



Advocates for Rural Broadband

David Shipley  
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May 6, 2021

**Filed Via ECFS**

Marlene H. Dortch, Secretary  
Federal Communications Commission  
45 L Street, NE  
Washington, DC 20554

**RE: The Rural Digital Opportunity Fund Auction (Auction 904), AU Docket No. 20-34  
Rural Digital Opportunity Fund, WC Docket No. 19-126  
Connect America Fund, WC Docket No. 10-90**

Dear Ms. Dortch:

WTA – Advocates for Rural Broadband (“WTA”) is submitting this letter in response to claims made by LTD Broadband, LLC (“LTD”) regarding rural broadband construction challenges and costs in an *ex parte* letter, dated April 26, 2021, in the referenced Rural Digital Opportunity Fund (“RDOF”) dockets.<sup>1</sup> Specifically, LTD asserts that “rural areas do not present the same challenges of deploying fiber [as many urban fiber deployments] because of the lack of in-ground infrastructure such as gas lines, electric lines and sewer lines that can complicate and add cost to fiber trenching.”

LTD’s contention does not explain, much less demonstrate, how it will be able to construct and operate multiple new stand-alone Gigabit-speed fiber optic networks “serving” over a half million locations with RDOF support that is only 20-to-30 percent of the reserve prices established by the Connect America Cost Model (“CACM”) developed by CostQuest Associates and the Commission. Rather, LTD takes one very limited aspect of rural broadband construction and erroneously tries to inflate it into a comprehensive principle that rural fiber deployment is less challenging and less expensive.

Customer density is a very important factor – in many cases, the key factor – in rural broadband construction and deployment. Whereas low customer density means that a particular route mile of a rural broadband trunk may contain fewer gas, electric and sewer lines than an urban route mile, the distances between customer locations along rural broadband routes are many, many times longer than those between urban customer locations. In large numbers of rural areas, customer density is less than one customer (1.0) per route mile and can regularly drop to 0.2 or 0.1 or fewer customers per route mile. By itself, this much lower customer density constitutes a major reason why rural areas entail much higher costs and much greater challenges than urban areas with respect to broadband construction and deployment.

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<sup>1</sup> Letter from Stephen E. Coran, AU Docket No. 20-34 and WC Docket Nos. 19-126 and 10-90, dated April 26, 2021.

But the cost and challenge disparities impacting rural broadband networks go far beyond customer density. For example, once the rural broadband trunk traverses the multiple miles between customer locations, the rural carrier generally must construct much longer drop lines to farm and ranch houses and other serviced rural locations. Whereas a “long” drop line in a town may extend 150 feet, a typical drop line in a farming or ranching area is likely to be 500-to-4,000 feet, and it is not uncommon for rural drops to extend several miles. As they are deployed along lengthy driveways and access roads, these drops must avoid some of the same utility lines as are encountered in urban areas. In addition, in many rural areas, there are rural community, rural water district and private water irrigation lines that are not typically marked but must be located and avoided.

The long distances between rural customers and then along their drops to their actual service locations make it much more time-consuming and expensive to install optical network terminals (“ONTs”) and other equipment necessary to hook up service in rural areas than in urban areas. Given the longer drive times between rural customer locations (which can exceed an hour or more in some areas), an urban broadband technician can generally install or repair service at 2-to-5 times more locations per day than a rural broadband technician. This translates to higher installation and maintenance costs in rural areas.

Broadband construction in many rural areas requires environmental, biological, historical and/or archeological impact studies that are not frequently necessary in urban areas. The studies alone can cost hundreds of thousands of dollars (with some recent examples costing over \$600,000 per study and over \$3,100 per mile). And if any problems or artifacts are found during the study, re-routing and other mitigation efforts can entail very substantial additional costs and delays. In addition to the required surveys, the Bureau of Land Management (“BLM”) can assess fees for its involvement in the review process. Depending on the scale of the project, these fees can be in the hundreds of thousands of dollars.

Rural broadband construction is also subject to the costs and delays of BLM and Bureau of Indian Affairs (“BIA”) permitting and regulations. Whereas past concerns have primarily entailed lengthy delays in the issuance of permits, there appear to be some recent complaints that BLM has been requiring some broadband service providers to go to the expense of removing superseded copper facilities as a condition of obtaining permits to deploy fiber optic lines.

Finally, rural broadband construction is much more likely than urban construction to encounter rock as well as mountains, deserts and other harsh terrain. One WTA member reports that its service area is adjacent to a mountainous area and contains large areas of very rocky terrain. In order to bury its fiber optic broadband trunks, it must employ a very large rock saw that often requires replacement of its teeth every hundred yards or so. It costs the company over \$75,000 per mile just in the cost of cutting rock to bury its fiber. This member’s experience is not uncommon, particularly in and adjacent to the mountains of the western states.

For these reasons, rural areas entail much greater challenges and much higher costs than urban areas with respect to the deployment of fiber optic broadband networks. It is clear that LTD has disregarded most of the relevant factors affecting rural fiber optic broadband network deployment in advancing its spurious “rural areas entail lesser challenges” argument. Moreover, LTD has not demonstrated in its *ex parte* that it can construct and operate its proposed stand-alone fiber optic Gigabit broadband networks for 20-to-30 percent of the CACM-estimated support and/or that CostQuest Associates and the Commission grossly over-estimated their CACM engineering cost model for rural broadband network construction and operation.

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WTA is filing this letter for inclusion in the public record of the referenced proceedings.

Respectfully submitted,  
WTA – Advocates for Rural Broadband

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