

# ACCESS BROADBAND 2021 Report

December 2021





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# Report Introduction

The Biden-Harris Administration is committed to closing the digital divide in the United States. Millions of Americans lack access to the infrastructure, skills, or tools needed to take full advantage of broadband and maximize the benefits that it offers for communities. Passed as part of the Consolidated Appropriations Act of 2021, the ACCESS BROADBAND Act established the Office of Internet Connectivity and Growth (OICG) within the National Telecommunications and Information Administration (NTIA), an agency within the Department of Commerce.<sup>1</sup> The Act calls for OICG to engage in outreach and assistance for state, local, and tribal entities; track spending on federal broadband support programs and Universal Service Fund (USF) programs; streamline the applications process for financial assistance or grants for such programs; and coordinate with other agencies to enhance efficiency and minimize duplication of federal broadband support.

The 2021 ACCESS BROADBAND Report is the first annual report prepared under this mandate. OICG engaged partners across the federal government to lay the foundation for future editions of the report, including the Office of Management and Budget (OMB), the White House’s National Economic Council (NEC), and also partners with federal broadband support programs. The 2021 report serves as a baseline of current capabilities and challenges associated with tracking available data across programs. The 2021 ACCESS BROADBAND Report is broken into two parts:

## Part 1

The Office of  
Internet  
Connectivity  
& Growth

Part 1 of this report outlines the annual impact of the newly created OICG. It covers the office’s mission and work in 2021 across the following core responsibilities:

- Fund Broadband Infrastructure & Digital Inclusion Efforts
- Leverage Data for Decision Making
- Facilitate Interagency, State, Tribal, and Private Sector Coordination
- Build Capacity of Communities

## Part 2

Tracking  
Federal  
Broadband  
Investments

Part 2 of the report shares an update on OICG’s work to track the impact of broadband investments across the federal government. It includes the following sections:

- **Report Methodology.** This section introduces the methodology to track federal investments, including a logic model to guide data collection and analysis this year and in future years of the report.
- **Findings.** This section summarizes the reported Fiscal Year (FY) 2020 federal funding landscape, the current state of measuring connection, and challenges associated with federal broadband program data collection, analysis, and reporting. The report findings in Part 2 are only focused on 2020, and 2021 and 2022 programs will be assessed in future reports.
- **The Path Forward.** This section provides recommendations for how to support tracking federal broadband investments in future years.

<sup>1</sup> Consolidated Appropriations Act of 2021, Division FF, Title IX, Sec. 903(b), Pub. L. 116-260, 134 Stat. 1182, 3210, (Dec. 27, 2020) (Act).



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### Legislative Excerpt from the ACCESS BROADBAND Act | Annual Report

Not later than 1 year after the date of the enactment of this Act, and every year thereafter, the Office shall make public on the website of the Office and submit to the Committee on Energy and Commerce of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report on the following:

- A description of the **work of the Office for the previous year and the number of residents of the United States that received broadband** as result of Federal broadband support programs and the Universal Service Fund Programs.
  - A description of **how many residents of the United States were provided broadband** by which universal service mechanism or which Federal broadband support program.
  - An **estimate of the economic impact** of such broadband deployment efforts on local economies, including any effect on small businesses or jobs.
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# **PART 1:**

The Office of Internet  
Connectivity & Growth

# The Office of Internet Connectivity & Growth Overview

NTIA established the Office of Internet Connectivity and Growth in July 2021, as directed by the ACCESS BROADBAND Act. OICG is charged with coordinating a whole-of-government approach to ensure that all Americans can access high-speed, affordable, and reliable Internet, and will carry forward NTIA's commitment to closing the digital divide. The office will oversee broadband-related activities and coordinate with other organizations that invest in broadband and digital inclusion, including federal agencies, states, tribal nations, and the private sector.

NTIA also established the Office of Minority Broadband Initiatives (OMBI) in July 2021. Established within OICG, OMBI seeks to expand access to broadband and associated devices and services to ensure meaningful use for Minority-Serving Institutions and their students, as well as residents and businesses in communities surrounding those institutions. The office will work with a breadth of institutions, including Historically Black Colleges and Universities (HBCUs), Tribal Colleges and Universities (TCUs), and other Minority-Serving Institutions (MSIs), including Alaska Native or Native Hawaiian Serving Institutions (ANNHs), Asian American and Native American Pacific Islander Serving Institutions (AANAPISIs), Hispanic Serving Institutions (HSIs), Native American serving Non-Tribal Institutions (NASNTIs), and Predominantly Black Institutions (PBIs). In doing so, OICG will build on NTIA's longtime commitment to expand connectivity and digital opportunities for minority communities by collaborating with stakeholders including federal agencies, state broadband offices, local and tribal governments, service providers, non-profits, and MSIs themselves.<sup>2</sup>

OICG's work centers on four interconnected areas:

- Fund Broadband Infrastructure and Digital Inclusion Efforts
- Leverage Data for Decision Making
- Facilitate Interagency, State, Tribal, and Private Sector Coordination
- Build Capacity of Communities



The **U.S. Department of Commerce** seeks to promote job creation and economic growth by ensuring fair trade, providing the data necessary to support commerce and constitutional democracy, and fostering innovation.



The **National Telecommunications and Information Administration (NTIA)** is the Executive Branch agency responsible for advising the President on telecommunications and information policy issues.

<sup>2</sup> See NTIA, NTIA Establishes Two Broadband-Focused Offices (Aug. 25, 2021), <https://www.ntia.doc.gov/press-release/2021/ntia-establishes-two-broadband-focused-offices>.



OICG’s efforts across all four core areas are interrelated and mutually reinforcing, contributing to NTIA’s overall mission to achieve digital equity for all Americans. The office’s enhanced data capabilities enable federal partners, states, tribes, and communities to better target their investments and prepare NTIA’s new grant programs to administer funds effectively. In fostering relationships across federal, state, local, and tribal governments; private sector service providers; and non-profits, OICG improves its ability to deliver effective resources, data-based tools, and funding opportunities to communities. OICG builds community capacity by providing data and tools to expand broadband availability, adoption, and use. These areas support one another to achieve the goal of expanding broadband availability and use across the country. The following subsections illustrate OICG’s work across these four areas, including initiatives of note in 2021.

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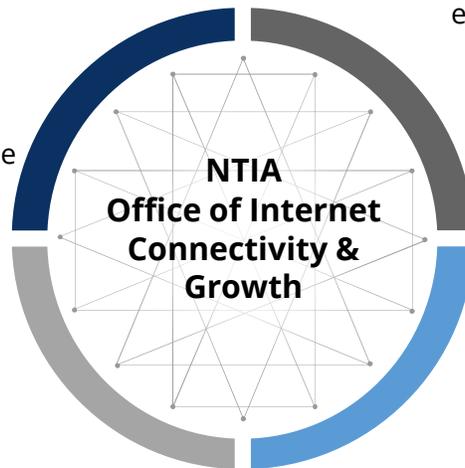
**FUND BROADBAND  
INFRASTRUCTURE &  
DIGITAL INCLUSION EFFORTS**

- ✓ Invest financial resources to build community capacity
- ✓ Assist efforts to expand broadband access and use among states, tribes, and minority communities
- ✓ Inform development of public facing tools and resources through insights from the grantee experience

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**FACILITATE INTERAGENCY,  
STATE, TRIBAL & PRIVATE  
SECTOR COORDINATION**

- ✓ Maximize the impact of federal investment
- ✓ Develop accessible funding resources for communities
- ✓ Expand data sharing and enhance data quality




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**LEVERAGE DATA FOR  
DECISION MAKING**

- ✓ Build tools to inform targeted investment decisions at the federal, state, and local levels
- ✓ Develop capabilities to deepen stakeholder understanding of the digital divide
- ✓ Provide data to support targeted community capacity building

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**BUILD CAPACITY OF  
COMMUNITIES**

- ✓ Offer tools and resources to enable community funding applications
- ✓ Provide on-the-ground insights to drive broadband expansion and adoption
- ✓ Build relationships in communities to guide development of actionable tools and resources

# Fund Broadband Infrastructure and Digital Inclusion Efforts

OICG administers funds for a variety of initiatives to deploy broadband infrastructure and digital inclusion programs that connect unserved and underserved communities across the United States. As part of its commitment to closing the digital divide, OICG provides grant support and funding to enable communities to access robust broadband connections, Internet-enabled devices, and the skills to succeed in the digital world.

In 2021, OICG released notices of funding opportunities (NOFOs) for three new grant programs: the Broadband Infrastructure Program, the Tribal Broadband Connectivity Program, and the Connecting Minority Communities Pilot Program.<sup>3</sup> These new programs build on NTIA's experience administering federal broadband assistance programs. With its new programs authorized by the Consolidated Appropriations Act of 2021 and the Infrastructure Investment and Jobs Act (IIJA), NTIA will oversee broadband funding efforts, providing more than \$50 billion to bring affordable, universal broadband to communities across America.

**Broadband Infrastructure Program.** The Broadband Infrastructure Program is a \$288 million deployment program that requires partnerships between a state (or one or more political subdivisions of a state) and a fixed broadband service provider to support broadband infrastructure deployment to unserved areas. This program seeks to expand broadband availability through cost-effective means to as many unserved households as possible, particularly in rural areas or where speeds do not currently reach 25/3 Mbps. As part of the program's application review process, OICG published an announcement of proposed service areas and invited broadband service providers to submit information about the broadband services they offer in any of the proposed service areas, assisting NTIA in targeting federal funds appropriately to areas lacking qualifying broadband service. In addition, OICG hosted eight webinars to assist potential applicants and held two sessions for state broadband leaders on the program.

**Tribal Broadband Connectivity Program.** The Tribal Broadband Connectivity Program provides up to \$980 million to eligible tribal entities to expand access to and adoption of broadband service on tribal lands. In addition to infrastructure, the program funds projects that promote affordability and access to remote learning, telework, or telehealth resources.<sup>4</sup> To raise awareness of the program and guide prospective applicants, NTIA facilitated 13 hours of government-to-government tribal consultations and performed extensive outreach including more than 50 regional tribal presentations, 10 webinars for prospective applicants, and engagement at the individual tribal and consortia level. Throughout the process, OICG promoted tribal self-certification of the unserved status of their tribal lands and supported strong labor standards consistent with tribal employment laws. Through investments designed to expand the availability of broadband services on tribal lands and deploy broadband infrastructure to unserved households, the program aims to improve the quality of life, spur economic development and commercial activity, and create opportunities for online entrepreneurship, remote learning, and telehealth in Native American, Alaska Native, and Native Hawaiian communities.<sup>5</sup>

<sup>3</sup>See NTIA, Grants Overview, <https://broadbandusa.ntia.doc.gov/resources/grant-programs> (last accessed Nov. 17, 2021).

<sup>4</sup>See the Act at Division N, Title IX, Section 905(c).

<sup>5</sup>NTIA, Tribal Broadband Connectivity Program Notice of Funding Opportunity (June 3, 2021), *available at* [https://broadbandusa.ntia.doc.gov/sites/default/files/2021-06/NTIA.Tribal%20Broadband%20Connectivity%20Program.Final.\\_OMB%20Cleared.pdf](https://broadbandusa.ntia.doc.gov/sites/default/files/2021-06/NTIA.Tribal%20Broadband%20Connectivity%20Program.Final._OMB%20Cleared.pdf).



**Connecting Minority Communities Pilot Program.** The Connecting Minority Communities (CMC) Pilot Program provides \$268 million for the expansion of broadband availability, connectivity, and digital inclusion at HBCUs, TCUs, HSIs, AAPIIs, and MSIs, as well as in their surrounding anchor communities. CMC grant funding can be used to purchase broadband service or equipment, hire IT personnel, operate a minority business enterprise or a tax-exempt 501(c)(3) organization, and facilitate educational instruction, including remote instruction. In 2021, OICG promulgated the CMC Final Rule, drafted and released the NOFO, and conducted stakeholder outreach events, monthly webinars, and pre-application technical assistance sessions. Through the CMC Pilot Program, NTIA will directly address the lack of broadband availability, connectivity, adoption, and equity at the nation’s HBCUs, TCUs, HSIs, AAPIIs, and MSIs, and in their surrounding anchor communities.

**Infrastructure Investment and Jobs Act Programs.** Congress included a series of broadband programs to be administered by NTIA as part of the recently enacted Infrastructure Investment and Jobs Act. NTIA will administer the following programs, furthering the mission of closing the digital divide across the nation:

- **Broadband Equity, Access, and Deployment (BEAD) Program.** The BEAD program allocates \$42.45 billion in funding and technical assistance to states to develop broadband plans, and to subgrantees to construct and deploy infrastructure for the provision of broadband service. The program will provide grant funding to states, territories, and the District of Columbia to promote broadband deployment to and adoption in unserved and underserved communities.
- **Digital Equity Act.** The Digital Equity Act will stand up two programs – the State Digital Equity Capacity Grant Program and the Digital Equity Competitive Grant Program. These programs make available \$2.75 billion to build state capacity and award grants to promote the achievement of digital equity, support digital inclusion activities, support state efforts relating to the adoption of broadband by residents of those states, and make competitive grants directly to entities involved in advancing digital inclusion and digital equity.
- **Middle Mile Deployment Program.** The Middle Mile Deployment program provides \$1 billion to encourage the expansion and extension of middle mile infrastructure to reduce the cost of connecting unserved and underserved areas to the backbone of the Internet. These grants will promote broadband connection resiliency through the creation of alternative network connection paths that can be designed to prevent single points of failure on a broadband network.
- **Tribal Broadband Connectivity Program.** The Infrastructure Investment and Jobs Act provided \$2 billion in additional grant funding for NTIA’s existing Tribal Broadband Connectivity Program.

2021 Program Statistics		
Broadband Infrastructure	Tribal Broadband Connectivity	Connecting Minority Communities
<b>\$288 million</b> Available funding	<b>\$980 million</b> Available funding	<b>\$268 million</b> Available funding
<b>230+</b> Applications received from 49 states and territories	<b>280+</b> Applications received	<b>200+</b> Applications received
<b>\$2.5 billion</b> Total funding requested	<b>\$5.79 billion</b> Total funding requested	<b>\$833 million</b> Total funding requested

# Leverage Data for Decision Making

There is no single data source that indicates definitively where broadband services and technologies are available, which speeds they provide, the cost of service, or the rate of subscriptions among individuals, households, businesses, or organizations. NTIA has tracked the digital divide since 1994, when it first commissioned the U.S. Census Bureau to survey Americans about their computer and Internet use. OICG builds on this foundation by developing analytical tools that leverage and aggregate existing data to support its work, including in implementation of the ACCESS BROADBAND Act to track federal broadband investments.

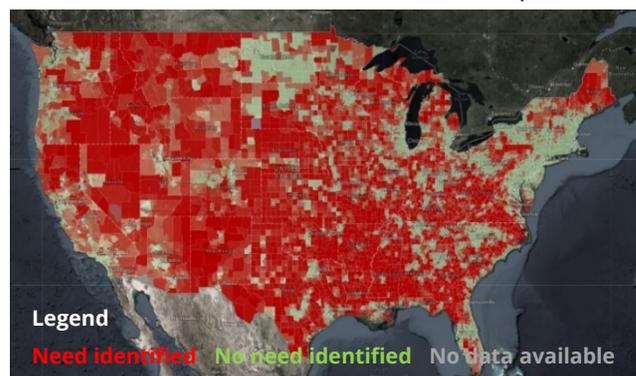
The office equips users to understand the local broadband landscape by aggregating and analyzing existing sources of data, compiled from more than 50 sources. Key data sources include:

- *The Federal Communications Commission (FCC).* The FCC, as an independent regulatory agency, collects important information on the types and levels of broadband services available through telecommunications providers. The Broadband DATA Act, enacted in 2020, set out new requirements for the FCC to collect granular service availability data from wired, fixed wireless, and satellite broadband providers and standardized coverage data from mobile service providers, as well as to change the way broadband data is collected, verified, and reported.<sup>6</sup>
- *U.S. Census Bureau.* The U.S. Census Bureau serves as the nation's leading provider of quality data about its people and economy. In addition to collaborating on data collection efforts through the NTIA Internet Use Survey, the Census Bureau provides key demographic and economic datasets for NTIA's broadband analytical tools.
- *Third Party and Crowd-Sourced Data.* Third party and crowd-sourced datasets – including those produced by Ookla, Measurement Lab, and BroadbandNow – compile upload and download speeds, latency rates, and retransmission rates in a network.
- *Independent Research Organizations.* Non-profit organizations regularly conduct and publish research on broadband; for example, the Pew Research Center has tracked Americans' Internet use since 2000.

OICG will draw on its analytical capabilities to leverage and aggregate existing data to support its work to implement the ACCESS BROADBAND Act.

**The Indicators of Broadband Need Map.** In 2021, OICG developed and released the [Indicators of Broadband Need Map \(IBN\)](#). It was designed to aggregate multiple third-party data sources and provide tools to the public to understand the digital divide and the varied obstacles to broadband availability and use. The map enables users to layer various data sets to evaluate broadband access by “indicators of need,” and search by specific locations such as tribal lands and minority-serving institutions, as shown in Figure 1.

**Figure 1**  
NTIA Indicators of Broadband Need Map



<sup>6</sup> See Broadband Deployment Accuracy and Technological Availability (Broadband DATA) Act, Pub. L. 116-130, 134 Stat. 228 (Mar. 23, 2019).

The map draws on a wide variety of public and private data sources to produce a comprehensive picture of broadband availability and adoption in the United States. It contains data aggregated at the county, census tract, and census block level. Users can use the IBN to interact with data sources, including Internet use, economic, and demographic data from the U.S. Census Bureau, FCC service provider deployment data, crowdsourced data from speed tests such as M-Lab and Ookla, and usage data from Microsoft system updates. The aggregation of government, industry, and crowdsourced data provides, for the first time on one map, a holistic look at broadband availability and speeds.

The IBN offers a comprehensive approach to data aggregation and analytics, at the core of NTIA's strategy for understanding the digital divide.

**NTIA Internet Use Survey.** Since 1994, NTIA has regularly partnered with the U.S. Census Bureau to collect data on computer and Internet use in the United States. The NTIA Internet Use Survey, which is fielded as a supplement to the Census Bureau's Current Population Survey, asks about the devices and technologies Americans use to go online, locations of Internet use, online activities, and challenges they face in using the Internet. Early editions of the survey informed landmark NTIA studies that popularized the term "digital divide." NTIA and other researchers continue to use the survey to explore Internet policy issues, including the challenges racial and ethnic minorities, low-income Americans, seniors, and other groups face in accessing and using the Internet. The [Data Central](#) section of NTIA's website serves as a hub for NTIA Internet Use Survey resources, including the [Data Explorer visualization tool](#), a repository of [blog posts](#) with NTIA's analyses, and a [Research Center](#) containing full datasets, documentation, and sample code to guide outside researchers. The Survey was most recently fielded in November 2021, and the results will serve as the first comprehensive dataset on the state of Internet use since the onset of the COVID-19 pandemic.

**The National Broadband Availability Map.** NBAM is a secure cloud-based GIS platform that aggregates data from public and non-public sources to inform broadband policymaking, planning, and investment decision-making with an enhanced understanding of the scope of the digital divide. In 2021, OICG added pricing information, updated speed-test data, and included federal investments from the FCC's Rural Digital Opportunity Fund (RDOF) and the U.S. Department of Agriculture's (USDA) ReConnect Program as new layers in the NBAM. NTIA continues to synthesize and incorporate new data in pursuit of improving the NBAM's utility in mapping broadband availability.

The NBAM is a coordinated effort across states and federal partners. NTIA received funding in 2018 to launch a pilot in partnership with eight states – California, Maine, Massachusetts, Minnesota, North Carolina, Tennessee, Utah, and West Virginia – and the FCC. It has expanded to partner with 38 states, two territories, and five federal partners to inform the development of NBAM and share data for aggregation. Partners leverage NBAM to support tactical decision-making, such as bringing their Planned Funding Service Area (PFSA) and grant application data into the platform to inform evaluations and issue awards. OICG continues to expand the reach and use of NBAM to support these actionable decisions, including through its partnership with USDA.

5

Participating  
Federal Agencies  
in NBAM

40

Participating  
States and  
Territories in NBAM

# Facilitate Interagency, State, Tribal, and Private Sector Coordination

OICG collaborates with stakeholders across federal agencies, states, tribes, and industry to work toward the collective goal of closing the digital divide. Through these efforts, OICG enhances coordination among federal and state broadband programs, provides support and expertise, and convenes leaders working to advance broadband in communities across the United States.

**OICG promotes coordination across the federal government on broadband deployment and digital inclusion efforts.** OICG enhances collaboration between and among agencies to promote the efficient use of federal funding, align definitions between programs to the extent allowable by statute, and gather information about broadband federal funding options to share with external stakeholders. OICG also coordinates extensively with interagency colleagues to provide opportunities for federal property-managing agencies to exchange information and coordinate on ways to expedite the siting of broadband infrastructure on federal lands. By reducing permitting delays, minimizing paperwork, and designating clear federal points of contact, federal agencies will enable broadband providers to focus on building broadband networks more quickly.

In addition, NTIA, USDA, and the FCC coordinate on a weekly basis to ensure that federal funding is efficiently allocated to provide maximum benefit to U.S. residents. On June 25, 2021, the agencies signed the Broadband Interagency Coordination Agreement (BICA) to share information about and coordinate the distribution of federal broadband deployment funds. As part of the signed agreement, each federal agency partner will share information about existing or planned projects that receive funding from NTIA, FCC, or USDA. Each partner will also, upon request, identify entities providing broadband service in a specified geographic area; the levels of broadband service in that area, including broadband speeds and technologies deployed; the geographic scope of broadband service in that area; and each entity in that area that has or will receive funds from these programs.<sup>7</sup>

**OICG supports federal agencies in need of broadband expertise to best serve American communities.** NTIA's deep experience with broadband policy, funding, and technical assistance in states, regions, tribes, and communities enables its support of federal partners establishing new broadband programs or conducting stakeholder outreach. In 2021, NTIA provided support to the U.S. Department of the Treasury with respect to the \$350 billion State and Local Fiscal Recovery Funds and the \$10 billion Capital Projects Program created by the American Rescue Plan Act of 2021 (ARPA).<sup>8</sup> NTIA employees with expertise in federal and state broadband programs facilitated close coordination between the NTIA and Treasury programs and helped ensure state and local governments are well served by the Treasury programs. NTIA provided its experience with tribal consultations, outreach, and technical assistance to tribal communities through a Memorandum of Understanding as Treasury engaged tribes interested in broadband funding. NTIA has long coordinated with federal programs to share best practices, provide direct support, and participate in events of shared interest, such as the 2021 Department of Interior Tribal Broadband Summit, where OICG developed and facilitated 11 broadband sessions for attendees.

<sup>7</sup>NTIA, NTIA, FCC and USDA Announce Interagency Agreement to Coordinate Broadband Funding Deployment (June 25, 2021), <https://www.ntia.doc.gov/press-release/2021/ntia-fcc-and-usda-announce-interagency-agreement-coordinate-broadband-funding>.

<sup>8</sup>American Rescue Plan Act of 2021, Pub. L. 117-2, 135 Stat. 4, 223, 234, (Mar. 11, 2021).



**OICG convenes state, local, and tribal leaders committed to closing the digital divide.** OICG creates opportunities for leaders to share priorities and best practices and discuss emerging telecommunications policy issues, exemplified through the following activities:

### **State Broadband Leaders Network (SBLN)**

The SBLN convenes practitioners who work on increasing broadband availability and use at the state level and includes participants from all fifty states, the District of Columbia, and three territories. In 2021, OICG hosted 11 meetings and two six-week SBLN Summit series. The office also connected SBLN participants to federal partners such as the U.S. Department of Treasury and the NEC to discuss funding opportunities and provide insight on broadband planning in the states and territories.

### **Digital Equity Leaders Network (DELN)**

OICG brings together state, local, and tribal leaders to discuss strategies and share resources for digital equity and inclusion. The DELN facilitates coordination amongst state and local governments and informs practitioners of national trends and initiatives, hosting speakers from across NTIA and external organizations, such as the National Urban League and Public Knowledge.

### **Tribal Engagement and Consultations**

Over the course of 2021, OICG has conducted three Government-to-Government Tribal Consultations with Tribal Nation stakeholders to inform its development of the Tribal Broadband Connectivity Program. With over 700 participants, the consultations provided tribal leaders with a forum to share input related to tribal sovereignty, eligible uses, and equitable distribution of the funding, among other issues, for consideration in drafting the NOFO.

**145** Members of SBLN

**56** States & territories represented in SBLN

**100** Members of DELN convened

**5** DELN meetings conducted

**700** Participants in formal Tribal Consultations

**3** Formal Tribal Consultations held



# Build Capacity of Communities

OICG’s BroadbandUSA program builds capacity across state, local, and tribal governments, industry, and nonprofits that work to close the digital divide. BroadbandUSA supports broadband planning, promotes digital inclusion efforts, and shares funding opportunities through community outreach, technical assistance, solution-neutral resources, and local and regional planning workshops.

**OICG supports stakeholders to enable effective broadband planning across the nation.** The [BroadbandUSA website](#) leverages OICG’s technical expertise to educate the public on the importance of broadband, offer publicly available broadband planning and implementation resources and host webinars on topics like [Data as the Foundation for Broadband Planning](#). Additionally, OICG supported state broadband planning in 2021 through the SBLN’s assistance to states receiving the large influx of federal COVID-19 relief funding available for infrastructure and digital inclusion as well as direct support to seven states developing state-wide broadband programs and plans. Strong state engagement enabled BroadbandUSA to make state broadband information, including contacts, programs, plans, and funding, accessible to stakeholders [online](#).

**BroadbandUSA provides digital inclusion resources, tools, and support for stakeholders.** The DELN builds capacity of local and state digital equity and inclusion programs and informs members of federal initiatives with discussions on topics such as federal digital inclusion data, federal funding opportunities, and digital and racial equity. In addition, SBLN partnered with the National Digital Inclusion Alliance (NDIA) to develop a state framework for digital equity plans to support state efforts to advance digital inclusion. These efforts contribute to the [digital inclusion resources](#) available on the BroadbandUSA website, including state-by-state information on existing digital inclusion programs. OMBI focuses on the promotion of digital skills and digital inclusion and in 2021 launched the College Partnership Program to support students’ work on broadband deployment and adoption challenges in vulnerable communities.

**BroadbandUSA makes broadband funding resources accessible for stakeholders across the country.** BroadbandUSA’s [Federal Funding Website](#) is a “one-stop” site for broadband funding resources with information on over 90 federal programs across 13 agencies. In response to feedback from stakeholders, in 2021 BroadbandUSA made several updates to the website, ranging from enhanced filtering to adding a downloadable spreadsheet to simplify user navigation through funding information. OICG also launched its first [interactive federal funding guide](#), providing a step-by-step approach for users to filter broadband funding opportunities based on user type and program purpose.<sup>9</sup>

**33** Webinars      **13,287** Webinar registrants

**3** Technical Assistance Workshops held in Idaho, Arizona, and Louisiana      **150** Communities reached

**4** HBCUs engaged in College Partnerships Program      **150** Participating HBCU students & professors

<sup>9</sup>NTIA, BroadbandUSA FY21 Interactive Federal Funding Guide, <https://broadbandusa.ntia.doc.gov/sites/default/files/2021-09/FY21%20BroadbandUSA%20Federal%20Funding%20Interactive%20Guide.pdf>.



# **PART 2:**

## Tracking Federal Broadband Investments

# Report Methodology

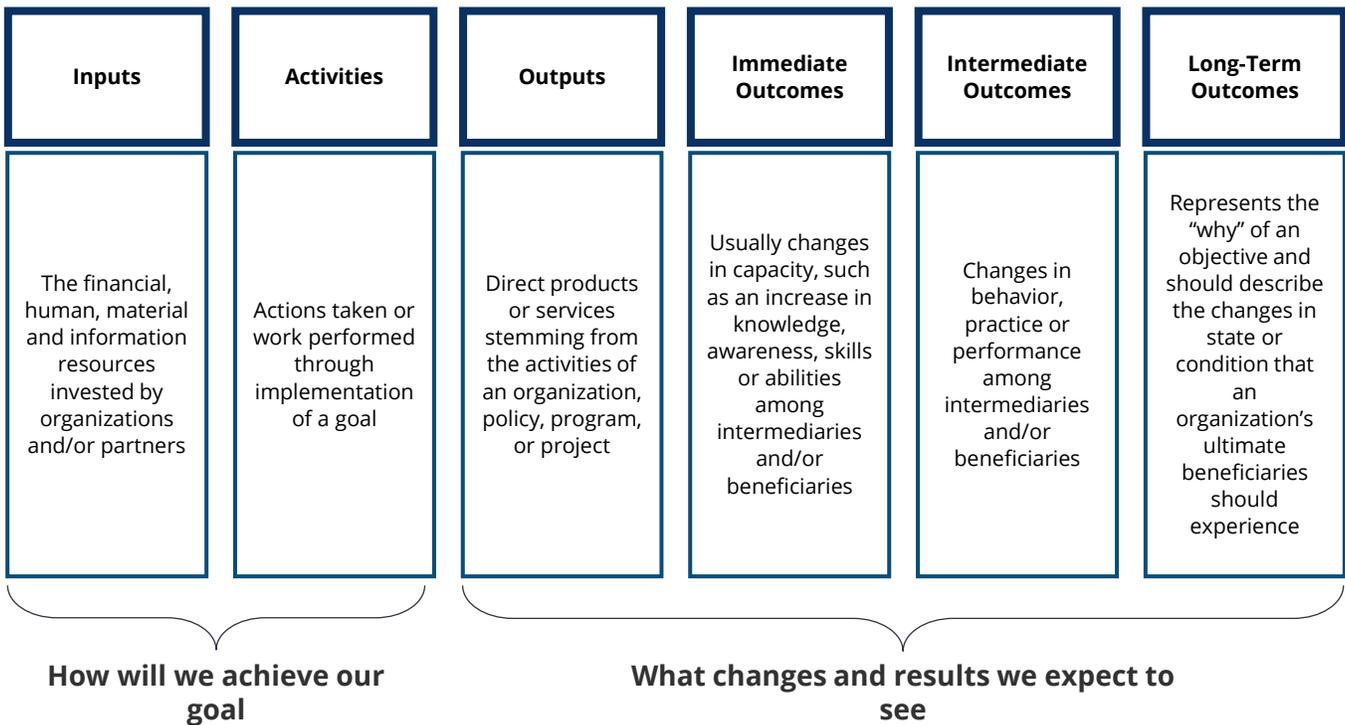
The ACCESS BROADBAND Annual Report will evolve as OICG collaborates with interagency colleagues to determine the appropriate methods to answer the questions set out in the mandate.

Fundamentally, the report aims to provide the public with an aggregate view across government to address the questions outlined in the legislation:

- How and where were funds invested and by which program?
- How many U.S. residents were connected and by which program?
- What is the estimated local economic impact of broadband deployment efforts?

The report measurement approach is informed by a proposed logic model that connects federal investments in broadband to outcomes of expanded availability, use, and economic change. As demonstrated in Figure 2, a logic model breaks down long-term goals into manageable building blocks, enabling a clear understanding of how inputs, activities, and outputs can result in immediate, intermediate, and long-term outcomes.<sup>10</sup>

**Figure 2**  
Logic Model Framework

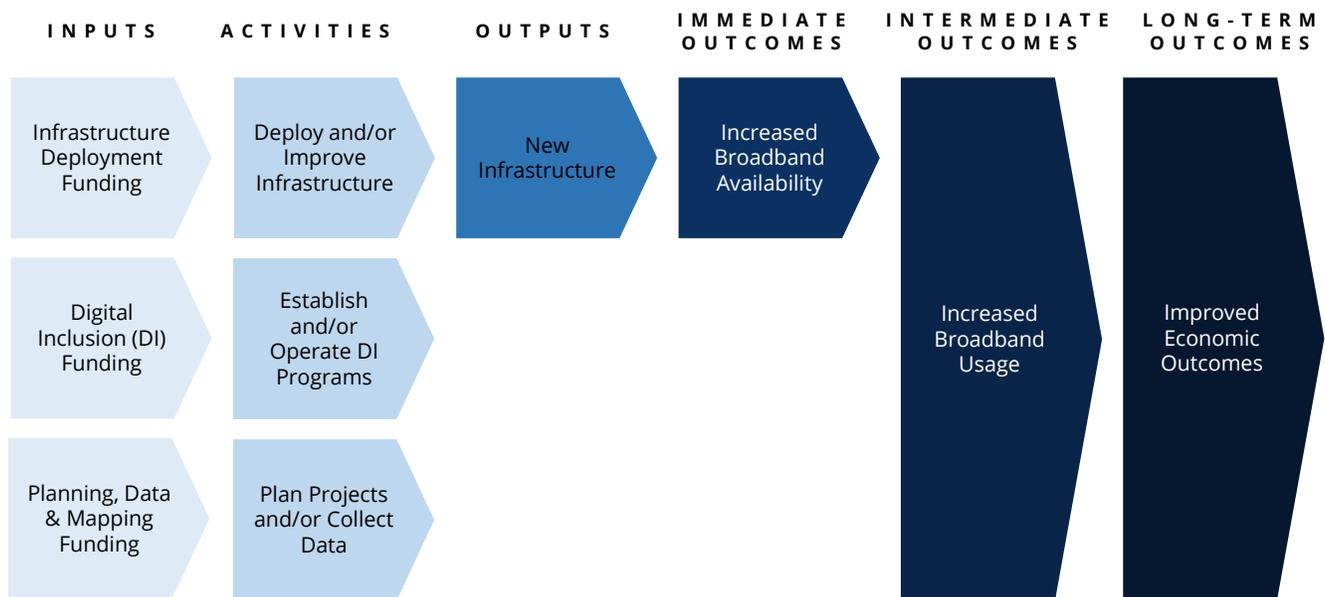


<sup>10</sup>Global Affairs Canada, Results-Based Management for International Assistance Programming at Global Affairs Canada: A How-to Guide (2016), available at [https://www.international.gc.ca/world-monde/assets/pdfs/funding-financement/results\\_based\\_management-gestion\\_axee\\_resultats-guide-en.pdf](https://www.international.gc.ca/world-monde/assets/pdfs/funding-financement/results_based_management-gestion_axee_resultats-guide-en.pdf).

OICG developed the proposed logic model in Figure 3 to guide data collection and effectively translate federal investments into real availability, usage, and economic change on American communities in years to come. The many types of federal broadband programs – including infrastructure deployment, digital inclusion or adoption, and data, planning, and mapping efforts – each deliver unique benefits and therefore require unique measures tied to the logic model components.

The proposed logic model includes components necessary to meet the mandate, though specific measures may be captured for some types of programs and not others. In part, this is intended to minimize duplication with existing reporting requirements, as programs are already required to submit information on a regular basis to support transparency and accountability of funds and ensure alignment with their programmatic goals. At the same time, many of the measures captured by one program may not apply to another. For example, infrastructure programs may provide measures on capital investments, such as fiber optic cable, which directly result in new infrastructure and increased broadband availability, but they may not track the economic gains a community has experienced through these investments. Alternatively, an adoption program which provides federal subsidies to reduce broadband service subscription costs, may measure subscriptions which result in increased broadband usage. Outputs and immediate outcomes will not be reported on for digital inclusion or adoption programs or planning, mapping, or data efforts as these are tracked at the program level. Rather than duplicating these program-level tracking efforts, this report will focus on the ACCESS BROADBAND mandate to track the collective spend, construction, and use of broadband infrastructure as a result of federal funding and associated economic impact.

**Figure 3**  
Proposed ACCESS BROADBAND Logic Model



Additionally, outcomes may vary in terms of how long they take to achieve and may stretch into years, especially in the case of broadband infrastructure deployment. It can take many years to build infrastructure to expand broadband availability within a region, and many more to see increased broadband usage. Alternatively, a digital inclusion or adoption program providing service subsidies may result in increased use within months.

The effective measurement of this logic model will require time, resources, and continued support for NTIA's federal partners to collect and analyze robust and timely broadband data, including federal program and socioeconomic data.

**Federal Program Data Sources.** Federal budgetary and program data is collected by federal agencies and aggregated through a number of existing mechanisms that provide oversight and transparency of taxpayer funds. USASpending.gov serves as an open-source platform of federal spending information, aggregating program and project-level budgetary data.<sup>11</sup> In addition, the government has conducted a number of efforts to collect and consolidate federal broadband program data, including through the American Broadband Initiative (ABI) in 2018 and the 2020 OMB Federal Program Inventory Pilot. While these sources are productive efforts to aggregate data from across the federal government, they were not intended to track detailed breakdowns of the type of broadband funding use (e.g., infrastructure, digital inclusion or adoption), geolocation information on the areas of use, or program outcomes. Thus, they do not collect the data fields needed for this report. OICG will continue to explore these and other sources of program data and coordinate on reporting measures with agency partners in future years to improve tracking of federal broadband investments.

**Socioeconomic Data Sources.** In future years, socioeconomic data sources will inform the usage and economic impact analysis components of the report. National economic and Internet use datasets will be critical to track investments across the full lifecycle of federal broadband programs and evaluate associated impacts on the lives of U.S. residents and local economies. NTIA's Department of Commerce partners, including the Census Bureau and the Bureau of Economic Analysis, collect and aggregate comprehensive datasets on the nation's people and economy. Each year, the Census Bureau runs the American Community Survey and every two years, the Bureau administers the NTIA Internet Use Survey, which is included as a supplement to the Census Bureau's Current Population Survey. In the coming years, OICG will continue to explore ways to use these and similar data sources to augment program data, including working to build a robust economic analysis model with the Department of Commerce, federal partners, and other institutions. As additional data is collected and analyzed, this report will evolve to provide insights in support of the ACCESS BROADBAND mandate.

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<sup>11</sup>USASpending.gov, Background, <https://www.usaspending.gov/about> (last accessed Nov. 17, 2021).

## 2021 Report Approach

OICG designed the 2021 report approach to understand the data currently captured by federal programs that allow funding for broadband and catalogue the challenges programs face in collecting, sharing, and reporting on broadband data. OICG worked with OMB to issue a data call to all federal agencies with broadband-related support programs in FY20. This data call requested FY20 budgetary and programmatic data on all “broadband-related support programs,” referring to federal grant or loan programs that support broadband infrastructure deployment, digital inclusion or adoption activities, and broadband data, mapping, or planning efforts. The data call promoted consistency in responses where possible through standardized data fields, clear data definitions, and freeform fields to explain alternative data collected at the project or program level. Throughout the process, OICG provided the opportunity for agencies to clarify their responses and provide insight into the challenges they faced in answering the request.

OICG requested that agencies provide a variety of information to assist in understanding what is currently collected. Requests for data on program funding included the amount of appropriated funding for FY20, or funds designated for an agency’s programs; the amount of obligated funding for FY20, or funds awarded for spending by a specific program; and the amount of outlayed funding for FY20, or funds spent by a specific program. Additionally, OICG requested data on the broadband funding uses eligible under each program, breakdowns of funding across states, projections for the number of households and businesses connected, and details on how their programs collect data.

In future years, OICG will continue work with its agency partners to evolve this methodology to enable sustainable annual reporting and help meet OICG’s long-term goals for the report.

**Limitations of Findings.** As a cross-agency data aggregation effort, this first year of tracking federal broadband investments depended on existing practices around federal broadband data collection, analysis, and reporting. The lack of standardization across the government, including in how programs identify as broadband support programs, limits the ability to draw broad conclusions about the scope of federal investments. The findings:

- Reflect only those programs that responded and should not be treated as a comprehensive view of the federal broadband funding landscape. In addition, funding for different programs may vary from year-to-year, and some programs may not self-identify as broadband support programs despite having broadband as an eligible cost.
- Reflect the varied amount and type of data collected by programs, due to the inconsistent data collection practices across the federal government.
- Include appropriated, obligated, and outlayed funding for programs in FY20. These categories often do not match up within a fiscal year due to the lags in timing between when funds are appropriated, obligated, and ultimately outlayed to fund recipients.

Given these limitations, the findings provide insight into the current picture of broadband funding but should not be taken as the definitive dataset. NTIA will explore options to enhance the accuracy and consistency of data provided, with the goal of producing an annual report with a replicable process that allows Congress and the American public to understand where federal investments were made, the results of those investments, and ultimately, a connection to economic impacts in those areas.

# Findings

The 2021 ACCESS BROADBAND Report requires consolidation of data from a wide range of federal broadband programs and begins to quantify the investments of these programs. The Findings section includes three parts:

- **FY20 Federal Broadband Investment Landscape:** An overview of the responding agencies, programs, and funding for broadband initiatives.
- **Current State of Measuring Connection:** An overview of the existing data collection practices used to assess broadband connections, including availability, usage, and alternative measures.
- **Challenges of Tracking Federal Broadband Investments:** A review of the major obstacles to tracking federal broadband investments.

**Response Overview.** Thirteen agencies representing 66 FY20 programs responded to the data call, listed in Table 1.

**Table 1: List of Responding Federal Broadband-Related Programs**

AGENCY	PROGRAMS
Appalachian Regional Commission	<ul style="list-style-type: none"> <li>• Area Development Program</li> <li>• POWER Initiative</li> </ul>
Delta Regional Authority	<ul style="list-style-type: none"> <li>• Community Infrastructure Fund</li> <li>• States' Economic Development Assistance Program (SEDAP)</li> </ul>
Denali Commission	<ul style="list-style-type: none"> <li>• Alaska Broadband Program</li> </ul>
Federal Communications Commission	<ul style="list-style-type: none"> <li>• 5G Fund</li> <li>• Alaska Plan</li> <li>• Connect America Fund - Broadband Loop Support</li> <li>• Connect America Fund - Phase II Auction</li> <li>• Connect America Fund Phase II - Model-Based Support</li> <li>• Connect USVI Fund</li> <li>• Connected Care Pilot Program</li> <li>• COVID-19 Telehealth Fund - Round 1</li> <li>• E-rate</li> <li>• High Cost ACAM Support</li> <li>• Rural Digital Opportunity Fund</li> <li>• Rural Health Care Fund</li> <li>• Bringing Puerto Rico Together Fund</li> </ul>
Institute of Museum and Library Services	<ul style="list-style-type: none"> <li>• Grants to States Program</li> <li>• Laura Bush 21st Century Librarian Program</li> <li>• Native American Library Services: Basic Grants</li> <li>• Native American Library Services: Enhancement Grants</li> <li>• Native Hawaiian Library Services</li> <li>• National Leadership Grant Program for Libraries (NLG-L)</li> <li>• National Leadership Grant Program for Museums (NLG-M)</li> </ul>
National Science Foundation	<ul style="list-style-type: none"> <li>• Project OVERCOME</li> </ul>



**Table 1: List of Responding Federal Broadband-Related Programs**

A G E N C Y	P R O G R A M S
<b>U.S. Department of Agriculture</b>	<ul style="list-style-type: none"> <li>• Community Connect</li> <li>• Community Facilities Programs</li> <li>• Distance Learning and Telemedicine</li> <li>• ReConnect Program</li> <li>• Rural Broadband Access</li> <li>• Telecommunications Infrastructure</li> </ul>
<b>U.S. Department of Commerce</b>	<ul style="list-style-type: none"> <li>• FY20 EDA Public Works and Economic Adjustment Assistance Programs</li> <li>• The FY18-FY20 EDA Planning and Local Technical Assistance Program</li> </ul>
<b>U.S. Department of Education</b>	<ul style="list-style-type: none"> <li>• Alaska Native Education Program</li> <li>• Education Stabilization Fund I Allocations to the Outlying Areas- Governors</li> <li>• Education Stabilization Fund I Allocations to the Outlying Areas- SEAs</li> <li>• Elementary and Secondary Schools Emergency Relief Fund</li> <li>• Governor's Emergency Education Relief Fund</li> <li>• Higher Education Emergency Relief Fund</li> <li>• Impact Aid</li> <li>• Low-Income School Program</li> <li>• Migrant Education Programs</li> <li>• Native Hawaiian Education Program</li> <li>• Office of Indian Education, Title VI(A)(1) Formula Grants</li> <li>• Rural and Low-Income School Program</li> <li>• Small, Rural School Achievement Program</li> <li>• Title I(A) Programs</li> </ul>
<b>U.S. Department of Housing and Urban Development</b>	<ul style="list-style-type: none"> <li>• Choice Neighborhoods</li> <li>• Community Development Block Grant Program (CDBG)</li> <li>• Community Development Loan Guarantee</li> <li>• HOME Investment Partnerships Program</li> <li>• Housing Opportunities for Persons with AIDS (HOPWA)</li> <li>• Housing Trust Fund</li> <li>• Indian Community Development Block Grant</li> <li>• Indian Housing Block Grant (formula)</li> <li>• Indian Housing Block Grant (competitive)</li> <li>• Native Hawaiian Housing Block Grant</li> <li>• Neighborhood Network</li> <li>• Public Housing Capital Grants</li> <li>• Public Housing Operating Fund</li> <li>• Title VI Loan Guarantee</li> </ul>
<b>U.S. Department of the Interior</b>	<ul style="list-style-type: none"> <li>• National Tribal Broadband Grant</li> </ul>
<b>U.S. Department of Labor</b>	<ul style="list-style-type: none"> <li>• Workforce Innovation &amp; Opportunity Act State Statutory Formula Funding</li> </ul>
<b>U.S. Department of the Treasury</b>	<ul style="list-style-type: none"> <li>• New Markets Tax Credit (CDFI)</li> </ul>

# FY20 Federal Broadband Investment Landscape

## *FY20 Federal Broadband Investment Overview*

The data call demonstrated a FY20 federal broadband investment landscape that stretches across several agencies and mission areas. Two distinct types of federal programs responded to the data call: those with funding focused on broadband and those with funding that allow for broadband as a potential use of funding. To present an accurate depiction of the scale of broadband investments, this report organizes findings on the federal broadband landscape in the two overarching categories: broadband programs and multi-use programs.

**Broadband Programs.** Broadband programs provide grants and loans focused primarily on the following broadband uses:

- **Infrastructure Deployment:** Refers to funding for infrastructure development for high-speed transmission technologies, such as fiber, wireless, satellite, and cable.
- **Digital Inclusion or Adoption:** Refers to funding for activities necessary to ensure that all individuals and communities, including the most disadvantaged, have access to and use of broadband Internet. This category includes Internet service subsidies; devices and equipment funding; public computer and Internet access funding; digital literacy, skills training, and workforce development training; telemedicine funding; and remote learning funding.
- **Planning, Data, or Mapping:** Refers to grant or loan programs with funding for the planning of broadband initiatives (e.g., feasibility studies), or for capturing or plotting data on broadband deployment, availability, adoption, or usage. While these investments account for a relatively small portion of overall broadband funding, they help recipients to assess and plan for broadband capabilities and support the efficient and effective use of funds.

The findings section discusses broadband programs based on their levels of funding outlayed in FY20:

- **Large Broadband Programs:** Refers to broadband programs with outlayed funding above \$500k in FY20. These programs were reported by USDA's Rural Utilities Service (RUS) and the FCC, which outlayed the overwhelming amount of broadband-related funding in FY20.
- **Small Broadband Programs:** Refers to broadband programs with outlayed funding below \$500k in FY20. These programs were reported by the Denali Commission, Department of Interior (DOI), and National Science Foundation (NSF).

**Multi-Use Programs.** Many programs across the federal government include broadband as one of many eligible expenses. While these programs may support many of the same activities as broadband programs, their missions cover topics such as promoting economic growth, expanding healthcare access, improving education, and constructing community housing, facilities, and other public infrastructure. For example, broadband may be included as an eligible expense so that public housing developments can be equipped with affordable Internet for residents. Because of these programs' eligible funding uses, it is often challenging or not possible for programs to break down their funding to illustrate what portion was spent on broadband or different types of broadband activities (e.g., infrastructure deployment vs. digital inclusion or adoption).

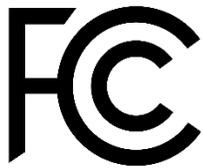
## Large Broadband Programs

In total, 19 large broadband programs responded to this year’s data request, all from the USDA and FCC, representing the majority of federal investments for broadband activities.<sup>12</sup>



### U.S. Department of Agriculture

The USDA provides leadership on food, agriculture, natural resources, rural development, nutrition, and related issues based on public policy, the best available science, and effective management.<sup>13</sup> Within USDA, RUS provides funding for infrastructure or infrastructure improvements to rural communities, including water and waste treatment, electric power, and telecommunications services.<sup>14</sup> Its broadband programs primarily focus on infrastructure deployment and digital inclusion or adoption projects.



### Federal Communications Commission

The FCC regulates interstate and international communications by radio, television, wire, satellite, and cable across the country. The Commission is the federal agency responsible for implementing and enforcing America’s communications laws and regulations. Its broadband programs are primarily focused on funding infrastructure and digital inclusion or adoption projects.

Table 2 notes which broadband purposes each large broadband program funds including infrastructure deployment (“I”), digital inclusion or adoption (“DI/A”), or planning, data, and mapping (“P/D/M”).

**Table 2: Large Broadband Program Funding Purposes**

Program Description	I	DI/A	P/D/M
<b>Community Connect:</b> Provides financial assistance to eligible applicants that will provide broadband service in rural, economically-challenged communities where service does not exist.	X	X	
<b>Distance Learning and Telemedicine:</b> Helps rural communities use the unique capabilities of telecommunications to connect to each other and to the world, overcoming the effects of remoteness and low population density.	X	X	
<b>USDA ReConnect Program:</b> Offers unique federal financing and funding options in the form of loans, grants, and loan/grant combinations to facilitate broadband deployment in areas of rural America that don’t currently have sufficient access to broadband.	X		
<b>Rural Broadband Access Grant, Loan, and Loan Guarantee Program (Broadband Program):</b> Furnishes grants, loans, and loan guarantees to provide funds for the costs of construction, improvement, or acquisition of facilities and equipment needed to provide service at the broadband lending speed in eligible rural areas.	X		

<sup>12</sup>The analysis of this report does not include information on FirstNet. Though the program is broadband-exclusive, it is a public-private partnership that works to deploy, operate, maintain, and improve the first high-speed, nationwide wireless broadband network dedicated to public safety. FirstNet was created to implement the 9/11 Commission recommendation to give public safety providers 21st-century communication tools to help save lives, solve crimes, and keep our communities and emergency responders safe. See NTIA, Public Safety, <https://www.ntia.doc.gov/category/public-safety> (last accessed Nov. 17, 2021).

<sup>13</sup>USDA, About the U.S. Department of Agriculture, <https://www.usda.gov/our-agency/about-usda> (last accessed Nov. 17, 2021).

<sup>14</sup>USDA, Rural Utilities Service, <https://www.rd.usda.gov/about-rd/agencies/rural-utilities-service> (last accessed Nov. 17, 2021).



**Table 2: Large Broadband Program Funding Purposes**

Program Description		I	DI/A	P/D/M
<b>USDA</b>	<b>Telecommunications Infrastructure Loans and Loan Guarantee Program:</b> Provides financing for the construction, improvement, and expansion of telephone service and broadband in rural areas.	X		
	<b>5G Fund for Rural America:</b> Provides funding to bring 5G mobile broadband service to rural areas that would be unlikely to otherwise see deployment of 5G broadband service based upon new mobile coverage data submitted in the Commission's Digital Opportunity Data Collection.	X		
	<b>Alaska Plan:</b> Provides and allocates funding to maintain, extend, and upgrade broadband service across certain areas of Alaska.	X		
	<b>Connect America Fund (CAF) Broadband Loop Support:</b> Provides support for voice and broadband service, including stand-alone broadband, and helps carriers recover the difference between loop costs associated with providing voice and/or broadband service and consumer loop revenues.	X		
	<b>Connect America Fund Phase II Auction:</b> Provides funding over a 10-year period to service providers to subsidize the cost of building new network infrastructure or performing network upgrades to provide voice and broadband service in areas where it is lacking.	X		
	<b>Connect America Fund Phase II Model:</b> Provides support to price-cap carriers based on a forward-looking model of the cost of constructing modern networks for deploying voice and broadband services in states with unserved areas.	X		
<b>FCC</b>	<b>Connect USVI Fund:</b> Provides funding over a 10-year period to support the restoration, expansion, and upgrade of fixed and mobile communications networks on the U.S. Virgin Islands and offers funding to carriers in the U.S. Virgin Islands to help restore voice and broadband service.	X		
	<b>Connected Care Pilot Program:</b> Provides universal service support over a 3-year period to help defray health care providers' qualifying costs of providing connected care services, with a primary focus on providing these services to low-income or veteran patients.		X	
	<b>COVID-19 Telehealth Program:</b> Provides funding, as part of the Coronavirus Aid, Relief, and Economic Security (CARES) Act, to help health care providers provide connected care services to patients at their homes or mobile locations in response to the COVID-19 pandemic by fully funding telecommunications services, information services, and other necessary devices.		X	
	<b>E-Rate program:</b> Makes telecommunications and information services more affordable for schools and libraries, by providing discounts for telecommunications, Internet access, and internal connections to eligible schools and libraries.	X	X	
	<b>Alternative Connect America Cost Model (ACAM):</b> Provides funding to rate-of-return carriers that voluntarily elected to transition to a new cost model for calculating High Cost support in exchange for meeting defined broadband build-out obligations.	X		
	<b>Lifeline Program:</b> Provides subscribers a discount on qualifying monthly telephone service, broadband Internet service, or bundled voice-broadband packages purchased from participating wireline or wireless providers.		X	



**Table 2: Large Broadband Program Funding Purposes**

	Program Description	I	DI/A	P/D/M
FCC	<b>Rural Digital Opportunity Fund (RDOF):</b> Disburses funding over a 10-year period to entities including telephone companies, cable operators, electric cooperatives, satellite operators and fixed wireless providers to bring fixed broadband and voice service to millions of unserved homes and small businesses in rural America.	X		
	<b>Rural Health Care Program:</b> Provides funding to eligible health care providers for telecommunications and broadband services necessary for the provision of health care.		X	X
	<b>Bringing Puerto Rico Together Fund:</b> Provides funding to support the restoration, expansion, and upgrade of fixed and mobile communications networks in Puerto Rico, including funding to rebuild, expand and harden fixed and mobile voice and broadband networks across Puerto Rico to ensure that communications systems on the islands are capable of withstanding future storms.	X		

**Funding Overview**

The programs listed in Table 3 received a total of \$1.662 billion in appropriations in FY20, obligated \$5.334 billion, and outlayed \$4.942 billion in FY20. Some programs' FY20 obligated and outlayed funding exceeds their appropriations because that funding is comprised of funding that was appropriated in years prior to FY20. Also, other than the COVID-19 Telehealth Program, the FCC's programs are not considered appropriated funding because they are funded by contributions from telecommunications providers based on their interstate and international telecommunications revenues.

Given the variation in year-over-year funding across each of the funding categories, the following analysis focuses on outlays, representing funds spent by a program within the fiscal year.

**Table 3: Large Broadband Program Estimated Funding**

Agency and Program	Total Appropriated Funding for Reported Programs	Total Broadband-Related Obligated Funding	Total Broadband-Related Outlayed Funding
Community Connect	\$35,000,000	\$15,770,000	\$19,430,000
Distance Learning and Telemedicine	\$71,250,000	\$69,200,000	\$23,500,000
ReConnect	\$655,000,000	\$1,286,070,000	\$4,120,000
<b>USDA</b> Rural Broadband Access	\$11,200,000	\$0	\$9,350,000
Telecommunications Infrastructure	\$690,000,000	\$98,560,000	\$140,600,000
<b>USDA Total</b>	\$1,462,450,000	\$1,469,600,000	\$197,000,000

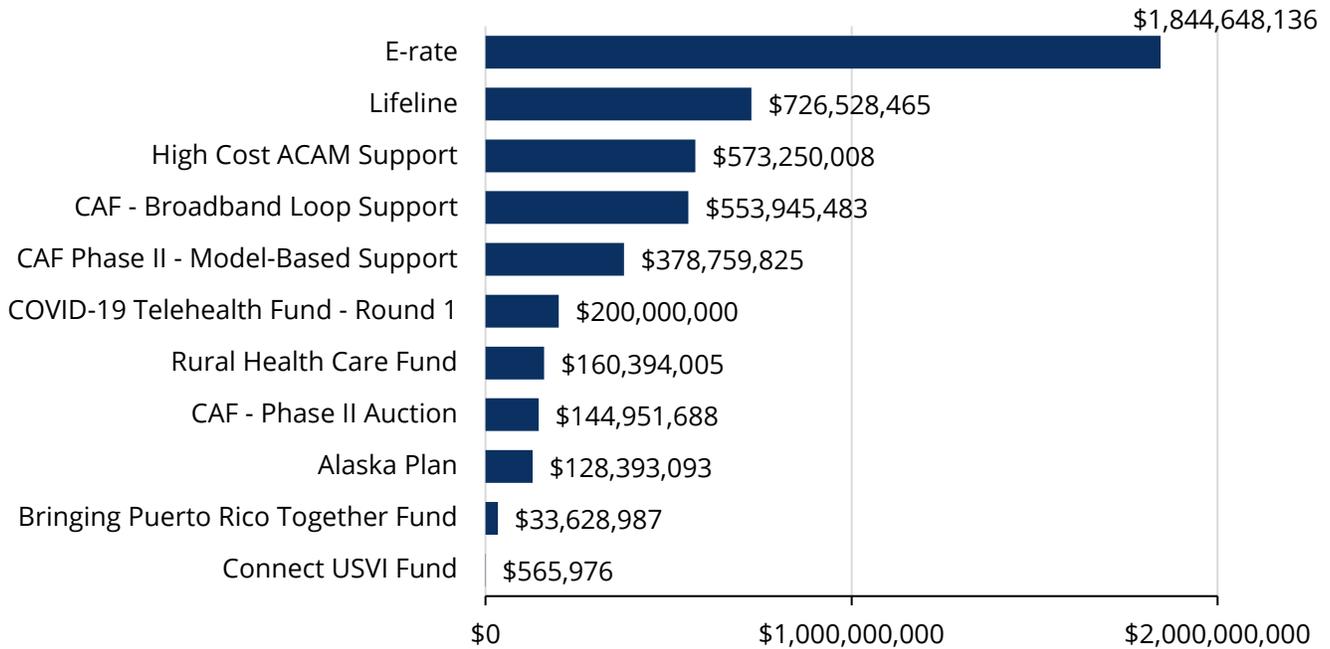


**Table 3: Large Broadband Program Estimated Funding**

Agency and Program	Total Appropriated Funding for Reported Programs	Total Broadband-Related Obligated Funding	Total Broadband-Related Outlayed Funding
5G Fund		\$0	\$0
Alaska Plan		\$0	\$128,390,000
CAF – Broadband Loop Support		\$0	\$553,950,000
CAF – Phase II Auction	Not applicable due to FCC funding structure	\$447,930,000	\$144,950,000
CAF Phase II – Model-Based Support		\$0	\$378,700,000
Connect USVI Fund		\$3,990,000	\$560,000
Connected Care Pilot Program		\$100,000,000	\$0
<b>FCC</b> COVID-19 Telehealth Fund – Round 1	\$200,000,000	\$200,000,000	\$200,000,000
E-rate		\$2,583,190,000	\$1,844,650,000
High Cost ACAM Support		\$0	\$573,250,000
Lifeline		\$0	\$726,530,000
Rural Digital Opportunity Fund	Not applicable due to FCC funding structure	\$0	\$0
Rural Health Care Fund		\$274,490,000	\$160,390,000
Bringing Puerto Rico Together Fund		\$254,370,000	\$33,630,000
<b>FCC Total</b>	\$200,000,000	\$3,863,970,000	\$4,745,000,000
<b>Grand Total</b>	<b>\$1,662,450,000</b>	<b>\$5,333,570,000</b>	<b>\$4,942,000,000</b>

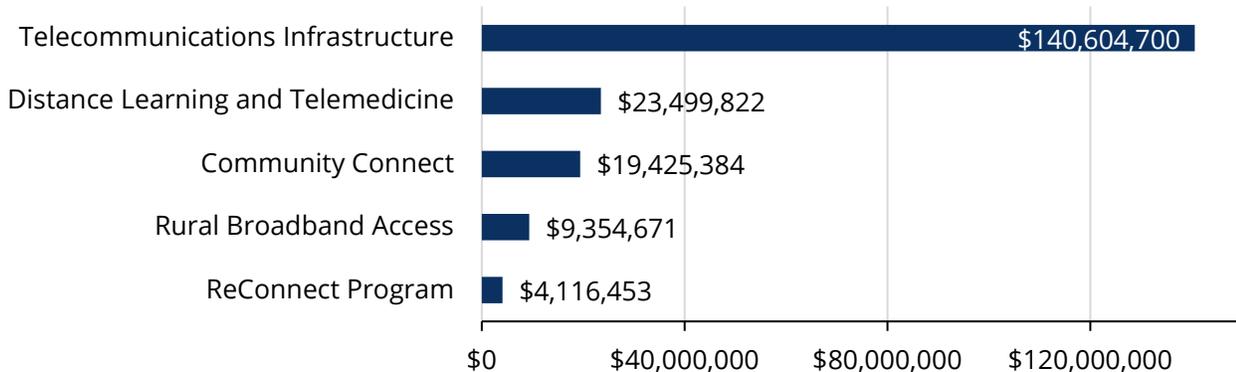
With nearly \$5 billion outlayed to states and territories in FY20, the FCC's programs reported 96% of the FY20 outlayed funding for large broadband programs. The most prominent FY20 program is the high-cost program, which comprises the CAF, RDOF, ACAM, BLS, Alaska Plan, and the Bringing Puerto Rico Together Fund and Connect USVI Funds. The next largest FCC program is E-Rate, which subsidizes Internet service for schools. Lifeline, which subsidizes Internet and phone service for low-income individuals, represented the third-highest FCC outlay. The FCC's programs with FY20 outlayed funding are detailed in Figure 4.

**Figure 4**  
FCC FY20 Outlayed Funding, by Program



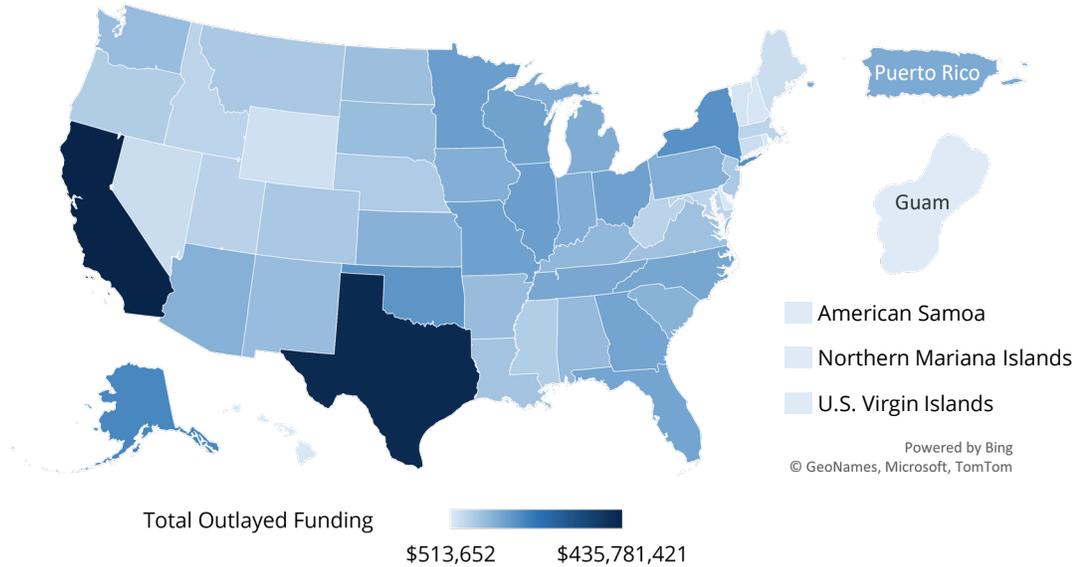
As shown in Figure 5, the USDA's outlayed funding in FY20 represents significant investments in the connectivity of rural communities, totaling nearly \$200 million. The Telecommunications Infrastructure Program, which funds infrastructure deployment for the expansion of broadband and telephone service in rural areas, is responsible for 71% of USDA's FY20 outlays.

**Figure 5**  
USDA FY20 Outlayed Funding, by Program



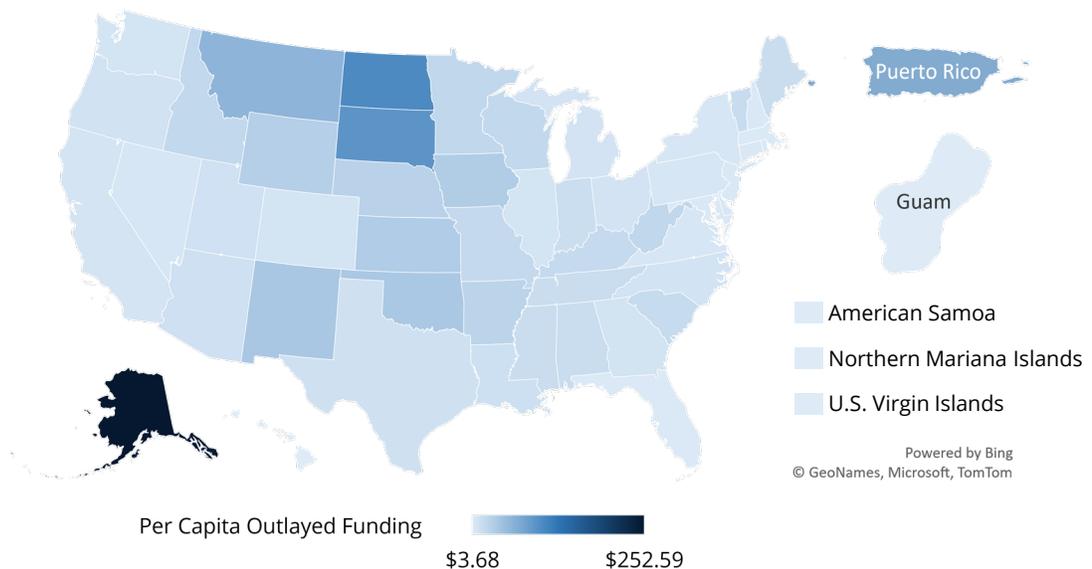
As shown in Figure 6, every state and territory in the United States received funds from these agencies' programs. The top five states that received the most outlayed funding from these programs were, in order from the highest amount, California (\$436M), Texas (\$420M), most Alaska (\$185M), New York (\$165M), and Oklahoma (\$159M).

**Figure 6**  
FCC and USDA FY20 Outlayed Funding by U.S. State and Territory



The five states that received the most outlayed funding per capita from these programs were Alaska (\$253/resident), North Dakota (\$106/resident), South Dakota (\$96/resident), Montana (\$60/resident) and New Mexico (\$41/resident), as shown in Figure 7. Alaska stood apart with more than two times as much per-resident spending as North Dakota and more than 17 times the national median of \$14.86 per-resident in funding.

**Figure 7**  
FCC and USDA FY20 Per Capita Outlayed Funding by U.S. State and Territory

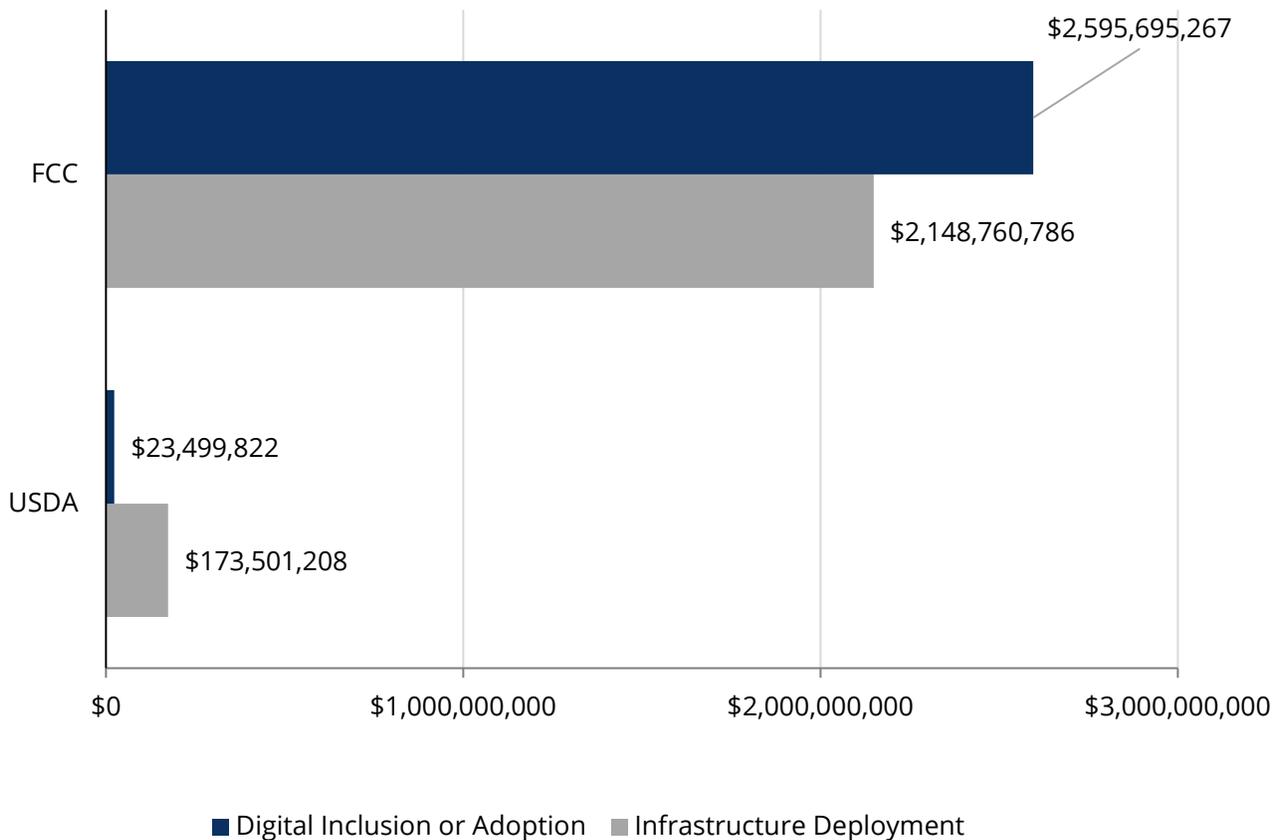


### Funding Use

In FY20, the USDA and FCC together outlayed \$2.619 billion for digital inclusion and adoption, including subsidized Internet service, and \$2.322 billion for infrastructure deployment. Between the two agencies, only one program, the FCC Rural Health Care Fund, reported outlayed funding to planning, data, or mapping, resulting in less than \$1 million outlayed.

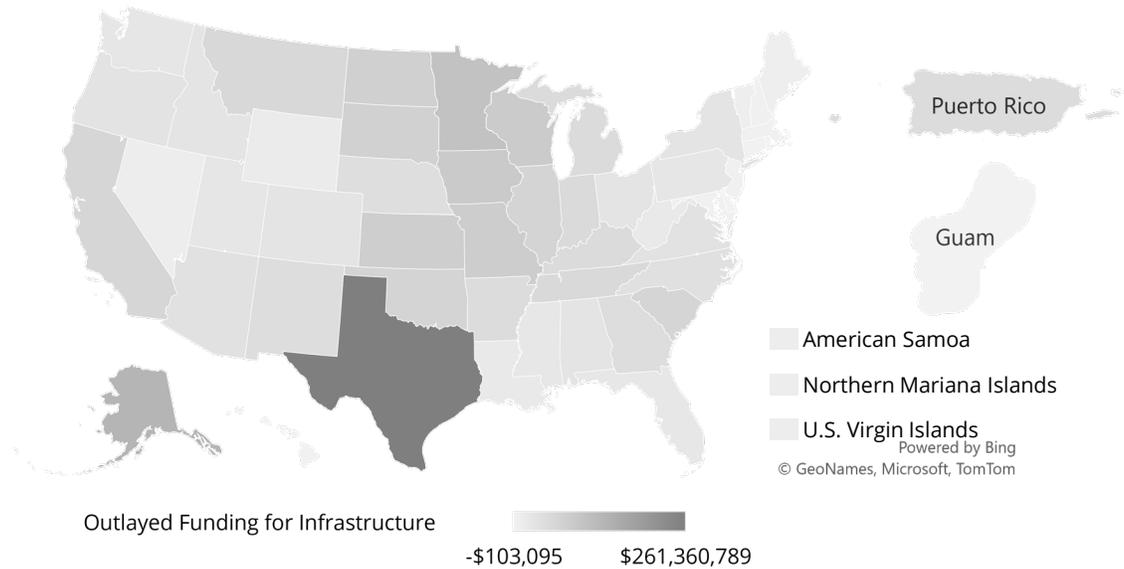
As shown in Figure 4, the FCC’s outlayed funding mainly went to the E-Rate and Lifeline programs, which focus on funding affordability and digital inclusion. The USDA programs, however, focused more heavily on infrastructure deployment through the Telecommunications Infrastructure Program, Rural Broadband Access Program, ReConnect Program, and Community Connect Program, which totaled 88.1% of USDA’s FY20 outlays. The infrastructure and digital inclusion spend for each agency is illustrated in Figure 8 below.

**Figure 8**  
FCC and USDA FY20 Outlayed Funding for Infrastructure Deployment and Digital Inclusion or Adoption

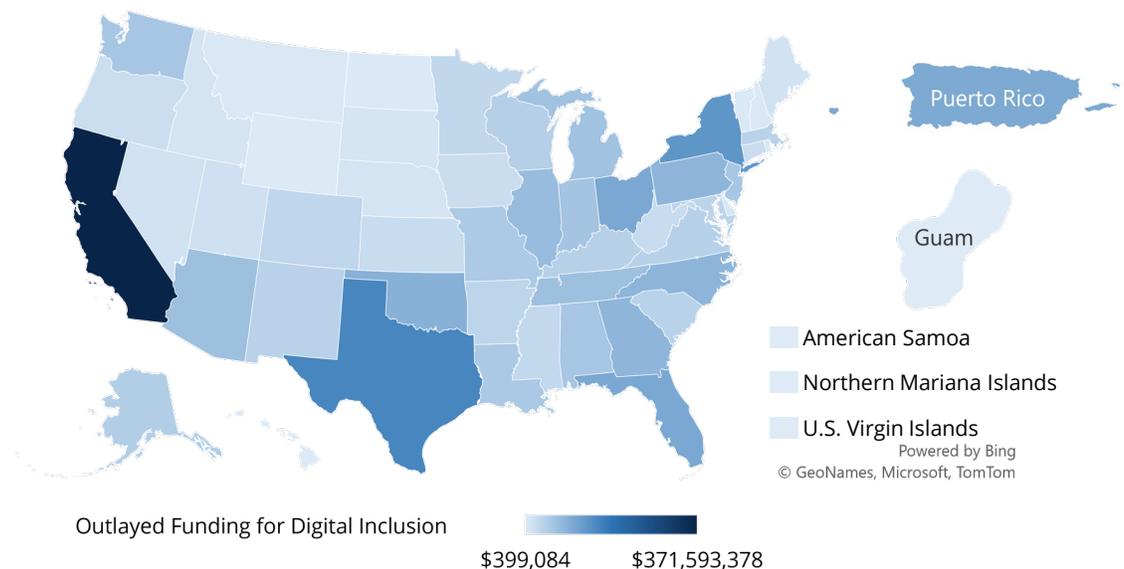


While all states and territories received FY20 outlays, infrastructure deployment and digital inclusion or adoption funding were disbursed differently across states. Figure 9 provides a state-by-state view of outlayed funding for infrastructure deployment, with the highest levels of outlayed funding going to Texas (\$261M), Alaska (\$138M), and Minnesota (\$109M). Figure 10 shows a similar breakdown for digital inclusion or adoption outlays, with California (\$372M), Texas (\$159M), and New York (\$134M) representing the top three states funded.

**Figure 9**  
FCC and USDA FY20 Outlayed Funding for Infrastructure Deployment, by State



**Figure 10**  
FCC and USDA FY20 Outlayed Funding for Digital Inclusion, by State



## Small Broadband Programs

In total, three small broadband programs responded to this year's data request. They primarily funded planning, data, and/or mapping efforts, and are run by the Denali Commission, the Department of the Interior, and the National Science Foundation.



### **The Denali Commission**

The Denali Commission is an independent federal agency designed to provide critical utilities, infrastructure, and economic support throughout Alaska.<sup>15</sup> As part of its efforts, the Commission is working to connect every Alaskan to broadband Internet. The Alaska Broadband Program is a plan to meet that goal, focusing largely on improving “middle-mile” and “last-mile” broadband infrastructure throughout Alaska.<sup>16</sup>



### **U.S. Department of Interior**

The U.S. Department of the Interior (DOI) protects and manages the nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its responsibilities or special commitments to American Indians, Alaska Natives, and affiliated Island Communities.<sup>17</sup> In pursuit of these goals, the department is working to help connect tribal communities to broadband Internet through the National Tribal Broadband Grant, which provides funding to federally recognized American Indian and Alaska Native tribes, bands, villages, nations, or communities to deploy broadband.<sup>18</sup>



### **National Science Foundation**

The National Science Foundation (NSF) is an independent federal agency that supports research to create knowledge, promote the progress of science, advance the national health and prosperity, and secure the national defense.<sup>19</sup> Expanding broadband is essential to these goals, motivating the agency to launch the OVERCOME (cONnectiViTy for undERserved COMMunitiEs) Project. The goal of this project is to select, launch, and oversee five proof-of-concept efforts to deploy novel broadband technology solutions to both rural and urban underserved communities.<sup>20</sup>

<sup>15</sup>The Denali Commission, Denali Commission Story, <https://www.denali.gov/> (last accessed Nov. 17, 2021).

<sup>16</sup>The Denali Commission, A Blueprint for Alaska's Broadband Future, (Dec. 11, 2019), available at [https://secureservercdn.net/198.71.233.52/02e.11d.myftpupload.com/wp-content/uploads/2019/12/2019\\_Alaska\\_Broadband\\_Plan\\_Final-1.pdf](https://secureservercdn.net/198.71.233.52/02e.11d.myftpupload.com/wp-content/uploads/2019/12/2019_Alaska_Broadband_Plan_Final-1.pdf).

<sup>17</sup>DOI, About Interior, <https://www.doi.gov/about> (last accessed Nov. 17, 2021).

<sup>18</sup>DOI, National Tribal Broadband Grant (NTBG), <https://www.bia.gov/service/grants/ntbg> (last accessed Nov. 17, 2021).

<sup>19</sup>NSF, About the National Science Foundation, <https://www.nsf.gov/about/> (last accessed Nov. 17, 2021).

<sup>20</sup>NSF, OVERCOME: Connectivity for Underserved Communities, [https://www.nsf.gov/awardsearch/showAward?AWD\\_ID=2044448&HistoricalAwards=false](https://www.nsf.gov/awardsearch/showAward?AWD_ID=2044448&HistoricalAwards=false) (last accessed Nov. 17, 2021).

Table 4 notes which broadband purposes each small broadband program funds, including infrastructure deployment (“I”), digital inclusion or adoption (“DI/A”), or planning, data, and mapping (“P/D/M”).

**Table 4: Small Broadband Program Funding Purposes**

	Program Description	I	DI/A	P/D/M
<b>Denali Comm.</b>	<b>Alaska Broadband Program:</b> Plans to connect every Alaskan to broadband, focusing largely on improving “middle-mile” and “last-mile” broadband infrastructure throughout Alaska.			X
<b>DOI</b>	<b>National Tribal Broadband Grant:</b> Provides funding to federally recognized American Indian and Alaska Native tribes, bands, villages, nations, or communities to deploy broadband.			X
<b>NSF</b>	<b>Project OVERCOME:</b> Selects, launches, and oversees five proof-of-concept efforts to deploy novel broadband technology solutions to both rural and urban underserved communities			X

### Funding Overview

Programs administered by DOI, NSF, and the Denali Commission awarded a total of \$3.27 million in obligated funds to entities across the country in FY20, as shown in Table 5. Because NSF and DOI programs were not yet outlaying funding in FY20, of the three agencies, only \$120,000 from the Denali Commission was outlayed to states or territories in FY20. This likely reflects a lag from when funding is obligated until it is outlayed by programs. Though the programs are relatively small when compared to the USDA and FCC, their funding represents important federal investments in tribal communities (Denali Commission and DOI) and emerging technologies that aim to close the digital divide (NSF).

**Table 5: Small Broadband Program Estimated Funding**

Agency and Program	Total Appropriated Funding for Reported Programs	Total Broadband-Related Obligated Funding	Total Broadband-Related Outlayed Funding
<b>Denali Comm.</b> Alaska Broadband Program	\$1,000,000	\$120,000	\$120,000
<b>NSF</b> Project Overcome	\$1,950,000	\$1,950,000	\$0
<b>DOI</b> National Tribal Broadband Grant	\$9,670,000	\$1,200,000	\$0
<b>Grand Total</b>	\$12,620,000	\$3,270,000	\$120,000

## Multi-Use Programs

Beyond programs focused on broadband, many programs invest in broadband as one of many eligible funding uses. In responding to this year's data call, many multi-use programs noted challenges with isolating the portion of funds dedicated to broadband-related purposes from those allocated for non-broadband purposes. Funding information presented in this section does not represent the level of funds invested solely in broadband in FY20, but rather funds which were eligible for investment on broadband. Nonetheless, multi-use programs provide critical broadband support to communities across the country and are essential to understanding the full range of the federal broadband landscape.



### **Appalachian Regional Commission**

The Appalachian Regional Commission (ARC) is an economic development partnership agency of the federal government and 13 state governments focusing on 423 counties across the Appalachian Region. ARC's mission is to innovate, partner, and invest to build community capacity and strengthen economic growth in Appalachia to help the Region achieve socioeconomic parity with the nation.<sup>21</sup> Expanding broadband is a core part of this mission. ARC administers two programs that include broadband-related activities as eligible uses: the Area Development Program and the POWER Initiative.



### **U.S. Economic Development Administration (within the Dept. of Commerce)**

The U.S. Economic Development Administration (EDA) leads the federal economic development agenda by promoting innovation and competitiveness, preparing American regions for growth and success in the worldwide economy.<sup>22</sup> Increasing broadband access and use across the country is a necessary component of the EDA's activities. EDA provides funding eligible for broadband-related activities through two programs: the FY20 EDA Public Works and Economic Adjustment Assistance Programs and the FY18-FY20 EDA Planning and Local Technical Assistance Program.

<sup>21</sup>ARC, About the Appalachian Regional Commission, <https://www.arc.gov/about-the-appalachian-regional-commission/> (last accessed Nov. 17, 2021).

<sup>22</sup>EDA, Overview, <https://eda.gov/about/> (last accessed Nov. 17, 2021).



### U.S. Department of Education

The U.S. Department of Education seeks to promote student achievement and preparation for global competitiveness by fostering educational excellence and ensuring equal access.<sup>23</sup> In the digital age, broadband connection is an essential tool for a robust education. Particularly in the era of COVID-19 and remote learning, a broadband connection has become a prerequisite to engage with the education system. The Department administers several programs that include funding eligible for broadband activities, including:

- The Alaska Native Education Program
- The Education Stabilization Fund I Allocations to the Outlying Areas – Governors
- The Education Stabilization Fund I Allocations to the Outlying Areas – SEAs
- The Elementary and Secondary Schools Emergency Relief Fund
- The Governor's Emergency Education Relief Fund
- The Higher Education Emergency Relief Fund
- The Impact Aid Program
- The Migrant Education Program
- The Native Hawaiian Education Program
- The Office of Indian Education, Title VI(A)(1) Formula Grants
- The Rural and Low-Income School Program
- The Small, Rural School Achievement Program
- The Title I(A) Program



### U.S. Department of Housing and Urban Development

The U.S. Department of Housing and Urban Development (HUD) works to create strong, sustainable, inclusive communities and quality affordable homes for all; strengthen the housing market to bolster the economy and protect consumers; meet the need for quality affordable rental homes; utilize housing as a platform for improving quality of life; and build inclusive and sustainable communities free from discrimination.<sup>24</sup> A broadband connection is increasingly considered an essential tool in any house or apartment. For several of its programs, HUD offers funding that can be used to provide broadband access in housing units and in some cases, the department requires that funding recipients make broadband accessible in their housing units. In addition, the Community Development Block Grant Program can fund broadband infrastructure for entire communities, if the beneficiaries are predominantly low- to moderate-income. Programs eligible for broadband-related activities include:

- Choice Neighborhoods
- Community Development Block Grant Program (CDBG)
- Community Development Loan Guarantee
- HOME Investment Partnerships Program
- Housing Opportunities for Persons with AIDS (HOPWA)
- Housing Trust Fund
- Indian Community Development Block Grant
- Indian Housing Block Grant (formula)
- Indian Housing Block Grant (competitive)
- Native Hawaiian Housing Block Grant

<sup>23</sup>U.S. Department of Education, About ED, <https://www2.ed.gov/about/landing.jhtml?src=ft> (last accessed Nov. 17, 2021).

<sup>24</sup>Grants.gov, U.S. Department of Housing and Urban Development (HUD), <https://www.grants.gov/learn-grants/grant-making-agencies/department-of-housing-and-urban-development.html> (last accessed Nov. 17, 2021).



- Neighborhood Network
- Public Housing Capital Grants
- Public Housing Operating Fund
- Title VI Loan Guarantee



### **Institute of Museum and Library Services**

The Institute of Museum and Library Services (IMLS) works to advance, support, and empower America's museums, libraries, and related organizations through grantmaking, research, and policy development.<sup>25</sup> Libraries play a significant role in providing digital access and encouraging use of the Internet, with 99.6% of public libraries providing Internet access as of 2019.<sup>26</sup> Programs eligible for broadband-related activities include:

- The Grants to States Program
- The Laura Bush 21<sup>st</sup> Century Librarian Program
- The National Leadership Grant Program for Libraries (NLG-L)
- The National Leadership Grant Program for Museums (NGL-M)
- The Native American Library Services: Basic Grants Program
- The Native American Library Services: Enhancement Grants Program
- The Native Hawaiian Library Services Program



### **USDA Rural Housing Service**

USDA's Rural Housing Service (RHS) offers funding through a variety of programs to build or improve housing and essential community facilities in rural areas.<sup>27</sup> RHS administers the Community Facilities Program, which offers direct loans, loan guarantees and grants to construct, expand, or improve essential public services and facilities in communities across rural America, including those that provide health care, education, public safety, and public services.<sup>28</sup> The program includes broadband as an eligible expense when developing these facilities.



### **Delta Regional Authority**

The Delta Regional Authority (DRA) works to improve regional economic opportunity by helping to create jobs, build communities, and improve the lives of the 10 million people who reside in the 252 counties and parishes of the eight-state Delta region.<sup>29</sup> The DRA provides funding for projects that advance economic development and develop infrastructure in the region. As such, grant programs eligible for broadband-related funding include: the States' Economic Development Assistance Program (SEDAP) and the Community Infrastructure Fund.

<sup>25</sup>IMLS, Mission, <https://www.ims.gov/about/mission> (last accessed Nov. 17, 2021).

<sup>26</sup>IMLS, <https://www.ims.gov/research-evaluation/data-collection/public-libraries-survey> (last accessed December 16, 2021).

<sup>27</sup>USDA, Rural Housing Service, <https://www.rd.usda.gov/about-rd/agencies/rural-housing-service> (last accessed Nov. 17, 2021).

<sup>28</sup>USDA, Community Facilities Programs, <https://www.rd.usda.gov/programs-services/community-facilities> (last accessed Nov. 17, 2021)

<sup>29</sup>DRA, About Delta Regional Authority, <https://dra.gov/about-dra/about-delta-regional-authority/> (last accessed Nov. 17, 2021)..



### U.S. Department of Labor

The U.S. Department of Labor seeks to foster, promote, and develop the welfare of the wage earners, job seekers, and retirees of the United States; improve working conditions; advance opportunities for profitable employment; and assure work-related benefits and rights.<sup>30</sup> Within this agency, the Employment and Training Administration (ETA) administers federal government job training and worker dislocation programs, federal grants to states for public employment service programs, and unemployment insurance benefits.<sup>31</sup> The ETA allocates funding to states through the Workforce Innovation and Opportunity Act (WIOA). WIOA funds can be used to pay for devices and broadband Internet service that will allow a participant to create or maintain a wireless connection for distance learning, searching for jobs, and other employment and training services where such services are already allowable.



### U.S. Department of the Treasury

The U.S. Department of the Treasury's mission is to maintain a strong economy and create economic and job opportunities by promoting the conditions that enable economic growth and stability at home and abroad, strengthen national security by combating threats and protecting the integrity of the financial system, and manage the U.S. Government's finances and resources effectively.<sup>32</sup> The department administers the Community Development Financial Institutions (CDFI) Fund, which works to expand economic opportunity for underserved people and communities.<sup>33</sup> The CDFI Fund runs the New Markets Tax Credit (NMTC) Program, which incentivizes community development and economic growth through the use of tax credits that attract private investment to distressed communities. Broadband is one of many eligible areas of investment for the NMTC Program.

## Funding Overview

As shown in Table 6, multi-use programs reported roughly \$7.7 billion in FY20 outlayed funding, representing funding eligible for but not necessarily spent on broadband activities. To date, programs with multi-use funding have not been required to isolate and report on the portion of their funds dedicated to broadband-related purposes. In responding to the data call, many programs noted that obligated and outlayed funding amounts provided do not exclusively represent broadband-related spending. Though the data provided cannot indicate the precise level of broadband funding, nor the specific broadband activities funded, the information provides valuable insight into the wide range of agencies and programs in the federal broadband landscape.

<sup>30</sup>U.S. Department of Labor, About Us, <https://www.dol.gov/general/aboutdol> (last accessed Nov. 17, 2021).

<sup>31</sup>U.S. Department of Labor, ETA, About Us, <https://www.dol.gov/agencies/eta/about> (last accessed Nov. 17, 2021).

<sup>32</sup>U.S. Department of the Treasury, Role of the Treasury, <https://home.treasury.gov/about/general-information/role-of-the-treasury> (last accessed Nov. 17, 2021).

<sup>33</sup>U.S. Department of the Treasury, CDFI Fund, About Us, <https://www.cdfifund.gov/about> (last accessed Nov. 17, 2021).



**Table 6: Multi-Use Program Estimated Funding Eligible for Broadband**

Agency and Program		Total Appropriated Funding for Reported Programs	Total Broadband-Related Obligated Funding	Total Broadband-Related Outlayed Funding
<b>ARC</b>	Area Development	\$130,000,000	\$11,490,000	\$11,490,000
	POWER Initiative	\$45,000,000	\$11,190,000	\$11,190,000
<b>USDA</b>	Community Facilities Programs	Not Provided	Not Provided	Not Provided
<b>Dept of Commerce</b>	FY 2020 EDA Public Works and Economic Adjustment Assistance Programs	\$206,500,000	\$22,790,000	Not Provided
	The FY18-FY20 EDA Planning and Local Technical Assistance Program	\$43,500,000	\$500,000	\$500,000
<b>Dept of Education</b>	Alaska Native Education Program	Not Provided	Not Provided	Not Provided
	Education Stabilization Fund I Allocations to the Outlying Areas- Governors	\$30,750,000	Not Provided	\$4,780,000
	Education Stabilization Fund I Allocations to the Outlying Areas- SEAs	\$123,000,000	\$123,000,000	\$15,800,000
	Elementary and Secondary Schools Emergency Relief Fund	\$13,229,000,000	\$13,229,000,000	\$1,544,130,000
	Governor's Emergency Education Relief Fund	\$2,953,000,000	\$2,953,000,000	\$539,840,000
	Higher Education Emergency Relief Fund	\$13,953,000,000	\$13,953,000,000	\$5,605,710,000
	Impact Aid Program	Not Provided	Not Provided	Not Provided
	Migrant Education Program	Not Provided	Not Provided	Not Provided
	Native Hawaiian Education Program	Not Provided	Not Provided	Not Provided
	Office of Indian Education, Title VI(A)(1) Formula Grants	\$105,380,000	Not Provided	Not Provided
	Rural and Low-Income School Program	Not Provided	Not Provided	Not Provided
	Small, Rural School Achievement Program	Not Provided	Not Provided	Not Provided
	Title I(A) Program	Not Provided	Not Provided	Not Provided
	<b>HUD</b>	Choice Neighborhoods	\$175,000,000	Unknown
Community Development Block Grant Program (CDBG)		\$3,400,000,000	Unknown	\$0
Community Development Loan Guarantee <sup>34</sup>		\$300,000,000	Unknown	\$0
HOME Investment Partnerships Program		\$1,350,000,000	\$0	\$0

<sup>34</sup>This represents loan guarantee authority rather than appropriated budget authority.



**Table 6: Multi-Use Program Estimated Funding Eligible for Broadband**

Agency and Program		Total Appropriated Funding for Reported Programs	Total Broadband-Related Obligated Funding	Total Broadband-Related Outlayed Funding
HUD	Housing Opportunities for Persons with AIDS (HOPWA)	\$410,000,000	Unknown	Unknown
	Housing Trust Fund	\$326,500,000	\$0	\$0
	Indian Community Development Block Grant	\$70,000,000	Unknown	Unknown
	Indian Housing Block Grant (formula)	\$646,000,000	Unknown	Unknown
	Indian Housing Block Grant (competitive)	\$100,000,000	Unknown	Unknown
	Native Hawaiian Housing Block Grant	\$2,000,000	Unknown	Unknown
	Public Housing Capital Grants	\$2,745,240,000	Unknown	Unknown
	Public Housing Operating Fund	\$4,549,000,000	Unknown	Unknown
	Title VI Loan Guarantee <sup>35</sup>	\$32,000,000	Unknown	Unknown
IMLS	Grants to States Program	\$166,800,000	Not Provided	Not Provided
	Laura Bush 21 <sup>st</sup> Century Librarian Program	\$10,000,000	Not Provided	Not Provided
	National Leadership Grant Program for Libraries (NLG-L)	\$13,410,000	Not Provided	Not Provided
	National Leadership Grant Program for Museums (NGL-M)	\$8,113,000	Not Provided	Not Provided
	Native American Library Services: Basic Grants		Not Provided	Not Provided
	Native American Library Services: Enhancement Grants	\$5,260,000	Not Provided	Not Provided
Native Hawaiian Library Services		Not Provided	Not Provided	
DRA	States Economic Development Assistance Program (SEDAP)	\$15,000,000	\$490,000	\$490,000
	Community Infrastructure Fund	\$15,000,000	\$0	Not Provided
Dept. of Labor	WIOA State Statutory Formula Funding	Not Provided	Not Provided	Not Provided
Dept. of the Treasury	New Markets Tax Credit (NMTC) Program	\$5,000,000,000	\$0	\$0

<sup>35</sup>This represents loan guarantee authority rather than appropriated budget authority.

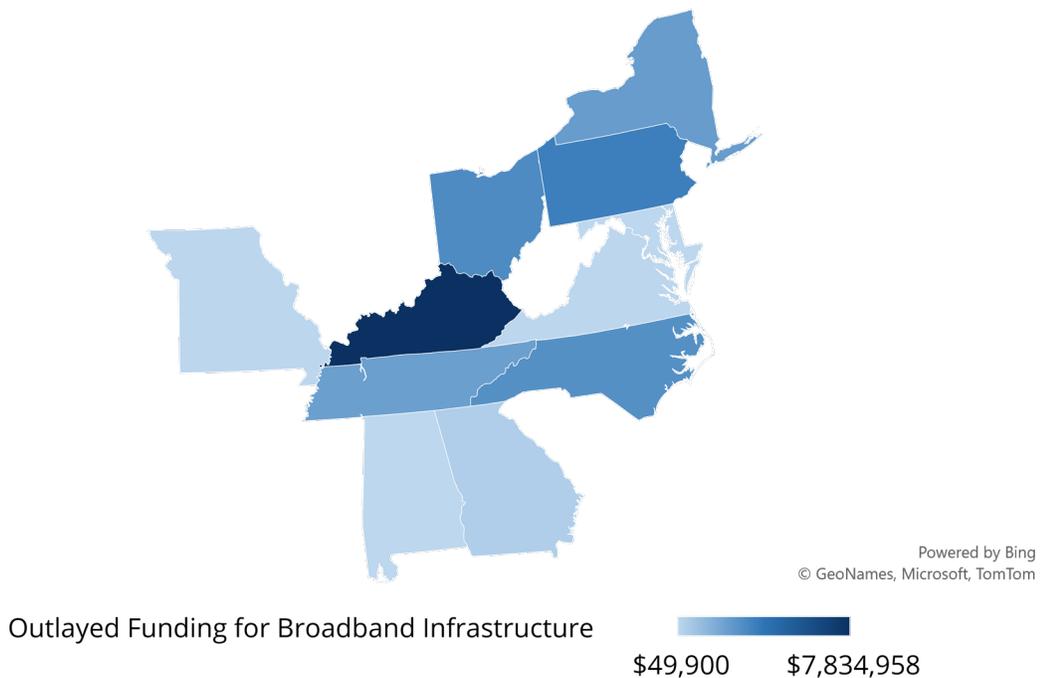
## Funding Use

While most multi-use programs do not currently collect and report on broadband-specific data, the Appalachian Regional Commission (ARC) provided detailed broadband infrastructure deployment funding data. ARC’s infrastructure programs fund dedicated broadband projects within the Appalachian Region, spanning across 423 counties in 13 states. Figure 11 shows where ARC funded broadband infrastructure deployment. Funding reached local jurisdictions within 11 out of the 13 states in the region. The bulk of ARC’s FY20 outlayed funding went to Kentucky (\$7.83M), more than double the amount received by any other state. Pennsylvania (\$3.55M) and Ohio (\$3.08M) were the next biggest recipients, followed by North Carolina (\$2.87M), New York (\$2.38M), Tennessee (\$2.72M), Georgia (\$.41M), Virginia (\$.085M), Missouri (\$.075M), Alabama (\$.061M), and Maryland (\$.05M).

Multi-use programs include eligible uses across the three primary broadband purposes, though the precise breakdown of funding is unknown. Most multi-use programs provide funding for digital inclusion or adoption activities, with 29 of these programs having funding eligible for such purposes. Additionally, 15 programs – within ARC, DRA, HUD, IMLS and the Department of Education – provide funding eligible for broadband infrastructure deployment. Four programs – within EDA, HUD, and IMLS – provide funding eligible for broadband planning, data, and mapping efforts.

**Figure 11**

ARC FY20 Outlayed Funding for Broadband Infrastructure Deployment, by State



## Current State of Measuring Connection

Over time, the ACCESS BROADBAND Annual Report will work to measure residents connected as a result of federal broadband support and USF programs and estimate the impact of the investments on local economies. Such an undertaking will take multiple years to build towards. This year's data call was designed to understand the current state of data collection and reporting on connection.

There are many ways to measure how residents are “connected” to broadband. For the 2021 report, OICG focused on broadband-applicable outcomes of increased broadband availability and increased broadband usage. OICG requested the following data from programs:

- **Broadband availability** generally refers to being physically located in close proximity to broadband. Availability can be measured by the type of deployment effort or the level or quality of service available. This year, OICG requested data on “households and businesses passed by infrastructure” and “households and businesses included in the proposed funded service area (PFSA)” to explore the feasibility of programs reporting on outcomes that quantify physical connection. Availability measures only apply to infrastructure programs.
- **Broadband usage** generally refers to usage of broadband infrastructure once it is available. Much like availability, usage can be measured in many ways – and may vary depending on specific programmatic objectives. To align around a broadly applicable standard, this year's data request asked programs to provide data on “households and businesses projected to subscribe to available broadband service” to gather information on broadband use. Usage measures may apply to both infrastructure and digital inclusion or adoption programs.

Many programs do not collect measures on availability and usage and, instead, collect alternative outcome data specifically aligned to their programmatic objectives. Broadband programs are not currently required to collect consistent outcome-based measures and for some, the measures requested may not easily translate to their programmatic objectives. For example, if a program funds student access to devices, funding objectives would not aim to increase households or businesses subscribing to service but may have an impact on student device access and usage. As a result, some programs reported on the following measures:

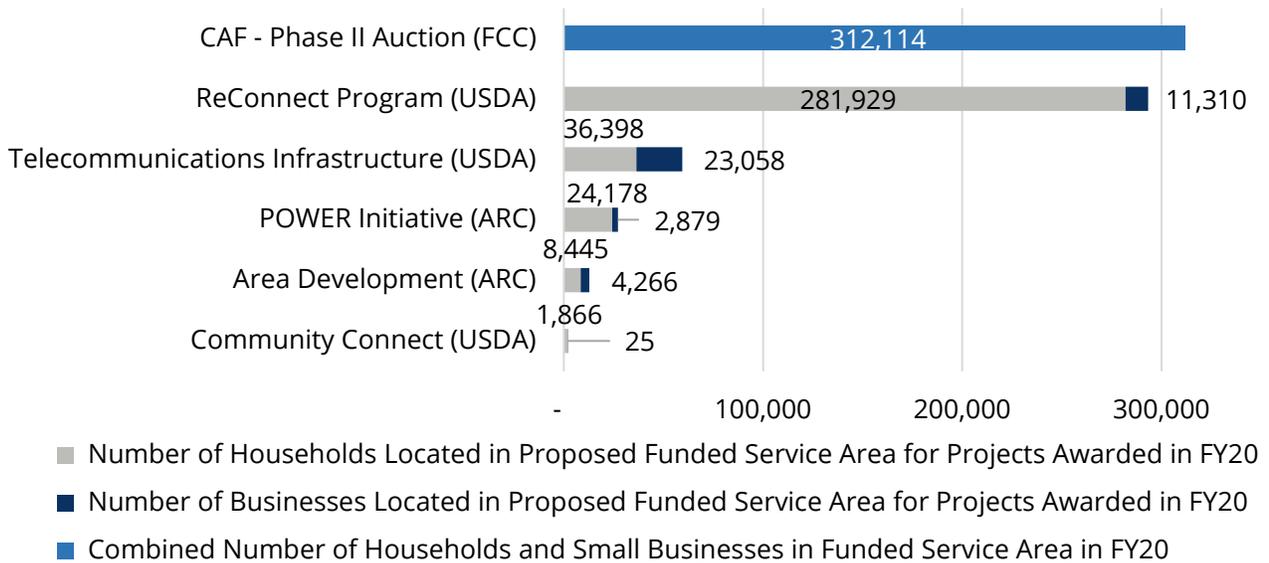
- K-12 students served by the program
- Eligible students
- Health care providers awarded funding
- Program recipients (LEAs, Tribes, Indian Community-Based Organizations, Indian Organizations)

The responses from the 2021 data call on measuring connection are provided below, broken into broadband availability, broadband usage, and alternative measures.

## Broadband Availability

This report's data collection process provided insight into how agencies collect data on broadband availability and can inform future strategies for data collection in subsequent reports. Seven programs reported the number of households and businesses located in proposed funded service areas (PFSAs), illustrated in Figure 12. These infrastructure deployment programs reside in USDA, FCC, and ARC. The FCC CAF Phase 2 Auction accounts for the largest numbers of households and businesses within its PFSAs, with an estimated combined total of 312,114 households and businesses in the PFSAs for which funding was authorized in FY20; the USDA ReConnect Program includes a combined total of 293,239 households and businesses in its PFSAs, including 281,929 households and 11,310 businesses; and the other four programs' PFSAs each include less than 50,000 combined households and businesses.

**Figure 12**  
Number of Households and Businesses in FY20 Proposed Funded Service Areas, by Program

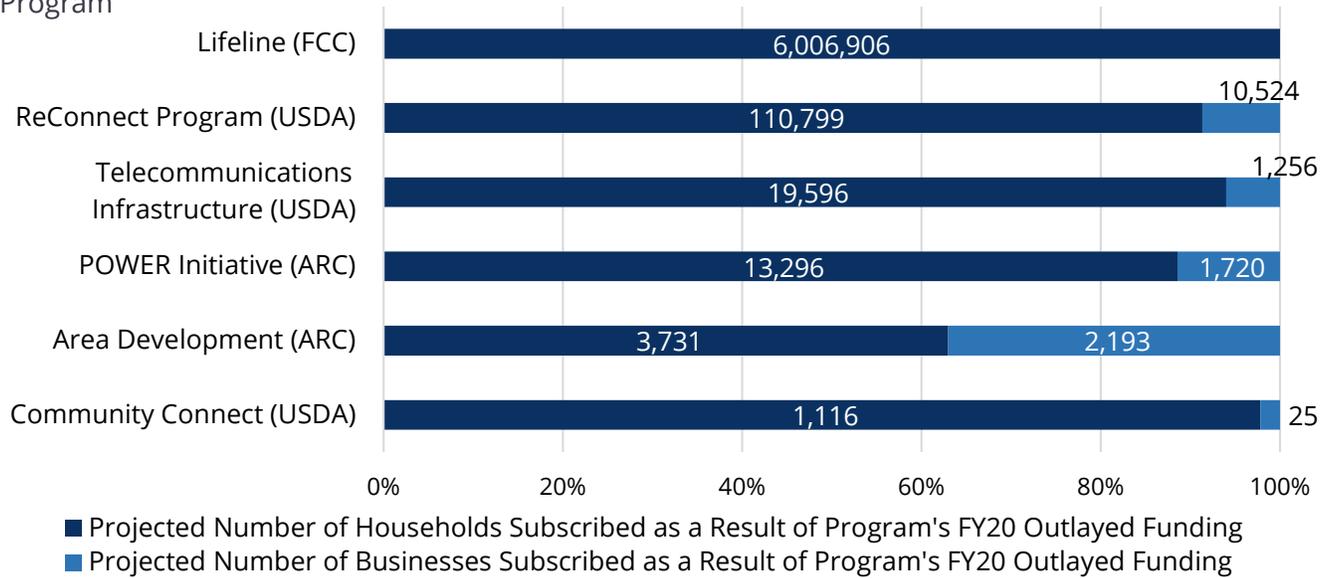


## Broadband Usage

Broadband usage data applies to all programs with broadband-eligible funding, but only six programs reported on the number of households and businesses projected to subscribe to broadband as a result of FY20 funding. As shown in Figure 13, five programs from ARC and USDA reported projected subscription data for households and businesses. The FCC Lifeline program reported the largest number of projected household subscribers (around six million). This is likely due to the program’s scope and design: as a program that helps make voice and Internet services more affordable for low-income consumers, subscription data aligns directly to its programmatic objectives.<sup>36</sup> Lifeline was followed by USDA’s ReConnect Program, which projected over 120,000 combined household and business subscribers.

**Figure 13**

Projected Number of Households and Businesses Subscribed as a Result of FY20 Outlayed Funding, by Program



<sup>36</sup>FCC, Lifeline Support for Affordable Communications, <https://www.fcc.gov/lifeline-consumers> (last accessed Nov. 17, 2021).

## Alternative Measures

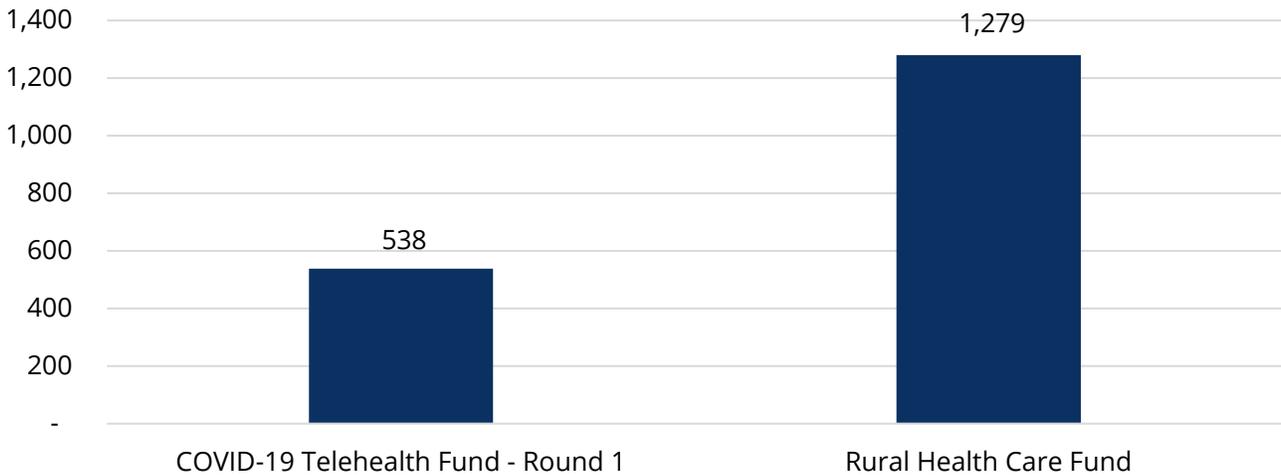
Some programs, particularly those that focus on specific educational or health outcomes, provided alternative existing outcome indicators. The data they currently capture more closely aligns to outputs or activities in a logic model, measuring direct actions taken during implementation or products and services stemming from actions taken. Data provided – such as eligible students, K-12 students served by the program, health care providers awarded funding, and program recipients – are valuable for understanding the programs’ reach but are not directly indicative of broadband availability or usage.

Some programs from the Department of Education and FCC reported on education-focused measures. The Department of Education Higher Education Emergency Relief Fund reported 14,900,000 students eligible for funding. The Office of Indian Education (OIE), Title VI(A)(1) Formula Grant program, reported 500,000 K-12 students served by the program and 1,300 program recipients in FY20. The FCC E-Rate program reported 123,386 distinct schools, libraries, and other eligible entities that were listed as a recipient of service on at least one Form 471 application, as a result of FY20 funding.

Two health-focused programs, FCC’s COVID-19 Telehealth Fund (Round 1) and the Rural Health Care Fund, reported on health care providers awarded funding in FY20, as shown in Figure 14. Because the programs fund broadband access in health care settings, this data can point to increased broadband access among funded health care providers, though it is not directly linked to subscriptions.

In the future, more complete and consistent broadband availability and usage data could enable a more comprehensive analysis of residents connected across the federal government.

**Figure 14**  
 Number of Health Care Providers Awarded Funding, by Program



# Challenges of Tracking Federal Broadband Investments

The development of the 2021 report illuminated challenges associated with tracking federal broadband investments and measuring the number of residents connected to broadband. The challenges outlined in this section were developed based on input from federal partners and analysis of data shared as part of the ACCESS BROADBAND data call.

## 1. Variation

**There is significant variation in the types of programs that fund broadband, how those programs define “connection” to broadband, and how agencies collect programmatic data related to broadband outcomes.** As this report highlights, some programs are broadband-focused while other programs have broadband as one of many eligible expenses. For programs where broadband is one of many eligible expenses, agencies generally do not have mechanisms in place to determine how much of that funding went specifically to broadband. Programs also define “residents connected to broadband” in different ways. Finally, agencies request different outcome data from recipients, using different timelines and geographic parameters, making it challenging to aggregate and analyze the data.

## 2. Agency constraints

**Agencies noted capacity and technology constraints to collect, aggregate, and report on the data required for the report.** Some programs indicated that they may lack the capabilities to report on such a complex request as is required for the ACCESS BROADBAND report. Programs are also limited in their ability to share real-time data due to differences in reporting systems, inconsistent formats of data collected from grantees, or data privacy requirements.

## 3. Timing and complexity

**There is a significant time lag between broadband projects and intended outcomes, including availability, use, and economic outcomes.** Measuring outcomes related to availability, use, and economic impact is particularly challenging with infrastructure deployment projects, which often take years to complete. It is also fundamentally difficult to measure physical connection to U.S. residences due to the complexity of accurately capturing the network speed, latency, or capacity levels that the definition of “connection to broadband” may require.

The challenges identified through the 2021 ACCESS BROADBAND Report data call point to the work to be done to improve the tracking of federal investments. OICG leveraged them to guide recommendations for future interagency coordination and data collection.

# The Path Forward

Congress, the Administration, and federal agencies are committed to closing the digital divide. An accurate accounting of federal investments and deeper understanding of the results of such investments on U.S. residents is critical to meeting the ambitious goal of achieving universal broadband for all Americans. The recommendations outlined below cut across the identified challenges and will support NTIA as it works with its federal partners to fulfill the mandate of the ACCESS BROADBAND Act over the coming years.

## *Recommendations*

- 1 | Promote consistency across programs.**  
To the extent practicable, consistent standards across the federal government, including for recipient and sub-recipient reporting, can support effective broadband-related data collection. This can include developing guidance for agencies' use of standard keywords in grant/loan award descriptions and a minimum set of data elements required in performance reports from recipients of all federal funding where broadband is an eligible use. These standards should include recommended geographic parameters and harmonized definitions related to desired outcomes.
- 2 | Leverage open data initiatives.**  
Agencies are required to collect and submit information about awards, which are published to promote transparency and accountability of taxpayer funds. Incorporating broadband-related data requirements into these efforts could reduce duplicative, time-consuming, and costly requests.
- 3 | Identify data sources and alternatives.**  
The annual report and database will require input from multiple data sources, including program-provided data and economic data sources. NTIA will evaluate alternative strategies to gather data for this report, including using data from new FCC maps, and by exploring ways to estimate Internet use in relatively small geographic areas that often comprise project areas. NTIA will also explore the use of proxies and model-based estimates to determine the economic impact of broadband programs.

## *Conclusion*

In its first year, OICG demonstrated its commitment to funding infrastructure and digital inclusion efforts, leveraging data for decision making, facilitating effective interagency, state, tribal, and private sector coordination, and building capacity in communities. OICG builds on years of experience in the broadband space and, with continued support, will continue to drive progress on these important areas.

This report exemplifies the importance of data-driven policy and investment decisions across the United States. In the coming years, OICG will build on this first ACCESS BROADBAND Annual Report to track federal investments and provide insights across the government. OICG will work to produce a sustainable, replicable annual report process that improves upon existing reporting mechanisms and leverages open data initiatives to report on the scope and economic impact of the whole-of-government approach to broadband.

