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SUMMARY

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Federal Funding for Broadband Deployment: Agencies and Considerations for Congress

Access to high-speed internet, also known as broadband, has been a particular concern of many in Congress. Broadband is deployed throughout the United States, primarily by the private sector, and is also deployed by other entities in some cases, such as local governments, where allowable by state law. Broadband has been deployed nationwide for decades. The United States has not yet reached 100% broadband connectivity to all serviceable locations. Achieving 100% broadband connectivity across the United States has been a major congressional goal to close the *digital divide*, the gap between those Americans who have access to telecommunications and information technologies and those who do not.

The primary means the federal government has for encouraging broadband deployment by service providers is subsidizing them to serve areas that they would otherwise find uneconomical to serve. For example, Congress has passed a number of recent bills to subsidize broadband deployment (e.g., the Infrastructure Investment and Jobs Act [IIJA; P.L. 117-58] and the Consolidated Appropriations Act, 2021 [CAA, 2021; P.L. 116-260]). Federal support for broadband deployment comes primarily from three agencies—the Federal Communications Commission (FCC), the National Telecommunications and Information Administration (NTIA), and the U.S. Department of Agriculture (USDA)—which each administer multiple broadband programs. Some programs are funded by fees from service providers, others have received a one-time appropriation, and others receive annual appropriations. Each agency plays a different role in addressing the digital divide. Whereas the FCC works to ensure universal access to broadband, USDA mainly focuses on rural communities. The NTIA has recently been charged with administration of several federal grant programs that support broadband deployment and access with a focus on collaborating and coordinating with state, local, and tribal entities.

In addition to the FCC, NTIA, and USDA, other federal agencies have programs that fund broadband deployment as one among many possible activities. According to a May 2022 report by the Government Accountability Office (GAO), the agency "identified over 100 federal programs—administered by 15 agencies—that could be used to expand [broadband] access." Further, GAO found that "the number of programs has led to a fragmented, overlapping patchwork of funding." Of those federal programs, GAO identified 13 as having the primary purpose of funding broadband deployment. Some Members of Congress believe there is a need for oversight of federal broadband deployment investments. For example, on May 10, 2023, the House Energy and Commerce Committee held a hearing, "Closing the Digital Divide: Overseeing Federal Funds for Broadband Deployment." Other issues that have, or may, come to the attention of the 118th Congress include how various federal agencies approach a national broadband strategy, jurisdictional differences among major federal agencies that provide funding for broadband, challenges with tracking federal broadband investments, and federal and state roles in addressing gaps in broadband access.

Federal broadband funding for closing the digital divide is complex. The 118th Congress may assess whether regulatory policies are helping or hindering broadband deployment and weigh whether changes in regulatory policies could help. Possible policy considerations include:

- creating a coordinated national broadband strategy and determining which agency (e.g., FCC, USDA, NTIA) would best be positioned to develop and implement it;
- consolidating broadband programs under a single agency, or eliminating or combining programs at an agency;
- expanding oversight of federal broadband deployment investment to include an assessment of the effectiveness of federal broadband programs;
- expanding state, territory, tribal, and local government involvement in addressing the digital divide; and
- shifting from federal funding for broadband deployment (i.e., making broadband available) to federal funding for the sustainability of broadband networks (i.e., operating and maintaining existing infrastructure).

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Introduction

In the United States, private sector internet service providers (ISPs) deploy broadband infrastructure and offer high-speed internet service.[1] Although broadband deployment continues to progress, according to November 2023 data from the Federal Communications Commission (FCC) National Broadband Map, of the 115 million locations[2] identified, more than 7.2 million locations lack access.[3] The gap between people who have access to broadband service and those who do not is referred to as the *digital divide*. Major reasons that ISPs cite for the lack of broadband expansion to unserved areas are the relatively high deployment costs in remote areas and areas with difficult terrain and possible low return on investment from service subscription. As such, the federal government has stepped in by subsidizing deployment—typically in the form of funding to ISPs—to help address that gap.[4]

Federal support for broadband deployment occurs primarily through the High-Cost program[5] administered by the FCC, through four programs at the U.S. Department of Agriculture (USDA),[6] and through four programs at the National Telecommunications and Information Administration (NTIA).[7] These programs aim to expand broadband deployment and access in underserved areas in the United States. This report provides an overview of these agencies and programs.[8] The report also discusses policy issues and considerations for Congress related to federal broadband deployment funding at these agencies, such as creating a coordinated national broadband strategy, expanding oversight of federal broadband deployment, and a shift to funding sustainability (e.g., maintaining existing broadband infrastructure).

Federal Agencies That Provide Funding for Broadband Deployment

Congress tasked the FCC, NTIA, and USDA with a common goal of expanding broadband deployment and access in underserved areas. However, these agencies' policy focuses are different. For example, the FCC emphasizes universal service—ensuring that all residents have access to basic telecommunications services.[9] Historically, USDA has worked in rural

[1] See CRS In Focus IF12441, *Fixed Technologies Used to Deliver Broadband Service: A Primer and Considerations for Congress*, by Colby Leigh Rachfal.

[2] According to the FCC, locations "identify buildings or structures—such as a home, apartment building, or small business—where internet services are, or could be, available." See FCC, "Broadband Data Collection Consumer Information," https://www.fcc.gov/BroadbandData/consumers.

[3] FCC Chairwoman Jessica Rosenworcel, "National Broadband Map 3.0: Thankful for Continued Improvements," November 17, 2023, https://www.fcc.gov/news-events/notes/2023/11/17/national-broadband-map-30-thankful-continued-improvements.

[4] This report focuses on the digital divide as it pertains to broadband deployment. Broadband adoption and affordability issues, which are another aspect of the digital divide, are outside the scope of this report.

[5] This includes the Rural Digital Opportunity Fund and the 5G Fund for Rural America.

[6] These include the Community Connect Program, ReConnect Program, Rural Broadband Program, and Telecommunications Infrastructure Program.

[7] These include the Broadband Equity, Access, and Deployment Program; the Broadband Infrastructure Program; the Tribal Broadband Connectivity Program; and the Middle Mile Grant Program.

[8] This report does not include information on all programs that may support broadband infrastructure deployment as one among several possible uses of funding. This report also does not include programs that promote digital equity or subsidize the cost of broadband services and devices.

[9] For more information, see FCC, "Universal Service," https://www.fcc.gov/general/universal-service.

communities to build and modernize infrastructure, including electrical, water, and telephone infrastructure. This work now includes programs that fund broadband infrastructure. Until 2021, NTIA's role in facilitating access to telecommunications services mainly focused on providing technical assistance to state and local governments and convening federal, state, local, and tribal officials and practitioners to discuss priorities, best practices, and emerging telecommunications policy issues.[10] In 2021, Congress placed more functions and responsibilities for broadband expansion with NTIA, providing the agency with roughly $50 billion for broadband assistance programs in the Consolidated Appropriations Act, 2021 (CAA, 2021; P.L. 116-260) and Infrastructure Investment and Jobs Act (IIJA; P.L. 117-58).[11]

The following subsections discuss broadband deployment programs administered by each agency.

Federal Communications Commission (FCC)

The FCC is an independent agency, overseen by Congress, responsible for implementing and enforcing communications law and regulations.[12] Among its numerous statutory functions and responsibilities, the FCC promotes efforts to ensure that telecommunications services are available to all Americans (i.e., universal service) through the Universal Service Fund (USF).[13] The USF consists of four programs,[14] of which the High Cost/Connect America Fund (CAF) Program focuses on broadband infrastructure deployment, particularly in rural and high-cost areas.[15] CAF provides support through a dozen separate funds. Funding for USF programs is not appropriated; rather, it is derived from mandatory fees placed on telecommunications carriers, which may pass on these charges to their subscribers. The FCC has directed the Universal Service Administrative Company, an independent non-profit organization, to administer USF funding.[16]

[10] See, for example, NTIA, "State Broadband Leaders Network (SBLN)," https://broadbandusa.ntia.doc.gov/resources/states. NTIA administered the Broadband Technology Opportunities Program, a $4.7 billion program created under the American Recovery and Reinvestment Act of 2009 (P.L. 111-5), from 2009 to 2010. NTIA did not administer further funding for broadband until 2021.

[11] CAA, 2021, provided NTIA with $1.585 billion in funding for three broadband programs—the Connecting Minority Communities Pilot Program, the Broadband Infrastructure Program, and the Tribal Broadband Connectivity Program. For more information, see CRS Report R46701, *The Consolidated Appropriations Act, 2021 Broadband Provisions: In Brief*, coordinated by Colby Leigh Rachfal. The IIJA provided NTIA with $48.2 billion in funding for broadband programs including the Broadband Equity, Access, and Deployment (BEAD) Program. For more information, see CRS Report R47075, *The National Telecommunications and Information Administration (NTIA): Current Roles and Programs*, by Ling Zhu.

[12] FCC, "About the FCC," https://www.fcc.gov/about/overview. See also CRS Report R45699, *The Federal Communications Commission: Structure, Operations, and Budget*, by Patricia Moloney Figliola.

[13] Universal service principles are contained in the 1934 Communications Act, as amended (P.L. 73-416). The Telecommunications Act of 1996 (P.L. 104-104) directed the FCC to establish a federal Universal Service Fund.

[14] See also CRS Report R47621, *The Future of the Universal Service Fund and Related Broadband Programs*, coordinated by Patricia Moloney Figliola.

[15] High-cost areas are where "the FCC designates unserved or underserved rural communities—places where the market alone cannot support the substantial cost of deploying network infrastructure and providing connectivity—as areas eligible for support." See Universal Service Administrative Company, "High Cost," https://www.usac.org/high-cost/.

[16] See Universal Service Administrative Company, "The Universal Service Fund," https://www.usac.org/.

Rural Digital Opportunity Fund (RDOF)

The RDOF is one of the most recent initiatives, established as part of the CAF in January 2020.[17] Through the RDOF, the FCC committed $20.4 billion to bring high-speed, fixed[18] broadband service to rural homes and small businesses in two phases through a reverse auction.[19] Phase I proposed to allocate up to $16 billion to areas completely unserved by broadband with a minimum download rate of at least 25 megabits per second (Mbps) and an upload rate of 3 Mbps (commonly referred to as 25/3 Mbps). For Phase II, the FCC proposed to allocate an estimated $4.4 billion to areas partially served by broadband with 25/3 Mbps speed.

- The Phase I auction began on October 29, 2020. The FCC announced the results on December 7, 2020, and 180 bidders won $9.2 billion to deploy high-speed broadband to more than 5.2 million unserved homes and businesses.[20] Following the auction, the FCC has continued[21] to review long-form applications[22] and authorize support for winning bidders over the 10-year period after the auction process is complete.[23]
- The Phase II auction, for which the FCC has not yet determined a time frame, may fund up to $11.2 billion to deploy high-speed broadband, targeting partially served areas as well as unserved areas that did not receive Phase I funding. In a November 10, 2022, letter from FCC Chairwoman Jessica Rosenworcel to Senator Roger Wicker, Commissioner Rosenworcel noted that the FCC

  > discussed the need for future efforts like RDOF Phase II, in light of anticipated broadband infrastructure work from new programs like the National Telecommunications and Information Administration's Broadband Equity, Access, and Deployment Program. We noted that after funding from these new programs is put in place, the FCC could consider deployment initiatives for areas still lacking service or otherwise falling short of the speed and latency standards required.[24]

[17] FCC, "Universal Service for High-Cost Areas—Connect America Fund," https://www.fcc.gov/general/universal-service-high-cost-areas-connect-america-fund. See also CRS Report R46501, *Rural Digital Opportunity Fund: Requirements and Selected Policy Issues*, by Colby Leigh Rachfal; and CRS In Focus IF12465, *5G Fund for Rural America: Current Status and Issues*, by Jill C. Gallagher.

[18] Fixed technologies include, for example, fiber optic cable, cable modem, and fixed wireless.

[19] A *reverse auction* is a process in which companies submit proposals to provide services in areas deemed eligible by the FCC. The FCC awards funds to the lowest bidder for each area.

[20] FCC, "Auction to Bring Broadband to Over 10 Million Rural Americans," https://www.fcc.gov/document/fcc-auction-bring-broadband-over-10-million-rural-americans.

[21] FCC Chairwoman Jessica Rosenworcel indicated in a November 10, 2022, letter to Sen. Roger Wicker that "FCC staff is close to finalizing authorizations for RDOF support, with 413 out of 418 applications resolved." See https://docs.fcc.gov/public/attachments/DOC-389366A2.pdf.

[22] After the auction, long-form applications were required from winning bidders to provide additional information to the FCC about qualifications, funding, and the networks that winning bidders intend to use to meet their obligations.

[23] For example, see FCC, "Auction 904 17th Authorization Public Notice," January 13, 2023, https://www.fcc.gov/document/auction-904-17th-authorization-public-notice.

[24] FCC, "Chairwoman Jessica Rosenworcel's Response to Senator Roger Wicker Regarding the Rural Digital Opportunity Fund," November 10, 2022, https://www.fcc.gov/chairwoman-rosenworcels-letters-congress and https://docs.fcc.gov/public/attachments/DOC-389366A2.pdf.

5G Fund for Rural America

In October 2020, the FCC adopted rules establishing the 5G Fund for Rural America.[25] Through the fund, the FCC proposes to distribute up to $9 billion from the USF to bring voice and broadband services to areas of the country unlikely to see unsubsidized deployment of 5G networks. The FCC plans to award support in two phases through a reverse auction, as with the RDOF. Phase I would target up to $8 billion of support nationwide to areas lacking unsubsidized 4G LTE or 5G mobile broadband, and Phase II would provide at least $1 billion to support the deployment of 5G networks that facilitate precision agriculture. The FCC has not set a specific date for commencement of the 5G Fund auction.[26]

National Broadband Map

The FCC is also responsible for an ongoing broadband data collection effort to map broadband availability nationwide, referred to as the National Broadband Map.[27] The National Broadband Map was mandated by the Broadband Deployment Accuracy and Technological Availability Act (Broadband DATA Act; P.L. 116-130). The first version was released November 18, 2022, and subsequent versions are to be released approximately every six months. For example, version two was released May 30, 2023, and version three was released November 17, 2023.[28] Development of the map is an iterative process: Data accuracy improves with each version as the FCC incorporates challenges from individuals and other stakeholders on broadband availability.[29]

In addition to pinpointing where broadband service is and is not available across the United States, a primary function of the map is to determine areas that may be eligible for federal broadband funding. For instance, NTIA calculated the distribution of funding for the Broadband Equity, Access, and Deployment (BEAD) Program based on a state's share of the country's unserved locations in accordance with the map.[30] The FCC plans to use data from the National Broadband Map to determine eligibility for 5G Fund support.[31]

National Telecommunications and Information Administration (NTIA)

NTIA is an agency within the Department of Commerce that serves as the President's principal advisor on telecommunications and information policies and carries out related functions assigned by the Secretary of Commerce.[32] Since the IIJA was enacted into law in 2021, NTIA has

[25] FCC, "In the Matter of Establishing a 5G Fund for Rural America," *Report and Order*, October 27, 2020, https://docs.fcc.gov/public/attachments/FCC-20-150A1.pdf.

[26] For more information, see CRS In Focus IF12465, *5G Fund for Rural America: Current Status and Issues*, by Jill C. Gallagher.

[27] FCC, "National Broadband Map," https://broadbandmap.fcc.gov/home.

[28] FCC, "National Broadband Map: 2023 Key Dates," https://www.fcc.gov/sites/default/files/national-broadband-map-2023-key-dates.pdf.

[29] Consumers, state, local, and tribal governments, and other stakeholders (e.g., internet service providers) can submit challenges to the FCC if they believe the National Broadband Map contains inaccurate data (e.g., missing locations, over- or understated broadband service availability at a specific location). See FCC, "Broadband Data Collection Consumer Information," https://www.fcc.gov/BroadbandData/consumers.

[30] See CRS In Focus IF12298, *FCC's National Broadband Map: Implications for the Broadband Equity, Access, and Deployment (BEAD) Program*, coordinated by Colby Leigh Rachfal.

[31] See CRS In Focus IF12465, *5G Fund for Rural America: Current Status and Issues*, by Jill C. Gallagher.

[32] See Title I, Part A, of the Telecommunications Authorization Act of 1992 (P.L. 102-538) (known as the NTIA Organization Act; codified at 47 U.S.C. §§901 et seq.).

played a leading role in the executive branch in developing and implementing federal broadband policies and programs.[33]

One specific authority provided to the agency in the NTIA Organization Act is "to coordinate federal telecommunications assistance to state and local governments."[34] Since 2009, Congress has tasked NTIA with administering several federal grant programs (e.g., the Broadband Technology Opportunities Program[35]) that support broadband deployment and access, with a focus on collaborating and coordinating with state, local, and tribal entities. More recently, Congress assigned the agency the responsibility to oversee nearly $50 billion to be distributed through broadband grant programs that Congress authorized and appropriated funds for in the CAA 2021 and the IIJA. In particular, through the BEAD Program funded by the IIJA, NTIA will allocate $42.45 billion to states and territories for broadband deployment and connectivity projects.[36] This is the single largest federal broadband investment in U.S. history. The BEAD Program's one-time appropriation for FY2022 is approximately equal to the total disbursement from the FCC's High-Cost program for the previous nine years ($41.75 billion over 2013-2021).[37]

Broadband Equity, Access, and Deployment (BEAD) Program

In establishing the BEAD Program, Congress aimed "to bridge the digital divide" by providing access to affordable, reliable, high-speed internet service.[38] To achieve this, the IIJA requires NTIA to use the FCC's National Broadband Map to determine the number of unserved locations and use formulas to allocate the appropriated $42.45 billion to 56 states and territories (hereinafter states) based on each state's share of unserved locations nationally.[39] States are directed to develop their own competitive processes to award subgrants for projects that construct and deploy broadband infrastructure, with grants first going to unserved service projects, second to underserved service projects, and then to eligible community anchor institutions.[40] States may also award subgrants for eligible nondeployment activities, such as those for broadband data collection, mapping, and planning; installing or providing reduced-cost internet access within a multifamily residential building; broadband adoption programs; and other activities determined by NTIA.[41]

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[33] For more background information on NTIA's roles and programs, see CRS Report R47075, *The National Telecommunications and Information Administration (NTIA): Current Roles and Programs*, by Ling Zhu. See also NTIA, "High-Speed Internet," https://ntia.doc.gov/category/high-speed-internet.

[34] 47 U.S.C. §902(b)(2)(N).

[35] 47 U.S.C. §1305.

[36] §60102(a)(2)(F), (b)(2), and (f) of the IIJA (Division F, Title I of P.L. 117-58).

[37] See Federal-State Joint Board on Universal Service, *Universal Service Monitoring Report 2022*, February 13, 2023, Table 1.10, p. 23, https://docs.fcc.gov/public/attachments/DOC-391070A1.pdf.

[38] §60102(b)(1) of the IIJA (P.L. 117-58).

[39] §60102(c) of the IIJA (P.L. 117-58).

[40] §60102(h)(1)(A)(i) of the IIJA (P.L. 117-58). Under the IIJA, an *unserved service project* will provide broadband service to an area where at least 80% of broadband-serviceable locations are unserved—meaning there is no internet access with at least 25/3 Mbps speed and low transmission latency. An *underserved service project* will provide broadband service to an area where at least 80% of serviceable locations are either unserved or *underserved*—meaning there is no reliable internet access with at least 100/20 Mbps speed and low transmission latency. An *eligible community anchor institution* is one that lacks access to gigabit-per-second-level service and includes a school, library, health clinic, health center, hospital or other medical provider, public safety entity, higher education institution, public housing organization, or community support organization. See §60102(a) of the IIJA (P.L. 117-58).

[41] §60102(f) of the IIJA (P.L. 117-58). NTIA included a list of eligible nondeployment uses in NTIA, "Broadband Equity, Access, and Deployment Program," Notice of Funding Opportunity, May 13, 2022, pp. 39-40, https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/BEAD%20NOFO.pdf.

All states have received their initial funds for planning and predeployment activities.[42] According to NTIA, the FCC National Broadband Map in May 2023 identified about 8 million unserved locations out of 114 million serviceable locations in the country.[43] NTIA notified states and territories of their BEAD funding allocations in June 2023, which are to be followed by approximately four years of grant disbursement and program implementation.[44]

Other Active Broadband Deployment Programs

Congress appropriated funding to NTIA in the CAA 2021 for two broadband connectivity grant programs—$1 billion for the Tribal Broadband Connectivity Program (TBCP) and $300 million for the Broadband Infrastructure Program.[45] In the IIJA, Congress appropriated an additional $2 billion for the TBCP.[46] Under the TBCP, NTIA has made nearly $1.87 billion in grants to 226 tribal entities for projects to expand access to and adoption of broadband service, remote learning, telework, and telehealth on tribal lands.[47] Under the Broadband Infrastructure Program, NTIA has made 14 competitive grants totaling more than $282 million to support state-ISP partnerships to deploy fixed broadband service to areas without service.[48]

In addition to the BEAD Program, Congress directed NTIA in the IIJA to establish the Middle Mile Grant program to award competitive grants for constructing, improving, and acquiring middle-mile infrastructure.[49] Middle-mile infrastructure provides interconnection among last-mile networks (which connect directly to end-user locations), ISPs' local connection sites (also known as area nodes), and regional and national internet backbone networks. Last-mile networks count on middle-mile infrastructure to transmit large amounts of data and carry aggregated internet traffic at high speeds over long distances.

Congress appropriated $1 billion for the Middle Mile Grant Program to reduce the cost of connecting unserved and underserved areas to the regional and national internet backbone networks and increase the resilience of broadband infrastructure.[50] NTIA received more than 260 applications with a total of $7.5 billion in funding requests.[51] By September 2023, NTIA has awarded all funding for the program to 38 organizations.[52] The funded middle-mile projects are to

[42] NTIA, "Broadband Equity, Access, and Development (BEAD) Program, Status: Planning Grant Awarded," https://www.internetforall.gov/program/broadband-equity-access-and-deployment-bead-program. Each state received $5 million and each territory received $1.25 million of the BEAD planning grant.

[43] NTIA, "How the FCC National Broadband Map Impacts the BEAD Program, Part 1 of 3: Allocation of Funds," May 4, 2023, https://www.internet4all.gov/blog/how-fcc-national-broadband-map-impacts-bead-program-part-1-3-allocation-funds.

[44] NTIA, "Program Timelines," https://www.internetforall.gov/interactive-map.

[45] §905(b), (c), (d) of Division N, Title IX of the CAA 2021 (P.L. 116-260).

[46] See Division J, Title II of the IIJA (P.L. 117-58).

[47] NTIA, "TBCP Awards," https://nbam.maps.arcgis.com/apps/dashboards/8285506482b941ae8f9de43f8acf3746, accessed December 2023. See also §905(c)(1) of Division N, Title IX of the CAA, 2021 (P.L. 116-260).

[48] NTIA, "NTIA Broadband Infrastructure Program Awards," https://broadbandusa.ntia.gov/bipdashboard. See also §905(d)(1) of Division N, Title IX of the CAA, 2021 (P.L. 116-260).

[49] §60401(c) of the IIJA (P.L. 117-58).

[50] §60401(b)(1) of the IIJA (P.L. 117-58).

[51] NTIA, "Biden-Harris Administration Awards Nearly $50 Million to Expand and Strengthen Regional and National Internet Networks," September 6, 2023, https://broadbandusa.ntia.doc.gov/news/latest-news/biden-harris-administration-awards-nearly-50-million-expand-and-strengthen.

[52] NTIA, "NTIA Middle Mile Program Awards," https://www.arcgis.com/apps/dashboards/4fc111c466a34528b54e462b6df184db.

deploy thousands of miles of new fiber as the primary connectivity technology.[53] NTIA expected that the implementation of the program will last five years.[54]

U.S. Department of Agriculture (USDA)

The USDA Rural Utilities Service administers four programs that provide funding for entities to construct, improve, or acquire the facilities or equipment needed to provide broadband access to rural areas.[55] The programs are as follows:

1. The **Community Connect Program** provides grants to enhance broadband access to economically challenged rural communities and ensure that essential community facilities (such as fire departments and police departments) have broadband access.
2. The **ReConnect Program** provides loan, grants, and loan-grant combinations to expand broadband access in rural areas.
3. The **Rural Broadband Access Program** provides loans to expand broadband access in rural areas.
4. The **Telecommunications Infrastructure Program** provides loans and loan guarantees to expand telephone service and broadband access in rural areas.

The Community Connect Program, ReConnect Program, and the Rural Broadband Access Program define *eligible rural areas* as areas of 20,000 or fewer people and not adjacent to a city of more than 50,000 people.[56] The Telecommunications Infrastructure Program defines *eligible rural areas* as areas with 5,000 or fewer people.[57]

Congress provides discretionary funding for these programs primarily through annual appropriations acts. In FY2023, Congress provided the following funding for USDA rural broadband programs through the Consolidated Appropriations Act, 2023 (CAA 2023; P.L. 117-328):

- $364 million for the ReConnect Program for grants and a loan subsidy to support an unspecified amount of loan authority,[58]
- $35 million for the Community Connect Program for grants,

[53] NTIA, "Biden-Harris Administration Announces $930 Million to Expand and Strengthen America's High-Speed Internet Networks as Part of the Investing in America Agenda," https://broadbandusa.ntia.doc.gov/news/latest-news/biden-harris-administration-announces-930-million-expand-and-strengthen-americas.

[54] NTIA, "The Enabling Middle Mile Broadband Infrastructure (MM) Program Overview," https://www.internetforall.gov/sites/default/files/2022-05/MM%20Info%20Sheet%20-%20IFA%20Launch%20-%20Final.pdf.

[55] For more information on USDA rural broadband programs, see CRS Report R47017, *USDA's ReConnect Program: Expanding Rural Broadband*, by Lisa S. Benson; and CRS Report R46912, *USDA Rural Broadband, Electric, and Water Programs: FY2022 Appropriations*, by Lisa S. Benson.

[56] 7 U.S.C. §950bb(b)(3)(A).

[57] 7 U.S.C. §924(b).

[58] Federal loan programs collect fees (i.e., interest payments, administrative fees) and loan principal payments from borrowers. These fees and principal payments offset the cost of the federal programs to issue loans. Congress sets the loan authority for federal loan programs (i.e., the amount of loans the programs can issue) and provides loan subsidies to cover any residual costs of the federal programs to issue the loans. In FY2023, Congress provided $348 million for the ReConnect Program for grants and a loan subsidy to support an unspecified amount of loan authority and $15.513 million for ReConnect Program grants for community project funding (also known as earmarks) through the CAA 2023 (P.L. 117-328).

- $4 million for the Telecommunications Infrastructure Program to support $690 million of loan authority, and
- $3 million for the Rural Broadband Access Program to support an unspecified amount of loan authority.

In addition, Congress provided $2 billion for USDA rural broadband programs through the IIJA, with $1.926 billion for the ReConnect Program and $74 million for the Rural Broadband Program.

Nonduplication Requirements

The FCC's RDOF and NTIA's BEAD Program fund projects that deploy broadband to unserved and underserved areas across the United States, many of which are often in rural areas. As a result, the RDOF, BEAD Program, and ReConnect Program may fund similar broadband deployment projects in similar areas. Some Members of Congress have voiced concern that having multiple federal programs deploy broadband could result in overbuilding or duplication of infrastructure. To address this potential issue, a number of requirements were created that would make applicants who receive funding from a federal broadband program (or state broadband program, in some cases) ineligible for other federal broadband programs.[59] The below text box summarizes nonduplication requirements within federal broadband deployment programs at the FCC, NTIA, and USDA. Not all federal broadband deployment programs have nonduplication requirements.

Nonduplication Program Requirements at the FCC, NTIA, and USDA

FCC

- For the RDOF, the FCC "exclude[d] those census blocks which have been identified as having been awarded funding through the U.S. Department of Agriculture's ReConnect Program, or awarded funding through other similar federal or state broadband subsidy programs to provide 25/3 Mbps or better service."[60]

NTIA

- For the BEAD Program, the statutory requirement states that an eligible entity is to align the use of BEAD funding with funds available from other federal programs that support broadband deployment and access.[61] The Notice of Funding Opportunity states that an eligible entity may not treat as unserved or underserved any location that is already subject to an enforceable federal, state, or local commitment to deploy qualifying broadband service.[62]
- For the Broadband Infrastructure Program, the Notice of Funding Opportunity notes that one of the selection factors for applications was avoidance of duplication with other federal programs, including USDA's loan and grant programs for broadband services and applicable universal service programs authorized by the FCC. However, the receipt of other federal or state funds does not necessarily preclude an eligible entity from receiving a grant.[63]

[59] For the NTIA and USDA programs, Congress provided guidance on nonduplication in the form of statutory requirements—with Congress leaving it up to each agency to implement these requirements. The RDOF program (at the FCC) did not have a statutory requirement on nonduplication. The FCC established and adopted its own nonduplication requirement.

[60] FCC, "In the Matter of the Rural Digital Opportunity Fund," *Report and Order*, January 30, 2020, p. 7, https://docs.fcc.gov/public/attachments/FCC-20-5A1.pdf.

[61] 47 U.S.C. §1702(e)(4)(A)(iii).

[62] For the meaning of *an enforceable commitment for the deployment of qualifying broadband to a location*, see footnote 52 in NTIA, "Broadband Equity, Access, and Deployment Program," p. 36.

[63] NTIA, "Broadband Infrastructure Program," Notice of Funding Opportunity, pp. 5, 34, https://broadbandusa.ntia.doc.gov/sites/default/files/2021-05/NTIA%20Broadband%20Infrastructure%20Grant%20Program%20NOFO.Final_.pdf.

- For the Tribal Broadband Connectivity Program, the statutory requirement states that in using funds for new construction of broadband infrastructure, an eligible entity is to prioritize projects for unserved households. The term *unserved* (with respect to a household) means that no broadband service provider has been selected to receive, or is otherwise receiving, federal or state funding subject to enforceable commitments to deploy qualifying broadband service, even if such service is not yet available.[64] The Notice of Funding Opportunity states that project costs that are duplicative of or otherwise covered by other federal or state funding are ineligible costs for the program. This includes deploying broadband infrastructure to locations that are already subject to an enforceable commitment to deploy qualifying broadband service through funding from federal or state programs.[65] Additionally, one of the selection factors for applications includes avoidance of duplication with other federal programs, including USDA's loan and grant programs for broadband services and applicable universal service programs authorized by the FCC.[66]

USDA

- For the Community Connect Program, statute requires that grant funds not be used to duplicate existing broadband service provided by another entity in the eligible service area.[67]
- For the ReConnect Program, regulations state that funds cannot be used for (1) more than one project to provide broadband access to the same geographic area, (2) projects with proposed service areas that had been previously funded through USDA broadband programs, and (3) projects for proposed service areas that had been previously funded by state programs or other federal broadband programs.[68]
- For the Rural Broadband Access Program, statute requires that eligible projects "not concurrently receive any other broadband grant administered by the Rural Utilities Service" and "broadband service is not provided in any part of the proposed service territory by 3 or more incumbent service providers."[69]
- For the Telecommunications Infrastructure Program, statute requires that loans not be made that duplicate lines, facilities, or systems that provide "reasonably adequate services."[70]

Policy Issues and Considerations for Congress

The presence of multiple federal broadband deployment funding efforts at different agencies has created a complex programmatic landscape. As such, Congress may examine the differing policy approaches among major federal agencies that provide funding for broadband deployment and whether there are various methods Congress might consider to address potential overlap or to reform these programs. Congress may also increase oversight and tracking of federal broadband deployment investments or consider the expansion of state roles within federal programs to address gaps in broadband access. Additionally, Congress could contemplate the future of broadband funding with respect to the operations and maintenance of networks.

Multiple Agencies Involved in the Same Area of Need

The FCC, NTIA, and USDA all play roles in supporting broadband deployment, which could lead to overlap or duplication of efforts. There are various methods Congress might consider to address overlap, such as directing the development of a national broadband strategy,

[64] 47 U.S.C. §1705(a)(14)(B), (c)(8).

[65] NTIA, "Tribal Broadband Connectivity Program," Notice of Funding Opportunity, p. 41, https://ntia.gov/sites/default/files/2023-07/ntia-tbcp-round2-nofo.pdf.

[66] NTIA, "Tribal Broadband Connectivity Program," p. 55.

[67] 7 U.S.C. §950bb-3.

[68] 7 C.F.R. §1740.11. The ReConnect Program is a pilot program and has not yet been codified.

[69] 7 U.S.C. §950bb.

[70] 7 U.S.C. §922.

consolidating all federal broadband programs under a single agency, or eliminating or combining federal broadband programs.

National Broadband Strategy

A May 2022 Government Accountability Office (GAO) report, *National Strategy Needed to Guide Federal Efforts to Reduce Digital Divide*, identified potential strengths and challenges to a multiagency approach to broadband:

> The responsibility for administering federal broadband programs is dispersed across numerous programs implemented by multiple agencies. In some cases, it may be appropriate or beneficial for multiple agencies to be involved in the same programmatic or policy area due to the complex nature or magnitude of the federal effort. In other cases, the situation of having multiple agencies involved in the same area of need can create barriers for program applicants or inefficiencies in service delivery, which is referred to as fragmentation.[71]

There has been concern among some policymakers about the large number of agencies involved in deploying broadband.[72] The involvement of a number of agencies could pose coordination challenges—particularly in ensuring that efforts are not duplicative. Efforts further than coordination may be considered. According to the May 2022 GAO report, "The federal government has used a variety of mechanisms for coordination, but no current national strategy exists to provide clear roles, goals, objectives, and accountability to agencies or synchronize the numerous interagency coordination efforts."[73]

Legislation has been introduced in the 118th Congress that would direct NTIA to develop a national strategy to close the digital divide (H.R. 4505/S. 2238). If Congress chooses to pursue a national broadband strategy, it may consider whether NTIA or a different agency would be best equipped to develop the strategy. For example, some stakeholders argue that USDA should handle rural broadband and may advocate for USDA to be in charge of developing a national strategy. At a June 2023 hearing, "Closing the Digital Divide in Rural America," some representatives from the broadband and satellite industries answered in the affirmative when asked whether USDA would be the right agency to handle the issue of rural broadband.[74] The identification of one agency (e.g., NTIA) to develop a national broadband strategy does not preclude another agency (e.g., USDA) being designated as the lead agency for rural broadband issues.

Another option Congress might consider could be a renewal of the National Broadband Plan. In the American Recovery and Reinvestment Act of 2009 (P.L. 111-5), the FCC was required to develop a National Broadband Plan. That plan was released in 2010 and identified gaps in broadband availability and adoption in the United States. To address those gaps and other challenges, the National Broadband Plan set six specific goals to be achieved by 2020. Some stakeholders believe a majority of these goals were not achieved.[75] Congress could consider an

[71] GAO, *National Strategy Needed to Guide Federal Efforts to Reduce Digital Divide*, GAO-22-104611, May 2022, p. 9, https://www.gao.gov/assets/gao-22-104611.pdf.

[72] For example, see letter from Sen. John Thune, December 6, 2022, https://www.thune.senate.gov/public/_cache/files/0d7fef2d-7031-4224-be1f-d92ff4bc26a7/5A4B462A12E9BA0612544839342F2BF1.12.6.22-broadband-oversight-letter.pdf.

[73] GAO, *National Strategy Needed to Guide Federal Efforts to Reduce Digital Divide*, p. 31.

[74] Sabrina Halvorson, "Industry Reps to House Ag: USDA Should Handle Rural Broadband," AgNet West Radio Network, June 21, 2023, https://agnetwest.com/industry-reps-house-ag-usda-handle-rural-broadband/.

[75] For example, see Teresa Mastrangelo, "10 Years After the US National Broadband Plan—The American Jobs Plans Tackles the Same Issue," Broadbandtrends, April 27, 2021, https://www.broadbandtrends.com/post/10-years-after-the-us-national-broadband-plan-the-american-jobs-plans-tackles-the-same-issue.

update to the National Broadband Plan,[76] which could also include a national strategy to address the digital divide, how to measure progress toward closing it, and which agency should oversee the update. Although the FCC developed the original National Broadband Plan, Congress has recently increased NTIA's role in broadband expansion through the IIJA.

Consolidation Under a Single Agency

Consolidating all federal broadband programs under one agency could significantly reduce or potentially eliminate the need for much of the federal agency coordination directly related to the administration of broadband programs and may reduce duplicative efforts. Consolidation could also be challenging for several reasons. For instance, a single agency may not have the staff or resources to handle the large number of existing broadband deployment programs, and Congress may face decisions on whether to provide the selected agency with additional appropriations for this purpose. Additionally, some broadband programs use different definitions or criteria for defining eligible areas, and consolidation in one agency would still require coordination and deconfliction among programs, as their criteria for eligibility do not align. Some eligibility criteria are defined in statute, whereas others are not. For example, broadband programs administered by USDA target rural areas, and the criteria to determine eligible rural areas are in statute.[77] However, for the FCC and some NTIA programs, eligible areas are defined not through the term *rural*, but instead through the terms *unserved* or *underserved*. Although the RDOF's definition of *unserved* is in an FCC January 2020 Report and Order,[78] the same term as it is used in the BEAD Program is defined in the IIJA.[79] Both of these terms have differing criteria.

If Congress chooses to consolidate programs under one agency, it may choose to consider establishing in statute consistent definitions and eligibility criteria for all programs. For example, Congress may make legislative changes to codify a single definition for *rural* or *unserved* for usage across all programs. Additionally, by combining programs within a single agency, Congress would face consideration of whether a consistent funding mechanism for these programs (such as through annual appropriations acts) best supports the goal of closing the digital divide or instead whether this is better achieved via the distinct funding approaches for FCC, NTIA, and USDA broadband programs. Current programs are funded through fees on telecommunications carriers (i.e., FCC USF), through annual appropriations (i.e., USDA broadband programs), or through one-time funding (i.e., NTIA broadband programs in the IIJA).

Eliminating or Combining Programs

Some stakeholders have called for eliminating redundant broadband programs. For example, the Information Technology and Innovation Foundation has urged Congress to eliminate redundant programs and instead "appropriate funding equivalent to those programs' average annual spending to sustain the FCC's Affordable Connectivity Program."[80] The Affordable Connectivity Program provides eligible households with a discount of up to $30 per month toward broadband

[76] Legislative proposals were introduced in the 117th Congress to update the National Broadband Plan in the National Broadband Plan for the Future Act of 2021 (S. 279/H.R. 870).

[77] For example, USDA defines *rural areas* as areas with 20,000 or fewer residents and not adjacent to a city with 50,000 residents or more. See 7 C.F.R., §1738.2 Definitions, "Rural area(s)," https://www.ecfr.gov/current/title-7/subtitle-B/chapter-XVII/part-1738/subpart-A/section-1738.2.

[78] FCC, "In the Matter of the Rural Digital Opportunity Fund," p. 5.

[79] See §60102(a)(1)(A) of the IIJA (P.L. 117-58).

[80] Joe Kane, "Sustain Affordable Connectivity by Ending Obsolete Broadband Programs," Information Technology and Innovation Foundation, July 17, 2023, https://itif.org/publications/2023/07/17/sustain-affordable-connectivity-by-ending-obsolete-broadband-programs/.

service.[81] To this effect, a consideration for Congress might be whether to assess the success of federal broadband deployment programs—for example, maintaining programs that have been successful and potentially eliminating those that have been less successful or have not achieved their stated goals.

One approach could be to establish criteria for program success—for example, a minimum number of subscribers resulting from funded projects either in absolute terms or as a function of the amount of funding. Although this may assist with determining program impact, comparison among projects may be difficult or impossible due to high variability in the number of potential subscribers among locations and in costs to deploy and operate networks in remote areas and in locations with difficult terrain. Additionally, the provision of broadband in an area does not guarantee that potential subscribers will adopt the service (e.g., the service may be too expensive, or some people may not want broadband service).

Another potential option for determining program success is measuring the economic impacts (e.g., job growth, population growth, business impact, or health care impact) resulting from broadband deployment efforts supported by federal broadband programs. Although this may assist with determining program success, it may be difficult to estimate the causal impact of expanded broadband access on economic growth. One of the difficulties is isolating the impact of broadband deployment from other factors (e.g., tax policies and other physical infrastructure expansion) on economic outcomes. One possible method to address this challenge is to collect data on broadband expansion and economic growth at different time points and look backward to determine the contribution of past broadband expansion efforts to later economic development. Additionally, local and regional economic impacts of broadband infrastructure projects will likely take time before they are observable in the data. For example, infrastructure projects may take years to complete. If Congress were to choose to measure economic impact on the local area resulting from federally funded projects, it could consider leveraging data collected by NTIA.[82]

Congress could also consider measuring program success by determining whether winning applicants delivered on promised projects. Several factors could be measured, such as whether projects that received funding met deadlines or if the projects delivered the proposed service to the proposed service area at projected costs. As an example, whether Phase I of the FCC's RDOF program has been a success or failure has been a source of debate, as "of the $9.2 billion in winners, over $2.8 billion has gone into default, meaning the bidder[s] couldn't actually deliver on promised projects."[83] This has led some public officials, such as former FCC Commissioner Michael O'Rielly, to question whether Phase II of the RDOF should proceed.[84]

Another option Congress may consider is combining existing broadband deployment programs that may fund similar projects. A Rural Utility Service official proposed enabling agencies to

[81] FCC, "Affordable Connectivity Program," https://www.fcc.gov/acp.

[82] In the ACCESS BROADBAND Act (§903 of the Consolidated Appropriations Act, 2021, P.L. 116-260; codified at 47 U.S.C. §1307), Congress directed NTIA to submit to its congressional oversight committees an annual report to track federal support for the deployment of broadband infrastructure. The report shall include (1) a description of the number of U.S. residents that received broadband as a result of a federal broadband program and (2) "an estimate of the economic impact of such broadband deployment efforts on local economies, including any effect on small businesses or jobs."

[83] Karl Bode, "Worries Mount Rural Digital Opportunity Fund Default Money Will Be Wasted," Community Networks, June 21, 2023, https://communitynets.org/content/worries-mount-rural-digital-opportunity-fund-default-money-will-be-wasted.

[84] Diana Goovaerts, "RDOF Postmortem: Can the FCC Fix These Problems in Phase II?," *Fierce Telecom*, September 1, 2021, https://www.fiercetelecom.com/regulatory/rdof-postmortem-fcc-fix-problems-phase-II.

combine their programs in the May 2022 GAO report.[85] The idea of combining programs was proposed in the 117th Congress in both the Broadband Internet Connections for Rural America Act (H.R. 4374) and the Broadband for Rural America Act (H.R. 3369). Both bills would have combined the ReConnect Program and the Rural Broadband Access Program into one program called the ReConnect Rural Broadband Program. Combining programs administered by the same agency—which is another option Congress could consider—may be less challenging than consolidating programs administered by different agencies under one agency. For a discussion of these challenges, see "Consolidation Under a Single Agency."

Maintaining the Status Quo

Congress could also choose to leave federal broadband deployment programs at their current agencies if it decides that multiple programs are useful to ensure adequate coverage and that some redundancy is acceptable to help close the digital divide. If Congress does choose to leave programs in place at their respective agencies, it could increase oversight and monitoring of nonduplication regulations.

Challenges of Tracking Federal Broadband Investments

Tracking federal broadband investment is critical for effective and meaningful congressional oversight. The enactment of the ACCESS BROADBAND Act is a major step that Congress has taken to ensure an accurate accounting of federal investments.[86] The act directed NTIA's Office of Internet Connectivity and Growth to:

- use a central database to track the construction and use of and access to any broadband infrastructure built using federal support,
- develop a streamlined accounting mechanism by which any agency offering a federal broadband support program or a USF program shall provide related information in a standardized and efficient way,[87] and
- submit to congressional oversight committees an annual report that should include the information of the number of residents who received broadband as a result of federal broadband support programs and the USF programs.[88]

Under the BEAD Program, Congress also required any federal agency offering a federal broadband support program to provide data to NTIA "to promote coordination of efforts to track construction and use of broadband infrastructure."[89]

NTIA has since released two annual reports under the mandate of the ACCESS BROADBAND Act (i.e., the 2021 and 2022 ACCESS BROADBAND Reports). In its 2021 report, NTIA identified three challenges of tracking federal broadband investments based on input from and analysis of data shared by other agencies:

[85] GAO, *National Strategy Needed to Guide Federal Efforts to Reduce Digital Divide*, p. 33.

[86] §903 of the CAA 2021 (P.L. 116-260; codified at 47 U.S.C. §1307).

[87] The term *federal broadband support program* means any of the federal programs listed under Title 47, Section 1307(g)(4), of the *U.S. Code* (or any other similar federal program) that "offers broadband internet service, support for broadband deployment, or programs for promoting broadband access and adoption." The term does not include USF programs, which are addressed separately.

[88] 47 U.S.C. §1307(c)(2).

[89] 47 U.S.C. §1702(j)(1)(E)(ii).

1. Broadband programs across agencies have significant variations in the purpose, focus, usage, and measurement of their funding, the definition of *broadband connection*, and the collection of programmatic data.
2. Agencies have limited capabilities and technologies to collect and report data at the detail requested by NTIA and limited abilities to share data due to differences in reporting systems, inconsistent data formats, or privacy requirements.
3. Measuring outcomes of infrastructure deployment projects is challenging, as projects usually take years to complete, and quality-of-service metrics such as network speed, latency, and capacity levels are complex and remain to be defined.[90]

In its 2022 report, NTIA reported that 16 agencies received its data call and 13 agencies provided information for 98 programs.[91] These agencies expressed many of the same challenges with providing data outlined above.[92] NTIA emphasized three needs to track broadband data:

1. **Need for standardization mechanisms.** For example, some programs are broadband specific, whereas other programs have broadband as one of many eligible uses. In the latter case, agencies do not have mechanisms to determine how much of that funding went specifically to broadband.
2. **Need for resources support.** NTIA noted that although some agencies have the resources, technical capabilities, and existing procedures to collect, aggregate, and report data, others do not.
3. **Need for additional time to measure outcome and impact.** NTIA noted that there is a significant time lag between broadband projects and intended outcomes, including availability, use, and economic impact. It is also difficult to measure physical broadband connection and complex to accurately capture network performance.[93]

In May 2022, the FCC, USDA, NTIA, and Department of the Treasury[94] entered into a memorandum of understanding to collaborate on the collection and reporting requirements of certain broadband-related data and metrics regarding the programs they each administer. The agencies agreed to develop "consistent, complementary, and, to the extent possible, uniform formats, standards, protocols, and reporting processes" to standardize their data collection efforts.[95] They also agreed to share data from the broadband deployment projects that have received or will receive funds under programs they administer.[96]

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[90] NTIA, *ACCESS BROADBAND 2021 Report*, December 2021, p. 44, https://ntia.gov/sites/default/files/publications/ntia_access_broadband_2021_report_0.pdf.

[91] NTIA, *2022 Federal Broadband Funding Report: Investing in Internet for All*, May 2023, p. 11, https://ntia.gov/sites/default/files/publications/2022_federal_broadband_funding_report_investing_in_internet_for_all.pdf.

[92] NTIA, *2022 Federal Broadband Funding Report*, p. 12.

[93] NTIA, *2022 Federal Broadband Funding Report*, p. 12.

[94] The U.S. Department of the Treasury, which administers two programs that could provide funding for broadband infrastructure (among other various eligible uses), "voluntarily signed an MOU with FCC, NTIA and USDA to, among other things, develop consistent and complementary reporting processes and share information with each other about broadband projects." For more information, see Richard K. Delmar, letter to the Hon. Michael E. Horowitz, U.S. Department of the Treasury, Office of Inspector General, August 30, 2022, p. 7, https://oig.treasury.gov/sites/oig/files/2022-09/OIG-CA-22-020.pdf.

[95] FCC, USDA, NTIA, and Treasury, "Memorandum of Understanding Regarding Information Sharing," May 9, 2022, https://ntia.gov/sites/default/files/publications/interagency_broadband_mou.pdf.

[96] FCC, USDA, NTIA, and Treasury, "Memorandum of Understanding Regarding Information Sharing."

To facilitate tracking federal broadband investments, Congress may consider various legislative options, which include:

- to the extent practicable, establishing statutory requirements for federal agencies to develop consistent and standardized procedures and terminologies for broadband-related data collection, sharing, and reporting;
- providing resources, including those for training, for federal agencies to develop technical capabilities in data collection, management, and analysis;
- conducting oversight of interagency coordination and progress made on centralized databases, streamlining reporting and mapping tools, and inventory of federal broadband programs;
- requesting studies on the federal funding impact on broadband access and adoption and its long-term economic impact; and
- realigning, reauthorizing, or repealing some broadband programs.[97]

Under the ACCESS BROADBAND Act, it remains a statutory responsibility of NTIA to develop a central database to track federal investment and for any agencies administering federal broadband programs to provide related data. If Congress chooses to require federal agencies to take additional broadband-related data collection, sharing, and reporting actions, those affected agencies might need to update or reconfigure their information technology systems, improve understanding and collaboration between their information technology staff and programmatic staff, coordinate with one another to determine the interagency standardized processes, and identify a coordinating agency to lead the effort. While such an effort might take time and require additional resources, it might result in more accurate, reliable, and useful information to track federal broadband investment if executed successfully.

Expanding the Role of States Within Federal Broadband Programs

Congress may consider to what extent, if at all, it would like to expand state, territory, tribal, and local government involvement in addressing the digital divide, as these entities may be well positioned to address it within their communities.[98] According to the National Conference of State Legislatures, "more than half the states have active commissions, councils, task forces, offices etc. to help develop and promote broadband."[99] For example, many states have established and administered broadband programs to encourage broadband infrastructure investment.[100]

If Congress expresses interest in expanding states' roles in expanding broadband deployment, it may consider providing federal funding and resources for broadband initiatives directly to the states. An infusion of federal funding and resources directed toward state initiatives could result in the expansion and sustainability of state efforts. For example, Congress could modify existing federal broadband deployment programs to provide funding for flexible, state-driven uses in the form of block grants. This concept is supported by some state lawmakers and policymakers who "would like federal dollars distributed to states in block grants, a mechanism that would give

[97] Congress could consider whether to repeal, sunset, or not authorize appropriations for a certain broadband program if it finds it duplicative and no longer necessary.

[98] Rob Pegoraro, "How States Are Bridging the Digital Divide," Pew Charitable Trusts, September 9, 2021, https://www.pewtrusts.org/en/trust/archive/summer-2021/how-states-are-bridging-the-digital-divide.

[99] National Conference of State Legislatures, "State Broadband Task Forces, Commissions, or Authorities," October 10, 2022, https://www.ncsl.org/technology-and-communication/state-broadband-task-forces-commissions-or-authorities.

[100] See BroadbandUSA, "State Broadband Programs," https://broadbandusa.ntia.doc.gov/.

them greater autonomy over how and where to spend the money."[101] Many FCC, NTIA, and USDA broadband programs award funding directly to service providers to deploy broadband infrastructure. In a shift, the IIJA adopted a block grant model for certain broadband programs to provide funding directly to states. For example, BEAD funding is first allocated to each eligible state; the state then competitively awards subgrants to subgrantees to carry out specified broadband deployment activities. States must follow statutory requirements set forth in the IIJA and guidance specified by NTIA but also have discretion over the disbursement of the funds and oversight of BEAD-funded projects within their jurisdictions.

Congress could also consider providing annual federal support to existing state broadband programs—or for the establishment of broadband programs in states that do not yet have them—which may help states sustain their ability and efforts to support local broadband deployment. Additionally, Congress could create a grant program for state broadband offices, which typically coordinate efforts to promote and expand broadband access across their states and collaborate with federal broadband agencies. Although the one-time planning grant provided under the BEAD Program can be used for "establishing, operating, or increasing the capacity of" state broadband office and training for their staff,[102] many broadband offices are still facing challenges due to limited resources, as they "are young, understaffed, and under-resourced."[103] Grant funds could be used for a variety of broadband initiatives, including staffing.

Shift from Funding Deployment to Funding Sustainability

Federal funding has thus far focused mainly on building broadband infrastructure. There are no federal programs at the FCC, NTIA, or USDA that provide federal support solely for the purposes of network sustainability (i.e., operation and maintenance of existing infrastructure). Network sustainability may affect consumers' access to reliable broadband service. For example, in comments to the FCC to inform its *Report on the Future of Universal Service*, NTCA—The Rural Broadband Association stated the following:

> [T]he focus of debates … has been on the narrower question of how to get broadband out there without considering fully how to keep broadband out there and, just as importantly, how to keep services affordable and in step with consumer demand. Even as auctions and grant programs and the like have become all the rage, the fact is such initiatives are aimed primarily at helping broadband networks get built in unserved areas, and it is not clear whether any of them is sufficient on its own to address the more important sustainability and use issues that are the ultimate concern of universal service.[104]

Congress may consider whether and in what form federal agencies should provide support for sustaining broadband infrastructure. If Congress decides to direct agencies to provide funding past the initial buildout and deployment stage, a consideration may be whether to establish and fund new programs or shift some existing federal programs to funding sustainability. For example, as a potential consideration for RDOF Phase II, or the High-Cost program in general,

[101] Kathryn de Wit, "State Lawmakers and Policy Leaders Discuss What's Needed to Close the Digital Divide," Pew Charitable Trusts, July 14, 2021, https://www.pewtrusts.org/en/research-and-analysis/articles/2021/07/14/state-lawmakers-and-policy-leaders-discuss-whats-needed-to-close-the-digital-divide.

[102] 47 U.S.C. §1702(e)(1)(C)(iii)(V), (VI).

[103] David B. McGarry, "State Broadband Offices Face Major Challenges with Limited Resources," *Broadband Breakfast*, January 2, 2023, https://broadbandbreakfast.com/2023/01/state-broadband-offices-face-major-challenges-with-limited-resources/.

[104] NTCA—The Rural Broadband Association, "In the Matter of Report on the Future of Universal Service," February 17, 2022, pp. 3-4, https://www.ntca.org/sites/default/files/federal-filing/2022-02/USF%20NOI%20comments%20FINAL.pdf.

Congress could direct the FCC to pivot from support for deployment costs to support for operation and maintenance costs.[105]

Some industry stakeholders favor providing federal support for broadband infrastructure sustainability. The FCC noted the following in its *Report to Congress on the Future of the Universal Service Fund*:

> Commenters contend that once the Commission's support for deployment and operating expenses under current processes ends, some providers will likely be unable to sustain operations at reasonably comparable prices and at the same public interest standards required by the Commission during the support term without additional funding for operating costs (including maintenance and repair).[106]

The report also notes that "[o]ther commenters are more skeptical of the need for such support and state that any such rulemaking would be premature until after the Commission properly assesses the impact of [IIJA] funding on deployment."[107] Although the $42.45 billion in funding provided by the IIJA for the BEAD Program is an unprecedented amount, according to an article by RCR Wireless News, "The general consensus seems to be that great strides can and will be made with this funding—but it will probably not get the country all the way to the stated goal of 100% connectivity."[108] Estimates vary with respect to how much additional funding might be needed to close the digital divide.[109]

If Congress chooses to support broadband infrastructure sustainability, it may do so through subsidizing ISPs. If Congress chooses to provide subsidies for operations and maintenance purposes, some additional considerations may be whether to designate a lead agency to oversee these efforts, whether the program(s) would fund operations and maintenance efforts just for ISP networks built with federal funding (or whether any ISP could apply), whether the program(s) would be ongoing (receiving annual appropriations), and how long support should be provided to ISPs for these efforts (e.g., one year, five years, in perpetuity). If Congress chooses to subsidize deployment, operations, and maintenance of broadband networks, it may consider whether it can and should impose stringent performance thresholds on funded networks. Though imposing performance thresholds may "provide a way to identify and correct service issues and ensure that services are reliable, available, and operate as described by the provider," some providers may not want government oversight of their privately owned networks.[110] Therefore, if Congress were to impose thresholds, it may receive some pushback from broadband service providers. Congress could also apply threshold requirements as a condition of receipt of federal sustainability funding, which may result in a smaller pool of applicants applying sustainability funding, as some service providers may not wish to have conditions imposed on their networks.

[105] See also CRS Report R47621, *The Future of the Universal Service Fund and Related Broadband Programs*, coordinated by Patricia Moloney Figliola.

[106] FCC, *Report on the Future of the Universal Service Fund*, August 12, 2022, p. 23, https://docs.fcc.gov/public/attachments/FCC-22-67A1.pdf.

[107] FCC, *Report on the Future of the Universal Service Fund*, p. 24.

[108] Kelly Hill, "Will BEAD Be Enough to Close the Digital Divide? Probably Not," *RCR Wireless News*, June 27, 2023, https://www.rcrwireless.com/20230627/network-infrastructure/will-bead-be-enough-to-close-the-digital-divide-probably-not.

[109] See the "Potential Funding" section in CRS Report R47506, *The Persistent Digital Divide: Selected Broadband Deployment Issues and Policy Considerations*, by Colby Leigh Rachfal.

[110] Pew Charitable Trusts, "How Should Broadband Be Regulated?," August 25, 2021, https://www.pewtrusts.org/en/research-and-analysis/articles/2021/08/25/how-should-broadband-be-regulated.

Congress could also choose to leave federal broadband programs as they are, with a primary focus on broadband deployment until 100% connectivity across the United States is achieved.

Concluding Observations

The primary means the United States has for encouraging broadband deployment by service providers is subsidizing them to serve areas they would otherwise find uneconomical to serve. Thus, federal funding is a large factor in deployment of broadband—which may come with a number of considerations for Congress in ensuring that the funding is serving its intended purpose and playing a role in reaching 100% connectivity across the United States. Some issues the 118th Congress could consider addressing may include a national broadband strategy, federal broadband program reform, expanded oversight in tracking federal broadband investments, and state roles in addressing gaps in broadband access. Looking to the future, Congress may also contemplate providing funding for the ongoing availability of broadband networks.

To contact a CRS analyst regarding a particular federal broadband deployment program discussed in this report, please see **Table 1**.

Table 1. CRS Experts

Agency	Federal Broadband Deployment Program(s)	CRS Analyst
FCC	High-Cost (e.g., Rural Digital Opportunity Fund)	Patty Figliola, Colby Rachfal
NTIA	Broadband Equity Access and Deployment Program, Broadband Infrastructure Program, Enabling Middle Mile Broadband Infrastructure Program, Tribal Broadband Connectivity Program	Ling Zhu
USDA	Community Connect Program, ReConnect Program, Rural Broadband Program, Telecommunications Infrastructure Program	Lisa Benson

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