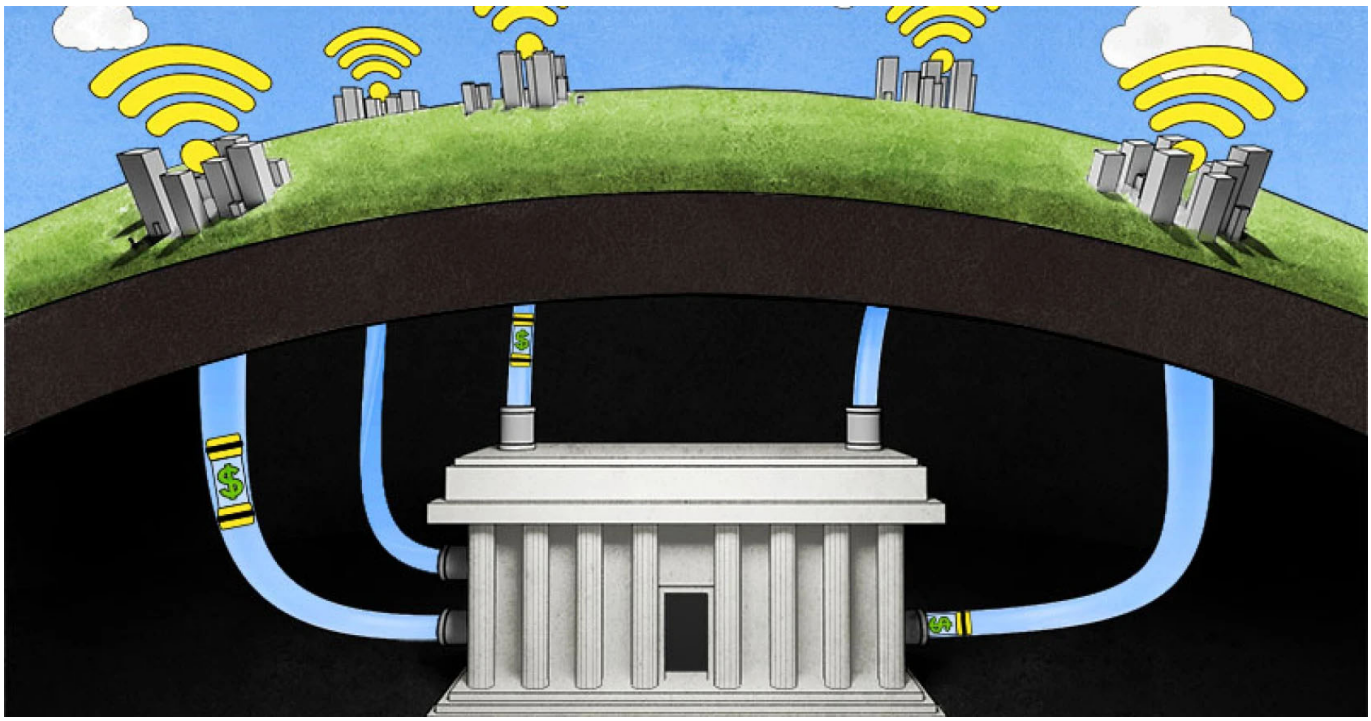
STATE AND LOCAL POLITICS AND POLICY

Should States Fund Municipal Broadband and Cooperatives?

Municipal broadband is booming, growing 600 percent since 2018. These alternatives to private-sector Internet service promise better access and affordability to communities. But are they really cost-effective?

March 28, 2022 • **By Kevin Schwartzbach, Rockefeller Institute of Government**



(Rockefeller Institute of Government)

Despite the more than $1.6 trillion private Internet service providers (ISPs) have invested in broadband infrastructure since 1996, the Internet landscape in the U.S. faces significant challenges. Over 30 percent of American households do not

have broadband at home, while as many as 42 million do not have the option to purchase it in the first place, especially in rural areas. Millions more are unsatisfied with the Internet they do have. Moreover, large ISPs face little or no competition in most U.S. markets, resulting in Internet service that is comparatively more expensive than most peer nations while also not being relatively fast.

As private ISPs have struggled to tackle these issues, two related models have emerged as creative alternatives: municipal broadband and cooperatives. These models differ from private ISPs in that they are locally controlled — local governments or public utilities in the case of municipal broadband networks and subscribers in the case of cooperative networks—and are more focused on expanding access and affordability for residents than in making a profit. Today, there are over 600 communities served by a municipal network of some kind and 300 served by a cooperative.

Though municipal broadband and cooperatives have been growing in popularity, they have also been a topic of heated debate. Proponents argue that these models are more democratically accountable and will lead to increased competition as well as higher quality, more affordable, and wider-reaching service than that provided by their private-sector counterparts. Conversely, detractors say these models may not be financially sustainable and could potentially crowd out private investment. Additionally, some argue that lack of expertise makes governments ill-suited to take on the tasks of operating and maintaining commercial broadband networks and that failure comes at the expense of taxpayers.

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The Infrastructure Investment and Jobs Act (IIJA) passed last year provides $65 billion in funding for broadband infrastructure with the goal of filling in the gaps left by the private sector, including $42.5 billion for the Broadband Equity, Access, and Deployment (BEAD) Program, which gives money directly to the states to use at their discretion. While our last article on broadband gave an expansive

overview of the policies state and local governments could implement with IIJA funding, this article narrows in on municipal broadband and cooperatives to analyze if they are feasible and worthwhile options for governments to invest in.

Ultimately, we find that these models have the potential to address the shortcomings of private Internet service. However, states, local governments, and potential cooperatives need to consider many factors — including cost, market dynamics, long-term financial feasibility, and social and economic benefits — before deciding if these policies are the right fit for their unique circumstances. To that end, it is critical for these entities to conduct feasibility studies to get a clearer picture of whether the benefits of building, owning, and operating their own networks outweigh the costs.

Municipal Broadband

Municipal broadband is a broadband Internet service that is entirely or partially owned and operated by a public entity, usually a local government or public utility provider. In 1989, Glasgow, Ky., became the first municipality in the United States to offer publicly run home Internet service to its residents. By 2018, over 100 communities nationwide were offering some form of high-speed Internet service. In the past several years, there has been a dramatic expansion in this space. Today, over 600 communities offer municipal broadband in some capacity, an increase of more than 600 percent since 2018.

Proponents of municipal broadband argue that it can be both faster and more affordable than Internet offered by privately owned ISPs and help bring high-quality Internet to places with limited access such as rural and low-income areas. Proponents also maintain that local control of Internet provision leads to more accountability and can inject competition into areas with only one or two providers, which may incentivize those providers to offer better, more affordable service.

Some research has supported these claims. For example, researchers at Harvard University's Berkman Klein Center for Internet & Society found that in 23 of 27 communities examined, community-owned networks provided lower pricing than their privately owned competitors when costs were averaged over four

years. Moreover, according to the Institute for Local Self-Reliance (ILSR), a nonprofit advocacy group, municipal networks account for nine of the ten fastest broadband networks in the country. ILSR also highlights several municipal broadband success stories such as that of Wilson, N.C., whose public network made it the first municipality in the state to receive gigabit (1,000 Mbps) Internet service.

One of the best-known examples of municipal broadband in the U.S. is in Chattanooga, Tenn., where, in 2010, the city-owned utility EPB famously became the first provider in the country to offer gigabit Internet service throughout its entire service area. Today, EPB is the largest municipally owned fiber-to-the-home (FTTH) network in the country and one of only several ISPs nationwide to offer speeds of up to 10 gigabits per second. It also offers competitively priced plans for lower speeds and regularly earns top marks in customer satisfaction from organizations such as J.D. Power and Consumer Reports.

Cooperatives

A second alternative to private ISPs that has been gaining momentum is the cooperative model. Utility cooperatives are nonprofit member-owned organizations that provide a service — in this case, broadband Internet — to its members for a small fee. Utilities of various kinds have been provided by cooperatives since at least the 1930s when farmers in rural areas started establishing collectively owned enterprises to distribute electricity to their members. Telephone cooperatives began emerging in the following decades. Contemporary broadband cooperatives operate in a similar manner; in fact, many were created as extensions of existing telephone and electricity cooperatives.

Today, there are over 300 broadband cooperatives in the United States. Much like their predecessors, these cooperatives are particularly popular in rural areas where private companies provide limited or no high-speed Internet access. According to ILSR, 30 percent of the fiber service available in rural areas in the U.S. is provided by cooperatives. This includes 82 percent of the landmass in North Dakota, which despite being one of the most rural states in the country, ranks fifth in access to gigabit Internet according to *U.S. News & World Report*.

How are Municipal Broadband and Cooperative Networks Funded?

According to The Pew Charitable Trusts, municipal ISPs are typically funded entirely with municipal bonds. In most cases, municipalities seek to use revenue bonds (bonds supported by specific revenue sources) serviced by revenues from the broadband service rather than general obligation bonds (bonds supported by general revenue sources). It is uncommon for municipalities to fund broadband projects with municipal cash or equity. In rare cases—such as with EPB in Chattanooga, Tennessee—the cost of building out a municipal network has been subsidized by federal or state grants, but this could become more common as the IIJA broadband funds are distributed.

Cooperatives typically finance new broadband projects with loans from banks that cater specifically to co-ops such as CoBank and the Rural Telephone Financing Cooperative (RTFC) but occasionally borrow from the Rural Utility Service (RUS), an agency within the US Department of Agriculture that assists rural communities with utility infrastructure improvement. Unlike municipal networks, it is not uncommon for cooperatives to use equity to fund broadband projects. Additionally, it is more common for cooperatives to receive government funding than it is for municipal networks.

Financial Feasibility of Municipal Broadband

While ILSR and similar organizations have analyzed metrics such as speed, coverage, and costs to users, there have been very few analyses of the financial performance of such projects.

One 2017 study from the University of Pennsylvania's Center for Technology, Innovation, and Competition that looked at the financial performance of 20 municipal fiber projects over a five-year period from 2010 to 2014 found that 11

of the projects were cash flow negative, meaning that they may not be able to sustainably cover their costs of operations, much less pay off the debt incurred to initially build the network infrastructure. Of the nine projects with positive cash flow, only two were on track to pay off their debt within the lifespan of the broadband network. The other seven would not be able to break even for over 60 years, including EPB, the much-vaunted Chattanooga, Tenn., provider, which according to the analysis would not be able to repay the $162 million bond used to fund the project for 412 years.

Though this study paints a relatively grim picture, more recent financial data may provide a different one. Many of the municipal fiber projects examined in the University of Pennsylvania study were still in their infancy during the five-year period in question, and it is not uncommon for new businesses of any kind to operate with low or even negative cash flows when first starting out. As these projects mature, it is possible that cash flows will significantly improve. EPB's most recently published financial report, for example, shows that in 2019 alone, the company's fiber-optics system had a net increase in cash and cash equivalents of $9 million, which would likely put EPB on pace to repay its bond well within the lifetime of its broadband infrastructure. That is not to say that EPB or any of the other municipal broadband projects in the UPenn study are necessarily bound for success, but rather that an updated analysis is warranted to understand how the financial performance of such projects tends to evolve over time. Moreover, a five-year window is not a sufficient timeframe to realistically assess how infrastructure that may last up to 40 years will perform in the long run.

Opposition to Municipal Broadband

Despite its growing popularity, municipal broadband is not without its skeptics and detractors. For example, research from the conservative think tank Center for Growth and Opportunity asserts that government-owned networks (a term typically used by opponents of municipal broadband) "may be redundant and result in negligible benefits" notwithstanding the requirement for large up-front investment, especially in rural areas. Ultimately, the research concludes that the effectiveness of municipal broadband is highly dependent on factors such as population density and local broadband competition, and that such networks may

crowd out private investment.

Other critics, such as the Taxpayers Protection Alliance (TPA), an advocacy group focused on promoting smaller government and limiting taxation, have been less measured and more categorical in their opposition. In a 2020 report that was highly critical of municipal broadband, TPA wrote that government-owned networks "may soon be on their way out" and that they "are an unnecessary and inefficient use of households' hard-earned dollars," though the evidence the report presents is not necessarily sufficient to support these claims.

Moreover, municipal broadband is encountering legislative roadblocks across the country. Currently, 17 states have some form of legal restrictions on municipal broadband and five others have more limited restrictions. These types of restrictions are typically promoted by large telecom companies that are incumbent in or seeking to enter relevant markets. While some states, such as Nebraska, explicitly ban municipal broadband, others technically allow municipal governments to provide broadband services but impose conditions that effectively make it impossible for them to do so. For example, Alabama requires municipal governments to hold a referendum before they can offer broadband and does not allow municipalities to use local funds or taxes to make the upfront investments necessary to build broadband infrastructure. In addition to state-level restrictions, at the federal level Republicans in the United States House of Representatives proposed the CONNECT Act in early 2021 whose stated purpose is to "prohibit a State or political subdivision thereof from providing or offering for sale to the public retail or wholesale broadband internet access service."

State Restrictions of Broadband

SOURCE: https://www.pewtrusts.org/en/research-and-analysis/data-visualizations/2019/state-broadband-policy-explorer.

However, a study published in 2020 found that state-level restrictions on municipal and/or cooperative broadband were associated with a drop in broadband availability of 1.8 to 3.1 percentage points.

To justify their opposition, critics of municipal broadband often point to examples in which municipalities ended up selling their infrastructure to a private ISP. One prominent example is that of Provo, Utah, which in 2004 built a $39 million fiber-optic network, known as iProvo. In 2013, the city sold the network to Google for just $1 (though Google also took over Provo's remaining construction loan debt for the project).

In some instances, these sales have resulted in significant financial losses to the municipality and taxpayers. For example, when Burlington, Vt., sold its city-owned network Burlington Telecom to Schurz Communications, the $30.8 million sale covered the loans the city took out to build the network but only recuperated $7 million of the $17 million the project borrowed from city funds, yielding a net loss of $10 million.

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Considering Whether Municipal Broadband Is Worth the Cost

When determining whether a municipal broadband project is worth the cost, the prospective financial performance of the public provider is not necessarily the only element that should be considered. Municipalities can also look at the broader impact a publicly owned network might have on communities, the local economy, and other factors extrinsic to the direct provision of Internet service. Incorporating positive externalities like these into an analysis may give municipalities a more holistic account of the potential effects of investing in a publicly owned broadband network. Going back to the example of Chattanooga, a 2020 study found that EPB's municipal fiber-optic network and smart grid generated a realized economic value of $2.69 billion over a 10-year period — exceeding project costs by over $2.2 billion — when considering factors such as job creation, productivity gains, and increased access to telehealth services.

Outside of economic benefits, municipal broadband can address other unmet public interest needs. For example, many municipal networks provide no- or low-cost broadband service to school districts and low-income households, entities private ISPs often do not invest in because it would be hard to turn a profit.

Conducting a feasibility study is a crucial step that municipalities must take before deciding whether they can or should build their own networks. Each municipality's situation will be unique, so municipalities must conduct studies that include market research, engineering analysis, cost estimations, penetration projections, and other assessments to determine if a publicly owned and operated broadband network would be viable. In some cases, such as that of Seattle, studies have concluded that the municipality would not be able to finance the buildout of a network, despite significant interest. Other studies have shaped the type or scope of network that a municipality decides to pursue. For example, a feasibility study conducted for Golden, Colo., recommended that the city first deploy a fiber backbone — core fiber infrastructure that connects key facilities but does not yet provide FTTH — before developing a city-wide network. Additionally, feasibility studies can identify needs and opportunities for governments to fund municipal networks that are close to feasibility but still require some additional capital to properly finance the project.

The Role of States

Aside from state-led initiatives such as KentuckyWired and MassBroadband 123 in Massachusetts, networks that follow these two models tend to exist at the local level rather than the state level. However, that does not mean that states do not have a role to play in this space.

At the very least, states can get out of the way of municipalities interested in investing in their own networks by overturning restrictions. But states can take a more proactive role as well. With billions of broadband dollars soon to be flowing into state coffers thanks to IIJA and BEAD, states have an unprecedented opportunity. Historically, most government funding for broadband has been used to subsidize and incentivize private ISPs' expansion into and operation in under- and unserved areas. But with this new round of funding, states could consider making investments in municipal or cooperative networks to achieve similar goals.

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Specifically, states can help municipalities and cooperatives in two major ways: first, they can fund feasibility studies for municipalities or utility cooperatives interested in building their own broadband networks. As discussed above, the first step in implementing a municipal or cooperative network is to assess whether it would be financially feasible and more beneficial to residents than relying on private ISPs. However, feasibility studies can cost tens of thousands of dollars.

Second, states can subsidize construction and other startup costs. Even if a feasibility study projects that revenues would eventually exceed operating expenses, the initial cost to build out the network may be prohibitively expensive. According to Pew, most municipal ISPs opt to fund broadband projects through municipal bonds while cooperatives largely finance new broadband projects through coop-friendly lenders. The cost of servicing such debt may put what

might otherwise have been a profitable network in the red in the long run, rendering it financially infeasible. However, states can use grants or other funding mechanisms to help get these networks off the ground (or underground, as it were) much as many already do for private ISPs. Indeed, some municipalities, such as Seattle and Golden, Colo., have explicitly stated that government funding may make their proposed networks viable.

Government funding for municipal and cooperative networks has precedent. In fact, municipal broadband exemplar EPB in Chattanooga received $111 million in federal funding through the American Recovery and Reinvestment Act of 2009 to allay construction costs. Additionally, the federal ReConnect Program distributed roughly $21 million to municipal networks and over $150 million to cooperatives in grants and loans in 2020 alone. Though less common, there are examples at the state level as well, such as New York, which provided almost $10 million in funding for a rural cooperative through its New NY Broadband Program, and Maryland, which committed $45 million of the aid it received from the 2021 American Rescue Plan Act to municipal broadband grants.

There is undoubtedly growing interest across the country in municipal broadband and cooperative networks. As IIJA money becomes available, some municipalities and cooperatives are sure to be vying for a portion of that funding. These two models both have the potential to be viable alternatives to private ISPs under the right conditions. States now must decide if and how much they want to support such endeavors.

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This article was originally published by the Nelson A. Rockefeller Institute of Government, a public policy think tank founded in 1981 that conducts cutting-edge research and analysis to inform lasting solutions to the problems facing New York state and the nation. Read the original article here.

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