

Bridge to Everywhere:

Practical Considerations for Philanthropy
for Expanding Broadband Access in Rural
Communities

Hull Fellows Capstone

Bleik Pickett, Kristen Richardson-Frick,
Margy Eastham Thomas, Shanell Watson
November 2021

Introduction

This document is designed as a guide for philanthropic organizations interested in narrowing the digital divide, or the gap between those with internet access and those without, in rural communities. Philanthropy's role in this space is not always clear. Broadband expansion is technically complex, extremely expensive, and often viewed as the domain of government and/or internet service providers.

The authors' intent is to demystify this complex topic and provide concrete examples of how philanthropy can support long-term solutions that connect rural communities and enable them to access and benefit from this technology. We do not intend to provide a comprehensive guide, but a starting point from which philanthropic leaders can then decide to explore further.

It is important to understand that when addressing the digital divide, three separate but interrelated issues must be addressed:

1. **Physical infrastructure** necessary to connect communities;
2. **Affordable access** to the appropriate connection; and
3. Access to devices and digital literacy skills on how to use broadband to improve economic, social, and other outcomes known as **digital inclusion**.

This guide focuses heavily on the first two because in many rural communities, they present the most immediate challenge. However, digital inclusion is also an extremely important area that may benefit from philanthropic investments.



The Problem

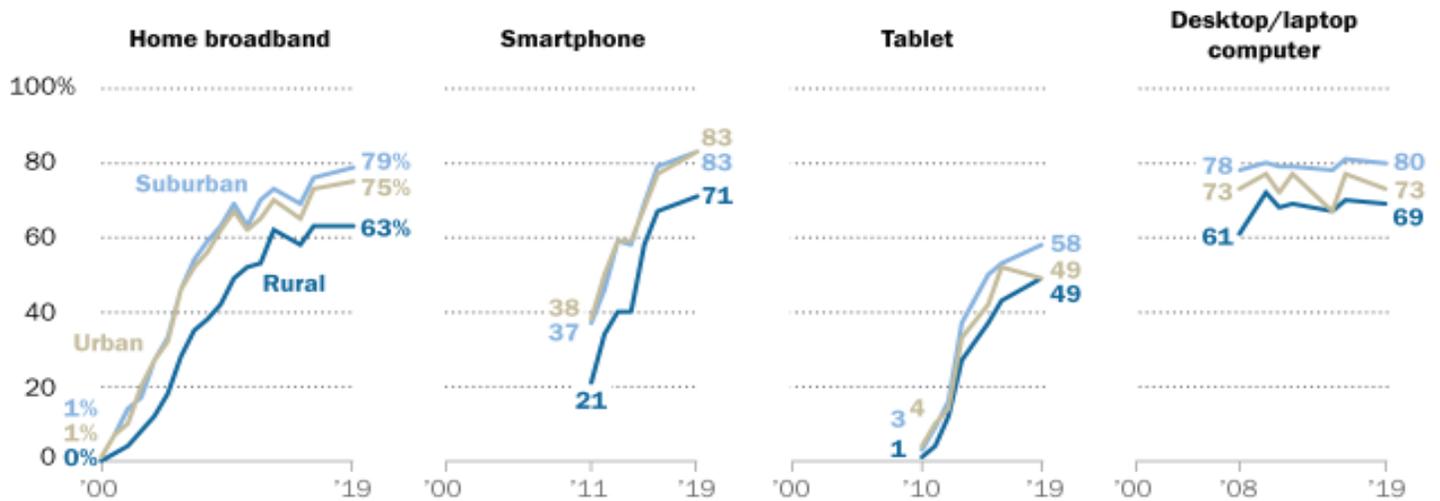
When the COVID-19 pandemic emerged in early 2020 and hundreds of millions of Americans were forced to remain at home, businesses, schools, and government simultaneously pivoted into a digital environment. Individuals, families, and religious communities shifted their social interactions online, relying on the internet as a primary connection to the outside world.

This sudden and massive shift exposed a digital divide that has steadily grown over the last three decades, leaving low-income, minority and rural Americans without a lifeline as the global crisis grew. While the pandemic will surely subside, the need for digital access will not. Internet access has become a basic modern utility that is deeply intertwined with access to healthcare and education, participation in the modern economy, and civic engagement - yet nearly [40 percent of rural Americans lack access to a broadband connection](#). Further exacerbating the situation are significant disparities in access based on income and race, and disparities along racial lines are pronounced in rural communities. A [recent study](#) revealed that rural communities of color have significantly lower broadband access than white communities, even after adjusting for differences in income.

Existing FCC coverage maps compound the problem by dependence on Internet Service Providers (ISPs) to report access metrics. There are no reporting requirements on speed or the number of households serviced. As a result, these maps are often inaccurate, vastly underestimating the number of rural communities that are unserved or underserved. Independent speed tests and assessments often reveal gross inaccuracies in FCC maps. Since most federal funding decisions hinge on the FCC coverage maps, these inaccuracies present a confounding challenge to those who are developing broadband expansion projects for federal funding.

Rural Americans have consistently lower levels of broadband adoption

% of U.S. adults who say they have ...



Note: Respondents who did not give an answer are not shown.
 Source: Survey conducted Jan. 8-Feb. 7, 2019. Trend data from other Pew Research Center surveys.

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A Note About Broadband

It is important to understand that not all [broadband connections](#) are created equal. Though many urban communities now have access to gigabit connections (1,000 Mbps download speed), the Federal Communications Commission (FCC) defines broadband as a connection that provides a minimum of 25 Mbps download speed and 3 Mbps upload speed (25/3), which many experts now view as inadequate for online activities today. This standard has been in existence for nearly a decade, during which time use and dependence on broadband for work, education and business has accelerated exponentially. Many technologies can meet those minimum speeds, but most have limitations.

| Broadband | Definition | Accessibility | Reliability | Affordability |
|-------------------------------|--|--|--|---|
| Digital Subscriber Line (DSL) | Low speed connection offered by phone companies. | Utilizes existing copper telephone wires; has geographic restrictions. | Slowest broadband connection; likely to become obsolete. | Cheapest technology to deploy. |
| Cable Internet | High speed connection offered by cable TV providers. | Utilizes existing cable TV infrastructure. | Faster than DSL, but speeds slow considerably if many individuals are online at the same time. | Often requires substantial minimum investment from community. |
| Satellite Internet | Medium speed connection offered by niche ISPs delivered to end user via satellite. | Capable of servicing remote areas without requiring significant infrastructure. | Faster than DSL, but slower than cable and has significant latency problems. Low orbit satellite technology improves latency and speed but cannot be deployed at meaningful scale. | Initial equipment investment by end user. |
| Fixed Wireless | Medium speed connection offered by niche ISPs via radio waves from nearby towers. | Utilizes niche technology to provide wireless connection; has geographic restrictions. | Incremental solution in areas without critical infrastructure, but speeds are far slower than other technologies. | Often requires minimum subscriber pool to support implementation. |
| Fiber Optic | High speed connection using light pulses offered by a variety of providers. | Requires significant infrastructure to be installed; cannot use existing telecommunications equipment. | Newest, fastest, and most reliable connection. | Most expensive technology to deploy due to extensive infrastructure requirements. |
| 5G Mobile | High speed wireless connection offered by telecommunications companies. | Utilizes cellular technology; has geographic restrictions. | Adequate speed but requires significant last mile (connection from hub to end user's home or business) fiber optic cable due to limited 5G cell tower reach. | Often requires substantial minimum investment from community. |

While fiber optic broadband is the gold standard of internet technology and also considered the most “future-proof” technology, some argue that it is too expensive to deploy in rural communities. Instead, they suggest that 5G mobile networks or fixed-wireless connections are more cost-effective, incremental solutions. This argument is countered by examples of locations where [profitable fiber networks have been deployed in rural counties](#) by telephone and electric cooperatives.

Similar to the national expansion of electric utility delivery to U.S. households in the 1920s, the large-scale implementation of internet infrastructure will require complex layers of public-private partnerships. There are many different types of entities that have successfully expanded broadband networks in rural communities, but challenges remain. For example:

- For-profit ISPs (telecommunication and cable companies) have significant capacity to deploy infrastructure but have limited return on investment (ROI) in rural areas. The ROI is simply insufficient to drive development, underscoring the need for federal investment.
- Cooperatives (coops) often deliver better and more affordable access to consumers, but like for-profit ISPs, coops need heavy federal subsidies to incentivize the work; further, there are an insufficient number of coops in rural areas across the U.S. to be the sole solution to the problem.
- Some municipalities choose to develop their own networks in order to prioritize meeting citizens’ needs and economic development goals, but public entities rarely have the capacity to efficiently develop, operate and maintain commercial broadband networks.

Non-profit electric and telephone cooperatives are community-owned and can afford a longer time horizon to recoup infrastructure investments. Co-ops and public-private partnerships have proven to be the most effective vehicles for delivering cost-effective solutions that maximize the public benefit.

How Did We Get Here?

Access in rural communities depends on private internet providers' willingness to offer service in the local market - and in doing so, ISPs must build the infrastructure to carry a broadband connection to every home in that local market. Because the cost of building and maintaining this infrastructure is so expensive, companies must be confident in their ability to recoup investment and profit in a reasonable time frame. Rural populations have historically been less attractive to internet providers because there are fewer potential customers in small towns than in large population centers. With lower population density, those potential customers are also spread further apart, meaning more infrastructure must be built to serve fewer customers. Many rural areas also contain geographic restrictions that make internet infrastructure difficult to install and maintain - further driving up these costs.

Even when service is available in rural communities, ISPs often provide a service that doesn't require any upgrade of existing copper telephone lines to fiber optic cable. As a result, service offered in rural communities is slower and more expensive than services offered in more densely populated areas. Sometimes, a provider will invest in building out "last-mile" connectivity for large institutional clients like schools, community colleges or government offices, without offering residential services.

While federal loan and grant funding streams exist to subsidize the cost of building out broadband infrastructure, they are underfunded, complicated, hyper competitive and usually require a hefty local cash match. Simply put, many communities don't have the existing capacity to pursue these options. Lastly, lobbying by the broadband industry has led to [23 states passing laws](#) that either ban municipalities from building their own broadband infrastructure or make it nearly impossible.

Philanthropic Opportunity

Affordable access to broadband is not optional in today's world and without it, rural places will be even further challenged to create jobs, educate young people, provide healthcare and foster civic engagement. Simply put, the challenge at hand is one of equity and its importance cannot be understated. Likewise, the passage of the federal Infrastructure Investment and Jobs Act will allocate unprecedented resources toward broadband expansion--\$65 billion over the next four to five years. This creates a once in a lifetime opportunity to bridge the digital divide. Philanthropy can help address this challenge through the same lenses and practices that it approaches solutions to many challenges: leveraging capital, promoting equity, fostering discovery, helping reduce the risk of innovation and building a proving ground for new ideas and solutions.

"IT'S NOT ABOUT BROADBAND. IT'S ABOUT WHAT BROADBAND CAN DO. BROADBAND IS THE MEANS TO THE END... INTERNET ACCESS IS FUNDAMENTAL TO EVERYTHING PHILANTHROPY CARES ABOUT."

BERNADINE JOSELYN, DIRECTOR OF PUBLIC POLICY & ENGAGEMENT. BLANDIN FOUNDATION

However, no central playbook exists that will work in all rural communities, and top-down solutions are rarely successful. For philanthropic organizations, this means there is usually not an obvious turnkey project to get started. Rural communities contend with layers of complex technical and economic challenges, many of which are unique to the local context. Understanding the particular barriers an individual community faces and finding solutions requires a high degree of organization coupled with a broad mix of knowledge, skills and effective leaders focused on solving the problem.

Several positive examples of philanthropic organizations doing highly effective work to help close the digital divide in rural communities stand out. The [Blandin Foundation](#) and the [Benedum Foundation](#) have funded notable work in rural Minnesota and West Virginia, respectively. Because broadband infrastructure is so expensive and ISPs require federal subsidies, the core of both foundations' approach is helping communities access federal funding for locally driven initiatives. There are many potential options philanthropic organizations can pursue:

- **Convening support for community stakeholders** - Creating and executing locally driven initiatives at the community level. Helping communities pull the right people and groups together to come up with a plan is often the right starting point. Providing funding for a community or region to hire a broadband coordinator is another opportunity for support.
- **Funding for feasibility studies, engineering assessments and creating accurate coverage maps** - These are all necessary steps that must be taken prior to accessing federal funding for broadband and they can often carry significant costs.
- **Support for grant writing and other technical assistance** - Federal funding is spread across multiple agencies and application processes are extremely complicated. Foundations can provide assistance by hiring grant writers experienced with federal broadband funding if that capacity doesn't exist locally.
- **Matching funds** - Many federal grant opportunities require a cash match of up to 20 percent of the total project cost. Funds committed prior to an application being submitted are especially valuable as they make the applicant seeking federal funding more attractive to reviewers.
- **Policy & advocacy** - Even with unprecedented funding proposed through a federal infrastructure bill, strong advocacy is needed to ensure resources reach rural places. Likewise, advocacy efforts at the state level can ensure that funds appropriated are deployed effectively and equitably.

In addition to funds, philanthropic organizations have social capital that can assist communities as they develop their approaches to expanding broadband access. Funders can host regional meetings to integrate local communities, governments and key stakeholders to learn about and identify potentially synergistic opportunities. Funders can also leverage their extensive networks to make connections to people or organizations with technical expertise (engineering, mapping etc.), grant writers experienced with federal broadband funding mechanisms, ISPs that could participate in public/private partnerships, other private funders, and authorities able to combine local, state, federal and private resources.

Where to Start

- 1) Several states have established state broadband offices that coordinate statewide strategies for broadband expansion and that often provide helpful tools and resources. If your state has a broadband office, start there. This can give you a sense of the landscape, what support already exists and what gaps there may be to fill. If the state's progress in this space is unclear, check [Pew Charitable Trusts Mapping of State Broadband Efforts](#).
- 2) Speak with leaders in the communities within the geographic focus of your foundation to gauge interest and get a sense of what activities are already taking place. Identify individuals or organizations within your community that can assist with assessing needs. Reach out to leaders in other communities that have made progress in broadband expansion. They may have knowledge that can accelerate progress in communities where your organization is focused and can often help identify other key stakeholders.
- 3) Speak with other funders to see who else may be doing work in this space. Familiarize yourself with the federal funding landscape or connect with others who may already have this information.
- 4) Educate leadership within your organization about the importance of rural broadband expansion and the ways your organization might be able to play a role.
- 5) Make grants! After all, this is one of the primary roles of philanthropic organizations. Starting is often difficult, but grants are among the easiest ways to “get in the game.” Identifying early grant opportunities allows the organization to get involved and become a stakeholder in the broadband work in their region. It is often a good first step to begin learning and identify future opportunities.

About the Authors

Bleik Pickett

Senior Program Officer, James Graham Brown Foundation (KY)

Bleik oversees the Foundation's grantmaking program areas of Education statewide and Community and Economic Prosperity in Eastern Kentucky. Bleik is also the director of the Foundation's Brown Fellows Program, a partnership with Centre College and University of Louisville. Prior to joining the Foundation's staff in 2017, he served in senior roles with the University of Kentucky and the National Science Teachers Association, Meridian International Center and the Pan American Health Organization/World Health Organization. Bleik earned a B.A. from the University of Pittsburgh and an M.A. from the University of Kentucky's Patterson School of Diplomacy and International Commerce.

Kristen Richardson-Frick

Associate Director, Rural Church, The Duke Endowment (NC)

Kristen joined the Endowment as a program officer in 2012 after serving as a pastor for 11 years, 10 of which were in rural settings. As an ordained elder in the South Carolina Conference of the United Methodist Church and a certified ministry coach, Kristen chaired the state's Committee on Episcopacy and the Orangeburg District Committee on Congregational Development, as well as served as a Registrar of the Orangeburg District Committee on Ordained Ministry. She is a graduate of Leadership North Carolina Class XXIII. Her current work includes leading the Rural Church Summer Literacy Initiative and clergy wellbeing programs.

Margy E. Thomas

Program Officer, PATH Foundation (VA)

Margy facilitates grants and program-related investments alongside PATH program staff, manages their Faith Community Nursing program, and coordinates community listening tours. She previously worked for the Virginia Center for Health Innovation, the Town of Warrenton, and the University of Virginia's Curry School of Education. She holds a B.A. in Foreign Affairs and a Master of Public Health with concentration in Health Policy, Law & Ethics, both from the University of Virginia. As part of her undergraduate work, Margy studied in Switzerland, working with the Global Polio Eradication Initiative on polio endgame strategies.

Shanell H. Watson

Program Officer, Woodward Hines Education Foundation (MS)

Shanell oversees grant processes and investments related to the Foundation's postsecondary attainment and workforce connection priorities in Mississippi. Prior to joining Woodward Hines as a financial analyst in 2007, Shanell worked as an assurance supervisor for HORNE LLP and external grant manager for the Jackson Medical Mall Foundation. She has been licensed as a certified public accountant in the state of Mississippi since 2005 and received a Bachelor of Business Administration and Masters of Accountancy from Millsaps College's Else School of Management.

About the Hull Fellows Program

This paper was written by the authors as a product of their participation in the [Southeastern Council on Foundation's Hull Fellows Program](#). The program is a unique opportunity for rising leaders in Southern Philanthropy to connect with one another over the course of an entire year while also building valuable relationships with experienced mentors. Fellows meet both in person and online to share experiences and collaborate on projects that explore challenges and opportunities in grantmaking.