

September 10, 2018

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U.S. Department of Agriculture  
1400 Independence Ave. SW  
Stop 1522, Room 1562  
Washington, DC 20250

**Re: Rural Utilities Service e-Connectivity Pilot Program (Docket No. RUS-18-TELECOM-0004)**

A. Introduction

The American Farm Bureau Federation (Farm Bureau) is the nation's largest general farm organization, with nearly 6 million-member families, representing agricultural producers of nearly every type of crop and livestock across all 50 states and Puerto Rico.

Rural broadband (fixed and mobile) is essential to modern agriculture, the farmers and ranchers who grow our food and the quality of life for rural Americans. Farm Bureau supported the inclusion of the Rural Utility Service's (RUS) e-Connectivity Pilot Program in the Consolidated Appropriations Act of 2018. With limited funding and an overabundance of need, the e-Connectivity Pilot Program must use accurate and third-party verified data to successfully target and distribute its funding.

While most Americans take broadband for granted, 39 percent of rural Americans lack access to broadband.<sup>1</sup> This is alarming, particularly when compared to the only 4 percent of urban Americans who lack such access.<sup>2</sup> Broadband is no longer a luxury for a household or a business, it's a necessity. Farmers and ranchers, who already have seen a drastic 50 percent decline in net farm income in the last four years, must have access to fixed and mobile broadband to be more efficient, economical and responsive to environmental needs.

B. Eligibility for Rural Areas with Sufficient Access

*Definition of Sufficient Access*

Farm Bureau is concerned that the minimum broadband speed in this proposal, 10 Mbps downstream and 1 Mbps upstream, is different from the Federal Communications Commission's (FCC) minimum definition of broadband speed, which is currently set at 25

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<sup>1</sup> FCC Broadband Progress Report, <https://www.fcc.gov/reports-research/reports/broadband-progress-reports/2016-broadband-progress-report>, 2016.

<sup>2</sup> Ibid.

Mbps downstream, and 3 Mbps upstream. Farm Bureau suggests the RUS use the FCC's minimum speed of broadband service to allow for uniformity across the federal agencies. Federal programs, such as the e-Connectivity Pilot Program, must offer farmers, ranchers and rural communities the same access to broadband speed as is available to suburban and urban communities, for these programs to successfully reduce the digital divide.

According to the Federal Communications Commission, 39 percent of rural Americans lack access to 25 Mbps/3 Mbps service, compared to only 4 percent of urban Americans.<sup>3</sup> Current and future generations of rural Americans will be left behind their fellow citizens if they are without affordable high-speed broadband service.

Senators John Thune (R-S.D.), Chairman of the Senate Committee on Commerce, Science, and Transportation, and Roger Wicker (R-Miss.), Chairman of the Subcommittee on Communications, Technology, Innovation, and the Internet, sent USDA Secretary Perdue a letter dated Aug. 22, 2018 regarding the coordination of the pilot program.<sup>4</sup> The letter emphasizes the importance of the RUS coordinating with the FCC, National Telecommunications and Information Administration (NTIA) and Broadband Interagency Working Group to ensure the pilot program targets eligible areas. If the pilot program uses a different broadband definition, then coordinating efforts between these agencies will be difficult.

Farm Bureau is also concerned with the eligibility requirement for rural areas having at least 90 percent of the households without sufficient access. Reliable maps that have been verified by a third party are not available to accurately determine this 90 percent threshold. Additionally, using households as the sole metric overlooks the need for wireless broadband connectivity to cropland and rangeland, which is critical for modern agriculture.

#### *Other Elements for Consideration of Sufficient Access*

Farm Bureau suggests the inclusion of wireless broadband for cropland and rangeland within the eligibility requirement. While connecting households is essential for broadband deployment, farmers and ranchers are routinely forgotten in this discussion because their place of work is in the field or on the ranch. The pilot program notice discusses the importance of the funding to “provide improvements to rural prosperity”, which includes agriculture among other anchor institutions. America’s farmers and ranchers embrace technology that allows their farming businesses to be more efficient, economical and environmentally responsible.

The Agriculture Broadband Coalition, of which Farm Bureau is a member, has advocated for the inclusion of cropland and rangeland as a metric of broadband access. Senators Roger Wicker (R-Miss.) and Joe Manchin (D-W.Va.) with a bipartisan group of 24 other Senators, wrote then FCC

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<sup>3</sup> FCC Broadband Progress Report, <https://www.fcc.gov/reports-research/reports/broadband-progress-reports/2016-broadband-progress-report>, 2016.

<sup>4</sup> Letter to USDA Secretary Perdue, from United States Senators Thune and Wicker. August 22, 2018.

Chairman Tom Wheeler a letter on July 11, 2016 supporting the concept of cropland and ranchland as a broadband metric. The letter reads:

[c]roplands and ranch lands have lagged behind in adequate mobile coverage, even as demand for coverage has grown. To address this gap, we urge you to consider a metric of broadband access in croplands (and farm buildings), in addition to road miles, to identify these areas of greatest need. “Cropland” coverage can be assessed using USDA data for crop operations, the US Geological Survey’s Land Use classification, or other databases.<sup>5</sup>

Precision agricultural equipment requires a wireless broadband connection for data collection and analysis performed both on the farm and in remote data centers. As more precision equipment becomes available, farmers and ranchers cannot take full advantage of that equipment if they do not have access to wireless broadband in the field or on the ranch.

### C. Verification of Maps

Farm Bureau recommends the pilot program go beyond the National Broadband Map, which inaccurately reflects the served, underserved and unserved areas across the country. The National Broadband Map relies on census block data to determine areas of coverage. Census blocks are too large in rural and remote areas to accurately target broadband investments. If even one household in a given census block is reported by a provider as being served, then the entire block is considered served and is therefore likely excluded from eligibility to receive federal funds for buildout. There are more than 3,200 census blocks across the country that are larger than the District of Columbia, and five that are larger than the State of Connecticut. In fact, census blocks larger than two square miles comprise more than 64 percent of the U.S. land area, which means that every rural area is impacted by this problem in some way. The 2018 omnibus appropriations bill provided the NTIA \$7.5 million to update the national map in coordination with the FCC; however, a new program to collect more granular service availability data from broadband providers was expressly prohibited. This means future maps will also be unreliable.

Farm Bureau recommends the pilot program use more granular data to determine areas of coverage. Gathering and, equally as important, verifying the data to accurately target and distribute the funding is critical to the success of the pilot program. One possible method to achieve more granular data is a proposal from Connected Nation in its comments filed with the NTIA in July 2018. Connected Nation has a four-pronged approach that increases the granularity and accuracy of the map that is produced. This process includes:

- 1) Direct Provider Engagement: Working directly, in the spirit of collaboration, with individual broadband providers on the data and information they possess regarding their network capabilities and service offerings is the most beneficial way to begin a broadband mapping process. While some providers do not have the resources or GIS

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<sup>5</sup> Letter to Chairman Tom Wheeler, FCC, from United States Senators Wicker, Manchin, et. al. July 11, 2016.

capabilities to produce and/or maintain a location-based set of information on their exact service footprint, we have found that a professional two-way relationship with the providers, with the express intent to avoid increasing their reporting burdens, yields solid baseline data to jumpstart a mapping process.

- 2) In-Field Data Collection and Validation: Telecommunications engineers deployed in the field are able to refine broadband service areas, test networks, catalogue, photograph, and map infrastructure assets, and validate new and disputed service areas. If small service providers do not have the resources to actively participate in the data collection process, field engineers can work with them to develop service area maps based on infrastructure locations, propagation modeling, and other techniques to produce service availability footprints with significant accuracy and granularity.
- 3) Desktop Research: Research and review of current federal filings and databases, spectrum licenses, broadband service advertisements, permits, and other available information can provide another level of validation that can help direct field validation activities to refine broadband data. In many rural areas, such research can help resolve ambiguous, confusing, or conflicting information.
- 4) Consumer Feedback: Once a broadband map is published, collecting public feedback is essential to the ongoing refinement of the map, as described at length above. At the local level, such feedback—when permission is granted for it to be shared—can also showcase where demand exists in or near a provider’s service territory—information that can be helpful in fostering better relationships with local providers while helping to close coverage gaps.<sup>6</sup>

It is critical that the RUS implement a verification process that includes consumers. The FCC is currently in the process of issuing \$4.5 billion over 10 years to primarily rural areas through its Mobility Fund Phase II (MF-II). The FCC setup a challenge process to ensure that the fund will only go to areas that qualify. The challenge process allows mobile providers, state, local and tribal governments to participate in the challenge. The FCC also issued waivers for associations or other groups who want to participate. Four state Farm Bureaus are leading this effort and are participating in the waiver process: Kansas, Mississippi, Missouri and Nebraska. Other state Farm Bureaus have highlighted the inaccuracies with the MF-II eligibility map and are working with state and local governments to challenge the map.

Farm Bureaus at the county and state level also have relationships with their local telephone, wireless and electric companies and cooperatives that could strengthen the accuracy of the maps. While farmers and ranchers will not be laying the fiber or installing the towers necessary to transmit broadband, their relationships with telephone and electric companies and cooperatives will provide an additional layer of verification to the maps utilized by RUS in distributing the funding.

#### D. Improvements to Rural Prosperity

##### *Precision Agriculture*

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<sup>6</sup> [https://www.ntia.doc.gov/files/ntia/publications/connected\\_nation\\_ntia\\_comments\\_-\\_bb\\_data.pdf](https://www.ntia.doc.gov/files/ntia/publications/connected_nation_ntia_comments_-_bb_data.pdf)

Farmers and ranchers depend on broadband (fixed and mobile) just as they rely on highways, railways and waterways to ship food, fuel and fiber across the country and around the world. Many of the latest yield maximizing farming techniques require broadband connections for data collection and analysis performed both on the farm and in remote data centers. However, 29 percent of U.S. farms have no access to the Internet according the USDA report, “Farm Computer Usage and Ownership, 2017.”

America’s farmers and ranchers embrace technology that allows their farming businesses to be more efficient, economical and environmentally sensitive. Today’s farmers and ranchers are using precision agricultural techniques to make decisions that impact the amount of fertilizer a farmer needs to purchase and apply to the field, the amount of water needed to sustain the crop, and the amount and type of herbicides or pesticides the farmer may need to apply. These are only a few examples of the ways farmers use broadband connectivity to achieve optimal yield, lower environmental impact and maximize profits.

Farmers and ranchers rely on broadband access to manage and operate successful businesses, the same as small businesses do in urban and suburban America. Access to broadband is essential for farmers and ranchers to utilize the latest precision agricultural equipment, follow commodity markets, communicate with their customers, gain access to new markets around the world and, increasingly, for regulatory compliance.

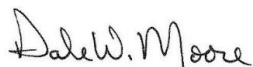
### *Quality of Life*

Rural communities need access to health care, government services, and educational and business opportunities. For many rural communities, access can only be gained by using broadband services and sophisticated technologies that require high-speed connections. According to the Federal Communications Commission, 39 percent of rural Americans lack access to 25 Mbps/3 Mbps service, compared to only 4 percent of urban Americans. Current and future generations of rural Americans will be left behind their fellow citizens if they are without affordable high-speed broadband service that enables them to tap into health care and education services, government agencies, and new business opportunities.

### E. Conclusion

Rural broadband (fixed and mobile) is essential to modern agriculture, the farmers and ranchers who grow our food and the quality of life for rural Americans. With limited funding and an overabundance of need, the e-Connectivity Pilot Program must use accurate and third-party verified data to successfully target and distribute its funding. In addition to households and anchor institutions, farmers and ranchers must have mobile broadband available in the fields and on the ranches. Broadband is no longer a luxury for a household or a business, it’s a necessity.

Sincerely,



Dale Moore  
Vice President, Public Affairs