



Over the last three decades, accessible and affordable high-speed internet (often called “broadband”) has increased in importance for the health, safety and economic wellbeing of communities. Municipalities that are interested in expanding broadband to their communities have several options in both how to build out broadband networks and how to finance such expansion. This paper explains the basics of broadband connectivity and outlines two methods of broadband expansion: (1) municipal owned network and (2) public-private partnerships.¹

Basics of Broadband

Broadband is a general term that refers to high-speed internet access. The Federal Communications Commission (FCC) sets the speeds that qualify as adequate broadband. Since 2015, that speed has been 25 megabits per second (Mbps) download and 3 Mbps upload often referenced as “25/3 Mbps.”² As of 2022, 488,327 households in Ohio lack access to 10/1 Mbps broadband, which is currently considered the “bare minimum of connectivity.”³ In addition, 37% of Ohioans lack access to 25/3 Mbps broadband.⁴

Why Fiber is Favored

Several avenues exist to deliver high-speed broadband, including fiber, DSL/cable and wireless networks. Current federal and state programs are incentivizing fiber networks over other delivery methods.⁵ Fiber, short for fiber optic cables, consists of bundles of glass or plastic strands that carry data at the speed of light. Fiber presents several benefits over other types of internet service. First, fiber more easily allows for higher speeds than other methods – because fiber transmits data at the speed of light, the data travels faster than it would on copper cables.⁶ Fiber cables can carry much more data than a copper cable of the same size.⁷ Additionally, fiber networks can transmit data for much longer distances before needing to be amplified than traditional copper wires.⁸ Importantly, fiber cables are also “futureproof” due to fiber’s ability to handle huge amounts of information; fiber does not corrode or deteriorate like copper wires.⁹ All of these qualities make fiber the optimal infrastructure for broadband expansion, despite fiber being more expensive than traditional cables. Although fiber easily offers speeds of 1 gigabits per second (Gbps),¹⁰ many consumers with fiber internet service will not be able to access that speed due to bottlenecks within other non-fiber parts of the broadband system.

1 As used in the paper, the term “municipality” refers to municipal entities generally, not only cities and villages, but also any governmental entity.

2 Colby Leigh Rachfal, Cong. Rsch. Serv. IF11875, *Raising the Minimum Fixed Broadband Speed Benchmark: Background and Selected Issues (2021)*, <https://crsreports.congress.gov/product/pdf/IF/IF11875/2#:~:text=As%20part%20of%20this%20assessment,Mbps%20to%2025%2F3%20Mbps>. It is commonplace in the industry to reference download and upload speeds as “download speed/upload speed” (e.g., 25/3 or 100/10). This convention will be used throughout the remainder of the article. The standard for high-speed broadband is always changing, and some are worried that the FCC’s 25/3 standard is already obsolete. In 2010, the standard was 4/1. In an open letter to the FCC and others, four senators called for an updated standard of 100/100, arguing such speeds are necessary for families to adequately participate in the modern world. Nevertheless, the FCC standard for high-speed broadband remains 25/3 as of July 2022. See Letter from United States Senators Michael Bennett, Angus King, Jr., Rob Portman and Joe Manchin III, to Tom Vilsack, Secretary, U.S.D.A.; Gina Raimondo, Secretary, U.S. Dep’t of Commerce; Jessica Rosenworcel, Acting Chairwoman, FCC; and Brian Deese, Director, National Economic Council, <https://www.bennet.senate.gov/public/index.cfm/2021/3/bennet-king-portman-manchin-urge-biden-administration-to-create-modern-unified-federal-broadband-standard>.

3 Press Release, Senator Rob Portman, *New Ohio Broadband Map Underscores Need for New Funding in Portman’s Bipartisan Infrastructure Law* (March 7, 2022), <https://www.portman.senate.gov/newsroom/portman-difference/new-ohio-broadband-map-underscores-need-new-funding-portmans-bipartisan#:~:text=868%2C138%20households%20lack%20access%20to,37%20percent%20of%20the%20population>.

4 *Id.*

5 Joan Engebretson, *NTIA BEAD Funding Notice (NOFO) Prioritizes Fiber Broadband*, Telecompetitor (March 13, 2022), <https://www.telecompetitor.com/ntia-bead-program-funding-notice-nofo-prioritizes-fiber-broadband/>.

6 Chris Woodford, *Fiber Optics*, Explain That Stuff (March 16, 2022), <https://www.explainthatstuff.com/fiberoptics.html>.

7 Danika Miller, *Fiber vs. Cable: Understanding the Differences*, ZDNet (Aug. 2, 2021), <https://www.zdnet.com/home-and-office/networking/fiber-vs-cable-what-is-the-difference/>.

8 *Why is the Bandwidth of Optical Fiber so High*, Spectrum, <https://enterprise.spectrum.com/support/faq/internet/why-is-the-bandwidth-of-optical-fiber-high.html#:~:text=Fiber%20optic%20bandwidth%20is%20high,nearly%20the%20speed%20of%20light> (last visited July 12, 2022).

9 Brandon Genetin, et al., *Finding the Missing Dots: an Update on Ohio Broadband Policy 13 (2022)*, https://aede.osu.edu/sites/aede/files/publication_files/Broadband_Swank-Polic-Brief_Final%20202204.pdf; *Why Fiber is Future Proof*, Tachus (July 26, 2021), <https://www.tachus.com/post/why-fiber-is-future-proof>.

10 One gigabit per second is equal to 1,000 megabits per second.

The “Last” and “Middle” Miles

The internet generally consists of three parts: the global internet network, the middle mile and the last mile.¹¹ The global internet network is a connection of trans-oceanic fiber optic cables that reach centralized stations, sometimes called “internet backbones.”¹² These internet backbones are usually in major cities and can transmit data at very high speeds. For example, Google’s new Dunant transatlantic fiber optic cable is the width of a garden hose and can transmit 250 terabits per second¹³ – fast enough to transmit the entire digitized Library of Congress three times a second.¹⁴ Broadband can only be as fast as its slowest component, so the key to getting high-speed internet is having a stronger connection to this internet backbone via the last and middle miles.

The last mile is the part of the internet service infrastructure that reaches the premises of the end user, such as a house or an apartment building.¹⁵ The last mile cannot connect directly to the internet backbone – it has to connect to the middle mile. The middle mile¹⁶ is what carries data from an internet backbone to your local internet service provider (ISP), which is the entity that provides last mile connectivity.

Within a fiber network’s last mile, there are two primary ways of connecting buildings to the fiber: fiber to the premises (FTTP) and fiber to the curb (FTTC). FTTC is cheaper, but the copper wires between the household and the curb act as a bottleneck for broadband speed. FTTP is more expensive to install than FTTC, but provides fast and reliable internet and is more durable than other methods because it eliminates the slow copper cables between the curb and the premises.

Almost all of the money in both state and federal programs is currently going to last mile projects. Under the Ohio Residential Broadband Expansion program, the grants are limited to last mile infrastructure by statute and most grants approved were for FTTP projects.¹⁷ Under federal programs, US\$42 billion was designated for last mile infrastructure projects through the BEAD program, while just US\$1 billion was dedicated to middle mile infrastructure projects through the Federal Enabling Middle Mile Broadband Infrastructure program.¹⁸

Municipal Broadband

Municipal broadband is a common term for broadband provided and owned by public entities. Throughout the country, municipal broadband ownership can take many forms, including, but not limited to, public utility models, city departments dedicated to providing service, and cooperative models.¹⁹ One prominent example of a municipal broadband network in Ohio is FairlawnGig, a fiber-based internet service provided by the city of Fairlawn that describes itself as a “municipal broadband utility.”²⁰

In Ohio, a variety of public entities can currently build out public broadband infrastructure and provide service under existing constitutional and statutory authorizations.²¹ However, state support for municipal broadband has come into question in recent years. Currently, 18 states outside of Ohio have explicit restrictions on municipal broadband networks.²² In 2021, the Ohio Senate proposed and approved a budget bill that nearly banned municipal broadband networks.²³ Although this version of the budget bill was not enacted, many in the municipal broadband space are concerned that such initiatives may resurface and have formed organizations to advocate for the adoption and growth of municipal broadband networks.²⁴

11 Steve Truebner, *Middle-Mile Networks: The Middleman of Internet Connectivity*, Meeting of the Minds (Dec. 1, 2021), <https://meetingoftheminds.org/middle-mile-networks-the-middleman-of-internet-connectivity-35608>.

12 *Id.*

13 One terabit per second is equal to 1,000 gigabits per second or 1,000,000 megabits per second.

14 Chris Ciauri, *The Dunant Subsea Cable, Connecting the US and Mainland Europe, is ready for Service*, Google Cloud (Feb. 3, 2021), <https://9to5google.com/2021/02/03/google-dunant-undersea-fiber-cable/>.

15 Benjamin Kahn, *Middle Mile Infrastructure Just as Important as Last Mile, Panel Says*, Broadband Breakfast (May 4, 2022), <https://broadbandbreakfast.com/2022/05/middle-mile-infrastructure-just-as-important-as-last-mile-panel-says/>. Most personal devices, like a laptop, phone or SmartTV, are connected to the last mile of the internet service system.

16 The term middle mile is somewhat misleading, as the infrastructure usually consists of multiple miles or the distance between a local network and the global internet backbone (frequently housed in larger urban centers).

17 Am. H.B. 2, 134th Gen. Assemb. (Ohio 2021); *Governor DeWine and Lt. Governor Husted Announce More Than \$232 Million in Grant Funding*, Ohio Department of Development (March 18, 2022), https://content.govdelivery.com/attachments/OHIOGOVERNOR/2022/03/18/file_attachments/2107000/Broadband%20Release%20Attachment.pdf.

18 *The Enabling Middle Mile Broadband Infrastructure (MM) Program Overview* Nat’l Telecomm. and Info. Admin. (May 2022), <https://www.internetforall.gov/sites/default/files/2022-05/MM%20Info%20Sheet%20-%20IFA%20Launch%20-%20Final.pdf>.

19 Christopher Mitchell, *Municipal Broadband: Demystifying Wireless and Fiber-Optic Options*, The New Rules Project (March 2008), https://ilsr.org/wp-content/uploads/files/munibb_0.pdf.

20 FairlawnGig, About Page, <https://www.fairlawngig.net/> (last visited July 13, 2022).

21 See, e.g. Article VIII, Section 13 and Article XVIII, Section 3 of the Ohio Constitution; ORC Chapter 165; ORC 4582.01 and 4582.31. A variety of other statutory authorizations exist to provide authority to undertake broadband projects.

22 Tyler Copper, *Municipal Broadband is Restricted in 18 States Across the U.S. In 2021*, Broadband Now (April 6, 2021), <https://broadbandnow.com/report/municipal-broadband-roadblocks/>.

23 Sean Gonsalves, *Ohio Budget Amendment Aims to Kill Municipal Broadband*, Community Networks (June 9, 2021), <https://muninetworks.org/content/ohio-budget-amendment-aims-kill-municipal-broadband>.

24 Nick Evans, *Local Leaders Launch Broadband Access Ohio to Advocate for Municipal Broadband Services* (Feb. 17, 2022), <https://ohiocapitaljournal.com/2022/02/17/local-leaders-launch-broadband-access-ohio-to-advocate-for-municipal-broadband-services/>.

Whether ISPs constitute public utilities in Ohio (and in the US) is still an outstanding question. On the national level, in 2015, the FCC voted to regulate internet service as a public utility,²⁵ but the FCC reversed this decision in 2017.²⁶ The fate over internet service as a public utility remains lively on the national scene, with most discussions centering on net neutrality.²⁷ In Ohio, although the Public Utilities Commission (PUCO) regulates traditional landline services, it does not regulate internet service or ISPs.²⁸ However, in June 2021, Ohio Attorney General Dave Yost filed a lawsuit against Google alleging that Google constituted a common carrier and/or a public utility and should be regulated as such. Attorney General Yost noted in his complaint that “[a]n entity can be a common carrier and/or public utility under Ohio common law, even if it is expressly excluded from regulation by PUCO.”²⁹ Although such a case is factually different from the case for an ISP, since in Ohio Google only provides search capabilities and not internet service, the arguments made and opinion that come out of the case may be instructive on the future of internet service as a public utility within the state. Thus, municipalities should be aware of technical, financial and political risks when considering building a municipal broadband network.

Financing of Municipal Broadband

Municipal broadband can be financed through several sources, including (1) grants provided by federal or state governments, (2) through the issuance of municipal bonds or (3) through an appropriation for such expenditures. Two grant programs are analyzed in depth in this article: Ohio’s Residential Broadband Expansion Program and the Federal Broadband Equity, Access, and Deployment (BEAD) Program. The Federal Enabling Middle Mile Broadband Infrastructure Program is also analyzed.

1. Grants

a. Federal Broadband Equity, Access, and Deployment (BEAD) Program

In 2021, Congress appropriated US\$42.45 billion for states and territories to utilize for broadband deployment, mapping and adoption projects. States will ultimately award the grants to eligible entities, including cooperatives, nonprofit organizations, public-private partnerships, private companies, public or private utilities, public utility districts and local governments.³⁰ Each state will receive US\$100 million to implement its grant program plan and the remaining funding will be distributed based on a formula that considers the number of unserved and high-cost locations in the state, based on information provided by the FCC in 2022. Ohio is expected to receive about US\$900 million in total through this program.³¹ The BEAD program moves beyond current FCC measures of adequate speed. Under BEAD, the first priority for funding is for providing broadband to unserved areas (those below 25/3 Mbps), followed by underserved areas (those below 100/20 Mbps),³² and then serving community anchor institutions (1/1 Gbps).³³ Unserved projects receive first priority, with underserved projects only receiving funding when all unserved locations have adequate broadband, and then finally community anchor institutions.³⁴ Additionally, states must give priority to projects that serve counties with persistent poverty or other high-poverty areas, and give priority to projects that will deliver the highest speeds with the shortest construction time.³⁵

The program is run through the National Telecommunications and Information Administration (NTIA), but the funding will be administered by the individual states and territories. In May 2020, the NTIA released its notice of funding opportunity and states had until July 18, 2022, to submit a letter of intent.³⁶ After submitting a letter of intent, a state can receive US\$5 million in funding for planning purposes and it must submit a five-year action plan, in collaboration with local and regional entities. All 50 states, plus Washington DC and Puerto Rico, have submitted their letters of intent.³⁷

25 Rebecca Ruiz, *F.C.C. Approves Net Neutrality Rules, Classifying Broadband Internet Service as a Utility*, N.Y. Times (Feb. 26, 2015), <https://www.nytimes.com/2015/02/27/technology/net-neutrality-fcc-vote-internet-utility.html>.

26 Cecilia Kang, *F.C.C. Repeals Net Neutrality Rules*, N.Y. Times (Dec. 14, 2017), <https://www.nytimes.com/2017/12/14/technology/net-neutrality-repeal-vote.html>.

27 “*Net Neutrality and Utility Law; Should the Internet Become a Public Utility?*” Desautel Law (April 8, 2020), <https://desautelesq.com/net-neutrality-and-utility-law-should-the-internet-become-a-public-utility/>.

28 Telecommunications Overview, Ohio Public Utilities Commission, <https://puco.ohio.gov/utilities/telecom/resources/telecom-overview> (last visited July 13, 2022).

29 Complaint at 10, *State of Ohio ex rel. Dave Yost v. Google LLC* (Delaware County Ct. Com. Pl.) June 8, 2021, No. 21 CV H 06 0274, [https://www.ohioattorneygeneral.gov/Files/Briefing-Room/News-Releases/Filed-Complaint-\(Time-Stamped\).aspx](https://www.ohioattorneygeneral.gov/Files/Briefing-Room/News-Releases/Filed-Complaint-(Time-Stamped).aspx); Diane Bartz, *Ohio Sues to Have Google Declared a Public Utility*, Reuters (June 8, 2021), <https://www.reuters.com/technology/ohio-sues-have-google-declared-public-utility-2021-06-08/>.

30 Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 1182 (2021).

31 *A Guide to Federal Broadband Funding Programs: An Overview of BEAD*, Advanced Communications Law and Policy Institute, New York Law School (Dec. 2021), https://digitalcommons.nyls.edu/cgi/viewcontent.cgi?article=1000&context=reports_resources.

32 States may award grants to projects serving unserved and underserved areas. An area is “unserved” under the BEAD program if it lacks 25/3 broadband and an area is “underserved” if it lacks 100/20. To qualify as serving an unserved or underserved area, the project area must have at least 80% of its locations as unserved or underserved, respectively. Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 1182 (2021).

33 National Telecommunications and Information Administration, Grants Page, <https://www.ntia.doc.gov/category/grants> (last visited July 14, 2022).

34 Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 1182 (2021).

35 *Id.*

36 Amy Huffman, *NTIA Releases Requirements for \$42.5B of BEAD Funding: Here’s What it Says about Digital Equity*, National Digital Inclusion Alliance (May 13, 2022), <https://www.digitalinclusion.org/blog/2022/05/13/ntia-releases-requirements-for-42-5b-of-bead-program-funding/>.

37 Benjamin Freed, *NTIA Says That Every State Has Signed Up For a Piece of BEAD Broadband Funds*, State Scoop (July 13, 2022), <https://statescoop.com/ntia-every-state-bead-broadband/>.

In order to distribute BEAD funds to the states, the NTIA must first release “broadband data maps.” These maps are created by the FCC and are designed to accurately capture locations that lack broadband access. The FCC will likely publish the broadband data maps in late 2022 or early 2023.³⁸ After the maps are published, the NTIA will notify each state of how much money is available.³⁹ The state will then submit its initial proposal, which must include local coordination, as well as a challenge process.⁴⁰ The state must launch its challenge process and resolve any challenges at least 60 days before giving out grants.⁴¹ If the state’s initial proposal is approved by the NTIA, it will receive 20% of its allocation. After receiving this allocation, the state must submit its final proposal.⁴² As part of this final proposal, the state must provide a definition of “low-cost broadband” to the NTIA. In order to receive grants, any broadband provider must supply at least one service option that meets its state’s definition of “low-cost broadband.”⁴³ If the NTIA approves a state’s final proposal, the state then receives the other 80% of its allocation.

In order to receive funds, states must submit a five-year action plan as part of the initial proposal. This plan has to “be informed by collaboration with local and regional entities.”⁴⁴ The NTIA is responsible for creating local coordination requirements so that states know what level and type of coordination is needed. As of July 2022, the NTIA has yet to release those requirements. At a bare minimum, the state must allow political subdivisions to submit plans to the state and comment on the state’s initial and final proposals.⁴⁵ As highlighted above, states must allow grants to local governments in addition to cooperatives, nonprofit organizations, public-private partnerships, public or private utilities, public utility districts and private companies.⁴⁶

Matching Requirement

At least 25% of the total project cost must be paid by either the state or the entity receiving the grant. The matching requirement does not apply in high-cost areas and may be waived by the NTIA if requested for projects not in high-cost areas. A high-cost area is not explicitly defined in the statute, but the assistant secretary of commerce is given authority to determine what counts.⁴⁷ The factors the assistant secretary can look at include how remote the location is, lack of population density, unique topography, high rate of poverty, and any other factor deemed relevant by the assistant secretary.⁴⁸

The state may use money from the CARES act to provide matching funds, of which Ohio still has yet to spend US\$2 billion.⁴⁹ In addition, states cannot use BEAD money to replace state money for broadband expansion. They are only allowed to use BEAD money as a supplement to state money.⁵⁰

38 The FCC is collecting data this summer, and providers have until September 1, 2022, to submit data. See *Broadband Availability Data as of June 30, 2022 are Due No Later Than September 1, 2022*, Public Notice, FCC (Feb. 22, 2022), <https://www.fcc.gov/document/fcc-announces-inaugural-broadband-data-collection-filing-dates>.

39 *A Guide to Federal Broadband Funding Programs: An Overview of BEAD*, Advanced Communications Law and Policy Institute, New York Law School (Dec. 2021), https://digitalcommons.nyls.edu/cgi/viewcontent.cgi?article=1000&context=reports_resources.

40 There are limited details on what a state’s challenge process must look like for BEAD funding. However, we do know the law requires that states allow broadband providers to challenge a determination that a certain area or community anchor institution is eligible for grant funding. Broadband providers must also be able to challenge whether a particular location is unserved or underserved. Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 1182 (2021). This challenge process is about entities challenging eligibility, not challenging a particular grant given to a competitor.

41 *A Guide to Federal Broadband Funding Programs: An Overview of BEAD*, Advanced Communications Law and Policy Institute, New York Law School (Dec. 2021), https://digitalcommons.nyls.edu/cgi/viewcontent.cgi?article=1000&context=reports_resources; additionally, community anchor institutions are eligible for grants if they lack gigabit service (1000/1000). Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 1182 (2021). Community anchor institutions are things like schools, libraries, hospitals, colleges, public safety entities, and public housing organizations. *Id.*

42 *A Guide to Federal Broadband Funding Programs: An Overview of BEAD*, Advanced Communications Law and Policy Institute, New York Law School (Dec. 2021), https://digitalcommons.nyls.edu/cgi/viewcontent.cgi?article=1000&context=reports_resources

43 *Id.*

44 Casey Lide, *An Overview of Broadband Provisions in the Infrastructure Bill (As of July 30, 2021)*, Keller and Heckman, Beyond Telecom Law Blog (Aug. 2, 2021), <https://www.beyondtelecomlawblog.com/an-overview-of-broadband-provisions-in-the-infrastructure-bill-as-of-july-30-2021/>.

45 Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 1182 (2021).

46 *A Guide to Federal Broadband Funding Programs: An Overview of BEAD*, Advanced Communications Law and Policy Institute, New York Law School (Dec. 2021), https://digitalcommons.nyls.edu/cgi/viewcontent.cgi?article=1000&context=reports_resources

47 Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 1182 (2021). Casey Lide, *An Overview of Broadband Provisions in the Infrastructure Bill (As of July 30, 2021)*, Keller and Heckman, Beyond Telecom Law Blog (Aug. 2, 2021), <https://www.beyondtelecomlawblog.com/an-overview-of-broadband-provisions-in-the-infrastructure-bill-as-of-july-30-2021/>; Andrew J. Tobias, *Ohio Gov. Mike DeWine Still Has Billions to Spend in Federal Coronavirus Relief Money*, Cleveland.com (June 17, 2022), <https://www.cleveland.com/news/2022/06/ohio-gov-mike-dewine-still-has-billions-to-spend-in-federal-coronavirus-relief-money.html>; There is no indication that Ohio will use some of this CARES act money to provide matching funds under the BEAD program, but it has the ability to do so. In 2020, Ohio used \$50 million in CARES funding to support broadband connectivity for low-income students. *States Tap CARES Act to Expand Broadband*, The Pew Charitable Trusts (Nov. 16, 2022), <https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2020/11/states-tap-federal-cares-act-to-expand-broadband>

48 *Id.*

49 Casey Lide, *An Overview of Broadband Provisions in the Infrastructure Bill (As of July 30, 2021)*, Keller and Heckman, Beyond Telecom Law Blog (Aug. 2, 2021), <https://www.beyondtelecomlawblog.com/an-overview-of-broadband-provisions-in-the-infrastructure-bill-as-of-july-30-2021/>; Andrew J. Tobias, *Ohio Gov. Mike DeWine Still Has Billions to Spend in Federal Coronavirus Relief Money*, Cleveland.com (June 17, 2022), <https://www.cleveland.com/news/2022/06/ohio-gov-mike-dewine-still-has-billions-to-spend-in-federal-coronavirus-relief-money.html>; There is no indication that Ohio will use some of this CARES act money to provide matching funds under the BEAD program, but it has the ability to do so. In 2020, Ohio used US\$50 million in CARES funding to support broadband connectivity for low-income students. *States Tap CARES Act to Expand Broadband*, The Pew Charitable Trusts (Nov. 16, 2022), <https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2020/11/states-tap-federal-cares-act-to-expand-broadband>.

50 Casey Lide, *An Overview of Broadband Provisions in the Infrastructure Bill (As of July 30, 2021)*, Keller and Heckman, Beyond Telecom Law Blog (Aug. 2, 2021), <https://www.beyondtelecomlawblog.com/an-overview-of-broadband-provisions-in-the-infrastructure-bill-as-of-july-30-2021/>.

b. Enabling the Middle Mile Broadband Infrastructure Program

Congress established a US\$1 billion program for the construction, improvement or acquisition of middle mile infrastructure. Like the BEAD program, eligible applicants include states, political subdivisions of a state, tribal governments, technology companies, electric utilities, utility cooperatives, public utility districts, telecommunications companies, telecommunications cooperatives, nonprofit foundations, nonprofit corporations, nonprofit institutions, nonprofit associations, regional planning councils, Native entities or economic development authorities. The purpose of the grant program is to expand and extend middle mile infrastructure to reduce the cost of connecting unserved and underserved areas to the internet backbone.⁵¹ As part of this program, federal funding is capped at 70% of total project cost.⁵² This money is distributed by the NTIA directly, as opposed to the individual states, so each entity seeking funding under this program must apply directly through the NTIA. Applications opened on June 21, 2022, and are due September 30, 2022.⁵³ Because this US\$1 billion is spread across the entire country, grant awards for this program are expected to be scarce.

2. Municipal Bonds

To date, there are no state statutes prohibiting local government entities from owning, operating or financing municipal broadband networks.⁵⁴

In some cases, municipalities can issue bonds to pay for the physical infrastructure necessary to build out the network. Whether and how such bonds are issued will depend on how the broadband network is owned and operated. Issuance options can include general obligation bonds, industrial development bonds,⁵⁵ special obligation bonds or revenue bonds. Most commonly, industrial development bonds are utilized to ensure flexibility for the broadband network to support economic development and job creation initiatives. If the municipal network is planned exclusively for public use, such bonds may be issued on a tax-exempt basis if they meet certain conditions. The type of bonds available and the tax-exempt status is highly fact dependent and we recommend that you consult with a member of our team regarding your options in issuing municipal bonds for your prospective municipal broadband project.

3. Appropriated Funds

Municipal entities may appropriate funds annually to build out and operate a municipal broadband network provided such appropriations and expenditures comply with state law and their local charter (if applicable).

Public-Private Partnerships

Broadband networks can also be expanded through a public-private partnership. Municipal entities can partner with their for-profit or nonprofit providers to provide internet access to their communities. Public-private partnerships can come in a variety of structures, such as public payment for the expansion of service to certain communities or the leasing of publicly owned infrastructure to public entities to provide service.⁵⁶

51 National Telecommunications and Information Administration, Grants Page, <https://www.ntia.doc.gov/category/grants> (last visited July 15, 2022).

52 Casey Lide, *An Overview of Broadband Provisions in the Infrastructure Bill (As of July 30, 2021)*, Keller and Heckman, Beyond Telecom Law Blog (Aug. 2, 2021), <https://www.beyondtelecomlawblog.com/an-overview-of-broadband-provisions-in-the-infrastructure-bill-as-of-july-30-2021/>.

53 National Telecommunications and Information Administration, Grants Portal Page, <https://grants.ntia.gov/grantsPortal/s/funding-program/a0g3d0000018PAAAY/middle-mile-broadband-infrastructure-grant-program> (last visited July 15, 2022).

54 The future of support for municipal broadband in Ohio remains unclear. In 2021, the Ohio legislature introduced an amendment into the state budget bill that, if passed, would have nearly banned municipal broadband networks. Although this amendment did not pass, the Ohio legislature excluded municipalities from participating in the Ohio Residential Broadband Expansion program created in 2021. However, in 2022, Broadband Ohio announced a BroadbandOhio Community Accelerator program to support counties and other municipal entities to “leverage historic broadband infrastructure funding for community-driven broadband expansion.” In addition, IJA funding requires the program to be available to municipal broadband entities.

55 For more information on Industrial Development Bonds, see the Industrial Development Bonds and Port Authority Bonds Section under the heading Public-Private Partnerships.

56 Ry Marcatilio-McCracken, *Lit Communities Secures Funding for Public-Private Partnership in Ohio*, Community Networks (Mar. 8, 2021), <https://muninetworks.org/content/lit-communities-secures-funding-public-private-partnership-ohio>.

Financing of Public-Private Partnerships for Broadband

Public-private partnerships for broadband projects can be financed through several sources, including (1) grants provided by federal or state governments or (2) through the issuance of industrial development bonds or other bonds under the authority of Article VIII, Section 13 of the Ohio Constitution.

1. Grants

a. Federal Grants

Public and private entities may both apply for BEAD funding, as well as Enabling Middle Mile Broadband Infrastructure funding as outlined in the Municipal Broadband – Grants section above.

b. Ohio Residential Broadband Expansion Program

In 2021, Ohio passed the Ohio Residential Broadband Expansion program, which provides US\$250 million in state grants to help ISPs build last mile infrastructure.⁵⁷ The program had its first round of grant awards in March 2022, which saw 33 projects receive a total of US\$232 million in funding.⁵⁸ The program can do up to two rounds of grant awards per year.⁵⁹ Only private entities who are a video service provider or a provider of tier one or tier two broadband service that is a telecomm, satellite or wireless provider are eligible for this program.⁶⁰ As of August 2022, municipal entities are not eligible to apply.

The program is designed to cover the “broadband funding gap,” which is the difference between the costs necessary to build the last mile of a network, and the amount of money that would make that network construction cost-effective.⁶¹ Ohio’s law authorizing this grant program uses the FCC definition of 25/3 broadband as adequate broadband speeds.⁶² The program provides grants to projects that will provide at least 25/3 broadband to areas that are currently either unserved (<10/1) or underserved (<25/3) by current broadband offerings. Although projects have to provide at least 25/3 to qualify, every project that was awarded grants in the first round was well above that. Of the 33 projects to receive funding, 14 had speeds of 1,000/1,000, 17 had 1,000/500, and the remaining two had 1,200/35 and 900/200.⁶³ The program relies on more than just the projects receiving grants to expand access; it also has a robust challenge system.⁶⁴

Scoring System

Broadband Ohio evaluates and awards grants based on a transparent scoring system.⁶⁵ The largest allocation of points is for projects that will reach unserved (<10/1), rather than underserved (<25/3), households. This section has 700 possible points. To incentivize ISPs to reach those with the worst broadband, points are awarded based on the number of unserved residents in a project area divided by the number of unserved and underserved households in that area. The closer the resulting number is to one, the higher the score. This number (between zero and one) is then multiplied by 700 to give a score for the section.⁶⁶ More than 20 of the 33 successful projects are for only unserved areas, giving them a ratio of one and, therefore, a perfect score for this section.

The second largest allocation for points pertains to how much of the project is in an “economically distressed” area as defined by the Ohio Revised Code. This section has 630 possible points. For either a county or an individual municipality to be “distressed,” it must meet at least two of the following criteria: (1) the five-year unemployment rate must be at least 125% of the average unemployment for the US in that same period, (2) it has per capita income equal to or below 80% of the median county per capita income of the US, (3) for a municipality, at least 20% of residents must be below the poverty line, and (4) for a county, in years between censuses, the county has more than 25% of its income come from transfer payments from the state. Similar to the first scoring section, whatever the proportion of the project is in a distressed area (a number between zero and one) is then multiplied by 630 to get the total points for that section.

57 Am. H.B. 2, 134th Gen. Assemb. (Ohio 2021).

58 Governor DeWine and Lt. Governor Husted Announce New Broadband Expansion Projects, Office of the Governor (March 18, 2022), <https://governor.ohio.gov/media/news-and-media/Governor-DeWine-Lt-Governor-Husted-Announce-New-Broadband-Expansion-Projects-03182022>.

59 Note that the first grant cycle took six months from the opening of applications to awarding of grants, so the frequency of upcoming cycles remains unclear. Olivia Mitchell, *Applications are Being Accepted for Broadband Construction in Underserved Communities in Ohio*, Gov. Mike DeWine Announces, Cleveland.com (Sep. 6, 2021), <https://www.cleveland.com/news/2021/09/applications-are-being-accepted-for-broadband-construction-in-underserved-communities-in-ohio-gov-mike-dewine-announces.html>; Governor DeWine and Lt. Governor Husted Announce New Broadband Expansion Projects, Office of the Governor (March 18, 2022), <https://governor.ohio.gov/media/news-and-media/Governor-DeWine-Lt-Governor-Husted-Announce-New-Broadband-Expansion-Projects-03182022>.

60 Am. H.B. 2, 134th Gen. Assemb. (Ohio 2021).

61 *Id.*

62 *Id.*

63 *Ohio Residential Broadband Expansion Program*, Broadband Ohio, <https://broadband.ohio.gov/grant-opportunities/grant-opportunities-1/grant-opportunities-1> (last visited July 15, 2022).

64 Governor DeWine and Lt. Governor Husted Announce New Broadband Expansion Projects, Office of the Governor (March 18, 2022), <https://governor.ohio.gov/media/news-and-media/Governor-DeWine-Lt-Governor-Husted-Announce-New-Broadband-Expansion-Projects-03182022>.

65 *Ohio Residential Broadband Expansion Program*, Broadband Ohio, <https://broadband.ohio.gov/static/ohio-residential-broadband-expansion-grant-program-scoring-criteria-09242021.pdf>.

66 For example, a project area with 100 households, all of which are unserved would lead to a raw score of one and a total score of 700 because there is the same amount of unserved and total underserved plus unserved households. A project area with 500 households, 300 of which are unserved and 200 underserved, would get a raw score of .6 for a total score of 420. Because this incentivizes projects to serve almost entirely unserved households, some clever ISPs essentially split what would have been one project into two: one for the unserved households and one for the underserved households. One ISP even said in its application that the unserved households within a certain exchange were “applied for under a separate application as we understand unserved households are a priority in Ohio.” *2021 Completed Ohio Residential Broadband Expansion Grant Applications*, Broadband Ohio 11070, <https://broadband.ohio.gov/static/12132021-Redacted-Applications-Web.pdf>.

These criteria are set by statute and designed to help economically disadvantaged areas receive extra aid.⁶⁷ Other than one small project in Licking County, every project that received grant funding was in an economically distressed county.

The third largest allocation for points is for projects that receive financial or in-kind contributions toward the broadband funding gap. This section has 420 possible points. The more funding received from sources other than the grant program, the higher the score in this section. The ratio of contributions to the total funding gap is multiplied by 420 to give the total points for this section.⁶⁸

The remaining 125 points will be allocated based on criteria such as utilizing public facilities (50 points), scalability of projects (40 points), and the ISP's history in Ohio, its technological and financial capability to complete the project, and demonstrated community support for the project (35 combined points). The lowest score to receive a grant in the first round of funding was 1,911.

Challenge Process

Most of the broadband expansion projects credited to the program are from challenges. Thirty-three grants were given out, but 71 challenges were approved. The challenge process is designed to allow incumbent ISPs to preempt grants to competitors by committing to build adequate broadband in the proposed area. Incumbent ISPs are able to challenge specific applications submitted by their competitors. ISPs know which grant applications to challenge because all completed applications are published on Broadband Ohio's website. After the application process closes, ISPs have 65 days to submit challenges to other applications.⁶⁹

In order to challenge a grant, an ISP must submit documentation to Broadband Ohio committing to build, within two years, broadband in the proposed area with a notarized letter of intent stating a summary of construction efforts and existing or planned broadband offerings in that geographic area. The incumbent ISP can also submit documentation that it is already providing adequate broadband service in the area proposed by the other application. If Broadband Ohio suspends an application because of a challenge, the original ISP that applied has 14 days to revise and resubmit its application. Broadband Ohio then has an additional 14 days to determine if it will uphold the challenge or allow the original application to proceed.⁷⁰ Just because an application was successfully challenged does not mean that the application would have received grant funding. Being successfully challenged removes the application from the pool of applications to be scored; if the application was unchallenged, or challenged but the challenge was not granted, the application would proceed to the competitive scoring process where it may or may not have scored high enough to receive a grant.

If the challenge successfully blocks a grant application, but the challenger fails to provide adequate service within two years, the challenging ISP will have to pay into the program the amount originally requested by the application before it was successfully challenged, as well as pay any other penalties.⁷¹ There is no limit on the amount of challenges that could be approved. This challenge system resulted in a majority of projects publicized under this program not funded by the program directly, but instead by incumbent ISPs trying to keep their competitors from receiving grant funding.⁷²

2. Industrial Development Bonds and Port Authority Bonds

Article VIII, Section 4 of the Ohio Constitution limits the ability of local government entities to lend aid and credit to private parties in most instances. However, Article VIII, Section 13 provides an exception to Article VIII, Section 4 and permits local governments to issue debt that will benefit private parties for the purpose of economic development. Such debt may be issued as industrial development bonds pursuant to ORC 165, other special obligation or revenue bonds under the authority of Article VIII, Section 13 of the Ohio Constitution, or through a Port Authority as a conduit under ORC 4582.⁷³ Note that such bonds cannot be backed by a general obligation or taxation pledge. In addition, a variety of cooperative powers exist within the Ohio Revised Code that permit cooperation among Ohio governmental entities that can facilitate a municipal broadband project. For example, under ORC 701, municipal corporations, counties and townships can engage in cooperative economic development agreements to provide joint services and improvements within incorporated and unincorporated areas. Cities and villages can issue industrial development bonds in support of these efforts.⁷⁴ Port Authorities may also engage in cooperative agreements with municipal corporations, counties and townships for economic development purposes pursuant to ORC 4582.

The ability to issue industrial development bonds and the tax status of these bonds is highly fact specific and we encourage you to reach out to a member of our team to discuss options for the issuance of bonds for your prospective public-private partnership.

67 Of the 37 counties that are economically distressed in Ohio, 30 are in Appalachia, running from the edge of the Columbus Metropolitan Statistical Area to the Ohio River, and north into the counties that border Pennsylvania. Six of the other seven economically distressed counties are in north central Ohio, plus Clark County, which is between Columbus and Dayton. Individual cities that are economically distressed within the statute are Cleveland, Lorain, Elyria, Akron, Canton, Toledo and Dayton. Columbus and Cincinnati both have areas that qualify as "inner city distress." *Priority Investment Areas for 2021*, Ohio Development Services Agency (2021), <https://devresearch.ohio.gov/files/research/M2023.pdf>.

68 For example, if the funding gap is US\$100,000 and the project is receiving US\$50,000 in contributions, the project would get 210 points: a ratio of $.5 \times 420 = 210$ points.

69 Webinar, Challenge Process Information Session, Broadband Ohio 8 (Oct. 25, 2021), <https://broadband.ohio.gov/static/ORBEG-Challenge-Process-Webinar-11012021.pdf>.

70 *Id.* at 14.

71 Am. H.B. 2, 134th Gen. Assemb. (Ohio 2021).

72 Governor DeWine and Lt. Governor Husted Announce New Broadband Expansion Projects, Office of the Governor (March 18, 2022), <https://governor.ohio.gov/media/news-and-media/Governor-DeWine-Lt-Governor-Husted-Announce-New-Broadband-Expansion-Projects-03182022>.

73 Ohio Const. art. VIII, § 13.

74 Ohio Rev. Code § 701.07.

Author

Jessica Ice

Associate, Cleveland
T +1 216 479 8667
E jessica.ice@squirepb.com

Jacob Semus

Summer Associate



The opinions expressed in this update are those of the author(s) and do not necessarily reflect the views of the firm, its clients, or any of its or their respective affiliates. This article is for general information purposes and is not intended to be and should not be taken as legal advice.