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Broadband Myth Series: Does Municipal Broadband Scale Well to Fit U.S. Needs?

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No, local governments generally are not well-suited to providing broadband service. Economic theory suggests city-run broadband would not serve the country well, and previous real-world attempts bear that out with a mixed track record marked by several failures.

KEY TAKEAWAYS

- Unlike traditional utilities that are relatively static, like electricity distribution, broadband is dynamic, requiring consistent investment to keep up with technological change. The private sector can better adapt and drive continual improvement.
- Municipal networks often deploy first in low-cost, high-return business-improvement districts and are necessarily limited in their jurisdiction, making it difficult for regional providers to support areas outside city limits.
- Municipalities do not support innovation as well as the private sector does. For example, they do not contribute to standards-setting organizations or invest in R&D.
- Several municipal networks have failed, and those that remain financially viable often owe their success more to federal subsidies or unique circumstances than to their ownership model.
- That said, broadband policy should not be ideological or absolutist. If there are areas that private providers are not interested in serving, even with subsidies, then municipalities should be empowered to step in and offer broadband.

INTRODUCTION

The Biden administration has proposed a preference for federal funding of broadband infrastructure provided by municipal or nonprofit operators, thrusting municipal ownership of broadband facilities back into the center of telecommunications policy debates. Any federal broadband infrastructure subsidies should be awarded on an "ownership neutral" basis, neither favoring nor penalizing government-provided broadband systems. Municipal broadband does not scale well to serve the country, but should be an available option for connecting areas private firms would otherwise leave genuinely unserved despite infrastructure subsidies—generally small, widely dispersed towns where private provision is unsustainable even after the initial subsidized infrastructure deployment.

For advocates on the left, who would like to see broadband provided as a utility-like service, having the local authority provide Internet service at cost as a public good is nirvana. There are several problems with this view, however. It ignores the dynamic, evolving nature of broadband. It misunderstands the economics of a high sunk-cost industry with a limited addressable market. And it encourages unfair "cream skimming" wherein municipal providers take the lowest cost, highest revenue customers and leave the others outside of municipal borders for private providers.

On the other side of the political spectrum, free-market libertarians also go too far, preferring no government involvement in this market at all—indeed many states bar local authorities from providing broadband service, even if they can prove they will do it without unfair subsidies or regulatory advantages. Policymakers should be pragmatic and keep all tools available for bridging the digital divide, but the significant trade-offs of municipal broadband mean it is only appropriate for narrow circumstances.

Mandating additional facilities-based, government-owned competitive "overbuilding" would increase national broadband costs with little benefit.

Importantly, municipal broadband providers do not invest in innovation the same way the private sector does. Local governments are unlikely to contribute to standards-setting organizations or develop and patent new technologies or techniques like private broadband firms do.

Many municipal advocates seem to think that once supposedly "future-proof" technologies are deployed, there is no more necessary investment or upkeep. True, building broadband involves large up-front sunk costs in the trenching of fiber or stringing of cable along poles. But there are also tremendous ongoing expenses to ensuring that even easily upgradable technology actually remains future-proof. If we start to treat broadband as a public utility, such as water pipes, sewers, or roads, we are likely to see the same problems develop: deferred investment, congestion, declining quality, and a lack of innovation.

Competition from the public sector may, in some circumstances, see incumbents drop prices or marginally raise speeds in response. This dynamic is regularly lauded by municipal broadband advocates as a sign of progress, but it comes at the cost of long-term investment in both the development of new innovations and the ongoing upkeep and upgrades of existing infrastructure.

If the goal is additional competitors to provide more consumer choice—something that comes at a cost of duplicate facilities—there is still much that local governments can do to lower the barriers to market entry and facilitate low-cost deployment by private firms. Rather than enter the market directly, local authorities should ensure a streamlined process to access rights of way and attach to poles, for example. Enabling dynamic competition would best serve consumers in the long term. But mandating additional facilities-based, government-owned competitive "overbuilding" would increase national broadband costs with little benefit. In crafting a national broadband infrastructure package, Congress should avoid elevating the role of municipal and nonprofit providers.

MUNICIPAL BROADBAND BACKERS OFTEN IGNORE TRADE-OFFS

Determining the appropriate broadband policy and regulations requires an understanding of the series of trade-offs when deciding one pathway over another. Broadband policy is not simply about access or affordability, but also about investment, competition, and innovation. Policy must seek to develop an appropriate balance that optimizes the multiple facets of broadband to ensure optimal connectivity today and into the future.

Broadband Requires Constant Investment

Future-proofing broadband is not a one-and-done expense, as it requires constant investment. Deploying, maintaining, and upgrading broadband have costs that go well beyond the initial capital expenditures used to build the network foundation. Broadband providers in the United States averaged expenditures of over $74 billion per year between 2010 and 2019.[1] Moreover, data compiled by the Progressive Policy Institute (PPI) highlights how telecom providers are regularly some of the largest investors in capital spending across the country. PPI's 2019 report indicates communications and broadband as the number-one industry in capital growth between 2007 and 2017.[2] AT&T and Verizon Communications alone contributed $284 billion in capital in the United States between 2011 and 2018.[3]

Consider that in the first quarter of 2021 alone, AT&T posted capital expenditures equaling $4 billion, and Comcast posted capital expenditures of $1.9 billion.[4] We cannot realistically expect municipal governments, even collectively, to be investing at this level consistently. Broadband is not the type of infrastructure that is future-proof simply as a virtue of the technology initially installed. Even fiber optics will require continual maintenance and upgrades, at least of the electronics, in order to keep pace with changes in technology.

If policymakers insist on cities providing broadband like a utility, networks likely will face the same pitfalls of deferred maintenance and underinvestment that burden U.S. roads, bridges, and sewers.

An infusion of cash to help build out new networks may allow certain areas to leapfrog to the latest access technology, but networks will still require constant investment and improvements to offer competitive services to consumers. Representative John Curtis (R-UT), who is also the former mayor of Provo, Utah, highlighted this point in a recent hearing, noting that Provo's municipal network failed due to its "inability to deal with the fast-changing nature of broadband and the large capital needs that happen on a recurring basis."[5] He explained that municipalities cannot assume that, because they provide electricity, they can easily provide broadband: "There are dramatic differences between streets, sewers, parks, and, yes, even municipal power … and

broadband deployment."[6] A typical house in America is served by the same street, sewer, and electricity lines as it was when it was built. But the broadband it gets improves on a regular basis.

If policymakers treat broadband like a utility, it may face pitfalls similar to our sewers and roads: deferred maintenance and underinvestment.[7] For example, after the American Recovery and Reinvestment Act (ARRA) of 2009, when a large infusion of funding was dispersed to improve U.S. roadways, "growth in federal spending due to ARRA was accompanied by a decline in state and local government spending."[8] Within roughly six years, local and state funds returned to their pre-ARRA levels.[9] Yet, over a decade later, U.S. roadways received a "D" on the 2021 report card from the American Society of Civil Engineers.[10] Like roadways, fiber will require constant investment to ensure upkeep and evolution.

Moreover, the notion that fiber is the only future-proof technology is a myth. Because of technological innovation, cable broadband speeds have dramatically increased. Digital subscriber line (DSL) continues to see breakthroughs in throughput, at least over shorter distances, with important implications for competition and the economics of legacy networks. Mobile speeds have seen remarkable improvements with breakthroughs in antenna technology, and more spectrum is made available for the commercial sector—with the additional benefit of mobility and wide coverage.

To have future-proof broadband, we shouldn't be relying on local governments to install today's best wired technology, whatever the cost. Instead, we should continue to rely on private competition to serve the vast majority of the country, driving continued investment and innovation that pushes technology forward.

Artificial Competition Can Result in Overbuilding and Lower the Chance of Connectivity in High-Cost Areas

Deploying a municipal broadband network in areas where competing networks exist in order to generate artificial competition results in overbuilding, with taxpayers paying for additional infrastructure where it already exists. Deploying a broadband network requires substantial initial investment. This is a sunk cost that cannot be put to other uses or avoided if a network loses a customer. As Jonathan Nuechterlein and Howard Shelanski explained in a recent paper, "When one broadband provider loses a household to the other, it loses all revenues associated with that household but saves very little in the form of avoided costs."[11]

When a new "competitor" in the form of a local government enters a duopoly market, the overall costs of providing the infrastructure to that area go up by roughly 50 percent. And the service base, which any one provider can rely on for revenue goes down from half of the market to a third of the market, assuming equal market share. The overall system has higher costs with a more fragmented base to recoup those costs, ultimately slowing investment and innovation.

When the same amount of revenue is spread across more providers, it makes recovering costs harder, and delays—if not eliminates—plans to provide competitive upgrades. In theory, municipal providers should have an advantage over incumbents. They often enjoy financially advantageous terms in the bond market, can avoid right-of-way fees, don't pay taxes, and can eschew profits.

But in lived reality, the track record of municipal networks is mixed. Some operate successfully, but many fail, with municipal networks having defaulted on loan obligations, faced lowered city bond ratings, lost track of invested assets, and required additional infusions of taxpayer money.[12] When municipalities enter a market, it is only logical that incumbents will reduce prices in order to maintain market share.[13] While lower prices certainly are a gain to consumers in the city in the short term, this comes at a cost in terms of capital available for long-term investment (in the entire service area of the private company) and contributions to research and development (R&D) as well as for the financial health of the municipality's project.

Municipal networks often cherry-pick ideal parts of the markets, leaving behind higher-cost areas on the outskirts of town or outside city limits worse off. Initial build-outs of municipal networks almost always start with city buildings, then deploy to commercial corridors or business improvement districts, before gradually deploying through the rest of the city as finances allow. This certainly makes sense from the municipality's perspective. Not only does this have the largest productivity gains for the local economy early on, but business and local government customers are also often the best paying and lowest cost to serve, all in one concentrated location. Incumbent private providers regularly serve both high-density areas and their low-density peripheries because of earlier franchise agreements and other efforts to deploy universal service.

There are real trade-offs to municipal networks, especially when considering a larger view of regional or national—rather than personal or local—interests.

Additionally, municipal networks are necessarily limited by jurisdiction. Outside of city limits, private providers are left with the higher-cost, lower-return areas. These more-dispersed areas have already had trouble attracting private investment, and now with a municipality taking significant market share next door, the economics of the region become even more difficult. This means higher costs and lower revenues from private providers serving large geographic areas. Municipal networks make it more difficult for private operators to invest in regional networks or invest in future innovation. There are real trade-offs to municipal networks, especially when considering a larger view of regional or national—rather than personal or local—interests. This kind of cherry-picking might make economic sense for a particular city, but if every city engaged in it, residents in nonincorporated places would face much higher costs for broadband.

Broadband Requires Standards, Innovation, and Expansion

Broadband is continually improving, with constant innovation and new standards developed as technology evolves. CableLabs, for example, provides R&D for cable broadband technologies.[14] As part of this research, CableLabs has developed cable standards such as Data Over Cable Service Interface Specification (DOCSIS). This standard continues to evolve, incorporating new developments such as full duplex communications, which will allow up- and downstream traffic to share data channels within the network.[15] Moreover, CableLabs' work helps to ensure the interoperability of cable technologies, to include Wi-Fi routers.[16] CableLabs is composed of 64 companies, 17 of which are from the United States and whose dues are calculated based on each member's cable revenue.[17] It is these private sector companies that help drive forward the standards for broadband to ensure increased optimization and interoperability of technologies.

Examples of private sector broadband innovation abound in the copper network planet as well. Bell Labs and its successors contributed to the advent of the asymmetrical digital subscriber line (ADSL).[18] Many of the most important innovations in DSL were pioneered by Dr. John Cioffi, who has held positions at Stanford and multiple private firms.[19] Innovations led by Cioffi such as vectoring and dynamic spectrum management for DSL continue to improve performance of the copper network. G.fast, the latest mainstream DLS standard, allows for gigabit speeds over legacy copper infrastructure over short distances. Current research at Brown University and Stanford, with funding through a combined National Science Foundation (NSF) grant and industry sponsorship, promises "fiber-like speeds of 10 – 1000's of Gbps" are possible over current copper infrastructure.[20]

Private sector competition also helps drive breakthroughs in new access technology. A government-backed utility would be more difficult for a new entrant to displace than would private sector incumbents. Knowing that a municipality can potentially recover costs from taxpayers or otherwise benefit from implicit (or explicit) subsidies considerably diminishes the incentives for innovators to develop disruptive technology to enter the broadband market. The prospect for taking market share in home broadband connectivity has driven development of 5G home broadband products. Mobile broadband itself continues to improve speeds to the point where it increasingly competes directly with fixed access.[21] While as a matter of policy the Information Technology and Innovation Foundation (ITIF) believes everyone should have broadband access in the home that allows for participation in online activities, this can certainly be achieved with mobile access, depending on the form factor of the devices connected.

Satellite access is undergoing rapid, dynamic change. Investments in Low Earth Orbit satellite constellations, such as those being deployed by SpaceX and Amazon's Project Kuiper, would likely be diminished if broadband were provided as a local utility. These innovations have considerable spillover benefits for society and will continue to evolve long into the future.

Broadband technologies continue to evolve to provide us with new and faster connections, through copper, coaxial, fiber, and wireless connections. The positive externalities associated with private investment in R&D helps drive forward the future of U.S. broadband and next-level connectivity. Broadband technology is still evolving, with research continuing to deliver breakthroughs in performance and uncovering new opportunities. Broadband is not nearly as static as other traditional utilities, such as water, gas, or electricity delivery, even if it has somewhat similar economics.

WHY ARE THERE CALLS FOR MUNICIPAL BROADBAND?

Municipal broadband advocates envision a world in which broadband is a utility provided by the government, rather than by private companies. Many advocates' favoritism of municipal broadband derives from an ideological preference for government—particularly local government—to provide services, especially broadband. These advocates often begin with a lack of trust that market mechanisms will drive good outcomes in broadband, and instead prefer government to provide these services. For example, as the Community Broadband Networks Initiative at the Institute for Local Self-Reliance put it, "The private sector has a mission to maximize profit and shareholder value, primarily in the short term. The public sector maximizes social benefit and focuses on the long term."[22] In many cases, advocacy is not grounded in a theoretical analysis of the economics or industrial organization of what would produce good

outcomes for consumers or an honest empirical analysis of what has served users (and taxpayers) well, but instead simply an ideological preference for government-provided services instead of private sector actors. It also ignores that as long as companies comply with regulations, they aim to maximize profits by providing the best service at the lowest price to the most people—exactly what the goal of broadband policy should be. This beneficial competition can be achieved even with relatively few competitors in industries with high fixed, sunk costs, such as broadband.[23]

To bolster this ownership transformation of the U.S. broadband system, they point to several supposedly successful local examples. However, most of these success stories benefitted from considerable subsidies and other advantages, indicating their success was not due to something special about the ownership model. If policymakers were to provide similar levels of funding to private providers through a "big bang" style infusion of CapEx-focused subsidies, industry would likely achieve similar results, without the inherent long-term drag on innovation and dynamism that comes with a government provider.

Many advocates favor municipal broadband because of an ideological preference for government—particularly local government—to provide this service, rather than large companies.

Supposedly Successful Municipal Networks

In Chattanooga, TN, the city's Electric Power Board (EPB) operates a fiber network that many municipal broadband advocates point to as a success story. The municipal utility built its broadband network in conjunction with a smart electric grid. Completed over 2008–2012, the entire project cost approximately $390 million funded by $229 million in local revenue bonds, $111 million from a federal grant, and a $50 million loan from the municipality's electric division.[24] The federal grant was a part of the 2009 stimulus, channeled through the Department of Energy to expedite the implementation of the smart grid.[25] In 2011, the city received another $5 million in federal and state grants to extend service of the network with Wi-Fi access points.[26] And the city was able to pay a very low interest rate on the revenue bonds because they were also backed by revenues from the city's electric system.[27]

EPB's efforts to provide Internet services began several years before, and it was not until 2007 that EPB's board of directors announced approval of a fiber-to-the-home effort.[28] At the time of fiber optic approval, the justification of its deployment was increasing new jobs and improving electric services as a result of a state-of-the-art smart grid—the idea of providing an Internet connection was labeled as an additional, secondary benefit. Chattanooga was already served by at least two providers (Comcast and AT&T), and the utility had provided telecommunications services to a business corridor prior to upgrading to a fiber network.[29]

The ambitious project saw the utility's bond rating downgraded by credit rating firm Fitch Ratings, but the project persevered and continues offering service today.[30] Studies done by both those for and those against municipal broadband have found the prices for EPB's broadband to be roughly in line with private providers in the area and indeed the rest of the country.[31] Even the Open Technology Institute's "Cost of Connectivity" report (which has been criticized as being inaccurate and biased in favor of municipal broadband) pegs Chattanooga's average price as the 5th highest of the 30 global cities studied.[32]

EPB isn't able to significantly undercut prices of private providers, even with considerable subsidies and the lack of a profit motive. This indicates that there are no excess profits or rent seeking in the private market for broadband and instead that end-user expense or lack of choice in providers is more a function of networks being expensive to build, and less dependent on the ownership model. The story of Chattanooga's broadband indicates that there is no unique advantage to a municipality providing broadband that a private sector entity couldn't replicate with the same advantages. Rather than elimination of the profit motive or added local control, it was the considerable subsidies—particularly the $111 million grant—that made this network financially feasible. Chattanooga's EPB build was wasteful overbuilding. Municipal networks should really only be reserved for areas where there are not already private providers.

Municipal broadband advocates also tout the fiber network built in Ammon, ID, as a successful model. Ammon is another example of overbuilding. Even though private operators had already provided broadband service, the city wanted its own network. Here again, it appears the viability of the network was more dependent on the unique financial model. Unlike Chattanooga, where the municipal utility itself provides retail service to the end user, Ammon provides an open access network, with multiple Internet service providers (ISPs) providing service over a common infrastructure. Usually, this open access makes it very difficult to pay off the up-front cost of the infrastructure, as separating the retail and infrastructure provider introduces an additional intermediary and related cost.

Chattanooga's EPB build was wasteful overbuilding. Municipal networks should really only be reserved for areas where there are not already private providers.

Ammon attempts to overcome the challenging economics of an open-access system by essentially having groups of end users pay for the up-front costs of construction. A group of property owners in a particular area of town first commit to participate in the network, creating a so-called "local improvement district."[33] As a part of this improvement district, customers face either long-term payment plans on a municipal bond to cover installation fees or face an up-front cost of $3,200 to $3,600.[34] This bond is attached to the property of the collective district, rather than the municipality, shifting the financial risk from the city and to the property owners. The cost of the service is thus recouped through multiple streams: a municipal bond attached to end users' properties, ongoing payments to the utility for operating expense of the equipment, as well as payment to the service providers that operate on top of the infrastructure. In 2019, the city paid $905,000 for its fiber optic network but received just $161,500 in revenue from it.[35] The city has not determined whether this intra-governmental loan will be required to pay any interest to the government.[36] The price paid only to the service providers does not reflect the full cost to end users—all together, prices paid by end users are about even with the national average.[37]

Not all municipal networks manage to succeed, even when backed by government subsidies. A report by Penn Law professor Christopher Yoo and Timothy Pfenninger finds that "of the 20 municipal projects [studied] that report the financial results of their broadband operations separately, 11 generated negative cash flow."[38] Several of the other municipal projects would struggle to return the cost of their investments; a projected 100 years plus was offered for five of the municipals studied.[39] At best, municipal broadband projects have a very mixed track record and are not reliably successful.

The city-provided network of Burlington, VT, undertaken under the moniker "Burlington Telecom," was once the poster child of municipal broadband networks, but now provides a good example of how these efforts can go awry. As municipal broadband advocate Christopher Mitchell acknowledged, "In little more than a year, Burlington Telecom went from being a hopeful star of the community fiber network movement to an albatross around its neck."[40]

In attempt to avoid bankruptcy, the city-backed entity inappropriately used nearly $17 million, causing a massive government scandal, financial rating downgrades for the city, and an FBI investigation.[41] Only within the last few years has the city resolved its failed network's financial issues that had plagued the city for over a decade.[42]

Community network-backer Christopher Mitchell, in his analysis of what went wrong with Burlington Telecom, identified numerous shortcomings of the city's project, including the government's ineffective marketing campaign, too-low pricing, overstaffing, small economies of scale, difficulty negotiating for television programming, and, in turn, difficulty competing without an enticing "triple-play" bundle. Mitchell cautioned, "Community broadband networks are higher risk than traditional utility and local government ventures and must be operated in an entrepreneurial manner."[43] This is true, and is why local governments are not generally well suited to the task of providing broadband. In other words, broadband is not like local roads or sewers, things that historically have been provided by government.

Burlington is not the only story of challenged municipal networks. Similarly, iProvo, the Utah city's municipal provider, struggled to effectively compete in the broadband market while returning enough revenue to pay off the associated network costs.[44] The city planned to operate iProvo under an open-access model, partnering with service providers that would sell Internet service to customers over iProvo's network infrastructure.[45] However, within only a few years of completion, iProvo had losses of $8 million.[46] By 2011, the city was "charging $5.35 a month on residents' power bills to pay the bond payment" due on iProvo's network.[47] In response to the financial fiasco, iProvo was sold to Google for $1, and Google was able to take over the existing infrastructure and provide service to the city.[48] However, the city of Provo still remains liable for the remaining debt on the network pre-purchase, which was an estimated $39 million.[49]

In other words, even in prosperous, relatively densely populated cities, backed by government subsidies and regulatory advantages, municipal broadband often fails. This is not a model that should be promoted throughout the country.

MUNICIPAL BROADBAND MAKES SENSE ONLY IN NARROW CASES

Broadband policy should be pragmatic, not ideological or political. In some extremely high-cost areas, there is legitimately no business case for private operators to provide service. The benefits of having robust broadband throughout the country outweigh the drag on private sector innovation and investment of having municipally provided service in some areas.

However, municipal or otherwise nonprofit broadband should be limited to those areas that are legitimately high cost and do not support investment of more than one provider. Municipal broadband advocates often attempt to define broadband at unreasonably high speeds in an attempt to define away competition existing in the market. They know that many providers have no desire to provide broadband speeds far in excess of what the market actually demands, and so

by providing networks with more capacity than is needed, they hope to make the case for municipal networks.

While flat bans on any municipal broadband do not make sense, they should be reserved for narrow cases wherein market options are extremely limited and private providers are unwilling to provide service, even with subsidies offered.

For this reason, subsidies for broadband infrastructure should be competitively awarded on an ownership-neutral basis. If a city is able to show it can provide service where others will not—on a genuinely even playing field and without other unfair advantages—it should be free to do so. The benefits of getting more people connected outweigh the long-term drag on innovation and investment.

While flat bans on any municipal broadband do not make sense, they should be reserved for narrow cases wherein market options are extremely limited and private providers are unwilling to provide service, even with subsidies offered.

In some high-cost, low-return areas, an electrical cooperative or municipal electrical service can cost-effectively bundle broadband infrastructure management with electrical service.[50] In towns where broadband deployment costs are high and a private provider is unable to enter the local market and recuperate the necessary costs or is unwilling to upgrade existing network technologies to offer competitive broadband (even with subsidies), it makes sense to allow for the municipality to deploy broadband to connect its users. These specific instances could likely be identified from the results of broadband service procurement auctions. In areas where no successful bids are made by private providers, municipalities should be able to provide service. The Federal Communications Commission (FCC) should then transfer carrier of last resort and other regulatory obligations to the municipality if there is no subsidized private carrier operating in the region.

As covered in the previous ITIF report "How to Bridge the Rural Broadband Gap Once and For All," there are several methods by which the government has previously distributed funding to deploy and extend broadband networks.[51] If municipal networks are to compete in these same forums for funding, mechanisms should be in place to ensure a level playing field between private and public entities with different advantages, such as control of poles and rights of way.

LOWER BARRIERS TO MARKET ENTRY, ENCOURAGE INVESTMENT AND INNOVATION

There are serious drawbacks to government entry into broadband markets, and often the benefits of municipal entry could be better achieved if the subsidies and policies supporting the municipal provider supported market participants instead. In many markets, there is no economic case for an additional entrant into this high fixed-cost market, as the overall costs of the system go up and the ability for any one provider to recoup investment goes down. However, if officials are eager to see additional choices for consumers, there are better ways to encourage additional competition that maintain incentives for innovation and dynamic entry.

Before considering building its own network, any municipality should first look to lower the costs of deployment and upgrading by private firms. Here, the Google Fiber initiative was groundbreaking in identifying, in coordination with city officials, mechanisms to help lower the costs of deployment. Affirmative steps to encourage competition, such as pole access and replacement reform, coordinated access to rights of way and city assets, and a single point of contact for permitting, can go a long way toward providing consumers additional options and encouraging competition—without forcing it where the economics don't make sense.

One important opportunity includes facilitating and standardizing the right-of-way and pole attachment requirements. Private competitors can easily pay exorbitant fees to deploy their networks, particularly if a deployment involves replacing aging utility poles. Unfortunately, cooperatives and municipalities sometimes require the new entrant attempting to deploy broadband to shoulder all the costs of replacing aging pole infrastructure. And municipal and cooperative companies can charge private Internet providers unregulated prices to attach broadband equipment. Under current law, municipal and cooperative companies are exempt from federal pole attachment regulation, and cooperative and municipal pole replacement costs average more than double that of regulated pole costs.[52] This disequilibrium is particularly concerning for high-cost areas where providers have to attach or replace more poles while simultaneously serving a smaller revenue base.

Broadband requires constant investment and innovation; it is not a type of infrastructure that remains future-proof without continued development.

There are variety of different models for what a municipality's level of partnership with broadband providers can look like.[53] If municipalities that believe they fit in that narrow category should generally avoid providing retail service, and instead provide an open-access fiber network wherein the retail service and the electronics are left to the private sector. In an open-access provider, municipalities offer the use of their broadband networks at wholesale for various providers to leverage in order to sell broadband services. In a retail provider model, a municipality both owns the broadband network and offers broadband services directly to customers. The government can take on the most static parts of the network—ideally providing just open conduit or dark fiber—and allow the private sector to continue to innovate with the electronics on either end.

CONCLUSION

Municipal broadband is unlikely to scale well to fit U.S. broadband needs. Broadband requires constant investment and innovation; it is not a type of infrastructure that remains future-proof without continued development. It also benefits from economies of scale. So if the goal is to get as many Americans online as possible, policy should prioritize efficient spending and allow for an environment where those most optimized to succeed can compete without unnecessary barriers. In a few instances, that may in fact be municipal broadband.

However, policymakers should not discount the critical benefits derived from private competition, such as standards setting and innovation that cannot always be represented by a clear dollar amount. Policymakers should prioritize a long-term strategy that achieves the critical goal of closing the digital divide while also setting U.S. broadband networks and their operators up for

future innovation and success. They should understand that, because of an animus toward large companies, the goal of many municipal broadband advocates is not principally getting more broadband to more areas, but rather to reduce the share of broadband that is provided by the private sector.

There is clearly more work that needs to be done to connect America, but municipal broadband is not the panacea. Congress should ensure that any broadband infrastructure bill is neutral when it comes to the technology and kind of provider.

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About ITIF

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