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POLICY BRIEF

What Should States and Cities Do with the New Broadband Money from DC?

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In May 2022, the Government Accountability Office (GAO) reported on federal efforts to expand broadband coverage. The analysis revealed a fragmented, duplicative, and complex state of affairs: more than 100 federal programs overseen by 15 federal agencies aimed at broadband expansion.[1] The GAO's assessment for Congress was blunt: "The U.S. broadband efforts are not guided by a national strategy with clear roles, goals, objectives, and performance measures."[2] Into this program chaos, a cottage industry of consultants has developed to help ostensible beneficiaries—schools, municipalities, and private internet service providers (ISPs)—navigate the dozens of programs, each of which has numerous codified and customary conditions of funding.

In the rush to respond to the COVID-19 crisis and slowing economy, Congress injected tens of billions more broadband dollars into federal agencies. Most of this new federal funding was intended to help states and cities create, operate, and monitor their own broadband subsidy programs, particularly in rural areas where high-speed network coverage is poor or negligible. However, already there are alarming signs about excessive spending and program weakness. A trade press article published in September 2022 notes that a new broadband project, funded mostly with federal dollars, will cost more than $200,000 per household.[3] One of the communities in the project is the village of Klukwan, Alaska, which has a per capita income of around $11,600.[4] One wonders if villagers might have preferred $200,000 in benefits for something other than a faster internet connection—perhaps a college education for their children, home improvements, or startup capital for a new business.[5]

It is difficult to assess the dozens of broadband programs that have emerged at the state and federal levels over the past 20 years, so some generalities are necessary. In this policy brief, we highlight

some of the largest programs—at the Department of the Treasury, the Department of Commerce, and the FCC—and some of the best practices seen at the federal and state levels.

On the basis of this qualitative analysis, we make some recommendations for federal and state officials involved in broadband program design. Complexity for grantors and grantees is the main villain in our estimation. The proliferation of federal and state broadband programs, noted by GAO and others, illustrates an unhealthy trend that Steven Teles warned about a decade ago, namely that overlapping, incoherent government programs are "a significant threat to the quality of our democracy. The complexity that makes so much of American public policy vexing and wasteful for ordinary citizens and governments is also what makes it so easy for organized interests to profit from the state's largesse."[6]

We urge consolidating and simplifying the dozens of current and pending broadband programs. Furthermore, public policy must focus on reducing costs to private providers, not creation and monitoring of complex new programs. Driving our assessment is the fact that, even with the new federal subsidies, the lion's share of broadband expansion is a result of private investment. The broadband industry spends approximately $80 billion on capital expenditures annually.[7] Even before the pandemic and resulting new federal spending, around 130,000 rural households were getting high-speed broadband for the first time *every month*.[8]

Because private investment is predominant, policymaker focus should be on program streamlining—rapid and easy use of matching public dollars with private dollars to reach rural areas that are otherwise considered unprofitable or uneconomical. Policy complexity and vague rules create an unpredictable investment environment for private broadband providers, discourage potential grant and loan applicants, and delay or halt the build-out of new and improved broadband networks.

We recommend that federal and state agencies collaborate on the following priorities for current and future broadband programs:

- Consider a broadband voucher program
- Require audits of programs
- Avoid publicly operated networks
- Build passive infrastructure
- Purchase broadband easements

LARGEST SOURCES OF FEDERAL BROADBAND FUNDS

After the COVID-19 crisis, Congress earmarked more than $75 billion for new rural broadband programs to be distributed to states and cities by the Treasury Department and the Commerce Department. As of the fall of 2022, states now have the opportunity to apply for $10 billion in

broadband funds from the Treasury Department's Capital Projects Fund (CPF), which is part of the American Rescue Plan Act of 2021 (ARPA). State programs must follow the CPF's vague guidance, and every state will receive at least $100,000,000 in funding.[9] Another large funding source is the Commerce Department's Broadband Equity, Access, and Deployment (BEAD) Program, which has about $42.5 billion for block grants to states and cities.[10] As of this writing, BEAD applications are still being drafted. Finally, the FCC disburses about $10 billion annually to broadband providers nationwide.

Furthermore, state, local, and tribal broadband expansion programs are an eligible expense for the $350 billion emergency State and Local Fiscal Recovery Funds, part of ARPA and distributed by the Treasury Department.[11]

We caution state and town leaders hoping to arrest a decline in population in rural areas. The economic benefits of even privately operated broadband seem to accrue primarily to growing urban areas, occasionally at the expense of remote areas. As French researchers recently found, in examining five years of broadband subsidies to rural areas, "Overall, our results suggest that despite political enthusiasm for broadband deployment programs, providing access to ultrafast networks is not sufficient to create an entrepreneurial environment in structurally weak areas. Thus, the impact of broadband on rural development, at least in terms of establishment births, should not be overestimated, as it is not expected to lead to significant changes in the spatial distribution of economic activities."[12]

These findings need not discourage rural leaders from designing broadband programs. We grew up in Iowa and rural Illinois, respectively, and have seen firsthand that broadband improves quality of life in rural and declining areas. However, leaders should be skeptical of advocates and providers who promise an economic turnaround from broadband expansion. The philosophy of "if we build it, they will come" is too optimistic;[13] economic development requires more than a high-speed connection.

The five principles we recommended earlier should feature prominently in federal guidance and state programs. These principles, which we outline in the following sections, prioritize simple requirements for rapid infrastructure construction by competitive, private firms.

CONSIDER A BROADBAND VOUCHER PROGRAM

States and cities should include in their grant requests to federal agencies the ability to create and manage broadband voucher programs for rural areas. We have recommended in previous work that the FCC convert its rural broadband program, which is currently disbursed to private providers, into a voucher program for rural households.[14] The idea is largely drawn from the United Kingdom's popular rural broadband program that has operated since 2016.[15]

Under a state voucher program, funds would be controlled by rural residents rather than broadband providers. Broadband vouchers essentially put a pot of money—a stream of income to providers—at every rural household address. States and cities, in formulating their broadband voucher programs, should stipulate a mandatory payout period—perhaps a five-year exclusive contract—so that providers have a reliable stream of income to offset their capital investment.

A major benefit of a broadband voucher program is its simplicity. Decisions are made more quickly by consumers and spending is easily traceable. Monitoring of network construction progress is essentially self-enforced because providers get paid only if they have completed a network expansion. A voucher program would be beneficial particularly for federal stakeholders, private network providers, and states that want to avoid the time and expense of creating, reviewing, complying with, or managing broadband programs.

To illustrate, suppose Pennsylvania broadband officials were to propose a five-year broadband voucher plan and win $210 million annually from the various federal programs matched with $50 million annually in state funds. If every single rural house in Pennsylvania (1.1 million) were to participate, the state could give a $20 monthly voucher to each household. If 50 percent were to participate, the state could give a $40 monthly voucher. If 20 percent were to participate, the state could give an $80 monthly voucher. Over the exclusive contract period for this latter estimation ($80 monthly), a provider would be guaranteed $4,800 revenue from each participating household over the five-year contract.

Estimates vary, but the upfront cost is approximately $4,500 to connect the average household using a fiber company, approximately $2,200 to connect using a cable company, and approximately $500 to connect using a wireless internet service provider.[16]

With traditional rural broadband grant and loan programs, broadband maps are needed to ensure that public dollars are not subsidizing service that is already served by one or more private providers; but with a voucher system these federal or state-created maps of so-called unserved and underserved locations would no longer be necessary to maintain. As federal attempts over the past decade reveal, the broadband mapping process itself introduces even more delays and complexity into the granting process. Precise broadband information has never been collected. Although several states and the FCC are trying to get precise maps, they are gaining only a snapshot of a motion picture—tens of thousands of US households gain high-speed coverage every month. It's almost an impossible task to produce an up-to-date map.

This mapping difficulty is a challenge particularly for small providers who may struggle to stay abreast of the many federal programs and mapping exercises. For instance, in Iowa, a Cedar Falls Utilities (CFU) representative describes how CFU's municipal ISP found rural residents miscategorized in 2021 as served because of inaccurate mapping.[17] Although CFU was able to successfully recategorize the households as underserved, doing so required submitting challenge forms and

devoting resources to challenge the broadband maps. Local examples such as this will be common if federal and state programs continue to subsidize providers rather than residents.

With a voucher program, on the other hand, household eligibility decisions could be made almost immediately if, for instance, a state were to deem all rural households eligible per the Census Bureau definition. States could refine eligibility criteria, but Census Bureau–defined rural areas would include nearly all of the areas where new broadband expansion is most needed while eliminating the existing qualification and tracking confusion.

REQUIRE AUDITS OF PROGRAMS

States should create an inspector general or auditor position, perhaps within the office of state auditor or comptroller, to audit and retroactively review network progress. The prospect of later review should prevent wasteful goldplating, overpromises, and other distortions as federal dollars flow from cities, counties, and states to providers. Preventing waste at the outset—via the prospect of audit—preserves funds to serve more rural customers.

California is a good example of putting oversight into place. In legislation authorizing the spending of $6 billion of federal broadband funds is a requirement that a state commission conduct a fiscal audit and a performance audit every two years to ensure compliance with grant and loan requirements.[18] These findings must be reported to the legislature. The audits require "details on the status of each project," broadband adoption levels, and the cost-per-household for each project.

AVOID PUBLICLY OPERATED NETWORKS

Many state and federal programs prioritize political priorities, such as publicly operated networks, that have little to do with expanding broadband coverage. Publicly operated networks are risky projects that often lead a municipality or county into default or bond rating penalties, even after federal or state subsidies. For instance, despite receiving tens of millions of dollars in federal loans and grants, a broadband project Lake County, Minnesota, has put "local property taxpayers . . . on the hook for more than $25 million" for a troubled public network.[19] The Taxpayers' Protection Alliance released a report in 2020 with case studies of more than two dozen publicly operated broadband networks that had modest or negative effects on the finances of municipalities.[20] Even "public-private partnerships" to construct networks can have misleading and financially ruinous consequences if care is not taken. An extreme example is the KenturckyWired project, a state "middle mile" broadband project to benefit rural portions of the state. Kentucky officials estimated taxpayer liability for a statewide broadband network at $30 million. Mismanagement and unforeseen costs led to actual taxpayer liabilities of more than $1.4 billion, according to the state auditor review.[21] Research from the Mercatus Center at George Mason University indicates that publicly operated networks have a negligible effect on business formation.[22] For any states, counties, and

cities considering publicly operated or public-private-partnership-operated broadband networks: proceed with caution and avoid the mistakes made in other jurisdictions.

BUILD PASSIVE INFRASTRUCTURE

If public or public-private investments are nevertheless deemed a state priority, a state, municipality, or county should focus on passive infrastructure investments in rural areas. Passive infrastructure is the long-lasting, low-maintenance roadside infrastructure that almost all broadband providers rely on to expand their service coverage areas (mainly fiber optics conduit, utility poles, handholes, and fiber optics cabinets). State and county officials typically own or manage the rights-of-way and roadways in rural areas. Officials should identify the areas in most need of home broadband and fiber optics backhaul and construct passive infrastructure in the rights-of-way in anticipation of private providers building the necessary fiber optics, networking equipment, and antennas that service customers. After building passive infrastructure, public officials can lease out the conduit space, pole space, and cabinets to private broadband and backhaul providers on a competitive, nondiscriminatory basis, much like how coastal cities enhance their ports to attract more shipping services and generate profit.

State and county officials are not broadband service providers in this role. They (or their private contractors) simply manage access to the rights-of-way and perform maintenance of the passive infrastructure. The risks of building, marketing, and billing customers for broadband service fall to the private providers, the lessees of the passive infrastructure. In most urban and suburban areas, this infrastructure is fairly extensive. However, in rural areas, this infrastructure is often lacking and uneconomical for private providers to construct.

In this passive infrastructure model, local governments limit their management and oversight to right-of-way management issues, such as granting access to roadside infrastructure and preventing anticompetitive exclusion from utility poles and right-of-way real estate. The commercial sector, by contrast, should have a free hand in device installation, network construction, and service offerings. Some states and cities have taken steps towards this approach in recent years for broadband and connected vehicle deployments.[23]

Most states have limited experience dealing with rights-of-way leasing on state property. In fact, some states ban it outright or strictly limit private construction on state property. Georgia Department of Transportation rules, for instance, generally ban utility installations within the rights-of-way of interstate and new limited-access highways.[24] However, there are ad hoc exceptions permitted, and the department is engaged in a handful of public-private partnership agreements to construct broadband projects on that linear property.[25] Georgia's State Properties Commission is conducting an inventory of state assets such as land and buildings that could be used to expand broadband in rural areas.[26]

Arizona offers a good example of a promising rights-of-way and passive infrastructure policy. State leaders in Arizona made high-speed broadband for rural and tribal residents a priority a few years ago. After investigating the subject, Governor Doug Ducey's office and transportation and economic development leaders determined that public funding for an open-access middle-mile fiber optics conduit network, using the state's rights-of-way in rural areas, would entice private broadband providers to expand their coverage to those uneconomical rural and tribal areas.[27] This project was part of a $100 million state investment in broadband infrastructure. The designated corridors for fiber optic conduit installation include 141 miles for I-17 between Flagstaff and Phoenix and 60 miles for I-19 between Tucson and Nogales.[28] The Arizona Department of Transportation began construction of the conduit network and fiber optics network for department uses in 2022, with plans to lease excess conduit space to private companies to serve households with broadband. Officials estimated that about 20 percent of the state's unserved and underserved households are located within a five-mile radius of the selected interstate highways and state routes.

Passive infrastructure offers multiple uses including state transportation communication services, private retail ISP service to homes and apartments, and private connected vehicle services. This "option value" of roadside infrastructure has largely been ignored in broadband policy debates. Furthermore, as state, county, and local governments often own or manage the rights-of-way and poles, there are opportunities for revenue generation with generally applicable leasing agreements to broadband companies.

PURCHASE BROADBAND EASEMENTS

Many states and counties have limited experience providing internet service or managing broadband programs. However, states and their subdivisions do have experience with easements of various kinds, including transportation (road) and utility easements. Transportation and utility easements are fragmented, made up of tens of thousands of private and public agreements with landowners, but many broadband providers may find it expensive and time-consuming to negotiate easements with landowners as they build new broadband networks. Most conflicts with landowners are probably never disclosed publicly, but the instances of litigation and news reports indicate that acquiring easements is a complicating factor in many local areas. States and counties should consider applying for and using federal subsidies to acquire and rationalize "broadband easements" or "technology easements" so that providers can quickly construct new fiber optic and wireless networks.

In several instances in recent years, providers did not have the needed language in an easement agreement to construct new lines across private property. For instance, a class of Missouri landowners sued an electric company when the company used its electric transmission easement to string up fiber optics for retail broadband services.[29] The district court held, and the US Court of Appeals for the Eighth Circuit affirmed, that the installation of fiber optics was a trespass under

Missouri law because such installations exceeded the scope of the electric company's easements.[30] Construction without the proper easements can be costly. In some states, intentional trespass is submitted to a jury for punitive damages.[31]

In Arkansas, landowners sued in state court over an electric company's installation of new broadband lines. The appellate court denied the electric company's attempt to get the case transferred to the public service commission.[32] In 2017, a broadband company tried to install fiber optic cables using an existing electric utility easement, but a landowner objected. The broadband operator claimed federal law required the landowner to accept the fiber optics installations, an argument the federal district court rejected.[33]

In 2020, in anticipation of these easement issues, the Virginia legislature enacted a law purporting to broaden the scope of existing electric easements to include the right to install and operate broadband lines.[34] However, some landowners sued, alleging an unconstitutional violation of the contracts clause, which the federal district court allowed to proceed.[35]

When utility, cable, and phone companies reached agreements with landowners decades ago, they could not anticipate that new lines and new fiber optics would be required. As large and small companies, public and private, start building across the United States, states and counties should anticipate fights over easements. States should have funds available to purchase new broadband easements where the existing easement agreements might not allow broadband construction across private property.

CONCLUSION

During the COVID-19 crisis, when many Americans started working remotely, the FCC and the industry immediately took action to maintain customers' internet connections. In the aftermath, Congress directed billions of dollars to states to cover the nation with high-speed broadband. Now, with billions in funding set to be distributed over the next few years, states and cities need to staff their new broadband offices and adopt best practices.

In our view, the complicated and duplicative federal broadband programs do a disservice to state broadband offices, broadband companies, and rural residents. Rural broadband service is already a high-risk business, and the prospect of regulatory delays, litigation, and mapping controversies will scare off private investment in many areas. States and cities should create and request funding for a voucher program and adopt the best practices that we have outlined: audit offices, construction of passive infrastructure, and the avoidance of publicly operated networks. Federal officials should consolidate programs and permit the funding of state voucher programs. These proposals not only ensure predictability and effectiveness, but they also complement, rather than complicate, current and future broadband programs popping up nationwide.

ABOUT THE AUTHORS

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NOTES

1. Government Accountability Office, "National Strategy Needed to Guide Federal Efforts to Reduce Digital Divide" (report no. GAO-22-104611, Government Accountability Office, Washington, DC, May 2022).
2. Government Accountability Office, "National Strategy Needed."
3. Diana Goovaerts, "The Cost of Running Fiber in Rural America: $200,000 per Passing," *Fierce Telecom*, September 27, 2022.
4. Alaska Department of Commerce, Community, and Economic Development, *Klukwan—Jilkaat Kwaan Cultural Heritage Center and Bald Eagle Observatory*, May 27, 2011, 3, https://www.omb.alaska.gov/ombfiles/12_budget/CapBackup/proj55730.pdf. The report cites 2010 US Census figures.
5. A private provider indicates the company currently offers 25 Mbps digital subscriber line service in Klukwan. "Broadband Internet Access," Alaska Power and Telephone Company, accessed October 7, 2022, https://www.aptalaska.com/broadband/.
6. Steven M. Teles, "Kludgeocracy in America," *National Affairs*, no. 17 (2013).
7. USTelecom, *2021 Broadband Capex Report*, July 2022. The data show industry spending at around $80 billion annually for the past five years.
8. FCC data show that, annually, around 4.2 million people in rural areas gained high-speed (25 Mbps download, 3 Mbps upload) terrestrial broadband annually from 2013 to 2018. See Federal Communications Commission, "2018 Broadband Deployment Report" (report no. FCC 18-10, Federal Communications Commission, Washington, DC, February 2, 2018), 22 (recording 29.1 million with access to high-speed broadband); and Federal Communications Commission, "2020 Broadband Deployment Report" (report no. FCC 20-50, Federal Communications Commission, Washington, DC, April 24, 2020), 19 (recording 50.1 million with access to high-speed broadband). The Census Bureau reports that the average household size is 2.6 people, so 4.2 million people gaining access to high-speed broadband would be approximately 1.6 million households, or approximately 130,000 households per month.
9. US Department of Treasury, *Coronavirus Capital Projects Fund: Allocations for States, District of Columbia, and Puerto Rico*, August 2021, https://home.treasury.gov/system/files/136/Allocations-States.pdf; "Capital Projects Fund," US Department of the Treasury, accessed September 30, 2022, https://home.treasury.gov/policy-issues/coronavirus/assistance-for-state-local-and-tribal-governments/capital-projects-fund.
10. The Broadband Equity, Access, and Deployment (BEAD) Program is authorized by the Infrastructure Investment and Jobs Act of 2021. Infrastructure Investment and Jobs Act of 2021 div. F, tit. I, § 60102, Pub. L. No. 117-58, 135 Stat. 429 (2021). Each State is eligible to receive a minimum of $100,000,000 and each territory is eligible to receive a minimum of $25,000,000.

11. American Rescue Plan Act of 2021, Pub. L. No. 117-2, 135 Stat. 4 (2021). Codified at 42 U.S.C. 802(c)(1)(D) (2022): "[A] State, territory, or Tribal government shall only use the funds provided under a payment made under this section . . . to cover costs incurred by the State, territory, or Tribal government, by December 31, 2024 . . . to make necessary investments in water, sewer, or broadband infrastructure."

12. Chloé Duvivier and Claire Bussière, "The Contingent Nature of Broadband as an Engine for Business Startups in Rural Areas," *Journal of Regional Science* 26 (2022): 1–29.

13. *Field of Dreams*, directed by Phil Alden Robinson (1989, United States: Universal Pictures and Carolco Pictures).

14. Brent Skorup, "Expanding Broadband Access to Rural America through Consumer Vouchers" (Mercatus Spotlight, Mercatus Center at George Mason University, Arlington, VA, May 2021).

15. "Get a Voucher," Gigabit Broadband Voucher Scheme, UK Government, accessed September 30, 2022, https://gigabitvoucher.culture.gov.uk.

16. Mike Dano, "WISPs to Command 9M Customers by Next Year—Analysts," *Light Reading*, April 26, 2021.

17. "CBAN Member Spotlight - Cedar Falls Utilities," conversation between Mike Smith of Cedar Falls Utilities and Curtis Dean of Community Broadband Action Network, February 25, 2022, video, 10:00–12:00, https://www.youtube.com/watch?v=ZAdbFYehSpg.

18. S.B. 156, 2021–2022 Sess. (Ca. 2021).

19. Jamey Malcomb, "Rural Minnesota County Built a Fiber Network, but Now Taxpayers Face Huge Bills," *Government Technology*, 2018.

20. Taxpayers Protection Alliance, *GON with the Wind: The Failed Promise of Government Owned Networks Across America*, May 2020.

21. Mark Harmon, *Examination of Certain Contracts, Operations, and Activities of the Kentucky Communications Network Authority* (Frankfort, KY: Kentucky Auditor of Public Accounts, 2018), 11; Alfred Miller, "How Kentucky Gambled for Hundreds of Millions of Dollars from a Broadband Program It Didn't Qualify for," *ProPublica*, September 4, 2019.

22. A 2014 research paper by Brian Deignan uses 23 years of Bureau of Labor Statistics data from 80 cities that have deployed broadband and analyzes municipal broadband's effect on (1) quantity of businesses, (2) employee wages, and (3) employment. Ultimately, the data suggest municipal broadband has almost zero effect on the private sector. Brian Deignan, "Community Broadband, Community Benefits? An Economic Analysis of Local Government Broadband Initiatives" (Mercatus Graduate Policy Essay No. 17, Mercatus Center at George Mason University, Arlington, VA, June 2014).

23. "Connected Vehicles," Colorado Department of Transportation, accessed September 30, 2022, https://www.codot.gov/programs/innovativemobility/mobility-technology/connected-vehicles; "Interactive Connected Vehicle Deployment Map," US Department of Transportation, last updated June 30, 2022, https://www.transportation.gov/research-and-technology/interactive-connected-vehicle-deployment-map.

24. There are only exceptions for "special cases" and "extreme hardship." Georgia Department of Transportation, *Utility Accommodation Policy and Standards Manual 2016*, revised December 1, 2018, 2–6.

25. "Public Private Partnerships (P3 Program)," *Georgia Department of Transportation*, accessed September 30, 2022, http://www.dot.ga.gov/PS/Innovative/P3.

26. Georgia Broadband Deployment Initiative, *Georgia Broadband Plan*, May 29, 2019, 11.

27. Arizona Commerce Authority, *Arizona Broadband Statewide Middle-Mile Strategic Plan*, February 2022.

28. Arizona Commerce Authority, "Arizona Commerce Authority Announces Statewide Broadband Middle-Mile Strategic Plan," press release, February 3, 2022, https://www.azcommerce.com/news-events/news/2022/2/arizona-commerce-authority-announces-statewide-broadband-middle-mile-strategic-plan/.

29. Barfield v. Sho-Me Power Elec. Coop., 852 F.3d 795 (2017).

30. Barfield v. Sho-Me Power Elec. Coop., 852 F.3d 795 (2017).
31. Wright v. Edison, 619 S.W.2d 797, 803 (Mo. Ct. App. 1981).
32. Stanley v. Ozarks Elec. Coop. Corp., 2019 Ark. App. 560 (Ct. App. 2019).
33. Zito Media v. Haggerty, 320 F. Supp. 3d 630 (2018).
34. Va. Code Ann. § 55.1-306 (2020).
35. Grano v. Rappahannock Elec. Coop., 552 F. Supp. 3d 563 (WD Va. 2021).