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National Telecommunications and Information Administration
U.S. Department of Commerce
1401 Constitution Avenue NW., Room 4887
Attn: National Broadband Research Agenda
Washington, DC 20230

National Telecommunications and Information Administration,

The Utah Governor's Office of Economic Development (GOED) would like to provide comments on the National Telecommunications and Information Administration's (NTIA) Docket No. 180427421-8421-01 "Improving the Quality and Accuracy of Broadband Availability Data." From 2010 to 2015, the State of Utah managed the Utah Broadband Project through NTIA and is now operating the Utah Broadband Outreach Center, a state-funded broadband mapping and planning program. Working with broadband providers, federal agencies, state and local governments and businesses has given our office a unique perspective on broadband deployment and we would like to provide recommendations to NTIA based on questions posed in the docket.

1. Identifying additional broadband availability data:

a. What additional data on broadband availability are available from federal, state, not-for-profit, academic, or private-sector sources to augment the FCC Form 477 data set?

Any broadband program implemented by NTIA and the Federal Communications Commission (FCC) and other federal agencies will rely heavily the accuracy of mapping resources to ensure that planning efforts are based on reliable information and funding is allocated appropriately. Since the national broadband map and state broadband maps were launched in 2011, many agencies, as well as state and local governments, have become reliant on this data to determine funding decisions and to conduct broadband planning efforts. Having reliable broadband data at a refined level is crucial to identifying underserved communities and developing strategies to ensure they are not left behind.

Beginning in the fall of 2014, the FCC began collecting broadband data directly from providers and changed the collection standard by aggregating all data to a census block level. Basing data collection, planning efforts and

funding definitions on census blocks is problematic, particularly in blocks which are large, remote and include terrain that makes it difficult to install infrastructure. For example, within the State of Utah, the largest populated census block is 947 square miles. Under the current model, any census block that is partially covered would be ineligible for all federal broadband programs, even if only a small percentage of households are covered. NTIA and the FCC should work with providers and state broadband mapping programs to coordinating data and mapping efforts in order to collect actual provider footprints.

Collecting this more refined data will ensure that unserved residents are not denied funding and are not included in broadband planning efforts because they reside in a census block that is partially covered by broadband service. The Utah Broadband Outreach Center in GOED has developed maps to show the discrepancy between the previous NTIA data collection model being implemented by state broadband initiatives and the new FCC data model for cable, DSL, fiber, and fixed mobile wireless. These maps can be publicly viewed at https://broadband.utah.gov/2017/09/21/september-2017-map-month-extra-coverage-fcc-form-477-broadband-maps. They clearly illustrate these discrepancies and highlight large geographic areas that will be negatively impacted by the new FCC data collection model.

To solve this problem, the FCC and NTIA should improve the data collection using one of the following strategies:

- Begin collecting data at a sub-census block level by allowing providers to submit Shapefiles or KMZs that show the providers' actual footprints for wired technologies. This is reasonable since the FCC allows mobile broadband providers to submit data in these formats.
- Begin collecting data at a sub-census block level by creating an electronic editing tool with a grid of cells where broadband providers can indicate where they offer service by either selecting the cells in an editing platform or giving each cell a number ID where they can indicate which cells are covered on the 477 Form. Each cell should be no bigger than one square mile.
- Revert back to NTIA's original data model where providers indicated which census blocks are covered if they are 2 square miles or smaller (or 1 square mile to improve accuracy) with road segments being indicated in areas above that square mileage.
- Allow states to enter an MOU with the FCC to submit state collected data if they can show that they have achieved greater accuracy. This data would override the FCC for policy and funding decisions. In Utah, most providers are voluntarily submitting more refined broadband data that is publicly available and can be downloaded. Although this strategy would be useful as a short-term option, it must not be considered a long-term solution unless states are given funding to ensure that data collection can continue since state broadband mapping funding is subject to local legislative priorities.

Currently, and subject to future state legislative funding, the following data sets are available:

- Broadband service area data voluntarily submitted by providers is available for download at the following website - https://gis.utah.gov/data/utilities/broadband-internet/

- Shapefiles of known tower locations can be requested from the Utah Automated Geographic Reference Center (AGRC) within the State of Utah (without tower ownership identified). The data also includes BLM-designated communications sites that can be used for future tower siting. This data can be publicly viewed at the following website - https://broadband.utah.gov/2015/09/30/september-2015-map-of-the-month-communication-tower-site-locations/
- Shapefiles of known address points can be requested from AGRC. These address points, which are very useful in determining where coverage is needed, were originally funded through NTIA during the State Broadband Initiative (SBI) Program and are now continually updated by Utah's 29 counties. The data can be publicly viewed at the following website - https://broadband.utah.gov/2017/12/21/december-map-month-utahs-address-points-critical-digital-asset/
- An inventory of state-owned buildings, which are useful to broadband providers so that as they build networks they know where to place access points and can work with states to negotiate access to rooftops, etc. Shapefiles of this data set can be requested by AGRC. The data can be publicly viewed at the following website - https://broadband.utah.gov/2016/10/26/october-2016-map-month-state-utah-facilities/
- Maps showing a comparison of FCC collected data versus the data voluntarily provided by most of Utah's broadband providers. These maps can be publicly viewed at the following website - https://broadband.utah.gov/2017/09/21/september-2017-map-month-extra-coverage-fcc-form-477-broadband-maps/
- Mapping data showing telecommunications assets owned and managed by the Utah Department of Transportation which are summarized at the following website - https://broadband.utah.gov/2017/08/30/august-2017-map-month-fiber-maps-udots-uplan-site/

b. What obstacles—such as concerns about the quality, scope, or format of the data, as well as contractual, confidentiality, or data privacy concerns—might prevent the collaborative use of such data?

Concerns with State-Collected Data

Some of the state data, particularly the voluntarily submitted broadband data is subject to the provider's willingness to continue submitting data. It is also subject to state legislative funding, which was already decreased in Utah in the 2018 Utah Legislative session. In order to guarantee the continued collection of the data, funding would need to be allocated to the states. However, if the granularity of broadband data improves on a federal level, ideally states would not have to replicate a data collection in order to ensure accuracy. The accuracy is crucial because many states and federal agencies are using broadband data to conduct planning efforts; determine eligible areas for grant funding; and identify areas eligible for universal service funding. There is also no guarantee that states will agree to give the federal government the data in the future without receiving funding.

Concerns with Federal Data

In addition to concerns with the granularity of data collected by the FCC on Form 477, we would also like to provide the following ideas to help improve federal data collection:

- Establish a Data Verification Standard - GOED also recommends that the NTIA develop a data verification standard for each applicable technology to ensure broadband data is correct and so funding can be allocated areas which truly meet the standard of being underserved and unserved. This verification should also include a mechanism for stakeholders to request that NTIA and the FCC review any reported inaccuracies so that maps can be corrected. NTIA should consider working with states to employ this mechanism, due to their expertise in collecting and verifying broadband data.
- Make Speed Data Available for Mobile Wireless Technologies – One major concern with the existing FCC data is that mobile wireless speed data has not been made publicly available, making it difficult for state and local planning groups to evaluate mobile broadband needs. This data is crucial not only for federal funding but also for state and local planning efforts. Since speed data is provided for wired technologies, we feel that speeds should also be released for mobile data.
- Release Broadband Data in a Timely Manner - We also recommend that NTIA and the FCC release broadband data in a timely manner (within 6 months of collection) to help ensure that federal agencies, along with state and local governments, have updated information to initiate planning and funding activities.

3. **New approaches: Are there new approaches, tools, technologies, or methodologies that could be used to capture broadband availability data, particularly in rural areas?**

As mentioned in Question 1a., NTIA and the FCC should consider collecting data at a sub-census block level by creating an electronic editing tool with a grid of cells where broadband providers can indicate where they offer service by either selecting the cells in an editing platform or giving each cell a number ID where they can indicate which cells are covered on the 477 Form. Each cell should be no bigger than one square mile.

4. Validating broadband availability data:

a. What methodologies, policies, standards, or technologies can be implemented to validate and compare various broadband availability data sources and identify and address conflicts between them?

As mentioned, recommends that NTIA and the FCC develop a data verification standard for each applicable technology to ensure broadband data is correct and so funding can be allocated areas which truly meet the standard of being underserved and unserved. This verification should also include a mechanism for stakeholders to request that NTIA and the FCC review any reported inaccuracies so that maps can be corrected. NTIA should consider working with states to employ this mechanism, due to their expertise in collecting and verifying broadband data.

Another way to validate broadband data would be that providers would agree to a random audit process when they submit their Form 477 data. It would give NTIA and the FCC the ability to randomly choose a provider and

do an audit of their network to determine if the network and infrastructure and equipment is capable of meeting the speed reported, given the number of active subscribers. This would encourage providers to submit accurate data.

c. What thresholds or benchmarks should be taken into account when validating broadband availability, such as bandwidth, latency, geographic coverage, technology type, etc.? How can conformance to such standards be used to evaluate the accuracy of broadband data sets? How could those standards be used to improve policymaking, program management, or research in broadband-related fields?

To validate broadband data, the FCC should consider technology type, spectrum access, number of subscribers, latency, geographic coverage, and typography and foliage for wireless solutions so that line of sight is considered. Evaluating these standards would help ensure that subscribers are receiving an acceptable level of speed and coverage.

We thank NTIA for evaluating these issues and look forward to improvements in federal data gathering and verification.

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