Expanding Broadband: Potential Role of Municipal Networks to Address the Digital Divide

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SUMMARY

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Colby Leigh Rachfal
Analyst in Telecommunications Policy

Expanding Broadband: Potential Role of Municipal Networks to Address the Digital Divide

In the United States, private sector providers deploy technologies that enable them to offer broadband services (also known as high-speed internet). While broadband deployment continues to progress, there are communities that lack broadband services entirely, or lack choice in broadband service providers. These communities are typically in rural and tribal areas, but may also be in urban areas. As a result, some public entities have stepped in to provide broadband services to areas unserved by private sector providers or areas that lack broadband competition. Public entities that provide broadband service can be local (municipal) governments, for example, that may construct and manage broadband networks either by themselves or in public-private partnerships.

A number of municipal broadband models have been deployed across the nation to help close the digital divide—the gap between those who have access to broadband and those who do not. Some policymakers assert that local governments should play a more active role to address the digital divide, while others believe broadband deployment should be left to the private sector. There are regulations that local governments must consider, as a patchwork of state laws on municipal broadband exist. About half of the United States (28 states) allow municipalities to deploy broadband, while 22 states either explicitly prohibit municipal broadband or have mechanisms in place that could make establishing municipal broadband networks challenging. Supporters of municipal broadband believe that local governments should be permitted to provide broadband service to fill connectivity and affordability gaps by creating a competitive market. Additionally, proponents consider the potential for economic benefits in deploying municipal broadband, such as job creation with installing or maintaining networks or attracting new residents and businesses to the community. Municipal broadband opponents have countered that public entities are not equipped to efficiently sustain commercial broadband networks—some have failed, leaving taxpayers with the burden. Opponents have also contended that public entities should not be permitted to compete with private sector providers—suggesting there may be an unfair advantage for municipal providers in the marketplace.

The primary means the federal government has historically employed for encouraging broadband deployment is subsidizing private sector providers to serve unserved and underserved areas. Even with the new broadband investment in the Infrastructure Investment and Jobs Act (P.L. 117-58), the United States still may not achieve universal broadband coverage due to cost, affordability, and regulatory matters. Congress may weigh how municipal broadband could help fill these gaps.

Nineteen bills have been introduced in the 117th Congress that relate to municipal broadband in some capacity, with one enacted into law (i.e., Infrastructure Investment and Jobs Act (P.L. 117-58)). Some of these bills would prohibit a state or political subdivision from providing or selling broadband service, such as the Communities Overregulating Networks Need Competition Today Act (H.R. 1149) and the American Broadband Act (H.R. 3435). Other bills would prohibit states from blocking the delivery of broadband by public providers, public-private partnership providers, or cooperatively organized providers. These bills include, for example, the Community Broadband Act of 2021 (H.R. 1631/S. 1460) and the Accessible, Affordable, Internet for All Act (H.R. 1783/S. 745). Additionally, several bills would provide federal funding opportunities for broadband deployment to public entities. These include, for example, the Grants to Rapidly Invest and Deploy Broadband Act of 2022 (S. 4763), the Connect America Act of 2021 (H.R. 1672), the Broadband Infrastructure Finance and Innovation Act of 2021 (H.R. 1700/S. 741), the Leading Infrastructure For Tomorrow's America Act (H.R. 1848), and the Broadband Justice Act of 2021 (H.R. 1904). Other options for congressional consideration may include the following:

- targeted funding for the deployment of municipal broadband networks to provide universal broadband access;
- amending Section 706 of the Telecommunications Act of 1996 (P.L. 104-104) to clarify or expand the Federal Communications Commission's (FCC's) role in reducing regulatory barriers to the deployment of municipal networks; and
- a study to examine what circumstances (if any) might warrant government subsidization for municipal broadband networks.

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Introduction

Access to high-speed internet service, known as broadband, has become increasingly important—particularly in light of the Coronavirus Disease 2019 (COVID-19) pandemic, as more aspects of daily life have moved online. Broadband has been deployed in the United States since the late 1990s, primarily by private sector telecommunications and internet service providers. While broadband deployment continues to progress, the Federal Communications Commission's (FCC's) Fourteenth Broadband Deployment Report released in January 2021 estimates that 14.5 million Americans lack access to broadband—which the FCC defines as a connection that provides speeds of at least 25/3 megabits per second (Mbps), meaning 25 Mbps for downloading and 3 Mbps for uploading data.[1] On July 15, 2022, as part of the FCC's annual evaluation of the state of broadband across the country, FCC Chairwoman Jessica Rosenworcel proposed increasing the minimum fixed broadband benchmark speed to 100 Mbps/20 Mbps.[2]

Broadband deployment is not ubiquitous across the United States. The digital divide refers to the gap between those who have access to broadband services and those who do not. Many U.S. residents who do not have access to broadband live in areas that private sector providers may find unattractive to serve, due to factors such as difficult topography or small numbers of potential customers that might result in an expensive deployment and low return on investment.

The primary means the federal government has employed to encourage broadband deployment is to subsidize private sector providers to serve unserved and underserved areas. Even with subsidies, some areas of the United States remain without adequate broadband coverage. As a result, some municipal governments have attempted to become broadband providers. There is debate in Congress and among state and local governments as to whether municipal broadband networks can play a role in closing the digital divide, or whether broadband deployment should be the exclusive domain of the private sector.

This report provides an explanation of broadband service and the digital divide, as well as an overview of municipal broadband networks. It presents selected stakeholder arguments for and against municipal broadband networks and discusses the patchwork of state laws regarding municipal broadband—some states allow it, some states allow it under certain conditions, and other states prohibit it. A section on policy issues for Congress and observations concludes the report.

Broadband Technologies and Minimum Benchmark Speed

Broadband is high-speed internet service that is faster than traditional dial-up and offers an "always on" connection. It can be delivered through various technologies, such as

- digital subscriber line (DSL),
- cable modem,
- fiber optic cable,
- wireless,

[1] Federal Communications Commission, *Fourteenth Broadband Deployment Report*, January 19, 2021, p. 2, available at https://www.fcc.gov/reports-research/reports/broadband-progress-reports/fourteenth-broadband-deployment-report.

[2] Federal Communications Commission, *Chairwoman Rosenworcel Proposes to Increase Minimum Broadband Speeds*, July 15, 2022, available at https://www.fcc.gov/document/chairwoman-rosenworcel-proposes-increase-minimum-broadband-speeds.

- satellite, and
- broadband over power lines (BPL).[3]

Broadband service gives users the ability to send and receive data at volumes and speeds that support a wide range of applications operating simultaneously, including voice and video communications that can support distance education, telework, telemedicine, ecommerce, and entertainment.

The Broadband Digital Divide

There are parts of the country that lack access to broadband and there are also residents in areas served by broadband who are unable to afford available service. According to researchers at the College for Health, Community, and Policy at the University of Texas at San Antonio, "broadband availability and affordability in areas with high concentrations of poor, minorities, or rural households provides the starkest examples of the digital divide. In many cases, providers will not enter the market in these areas because the prospect for high profit margins is too low to merit entry."[4]

The Digital Divide and Broadband Deployment

Many areas unserved with broadband exhibit one or more characteristics—low population density, remoteness, and difficult geography—that make deployment of broadband expensive and may discourage private sector providers from investing in broadband infrastructure.[5] Lack of access is particularly pronounced in rural and tribal areas, many of which are remote and sparsely populated relative to more densely populated urban and suburban areas. For example, while the FCC's Fourteenth Broadband Deployment Report said that 98.8% of urban areas in the United States are served with fixed broadband[6] at speeds of 25/3 Mbps, that figure is lower for rural areas at 82.7% and tribal lands at 79.1%.[7]

The costs associated with deploying broadband over long distances and through difficult terrain to reach a small number of potential users may mean, in some cases, that broadband providers avoid certain areas since they may not be able achieve a return on investment. Deploying broadband requires a global internet network, middle mile, and last mile infrastructure. According

[3] DSL uses copper telephone wires to transmit data. Cable modem uses coaxial cables—the same used for cable television. Fiber optic cable uses pulses of light shot by lasers through thin strands of glass. Wireless uses a radio connection between a user and a service provider's terrestrial antennae in mobile devices such as a laptop or mobile phone. Satellite uses a radio connection between a user and a service provider's space-based antenna. BPL uses power lines. For further information, see Federal Communications Commission (FCC), "Types of Broadband Connections," June 23, 2014, available at https://www.fcc.gov/general/types-broadband-connections.

[4] Christopher G. Reddick, Roger Enriquez, and Richard J, Harris, et al., *Determinants of Broadband Access and Affordability: An Analysis of a Community Survey on the Digital Divide*, National Institutes of Health, September 9, 2020, available at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7480260/.

[5] For more information see National Telecommunications and Information Administration, *Economics of Broadband Networks*, available at https://broadbandusa.ntia.doc.gov/sites/default/files/2022-03/Economics%20of%20Broadband%20Networks%20PDF.pdf.

[6] Fixed broadband includes technologies such as DSL, cable modem, fiber optic cable, and geostationary satellite.

[7] Public release data as of December 2019. Federal Communications Commission, *Fourteenth Broadband Deployment Report*, January 19, 2021, p. 20, available at https://www.fcc.gov/reports-research/reports/broadband-progress-reports/fourteenth-broadband-deployment-report.

to broadband infrastructure provider Quintillion, "the global internet network consists of subsea cables that connect cities, countries, and continents to data centers across the world."[8]

Middle mile infrastructure "is the physical mid-section of the infrastructure required to enable internet connectivity for homes, businesses, and community institutions. The middle mile is made up of high-capacity fiber lines that carry large amounts of data at high speeds over long distances between local networks and global internet networks."[9] Middle mile infrastructure is often owned by the private sector, but can also be publicly owned.[10] According to a blog post by network provider Zayo, "substantial parts of the country don't have adequate middle mile infrastructure."[11] This can be due to various factors. For example, according to broadband service provider Hunter Communications, "most middle mile connections fall along major interstates and highways throughout the United States … [leaving] many rural areas largely undeveloped when it comes to middle mile networks."[12] Additionally, "unique challenges in both weather and terrain can turn middle mile fiber builds into long and expensive projects."[13] As an example of the potential scope of this issue, an April 22, 2022, press release from the California Department of Technology highlighted a proposed 8,700 miles of new middle-mile network routes in the state to help connect unserved residents in urban, rural, and tribal areas.[14]

Last mile infrastructure is the direct, physical connection to the end user (e.g., home, business, school) from the middle mile network. If no middle mile infrastructure exists, last mile providers may choose not to provide service in that community.[15] Without middle mile network routes, local provider costs would increase dramatically as they would have to cover these additional costs to distant middle mile networks or build their own.

Federal and state initiatives may help subsidize the costs of middle mile infrastructure. For example, the Infrastructure Investment and Jobs Act (IIJA, P.L. 117-58) authorized and appropriated $1 billion for a middle mile grant program to be administered by the National Telecommunications and Information Administration (NTIA).[16] In July 2021, California Governor Gavin Newsom signed Senate Bill 156, which provides $3.25 billion to build a middle

[8] Quintillion, *What Is the Middle Mile in Broadband?*, April 7, 2022, available at https://www.quintillionglobal.com/what-is-the-middle-mile-in-broadband/.

[9] California Department of Technology, *Middle-Mile Broadband Initiative FAQ*, available at https://cdt.ca.gov/middle-mile-advisory-committee/middle-mile-faq/.

[10] Sean Middleton, *Middle Mile Network Connectivity Partnerships—Meet Me in the Middle*, Finley, May 1, 2022, available at https://finleyusa.com/middle-mile-network-connectivity-partnerships-meet-me-in-the-middle/.

[11] Zayo, *Transforming Broadband: The Infrastructure Investment and Jobs Act*, February 18, 2022, available at https://www.zayo.com/resources/transforming-broadband-the-infrastructure-investment-and-jobs-act/.

[12] Hunter Communications, *Investing in Oregon's Rural Middle Mile Networks*, available at https://hunterfiber.com/investing-in-oregons-rural-middle-mile-networks/.

[13] Ibid.

[14] California Department of Technology, *CDT Releases GoldenStateNet's Recommended Design of Statewide Open-Access Broadband Network*, April 22, 2022, available at https://cdt.ca.gov/news/cdt-releases-goldenstatenets-recommended-design-of-statewide-open-access-broadband-network/.

[15] Anna Read and Lily Gong, *Partnerships with Electric Utilities Can Help Expand Broadband Access*, Pew Charitable Trusts, March 29, 2022, available at https://www.pewtrusts.org/en/research-and-analysis/articles/2022/03/29/partnerships-with-electric-utilities-can-help-expand-broadband-access.

[16] BroadbandUSA, *Enabling Middle Mile Broadband Infrastructure Program*, available at https://broadbandusa.ntia.doc.gov/enabling-middle-mile-broadband-infrastructure-program.

mile network for the purposes of connecting homes, businesses, and community institutions to the internet.[17]

The Digital Divide and Broadband Adoption

User adoption of broadband services is another factor in the digital divide. In some areas broadband service may be provided only by a monopoly service provider who—in the absence of competition—could charge high prices.[18] Absence of competition alone does not automatically lead to high prices; however, a monopoly provider may set a price low enough to attract the number of subscribers needed to turn a profit, but may not necessarily be compelled to set a lower price to attract new customers. Even in areas with multiple broadband providers competing for customers, there may be populations of potential users for which broadband may be unaffordable without subscription and equipment subsidization. The adoption issue is not only limited to rural areas, but affects cities as well—and adoption rates may vary widely even within the same community. For example, according to an article from Brookings, "even though urban cores and mature suburbs in the nation's largest 100 metro areas have the highest median broadband adoption rates, they also experience the widest variation among their residents[;] … some residents live in digital poverty even as their neighbors thrive."[19]

Legislation enacted in response to the COVID-19 pandemic included broadband adoption and affordability programs such as the FCC's Emergency Broadband Benefit Program (now the Affordable Connectivity Program), which provides discounts for broadband service and equipment (e.g., laptops, tablets).[20]

What Is Municipal Broadband?

Municipal broadband is broadband service provided to a community by a local government (municipality). Glasgow, KY, was the first municipality to offer public internet to its residents in the early 1990s.[21] Since then, some municipalities that may have factors that discourage investment by private sector providers such as low population density, remoteness, and difficult geography have examined deploying municipal networks.[22] Deployment of municipal broadband networks in the United States has increased rapidly in recent years. For example, "by 2018 over 100 communities nationwide were offering some form of high-speed internet service[;] … today [March 28, 2022], over 600 communities offer municipal broadband in some capacity, an increase of more than 600 percent since 2018."[23] There are several ways that a local government might provide broadband service to its residents. These may include

[17] CA.gov, *Middle-Mile Broadband Initiative*, available at https://middle-mile-broadband-initiative.cdt.ca.gov/.

[18] Christopher Mitchell, *Broadband Internet Access*, Institute for Local Self-Reliance, July 2020, available at https://ilsr.org/fighting-monopoly-power/broadband-monopolies/.

[19] Lara Fishbane and Adie Tomer, *Neighborhood Broadband Data Makes It Clear: We Need an Agenda to Fight Digital Poverty*, Brookings, February 6, 2020, available at https://www.brookings.edu/blog/the-avenue/2020/02/05/neighborhood-broadband-data-makes-it-clear-we-need-an-agenda-to-fight-digital-poverty/.

[20] Federal Communications Commission, *Affordable Connectivity Program*, available at https://www.fcc.gov/acp.

[21] Kevin Taglang, *Six Community Broadband Networks*, Benton Institute for Broadband & Society, July 27, 2021, available at https://www.benton.org/blog/six-community-broadband-networks.

[22] US Ignite and Altman Solon, *Broadband Models for Unserved and Underserved Communities*, *Broadband Communities Magazine*, July 2020, available at https://www.bbcmag.com/community-broadband/broadband-models-for-unserved-and-underserved-communities.

[23] Kevin Schwartzbach, *Should States Fund Municipal Broadband and Cooperatives?*, Governing, March 28, 2022,

municipality owned and managed networks that provide service directly to citizens;

utility networks, generally operated by a municipal electric company, that sell broadband and telecommunications services to their customers;

public-private partnerships, where a municipality contracts with a private company to provide broadband services to its residents using infrastructure provided by the municipality; and

open access (wholesale) networks, where the city provides the infrastructure and offers it to multiple suppliers to provide retail service.[24]

There may be advantages and disadvantages to any of the approaches listed above. For a municipally owned and managed network as well as open access networks, the municipality owns the infrastructure and can control when and how its residents and businesses are served, as well as maintain control over service performance.[25] However, the municipality becomes the network operator, which may be a new service it has no experience providing.[26]

A potential advantage of a utility playing a role in municipal broadband is that it has an extensive history with building and maintaining massive communications networks and may already have access to rights-of-way.[27] Additionally, "utilities have solid customer relationships and trust with communities built over decades of providing electricity under regulatory obligations that ensure equitable service."[28] However, utilities that become broadband service providers may have little experience in competitive markets.[29]

Public-private partnerships may "achieve balanced partnerships between municipalities and private sector investors, where each party focuses on its own area of expertise and shares risks and benefits associated with network deployment."[30] However, "those working as part of a public-private partnership effort may be entitled to a prevailing wage[31] that they may not

available at https://www.governing.com/now/should-states-fund-municipal-broadband-and-cooperatives.

[24] Sherry Lichtenberg, *Municipal Broadband: A Review of Rules, Requirements, and Options*, National Regulatory Research Institute, November 2014, p. iv, available at https://pubs.naruc.org/pub/FA86C96C-ECA3-B0C1-D5DC-B92FE52541C0.

[25] City of Wildwood, *Advantages and Disadvantages to Each Proposed Approach by CTC Technology and Energy*, available at https://www.cityofwildwood.com/AgendaCenter/ViewFile/Item/20617?fileID=26419.

[26] Ibid.

[27] Utilities Technology Council, *Utilities Empower Broadband Deployment—A UTC Whitepaper*, October 2020, p. 1, available at https://utc.org/wp-content/uploads/2020/10/BB_utilities_historical_piece_sa_rt.pdf.

[28] Tony Tarvin, *Utilities May Be Key in Broadband Expansion to Underserved Areas*, Utility Analytics Institute, June 15, 2021, available at https://utilityanalytics.com/2021/06/utilities-may-be-key-in-broadband-expansion-to-underserved-areas/.

[29] Power System Engineering, *COVID-19 Pandemic is Putting Pressure on Our Broadband Infrastructure*, April 30, 2020, available at https://www.powersystem.org/covid-19-pandemic-is-putting-pressure-on-our-broadband-infrastructure/.

[30] Georges Houngbonon, Carlo Maria Rossotto, and Davide Strusani, *Municipal Broadband Networks—Opportunities, Business Models, Challenges, and Case Studies*, International Finance Corporation World Bank Group, November 2021, available at https://www.ifc.org/wps/wcm/connect/2a05aa81-3d9e-4409-9791-9e52d5492878/EM_Compass_Note_107_Municipal_Broadband_Networks_for_web.pdf?MOD=AJPERES&CVID=nQQy27s.

[31] According to the U.S. Department of Labor, "the prevailing wage rate is the average wage paid to similarly employed workers in a specific occupation in the area of intended employment." See U.S. Department of Labor, *Prevailing Wage Information and Resources*, available at https://www.dol.gov/agencies/eta/foreign-labor/wages.

otherwise have if they were working as part of a strictly private effort, which may increase overhead costs of a project."[32]

According to a whitepaper by nonprofit US Ignite and consulting firm Altman Solon, "a vast majority of cities with municipally enabled programs (68%) have chosen to build and operate their networks through a public entity, which is either a public utility or the municipality itself."[33] Each municipality has a unique set of variables that may factor into what type of network model may provide the best possible solution. For example, as stated by the Indio, CA, Director of Community Development on what types of broadband service the city may provide,

> We're looking at what is the best service-delivery model…. It could be a public-oriented delivery model, which some cities have done, where they've built up their own broadband infrastructure. It could be a public-private partnership where we partner with one or more private companies to build out that infrastructure, or it could be entirely private, and we would be more on the policy side helping to guide and facilitate that. Part of this master-planning process is to look at what is best for our city, and it's different for every community.[34]

Costs to deploy a municipal broadband network can vary widely, and costs to build out a network in one city may not be comparable to the costs to build out in another city. Deployment costs may vary due to factors such as the type of model deployed (e.g., public-private partnership, municipally owned and managed), the size of the municipality, population density, or geography. To assist with network buildout costs, some states provide public entities access to state funding. For example, Massachusetts makes state funds available to towns seeking to build municipally owned networks.[35] In New York, Governor Kathy Hochul announced a plan in January 2022 to allow municipalities to apply for grants from the state if they plan to build open and accessible broadband infrastructure.[36]

State Regulations on Municipal Broadband

Whether a municipality can deploy a broadband network varies from state to state, forming a patchwork of laws across the United States. (See **Appendix B**.) The FCC, an independent regulatory agency overseen by Congress, attempted to preempt some state restrictions on municipal broadband in response to a petition filed by municipal providers. The FCC stated its perceived authority to preempt state laws in a March 2015 *Memorandum Opinion and Order*:

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[32] Benjamin Kahn, *Broadband Panelists Say Public-Private Partnerships Provide Unique Solutions for Regional Needs*, Broadband Breakfast, October 1, 2021, available at https://broadbandbreakfast.com/2021/10/broadband-panelists-say-public-private-partnerships-provide-unique-solutions-for-regional-needs/.

[33] US Ignite and Altman Solon, *Broadband Models for Unserved and Underserved Communities*, July 2020, p. 2, available at https://muninetworks.org/sites/www.muninetworks.org/files/2020%2007%20USIgnite_Altman-Solon_Whitepaper-on-Broadband-Models_FINAL_7-9-2020.pdf.

[34] Kevin Fitzgerald, *Fiber Future: The City of Indio Starts the Process of Building Its Own Broadband Network*, Coachella Valley Independent, January 14, 2022, available at https://cvindependent.com/2022/01/fiber-future-the-city-of-indio-starts-the-process-of-building-its-own-broadband-network/.

[35] Kathryn de Wit and Anna Read, *How State Grants Support Broadband Deployment*, The Pew Charitable Trusts, December 14, 2021, available at https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2021/12/how-state-grants-support-broadband-deployment.

[36] Nate Benson, *Gov. Hochul Pledges $1B for Broadband Initiatives at State of the State Address*, 2WGRZ News, January 5, 2022, available at https://www.wgrz.com/article/news/local/kathy-hochul-pledges-1-billiion-dollars-for-broadband-initiatives-new-york-state/71-c0891ed2-e410-4b37-9184-fef890f68f6e.

> We first examine whether section 706 [of the Telecommunications Act of 1996 (P.L. 104-104)] gives us authority to preempt any state laws that target providers that are political subdivisions of the state. Finding that section 706 gives us authority to preempt certain—though not all—such laws, we examine whether the laws at issue fall within the scope of our authority to preempt. We conclude that they do.[37]

However, a decision by the Sixth Circuit Court of Appeals held that the FCC could not preempt state regulation of municipal broadband without an express statutory grant of preemption authority from Congress.[38] See also "Preempting State Regulations or Implementing a Nationwide Ban on Municipal Broadband."

Will Municipal Broadband Networks Help Close the Digital Divide?

The track record for municipal broadband networks varies from community to community—some operate successfully, while others have failed. As a result, there are arguments for and against municipal broadband; two arguments for municipal broadband networks and two against are presented below. Each community has a number of unique variables that may influence the decision of civic leaders to pursue municipal broadband and the arguments presented below may be applicable in some cases and not others.

Municipal Broadband Networks May Fill Connectivity and Affordability Gaps Left by Private Sector

There are areas private sector providers do not serve with broadband and are unlikely to, leaving gaps across the United States. Private sector providers may not serve these areas due to factors such as geography or low population, where it is expensive to deploy and potential returns on investment may be low.[39] To fill these gaps, some municipalities provide broadband service to their residents. According to the National League of Cities, "there are hundreds of already-existing [municipal] networks … striving to address lack of access, poor connectivity, or inequality."[40] According to a report from the *Online Journal of Rural Research and Policy*,

> Municipal broadband systems, or those owned and operated by a town government rather than a private company or non-government cooperative, have great potential to improve quality of service and social equity for millions of Americans. Such governments can help 'serve … forgotten' groups of users by choosing to 'experiment and pioneer systems that meet local needs.'[41]

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[37] Federal Communications Commission, *Memorandum Opinion and Order*, March 12, 2015, p. 56, available at https://www.fcc.gov/document/fcc-releases-order-preempting-tn-nc-municipal-broadband-restrictions.

[38] For more information on preemption see CRS Report R46736, *Stepping In: The FCC's Authority to Preempt State Laws Under the Communications Act*, by Chris D. Linebaugh and Eric N. Holmes.

[39] Angelina Panetierri, Lena Geraghty, and Spencer Wagner, *Community Broadband: A Key Tool for Closing the Digital Divide*, National League of Cities, July 2021, p. 5, available at https://www.nlc.org/wp-content/uploads/2021/07/Community-Broadband-Brief-2.pdf.

[40] Ibid., p. 3.

[41] Hugo Martin Koch, *Digital Utilities: The Factors Impacting Municipal Broadband Decisions Among Local Leaders*, University of Kansas, Lawrence, 2018, p. 4, available at https://newprairiepress.org/cgi/viewcontent.cgi?article=1090&context=ojrrp.

Municipal broadband networks may offer higher speeds and service plans that are more affordable than what would otherwise be available. A 2018 study by the Berkman Klein Center for Internet and Society at Harvard University found that "most community-owned [fiber-to-the-home] networks charged less and offered prices that were clear and unchanging, whereas private internet service providers typically charged initial low promotional or 'teaser' rates that later sharply rose, usually after 12 months."[42] The Technology Policy Institute, a think tank, countered this study, arguing, "Observing prices set by local government provides little information because we don't know how prices were set. Prices could be low because the network was built and operated efficiently, which could be evidence in favor of a success story. On the other hand, prices could be low because politicians use public funds to offer low prices."[43]

According to a study conducted by New America that examined five U.S. cities that have municipal networks, "looking at dollars per Mbps in advertised download speeds, municipal networks bring down the average cost by $0.06 to $0.52 per Mbps."[44] Additionally, according to the mayor of Jamestown, NY, an April 2022 municipal broadband feasibility study indicated that the average cost of internet in the city for 100 Mbps is $75 to $100 a month [for a private sector provider's network]; with a municipal network, city residents could receive 1 gigabit per second (Gbps) for $30 to $40 a month.[45] While the feasibility study did not contain preliminary cost information to deploy a municipal broadband network, the city could use funding received under the Coronavirus State and Local Fiscal Recovery Funds within the American Rescue Plan Act (P.L. 117-2).[46]

Municipal Broadband Networks May Provide Potential Economic Benefits

The potential benefits of deploying broadband may extend beyond economic activity conducted online and include job creation,[47] as well as encouraging existing businesses and current residents to remain in an area, attracting new businesses and residents, and providing connectivity for critical facilities such as hospitals.[48] For example, the city of Chattanooga's Electric Power Board (EPB)—a publicly owned utility company—"became the first U.S. city to roll out a citywide gigabit network."[49] According to EPB promotional material, "In 2010, [EPB] began offering

[42] David Talbot, Kira Hessekiel, and Danielle Kehl, *Community-Owned Fiber Networks: Value Leaders in America*, Berkman Klein Center for Internet & Society Research, January 2018, p. 3, available at https://dash.harvard.edu/bitstream/handle/1/34623859/2018-01-16-Pricing.final.pdf.

[43] Sarah Oh and Scott Wallstein, *Berkman Center Report Neither Useful for Policy nor Generalizable for Consumers*, Technology Policy Institute, January 29, 2018, available at https://techpolicyinstitute.org/publications/broadband/berkman-center-report-neither-useful-for-policy-nor-generalizable-for-consumers/.

[44] New America & Open Technology Institute, *The Cost of Connectivity 2020*, July 2020, p. 53, available at https://vtechworks.lib.vt.edu/bitstream/handle/10919/99748/CostConnectivity2020.pdf.

[45] Dennis Phillips, "Mayor: Local Network Could Lower Internet Costs," *The Post-Journal*, March 8, 2022, available at https://www.post-journal.com/news/page-one/2022/03/mayor-local-network-could-lower-internet-costs/.

[46] Dennis Phillips, "City Gauging Interest in Municipally-Owned Broadband Network," *The Post-Journal*, June 7, 2021, available at https://www.post-journal.com/news/page-one/2021/06/city-gauging-interest-in-municipally-owned-broadband-network/.

[47] Community Networks, *Municipal Networks and Economic Development*, available at https://muninetworks.org/content/municipal-networks-and-economic-development.

[48] Ibid.

[49] Rob Marvin, "Gig City: How Chattanooga Became a Tech Hub," *PCMag*, May 4, 2018, available at https://www.pcmag.com/news/gig-city-how-chattanooga-became-a-tech-hub.

every business and home in their service area access to gigabit-speed internet (i.e., 1,000 megabits per second). Chattanooga became known as 'Gig City,' making it an attractive city for technology companies, startups, and entrepreneurs."[50] In Ammon, ID, a city investment in broadband produced cost-reduction benefits (i.e., reducing annual telecommunication and internet costs for municipal anchor institutions).[51] According to analysis conducted by Strategic Networks Group, "Over 25 years, Ammon's cost-reduction benefits ($43.6 million) outweigh the fiber network investment costs ($8.6 million). The direct economic benefits are projected to be nine-fold greater at $78.2 million."[52]

Municipal Broadband Networks May Carry Sustainability Risks

There are potential sustainability risks if a local government does not have the financial resources necessary to operate and maintain a broadband network. According to Pomona College Economics professor Kyle Wilson, municipalities are

> motivated to act by some combination of profits and consumer welfare, and so that leads to … better speeds, and often lower prices, for consumers. The potential downside, of course, is that doing this is really expensive. The city has to shoulder the burden that would otherwise have been paid for by private firms. In many cases, they're taking on debt in order to do that, with the hope that the revenue brought in through it will pay for that in the long run.[53]

Lack of sustainability may lead to network privatization. For example, in December 2021, the Braintree Electric Light Department (BELD)—a nonprofit, publicly owned power utility and broadband internet provider in Braintree, MA—announced that it had sold its internet business to Comcast. BELD conducted a study showing it would need to make a major, multimillion-dollar investment in network infrastructure to maintain its existing quality of service. This cost would have required a significant increase in customer rates.[54] Additionally, when municipal provider Burlington Telecom was struggling in 2009, the then-mayor diverted $16.9 million in taxpayer funds to help keep it afloat.[55] The Burlington City Council later decided to privatize the network.[56] Some Burlington residents sued, attempting to halt the sale and asking for taxpayer reimbursement. However, the Vermont Supreme Court concluded "that sale promotes the public good and that the desired outcome [by the Burlington residents] would likely impose additional financial burden on Burlington Telecom customers and City taxpayers."[57] One potential counterpoint is that a public-private partnership between a municipal provider and private entity

[50] Electric Power Board, *EPB Mission*, available at https://epb.com/about/who-we-are/.

[51] Strategic Networks Group, *The Economic Case for Investing in Broadband: Ammon, Idaho*, available at https://sngroup.com/broadband-economic-case-ammon/.

[52] Ibid.

[53] Sneha Abraham, *Q&A: Prof. Kyle Wilson on the Boon of Municipal Broadband Internet*, Pomona College, August 9, 2021, available at https://www.pomona.edu/news/2021/08/09-qa-prof-kyle-wilson-boon-municipal-broadband-internet.

[54] Linda Hardesty, *Comcast Buys 2 Small Municipal Internet Businesses in Massachusetts*, Fierce Telecom, December 2, 2021, available at https://www.fiercetelecom.com/broadband/comcast-buys-2-small-internet-businesses-massachusetts.

[55] Katie Jickling, *Opponents to Appeal Burlington Telecom Sale Decision*, Seven Days, February 28, 2019, available at https://www.sevendaysvt.com/OffMessage/archives/2019/02/28/opponents-to-appeal-burlington-telecom-sale-decision.

[56] Ibid.

[57] The City of Burlington, "Vermont Supreme Court Unanimously Affirms the Sale of Burlington Telecom,"x January 17, 2020, available at https://www.burlingtonvt.gov/Press/vermont-supreme-court-unanimously-affirms-the-sale-of-burlington-telecom.

may make network deployment and sustainability "more cost-effective by creating a larger market for services as well as a greater pool for sharing resources (staff, equipment, etc.)."[58]

Municipal networks that are not financially sustainable may also lead to shortfalls for other municipal projects. According to a report by the University of Pennsylvania Carey Law School, "municipalities that initiate projects that are unable to cover their costs of debt and operations will have to make up the shortfall from general tax revenues or default on their debt, either of which would inevitably affect the cost of financing all of the city's operations, not just the municipal fiber project."[59]

Municipal Broadband Networks May Compete with Private Sector Providers

Some critics contend that municipal networks may discourage private investment in areas because providers may be "less likely to compete against the governments that also regulate them."[60] Former FCC Commissioner Michael O'Reilly stated in a dissent to a 2015 FCC Memorandum Opinion and Order, "It is not the government's role to offer services instead of or in competition with private actors."[61] A study conducted by non-profit American Consumer Institute for Citizen Research argues that "municipal broadband networks crowd out private investment" and "the desire of GONs [government-owned networks] to expand into adjacent markets should give private broadband providers pause about entering these markets. For these reasons, municipal-owned networks are anticompetitive."[62] Instead, some critics argue, the government should encourage more private investment, "whether by lowering regulatory barriers (e.g., expedite permitting and licensing, assist private providers in obtaining rights-of-way) or by providing carefully targeted government support to private firms."[63]

A study published in the journal Information Economics and Policy on entry threats from municipal broadband internet and impacts on private provider quality states, "estimates indicate that the presence of a [municipal electric utility (MEU), which reduces barriers to entry for municipal providers] is associated with lower maximum upload and download speeds offered by private cable and DSL providers. In states where municipal entry is made more difficult by regulation, these effects disappear."[64] Some critics of municipal broadband networks have

[58] Oregon League of Cities, *Oregon Municipal Broadband*, July 2011, p. 11, available at http://www.qlife.net/sites/default/files/imported/broadbandreport_july_2011.pdf.

[59] Ibid., p. 8.

[60] Seth Cooper, *Say No to the Biden Broadband Plan for Government Subsidies and Price Controls*, The Ripon Society, July 2021, available at https://riponsociety.org/article/say-no-to-the-biden-broadband-plan-for-government-subsidies-and-price-controls/.

[61] Federal Communications Commission, *In the Matter of City of Wilson, North Carolina Petition for Preemption of North Carolina General Statute Sections 160A-340 et seq. The Electric Power Board of Chattanooga, Tennessee Petition for Preemption of a Portion of Tennessee Code Annotated Section 7-52-601*, Memorandum Opinion and Order, March 12, 2015, p. 114, available at https://docs.fcc.gov/public/attachments/FCC-15-25A1.pdf.

[62] Steve Pociask, Kris Pusok, and Edward Longe, *Government-Owned Broadband Networks: Do They Reduce the Cost of Broadband and Increase Adoption?*, American Consumer Institute Center for Citizen Research, September 2021, p. 16, available at https://www.theamericanconsumer.org/wp-content/uploads/2021/09/GONs-Final-w-Cover.pdf.

[63] Theodore Bolema and Michael Horney, "Why Municipalities Should Stop Trying to Subsidize Broadband Access," *The Hill*, July 31, 2017, available at https://thehill.com/blogs/pundits-blog/technology/344571-why-municipalities-should-stop-trying-to-subsidize-broadband/.

[64] Steven W. Landgraf, *Entry Threats from Municipal Broadband Internet and Impacts on Private Provider Quality*, Information Economics and Policy, Volume 52, September 2020, available at

identified what they perceive to be a potential unfair practice of municipal networks, "the ability to grant themselves rights-of-way or to clear regulatory barriers that might be placed in the way of private providers."[65]

A potential counterpoint is there would not be a need for municipal broadband if the private sector served an unserved area and municipalities "invest[ed] only when the public demands it, to fill gaps left by the private sector, or to provide better service or lower rates than the private sector is willing or able to provide."[66] As stated by a member of the Grafton County, NH, Broadband Committee, "The whole point … is to facilitate end connections. We're not trying to compete with these guys [private sector broadband providers]. We're trying to drive (broadband) to the towns."[67]

Policy Issues for Congress

The essence of the municipal broadband debate focuses on whether municipal broadband is an effective tool for providing affordable service to unserved areas and closing the digital divide. A piece of this discussion addresses whether municipal broadband is sustainable, and, if so, whether it encroaches on the private sector market.

If Congress determines that municipal broadband networks may play a positive role in closing the digital divide, it may consider how to best facilitate their deployment, affordability, and sustainability and stimulate competition without discouraging private sector broadband deployment. Options may include the following:

- Municipalities could be provided with additional financing assistance, above amounts in the American Rescue Plan Act. Several bills in the 117th Congress would provide federal funding opportunities for broadband deployment to public entities.
- Prioritization could be given to municipal broadband networks operated by local governments, nonprofits, and cooperatives in current broadband support programs and future broadband funding, as proposed by the Biden Administration's American Jobs Plan.
- Congress could authorize an independent assessment of if and how to target federal support for municipal broadband networks and any potential effects of federal subsidization.
- Congress may also consider whether legislating preemption of state regulations might be necessary to allow municipalities to deploy broadband networks in further closing the digital divide, as proposed by several bills in the 117th Congress.

https://www.sciencedirect.com/science/article/abs/pii/S0167624520301220#!.

[65] Mikhail Guttentag, *A Light in Digital Darkness: Public Broadband After Tennessee vs. FCC*, Yale Journal of Law and Technology, 2018, p. 334, available at https://www.yjolt.org/sites/default/files/20_yale_j._l._tech._311_.pdf.

[66] Baller, Stokes, and Lide PC, *Top Ten Myths and Realities About Municipal Broadband Projects*, available at http://www.baller.com/wp-content/uploads/texas_industry_resp.pdf.

[67] Amanda Gokee, "Grafton County's Broadband Push Faces Challenge from Incumbent Providers," *New Hampshire Bulletin*, December 1, 2021, available at https://newhampshirebulletin.com/2021/12/01/grafton-countys-broadband-push-faces-challenge-from-incumbent-providers/.

- Congress could enact a nationwide ban on municipal broadband, as proposed by the Communities Overregulating Networks Need Competition Today Act (H.R. 1149).
- Congress could choose to leave the decision of whether or not to allow municipal broadband deployment up to individual states.

Providing Federal Assistance for Municipal Broadband

Various federal broadband programs provide funding for broadband deployment and expansion.[68] Historically, federal funds were awarded solely to the private sector for broadband deployment. The American Rescue Plan Act of 2021 (ARPA; P.L. 117-2) marked a shift in the guidelines for broadband deployment. Under ARPA, the Coronavirus State and Local Fiscal Recovery Funds[69] are the first to allocate resources to state and local governments that may be used for broadband, among various eligible uses. States are encouraged to allocate these funds to local government, non-profit, and co-operative broadband service providers.[70] For example, per county documents, Skagit County (WA) earmarked $1 million of its share of ARPA funds to extend the county's broadband network.[71]

In 2021, the Biden Administration proposed prioritizing funding for municipal broadband networks in the American Jobs Plan, which "prioritizes support for broadband networks owned, operated by, or affiliated with local governments, non-profits, and co-operatives—providers with less pressure to turn profits and with a commitment to serving entire communities."[72] The municipal broadband provisions in the American Jobs Plan drew opposition from some private sector providers and were ultimately not included in IIJA.[73] For example, the Chief Executive Officer of AT&T called the plan to fund municipal broadband networks "misguided" and said the United States should not pay for any broadband deployment in areas that already have networks.[74]

Several bills in the 117th Congress would provide federal funding opportunities for broadband deployment to public entities. Some would support municipal broadband deployment where there is no service or where it is found to increase competition. Municipal broadband funding bills include:

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[68] See BroadbandUSA, *Federal Funding*, National Telecommunications and Information Administration, available at https://broadbandusa.ntia.doc.gov/resources/federal/federal-funding.

[69] For more information see U.S. Department of the Treasury, *Coronavirus State and Local Fiscal Recovery Funds*, available at https://home.treasury.gov/policy-issues/coronavirus/assistance-for-state-local-and-tribal-governments/state-and-local-fiscal-recovery-funds.

[70] Sophia Campbell, Jimena Ruiz Castro, and David Wessel, *The Benefits and Costs of Broadband Expansion*, The Brookings Institution, August 18, 2021, available at https://www.brookings.edu/blog/up-front/2021/08/18/the-benefits-and-costs-of-broadband-expansion/.

[71] Brandon Stone, *With $25 Million to Spend, County Makes Plans for American Rescue Plan Act Funding*, goskagit.com, August 1, 2021, available at https://www.goskagit.com/news/local_news/with-25-million-to-spend-county-makes-plans-for-american-rescue-plan-act-funding/article_3f521947-721c-5c4b-821a-6f1490e145ac.html.

[72] The White House, *FACT SHEET: The American Jobs Plan*, March 31, 2021, available at https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/31/fact-sheet-the-american-jobs-plan/.

[73] However, among the provisions in the IIJA, cooperatives, nonprofit organizations, public-private partnerships, private companies, public or private utilities, public utility districts, or local governments are not to be excluded from eligibility for grant funds for the Broadband Equity, Access, and Deployment (BEAD) Program.

[74] Jon Brodkin, *AT&T CEO Seems Confident Industry Can Kill Biden's Municipal Broadband Plan*, arsTechnica, June 11, 2021, available at https://arstechnica.com/tech-policy/2021/06/att-ceo-seems-confident-industry-can-kill-bidens-municipal-broadband-plan/.

- Connect America Act of 2021 (H.R. 1672)
- Broadband Infrastructure Finance and Innovation Act of 2021 (H.R. 1700/S. 741)
- Leading Infrastructure For Tomorrow's America Act (H.R. 1848)
- Broadband Justice Act of 2021 (H.R. 1904)
- Community Broadband Mapping Act (H.R. 2400)
- Broadband Internet Connections for Rural America Act (H.R. 4374)
- Broadband Incentives for Communities Act (H.R. 5058)

For more on the bills listed above see **Appendix A**.

One funding option could be the establishment of a federal program which "prioritizes support for broadband networks owned, operated by, or affiliated with local governments, non-profits, and co-operatives" as proposed in the Biden Administration's American Jobs Plan[75] or the creation of a federal program solely dedicated to supporting municipal broadband. An example of this at the state level is Massachusetts' Last Mile Infrastructure Grant.[76] The program directs funding toward towns for the design, engineering, and construction of municipal broadband networks. The program supplements a municipality's financial contribution during planning and deployment—which may reduce the risk to local taxpayers. Other federal options may include:

- loan or grant programs with certain conditions (e.g., a public-private partnership with a reputable entity) to avoid underwriting poorly planned or managed networks and reduce sustainability risk or a sunset clause indicating when the duration for support would end.
- a program that subsidizes a municipality's feasibility study in exchange for allowing private sector providers to match the speed and/or price benchmarks from the study and claim any federal subsidy for build out and maintenance.

As billions of federal taxpayer dollars already subsidize private sector networks (e.g., most recently $65 billion in the IIJA), a counterpoint for consideration may be whether federal taxpayer dollars have a role in subsidizing the sustainability of local broadband networks.

Commissioning a Study to Examine What Circumstances Might Warrant Government Subsidization

Municipal broadband networks may be successful in some communities, but may fail in others. Similarly, municipal broadband may address one issue in one community (e.g., availability) and a different issue in another community (e.g., affordability). If, as some critics state, municipal broadband has economic drawbacks, Congress may wish to examine what circumstances might warrant government subsidization, if any. For example, a study could assess whether there are characteristics that might make some municipalities better candidates for municipal broadband deployment than others. However, data may be limited. According to a report from the Online Journal of Rural Research & Policy, "the chief obstacle to gathering data regarding MBN [municipal broadband network] implementation is the sheer lack of existing MBNs. However, as

[75] The White House, *FACT SHEET: The American Jobs Plan*, March 30, 2021, available at https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/31/fact-sheet-the-american-jobs-plan/.

[76] Mass.gov, *Last Mile Infrastructure Grant*, available at https://www.mass.gov/service-details/last-mile-infrastructure-grant.

more communities implement such networks, more tacit knowledge will become available."[77] Congress could consider tasking a federal agency with collecting standardized data from existing municipal broadband networks[78] to support both federal and independent evaluation. A provision that has similarities to this option has been proposed in the Measuring the Economic Impact of Broadband Act of 2021 (S. 326), which would require the Department of Commerce to conduct a biennial assessment and analysis regarding the contribution of the digital economy to the U.S. economy. The assessment would include consultation with representatives from state, local, and tribal government agencies, as well as representatives from consumer and community organizations, among other entities.

Additionally, studies could assess a range of general factors, such as population, population density, geography, and local median income, as well as unique community characteristics, such as the existence of specific types of businesses, industries, civic and educational institutions, and infrastructure that may influence municipal broadband deployment, the take rate, and sustainability. According to Utah Telecommunication Open Infrastructure Agency (UTOPIA) Fiber Deputy Director Kimberly McKinley, "We hear all the time that municipal broadband is really only successful in smaller cities.… I think that it is huge to say that a city of 141,000 [West Valley City, UT] is not just built out but they have choice of 16 different providers and what that means to the community."[79]

Preempting State Regulations or Implementing a Nationwide Ban on Municipal Broadband

At the time of this report's publication, 22 states have laws that either explicitly ban municipal broadband networks or limit the deployment of these networks in some capacity (see also **Appendix B**). There have been federal attempts at preempting state restrictions. In February 2015, the FCC voted to preempt laws in North Carolina and Tennessee to prevent municipal broadband providers from expanding outside the boundaries of their municipality. The FCC argued that it could preempt the laws because Congress authorizes it to promote competition by removing barriers to investment. Section 706 of the Telecommunications Act of 1996 (P.L. 104-104) charges the Commission with "encourag[ing] the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans" by removing barriers to infrastructure investment and by promoting competition in the telecommunications market.[80] However, the U.S. Court of Appeals for the Sixth Circuit ruled[81] that the FCC has no specific authority through Section 706 to overturn state law.[82]

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[77] Hugo Martin Koch, *Digital Utilities: The Factors Impacting Municipal Broadband Decisions Among Local Leaders*, University of Kansas, Lawrence, 2018, p. 23, available at https://newprairiepress.org/cgi/viewcontent.cgi?article=1090&context=ojrrp.

[78] According to an article by Governing, "there are over 600 communities served by a municipal network of some kind." See Kevin Schwartzbach, "Should States Fund Municipal Broadband and Cooperatives?," *Governing*, March 28, 2022, available at https://www.governing.com/now/should-states-fund-municipal-broadband-and-cooperatives.

[79] Diana Goovaerts, *UTOPIA Fiber Wraps Work on Largest Open Access Broadband Network in U.S.*, Fierce Telecom, May 25, 2022, available at https://www.fiercetelecom.com/broadband/utopia-fiber-wraps-work-largest-open-access-broadband-network-us.

[80] Federal Communications Commission, *Fourteenth Broadband Deployment Report*, January 19, 2021, p. 2, available at https://docs.fcc.gov/public/attachments/FCC-21-18A1.pdf.

[81] State of Tennessee; State of North Carolina vs. Federal Communications Commission (6th Cir. 2016), available at https://www.opn.ca6.uscourts.gov/opinions.pdf/16a0189p-06.pdf.

[82] See CRS Report R46736, *Stepping In: The FCC's Authority to Preempt State Laws Under the Communications Act*,

To increase broadband access during the COVID-19 pandemic, two states—Arkansas and Washington—adopted legislation that reduced barriers on municipal broadband networks.[83] Additional states may be incentivized to reduce restrictions as—among the provisions in the IIJA—cooperatives, nonprofit organizations, public-private partnerships, private companies, public or private utilities, public utility districts, or local governments are not to be excluded from eligibility for grant funds for the Broadband Equity, Access, and Deployment (BEAD) Program. Several bills in the 117th Congress would preempt state laws to allow any municipality in the United States to deploy broadband.[84] Examples of legislation introduced in the 117th Congress that would address preemption are the Accessible, Affordable, Internet for All Act (S. 745/H.R. 1783) and the Community Broadband Act of 2021 (S. 1460/H.R. 1631). Other options may include amending Section 706 to grant the FCC explicit authority to preempt state laws to remove a potential barrier to municipal broadband investment in unserved areas. A measure related to this option has been proposed in the Broadband Reform and Investment to Drive Growth in the Economy Act of 2021 (S. 2071), which, among other things, would preempt state and local restrictions on municipal broadband. Congress could also leave Section 706 as is, keeping the decision on whether to allow or prohibit municipal broadband in the hands of states.

Alternatively, to avoid competition between the public and private sectors, Congress could consider a nationwide ban on municipal broadband networks. This concept has been introduced in the Communities Overregulating Networks Need Competition Today Act (H.R. 1149), which would prohibit a state or political subdivision from providing or selling broadband service. A nationwide ban could produce a range of outcomes. A ban could encourage private sector investment. A ban could also be viewed as limiting the role of government in services that are typically provided by the private sector. Some areas currently unserved by private service providers could remain unserved unless the private providers are federally subsidized. Some areas that are currently served may allow a local broadband monopoly or duopoly to become entrenched. There also may be an effect on affordability, as an existing local monopoly may not face pressure from a municipal network to lower rates to be competitive. This could lead to continued federal taxpayer subsidization of users through already existing (e.g., the Affordable Connectivity Program) or newly created federal broadband affordability programs.

Concluding Observations

Roughly 14.5 million Americans lack access to fixed broadband at speeds of 25/3 Mbps, according to the FCC's Fourteenth Broadband Deployment Report.[85] The primary means the United States has for encouraging broadband deployment is subsidizing the private sector to serve unserved and underserved areas. For addressing broadband affordability, the primary means is subsidizing service for low-income users. Even with the new broadband investment in IIJA, the United States still may not achieve universal broadband coverage due to cost, affordability, and regulatory matters. Congress may weigh how municipal broadband providers could help fill these gaps—potentially connecting the unconnected. For example, Congress may wish to consider consumer broadband affordability—a cause of the digital divide—as a factor in supporting

by Chris D. Linebaugh and Eric N. Holmes.

[83] Jericho Casper, *Pandemic Possible Inflection Point in States' Move Away from Restrictions on Community Networks*, Broadband Breakfast, September 15, 2021, available at https://broadbandbreakfast.com/2021/09/pandemic-possible-inflection-point-in-states-move-away-from-restrictions-on-community-networks/.

[84] For more information see CRS Report R46736, *Stepping In: The FCC's Authority to Preempt State Laws Under the Communications Act*, by Chris D. Linebaugh and Eric N. Holmes.

[85] Federal Communications Commission, *Fourteenth Broadband Deployment Report*, January 19, 2021, p. 2, available at https://www.fcc.gov/reports-research/reports/broadband-progress-reports/fourteenth-broadband-deployment-report.

municipal networks and whether to target municipal broadband deployment to communities that are already served by private sector providers, but lack affordable broadband service options.

If the 117th Congress chooses to consider the potential role of municipal broadband, it has a variety of potential options to weigh. Examples of bills and proposals currently before Congress include the following:

- support for municipal broadband in the form of targeted loans or grants to municipalities that meet certain conditions, for either deployment or sustainability;
- examining what circumstances (if any) might warrant government subsidization for municipal broadband networks, perhaps by commissioning a study conducted by an agency or independent body;
- granting the FCC explicit authority to preempt state laws to remove a potential barrier to municipal broadband investment in unserved areas; and
- enacting a nationwide ban on states or political subdivisions from providing or selling broadband service.

Appendix A. Selected Municipal Broadband Legislation in the 117th Congress

At the time of publication, 19 bills had been introduced in the 117th Congress that refer to municipal broadband in some capacity, with 13 originating in the House and six in the Senate.[86] One bill (P.L. 117-58) has been enacted into law. A description of selected bills and their potential impact on municipal broadband follows.

Enacted into Law

- **P.L. 117-58.** Introduced on June 4, 2021, enacted as the Infrastructure Investment and Jobs Act. The act provides funding to build and enhance infrastructure across the United States, including broadband infrastructure. Among the provisions, cooperatives, nonprofit organizations, public-private partnerships, private companies, public or private utilities, public utility districts, or local governments are not to be excluded from eligibility for grant funds for the Broadband Equity, Access, and Deployment (BEAD) Program. The act also requires collaboration with local and regional entities for the five-year action plan under the BEAD program. Became P.L. 117-58 on November 15, 2021.

Introduced in the House

- **H.R. 1149.** Introduced on February 18, 2021, as the Communities Overregulating Networks Need Competition Today Act. The bill would prohibit a state or political subdivision from providing or selling broadband service. Referred to the Committee on Energy and Commerce on February 18, 2021.
- **H.R. 1631.** Introduced on March 8, 2021, as the Community Broadband Act of 2021. The bill would prohibit states from blocking the provision of broadband by public providers, public-private partnership providers, or cooperatively organized providers. Referred to the Committee on Energy and Commerce on March 8, 2021. A companion bill (S. 1460) was introduced on April 29, 2021.
- **H.R. 1672.** Introduced on March 9, 2021, as the Connect America Act of 2021. The bill would require the FCC to establish a funding program to expand broadband access for unserved and underserved areas and unserved anchor institutions, such as schools or libraries. A municipal broadband service provider, among other recipients, would be eligible to receive funding under the program. Referred to the Committee on Energy and Commerce on March 9, 2021.
- **H.R. 1700.** Introduced on March 9, 2021, as the Broadband Infrastructure Finance and Innovation Act of 2021. Among other things, the bill would provide a means for communities and public-private partnerships to apply for low-interest secured loans, lines of credit, or loan guarantees to finance broadband infrastructure investments. Referred to the Committee on Energy and Commerce on March 9, 2021. A companion bill (S. 741) was introduced on March 11, 2021.

[86] On August 23, 2022, CRS conducted a search of bills in the Congress.gov database to determine legislation introduced by the 117th Congress that involved municipal broadband. CRS used search term "broadband" or "internet" near the terms/phrases "municipal," "local," "community," or "public authority" selected the 117th Congress (2021-2022), and bills (H.R. or S.).

- **H.R. 1783.** Introduced on March 11, 2021, as the Accessible, Affordable, Internet for All Act. Among other things, the bill would include a provision that would prohibit any state laws or procedures that inhibit a municipality from pursuing a public broadband project, public-private project, or cooperative project. Referred to the Committee on Agriculture on April 28, 2021. A companion bill (S. 745) was introduced on March 15, 2021.
- **H.R. 1848.** Introduced on March 11, 2021, as the Leading Infrastructure For Tomorrow's America Act. Among other things, the bill would establish a funding program to expand broadband access for unserved and underserved areas and unserved anchor institutions, such as schools or libraries. Under the program, a public-private partnership and municipal broadband service provider would be eligible recipients, among others. Referred to the Committee on Natural Resources on January 20, 2022.
- **H.R. 1904.** Introduced on March 16, 2021, as the Broadband Justice Act of 2021. Among other things, the bill would establish grants and loans for housing providers, public housing agencies, and other public entities to provide access to broadband service to residents of federally assisted housing. Referred to the Committee on Financial Services, and in addition to the Committee on Ways and Means on March 16, 2021.
- **H.R. 2400.** Introduced on April 8, 2021, as the Community Broadband Mapping Act. The bill would authorize the Department of Agriculture's Rural Utilities Service to award telecommunications grants to local governments, electric and telephone cooperatives, economic development and community groups, and small internet providers for collecting local broadband service information. Referred to the Committee on Agriculture on June 7, 2021.
- **H.R. 3435.** Introduced on May 20, 2021, as the American Broadband Act. The bill would include a provision that would prohibit a state or political subdivision from providing or selling broadband service. Referred to the Committee on Agriculture on July 7, 2021.
- **H.R. 3703.** Introduced on June 4, 2021, as the Nationwide Dig Once Act of 2021. Among other things, the bill would require a state department of transportation to review existing state broadband plans, including existing dig once requirements of the state, municipal governments incorporated under state law, and Indian tribes within the state, to determine opportunities to coordinate highway construction projects with planned broadband infrastructure projects. Referred to the Committee on Transportation and Infrastructure on June 7, 2021.
- **H.R. 4374.** Introduced on July 9, 2021, as the Broadband Internet Connections for Rural America Act. The bill would combine the ReConnect Program and the Rural Broadband Access Program into one program called the ReConnect Rural Broadband Program. The new program would provide grants, loans, loan/grant combinations, and loan guarantees to finance the costs of the construction, improvement, and acquisition of facilities and equipment needed to expand broadband service in rural areas. Among the entities that would be eligible to receive a grant are a unit of local government, and an economic development or other community organization. The Committee on Energy and Commerce

granted an extension for further consideration ending no later than September 12, 2022.[87]

- **H.R. 5058.** Introduced on August 20, 2021, as the Broadband Incentives for Communities Act. The bill would require the NTIA to establish a grant program to assist local governments and Indian tribes with efficient review and approval of zoning or permitting applications that facilitate the deployment of broadband infrastructure. The NTIA would also be required to establish a Local Broadband Advisory Council to develop solutions to challenges faced by local governments, Indian tribes, and infrastructure providers in facilitating wireless and broadband deployment, including in unserved and underserved communities. Referred to the Committee on Energy and Commerce on August 23, 2021.

Introduced in the Senate

- **S. 326.** Introduced on February 12, 2021, as the Measuring the Economic Impact of Broadband Act of 2021. The bill would require the Department of Commerce to conduct a biennial assessment and analysis regarding the contribution of the digital economy to the U.S. economy. The assessment would include consultation with representatives from state, local, and tribal government agencies, as well as representatives from consumer and community organizations, among other entities. Referred to the Committee on Commerce, Science, and Transportation on February 12, 2021.
- **S. 741.** Introduced on March 11, 2021, as the Broadband Infrastructure Finance and Innovation Act of 2021. Among other things, the bill would provide a means for communities and public-private partnerships to apply for low-interest secured loans, lines of credit, or loan guarantees to finance broadband infrastructure investments. Referred to the Committee on Commerce, Science, and Transportation on March 11, 2021. A companion bill (H.R. 1700) was introduced on March 9, 2021.
- **S. 745.** Introduced on March 15, 2021, as the Accessible, Affordable Internet for All Act. Among other things, the bill would include a provision that would prohibit any state laws or procedures that inhibit a municipality from pursuing a public broadband project, public-private project, or cooperative project. Referred to the Committee on Commerce, Science, and Transportation on March 15, 2021. A companion bill (H.R. 1783) was introduced on March 11, 2021.
- **S. 1460.** Introduced on April 29, 2021, as the Community Broadband Act of 2021. The bill would prohibit states from blocking the provision of broadband by public providers, public-private partnership providers, or cooperatively organized providers. Referred to the Committee on Commerce, Science, and Transportation on April 29, 2021. A companion bill (H.R. 1631) was introduced on March 8, 2021.
- **S. 2071.** Introduced on June 15, 2021, as the Broadband Reform and Investment to Drive Growth in the Economy Act of 2021. Among other things, the bill would

[87] "Pursuant to House rule XII clause 2, the Speaker may impose a time limit for the consideration by any committee of a bill that is primarily, initially, or sequentially referred." See U.S. Government Publishing Office, *House Practice: A Guide to the Rules, Precedents and Procedures of the House*, Chapter 6. Bills and Resolutions, p. 167, available at https://www.govinfo.gov/content/pkg/GPO-HPRACTICE-108/html/GPO-HPRACTICE-108-7.htm.

preempt state and local restrictions on municipal broadband. Referred to the Committee on Commerce, Science, and Transportation on June 15, 2021.

- **S. 4763.** Introduced on August 3, 2022, as the Grants to Rapidly Invest and Deploy Broadband Act of 2022. The bill would support the construction of middle mile infrastructure and enhance the electric grid. Among other things, municipal utilities would be among the eligible entities to receive grants under the "GRID Broadband Facilitation Program." Referred to the Committee on Commerce, Science, and Transportation on August 3, 2022.

Appendix B. Municipal Broadband Policies by State

State	State Statute	Notes
Alabama	Alabama Code §11-50B-1 et seq.	• Municipal governments must conduct a referendum before providing services to residents. • Muncipal governments are barred from using local funds or local taxes to cover initial investments in building out broadband infrastructure. • Any municipal broadband system must be self-sustaining. • Municipalities cannot provide broadband service to residents beyond their jurisdiction.
Alaska	N/A	• No restrictions.
Arizona	N/A	• No restrictions.
Arkansas	Act 67 (2021)	• Municipalities must partner, contract, or affiliate with an entity that is experienced in the operation of facilities for the provision of voice services, data services, broadband services, video services, or wireless telecommunications services. • Municipalities must conduct due diligence, provide 10 days' advance notice, and provide a hearing on the matter.
California	N/A	• No restrictions.
Colorado	Colo. Rev. Stat. Ann. §29-27-201 et seq.	• Cities must hold a referendum before providing broadband services to residents.
Connecticut	N/A	• No restrictions.
Delaware	N/A	• No restrictions.
Florida	Florida Statutes §§125.421, 166.047, 196.012, 199.183 and 212.08; §350.81	• State law places "ad valorem" taxes on municipal broadband networks. • Municipalities are required to hold at least two public hearings in which local officials must offer a roadmap to profitability within four years.
Georgia	N/A	• No restrictions.
Hawaii	N/A	• No restrictions.
Idaho	N/A	• No restrictions.
Illinois	N/A	• No restrictions.
Indiana	N/A	• No restrictions.
Iowa	Iowa Code §388.10	• New public utilities must be approved by voter referendum of 51%. • Municipalities are prevented from using general fund moneys to support a broadband network, and must complete a detailed annual audit.
Kansas	N/A	• No restrictions.
Kentucky	N/A	• No restrictions.
Louisiana	La. Rev. Stat. Ann. §45:844.50. Referendum	• Municipalities are required to hold a referendum before providing broadband services to residents. • Municipalities are required to include costs that they do not actually incur into their service rate.
Maine	N/A	• No restrictions.

State	State Statute	Notes
Maryland	N/A	• No restrictions.
Massachusetts	N/A	• No restrictions.
Michigan	Mich. Comp. Laws Ann. §484.2252	• Public entities are allowed to provide broadband services, but only if the public entity has first sought bids in the form of a request for proposal on the project from private companies, and has only received fewer than three "qualified" bids.
Minnesota	Minn. Stat. Ann. §237.19; Minn. Stat. Ann. §429.021	• Municipal governments proposing to offer telecommunications exchange are required to obtain a referendum "supermajority" of 65% of voters to proceed. • The city council must find that a proposed municipal broadband network and service may not compete with existing services provided by private telecom companies.
Mississippi	N/A	• No restrictions.
Missouri	Missouri Revised Statutes §392.410(7)	• Municipalities may offer broadband services to residents, but they cannot offer telephone or TV as well. • Municipal governments are barred from leasing broadband infrastructure to other communications providers.
Montana	Mon. Code Ann. §2-17-603	• Municipalities may offer broadband services if there are no other private companies offering broadband within the municipality's jurisdiction. • Local authorities must alert subscribers if a private company decides to enter the market.
Nebraska	Neb. Rev. Stat. Ann. §86-575; Neb. Rev. Stat. Ann. §86-594	• Public entities are barred from providing retail or wholesale broadband services. • Public entities are barred from selling or leasing broadband networks at rates that are lower than current incumbents are charging.
Nevada	Nevada Statute §268.086; Nevada Statute §710.147	• Municipalities and counties are prohibited from providing telecommunications services if the municipality has a population of 25,000 or more; or a county has a population of 50,000 or more.
New Hampshire	N/A	• No restrictions.
New Jersey	N/A	• No restrictions.
New Mexico	N/A	• No restrictions.
New York	N/A	• No restrictions.
North Carolina	NC Statutes Chapter 160A, Article 16A	• Public entities must include costs they do not actually incur into service rates. • Public entities are required to make commercially-sensitive data available to private industry competitors. • Local authorities are prohibited from offering broadband services beyond their jurisdictions.
North Dakota	N/A	• No restrictions.
Ohio	N/A	• No restrictions.
Oklahoma	N/A	• No restrictions.

State	State Statute	Notes
Oregon	ORS 276A.406	• The state Chief Information Officer may provide broadband services to public entities and underserved communities only.
Pennsylvania	66 Pa. Cons. Stat. Ann. §3014(h)	• Municipalities are prohibited from providing broadband service to residents for a fee, unless no such services are provided. • Data speed should be the only consideration in determining whether private industry is serving residents (e.g., excludes pricing, coverage area, quality of service).
Rhode Island	N/A	• No restrictions.
South Carolina	S.C. Code Ann. §58-9-2600 et seq.	• State law imposes proposal-stage requirements, requirements to include costs that are not actually incurred into their service rate, and additional taxes.
South Dakota	N/A	• No restrictions.
Tennessee	Tennessee Code Annotated §7-52-601 et seq.; Tennessee Code Ann. §7-59-316	• Municipalities are allowed to operate their own electric utilities to provide broadband, but the service provision is limited to within their electric service areas. • Public entities must also comply with a number of requirements around public disclosures, hearings, and voting. • Municipalities with a broadband network may not expand service beyond city limits. • For communities without a public utility, municipalities may only offer broadband service in areas that are deemed "historically underserved," and only through joint ventures with private companies.
Texas	Texas Utilities Code, §54.201	• Municipalities are barred from offering specific types of telecommunication services to the public directly or through a private telecom company.
Utah	Utah Code Ann. §11-14-103(4); Utah Code Ann. §10-18-201 et seq.	• Restrictions are placed on the use of municipal bonds to fund broadband projects.
Vermont	N/A	• No restrictions.
Virginia	VA Code §56-265.4:4; VA Code §56-484.7:1; VA Code §15.2-2108.6; §15.2-2403	• Municipalities may not subsidize services and may not charge rates that are lower than incumbents' rates for similar service. • Municipalities must include costs that they do not actually incur into their service rate and comply with procedural, financing, and reporting requirements [that private sector providers do not need to comply with]. • State law limits the type of services municipalities can offer.
Washington	HB 1336	• No restrictions.
West Virginia	N/A	• No restrictions.

Wisconsin	Wisconsin Statute Annotated §66.0422	• Municipal networks can only be paid for by subscribers of the service, not the general population. • Municipalities are required to conduct feasibility studies and public hearings prior to offering service. • Public entities must include costs that they do not actually incur into their service rate and are not able to charge rates that are lower than what incumbents charge for the same service. • Municipalities are prohibited from subsidizing telecom services.
Wyoming	Wyoming Senate File NO. SF0100	• The state broadband infrastructure fund is only available to private businesses or public-private partnerships, unless no private internet service provider responds to a request for proposal.

Source: Tyler Cooper, *Municipal Broadband Is Restricted in 18 States Across the U.S. in 2021*, BroadbandNow, December 1, 2021, available at https://broadbandnow.com/report/municipal-broadband-roadblocks/.

Author Information

Colby Leigh Rachfal
Analyst in Telecommunications Policy

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