DAY ONE PROJECT

Prioritize Funding for High-Speed Internet Connectivity that Rural Communities Can Afford to Adopt

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Summary

Access to high-speed internet is essential for all Americans to participate in society and the economy. The American Jobs Plan (AJP) proposal to build high-speed broadband infrastructure to achieve 100% high-speed internet coverage is critical for reaching unserved and underserved communities. Yet widespread *access* to high-speed broadband infrastructure is insufficient. Widespread *adoption* is required for individuals and communities to realize the benefits of being online. Federal programs that have recently funded new broadband infrastructure—namely the Federal Communications Commission (FCC) Connecting America Fund Phase II (CAF II) and Rural Digital Opportunity Fund (RDOF) reverse auctions—have not adequately tied the input of broadband infrastructure funding to the desired outcome of broadband adoption. Consequently, funding has gone to internet service providers (ISPs) that offer expensive internet service that communities are unlikely to adopt. To use the AJP's broadband infrastructure funds most effectively, the Biden-Harris administration should prioritize affordability in funding allocation and ensure that all recipients of federal subsidies, grants, or loans meet requirements for affordable service. Doing so will support widespread internet adoption and contribute to the AJP's stated aims of reducing the price of internet service, holding ISPs accountable, and saving taxpayers money.

Challenge and Opportunity

The COVID-19 pandemic has revealed the high cost of digital inequality across the United States. Some Americans are easily able to access education, healthcare, and government services online while others cannot because they lack an affordable high-speed internet connection. The problem is particularly acute in rural communities. Under the FCC's definition of broadband connectivity (25/3 Mbps), broadband service remains unavailable to 35% of people residing in rural areas in the United States, versus just 2% of people in urban areas.[1] Of $9.1 billion in federal support for broadband disbursed in 2018, 53% went to programs to fund infrastructure in high-cost areas, those communities where the competitive market has failed to provide high-quality internet connectivity.[2]

Recent federal programs that have funded high-cost broadband infrastructure have not strongly prioritized affordability. The FCC Connecting America Fund Phase II (CAF II) and Rural Digital Opportunity Fund (RDOF) have allocated funds to ISPs through reverse auction procedures, which prioritize bids by weighting performance tiers that reflect the speed, monthly data

[1] Federal Communications Commission, *Bridging the Digital Divide for All Americans*, https://www.fcc.gov/about-fcc/fcc-initiatives/bridging-digital-divide-all-americans.
[2] Congressional Research Service, *Demand for Broadband in Rural Areas: Implications for Universal Access*, by Brian E. Humphreys, (2019), https://crsreports.congress.gov/product/pdf/R/R46108.

allowance caps, and latency of service that the ISP will offer. Only after the auction is complete does affordability come into the picture. ISPs that win funds to serve an area are subject to broadband public interest obligations, which require that ISPs certify that they charge no more than (i) a benchmark price set by the FCC (dependent on speed), or (ii) "the non-promotional price charged for a comparable fixed wireline service in urban areas."[3] For 2021, the FCC has set the benchmark price at $86.72 per month for 25/3 Mbps internet service (the minimum performance tier) and $102.04 per month for 50/5 Mbps (the baseline performance tier).[4] Similarly, recipients of funds from ReConnect, the U.S. Department of Agriculture (USDA) broadband grant and loan program, must propose their pricing in program applications and report it periodically. But pricing is not among ReConnect's program evaluation criteria.[5]

Neither the benchmark price nor the price comparable to service in urban areas facilitate broadband adoption for rural residents who stand to benefit most from going online. Cost is a major barrier to residential broadband adoption[6] and people who have not yet adopted broadband are likely to have lower household income.[7] A 2020 study of residents' willingness to pay for broadband in Pennsylvania found that 76% of respondents with incomes between $25,000 and $50,000 per year were not interested at all in 25 Mbps internet service priced between $80-100 per month.[8] Comparability of pricing between rural and urban areas may also be an inappropriate guarantee of rural affordability, given higher rural poverty rates.[9] The AJP presents an opportunity to better link federal funding for broadband infrastructure with affordability and the outcome of widespread adoption.

Plan of Action

Whether new funding for broadband infrastructure is allocated through reverse auctions, grants, loans, or other mechanisms, competitive funding programs should include affordability as a criterion on which ISPs' applications and bids are evaluated. The importance of affordability must be articulated and prioritized across all agencies that disburse federal funding for broadband, including the National Telecommunications and Information Administration, the FCC, and USDA.

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[3] 47 CFR 54.313 - Annual reporting requirements for high-cost recipients, https://www.govinfo.gov/app/details/CFR-2012-title47-vol3/CFR-2012-title47-vol3-sec54-313.

[4] Federal Communications Commission, *Public Notice DA 20-1409,* (Washington, DC, 2020), https://docs.fcc.gov/public/attachments/DA-20-1409A1.pdf.

[5] U.S. Department of Agriculture, Rural Utilities Service, *Rural E-Connectivity Program Application Guide for Fiscal Year 2020*, (Washington, DC, 2020), https://www.rd.usda.gov/files/ReConnect_Program_Application_Guide.pdf.

[6] Monica Anderson, "Mobile Technology and Home Broadband 2019," *Pew Research Center*, June 13, 2019, https://www.pewresearch.org/internet/2019/06/13/mobile-technology-and-home-broadband-2019.

[7] Christopher G. Reddick, Roger Enriquez, Richard J. Harris, and Bonita Sharma, "Determinants of broadband access and affordability: An analysis of a community survey on the digital divide." *Cities*, 106 (2020): 102904, https://doi.org/10.1016/j.cities.2020.102904.

[8] Sascha D. Meinrath, Steven Mansour, Taylor Mazeski, and Abigail Jansen, "Broadband demand: The cost and price elasticity of broadband internet service in rural Pennsylvania," *The Center for Rural Pennsylvania*, November 2020, https://www.rural.palegislature.us/documents/reports/Broadband-Demand-Report-October-2020.pdf.

[9] U.S. Department of Agriculture, Economic Research Service, *Rural Poverty & Well-Being*, (Washington, DC, 2020), https://www.ers.usda.gov/topics/rural-economy-population/rural-poverty-well-being.

The sections below explain how affordability could be incorporated as an evaluation criterion in different funding mechanisms.

For reverse auctions similar to CAF II and RDOF:

Reverse auctions accept bids for performance tiers and latency requirements and then weight those bids to reflect the FCC's "preference for higher speeds, greater usage allowances, and lower latency."[10] The FCC should develop affordability tiers so that bids are also weighted to achieve the best possible combination of consumer pricing and performance. The FCC has a wealth of up-to-date data about broadband pricing (e.g., via the Urban Rate Survey) and subscriptions (e.g., from Form 477[11]) that would support informed development of affordability tiers. Including affordability as an evaluation criterion could also help not-for-profit ISPs, such as rural electric and telephone cooperatives, better compete against large and established for-profit ISPs.

Affordability tiers could be set around the FCC's current benchmark price to meet broadband public-interest obligations. For example, Table 1 illustrates how affordability tiers might descend from the benchmark price in regular increments for 25/3 Mbps internet service (minimum performance tier). More affordable prices would receive greater preference in evaluations. The weights listed in Table 1 follow the logic used for performance tier bidding weights in RDOF, in which higher weights received higher penalty deductions.

Table 1. *Example "affordability tier" rubric that could be used to evaluate reverse-auction bids.*

Affordability tier	Price range	Weight
Highest	Within lowest quartile of prices observed in Urban Rate Survey	0
Medium	Upper bound of lowest quartile observed in Urban Rate Survey to the midpoint between the upper bound and the benchmark price	10
Lowest	Midpoint between the upper bound and the benchmark price to the benchmark price	30
Benchmark (highest acceptable price)	$86.72 per month	50

[10] Federal Communications Commission, *FCC Fact Sheet: Rural Digital Opportunity Fund*, (Washington, DC, 2020), https://docs.fcc.gov/public/attachments/DOC-361785A1.pdf.

[11] Entities that provide internet service (>200 kbps) to users must report the locations they serve biannually to the FCC through filing Form 477. The FCC uses Form 477 data to characterize the deployment of broadband infrastructure.

For grant and loan programs such as ReConnect:

USDA and/or any other agency soliciting applications for grants or loans for broadband infrastructure should also take proposed pricing into account when evaluating applications. Affordability evaluation criteria could be modeled on ReConnect's performance evaluation criteria. The FY2020 ReConnect program assigned a maximum of 20 points for performance for providing at least 100/100 Mbps service, out of a total of 140 points maximum across all criteria.[12] An affordability criterion with a maximum of 20 points might allocate zero points for simply meeting the FCC's current benchmark price for broadband public-interest obligations, 20 points for meeting the highest affordability tier price range, and somewhere in between for intermediate price points.

Reporting and enforcement:

Any recipient of federal funds for broadband infrastructure should be required to submit annual reports certifying that their service conforms to the affordability tier they stipulated in bids and applications. ISPs that fail to conform or fail to report should face financial penalties and/or be prohibited (permanently or temporarily) from receiving federal funds in the future. Universal Service Fund enforcement already exists within the FCC, as do potential precedents for penalties, suspension, and disbarment.[13]

Conclusion

Federal funding programs have made significant progress to close digital divides across the nation. The AJP's goal of 100% broadband coverage is an important one. However, constructing broadband infrastructure that would enable 100% coverage does not guarantee the desired outcome, widespread adoption of broadband service. To make the desired outcome a reality, the federal government must take affordability into consideration when determining how to allocate funding for broadband infrastructure. New funding must reach the ISPs best positioned to extend broadband coverage *and* reduce cost of (and hence uptake of) broadband service. Only then will the Biden-Harris administration be able to make real progress on addressing the digital inequality that unconnected and underconnected Americans face.

[12] U.S. Department of Agriculture, Rural Utilities Service, *Rural E-Connectivity Program Application Guide for Fiscal Year 2020*, (Washington, DC, 2020), https://www.rd.usda.gov/files/ReConnect_Program_Application_Guide.pdf.

[13] Federal Communications Commission, *Universal Service Fund Enforcement*, https://www.fcc.gov/universal-service-fund-enforcement.

Frequently Asked Questions

Isn't requiring ISPs to commit to charging certain consumer prices anticompetitive?

Federal funding to build broadband infrastructure exists because the competitive market has failed in certain areas of the United States, especially in rural communities. Integrating affordability into federal funding allocation may deter some for-profit ISPs from seeking federal funds, but may also create new opportunities for not-for-profit organizations, such as rural electric and telephone cooperatives, to put together successful proposals in funding competitions. Hence the existence of an affordability criterion may actually *increase* institutional diversity and competition in the broadband ecosystem.

Why should the federal government rethink reverse auction procedures that have recently delivered high savings on costs of constructing broadband infrastructure?

The recent RDOF reverse auction that allocated just $9.2 billion of an available $16 billion has raised multiple concerns among observers, particularly that the auction awarded funding to ISPs unlikely to deliver the service performance they committed to as part of their applications and the bidding process.[14–16] One potential consequence is that some rural communities will remain unserved and underserved when it comes to internet connectivity. Moreover, though construction of broadband infrastructure at a lower cost than expected may seem to use taxpayer dollars efficiently, access to broadband service does not guarantee adoption of broadband service. Affordability is a major determinant of adoption and hence a factor that deserves greater prioritization in funding allocation. When affordability isn't considered in funding decisions, the federal government risks wasting taxpayer dollars on projects that do little to benefit unconnected and underconnected Americans in reality.

Why not just increase subsidies for low-income broadband customers through an expanded Lifeline program?

The federal Lifeline program provides a small subsidy on phone and internet service for eligible Americans. Although this program would benefit substantially from an update and expansion to improve on low participation rates[17], subsidizing broadband service in rural communities twice—once by funding construction of high-cost broadband infrastructure and again by

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[14] Mike Dano, "Incoming FCC chief could inherit RDOF boondoggle," *LightReading*, January 20, 2021, https://www.lightreading.com/opticalip/incoming-fcc-chief-could-inherit-rdof-boondoggle-/d/d-id/766787.
[15] National Rural Electric Cooperative Association and National Rural Telecommunications Council, *The Rural Digital Opportunity Fund: Rural America's Broadband Hopes at Risk*, https://www.cooperative.com/programs-services/government-relations/regulatory-issues/Documents/NRECA%20NRTC%20RDOF%20paper.02.01.2021.FINAL.pdf.
[16] Ziggy Rivkin-Fish, "Is the FCC's reverse auction fatally wounded or just bloodied?" *Benton Institute for Broadband and Society Digital Beat*, April 29, 2021, https://www.benton.org/blog/fcc's-reverse-auction-fatally-wounded-or-just-bloodied.
[17] Tony Romm, "Lacking a Lifeline: How a federal effort to help low-income Americans pay their phone bills failed amid the pandemic," *The Washington Post*, February 9, 2021, https://www.washingtonpost.com/technology/2021/02/09/lifeline-broadband-internet-fcc-coronavirus.

paying ISPs for rebates on eligible Americans' service costs—is an inefficient use of taxpayer money. Expansion of the Lifeline program and increasing the program's broadband subsidies are also unlikely to stimulate new investment in in high-cost broadband infrastructure without government support.

About the Author

Caroline Stratton is an assistant professor in the School of Information at Florida State University. Her research agenda is focused on how organizations may effectively design and implement interventions with technology for social good. Her recent work examines policies and programs intended to reduce digital inequality in urban and rural regions of the US. Caroline holds a PhD in Information Studies from the University of Texas at Austin and a BS in Nuclear & Radiological Engineering from the Georgia Institute of Technology.

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