August 22, 2019

Ex Parte
Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, D.C. 20554

Re: **Establishing the Digital Opportunity Data Collection WC Docket No. 19-195**
        Modernizing the FCC Form 477 Data Program,WC Docket No. 11-10
        Connect America Fund, WC Docket No. 10-90
        Rural Digital Opportunities Fund, WC 19-126

Dear Ms. Dortch:

        On August 20, 2019, representatives of USTelecom, ITTA, WISPA and CostQuest Associates met separately with Preston Wise, Special Counsel to Chairman Pai; Commissioner Michael O'Rielly and Joel Miller, Chief of Staff to Commissioner O'Rielly; Joe Calascione, Acting Legal Advisor to Commissioner Carr; Bill Davenport, Chief of Staff to Commissioner Starks and Alisa Valentin, Special Advisor to Commissioner Starks; and, Kris Montieth, Chief of the Wireline Competition Bureau, Kirk Burgee and Chelsea Fallon, of the Wireline Competition Bureau, and Steve Rosenberg, Ken Lynch and Ying Ke of the Office of Economic Analysis. A full list of industry participants is below. The purpose of the meetings was for the Broadband Mapping Consortium (Consortium) members to present the Broadband Mapping Initiative Proof of Concept, Summary of Findings Report (Report).[1]

        Jim Stegeman, President and CEO of CostQuest Associates, explained the methodology behind the Consortium's Broadband Serviceable Location Fabric (Fabric) pilot project in Missouri and Virginia (Pilot) and highlighted its key findings. The first of those findings is that the Fabric is able to reveal unserved locations in census blocks that are currently designated as "served" using the "one served - all served" census block methodology. Our Pilot identified 445,000 locations (38% of the census block total locations) that are not served by our Consortium participants but are counted as served today. We note in the report that although the Pilot was open to all providers not every broadband provider chose to participate in this Pilot, so the actual number is likely to be lower. Mr. Stegeman indicated in the meetings that in an effort

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[1] *See* Letter from Jonathan Spalter, President & CEO, USTelecom – The Broadband Association, Genevieve Morelli, President, ITTA, Claude Aiken, President and CEO, WISPA to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 11-10, 10-90 (Mar. 21, 2019); Letter from B. Lynn Follansbee, VP – Policy & Advocacy, USTelecom to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 19-195, 11-10, 10-90, 19-126 and accompanying "Broadband Mapping Initiative Proof of Concept Summary of Findings Report" (Aug. 20, 2019).

to find a lower bound for this number, when CostQuest looked at the census blocks that non-participating providers reported as served on FCC Form 477 and considered all locations within those census blocks as completely served, the number of unserved locations within served census blocks dropped to about 200,000 locations in both states combined. Mr. Stegeman also noted that, as compared to rural locations found in the Fabric, currently used estimates of census locations counts are incorrect 48% of the time and that those inconsistencies are both over and under inclusive.

Another important finding discussed is the differences in distances between rural Fabric locations in Missouri and Virginia as compared to those locations in the Pilot that were geocoded using commercial geocoders. As shown in the report, 61% of the Pilot participant provided geocoded locations were 7.6 meters/25 feet away[2] from where they appear in the Fabric and 25% percent of those locations are over 100 meters away. Mr. Stegeman indicated that when a location is off by over 100 meters, it can lead to placing the location in the wrong census block, which it found occurred 23% of the time. Misidentifying the census block is a problem for purposes of decision making about government funding of those rural locations and could lead to subsidized overbuilding of served areas.

The parties also reviewed pages 9-12 of the Report which demonstrate how the Fabric allows a much more targeted view of served and unserved locations as opposed to the "one served - all served" methodogy and is a necessary element of polygon reporting. Page 9 shows how ten census blocks in Central Eastern Missouri look using the "one served-all served" methodology. Page 10 shows what a potential polygon filing would look like on top of these census blocks. The polygons shown are based on the Pilot participant's commericially geocoded locations used to create polygons running along roads with a 150 foot buffer. Mr. Stegeman noted that this is not the only way to create a polygon, but it is just an example of how a polygon could be created using currently available geocoding methods. The parties acknowledged that it is part of the Commission's Further Notice[3] to determine how polygons should be created.

Slide 11 shows that good data is required for accurate polygons. Comparing the same polygons with the Fabric locations associated with the addresses used to create the polygons demonstrates how polygons based on poor geocoded information will misrepresent the broadband service area. Slide 12 presents the big coverage reveal: how the Fabric process allows us to see not only the served locations but also the *underserved* locations in the census blocks. Based on this sample, it is clear that most of the unserved locations are in the eastern half of these ten census blocks – locations that may not have been seen by providers. The clusters of unserved locations help to show where service is needed and helps with specificity in planning networks.

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[2] 7.6 meters is the distance used by USAC to determine whether a CAF location in the HUBB is accurate.
[3] *Digital Opportunity Data Collection*, Report and Order and Further Notice of Proposed Rulemaking, WC Docket Nos. 19-195, 11-10 (Aug. 2, 2019).

Mr. Stegeman also provided to the attendees some lessons learned in undertaking the creation of the Fabric in the two states. The primary request of the Commission is to clarify the definition of a "location," including the requirements for the assignment of structures into residential and business categories. With respect to budget and timing, Mr. Stegeman confirmed the estimated cost of the Pilot using some proprietary data and all open source data. Mr. Stegeman pointed out that the proprietary Fabric creates a superior product at a lower estimated cost ($8.5-$11 million) and would allow for public viewing but would be somewhat restricted in that it would not be available for download in its entirety by the public. The estimated cost of the completely open source data Fabric would be twice the cost in part because it would rely on the visual verification of more records in order to get to the same level of accuracy.

With respect to the visual verification of records in creating the Fabric, Mr. Stegeman reported that its use is a key driver of the quality of the Fabric and was a very useful process in the situations where the land use data was not normalized and/or it was unclear which structure on a parcel was the serviceable structure. Bureau staff asked to see the decision tree that was used to assist the participants in the managed crowd that performed the visual verifications. Per their request we have attached that decision tree to this filing.

Additionally, the parties discussed how the Fabric data compared to currently filed HUBB data and talked through in more detail the back up data for each state that is reflected in the key findings.

Please contact the undersigned should you have any questions.

Respectfully submitted,

USTELECOM

By: _____
      B. Lynn Follansbee
      Vice President –Policy & Advocacy

cc: Nick Degani
        Preston Wise
        Commissioner Michael O'Rielly
        Joel Miller
        Arielle Roth
        Joe Calascione
        Bill Davenport
        Alisa Valentin

Kris Montieth
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Kirk Burgee
Ken Lynch
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Industry Attendees
B. Lynn Follansbee, USTelecom
Mike Saperstein, USTelecom
Allison Remsen, USTelecom
Genny Morelli, ITTA
Steve Coran, WISPA
Louis Peraertz, WISPA
Jim Stegeman, CostQuest
Luis Rodriguez, CostQuest

BSLF Imagery Review Flow Chart

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Review boundaries are typically parcels

Does the imagery provide enough detail to clearly see any structure(s) within the review boundary and their characteristics?
- Yes
- No → Unknown

Imagery Vintage
If imagery shows different structures at different zoom levels, try to discern which is more recent and base your decisions off of the most evidently recent imagery

How many structures are there within the review boundary?
- Zero → No Primary Serviceable Structure(s)
- One → **Is the structure serviceable?**
  - No → No Primary Serviceable Structure(s)
  - Yes → Select One Primary Serviceable Structure
- Multiple

Definition of Primary Serviceable Structure
- Structure is maintained and safe to enter (ex: not dilapidated or falling down)
- A mostly permanent (including mobile homes, house boats) residence fit for occupancy (ex: Single Family Residence, Apartments, Dormitory, Retirement Home, etc.)
- A place of business where someone would go to work (ex: Restaurant, Office Building, Retail Stores, Lumber Yards, etc.)
- An anchor institution
- A private or public piece of communication infrastructure (ex: Data Center, Cellular Tower, etc.)

Are the structures mostly residential structures and/or small businesses?
- Yes → Select All Primary Serviceable Structures (remove secondary structures)
- No → **How many organizational entities and/or anchor institutions are represented within the review boundary?**
  - Multiple
  - One → **Is the entities primary serviceable structure nearby but outside of the review boundary?**
    - No
    - Yes

Anchor Institutions
Police stations, government offices, schools, hospitals, correctional facilities, etc.

Secondary Structures
Garages, barns, quonset huts, greenhouses, sheds, utility shacks, storage containers, etc.

Example: A set of secondary farm structures where the residence has been cut out into a different review boundary, or a business with storage containers where the primary office is within a separate review boundary

Organizational Entity
Examples: Industrial refinery, Amusement park, summer camp, mobile home, residence, manufacturing facility

Selecting Primary Serviceable Structure
For the structures within the review boundary, if the primary serviceable structure is not obvious, look for the structure that meets most of the following conditions:
- The structure is shaded more than others (trees surrounding or nearby)
- The structure has a fence or mowed lawn around it
- The structure is more easily and readily accessible by a road that supports traveling by a passenger vehicle
- The structure has passenger vehicle(s) parked near it
- The structure has utilities run to it such as electric or telephone service
- The structure has ventilation, exhausts, or complex roof patterns (such as dormers)

For each organizational entity and/or anchor institution represented within the review boundary, identify the primary serviceable structure