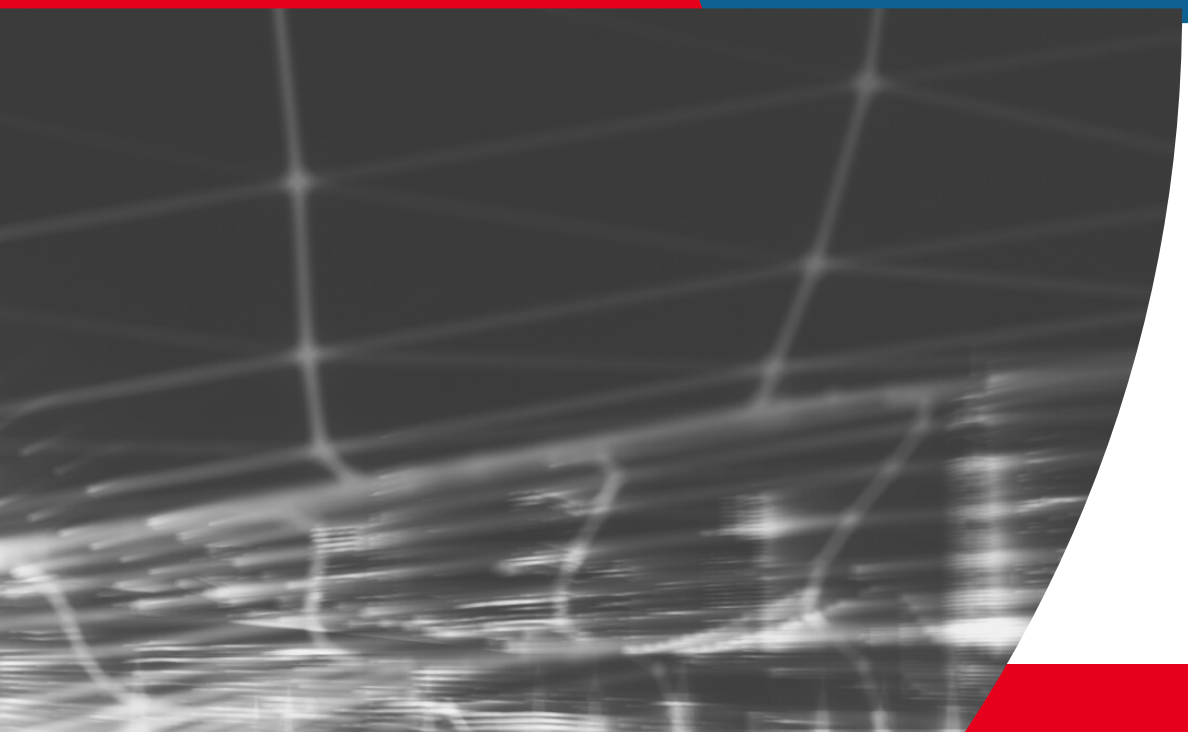
GUIDEBOOK

PLANNING FOR BROADBAND GRANTS



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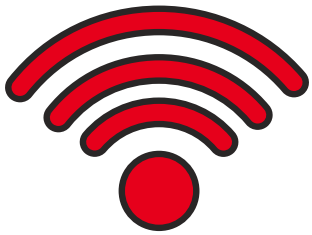


What is Broadband?

Broadband has quickly become a modern day utility. It is essential for many activities, from remote work to online banking. But what is it exactly?

The Federal Communications Commission (FCC) describes broadband as high-speed Internet access that is always on and faster than the traditional dial-up access. Broadband includes several high-speed transmission technologies:

- **Digital Subscriber Line (DSL):** DSL is a wireline transmission technology that transmits data over traditional copper telephone lines already installed to homes and businesses. The availability and speed of your DSL service may depend on the distance from your home or business to the closest telephone company facility.

- **Cable Modem:** Cable modem service enables cable operators to provide broadband using the same coaxial cables that deliver pictures and sound to your TV set. Most cable modems are external devices that have two connections: one to the cable wall outlet, the other to a computer. They provide transmission speeds of 1.5 Mbps or more.

- **Fiber:** Fiber optic technology converts electrical signals carrying data to light and sends the light through transparent glass fibers about the diameter of a human hair. Fiber transmits data at speeds far exceeding current DSL or cable modem speeds, typically by tens or even hundreds of Mbps.

- **Wireless:** Wireless broadband connects a home or business to the Internet using a radio link between the customer's location and the service provider's facility. Wireless broadband Internet access services offered over fixed networks allow consumers to access the Internet from a fixed point while stationary and often require a direct line-of-sight between the wireless transmitter and receiver.

- **Satellite:** Just as satellites orbiting the earth provide necessary links for telephone and television service, they can also provide links for broadband. Satellite broadband is another form of wireless broadband, and is also useful for serving remote or sparsely populated areas. Downstream and upstream speeds for satellite broadband depend on several factors, including the provider and service package purchased, the consumer's line of sight to the orbiting satellite, and the weather.

Broadband Glossary

- Anchor Institutions: A school, library, medical or healthcare provider, community college or other institution of higher education, or other community support organization or entity.
- Backbone: High-speed transition lines that connect smaller networks. Think of the interstate, which connects smaller state routes together.
- Bandwidth: Capacity of a broadband connection, often a synonym for data transfer speed.
- Bit: A bit is the basic unit of information in computing. It usually takes eight bits to represent one character of text. Data file sizes are measured in bytes while data speed is measured in bits.
- Byte: A unit of digital information that most commonly consists of eight bits.
- Digital Inclusion/Digital Equity: Digital inclusion involves the activities necessary to ensure equitable access to and use of information and communication technologies for participation in social and economic life.
- Digital Literacy: The ability to understand and utilize technologies and the internet.
- Feasability Study: An analysis that considers all relavent factors of a project, including financial, technical, and legal, to determine the probable success of a project--in this case, a project to build broadband connections.
- Fiber to the home (FTTH): Broadband access deployments where fiber is brought all the way to a customer's home. Customers are connected through specific fiber equipment.
- Fiber to the premises (FTTP): Broadband access deployments where fiber is brough all the way to homes, buildings, businesses, and anchor institutions.
- Gigabit: Gigabits per second (Gbps) is a measure of transmission speed. With 1 Gbps, one billion bytes (data) can be sent in 1 second. 1 GB = 125 MB.
- Kilobit: Kilobits per second (Kbps) is a measure of transmission speed, typically dial-up, where one Kb = 125 bytes.
- Last Mile: The last connection between a provider’s network and the end user or customer’s premises, either a home or a business. The last mile is generally the most expensive part of the network to build or upgrade.
- Megabit: Megabits per second (Mbps or Mb) is a measure of transmission speed, with a 1Mb connection being able to transfer 1MB (megabyte/MB) of data in 8 seconds. 1MB = 1,000 KB.
- Middle Mile: Broadband infrastructure that does not connect to the end user, but connects a core network to a internet service provider's local network office.

Where Do You Start?

These scenarios have become sadly familiar: Connectivity is poor in half the city. A certain district has no terrestrial broadband. A specific community doesn't have resources to connect. The Covid-19 pandemic made these digital inequities glaringly clear, and communities both rural and urban recognized the need for action. So now what?

1 Identify Leaders

First, identify those in the community who will advocate and champion broadband projects. This will often be local leaders, council members, or local elected officials. The support of these individuals is key for momenturm towards change.

2 Gather Facts

Gather facts and data that accurately reflect the state of broadband in your community. Make a plan for email outreach and in-person outreach. Utilize surveys, focus groups, technology inventory, and speed-tests to confirm accessability. Be sure to survey work that is already happening in your region.

3 Determine Needs

A thorough analysis of the data you have collected will help you determine the needs of your community. The results should indicate if your community has adequate or inadequate services and infrastructure, as well as the level of digital literacy in your area.

Determinations

Looking at the data you have collected, you should be able to make one or two of the below determinations. These are broad categories--your community is unique and may not completely fit! However, these determinations will assist you in identifying next steps.

Inadeqaute Services and Infrastructure

Communities who do not have internet speeds of 100 Mbps Download / 20 Mbps upload, or speeds capable of accomodating today's technology, are experiencing inadequate services/infrastructure. This may be due to a lack of connectivity (wireless or fiber broadband infrastructure), a lack of service providers in the area, or a combination.

Adeqaute Services and Infrastructure

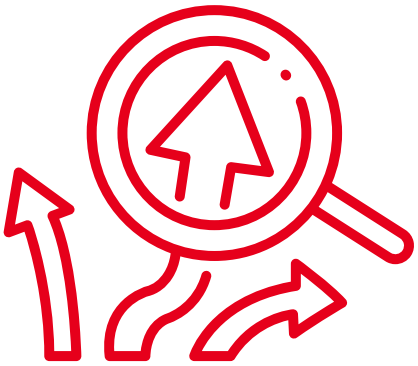
Communities who currently have internet speeds of 100 Mbps Download / 20 Mbps upload or higher tend to have adequare services/infrastructure. These communities have a variety of service providers that offer varying competitive plans, allowing individuals to choose internet services at affordable rates.

Tech Savvy Community

Tech savvy communities have residents who possess the technology skills and know-how to utilize today's devices and software. Such skills include accessing the internet, using email, and engaging in e-commerce. These individuals will have no trouble adapting to emerging technologies.

Tech Help Needed

Communities whose residences lack digital literacy skills are areas that need technology assistance. Accessing the internet and using various software is challenging for these individuals. This determination can also encompass communities who face economic barriers that prevent them from accessing interset services.



Next Steps

The results of your data collection will direct the steps to be taken to improve the broadband landscape in your community.

Feasibility Studies

If your community lacks infrastructure or service, a great option is to conduct a feasibility study. A feasibility study is typically preformed by an engineering company. This study should result in a report that outlines various options of how to bring connectivity to your area, the best technology fits, market studies, economic analysis, as well as business options and plans.

These studies can also be used to assess the digital literacy and access of community residents. Consultants will work with community leaders to develop a plan of action to overcome barriers to technology adoption.

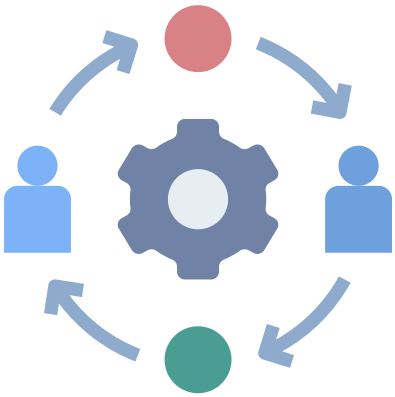
Look to nearby communities for recommendations of engineering firms that can provide comprehensive studies. Feasability studies typically take between 6 and 12 months.

Current Players

Check in with your state broadband office. Employees of the office will be of assistance in providing insight into what work may be happening near your community. They have awareness of many of the projects in the state, and can help you align your area with state goals.

Conversations with local providers in the area are a key component of improving connectivity in your community.

Local providers may be in the process of building or applying for funds to deploy broadband in the area, addressing the issue of inadaquate infrastructure. If not in the process, they may be willing to take action in a partnership to do so. If the services are adequate, conversations with providers can help ensure timely upgrades to the current infrastructure.



Next Steps

Create Competition

Regardless of whether there are many, some, or no providers in your area, creating competition is an imporant part of ensuring affordable internet for your community. Market your area to regional providers to promote the attractiveness of the investment.

Strategic Plans

While a strategic plan may be included in a feasability study, it should also be created independently by the stakeholders. Laying out the goals, timelines, and resources needed for your community connectivity will create a strategic initiative and stimulate action amongst the community.

Connect the Dots

During the data collection process, information should be gathered about broadband work happening in your region and surrounding area. Continue conversations with nearby project leaders to coordinate efforts and ensure there is no duplication of effort or work.

Grant Identification

Once you recognize your issue, familiarize yourself with the potential broadband grants. Internetforall.gov provides an outline of federal grant programs. Different branches of state governments handle broadband; a web search can help identify state broadband programs.

Grants

Research into grant opportunities can begin as soon as your community determination has been identified. There are two main federal agencies which regularly have broadband grant funding opportunities. State programs are becoming more common and more consistent. Once you understand your area's needs, you can identify the most appropriate grant.

USDA	The USDA has programs which focus on broadband infrastructure and equity in rural communities. These include ReConnect, Community Connect, and RUS Distance Learning and Telehealth (DLT).
NTIA	The NTIA has many new programs, some of which may be regularly occuring. These include the Broadband Infrastructure Program and Tribal Connectivity Program.
State	State programs require either federal or state legislatures to approve funds. These grants often include funds for pre-construction work. State programs can be the best place to find funding for feasibility studies.

Federal Funding Breakdown

	USDA	NTIA	OTHER
Broadband Planning	• Rural Business Development Program	• Tribal Connectivity Program	• Appalachian Regional Commission (ARC) • EDA Planning Program
Broadband Deployment	• ReConnect Program • Community Connect Program	• Middle Mile Grant Program • Tribal Connectivity Program • Broadband Infrastructure Program	• ARC • EDA Public Works Program • HUD Community Development Block Grant (CDBG)
Broadband Affordability	• Community Connect Program	• Tribal Connectivity Program	• FCC Affordable Connectivity Program (ACP)
Broadband Devices	• RUS Distance Learning & Telemedicine Program	• Digital Equity Competitive Program • Tribal Connectivity Program	• FCC ACP (Discount) • HUD Community Development Block Grant
Digital Skills	• RUS Distance Learning & Telemedicine Program	• Digital Equity Competitive Program • Tribal Connectivity Program	• HUD Community Development Block

Notes:

The table includes programs that were approved within the Consolidated Appropriations Act 2021, CARES Act 2021, American Rescue Plan Act 2021, Infrastructure Investment and Jobs Act 2021, and the Bipartison Infrastructure Law 2022. Some may not receive additional funding in coming years. Subscribe to funding newsletters to monitor the action.

Best Practices

Team

There are important players that must be indentified as you begin applying for grants. You must decide who will have highest executive signing authority, who will manage the application process, who will project manage the work once awarded, and who will handle finances and reporting. Make sure the engineers involved in your project are properly qualified and licensed.

Finances

Financial reporting is an important and critical part of all grants. Read the financial requirements closely. Some grants require applicants to use a specific software, and the amount and frequency of reporting varies. Ensure the finance members of your team are ready and able to take on a grant committment.

Tips

- Remember your audience. The individual reading your grant may or may not be an engineer. Find the balance in technical writing.
- Read the fine print. The last pages of the NOFO include the information that will make your narrative stronger and ensure compliance.
- Paint a picture. When writing about your proposed funding service area, don't simply list statistics. Use words emotive and descriptive words.
- Edit then edit again. What sounds good in your head, may not make sense to another. Involve members of your immediate team and external team.

About Us

Learn Design Apply, Inc. provides grant consulting and management services to public and private sector clients.

Our Mission

Our team is passionate about addressing pressing and systemic challenges facing communities in the U.S. Since 1998, we have helped secure hundreds of millions in lifetime grant funding, impacting countless communities across the country.

Our experienced team of funding and funding specialists provide a comprehensive range of services to help communities receive vital resources.

We work with our clients to create a more equitable, sustainable, and connected country.

GOOD LUCK!