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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,

On February 25, 2019, Steve Morris and Jennifer McKee of NCTA – The Internet & Television Association, Elizabeth Andrion and Christianna Barnhart of Charter Communications, Beth Choroser of Comcast, Barry Ohlson on behalf of Cox Communications, and Tim Stelzig of GCI Communication Corp. (by phone), met with Kirk Burgee, Rodger Woock, Steve Rosenberg, Ken Lynch, Suzanne Mendez, Ying Ke, and John Emmett of the Wireline Competition Bureau to discuss the above-referenced proceeding.¹ NCTA presented its three-step proposal, outlined below and in the attached documents, to revise the Form 477 broadband reporting process so that policymakers and consumers have more accurate information about the availability of broadband in their communities and to better inform the efficient distribution of any future government funding for broadband deployment.

First, the Commission should require fixed broadband providers to submit polygon shapefiles in lieu of the census block availability data required under current rules. We explained that a transition from census blocks to shapefiles would address concerns that the current census block approach overstates coverage, particularly in larger census blocks. The use of shapefiles would dramatically increase the accuracy of the reported data because shapefiles are more closely tied to a provider's service area. We explained that shapefiles could be generated based on a provider's footprint using a variety of sources, such as network maps or homes passed data, but in any case the required objective would be to create a polygon that represents where the provider offers broadband service (and outside of which would be considered unserved by that provider). The Commission should make clear that failure to comply with this requirement by knowingly reporting unserved areas as served would violate the rules.

¹ *Modernizing the Form 477 Data Program*, WC Docket No. 11-10, Further Notice of Proposed Rulemaking, 32 FCC Rcd 6329 (2017).

As with any approach to broadband reporting, our proposal assumes that the Commission will either apply the existing rules for determining whether an area is served by a provider² or identify new parameters for providers to follow. We explained, however, that it was important to retain some flexibility given the different types of broadband networks that exist and the different methods of deriving a shapefile to represent the provider's service territory.³

One significant benefit of a reporting regime based on shapefiles is that it is familiar to many providers because it has been used in other contexts by the Commission and by other federal and state agencies.⁴ In particular, we explained that several NCTA members recently participated in a voluntary mapping exercise in Kansas that was based on shapefile reporting.⁵ The existence of these programs strongly suggests that any technical and operational challenges associated with the use of shapefiles likely can be overcome. We noted that one feature of the Kansas program that the Commission could consider replicating is the use of a third-party to collect data from providers and to assist those providers, particularly small providers, that do not themselves have the capability to convert their data into shapefiles.

NCTA also explained that moving to a regime based on shapefile reporting offers significant advantages over recent proposals to move to an address-based reporting regime.⁶ The address-based proposals in the record would require the Commission to engage in a costly and time-consuming exercise to create a database of every address in America before improved data would be collected.⁷ We expressed concern that these proposals would create a serious risk that the Commission will not have improved broadband data when Connect America Fund (CAF) Phase II model-based funding ends beginning in 2020. In contrast, NCTA's shapefile-based approach could lead to improved reporting and mapping as early as next year.

The use of addresses as the basis for broadband reporting presents additional issues as well. In particular, during the meeting GCI reiterated that moving to an address-based collection regime would create significant problems in extremely rural areas, such as Alaska, where many

² FCC Form 477 Instructions at 17, <https://transition.fcc.gov/form477/477inst.pdf>.

³ WISPA has made a similar point in connection with its proposal to use shapefiles for reporting by fixed wireless providers. *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.

⁴ *See, e.g.*, Letter from Thomas Cohen, Counsel for the American Cable Association, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 11-10 (October 19, 2018) at 7 (“[F]or Shentel, using shapefiles offers the easiest approach, addressing most concerns about collection burdens.”).

⁵ *See* The Kansas Broadband Map, <https://engis.maps.arcgis.com/apps/webappviewer/index.html?id=72ab65f4ac2c4207abd1e575fa148cb4&extent=-11379818.9931%2C4398192.5707%2C-10557968.065%2C4910626.4083%2C102100>.

⁶ *See, e.g.*, Letter from Lynn Follansbee, USTelecom, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 11-10 (Oct. 17, 2018); Letter from Ola Olyefusi, AT&T, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 11-10 (Oct. 12, 2018).

⁷ We noted that the Department of Transportation has been engaged in a similar effort for many years and does not appear to be close to having a nationwide database. *See, e.g., Coming Soon: An Open Database of Every U.S. Address*, FedScoop (Sept. 28, 2015).

locations do not have a traditional street address.⁸ In addition, Comcast has previously explained that associating speed data with individual locations would be virtually impossible and expecting a company executive to certify that every single location is correctly reported would be unreasonable.⁹ We also explained that moving to an address-based approach likely would exacerbate, rather than solve, concerns about the accuracy of data reported by providers.¹⁰

Second, we encouraged the Commission to use crowdsourcing to supplement the Commission's current process for verifying reported data. As noted by Commissioner Rosenworcel, it is time for the Commission to "use the wisdom of the crowd to get our maps right."¹¹ Under our proposal, once the Commission releases maps under the new shapefile-based reporting regime, any consumer could submit evidence to the Commission raising questions about the accuracy of the maps. The Commission staff would forward that information to the relevant providers, who would then correct their next Form 477 submissions if warranted. The existence of this permanent feedback loop will give a voice to consumers and help to improve the accuracy of maps generated from the Form 477 data.¹²

Third, NCTA's proposal recognizes that one of the most important uses of broadband data and broadband maps is to target subsidies to unserved areas. Many areas that currently are excluded from subsidy mechanisms because a census block is reported as served would be eligible for support under NCTA's proposed shapefile-based approach. To illustrate this point, we provided a sample map showing the difference in coverage between a census block-based approach and a shapefile-based approach in a rural area. Because a map based on shapefiles will depict more granular coverage areas than a map based on census blocks, it necessarily will be a more accurate representation of a provider's service area than a census block-based map.

We also explained that moving to address-based reporting for the entire nation is an unnecessary and wasteful method of gathering information about the specific location of unserved homes and businesses. The vast majority of consumers live in areas that are served by

⁸ See Letter from Julie A. Veach, Counsel for GCI Communication Corp., to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 11-10 (Oct. 25, 2018) ("GCI estimates that perhaps 20 percent of locations in Alaska do not have valid street addresses. . . . Outside of Anchorage, Fairbanks, Juneau, and the Kenai Peninsula and Mat-Su areas near Anchorage, the estimate of locations without valid street addresses jumps to 75 percent."). See also ACA Letter at 7 ("collecting and reporting data by individual street address are fraught with grave problems").

⁹ See Letter from Beth Choroser, Comcast, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 11-10 (November 28, 2018) at 2-3.

¹⁰ See Letter from James Stegman, CostQuest Associates, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 11-10 (November 16, 2018) 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.").

¹¹ Remarks of Commissioner Jessica Rosenworcel, *Better Maps, Better Connectivity: Getting the Data to Close the Broadband Gap*, The Pew Charitable Trusts, Washington, DC (December 11, 2018).

¹² The Commission should be sure to include any necessary disclaimers regarding the accuracy of certain data sources (e.g., online speed tests) as it has done in the context of the Measuring Broadband America program. See, e.g., Technical Appendix to the Eighth MBA Report, Section 3.1 (identifying numerous potential flaws with online speed tests), <https://data.fcc.gov/download/measuring-broadband-america/2018/Technical-Appendix-fixed-2018.pdf>.

broadband providers and maps based on shapefiles will reflect this. Requiring excessive detail or granularity in the reporting for these served areas simply increases the likelihood of errors and diverts resources from other more important uses. With respect to unserved areas, the Commission should use existing tools as a starting point in identifying specific locations that need service. For example, the Commission already collects data on locations that are served pursuant to CAF and that may be eligible for future support programs. We also encouraged the Commission to make use of existing tools, such as Microsoft's nationwide map of buildings, which would provide a useful visual representation of the locations of buildings within any particular unserved area.¹³ During the CAF III process, the Commission could supplement this data as needed with additional information regarding unserved areas.

Respectfully submitted,

/s/ Steven F. Morris

Steven F. Morris

cc: K. Burgee
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S. Rosenberg
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S. Mendez
Y. Ke
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¹³ See A Map of Every Building in America, New York Times (Oct. 12, 2018), <https://www.nytimes.com/interactive/2018/10/12/us/map-of-every-building-in-the-united-states.html>.

IMPROVING BROADBAND REPORTING AND MAPPING

FCC's Task: Create a more granular and accurate map, while efficiently using the resources of the Commission and providers to identify unserved locations, setting the stage for future funding distributions

Problem #1 – Census Block Reporting. Form 477 reporting based on census blocks overstates coverage creating the perception that maps are inaccurate and raising concerns that unserved areas will be excluded from subsidies

Proposed Solution - Use Polygon Shapefiles for Form 477 Reporting

- Shapefiles are more closely tied to a provider's service area and will eliminate the problem of large unserved areas being counted as served
 - Polygon shapefiles can be implemented more quickly and at lower cost than an address-based approach
 - Shapefiles already are familiar to many providers and have been used by the FCC, RUS, and many states
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Problem #2 – Verification of Reported Data. The FCC has limited resources for verification of provider submissions which feeds the perception that FCC maps are inaccurate

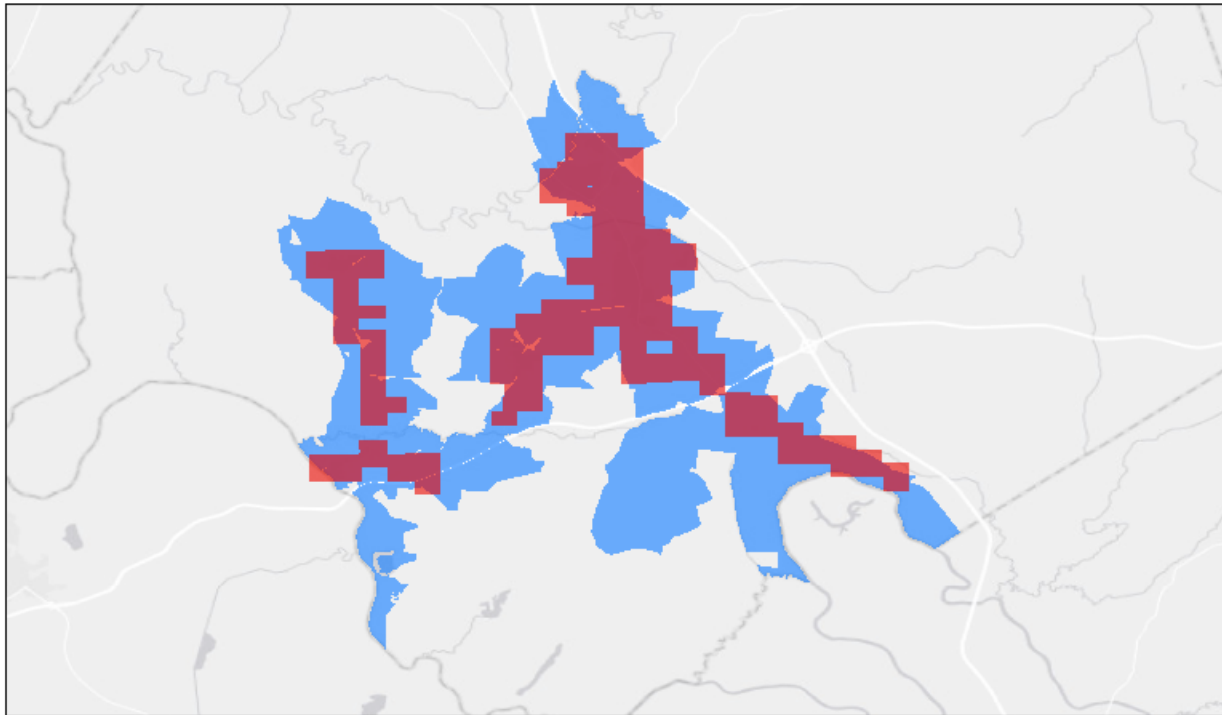
Proposed Solution – Use Crowdsourcing to Supplement FCC Efforts

- The FCC should establish a verification process in which consumers could report potential inaccuracies in the data
 - FCC staff would forward any submissions to the relevant providers, who would make any necessary corrections in subsequent Form 477 filings
 - The primary goal of this process is to improve the accuracy of the map, not to generate enforcement activity
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Problem #3 – Identifying Unserved Locations. Lack of details regarding unserved locations creates challenges for future funding distribution

Proposed Solution – Use Existing Tools to Identify Unserved Locations

- Use data from the HUBB database to identify locations that may be eligible for future funding (e.g., locations that have 10/1 broadband due to CAF II funding)
 - Microsoft has created an open-source [map](#) of all buildings in America that could provide a visual representation of buildings located within an unserved area
 - The FCC should make all of this data publicly available for use by other federal and state agencies that distribute broadband funding
 - Before distributing any new CAF funding, identify areas where deployment commitments have been made through other government programs (e.g., RUS)
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Legend

- Footprint
- 477 Census Blocks