistent with the regime we have proposed.

The BMC also creates its own hypothetical example in which it raises concerns about a scenario where two providers serve the same location but submit completely different shapefiles because they use different geocoding software.<sup>9</sup> Because many providers will base their shapefiles on network data, not geocoded address data, this hypothetical scenario will not necessarily be common. In any event, nothing about this hypothetical example regarding *served* areas disproves our central point that shapefiles would be a significant improvement over census block reporting because *unserved* areas within served census blocks would no longer be counted as served.

Implicit in the BMC hypothetical is a concern that a system based on shapefile reporting could in some cases lead to uncertainty about whether a particular area or location should be counted as served or unserved for purposes of a broadband funding program. But no reporting regime will be 100 percent accurate, including the system proposed by the BMC.<sup>10</sup> From NCTA's perspective, given that no reporting regime will be accurate all the time and that further review may be warranted before the data is used to make funding decisions (e.g., through crowdsourcing), the more relevant consideration is that a transition to shapefile reporting offers the potential for meaningful improvement in the Commission's broadband data. And because the improvements we propose were explicitly included in the Further Notice of Proposed Rulemaking in this proceeding, they can be adopted by the Commission expeditiously.

The BMC Letter also attempts to bolster its argument by relying on quotes from NCTA's most recent letter that are taken entirely out of context. In our letter, we offered an approach for estimating the nationwide level of coverage for purposes of the annual Section 706 report.<sup>11</sup> In response, the BMC Letter suggests that applying this estimation technique for the purpose of

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<sup>8</sup> *Id.* at 3.

<sup>9</sup> *Id.* at 2.

<sup>10</sup> *See* Letter from James Stegman, CostQuest Associates, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 11-10 (November 16, 2018) (CostQuest Letter) at 14 ("A successful approach for location level granularity requires . . . [a]cknowledgement that error free is not economically achievable . . . [and] that a 100% complete dataset is not achievable."). Indeed, use of an imperfect location fabric simply compounds the challenges providers will face in moving to a more granular reporting regime.

<sup>11</sup> NCTA April 10 Letter at 4-5. Currently, because partially served census blocks are treated as 100 percent served, the Commission merely needs to tally up the total households located in served census blocks to arrive at national figures. Under our proposal, partially served census blocks would be shown as partially served so some method is needed to estimate the number of households that are served in each of these partially served blocks.

assessing CAF eligibility will be problematic.<sup>12</sup> Given that this section of NCTA’s letter was clearly identified as covering “Section 706 Calculations,” the BMC’s argument is a complete non-sequitur. The Commission and other federal agencies historically have determined eligibility for funding mechanisms on an ad hoc basis (sometimes adopting a challenge process, sometimes relying solely on Form 477 data) and implicit in our proposal is that they would continue to do so.

The other shortcoming the BMC Letter suggests is that it will be too difficult for the Commission to “make sense out of thousands of shapefiles containing any one of myriad data formats.”<sup>13</sup> One way the Commission can address this concern is by identifying a standard set of base layer options on which companies can draw their shapefiles, similar to the approach Department of Agriculture is using in the context of its ReConnect program.<sup>14</sup> We note that state mapping agencies also have figured out how to do this and we are confident that the Commission will be able to achieve similar results.<sup>15</sup> Indeed, the notion that compiling shapefiles submitted by Form 477 filers in different formats and presenting them on a map is too complex a task for the Commission is particularly curious given the variety and quantity of data that will have to be compiled to create the BMC’s proposed location fabric. That effort apparently is so complex that the BMC did not even contemplate having the Commission do it without paying millions of dollars to a contractor.<sup>16</sup>

### **The BMC Proposal Raises Significant Questions**

The BMC has set forth a lofty vision of how its proposed broadband location fabric will work, but it has glossed over many significant concerns that are raised by its proposal. Although there is no need for the Commission to consider these issues until the BMC submits a report on its pilot project, we preview some of these concerns below.

*Timing.* Even under the most optimistic scenario, the broadband location fabric will not be completed until 2021. The BMC is just starting its pilot project and it will then have to submit a report to the Commission explaining what was tested and what the results were. The Commission presumably would invite comment on whether such an approach should be pursued on a nationwide basis and, if it chooses to adopt such an approach, it would then issue a Request

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<sup>12</sup> BMC Letter at 4.

<sup>13</sup> *Id.* at 3.

<sup>14</sup> *See, e.g., Rural E-Connectivity Program Application Guide for Fiscal Year 2019*, Rural Utilities Service (Apr. 23, 2019) at 34-50, [https://www.rd.usda.gov/files/ReConnect\\_Program\\_Application\\_Guide.pdf](https://www.rd.usda.gov/files/ReConnect_Program_Application_Guide.pdf). Our point here is that some standardization is possible within a shapefile-based regime, not that the Commission should use the specific mapping tool created by RUS.

<sup>15</sup> *See* The Kansas Broadband Map, <https://connectednation.org/kansas/interactivemap>.

<sup>16</sup> We note that the option to outsource elements of the Form 477 process to a third party is available to the Commission with respect to our proposal in exactly the same way as it is for the BMC proposal. While NCTA’s proposal does not depend on such outsourcing, we did suggest that the Commission might consider using a third party to “collect data from providers and assist those providers, particularly small providers, that do not themselves have the ability to convert their data into shapefiles.” NCTA Proposal at 2.

for Proposals to hire a qualified contractor.<sup>17</sup> After the contractor completes this work, the Commission then would need to solicit comment on how the Form 477 filing process should be reformed so that broadband providers could submit data on top of the location fabric. While the BMC suggests that all of this can be done in two years,<sup>18</sup> based on past experience that timeline is highly implausible.<sup>19</sup>

*Cost.* The BMC estimates that it will cost approximately \$10 million to create a nationwide location fabric and an additional \$2.5 million per year to keep it updated.<sup>20</sup> At this time NCTA has no way to judge the validity of that estimate, but we do know that such an amount does not seem to be included in the Commission's current budget.<sup>21</sup> Accordingly, the Commission would need to include the money necessary for this project in its next appropriation request to Congress. The need to obtain funding from Congress adds uncertainty and time to what is already an uncertain and time-consuming effort. Moreover, this significant expense only covers creation of the fabric; reform of the Form 477 process will entail additional costs well beyond this amount, both for providers and for the Commission.

*Burden on Filers.* Virtually all providers have expressed concerns in the record about the potential burden of moving to a more granular reporting regime.<sup>22</sup> In response to concerns about the burdens of the BMC proposal, the BMC suggests that using the location fabric will “radically simplify” the filing process because all providers would “submit customer address data” to the Commission's contractor and in return they would be provided with “an indexed link” to their locations on the fabric.<sup>23</sup> At this stage, NCTA is extremely dubious that creating an address-based shadow filing regime in which thousands of providers give customer address data to a contractor would in any way ease the burden of the Form 477 process, let alone “radically simplify” anything.

*Access to Data.* In an earlier letter, USTelecom made clear that its proposal raises significant questions as to who owns the data underlying the broadband location fabric and who will be allowed to access that data. Specifically, USTelecom explained that the complete

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<sup>17</sup> The Commission's hiring of SamKnows to administer the Measuring Broadband America program offers a useful precedent for how such a process might play out. *See, e.g.*, Public Notice, *Request for Comment on Residential Fixed Broadband Services Testing and Measurement Solution*, CG Docket No. 09-158, DA 10-670 (CGB 2010).

<sup>18</sup> Letter from Lynn Follansbee, USTelecom, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 11-10 at 4 (Mar. 21, 2019) (USTelecom Letter).

<sup>19</sup> The last time the Commission updated the Form 477, the lag between adoption of an order and the deadline for filing reports under the new system was roughly 18 months. We would expect the time needed to complete all of the steps necessary to implement the BMC proposal to be substantially longer.

<sup>20</sup> USTelecom Letter at 4.

<sup>21</sup> *See* FCC Fiscal Year 2020 Budget Estimates to Congress (March 2019) at 101, <https://docs.fcc.gov/public/attachments/DOC-356607A1.pdf>. According to this document the Office of Economic and Analytics is responsible for the Form 477 data collection. The total proposed budget for that office is roughly \$15 million, almost all of which covers the costs attributable to 97 full-time employees.

<sup>22</sup> *See, e.g.*, NCTA Comments at 3-4; ACA Comments at 4; NTCA Comments at 3-4; USTelecom Comments at 2; ITTA Comments at 4-6; WISPA Comments at 8.

<sup>23</sup> BMC Letter at 5.

location fabric and source material produced during the pilot will not be available to the Commission, that distribution of this material will be limited, and that there will be no public posting of information.<sup>24</sup> If the Commission nevertheless decides to proceed with creating a national location fabric, “use and distribution can be discussed with the vendors.”<sup>25</sup> Given that the location fabric is being presented as the definitive reference for where homes and businesses are located, the lack of complete access for companies that would be expected to use the fabric to meet their reporting obligations is troubling.

*Verification.* As noted above, it is clear that the ultimate product of the BMC project will not be 100 percent accurate no matter how much time or money is spent.<sup>26</sup> While the BMC suggests that NCTA should have provided more details on how crowdsourcing will be used to verify shapefiles, the BMC Letter provides no details on how crowdsourcing will be used in its proposal. Significantly, under the BMC proposal, verification will be needed not just for the Form 477 data submitted by providers, but also for the underlying location fabric. In that sense, use of the location fabric may increase the potential for errors, above and beyond the challenges inherent in moving to a more granular reporting regime.

### **As Between the Two Proposals, Only the NCTA Proposal Offers the Prospect of Timely Improvement in Broadband Data**

The fundamental difference between NCTA’s approach to these issues and the BMC’s approach is one of sequencing. NCTA has focused on reforms to the Form 477 process so that the Commission can gather and publish more accurate data before it begins distributing the next round of broadband funding (e.g., the \$20 billion Rural Development Opportunity Fund announced last month by Chairman Pai). Given the timing challenges the Commission will inevitably face in implementing any new reporting requirements (e.g., OMB approval, systems modifications), any delay in adopting new reporting requirements could delay the delivery of broadband to areas that do not have it today.

In contrast, the BMC is encouraging the Commission to spend at least two years and at least \$10 million developing a database of every home and business in America, and only then would it consider how to reform the Form 477 process.<sup>27</sup> But the possibility that the BMC proposal will generate useful information in 2021 or later is no reason for the Commission to sit by idly in the interim, particularly if it is serious about using the new Rural Development Opportunity Fund to close the lingering broadband divide. With millions of Americans still unserved, the Commission has a responsibility to end CAF Phase II as scheduled and move

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<sup>24</sup> USTelecom Letter at 4.

<sup>25</sup> *Id.* at 4 n.7.

<sup>26</sup> CostQuest Letter at 14.

<sup>27</sup> The BMC’s intense focus on identifying specific locations can be explained in part by the challenges the BMC companies are facing in complying with their reporting obligations under CAF II. BMC Letter at 2. To the extent the BMC proposal is directed at this objective, it is not clear why federal dollars should be expected to cover these costs. The price cap LECs, in particular, were given \$10 billion under CAF II with no competitive bidding to provide services that do not even qualify as broadband for purposes of Section 706. There is no reason those companies should be permitted to deflect their compliance costs onto the public.

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expeditiously to the next round of funding with the best information available. NCTA has offered a path that will enable the Commission to achieve that objective; the BMC has not.

Respectfully submitted,

**Steven F. Morris**

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