

## **Aligning the FCC's Digital Opportunity Data Collection with the Broadband DATA Act**

**August 5, 2020**

In July, the Federal Communication Commission (FCC) voted to adopt a [Second Report and Order and Third Further Notice of Proposed Rulemaking](#) that sets in motion the rollout of Form 477 modernization and paves the way for better broadband mapping and data from the Commission.

As reported in a previous [Connected Nation Policy Brief](#), in 2019 the Commission approved a first [Report and Order and Second Further Notice of Proposed Rulemaking](#) on the topic of broadband data collection and mapping. The *Report and Order* established the “Digital Opportunity Data Collection,” distinct from the current data collection process called Form 477, which sought to gather geospatial broadband service availability data to advance the goal of universal service. In the *Second Further Notice of Proposed Rulemaking*, the FCC asked stakeholders to respond to a variety of questions on the new Digital Opportunity Data Collection in order to enhance the “accuracy and usefulness of broadband deployment reporting.”

Then, on March 10, 2020, Congress passed the [Broadband Deployment Accuracy and Technological Availability \(DATA\) Act](#), which set the stage for this sweeping reform on how broadband data is collected, verified, and mapped by the FCC. This legislation, according to the FCC, “largely ratif[ied] the Digital Opportunity Data Collection’s approach to broadband mapping,” thus setting the stage for next steps on the FCC’s work towards better broadband maps. As part of the Broadband DATA Act, the FCC is required to issue final rules for collecting granular data from providers on the availability and quality of broadband, to create publicly available coverage maps, to establish processes for members of the public and other entities to challenge and verify the coverage maps, and to create a common dataset of all locations where fixed broadband internet access service can be installed.

### **Form 477 Background**

As Connected Nation has [reported](#) many times, leaders on both sides of the political aisle have frequently argued Form 477 data is inaccurate and lacks proper granularity to be useful for measuring the Digital Divide. The current Form 477 process requires providers to report census blocks where they provide service, and if even one household in a given block is served, the entire block is considered as having service, resulting in a significant overstatement of availability. Additionally, Form 477 data is not validated or verified, which

contributes to significant misrepresentation of broadband coverage. These issues and more lead to inaccurate data that is not granular enough to be useful for identifying unserved areas.

## **The Report and Order**

This month, the FCC's *Second Report and Order* was adopted, paving the way for collection and verification requirements for fixed and mobile broadband availability, in step with the Broadband DATA Act, in order to revamp how providers have been submitting data. While some of the legislation requirements are consistent with the Digital Opportunity Data Collection *Order* and *Further Notice*, there are some inconsistencies that this *Second Report and Order* addresses.

In the original *Report and Order*, for example, USAC was designated as the entity to develop and maintain the process for accepting and managing service provider submissions, along with carrying out challenge processes and collecting crowdsourced data from consumers, government entities, and other third parties. The Broadband DATA Act, however, prohibits USAC from playing this role.

Other topics laid out in the *Report and Order* include:

### **Fixed Providers**

Terrestrial fixed, including fixed wireless, and satellite providers are required to report availability and quality of service data for areas where they have actually built out infrastructure and where they *could* perform a standard broadband installation.

Fixed providers must report either polygon shapefiles or lists of addresses/locations of their service areas. Shapefiles must be reported with propagation maps and propagation model details that reflect the speeds and latency of their service, and each provider must give details of how they generated their polygons or lists of addresses/locations.

### **Mobile Providers**

Under the *Report and Order*, mobile providers are required to submit propagation maps and propagation models based on specified parameters. Propagation maps must reflect technology-specific user download and upload speeds given prescribed minimum cell edge probabilities, cell loading factors, and modeling resolution.

Providers are allowed to choose other propagation modeling parameters that reflect each provider's particular network configurations, deployed infrastructure, and geographic characteristics of each area. Mobile providers are required to submit parameters they use in modeling the prescribed network performance standards, as well. The FCC stated that "providing flexibility to select modeling parameters combined with public disclosure of those parameters will ensure that submitted propagation maps reflect on-the-ground performance while fostering transparency and confidence in modeled performance." Also required is reporting on 3G and 5G-NR infrastructure.

On the topic of verification, providers are required to report the following each year:

1. Geographic location of cell sites
2. Site ID number of each transmitter
3. Latitude and longitude of each transmitter
4. Ground elevation above mean sea level (AMSL) of the site (in meters)
5. Number of sectors at each cell site
6. Capacity (Mbps) and type of backhaul used at each cell site
7. Per site classification (e.g., urban, suburban, or rural)
8. Effective Isotropic Radiated Power (EIRP, in dBm) of the transmitter
9. Elevation above ground level for each base station antenna (in meters) and other transmit antenna specifications
10. Operating radiated transmit power of the radio equipment at each cell site
11. Frequency band(s) used to provide service being mapped including channel bandwidth (in megahertz)
12. Throughput and associated required signal strength and signal to noise ratio
13. Cell loading factors
14. Radio technologies used on each band
15. Areas enabled with carrier aggregation and a list of band combinations

### **The Fabric**

One of the most unique aspects of the Broadband DATA Act is the requirement for the FCC to create “a common dataset of all locations in the United States where fixed broadband Internet access service can be installed, as determined by the Commission.” This dataset is commonly referred to as “the Fabric.” The geocoded information will serve as the foundation on which all other fixed broadband internet access service availability data is collected, and the FCC is required to update the Fabric at least every six months. This *Report and Order* adopts the Fabric, but the *Third Notice* (see below) seeks additional comments on certain aspects of developing it.

As mentioned above, the Broadband DATA Act authorizes the FCC to contract with an entity with GIS expertise to create and maintain the Fabric, and it prohibits the FCC from contracting with USAC. As no funding has yet to be doled out by Congress for the creation of the Fabric, Connected Nation will be closely tracking congressional movement on the topic of funding.

### **Timing of Collection Filings**

The *Report and Order* establishes a biannual schedule for collection of broadband service availability and quality of service data.

- March 1 – would reflect data as of December 31 of the previous calendar year
- September 1 – would reflect data as of June 30 of the then-current calendar year

### **Verification of the Data**

An important aspect of revamping reporting and mapping requirements is to ensure the data is verified and accurate. This is a major issue with the current Form 477, where provider-

submitted data goes largely unchecked. This *Report and Order* establishes rules and adopts the following:

1. A process that uses data contained in the Administrator's High Cost Universal Broadband (HUBB) portal to crosscheck fixed broadband coverage data
2. The use of audits as a means of verifying coverage data accuracy
3. A certification requirement for all biannual provider submissions
4. Processes for collecting crowdsourced and verified third-party data

The Broadband DATA Act's call for the FCC to conduct regular audits of provider-submitted data includes the reporting of the availability of access, speeds, latency, and geocoded location data. For fixed wireless providers, propagation maps and model details, or lists of addresses and locations must be submitted. For terrestrial fixed and satellite providers, polygon shapefiles or a list of addresses and locations are required. For mobile providers, propagation maps and model details of a provider's mobile 4G-LTE broadband internet access service coverage is required.

The *Report and Order* specifically mentions Connected Nation (CN) and agrees with CN's comments that "the DODC would benefit significantly from having a mechanism for field validation in place at the outset of the first data collection so that there is a means of auditing the data and investigating where evidence suggests the resulting maps may be incorrect."

### **Creating Coverage Maps**

Per the Broadband DATA Act, the FCC is required to create coverage maps showing the availability of broadband, both fixed and mobile, as well as unserved areas lacking fixed or mobile coverage. The FCC states in the *Report and Order* that they will create the Broadband coverage maps overlaid onto the fixed service Fabric data. According to the FCC, "[c]overage depicted on the Broadband Map and the fixed and mobile coverage maps will be defined by providers' reported availability data, as revised by the outcome of successful challenges under the challenge process and the outcomes of Commission investigations and inquiries, which may be informed by crowdsourced data."

Maps will be updated at least biannually with data submitted by providers, as well as with any updates or corrections collected. The Broadband DATA Act will require the FCC to consult with the Federal Geographic Data Committee before creating the maps, and also with NTIA and the USDA to aid in their dissemination of federal broadband- related funding.

### **Government and Third-Party Data**

Lastly, the *Report and Order* adopts the Broadband DATA Act's requirement that the FCC develop a process to collect verified data for use in the coverage maps from:

1. State, local, and tribal governmental entities primarily responsible for mapping or tracking broadband internet access service coverage in their areas
2. Third parties, if the Commission determines it is in the public interest to use their data in the development of the coverage maps or in the verification of data submitted by providers
3. Other federal agencies

## The Third Further Notice of Proposed Rulemaking

In the *Third Further Notice of Proposed Rulemaking*, the FCC requests comment on a number of questions, including what steps are necessary to implement certain provisions of the Broadband DATA Act. The *Notice* also asks the extent to which measures already adopted by the FCC meet the requirements of the Broadband DATA Act legislation.

A few noteworthy items for which the FCC is seeking comment are:

- Should the FCC exclude reporting of business-only service by fixed providers and instead require only a distinction between “residential-only” and “business-and-residential” services by fixed providers?
- Should speeds be reported in the following fashion by fixed providers?
  - o For speeds less than 25/3 Mbps, they propose the use of two speed tiers:
    - Speeds greater than 200 kbps and less than 10/1 Mbps
    - Speeds greater than or equal to 10/1 Mbps and less than 25/3.
  - o For speeds greater than or equal to 25/3 Mbps, providers would report the maximum advertised download and upload speeds.
- As an alternative to having all fixed providers submit latency information, should the FCC determine that the collection of latency data is only applicable to providers of certain types of fixed service?
- Should the FCC require mobile providers to make additional disclosures on input data, assumptions, and parameter values underlying their propagation models?
- Should the FCC require mobile service providers to submit on-the-ground test data—from a combination of mobile and stationary tests—as a tool to help the FCC verify voice and broadband coverage data?
- How should the FCC best implement the Broadband DATA Act’s requirement to collect and use “verified” data from third parties and government entities, specifically asking what constitutes as “verified” data?
- Should the FCC collect voluntarily-submitted “verified” on-the-ground data from other third parties, including other non-federal government entities and mobile providers?
- How can the FCC implement a user-friendly challenge process consistent with the Broadband DATA Act—including the creation of an online portal for state, local, and tribal governmental entities and members of the public to review and dispute the broadband coverage data filed by fixed providers under the new collection?
- In the Fabric, how should the FCC treat multi-tenant housing? Should each unit in a building be assigned a unique identifier, or should the building be assigned a unique identifier and the number of units recorded? Should each location be identified as a residential or business location?
- What data sources and methods should the FCC use to verify the accuracy of the Fabric?
- How should broadband coverage maps be developed?
- What type of technical assistance should be provided to tribes and small providers?  
Pending federal funding, the FCC proposes to make service-desk help available—as well

as providing clear instructions—to assist providers with their filings, but they are seeking comment on the approach.

- What type of technical assistance should be provided for any challenge process?
- Should the FCC publish new broadband availability data in aggregated forms and does that comply with the Broadband DATA Act?
- How should Form 477 be sunset?

### **Next Steps**

Comments are due 20 days after publication in the Federal Register with Reply Comments due 30 days after publication. At this time, publication in the Federal Register has not occurred but is expected in the coming week or so.

Most importantly to note, much of this work is unfunded, so Congress will have to move some sort of appropriations to the FCC to carry out the work outlined. However, this is expected to happen, perhaps in a COVID-relief package, and Connected Nation will be tracking this important work to connect more Americans by starting with good data and maps. We applaud the FCC and Congress for their great efforts to get the data right.

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