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INSIGHT

Broadband Data and Mapping

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Specialist in Science and Technology Policy

July 3, 2018

Improving the quality of broadband deployment data has become an issue of congressional interest, as policymakers recognize that more accurate broadband availability maps could help ensure that federal broadband programs target unserved areas of the country that are most in need of assistance.

Since the initial deployment of broadband in the late 1990s, two federal agencies have implemented broadband availability data collection and mapping initiatives: the National Telecommunications and Information Administration (NTIA) at the Department of Commerce (DOC) and the Federal Communications Commission (FCC).

NTIA

In 2009, the American Recovery and Reinvestment Act (P.L. 111-5) appropriated $350 million to NTIA to develop and maintain a comprehensive nationwide inventory map of existing broadband service capability and availability in the United States. Previously, in 2008, the Broadband Data Improvement Act (P.L. 110-385) had directed the Department of Commerce to establish a state broadband data and development grant program, and to use the data gathered by the states to create a broadband inventory map.

NTIA launched the State Broadband Initiative (SBI) in 2009 and awarded $293 million to 56 grantees, one each from the 50 states, 5 territories, and the District of Columbia. NTIA worked with each to collect fixed and mobile broadband availability data for over 11 million census blocks. In the SBI program, NTIA used a state-level validation process intended to ensure the accuracy of the broadband availability data submitted by providers.

On February 17, 2011, NTIA utilized the state-gathered data to launch the National Broadband Map. The map was updated approximately every six months until April 2015. The final SBI-generated National Broadband Map reflected data as of June 30, 2014. Because the ARRA state grants had expired, NTIA could no longer update the map, and the FCC subsequently assumed responsibility for the National

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Broadband Map.

FCC

In 2000, the FCC established the Form 477 Data Program to collect from providers subscription data on broadband services, local telephone service competition, and mobile telephony services. Since 2000, the FCC has revised its Form 477 data process three times. The most recent revision expanded the scope of the data collection program to enable the FCC to, among other things, populate and update the National Broadband Map. The first FCC map was based on June 2016 fixed broadband data collected through the Form 477 process. The second and current map was released in February 2018 and reflects December 2016 fixed broadband data.

Unlike NTIA's SBI program, Form 477 data does not undergo an independent validation and verification process. Twice per year, all facilities-based providers of fixed broadband are required to provide a list of all census blocks where fixed broadband service (at speeds of 200 kilobits per second or higher) is currently available to at least one location, or where the provider could—within a standard service interval—provide service.

The collection of accurate and reliable mobile broadband data is particularly challenging, because a user's mobile wireless experience varies and is affected by signal strength and factors such as terrain, user location, weather, network congestion, and the type of connected device. Mobile broadband service providers are required to submit polygons in shapefiles that digitally represent the geographic areas in which a customer could expect to receive the minimum speed the provider advertises for that area. Additionally, mobile broadband providers report the census tracts in which their service is advertised and available to potential customers. Form 477 mobile broadband data is not reflected in the FCC's National Broadband Map, which displays fixed broadband deployment only. However, Form 477 mobile broadband data is used by the FCC to determine and map which areas are eligible for the Mobility Fund Phase II program.

Moving Forward

Two major criticism of the FCC's Form 477 National Broadband Map are that provider-reported data is not independently verified or validated, and that broadband availability is overstated because the data is not sufficiently granular. A significant factor in over-reporting is that fixed broadband deployment data is collected at the census block level. A census block is considered served if there is broadband service to one or more locations. This is especially problematic in rural areas, which have large census blocks and may be considered served if, for example, a single neighborhood in that large census block has broadband service.

On the other hand, broadband providers assert that requiring the collection of certain additional broadband data, including increased granularity (such as address-level data), would be impractical and unduly burdensome, would require significant time and expense, and may not necessarily result in more useful data.

On August 3, 2017, the FCC adopted a *Further Notice of Proposed Rulemaking* to explore ways "to improve the quality, accuracy, and usefulness of the data it collects on fixed and mobile voice and broadband service," while at the same time examining how it can "reduce burdens on industry by eliminating unnecessary or onerous data filing requirements."

The Administration requested $50 million for broadband mapping in FY2018. The Consolidated Appropriations Act, 2018 (P.L. 115-141) appropriated $7.5 million to NTIA to update the national broadband availability map in coordination with the FCC and using partnerships previously developed

with the states. For FY2019, the House and Senate appropriations committees would provide an additional $7.5 million to NTIA for broadband mapping. On May 30, 2018, NTIA issued a Request for Comments on actions it should take to improve the quality and accuracy of broadband availability data.

Meanwhile, broadband data bills in the 115th Congress include H.R. 1546, H.R. 4810, S. 1104, S. 1621, and draft NTIA reauthorization legislation. Issues include how to obtain more granular data while minimizing burdens and costs to providers; whether self-reported provider data should be independently verified, and if so, how; and the appropriate roles and funding of federal agencies in collecting and coordinating broadband data.