



May 2022

BROADBAND

National Strategy Needed to Guide Federal Efforts to Reduce Digital Divide

GAO Highlights

Highlights of [GAO-22-104611](#), a report to congressional requesters

Why GAO Did This Study

Broadband is critical for daily life. It provides a digital lifeline to education, work, and healthcare. The COVID-19 pandemic highlighted the urgent need for broadband access for all Americans. The President set a goal for universal broadband access by 2030.

GAO was asked to review federal broadband efforts. This report examines: (1) fragmentation and overlap among federal broadband programs and potential limitations to improved alignment and (2) the extent to which interagency coordination efforts are guided by a strategy, among other objectives.

GAO inventoried and analyzed broadband programs and interviewed 50 stakeholders, including broadband providers and local officials. GAO compared interagency coordination efforts to characteristics of a national strategy and reviewed relevant statutes, regulations, and agency documents. GAO also interviewed federal officials from agencies with broadband programs about their programs and coordination efforts.

What GAO Recommends

GAO is making three recommendations, including (1) that NTIA identify key statutory limitations to program alignment and develop legislative proposals as appropriate, and (2) that the Executive Office of the President develop and implement a national broadband strategy. NTIA agreed with our recommendations. The Executive Office of the President did not take a position on our recommendation.

View [GAO-22-104611](#). For more information, contact Andrew Von Ah at (202) 512-2834 or vonaha@gao.gov.

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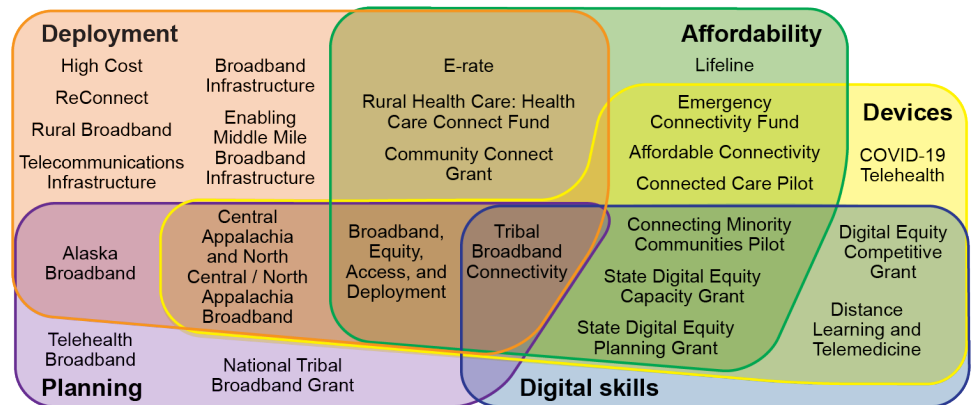
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National Strategy Needed to Guide Federal Efforts to Reduce Digital Divide

What GAO Found

Federal broadband efforts are fragmented and overlapping, with more than 100 programs administered by 15 agencies. Many programs have broadband as their main purpose, and several overlap because they can be used for the purpose of broadband deployment, as shown in the figure. Programs can also help with planning infrastructure, making service affordable, providing devices, and building digital skills. Despite numerous programs and federal investment \$44 billion from 2015 through 2020, millions of Americans still lack broadband, and communities with limited resources may be most affected by fragmentation.

The Mosaic of 25 Federal Programs with Broadband as a Main Purpose, as of November 2021, by Purpose Category



Source: GAO analysis. | GAO-22-104611

Agency officials said programmatic differences, including some set by statute, limit their ability to align programs. For example, programs may have differing definitions of eligible areas, populations, and broadband speeds. In 2018, the National Telecommunications and Information Administration (NTIA) led an interagency group that reviewed differing program definitions. However, NTIA did not identify which statutory provisions limit alignment nor recommend any changes. NTIA is responsible for coordinating telecommunications matters across the executive branch and at the end of 2020 gained additional responsibilities for improving broadband coordination. Improved alignment is needed to help address fragmentation and overlap. Without legislative proposals for Congress to consider, agencies may continue to face limitations in aligning programs to close the digital divide.

The U.S. broadband efforts are not guided by a national strategy with clear roles, goals, objectives, and performance measures. In 2021, the Executive Office of the President, through the National Economic Council and in collaboration with other White House offices, took the lead for coordinating broadband programs. The Executive Office of the President has not decided if a national strategy is needed, but it is well positioned to develop and implement one. A strategy to help better align programs could also include legislative proposals for Congress. Without such a strategy, federal broadband efforts will not be fully coordinated, and thereby continue to risk overlap and duplication of effort.

Contents

Letter		1
	Background	5
	Fragmented, Overlapping Broadband Programs May Require Statutory Changes to Align Programs toward Common Outcomes	11
	Stakeholders Face Challenges Using Federal Broadband Programs, Including Identifying Relevant Programs	24
	Interagency Coordination Is Not Guided by a National Strategy	27
	Conclusions	34
	Recommendations for Executive Action	35
Appendix I	Objectives, Scope, and Methodology	37
Appendix II	Inventory of Federal Broadband Programs	44
Appendix III	Federal Broadband Investments, Fiscal Years 2015–2020	58
Appendix IV	Comments from the Department of Commerce	60
Appendix V	GAO Contact and Staff Acknowledgments	62
Tables		
	Table 1: List of Entities and People Interviewed	40
	Table 2: Programs That Have Broadband as the Main Purpose	44
	Table 3: New Programs That Have Broadband as the Main Purpose, as of November 2021	47
	Table 4: Programs That Have Broadband as One Possible Purpose	50
	Table 5: Federal Broadband Funding Awarded, Fiscal Years (FY) 2015–2020	58

Figures

Figure 1: Broadband Service Terminology	5
Figure 2: Definitions of Fragmentation, Overlap, and Duplication	10
Figure 3: Federal Programs that Provide Broadband Funding, as of November 2021, by Purpose and Agency	13
Figure 4: The 25 Federal Programs That Have Broadband as a Main Purpose, as of November 2021, by Purpose Category	16
Figure 5: Illustrative Example of Overlapping Broadband Program Service Areas	18

Abbreviations

ABI	American Broadband Initiative
CAF II	Connect America Fund Phase II
COVID-19	Coronavirus Disease 2019
EDA	Economic Development Administration
FCC	Federal Communications Commission
FY	fiscal year
<i>Guide</i>	<i>BroadbandUSA Federal Funding Guide</i>
LEA	local educational agencies
Mbps	megabits per second
NEC	National Economic Council
NTIA	National Telecommunications and Information Administration
Office	Office of Internet Connectivity and Growth
OMB	Office of Management and Budget
RUS	Rural Utilities Service
USDA	United States Department of Agriculture

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May 31, 2022

The Honorable Roger F. Wicker
Ranking Member
Committee on Commerce, Science, and Transportation
United States Senate

The Honorable Marsha Blackburn
United States Senate

The Honorable Ted Cruz
United States Senate

The Honorable Deb Fischer
United States Senate

The Honorable Jerry Moran
United States Senate

Broadband internet has become critical for daily life as, increasingly, everyday activities occur online, including job applications, work, school and homework, health care appointments, and shopping.¹ Broadband that is widely accessible, affordable, and high quality is also essential for the competitiveness of the U.S. economy. The Coronavirus Disease 2019 (COVID-19) pandemic has underscored the importance of access to broadband—which includes both the availability and adoption of the service—and the “digital divide” between those who have access and those who do not.

Increasing access to broadband is an ongoing national challenge. The Federal Communications Commission’s (FCC) reporting has noted gains in broadband deployment in recent years. However, its most recent report on the topic estimated that, as of December 2019, 14.5 million Americans (about 4 percent) still lacked access to fixed broadband service—that is

¹Broadband commonly refers to internet service with speeds generally faster than dial-up connections. The Federal Communications Commission’s (FCC) current fixed speed benchmark for determining advanced telecommunications capability (i.e., broadband) is 25 megabits per second (Mbps) download and 3 Mbps upload. See *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capability to all Americans in a Reasonable and Timely Fashion*, FCC 21-18, para. 2 (Jan. 19, 2021) (Fourteenth Broadband Deployment Report).

broadband provided to single locations such as homes and businesses.² However, we have previously reported that FCC's broadband deployment data overstate real access to broadband.³ A private sector report from 2021 found that as many as 42 million Americans (about 13 percent) do not have fixed broadband available to them.⁴ Even when broadband is available, adoption is not universal as the cost of service, possession of a device to access the internet, and the digital skills to use the internet can also present barriers.

While private industry has made significant investments in broadband infrastructure, the federal government has also played a role in supporting broadband access, and federal investment is poised to grow substantially. Over the years, the federal government has subsidized high cost and rural areas where the return on investment has not attracted private investment. Our prior work found that federal investments totaled nearly \$50 billion to target broadband infrastructure in unserved or underserved areas from 2009 through 2017.⁵ Starting in 2020, COVID-19 relief laws, along with regular appropriations, have provided an infusion of funding for broadband, including for many new broadband programs. Most recently,

²Fourteenth Broadband Deployment Report, paras. 2, 33, 108. The figures and estimates cited by the FCC rely upon semi-annual self-reporting by fixed broadband providers using the FCC-mandated "Form 477." However, there is a widely acknowledged flaw with Form 477 reporting: If a provider offers service to at least one household in a census block, then the FCC counts the entire census block as covered by that provider. Because broadband coverage can range widely within census blocks, the practical result of this flaw is that FCC's 477 data overstate access to broadband, meaning that the digital divide is larger than FCC reports.

³GAO, *Broadband Internet: FCC's Data Overstate Access on Tribal Lands*, [GAO-18-630](#) (Washington, D.C.: Sept. 7, 2018). We recently reported that FCC is taking steps to improve its broadband deployment data. See GAO, *Broadband: FCC Is Taking Steps to Accurately Map Locations That Lack Access*, [GAO-21-104447](#) (Washington, D.C.: Sept. 28, 2021).

⁴John Busby, Julia Tanberk, and Tyler Cooper. *BroadbandNow Estimates Availability for all 50 States; Confirms that More than 42 Million Americans Do Not Have Access to Broadband*, BroadbandNow Research, (May 2021). Researchers manually checked availability of terrestrial broadband (wired or fixed wireless) of a sample of more than 110,000 address-provider combinations to estimate broadband availability. In addition, some states have mapped broadband availability to show the difference between FCC deployment estimates and state estimates of unserved areas. For example, see Georgia Department of Community Affairs, FCC vs. Georgia Broadband Program Comparison, accessed April 4, 2022, <https://broadband.georgia.gov/fcc-vs-georgia-broadband-program-comparison>.

⁵GAO, *Broadband: Observations on Past and Ongoing Efforts to Expand Access and Improve Mapping Data*, [GAO-20-535](#) (Washington, D.C.: June 25, 2020).

the Infrastructure Investment and Jobs Act appropriated nearly \$65 billion for new and existing broadband programs.⁶ Further, the President has set a goal of universal American access to broadband by 2030.

You asked us to review the range of federal broadband programs and how the federal government coordinates these programs. This report examines:

- fragmentation and overlap among federal broadband programs and potential limitations to improved alignment;
- challenges stakeholders face in using federal broadband programs and the effectiveness of the federal broadband program guide in assisting them; and
- the extent to which interagency coordination efforts are guided by a national strategy.

To understand the federal programs that can fund broadband we identified deployment and adoption programs established as of November 2021. Where available, we collected funding award data for these programs for fiscal years 2015-2020. We determined these data to be sufficiently reliable for our purpose of reporting overall funding awards for broadband support based on our review of agency documentation and responses from knowledgeable agency officials. We made assessments about potential fragmentation, overlap, and duplication among programs according to definitions developed in our prior work.⁷ To assess potential limitations to improved program alignment we reviewed statutes, regulations, and agency documentation, and we interviewed agency officials.

To identify challenges in using federal broadband programs, we interviewed 50 nonfederal stakeholders such as internet providers, consultants who work with communities, and experts. While these interviews are not generalizable to a larger population of nonfederal stakeholders, they provided us with a variety of perspectives on using federal broadband programs, as well as our other objectives. For reporting purposes, we developed the following series of indefinite quantifiers to describe collective responses from the 50 nonfederal

⁶Pub. L. No. 117-58, 135 Stat. 429 (2021).

⁷GAO, *Fragmentation, Overlap, and Duplication: An Evaluation and Management Guide*, [GAO-15-49SP](#) (Washington, D.C.: Apr. 14, 2015).

stakeholders we interviewed including: “a few” (three to five); “some” (six to 16); “many” (17 to 33); and “most” (34 or more).⁸ We also compared processes for obtaining user input on the federal broadband program guide to relevant requirements and best practices for designing and operating public-facing federal websites.⁹

To assess the extent to which interagency coordination efforts are guided by a national strategy, we identified and analyzed coordination efforts and broadband strategies. We interviewed and obtained written responses from 17 different federal agency offices. For describing responses from these agency officials, we used the indefinite quantifiers “many” (nine to 13); and “most” (14 or more). We also reviewed desirable characteristics for a national strategy¹⁰ and options to reduce or manage fragmentation, overlap, and duplication from our previous work.¹¹ See appendix I for more information on our scope and methodology.

We conducted this performance audit from October 2020 to May 2022 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

⁸Of these stakeholders, 20 are providers (this includes telecommunications providers owned by tribes). For describing responses from providers, we used the quantifiers: “a few” (three) and “some” (four to six).

⁹21st Century Integrated Digital Experience Act. Pub. L. No. 115-336, § 3(a)(6), 132 Stat. 5025 (2018); Office of Management and Budget, *Policies for Federal Agency Public Websites and Digital Services*, M-17-06 (Washington, D.C.: Nov. 8, 2016); and U.S. Digital Service, *Digital Services Playbook*, accessed Feb 18, 2021, <https://playbook.cio.gov>.

¹⁰A national strategy is a type of interagency coordination mechanism—typically, a document or initiative—that provides a broad framework for addressing issues that cut across federal agencies and other levels of government and sectors. We previously identified desirable characteristics for a national strategy. See GAO, *Combatting Terrorism: Evaluation of Selected Characteristics in National Strategies Related to Terrorism*, GAO-04-408T (Washington, D.C.: Feb. 3, 2004).

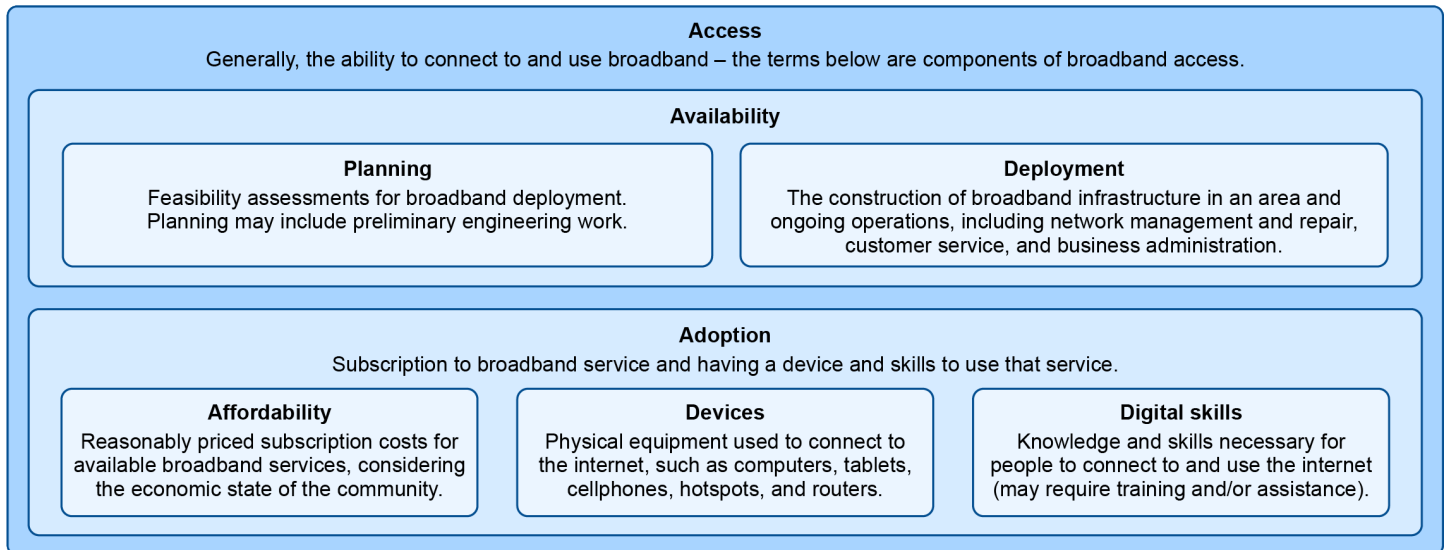
¹¹GAO-15-49SP.

Background

Broadband Service Terminology

Broadband access is the term used to describe the situation where service is available and individuals are able to adopt the service (i.e. they can afford it and have the knowledge and devices needed to connect). Providing broadband access requires consideration of various components of availability and adoption, as outlined in figure 1. Federal programs may address one or more of these components.

Figure 1: Broadband Service Terminology



Source: GAO. | GAO-22-104611

The Digital Divide

The digital divide—or differences in levels of internet access—is persistent and affected by gaps in broadband availability and in adoption. Although progress has been made in expanding broadband deployment in the U.S., a significant gap in fixed broadband availability remains between urban and rural populations. At least 17 percent of rural Americans lack access to fixed broadband at speeds of 25 megabits per second when downloading and 3 megabits per second when uploading (25/3 Mbps), compared to only 1 percent of Americans in urban areas,

according to FCC from the end of 2019.¹² As noted above, in reality the gap is larger than that, because FCC’s data overstate access.¹³ However, some reports and other observers have also noted deployment gaps within urban areas—for example where high speed broadband coverage is more limited in low-income areas.¹⁴ Observers refer to the practice of investing less in broadband infrastructure in low-income and marginalized communities as “digital redlining” and note it can reinforce the existing digital divide.¹⁵

In addition, broadband speed and service limitations, aspects of broadband availability, can play a part in perpetuating the digital divide. Some observers have noted that FCC’s benchmark speed of 25/3 Mbps for fixed broadband may be too slow for many residential situations, for example, where there are multiple users and devices in a household. We have reported that FCC’s current minimum benchmark speeds are likely too slow to meet small business needs.¹⁶ While technologies such as satellite internet and 5G mobile broadband—which allows internet access through mobile devices, like a smart phone or tablet—may increase access, there are also concerns and limitations. Improvements in low earth orbiting satellite broadband indicate increasing potential to serve

¹²Fourteenth Broadband Deployment Report, para. 33. FCC uses the Census Bureau definitions of urban and rural. Urban areas represent densely developed territory, and encompass residential, commercial, and other non-residential urban land uses. The term “rural” encompasses all other areas.

¹³GAO-21-104447, GAO-18-630.

¹⁴Fourteenth Broadband Deployment Report, para. 39, fig. 5; Bill Callahan, “AT&T’s Digital Redlining of Cleveland,” National Digital Inclusion Alliance, (Mar. 10, 2017), accessed Mar. 14, 2022, <https://www.digitalinclusion.org/blog/2017/03/10/atts-digital-redlining-of-cleveland/>; and Bill Callahan, “AT&T’s Digital Redlining of Dallas: New Research by Dr. Brian Whitacre,” National Digital Inclusion Alliance,” National Digital Inclusion Alliance (Aug. 6, 2019), accessed Mar. 14, 2022, <https://www.digitalinclusion.org/blog/2019/08/06/atts-digital-redlining-of-dallas-new-research-by-dr-brian-whitacre/>.

¹⁵“Redlining” is a term traditionally used in the context of loans or insurance. According to the Federal Deposit Insurance Corporation’s Consumer Compliance Examination Manual, redlining refers to a form of illegal disparate treatment in which a lender provides unequal access to credit, or unequal terms of credit, because of the race, color, national origin, or other prohibited characteristics of the residents of the area in which the credit seeker resides or will reside, or in which the residential property to be mortgaged is located.

¹⁶See GAO, *Broadband: FCC Should Analyze Small Business Speed Needs*, GAO-21-494 (Washington, D.C.: July 8, 2021).

rural and remote areas, but current concerns about service limitations and affordability for users may hamper satellite service's full potential to serve such areas. In some places 5G may make enhanced broadband capabilities possible for some Americans on their mobile devices. However, we have reported that, according to experts, 5G deployment could also widen the existing digital divide because the technology is likely to be first deployed in areas already equipped with much of the necessary infrastructure.¹⁷ While mobile broadband speeds in some areas are getting faster, for others, speeds can be insufficient for online activities such as distance learning, work, or telehealth—putting those who rely on mobile services at a disadvantage.

Finally, even where broadband service is available and its speed is at FCC's benchmark for broadband, an adoption gap may persist due to the affordability of broadband and lack of digital skills, which can present more barriers to access. According to FCC data, about 31 percent of people nationwide who have access to broadband at speeds of 25/3 Mbps have not subscribed to it,¹⁸ and lower-income households have lower rates of home broadband subscriptions.¹⁹ A recent nationally representative survey by Consumer Reports reported that nearly a third of respondents who lack a broadband subscription said it was because it costs too much, while about a quarter of respondents who do have broadband said they find it difficult to afford.²⁰ Other barriers include lack of digital skills. According to a 2016 Pew Research Center report, about half of American adults were hesitant when it comes to new technologies and building their digital skills.²¹

Federal Agencies That Provide Support for Broadband Access

Many federal agencies provide funding to support broadband access and help close the digital divide—with FCC; the United States Department of Agriculture (USDA); and the National Telecommunications and Information Administration (NTIA) having significant roles.

¹⁷GAO, *5G Deployment: FCC Needs Comprehensive Strategic Planning to Guide Its Efforts*, [GAO-20-468](#) (Washington, D.C.: June 12, 2020).

¹⁸Fourteenth Broadband Deployment Report, para. 46, fig.11.

¹⁹Fourteenth Broadband Deployment Report, para. 47, fig. 12.

²⁰"BROADBAND: A Nationally Representative Multi-Mode Survey, June 2021 Results," *Consumer Reports* (July 2021).

²¹Pew Research Center, *Digital Readiness Gaps*, Sept. 20, 2016.

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- **FCC.** FCC programs address broadband deployment as well as adoption. FCC’s Universal Service Fund programs historically have provided the bulk of federal broadband funding. The largest component of the Universal Service Fund is the High Cost program, which targets financial support to rural and high-cost areas for the deployment, operation, and maintenance of voice and broadband-capable networks (typically called “deployment of broadband networks” for convenience in the High Cost program context).
 - **USDA.** Within USDA, Rural Utilities Service (RUS) programs provide funding for infrastructure in rural communities, including telecommunications services such as broadband. RUS provides deployment and other broadband funding through a variety of programs.
 - **NTIA.** The Department of Commerce’s NTIA has multiple roles with regard to federal broadband programs, including administering programs, leading interagency coordination, and developing other resources. Recent legislation appropriated nearly \$50 billion for eight new NTIA broadband programs.²² NTIA’s recently created Office of Internet Connectivity and Growth is implementing the new programs, managing various interagency coordination responsibilities,²³ and implementing other initiatives such as broadband availability mapping efforts and the BroadbandUSA program.²⁴ NTIA—in coordination with the Office of Management and Budget (OMB)—has a responsibility to

²²NTIA was directed by the Consolidated Appropriations Act, 2021 to implement the Tribal Broadband Connectivity Program, the Broadband Infrastructure Program, and the Connecting Minority Communities Pilot Program. Pub. L. No. 116-260, div. N, tit. IX, §§ 902, 905, 134 Stat. 1182, 2121, 2136 (2020). The Infrastructure Investment and Jobs Act appropriated five new NTIA broadband programs. Pub. L. No. 117-58, div. J, tit. II, 135 Stat. at 1353-55. For more information about the new NTIA programs see appendix II.

²³This office was established by the Consolidated Appropriations Act, 2021. The Office was also charged with responsibilities related to community outreach; tracking broadband infrastructure built using federal funds; reporting on the number of residents of the United States that received broadband as a result of federal broadband support programs and the Universal Service Fund Program; and streamlining and standardizing the applications process for federal broadband support programs, including, to the extent possible, creating one application. The Advancing Critical Connectivity Expands Service, Small Business Resources, Opportunities, Access, and Data Based on Assessed Need and Demand Act, or the ACCESS BROADBAND Act, was enacted as section 903 of title IX of division FF of Pub. L. No. 116-260, 134 Stat. at 3210-13 (codified at 47 U.S.C. § 1307).

²⁴BroadbandUSA provides technical assistance workshops and other resources for state, local, and tribal governments, as well as industry, and nonprofits that need to enhance broadband connectivity and promote digital inclusion.

ensure the views of the executive branch on telecommunications matters are effectively presented to Congress.²⁵

In addition, NTIA has played a key role within the American Broadband Initiative (ABI)—an executive branch interagency group of more than 25 federal agencies that is aimed at increasing efficiency in federal broadband programs. Along with USDA, NTIA co-chairs an ABI group that works on federal broadband funding coordination.²⁶

In 2015, NTIA developed the *BroadbandUSA Federal Funding Guide* (“*Guide*”) to help communities and other potential applicants navigate the numerous programs.²⁷ NTIA updates the *Guide* regularly, and it is available to the public online and accessible in several ways: (1) a downloadable text document, organized by agency; (2) an interactive text document that allows users to click on select applicable categories and then see relevant programs; (3) an online search tool; and (4) a downloadable spreadsheet, with information about each program.

Fragmentation, Overlap, and Duplication

The responsibility for administering federal broadband programs is dispersed across numerous programs implemented by multiple agencies. In some cases, it may be appropriate or beneficial for multiple agencies to be involved in the same programmatic or policy area due to the complex nature or magnitude of the federal effort. In other cases, the situation of having multiple agencies involved in the same area of need can create barriers for program applicants or inefficiencies in service delivery, which is referred to as fragmentation (see fig. 2). When fragmentation exists,

²⁵47 U.S.C. § 902(b)(2)(J). Additional authorities and responsibilities of NTIA are generally found in chapter 8 of title 47 of the U.S. Code.

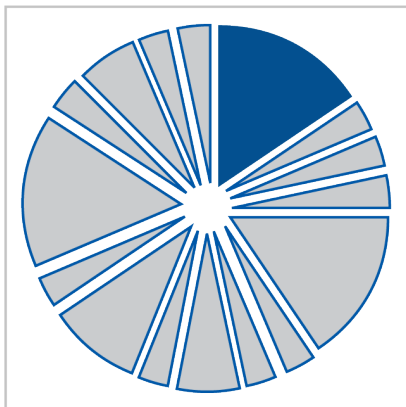
²⁶ABI membership is voluntary, according to agency officials. The Federal Funding “Workstream” (working group) focuses on coordinating the work of agencies that provide federal funding for broadband. This working group is led by NTIA and USDA, and its member agencies are the Appalachian Regional Commission, Delta Regional Authority, Department of Education, Department of Health and Human Services, Department of Housing and Urban Development, Institute of Museum and Library Services, Department of the Interior, Department of Labor, Northern Border Regional Commission, National Science Foundation, Office of Management of Budget, Department of the Treasury, and the Denali Commission. The FCC is a consulting member. The Environmental Protection Agency and the Small Business Administration are also members but do not have designated representatives. The National Science Foundation is a member but does not administer programs that fund broadband for public use. All further references to ABI later in this report refer only to the Federal Funding Workstream.

²⁷National Telecommunications and Information Administration, *BroadbandUSA Federal Funding Guide Fiscal Year 2021* (Washington, D.C.: Sept. 28, 2021), accessed March 18, 2022, <https://broadbandusa.ntia.doc.gov/resources/federal/federal-funding>.

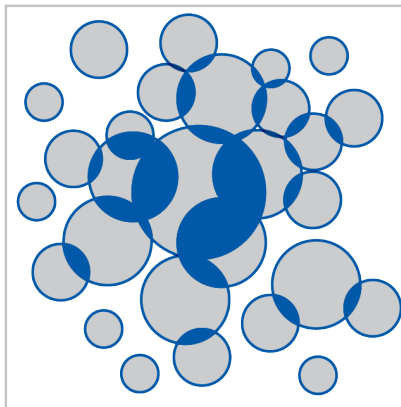
agencies involved need to consider and respond to unique risks associated with this fragmentation. Fragmentation may also indicate a risk of overlap and duplication, which are defined in figure 2.

Figure 2: Definitions of Fragmentation, Overlap, and Duplication

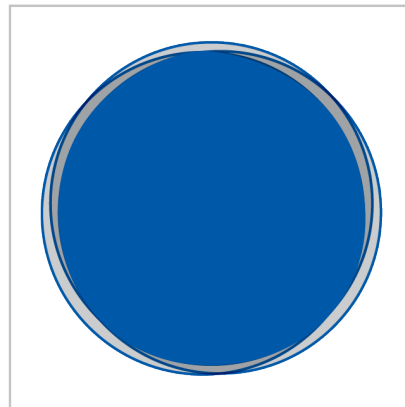
Fragmentation refers to those circumstances in which more than one federal agency (or more than one organization within an agency) is involved in the same broad area of national need and opportunities exist to improve service delivery.



Overlap occurs when multiple agencies or programs have similar goals, engage in similar activities or strategies to achieve them, or target similar beneficiaries.



Duplication occurs when two or more agencies or programs are engaged in the same activities or provide the same services to the same beneficiaries.



Source: GAO. | GAO-22-104611

Like fragmentation, overlap and duplication may be appropriate or beneficial in some cases—for example, to complement an existing program or pilot a new method. In other cases, overlap and duplication occur because of incremental addition of programs over time to respond to new needs and challenges, without a strategy to coordinate efforts and effectively manage them. This can negatively affect outcomes, program implementation, and cost-effectiveness.²⁸ In practice, this can lead to:

- programs that do not work together to provide logical and coordinated benefits or services;

²⁸GAO-15-49SP.

-
- inadequate measurement of progress toward achieving shared goals and objectives;
 - failure to cover populations that are eligible to receive certain benefits; and
 - reduced benefits resulting from a program structure that is not economical and efficient.

We have previously reported that effectively coordinating programs may help better manage or reduce fragmentation, overlap, and duplication.²⁹ In particular, coordinating agencies need to establish mutually reinforcing or joint strategies to help align activities, processes, and resources to achieve a common outcome.³⁰

Fragmented, Overlapping Broadband Programs May Require Statutory Changes to Align Programs toward Common Outcomes

We identified at least 133 funding programs that could support increased broadband access—creating a fragmented, overlapping patchwork of funding. This patchwork of programs could lead to wasteful duplication of funding and effort, and agencies use various approaches to avoid duplicative awards. Agencies also said that some statutory specifics within programs limit the agencies' ability to more effectively align their programs.

²⁹GAO, *Managing for Results: GPRA Modernization Act Implementation Provides Important Opportunities to Address Government Challenges*, [GAO-11-617T](#) (Washington, D.C.: May 10, 2011).

³⁰GAO, *Managing for Results: Key Considerations for Implementing Interagency Collaborative Mechanisms*, [GAO-12-1022](#) (Washington, D.C.: Sep. 27, 2012); and *Results-Oriented Government: Practices That Can Help Enhance and Sustain Collaboration among Federal Agencies*, [GAO-06-15](#) (Washington, D.C.: Oct. 21, 2005).

Fragmented Broadband Programs Have Overlapping Purposes

We identified at least 133 funding programs—administered across 15 agencies—that can be used to support broadband access in some way.³¹ Some of these programs support broadband as their main purpose or one possible purpose and can be used for multiple purposes related to broadband (see fig. 3). Eligible recipients for these programs range widely and include internet providers, other private sector entities, nonprofits, state and local governments, tribes, education agencies, and healthcare providers. See appendix II for an inventory of the programs that have broadband as the main purpose or one possible purpose. Through these programs, federal agencies have invested at least \$44 billion in broadband-support activities from fiscal years 2015–2020, according to our analysis of agencies' data.³² See appendix III for broadband-funding award information by agency and program.

³¹Other programs may exist that could support broadband. For example, at the conclusion of our review, the Department of the Treasury identified an additional program that can support broadband as one possible purpose. Treasury indicated that the Emergency Rental Assistance Program permits eligible assistance to include internet service.

³²This total is not adjusted for inflation and includes all types of funding support, such as grants and loans, as indicated in appendix III. For most programs that have broadband as one possible use of funds, agencies do not track the specific amounts that have gone to support broadband—thus this total likely understates the full amount of federal broadband support.

Figure 3: Federal Programs that Provide Broadband Funding, as of November 2021, by Purpose and Agency

Program purpose	Total number of programs per funding area	Agency/entity														
		Federal Communications Commission	Department of Agriculture	Department of Commerce	Appalachian Regional Commission	Delta Regional Authority	Denali Commission	Department of Education	Department of the Interior	Department of Health and Human Services	Department of Housing and Urban Development	Department of Labor	Department of Transportation	Department of the Treasury	Institute of Museum and Library Services	Northern Border Regional Commission
Programs that have broadband as the main purpose																
Planning	6															
Deployment	13															
Affordability	12															
Devices	12															
Digital skills	6															
Total programs per agency		8	5	8	1	0	1	0	1	1	0	0	0	0	0	0
Programs that have broadband as one possible purpose																
Planning	10															
Deployment	19															
Affordability	19															
Devices	27															
Digital skills	21															
Total programs per agency		0	5	2	2	2	0	11	0	2	5	0	2	4	8	2
		Number of programs														
		1	2	3	4	5	6	7	8	9	10					

Source: GAO analysis of agency information. | GAO-22-104611

Note: We identified at least 70 programs that have broadband as the main purpose or as one possible use of funds. Because some programs have more than one purpose related to broadband (e.g., program may support both planning and deployment), program totals indicated by the shaded boxes may appear higher than the total number of programs. We included new programs that have broadband as a main purpose, as of November 2021, when the Infrastructure Investment and Jobs Act was enacted. We identified other programs that may be used to support broadband in an ancillary way, including programs administered by the Department of Labor, but did not include those programs in figure. There may also be other programs that can support broadband that are not represented in this figure.

Specifically, we identified:

- 25 programs that support broadband access as their main purpose. These include FCC, RUS, and NTIA programs for deploying broadband infrastructure and supporting broadband adoption. Other programs include a new program administered by the Department of Health and Human Services to support broadband for the purpose of

telehealth, as well as programs administered by the Appalachian Regional Commission and the Denali Commission to help fund broadband deployment in Appalachia and Alaska, respectively. See appendix II, tables 2 and 3 for additional details.

- 45 programs that have broadband access as one possible use of program funds. These programs have a broader main purpose, such as economic development, but allow broadband-related activities as one eligible purpose among others. For example, the Public Works and Economic Adjustment Assistance Programs administered by the Department of Commerce support economic development in distressed communities and regions, and eligible projects can include broadband-planning studies and a wide range of deployment activities. The programs awarded more than \$50 million to support broadband access from fiscal years 2015 to 2020. One grantee of this program in Oregon received a \$1.9 million grant to install a broadband network in a community business district. See appendix II, table 4 for additional details.
- 63 other programs may be used to support broadband access in an ancillary way, or only under certain circumstances, such as broadband projects that connect with other program purposes.³³ For example, the Department of Education administers several programs that, according to agency officials, may support broadband only under certain conditions. The agency officials indicated that schools may use Title I grant funds, in combination with state or local funding, to provide broadband support in multiple ways, such as paying for advanced courses delivered through online learning or minor remodeling of a school to facilitate broadband access.³⁴ For these programs, the agencies administering them indicated that support of broadband was limited, and in some cases, we were not able to identify an instance of how a given program had been used to support broadband.

³³We did not list these 63 programs in our appendixes.

³⁴Title I of the Elementary and Secondary Education Act of 1965, as amended, provides formula grants to states for their local educational agencies to improve educational programs in schools with high concentrations of students from low-income families.

Fragmented, Overlapping Programs Risk Duplication, Which Agencies Seek to Minimize

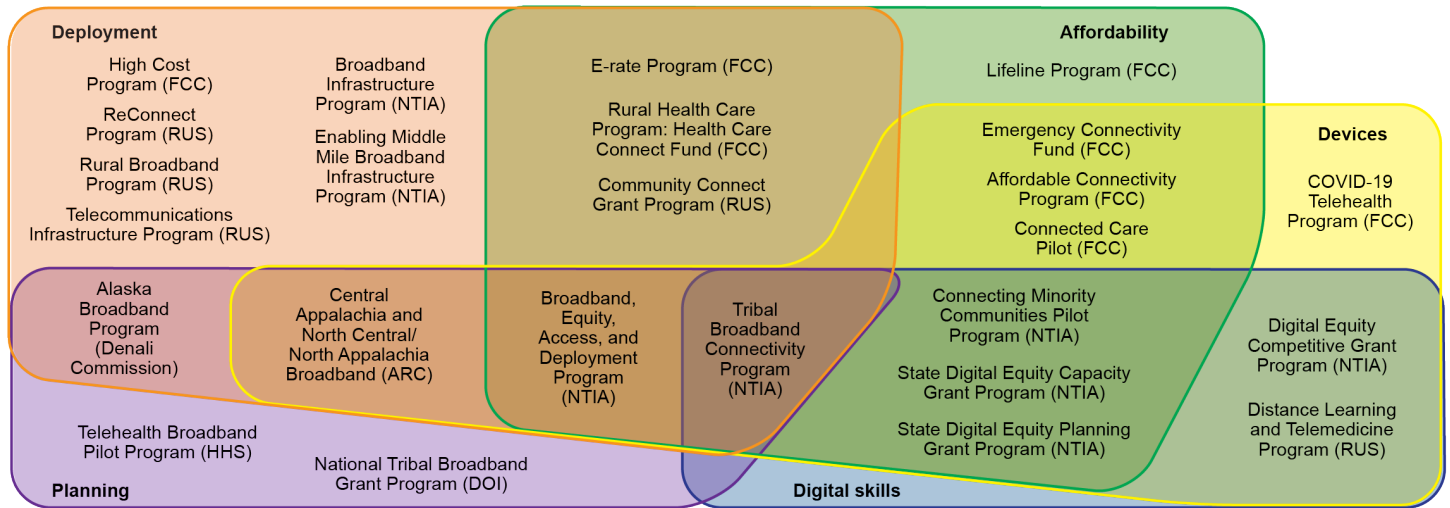
Having numerous broadband programs can be helpful to address a multifaceted issue like broadband access, but this fragmentation can also mean that programs overlap and lead to the risk of duplicative support. However, determining whether program overlap results in duplicative support can be challenging. Effective coordination can help reduce risks, to ensure that programs are complementary when possible and minimize wasteful duplicative support.

Overlap and Duplication

Broadband programs overlap in their purposes. This overlapping can lead to the risk of unintended duplication of federal funding support. For example, figure 4 shows that 25 programs have broadband as their main purpose and that 13 overlap because they can each be used for the purpose of broadband deployment. This situation could result in different parties, such as communities and providers, independently seeking funding to deploy broadband in the same area. However, several of these programs target different populations. Such targeting reduces some risk of duplicative support. For example, a program that targets deployment assistance to Appalachia would not serve the same population as a program that targets Alaska.

In addition, a geographic area could potentially receive support from multiple programs with the overlapping purpose of deployment, without funding the same purpose in the same locations. Specifically, a community's school or library could receive E-rate funding for deployment, funding that is typically used by the school or library for connectivity on the premises. At the same time, a provider in that community could receive funding from FCC's High Cost program or RUS programs to support deployment in the wider community. We found multiple instances where schools received E-rate funding and the surrounding communities received High Cost funding—but the schools and libraries in the service areas were excluded from receiving High Cost funds, in accordance with High Cost program rules, according to FCC officials. Thus, the support the programs provide may address broadband access in a fragmented way, but they are not necessarily duplicative.

Figure 4: The 25 Federal Programs That Have Broadband as a Main Purpose, as of November 2021, by Purpose Category



ARC: Appalachian Regional Commission
 DOI: Department of the Interior
 FCC: Federal Communications Commission
 HHS: Department of Health and Human Services
 NTIA: National Telecommunications and Information Administration (Department of Commerce)
 RUS: Rural Utilities Service (Department of Agriculture)

Source: GAO analysis. | GAO-22-104611

Note: Broadband programs can help with planning and deploying infrastructure, making service affordable, providing devices, and building digital skills.

While fragmentation and overlap of programs can lead to the risk of duplicative support, determining whether such duplication exists is complicated. Often called “overbuilding” in the context of broadband deployment, unplanned and possibly wasteful duplication can occur when separate programs fund deployment in the same area for the same population and purpose. For example, according to congressional testimony from one broadband provider, multiple providers received funding from different programs to deploy broadband to the same county in Minnesota.³⁵ While general concern about duplication was an issue raised by some of the providers we interviewed, these providers had differing views about whether the duplication they encountered was wasteful or if it was less concerning because it was complementary or helped provide better service to an area. Additionally, determining the extent to which duplication exists across all awarded projects is difficult given the number of programs and their varying purposes and eligible

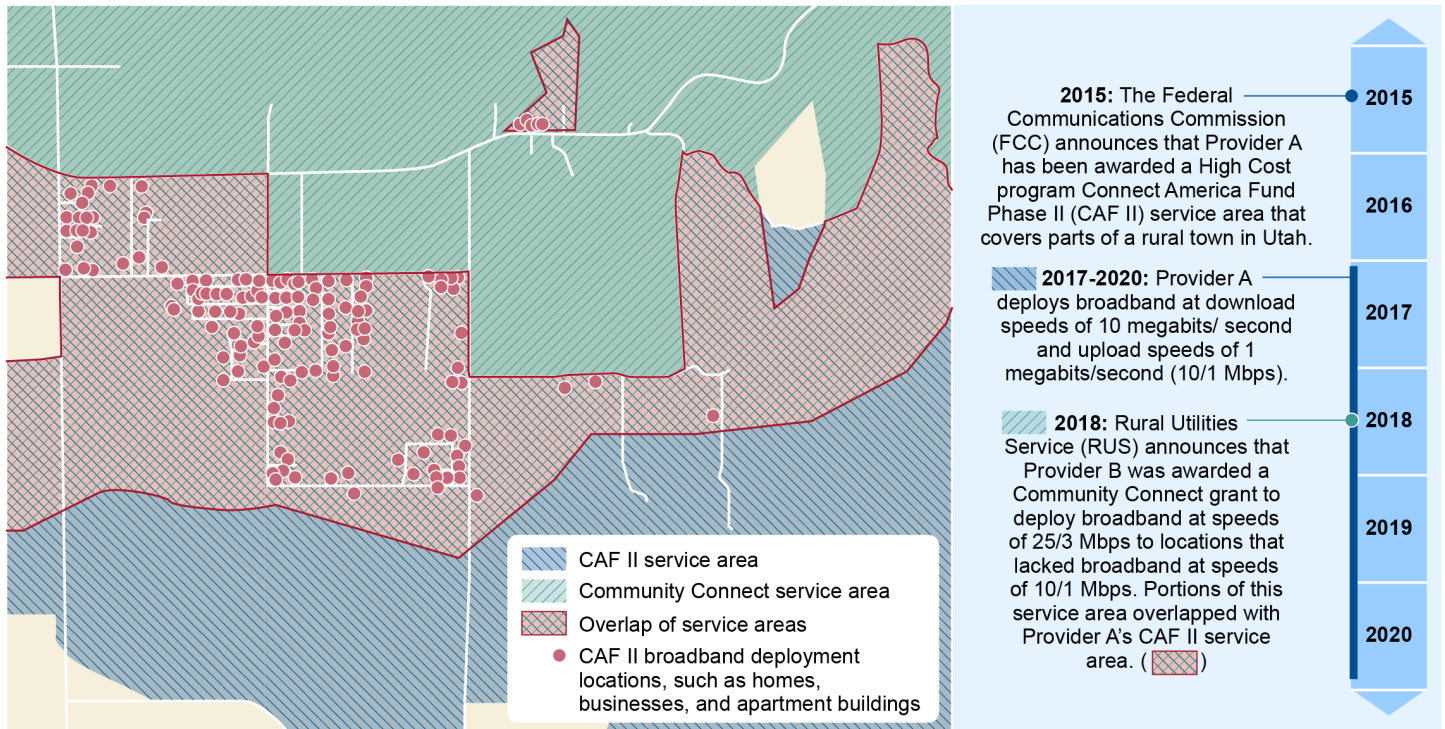
³⁵Justin Forde, Senior Director of Government Relations, Midcontinent Communications, *Recent Federal Actions to Expand Broadband: Are We Making Progress?*, testimony before the Senate Committee on Commerce, Science, and Transportation, 117th Cong., March 17, 2021.

recipients. Moreover, the potential for duplication may increase with the number of broadband programs. Determining whether certain program awards indicate such possibly wasteful duplicative funding can require a case-by-case examination of the specific circumstances and program rules as described in the example below.

Example of Overlap and Potential Duplication

We identified multiple instances where FCC's High Cost program and RUS program awards have overlapping service areas, similar to the example in figure 5. In this illustrative example, High Cost funds were awarded to one provider in 2015, which began to deploy to locations in part of the service area in 2017. The following year, a different provider received a RUS Community Connect award with a service area that overlapped with part of the High Cost service area, including where the High Cost provider had begun deploying to specific locations. In this example, two programs were used to deploy to overlapping areas, but the deployments were at different times and different service levels, so making a clear determination about duplication is difficult. RUS and FCC officials acknowledged the challenges involved with the timing of different awards and when areas receive service but said they do not consider awards duplicative unless they provide the same areas with the same level of service and type of support at the same time.

Figure 5: Illustrative Example of Overlapping Broadband Program Service Areas



Source: GAO analysis of publicly available data and maps from the Universal Service Administrative Company and U.S. Department of Agriculture's Rural Utilities Service. | GAO-22-104611

Note: Overlapping service area may not always result in duplication.

The following descriptions illustrate the complexities of overlap and identifying the potential for duplication.

- Different time periods for awards and deployments.** Lags between deployments for one program and awards for another can create the possibility for overlap in service areas and potential for duplication. In the figure 5 example, the High Cost award came first, but the deployments took place over a number of years and may not have reached all of the locations within the overlapping area at the time the Community Connect service area was determined to be eligible and when the award was made. RUS officials told us that if a service area lacked broadband at 10/1 Mbps at the time RUS ran tests to validate the level of service, then the area would still be eligible for Community Connect, regardless of any previous High Cost funding in the same or overlapping service area. Officials from FCC and RUS said that the service areas of each agency's programs are considered in determinations of new service area eligibility and that regular

meetings are held between the agencies to discuss service areas and avoid duplication, comments that we discuss in more detail later in this report. However, these officials noted that timing of awards and deployment can make it challenging to avoid overlap completely.

- **Complementary use of funds when allowed.** Recipients of FCC funds—such as the High Cost program—can use RUS program funds to meet their obligations for providing service. According to RUS officials, High Cost funds may not be sufficient to construct the facilities that are necessary for providers to meet their service obligations in a specific service area. In such instances, a provider may receive High Cost funds to support both operational and capital expenditures as well as RUS ReConnect or Community Connect funds to support capital expenditures, and thus meet their service obligations for both programs. Differences in how program funds can be used may mean that programs serving the same area are complementary, not necessarily duplicative. For example, High Cost funds can be used for capital expenses involved in deployment, as well as ongoing operations and maintenance. RUS funds such as Community Connect and ReConnect can only be used for capital expenses in most cases.
- **Varying and evolving speed thresholds and deployment requirements.** Minimum required broadband deployment speeds vary among programs and continue to change—thus different programs may target the same area but provide increasing levels of service. For example, in fiscal year 2016, recipients of RUS’s Community Connect program were required to deploy broadband at speeds of at least 10/1 Mbps; by fiscal year 2018, the required speed increased to 25/3 Mbps. During this same time period, FCC’s High Cost Connect America Fund Phase II program, which ran from 2015 through 2020, required recipients to deploy broadband at speeds of at least 10/1 Mbps. In the example in figure 5, the locations that received broadband at speeds of 10/1 Mbps from the High Cost program may benefit from having that level of service for several years before the second provider is able to provide faster broadband service using Community Connect funds. FCC and RUS officials said that they do not consider their efforts to increase the quality of broadband service in the same area to be an example of duplication.

Agency Efforts to Avoid Duplication

Agencies work to avoid duplication in funding awards through data sharing, regular meetings, and other efforts. Since 2014, FCC and RUS—the agencies that have historically provided the bulk of federal funding for deployment—have had an interagency agreement to share data on locations of broadband projects funded and have met regularly to share

data and coordinate their programs. After authorization of several new broadband programs, NTIA has joined these efforts. In June 2021—in response to a requirement in the Consolidated Appropriations Act, 2021—FCC, USDA, and NTIA signed a memorandum of agreement to share data on their broadband deployment-funding programs in order to coordinate their respective distribution of funds.³⁶ To carry out the 2021 agreement, officials from FCC, RUS, and NTIA said they meet regularly. One agency official said these meetings take place weekly at the leadership and staff level, and more often as needed.³⁷ In addition, officials from the Department of the Treasury have joined these meetings to coordinate the agency’s new broadband-related programs with those of FCC, NTIA, and RUS, according to agency officials.³⁸ In May 2022, the four agencies signed a memorandum of understanding regarding information sharing for their broadband programs. FCC and NTIA have also worked to improve mapping of broadband availability, which, in combination with other coordination efforts, may help avoid overlap and duplication.³⁹

Agencies use other controls to help avoid duplicative awards. Some programs specify that areas served by one program are ineligible for other programs. For example, areas that had previously received federal or state funding were ineligible for the FCC Rural Digital Opportunity Fund 2020 awards. RUS has also provided explicit direction about what are complementary uses of ReConnect program funds. Specifically, the fiscal year 2022 ReConnect funding opportunity announcement stated that

³⁶Pub. L. No. 116-260, div. FF, tit. IX, § 904, 134 Stat. at 3214-15 (codified at 47 U.S.C. § 1308).

³⁷Within a year of enactment, FCC is required to seek public comment on the effectiveness of the interagency agreement in facilitating efficient use of broadband funding; the availability of tribal, state, and local data on broadband deployment and the inclusion of that data in interagency coordination; and modifications to the interagency agreement that would improve coordination; by June 2022 FCC must assess these comments and submit a report to Congress.

³⁸Three new Treasury programs have broadband as one possible use of funds. See appendix II, table 4 for more information.

³⁹FCC is undertaking an effort to improve granularity and precision of FCC’s broadband deployment mapping, an action that was required by the 2020 Broadband Deployment Accuracy and Technological Availability Act, as we have reported. See [GAO-21-104447](#). NTIA has updated the National Broadband Availability Map, for federal agencies and states to use in determining which areas to provide funding. The Consolidated Appropriations Act, 2018 appropriated funds to NTIA to update this map in coordination with FCC and using previously developed state partnerships. Pub. L. No. 115-141, div. B, tit. I, 132 Stat. 348, 403.

areas funded by the Rural Digital Opportunity Fund, one of FCC's High Cost programs, were eligible, but applicants must show the funding was complementary rather than duplicative (e.g., could help expedite the deployment or would be used for different types of expenses). Furthermore, through agency challenge processes, existing providers in an area may dispute potentially duplicative awards, or prospective providers can prove an award will not be duplicative. However, while working to avoid duplication, agencies could miss areas that are unserved or underserved despite prior federal support to the area. For example, some High Cost program funds did not require that providers build out to every location within a service area, according to FCC officials. This situation could result in some locations within a "served" area having insufficient service but being ineligible for other federal programs.

Improving Program Alignment May Require Statutory Changes

Programmatic differences, whether from changes over time or the development of new programs, have limited agencies' ability to align programs to address broadband needs in a complementary way, according to agency officials. Programs have their own definitions, eligibility criteria, and other requirements—which may be established in statute or through agency administrative processes. For example, for RUS programs, rural is generally defined in statute with reference to population thresholds, but those thresholds vary across programs.⁴⁰ When defining eligible areas, some programs also use differing broadband speeds. For the RUS Community Connect Grant program eligible areas must lack service at 10/1 Mbps, and for the FCC High Cost program Rural Digital Opportunity Fund Phase 1, eligible areas must be completely unserved by 25/3 Mbps. In addition, programs vary in their eligible recipients, which can include entities such as schools, libraries, eligible telecommunications carriers, corporations, tribes, and local governments, among others.

The gradual evolution of broadband programs has contributed to these programmatic differences and to having programs that may not align. Specifically, agencies have adapted their authority under existing programs as the need for broadband has increased. For example, FCC

⁴⁰Specifically, the threshold for identifying an area as rural for the Telecommunications Infrastructure Loan program is 5,000 inhabitants. 7 U.S.C. § 924(b), 7 C.F.R. § 1735.2. By contrast, the Rural Economic Development Loan and Grant Program uses a population threshold of 50,000 inhabitants. 7 U.S.C. § 1991(a)(13), 7 C.F.R. § 4280.3. In addition, the Rural Broadband Access Loan and Loan Guarantee Program and Community Connect Grant Program use a threshold of 20,000 inhabitants. 7 U.S.C. §§ 950bb(3), 950bb-3(a)(4), 7 C.F.R. §§ 1738.2, 1739.3.

programs initially addressed phone service, and FCC has modernized funding rules over the years to include broadband.⁴¹ In addition, agencies have made broadband an allowable expense within existing programs. For example, the Department of Commerce's Economic Development Administration and the Appalachian Regional Commission began providing economic development support long before broadband existed, but they have since identified broadband as an eligible expense and a priority for economic development. Finally, statutes created new, broadband-focused programs to address specific needs. For example, several new programs were established to support increased broadband needs and uses during the COVID-19 pandemic, such as FCC's temporary Emergency Broadband Benefit (now the Affordable Connectivity Program) and FCC's COVID-19 Telehealth Program.

Staff from the National Economic Council (NEC) within the Executive Office of the President and officials from FCC, NTIA, RUS, and other agencies told us that the provisions of individual programs can make alignment of programs challenging. For example, when developing notices of funding opportunity for some new broadband programs, NTIA officials said they consulted with several agencies to inform and align program definitions regarding eligible areas, populations, and broadband speeds but were at times limited in what they could do by statutory provisions among the programs. In another example, NTIA and RUS officials said that developing a standardized application for federal broadband programs would be a challenge, due, in part, to statutory differences among the programs.⁴² NTIA officials said that it would be challenging to promote a streamlined, standardized application given that programs are directed by statute to serve a diverse set of recipients, for different types of program purpose, on different timelines.

In 2018, the ABI—an interagency working group chaired by NTIA and USDA—reviewed broadband statutes to identify differing program definitions. NTIA officials told us that, during the course of that review,

⁴¹See *In the Matter of Connect America Fund, et al.* FCC 11-1611, paras. 10, 11 (Nov. 18, 2011).

⁴²NTIA is required, to the greatest extent possible, to develop one application that may be used to apply for all federal broadband programs. Pub. L. No. 116-260, div. FF, tit. IX, § 903(e)(3), (g)(4), 134 Stat. at 3211 (codified at 47 U.S.C. § 1307). This Consolidated Appropriations Act, 2021 requirement does not include FCC's Universal Service Fund Programs. NTIA officials said that NTIA supports the concept of a single application and has used standard forms for implementation of its recent grant programs, but that implementing a standard application for all federal broadband programs would be challenging.

some agencies said that aligning programs was difficult because of differences in authorizing statutes—for example, around targeted populations or timelines. However, it was outside of the scope of the analysis to identify which statutory provisions limited beneficial coordination or to make recommendations about them. NTIA officials told us that since that time they have not developed legislative proposals that could facilitate program alignment, nor did they identify other changes that could be made by the agencies themselves through the regulatory process.

We have previously found that taking steps to establish compatible policies, procedures, and other means to operate across agency boundaries—including developing legislative proposals to change statutes—may be necessary to better manage the potential negative effects of fragmentation and overlap.⁴³ NTIA—in coordination with OMB—has a responsibility to ensure that the views of the executive branch on telecommunications matters are effectively presented to Congress.⁴⁴ NTIA also has the authority to provide for the coordination of the telecommunications activities of the executive branch and assist in the formulation of policies and standards for those activities.⁴⁵ As mentioned earlier, NTIA’s various responsibilities for interagency coordination on broadband are managed by NTIA’s Office of Internet Connectivity and Growth.⁴⁶ Without identifying the key areas where statutory provisions limit beneficial program alignment—and developing legislative proposals as appropriate—agencies may continue to face challenges in collaborating to help people access broadband. Developing such proposals could bring Congress’s attention to actionable ways to manage program fragmentation and overlap. Such an alignment could result in improved access to broadband programs and better use of federal resources.

⁴³[GAO-15-49SP](#), [GAO-12-1022](#).

⁴⁴47 U.S.C. § 902(b)(2)(J).

⁴⁵47 U.S.C. § 902(b)(2)(H).

⁴⁶The Consolidated Appropriations Act, 2021 requires FCC and other agencies that administer broadband programs to coordinate with NTIA, with the goals of serving the largest number of unserved locations in the U.S., ensuring all residents have access to high-speed broadband, and promoting jobs and economic growth for residents of the United States. Pub. L. No. 116-260, div. FF, tit. IX, § 903(f), 134 Stat. at 3211-12 (codified at 47 U.S.C. § 1307).

Stakeholders Face Challenges Using Federal Broadband Programs, Including Identifying Relevant Programs

Stakeholders we interviewed identified several challenges associated with using fragmented and overlapping federal broadband programs. Challenges included difficulty determining relevant programs, using programs in a complementary way, and unintended results from program provisions intended to prevent duplication. NTIA's guidebook to federal broadband programs can help potential applicants navigate these programs, but NTIA lacks a plan to solicit and implement user feedback to make improvements to the guidebook.

Difficulty Determining Relevant Programs despite NTIA's *Guide* to Broadband Programs

NTIA independently developed the *BroadbandUSA Federal Funding Guide (Guide)* to help potential applicants identify relevant programs within the fragmented federal broadband program landscape. Stakeholders we interviewed found the *Guide* of limited usefulness in determining which federal programs to pursue. NTIA regularly updates the *Guide*, using information provided by federal agencies. Some stakeholders said that it was helpful to have a central listing of programs. However, many stakeholders, including consultants who work with program applicants, told us the *Guide* was overwhelming or of limited benefit to potential users. Some stakeholders said, for example, that the online search tool yields too many results to be useful, and some terms used in the *Guide* are unclear, technical, or undefined. We found that NTIA's newest version of the *Guide*, which includes an interactive document to help narrow program results, still yields a large number of results in many cases and terms are not defined or linked to a glossary.

NTIA has begun to seek some user feedback on the *Guide*, but plans for updates do not include additional opportunities for feedback. NTIA began to seek user feedback on the *Guide* in 2021 by welcoming user feedback in a *Guide* press release, and adding a feedback email address to the *Guide* webpage, and according to NTIA officials, by conducting interviews with six potential end users. However, NTIA officials told us that they have received few emails from users about the *Guide*, and did not say what, if any, changes NTIA made as a result of feedback efforts. NTIA's plans for updates to the *Guide* do not include additional opportunities for direct feedback from stakeholders, and NTIA officials said that going forward, NTIA has no formal plan for seeking external user feedback on the *Guide*.

Obtaining and considering input from users is a requirement and leading practice for designing and operating federal websites and resources for the public. Specifically, the 21st Century Integrated Digital Experience

Act⁴⁷ requires agencies to operate websites around users' needs, and Office of Management and Budget guidance states that agencies should test websites to ensure that user needs are addressed.⁴⁸ Further, digital services leading practices for federal agencies suggest working to understand what people need, including regularly testing a digital service with users as it is being built.⁴⁹ In general, NTIA officials told us they are limited in conducting broad surveys of users due to restrictions from the Paperwork Reduction Act.⁵⁰ However, there are ways to solicit stakeholder experiences that are allowed under this act. Without regularly obtaining and addressing user input, the *Guide* will likely continue to have limited usefulness for some stakeholders. As a result, communities lacking broadband and other program applicants may continue to struggle to identify the federal funding available to help them close the digital divide.

The fragmentation and administrative complexity involved in obtaining federal broadband assistance can act as a barrier to participation for some intended recipients.⁵¹ As discussed above, even with NTIA's *Broadband Funding Guide*, the large number of broadband programs overwhelmed or confused many stakeholders we interviewed. Stakeholders told us, for example, that it can be hard for potential recipients to evaluate which programs are relevant, understand if they are eligible, and keep up with timing, such as when new programs become available. Varying eligibility requirements, definitions, and deadlines for applications can contribute to confusion when navigating among programs, according to the stakeholders. Communities and other applicants with limited resources may be among the most affected by the fragmentation of broadband programs. Some stakeholders pointed out that determining which programs to apply for and completing the

⁴⁷Pub. L. No. 115-336, § 3(a)(6), 132 Stat. at 5025.

⁴⁸OMB, *Policies for Federal Agency Public Websites and Digital Services*, M-17-06 (Washington, D.C.: Nov. 8, 2016).

⁴⁹U.S. Digital Service, *Digital Services Playbook*, accessed Feb. 18, 2021, <https://playbook.cio.gov>.

⁵⁰Federal agencies must follow the Paperwork Reduction Act when collecting information from the public, to among other things, minimize the burden resulting from the collection of information by or for the federal government. 44 U.S.C. §§ 3501-3520.

⁵¹Economists have addressed administrative complexity in the provision of social benefit programs, showing how it adds transactions costs that diminish the value of the tax dollars used, and may act as a barrier to the participation of the populations that the programs are intended to help.

applications can be especially challenging for applicants from smaller communities or companies that lack in-house expertise or resources to hire consultants to assist them.

Difficulty Using Programs in a Complementary Way

While some federal broadband programs can be complementary, some stakeholders said it can be challenging to use programs together to boost overall broadband access, often because programs are targeted to specific needs or have certain restrictions. For example, a consultant told us clients have successfully used Economic Development Administration (EDA) and Appalachian Regional Commission grant programs together to support planning and deployment. However, as two providers told us, while it is sometimes necessary to use multiple programs to support deployment projects, making the different programs work together is left to the program applicants. In addition, three stakeholders noted that separate programs support broadband deployment or connectivity for schools and health facilities, but due to program requirements, it is not possible to use them together to support broader community access. Requirements restricting federal funding to “single use” deployment—for example, limiting use of deployment funding to only clinics, or schools, or libraries—can mean that nearby or co-located schools and clinics need to seek separate program funding for broadband.

When using programs in a complementary way, recipients may face unanticipated challenges. For example, a tribe we spoke with received a planning grant from EDA to conduct an engineering study for a broadband network and then received a ReConnect grant from RUS to construct the network. The tribe planned to use the same company for engineering and construction. However, according to RUS officials, program rules do not allow the same company to be used for design and construction, to prevent conflicts of interest. Therefore, the tribe used some of the ReConnect funds to pay another engineering company to inspect and certify the plans that had previously been done using the first grant, according to tribal officials. The tribe said the program rules and processes did not improve the design, and it added costs and time to the project.

Unintended Results of Restrictions Intended to Avoid Duplicative Funding

Some stakeholders expressed concern that restrictions intended help avoid providing federal funds to the same area and purpose (duplication) may unintentionally block access to needed programs. Specifically, some programs have requirements to avoid duplicative funding for broadband deployment, as mentioned earlier. As such, areas that had previously received federal or state funding were generally ineligible for the FCC Rural Digital Opportunity Fund 2020 awards, which provide successful

applicants a stream of funding for multiple years.⁵² Under the terms of the program, providers may not use other federal broadband or state funding in areas awarded for the same network deployment and operations during the program's build-out period, but complementary funding may be used, according to FCC officials.⁵³ Similarly, for the RUS Community Connect program, the proposed service area must not overlap with those of previously funded RUS grantees and borrowers, and grant funds may not duplicate existing broadband service provided by other entities. Although these restrictions are intended to avoid duplicative spending and inefficient use of federal funds, a few stakeholders who work with communities expressed concerns about these types of stipulations. For example, these stakeholders noted that if a provider receives funding to deploy in a particular area but does not deliver on its commitments, the community may be ineligible for other funding programs during the build-out period and would continue to lack sufficient access to broadband.

Interagency Coordination Is Not Guided by a National Strategy

The Executive Office of the President and numerous agencies have increasingly worked to coordinate fragmented and overlapping federal broadband programs, but these efforts are not guided by a current national strategy. The National Economic Council (NEC) is well positioned to develop such a strategy. NEC has recently taken the administration lead for coordinating broadband programs—in close coordination with the Domestic Policy Council and other White House offices—according to NEC staff.

Coordination Efforts Are Varied and Increasing

NEC and federal agencies have employed several types of interagency coordination efforts to help manage the landscape of fragmented and overlapping federal broadband programs. However, there is no overarching strategy that synchronizes these efforts by establishing clear roles, goals, objectives, and performance measures to work towards.

- **NEC leads regular broadband coordination meetings.** Staff from the Executive Office of the President said that NEC—in close coordination with the Domestic Policy Council and other White House

⁵²For purposes of determining eligibility for the Rural Digital Opportunity Fund program, excluded census blocks that were identified as having been awarded broadband funding from other federal and state broadband subsidy programs to provide 25/3 Mbps or better service. FCC's goal is to target program funding to areas that would not otherwise be served by broadband and to avoid duplicate support. Federal Communications Commission, *In the Matter of Rural Digital Opportunity Fund*, Report and Order, January 30, 2020, p. 8, <https://docs.fcc.gov/public/attachments/FCC-20-5A1.pdf>.

⁵³*Id.* at p. 24, fn. 135.

Offices—has taken the administration’s lead for broadband coordination and program implementation. NEC staff told us that in 2021 NEC started leading regular meetings to coordinate the implementation of broadband programs related to the Infrastructure Investment and Jobs Act. Specifically, NEC staff said that the Council co-chairs, with NTIA, working-level coordinating meetings that include the agencies with broadband programs. In addition, NEC staff said they regularly coordinate on broadband efforts with other White House offices such as the Domestic Policy Council and Office of Management and Budget. They also said that NEC reaches out to individual agencies to coordinate their broadband operations at regular intervals, and more often as needed. Staff from the Executive Office of the President said that collectively these efforts are how the administration ensures it is working across agencies toward the administration’s goal of universal, affordable, and reliable access to broadband.

- **Interagency agreements and meetings focus on avoiding duplication.** As discussed earlier, interagency agreements—and the meetings to carry them out—have focused on minimizing duplication in funding awards. FCC, RUS, and NTIA have an interagency agreement and meet at the leadership and staff level, and contact each other more frequently as needed. These weekly meetings are generally limited to mapping broadband availability and sharing information to avoid funding the same areas, according to agency officials. NTIA officials stated this data sharing and mapping work is helpful for agencies to avoid overlap and duplication because it enables the agencies to discuss which locations they plan to fund and ways to make funding complementary.⁵⁴
- **An interagency working group addressed primarily individual agency actions and mainly serves as an information-sharing**

⁵⁴Further, NTIA officials said that NTIA employees with expertise in federal and state broadband programs also helped coordinate NTIA and Treasury programs and helped ensure state and local governments are well served by the Treasury programs.

venue.⁵⁵ The efforts of ABI—an interagency working group chaired by NTIA and USDA—have resulted primarily in individual agency actions, rather than collaborative ones. For example, of the 24 agency actions described in the June 2020 ABI progress report, five actions involved more than one agency.⁵⁶ In addition, officials from multiple agencies, including NTIA, told us that ABI is a voluntary effort and has mainly served as a forum to share information and foster relationships among agencies.

- **Agencies coordinate to host joint events to publicize broadband programs.** Multiple agencies coordinate to hold periodic information sessions, workshops, and community outreach events to discuss their respective programs and how they can be used for broadband. For example, NTIA, EDA, and RUS have presented during a series of webinars to inform state and local leaders in Idaho and Arizona about how to plan broadband deployment projects, and these webinars included information about their broadband programs. The Department of the Interior, FCC, NTIA, the Institute of Museum and Library Services, and other agencies hosted a convening of tribal broadband industry experts to discuss how to leverage federal funding

⁵⁵Since 2015, a succession of interagency working groups have worked to streamline the implementation of federal broadband programs. The Broadband Opportunity Council, established by a Presidential Memorandum, existed from March 2015 to November 2016 with goals of identifying and addressing regulatory barriers and aligning funding decisions, among other goals. The Broadband Interagency Working Group, which included most of the same agencies as the Broadband Opportunity Council, formed between November 2016 and January 2017. The ABI was announced in February 2019. The ABI issued its first report to fulfill the reporting requirements of section 6214 the Agricultural Improvement Act of 2018, Pub. L. No. 115-334, 132 Stat. 4748, 4490.

⁵⁶Of the five interagency actions, two involved agencies working together to coordinate events; one consisted of agencies entering into a data sharing agreement; one consisted of the ABI receiving and reviewing recommendations from states; and one action consisted of the Department of the Treasury and the Federal Deposit Insurance Corporation revising their regulations to explicitly identify broadband as essential infrastructure. The other agency actions detailed in these reports consist of agencies working individually to administer their broadband programs in new ways, such as developing informational materials about programs, issuing guidance to clarify what programs can be used for broadband, and implementing new programs. We considered interagency action to be situations where two or more agencies worked together with a common goal.

programs to increase access for tribal communities.⁵⁷ However, these outreach events are usually not comprehensive in that they are limited to information from the sponsoring agencies.

- **A new NTIA office has various responsibilities for interagency coordination.** The Consolidated Appropriations Act, 2021 gave NTIA's Office of Internet Connectivity and Growth (Office) significant responsibilities related to coordinating federal broadband support programs.⁵⁸ For example, the Office is required to track the construction, use, and access of broadband infrastructure built with federal support. The law also tasks agencies with federal broadband-funding programs to coordinate their work with NTIA, with the goals of serving the largest number of unserved locations and promoting job and economic growth.⁵⁹ Additionally, the Office has coordinated with federal and state partners to update the National Broadband Availability Map—for federal agencies and states to use in determining which areas to provide funding, as discussed earlier.⁶⁰ Working with the State Broadband Leaders Network, the Office also promotes coordination between federal broadband programs and state broadband offices and creates a forum for states to share best practices and discuss emerging issues.
- **The Infrastructure Investment and Jobs Act included new interagency coordination provisions.** Various provisions in the act require NTIA to coordinate with other agencies when implementing the new NTIA broadband programs established by the act or related broadband-mapping efforts.⁶¹ For example:

⁵⁷Since 2019, Interior has partnered with several agencies on the National Tribal Broadband Summit. In addition, in collaboration with other agencies Interior developed a strategy that recommended 28 activities to address barriers to broadband deployment on tribal lands, such as lack of coordination, insufficient funding, and complex permitting. Department of the Interior, *National Tribal Broadband Strategy* (Washington, D.C.: Jan. 15, 2021).

⁵⁸Pub. L. No. 116-260, div. FF, tit. IX, § 903, 134 Stat. at 3210-13 (codified at 47 U.S.C. § 1307).

⁵⁹The Consolidated Appropriations Act, 2021 also charges NTIA with carrying out public outreach and training events to promote broadband access and adoption, among other things.

⁶⁰The Office has also developed a separate Indicators of Broadband Need Map, which aggregates government, industry, and crowdsourced data to enable the public to identify broadband availability and speed for locations at the county, census tract, and census block level.

⁶¹See Pub. L. No. 117-58, div. F, 135 Stat. at 1183-1250.

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- NTIA is required to coordinate with FCC in establishing program definitions related to determining eligible areas.
 - NTIA is required to coordinate with a number of federal agencies to ensure that some of the new programs complement and enhance, and do not conflict, with other broadband initiatives or programs.

In addition, the act provides the sense of Congress that agencies responsible for supporting broadband deployment should align goals, application and reporting processes, and project requirements, to the extent possible.

Implementation of these requirements is still forthcoming, and NTIA is assessing the new coordination requirements, according to NTIA officials.

No Current National Broadband Strategy Guides Agencies' Efforts

The federal government has used a variety of mechanisms for coordination, but no current national strategy exists to provide clear roles, goals, objectives, and accountability to agencies or synchronize the numerous interagency coordination efforts described above. FCC developed the National Broadband Plan in 2010, but it is now outdated.⁶² Officials from several agencies told us that no national broadband strategy of this scope is currently in effect.⁶³ Similarly, we were not able to identify a national strategy that currently synchronizes federal broadband efforts.⁶⁴ The NTIA Office of Internet Connectivity and Growth is developing a fiscal year 2022 internal “workplan” for interagency coordination responsibilities, but NTIA officials told us it will not be a

⁶²FCC, *Connecting America: The National Broadband Plan* (Washington, D.C.: Mar. 17, 2010). The plan set out several broad goals to be accomplished by 2020. FCC officials acknowledged that the plan is outdated in a number of respects and that, while the plan was intended to evolve over time, it could not anticipate new issues, circumstances, and agency policies. FCC officials also said they still considered the plan relevant for providing a framework to modernize the Universal Service Fund and FCC’s other telecommunications policies.

⁶³In the 117th Congress, legislation was introduced to require FCC to update the national broadband plan and annually report on its progress in achieving the goals of the plan. National Broadband Plan for the Future Act of 2021, S. 279, 117th Cong. (2021); H.R. 870, 117th Cong. (2021). See also, National Broadband Plan for the Future Act of 2020, S. 4022, 116th Cong. (2020).

⁶⁴In addition to the 2010 FCC National Broadband Plan, we identified and analyzed three other broadband strategies but found none applied to all federal agencies administering broadband programs, and thus none serves as an overall federal strategy. One strategy developed by the Department of the Interior was more narrowly focused on increasing broadband on tribal lands, and two others were not developed by the federal government.

strategy for the Office as a whole. The Consolidated Appropriations Act, 2021 and the Infrastructure Investment and Jobs Act do not require NTIA or any other federal agency to develop a national broadband strategy.

We have reported that strategies to coordinate programs that address cross-cutting issues of broad national need can help identify and mitigate negative effects associated with fragmented, overlapping, and potentially duplicative federal programs.⁶⁵ While interagency coordination can help agencies and those they support, broad and challenging goals like increasing broadband access may require a national strategy.⁶⁶ In particular, coordinating efforts with mutually reinforcing or joint strategies can help better manage fragmentation and overlap.⁶⁷ Our prior work has identified desirable characteristics of national strategies, including clear organizational roles, goals, objectives, and performance measures to gauge and monitor results.⁶⁸ Defining organizational roles involves identifying entities and their respective responsibilities—for example, the specific federal agencies and offices, and any other sectors such as states. Goals address what the strategy is trying to achieve; objectives help lay out the steps needed to achieve those results; and performance measures provide accountability for achieving results. Further, strategies are most effective when they are regularly updated and monitored.⁶⁹

Most of the agency officials and more than half of the nonfederal stakeholders we interviewed said a new national strategy would be

⁶⁵[GAO-15-49SP](#).

⁶⁶[GAO-12-1022](#) and [GAO-15-49SP](#).

⁶⁷[GAO-15-49SP](#).

⁶⁸[GAO-04-408T](#). Desirable characteristics of national strategies identified were: (1) a statement of purpose, scope, and methodology; (2) problem definition and risk assessment; (3) goals, subordinate objectives, activities, and performance measures; (4) resources, investments, and risk management; (5) organizational roles, responsibilities, and coordination; and (6) integration and implementation.

⁶⁹[GAO-04-408T](#), [GAO-12-1022](#).

helpful.⁷⁰ A strategy led by the Executive Office of the President could help guide programs across agencies, mediate interagency issues, and encourage agencies to work together to improve the management of federal broadband programs. Officials from agencies that implement broadband programs told us a strategy from the Executive Office of the President would be helpful because it could establish agency roles and common goals for federal broadband programs, including addressing fragmentation and overlap and implementing programs for applicants in a simplified, complementary way.

A RUS official explained that a strategy could enable agencies to combine or consolidate their programs and administer them in a way that reduces barriers to participation. In addition, Department of the Interior officials told us a strategy from the Executive Office of the President could provide a framework from which agencies could design or modify their programs to meet interagency goals set in the strategy. Further, all of the agencies we spoke with that had views on the topic said leadership from the Executive Office of the President would be helpful. In particular, FCC, NTIA, and RUS officials told us they would support a national strategy and leadership from the Executive Office of the President. In addition, a national strategy could guide the efforts of states and localities implementing programs in coordination with the federal government. The roles of states have become even more important as they receive and then distribute funds from new federal broadband programs administered by NTIA and the Treasury, among other things.⁷¹

⁷⁰We asked each federal agency office listed in appendix I whether a strategy and leadership from the Executive Office of the President would be helpful. Of these 17 agency offices, 11 responded that leadership from the Executive Office of the President would be helpful, and 6 did not provide a response. Ten agencies also said a strategy would be helpful, and 7 agencies did not provide a response. The Executive Office of the President is not counted among these responses, and responses from NTIA and EDA, both agencies within the Department of Commerce, are counted as separate responses. Similarly, responses from the Office of Recovery Programs and the Community Development Financial Institutions Fund, both agencies within the Department of the Treasury, are counted as separate responses. "Nonfederal stakeholders" includes broadband trade organizations, consultants and intermediaries who work with program participants, educational organizations, subject matter experts, and state broadband offices. It does not include private providers, tribal entities, and tribal organizations.

⁷¹For example, NTIA's Broadband Equity, Access, and Deployment Program will provide funding to states to support projects on planning, deployment, mapping, and adoption. The Department of the Treasury's Coronavirus Capital Projects Fund provides funding to states that may be used for broadband deployment, among other things.

Staff from the Executive Office of the President, including NEC, told us they are considering whether a new national strategy is needed, but no office has announced plans to develop a new strategy. Greater direction through a national strategy led by the Executive Office of the President could guide agencies in working more collaboratively to close the digital divide. Further, a strategy could help current interagency coordination efforts manage existing fragmentation and overlap of programs and mitigate the risk of potentially wasteful duplicative efforts. A strategy could also bring attention to areas where statutory provisions limit beneficial program alignment and include legislative proposals for Congress to consider, as appropriate, proposals that were discussed earlier. Without a strategy, federal broadband efforts will not be fully coordinated, and thereby continue to risk overlap and duplication of effort.

Conclusions

The COVID-19 pandemic laid bare the effects of the digital divide. Those with broadband access could work, attend school, and receive telehealth services, while those without sufficient broadband access could not. While FCC, NTIA, RUS, and the many other agencies funding the dozens of federal broadband programs have had some success in increasing how many people have access to broadband, millions of Americans remain without service.

The environment of fragmented and overlapping programs creates complexity and barriers for potential applicants and can limit the effectiveness of federal efforts. New federal broadband funding programs add additional complexity, and agencies said statutory provisions limit program alignment. Without identification of the statutory provisions that currently limit program alignment and proposed amendments to address them, Congress will lack insight into possible beneficial legislative changes, and agencies may miss opportunities to manage program fragmentation and overlap.

To help potential applicants identify programs that can fund broadband in their specific situations, NTIA developed the *BroadbandUSA Federal Funding Guide*. However, NTIA could do more for its intended audience by obtaining and incorporating meaningful, ongoing input from users on their needs and on how the *Guide* can serve those needs.

The federal government is taking steps to better coordinate federal broadband programs via several interagency efforts. Unless these interagency efforts are synchronized by a national strategy with clear roles, goals, objectives, and performance measures, they could miss

opportunities to align federal broadband programs and thereby continue to risk overlap and duplication of effort.

Recommendations for Executive Action

We are making a total of three recommendations, including two to NTIA and one to the Executive Office of the President. Specifically:

The NTIA Administrator should direct the Office of Internet Connectivity and Growth, to consult with OMB, other White House offices, and relevant agencies and present to Congress a report that identifies the key statutory provisions that limit the beneficial alignment of broadband programs and offers legislative proposals to address the limitations, as appropriate. (Recommendation 1)

The NTIA Administrator should direct the Office of Internet Connectivity and Growth to regularly seek and incorporate user feedback when updating the *BroadbandUSA Federal Funding Guide*. (Recommendation 2)

Executive Office of the President, through NEC, should develop and implement a national broadband strategy with clear roles, goals, objectives, and performance measures to support better management of fragmented, overlapping federal broadband programs and synchronize coordination efforts. This strategy may identify key statutory provisions that limit program alignment and offer legislative proposals to address the limitations. (Recommendation 3)

Agency Comments

We provided a draft of this report to the 15 agencies that administer the broadband-supporting programs we identified, which are listed in appendix II, and to the Executive Office of the President for review and comment. The Department of Commerce agreed with our recommendations. We reproduced the Department's comments in appendix IV. We received oral comments from the Executive Office of the President, which did not take a position on our recommendation to develop and implement a national broadband strategy. The Executive Office of the President also provided a technical comment, which we incorporated.

The Department of Agriculture, Department of the Interior, Department of the Treasury, and Institute of Museum and Library Services provided technical comments, which we incorporated as appropriate. The Appalachian Regional Commission, Delta Regional Authority, Denali Commission, Department of Education, Federal Communications Commission, Department of Health and Human Services, Department of

Housing and Urban Development, Department of Labor, Northern Border Regional Commission, and Department of Transportation said they did not have comments.

We are sending copies of this report to the appropriate congressional committees, the Executive Office of the President, the Secretary of Commerce, the Chairwoman of the Federal Communications Commission, the Secretary of Agriculture, and other relevant agencies, as well as other interested parties. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-2834 or VonAhA@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix V.

A handwritten signature in black ink, appearing to read 'Andrew Von Ah', with a stylized, cursive script.

Andrew Von Ah
Director, Physical Infrastructure

Appendix I: Objectives, Scope, and Methodology

This report examines (1) fragmentation and overlap among federal broadband programs and potential limitations to improved alignment; (2) challenges stakeholders face in using federal broadband programs and the effectiveness of the federal broadband program guide in assisting them; and (3) the extent to which interagency coordination efforts are guided by a national strategy.

To address these objectives, we reviewed statutes, regulations, interagency agreements, and other agency documents. We interviewed or obtained written responses from agency officials from multiple federal agencies that administer broadband funding programs, including the Federal Communications Commission (FCC), the Department of Agriculture's Rural Utilities Service (RUS), and the Department of Commerce's National Telecommunications and Information Administration (NTIA). We also interviewed 50 nonfederal stakeholders, including 11 tribal officials and internet providers that serve tribal lands in conjunction with a GAO engagement team responding to a similar congressional request. See table 1 for a complete list of individuals and entities interviewed.¹ For reporting purposes, we developed the following series of indefinite quantifiers to describe collective responses from the 50 nonfederal stakeholders we interviewed including: "a few" (three to five); "some" (six to 16); "many" (17 to 33); and "most" (34 or more).² For describing responses from the 17 different federal agency offices, we used the indefinite quantifiers "many" (nine to 13) and "most" (14 or more).

We selected a broad range of nonfederal stakeholders, including stakeholders who could speak to multiple topics, such as consultants or former federal officials with knowledge of federal broadband programs, applications, and interagency coordination. While these interviews are not generalizable to a larger population of nonfederal stakeholders, they provided us with a variety of perspectives on federal broadband programs. During these interviews, we asked about stakeholders' perspectives on fragmentation, overlap, and duplication among federal broadband programs; experiences in using federal broadband programs,

¹Some of these interviews were conducted jointly.

²Of these stakeholders, 20 are providers (this includes telecommunications providers owned by tribes). For describing responses from providers, we used the quantifiers: "a few" (three) and "some" (four to six).

including using NTIA's *Guide*; and the extent to which leadership and a strategy guide broadband efforts.

To understand the programs that can fund broadband and the potential for fragmentation, overlap, and duplication, we identified broadband deployment and adoption programs across 15 federal agencies established as of November 2021, when the Infrastructure Investment and Jobs Act was enacted.³ To identify these programs, we consulted various sources: statutes, NTIA's *BroadbandUSA Federal Funding Guide* (2020 and 2021 versions), and compilations of federal broadband programs published by the Congressional Research Service⁴ and the Internet Society.⁵ We also asked agency officials to confirm whether their programs could fund broadband access and to identify any other relevant broadband funding programs.⁶

Based on our review of agency documents and interviews with agency officials, we categorized the programs into three groups: (1) programs that support broadband as their main purpose; (2) programs that have broadband support as one possible use of program funds and in most cases have examples of being used to support broadband access; and (3) programs where the support of broadband is ancillary or limited in practice, and that may not have an example of being used to support broadband access. The "main purpose" and "possible use" programs we identified are included in appendix II.⁷ To determine if programs had broadband support as their main purpose, we reviewed statutes and regulations, as well as agency documentation and interviews with or written responses from agency officials. We reviewed program

³The 15 federal agencies with broadband-related programs are listed in Table 1. For some agencies, we contacted more than one component office if multiple offices administered broadband programs.

⁴Congressional Research Service, *Overview of the Universal Service Fund and Selected Federal Broadband Programs*, R46780 (Washington, D.C.: June 25, 2021).

⁵Internet Society, *Guide to Federal Broadband Funding Opportunities in the U.S.* (Reston, VA: Feb. 2021).

⁶We asked agencies to identify new programs that may be used to support broadband as one possible purpose, such as those established by statute in 2020 and 2021. However, we did not conduct a legislative review to identify all new programs that may support broadband as one possible use or in an ancillary way. Therefore, other programs may exist that could support broadband in limited ways.

⁷We did not list programs we identified that have broadband access as an ancillary purpose.

information to further categorize programs by their purposes (e.g., planning, deployment, affordability, devices, and digital skills) to help analyze the similarities and differences. We confirmed our categorization with the respective agencies and made adjustments to the categorization and descriptions as appropriate. We made assessments about fragmentation, overlap, and duplication among programs according to definitions developed in our prior work.⁸

We obtained and analyzed data provided by agencies on the funding awarded to broadband-specific activities, from fiscal years 2015–2020.⁹ We selected this time period to provide several years of data and to include the most recent data available at the time. In addition, we started with 2015 because that was generally the start of disbursements for High Cost program modernized funds and when FCC raised its benchmark speed for broadband to 25 megabits per second (Mbps) download and 3 Mbps upload. We determined these data to be sufficiently reliable for reporting overall funding awards for broadband support based on our review of agency documentation and responses from knowledgeable agency officials.

We also compared service area maps of FCC’s High Cost and RUS’ telecommunications programs to identify examples of federal broadband programs with overlapping service areas, from fiscal years 2015-2020. We compared programs from these agencies because of the large share of broadband support provided by FCC and RUS programs, the availability of publicly accessible service area maps and data, and discussion of potential overlap between these programs from some stakeholders we interviewed. We determined these maps and data to be sufficiently reliable for reporting on examples of overlapping program service areas based on our review of agency documentation and responses from knowledgeable agency officials.

To assess potential limitations to improved alignment of broadband programs, we reviewed statutes, regulations, and agency documents, such as ABI reports. We also interviewed agency officials. We compared selected definitions across programs, including FCC and RUS programs.

⁸GAO, *Fragmentation, Overlap, and Duplication: An Evaluation and Management Guide*, [GAO-15-49SP](#) (Washington, D.C.: Apr. 14, 2015).

⁹For most programs that have broadband as one possible use of funds, agency officials said they do not track the specific amounts that have gone to support broadband.

We compared the ABI and NTIA’s efforts to analyze and address programmatic differences to NTIA’s responsibilities in statute and our prior work on fragmentation, overlap, and duplication.¹⁰

To assess NTIA’s *BroadbandUSA’s Federal Funding Guide* we obtained documents from, and interviewed, NTIA about the creation of and updates to the *Guide*, including stakeholder input. We asked the nonfederal stakeholders we interviewed to discuss their needs and experiences with the *Guide* and any suggestions for improvements. We compared NTIA’s processes for obtaining user input to requirements in the 21st Century Integrated Digital Experience Act, Office of Management and Budget guidance, and selected best practices in the U.S. Digital Service’s *Digital Services Playbook*.¹¹ When assessing the *Guide*, we also considered the information and communication component of internal control along with the underlying principle that management should use quality information to achieve the entity’s objectives and whether NTIA had processes in place to collect and incorporate feedback from users of the *Guide*.

Table 1: List of Entities and People Interviewed

Broadband trade organizations
ACA Connects
NTCA–The Rural Broadband Association
Wireless Infrastructure Association
Consultants and intermediaries who work with broadband program applicants
Joshua Edmonds, Director of Digital Inclusion, City of Detroit
Carol Matthey, Principal, Matthey Consulting LLC
Heather Mills, Vice President for Grant and Funding Strategies, CTC Technology and Energy
Christopher Mitchell, Director of Community Broadband Networks Initiative, Institute for Local Self-Reliance
Craig Settles, Telehealth and Community Broadband Consultant
Angela Siefer, Executive Director, National Digital Inclusion Alliance
Jessica Zufolo, Vice President of Rural Broadband Strategy, Magellan Advisors
Educational organizations
Lancaster-Lebanon Intermediate Unit 13, Pennsylvania Education Service Agency

¹⁰GAO-15-49SP.

¹¹Pub. L. No. 115-336, § 3(a)(6), 132 Stat. 5025 (2018); Office of Management and Budget, *Policies for Federal Agency Public Websites and Digital Services*, M-17-06 (Washington, D.C.: Nov. 8, 2016); and U.S. Digital Service, *Digital Services Playbook*, accessed Feb 18, 2021, <https://playbook.cio.gov>

**Appendix I: Objectives, Scope, and
Methodology**

Regional School Unit 78, Maine / Rangeley Lakes Regional School

The Schools, Health & Libraries Broadband Coalition

Yavapai County Education Service Agency, Arizona

Subject matter experts

Christopher Ali, Associate Professor, University of Virginia

Stephen Herzenberg, Economist, Keystone Research Center

Mark Jamison, Nonresident Senior Fellow, American Enterprise Institute

Blair Levin, Nonresident Senior Fellow, Brookings Institution

Daniel Lyons, Nonresident Senior Fellow American Enterprise Institute

Shane Tews, Nonresident Senior Fellow, American Enterprise Institute

Adie Tomer, Senior Fellow, Brookings Institution

Nicol Turner Lee, Senior Fellow, Brookings Institution

Katie Watson Jordan, former Director, Public Policy and Technology, Internet Society

Tom Wheeler, Visiting Fellow, Brookings Institution

State broadband offices and leaders

California Public Utilities Commission and California Department of Technology

Connected Nation Texas

New York State Broadband Program Office / Empire State Development

Wisconsin Broadband Office / Public Service Commission of Wisconsin

Internet service providers

Alaska Communications

Beehive Telephone Company

Emery Telcom

Frontier Communications

Golden West Telecommunications Cooperative

Hawaiian Telcom

Lumen Technologies/CenturyLink

Pine Telephone Company

Sacred Wind Communications

SpaceX

Windstream Communications

Tribal entities (tribal governments and telecommunications providers owned by tribes)

Akiak Native Community (AK)/Akiak Technology, LLC

Chitimacha Tribe of Louisiana (LA)

The Choctaw Nation of Oklahoma (OK)

Confederated Tribes of the Warm Springs Reservation of Oregon (OR)/Warm Springs Telecom

Gila River Indian Community of the Gila River Indian Reservation, Arizona (AZ)/Gila River Telecommunications, Inc.

Mescalero Apache Tribe of the Mescalero Reservation, New Mexico (NM)/Mescalero Apache Telecom, Inc.

Appendix I: Objectives, Scope, and Methodology

Saint Regis Mohawk Tribe (NY)/Mohawk Networks, LLC

Salt River Pima-Maricopa Indian Community of the Salt River Reservation, Arizona (AZ)/Saddleback Communications

Seneca Nation of Indians (NY)/Seneca Energy, LLC

Tohono O’odham Nation of Arizona (AZ)/Tohono O’odham Utility Authority

Yurok Tribe of the Yurok Reservation, California (CA)/Yurok Connect

Federal entities

Appalachian Regional Commission

Delta Regional Authority

Denali Commission

Department of Agriculture, Rural Utilities Service

Department of Commerce – National Telecommunications and Information Administration and the Economic Development Administration

Department of Education

Department of Health and Human Services

Department of Housing and Urban Development

Department of Labor

Department of the Interior

Department of the Treasury – Office of Recovery Programs, Community Development Financial Institutions Fund

Department of Transportation

Executive Office of the President – National Economic Council, Domestic Policy Council, Office of Science and Technology Policy

Federal Communications Commission

Institute of Museum and Library Services

Northern Border Regional Commission

Source: GAO. | GAO-22-104611

To analyze the extent to which a national strategy coordinates federal broadband efforts, we identified and analyzed relevant interagency coordination efforts. We identified various interagency efforts by reviewing agency documentation and interviews, and we were guided by our prior work on interagency collaborative mechanisms¹² and options to reduce or better manage fragmentation, overlap, and duplication that our previous work has identified.¹³ We focused on interagency efforts to address broadband program coordination and did not assess interagency efforts related to other objectives, such as permitting. We reviewed our prior work regarding desirable characteristics that are critical to a national

¹²GAO, *Managing for Results: Key Considerations for Implementing Interagency Collaborative Mechanisms*, [GAO-12-1022](#) (Washington, D.C.: Sept. 27, 2012).

¹³[GAO-15-49SP](#).

strategy—including establishing roles, goals, objectives, and performance measures, which are important to leading complex government-wide and interagency efforts.¹⁴ In addition, we reviewed interagency coordination requirements in the Consolidated Appropriations Act, 2021¹⁵ and the Infrastructure Investment and Jobs Act.¹⁶

To determine whether any national broadband strategies were currently in effect, we conducted a literature review, reviewed agency documentation, and interviewed federal agencies and nonfederal stakeholders. First, we conducted a literature review to identify relevant broadband strategies and reviewed the results.¹⁷ Specifically, we conducted searches for broadband strategies in Google Advanced Search, Scopus, Harvard Think Tank, and ProQuest Congressional. We also reviewed agency documents and asked interview participants whether any federal broadband strategies were currently in effect, and if not, whether they would be helpful. From this review, we identified two federal and two nonfederal broadband strategies and analyzed them to determine if they were current and applied to federal agencies across the government that administer broadband funding programs.

We conducted this performance audit from October 2020 to May 2022 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

¹⁴GAO, *Combatting Terrorism: Evaluation of Selected Characteristics in National Strategies Related to Terrorism*, [GAO-04-408T](#) (Washington, D.C.: Feb. 3, 2004).

¹⁵Pub. L. No. 116-260, 134 Stat. 1182 (2020).

¹⁶Pub. L. No. 117-58, 135 Stat. 429 (2021).

¹⁷We identified the following strategies: Federal Communications Commission, *Connecting America: The National Broadband Plan* (Washington, D.C.: Mar. 17, 2010); Department of the Interior, *National Tribal Broadband Strategy* (Washington, D.C.: Jan. 15, 2021); National Urban League, *The Lewis Latimer Plan for Digital Equity and Inclusion* (New York, N.Y.: Jan. 28, 2021); and Jonathan Sallet, Benton Institute for Broadband and Society, *Broadband For America's Future: A Vision for the 2020s* (Evanston, I.L.: Oct. 2019).

Appendix II: Inventory of Federal Broadband Programs

The following three tables include programs that have broadband access as the main purpose or one possible purpose. We did not list programs we identified that have broadband access as an ancillary purpose.

Table 2: Programs That Have Broadband as the Main Purpose

The main purpose of these programs is to fund broadband access, including for deployment or adoption purposes. The funding awarded by the agency does not include funding appropriated by the CARES Act; Consolidated Appropriations Act, 2021; American Rescue Plan Act of 2021; or Infrastructure Investment and Jobs Act.

See table 3 for new programs created in 2020 or 2021 that have broadband as a main purpose—that is, programs established by the CARES Act; Consolidated Appropriations Act, of 2021; American Rescue Plan Act of 2021; Infrastructure Investment and Jobs Act, or other relevant new programs.

Agency	Program's Name	Program's Purpose and Description	Eligible Recipients	Type of Funding ^a	Funding Awarded for Broadband (FY2015-2020)
Federal Communications Commission (FCC)	High Cost Program	Deployment Construct, operate, and maintain infrastructure for broadband and voice service in rural, insular, and high-cost areas	Providers designated as eligible telecommunications carriers	Subsidy	\$28.3 billion ^b
FCC	E-rate Program	Deployment, affordability Fund broadband service to and within eligible schools and libraries based on need; some equipment purchases and construction costs are eligible	Schools, libraries, consortia	Discount	\$9.5 billion ^b
U.S. Department of Agriculture (USDA)	ReConnect Program	Deployment Construct, improve, or acquire facilities and equipment needed to provide broadband in rural areas that lack sufficient access	Cooperatives, mutual associations, corporations, limited liability companies, state or local governments, U.S. territories or possessions, federally recognized tribes	Grant, loan, loan/grant combination	\$1.4 billion
USDA	Telecommunications Infrastructure Program	Deployment Construct or improve telephone and broadband infrastructure in rural areas	Nonprofits, cooperatives, mutual associations, federally recognized tribes, state or local governments	Loan, loan guarantee	\$1.3 billion

Appendix II: Inventory of Federal Broadband Programs

Agency	Program's Name	Program's Purpose and Description	Eligible Recipients	Type of Funding^a	Funding Awarded for Broadband (FY2015-2020)
USDA	Community Connect Grant Program	Deployment, affordability Construct broadband networks—including construction, acquisition, or leasing of facilities, such as land, spectrum, or buildings, in rural areas. Fund broadband service focused on “community oriented connectivity”	Private corporations, limited liability companies, cooperatives, state or local governments, federally recognized tribes	Grant	\$132 million
USDA	Rural Broadband Program	Deployment Construct, improve, or acquire facilities and equipment needed to provide broadband to eligible rural areas	Corporations, limited liability companies, cooperatives, state or local governments, federally recognized tribes or tribal organizations	Loan, loan/ grant combination, loan guarantee	\$95.8 million
Appalachian Regional Commission	Central Appalachia and North Central/North Appalachia Broadband	Planning, deployment, devices Increase affordable access to broadband, including through funding of broadband infrastructure; devices; increase distance learning opportunities and telehealth technologies	Local development districts, tribes, state and local governments, higher education institutions, nonprofits in specific counties of the Appalachian region	Grant	\$64.4 million
Denali Commission	Alaska Broadband Program	Planning, deployment Technical assistance, including with developing engineering and planning documents to apply for other funding; also broadband deployment	Nonprofits, tribes, local governments in rural and remote areas of Alaska	Grant	\$1.1 million
Department of the Interior	National Tribal Broadband Grant Program	Planning Fund feasibility studies for creating or expanding broadband service	Federally recognized tribes	Grant	\$1.5 million
FCC	Lifeline Program ^c	Affordability Provide low-income subscribers a discount on monthly phone or broadband services	Low-income subscribers	Discount	\$2 billion ^b

Appendix II: Inventory of Federal Broadband Programs

Agency	Program's Name	Program's Purpose and Description	Eligible Recipients	Type of Funding^a	Funding Awarded for Broadband (FY2015-2020)
FCC	Rural Health Care Program: Health Care Connect Fund	Affordability, deployment Support broadband connectivity and formation of broadband health care provider networks	Rural healthcare providers	Discount	\$853 million ^d
USDA	Distance Learning and Telemedicine Program	Devices, digital skills Financing construction of facilities and systems to provide telemedicine services and distance learning services in rural areas	State and local governments, federally recognized tribes, nonprofits, for-profit businesses and "consortia of eligible entities" providing education or healthcare services through telecommunication	Grant	\$237.1 million

Sources: GAO analysis of relevant statutes, regulations, and agency information. | GAO-22-104611

Notes: Funding totals are not adjusted for inflation. If funding was provided in at least one of the fiscal years from FY2015 to FY2020, we included it in the totals above; however, some of the programs did not award funding in all of these fiscal years.

Funding totals are not adjusted for inflation. If funding was provided in at least one of the fiscal years from FY2015 to FY2020, we included it in the totals above; however, some of the programs did not award funding in all of these fiscal years. For most programs that have broadband as one possible use of funds, agency officials said they do not track the specific amounts that have gone to support broadband—thus the totals above likely understates the full amount of federal broadband support.

^aA guaranteed loan is a nonfederal loan to which a federal guarantee is attached. A subsidy is a payment or benefit made by the federal government where the benefit exceeds the cost to the beneficiary. Subsidies are designed to support the conduct of an economic enterprise or activity.

^bData on FCC's High Cost, E-rate, and Lifeline programs' disbursements are not reported by fiscal year, but we performed calculations to aggregate disbursements by fiscal year. E-rate data were only available since July 2016. Disbursement data for the Lifeline program that included breakdowns for broadband and bundled services were only available since January 2018.

^cWe included FCC's Lifeline program in this category because it is a major program for broadband affordability, though it also provide support for phone service. According to our analysis of FCC data, broadband and bundled services comprise a substantial share (72 percent) of the Lifeline disbursements from FY2018 to FY2020.

^dData on FCC's Rural Health Care Program: Health Care Connect Fund are reported by the program's funding year, which runs from July 1 to June 30.

Appendix II: Inventory of Federal Broadband Programs

Table 3: New Programs That Have Broadband as the Main Purpose, as of November 2021

This table summarizes appropriations for new broadband programs in 2020 and 2021, by the CARES Act; Consolidated Appropriations Act, 2021; American Rescue Plan Act of 2021; and Infrastructure Investment and Jobs Act. This table also includes other new programs created in 2020 and 2021 that have broadband as the main purpose.

Program's Name	Statute	Program's Purpose and Description	Eligible Recipients	Type of Funding	Appropriation
<i>Department of Commerce, National Telecommunications and Information Administration</i>					
Broadband Equity, Access, and Deployment Program	Infrastructure Investment and Jobs Act	Planning, deployment, affordability, devices Projects that support planning, deployment, mapping, and adoption	States, D.C., territories	Grant	\$42.45 billion
Enabling Middle Mile Broadband Infrastructure Program	Infrastructure Investment and Jobs Act	Deployment Construction, improvement, or acquisition of middle mile infrastructure	States, D.C., territories, political subdivisions of a state, tribal governments, utility providers, telecommunications companies or cooperatives, nonprofits, among others	Grant	\$1 billion
State Digital Equity Capacity Grant Program	Infrastructure Investment and Jobs Act	Affordability, digital skills, devices Implementation of state digital equity plans and digital inclusion activities	States, D.C., territories, federally recognized tribes, Alaska Native entities, Native Hawaiian organizations	Grant	\$1.44 billion
Digital Equity Competitive Grant Program	Infrastructure Investment and Jobs Act	Digital skills, devices Support efforts to achieve digital equity, promote digital inclusion activities, and spur greater adoption of broadband among covered populations	A political subdivision, agency or instrumentality of a state or D.C.; territories; federally recognized tribes; Alaska Native entities, Native Hawaiian organizations; nonprofits, community anchor institutions; among others	Grant	\$1.25 billion
State Digital Equity Planning Grant Program	Infrastructure Investment and Jobs Act	Affordability, digital skills, devices Develop state digital equity plans.	States, D.C., territories, federally recognized, Alaska Native entities, Native Hawaiian organizations	Grant	\$60 million

Appendix II: Inventory of Federal Broadband Programs

Program's Name	Statute	Program's Purpose and Description	Eligible Recipients	Type of Funding	Appropriation
Tribal Broadband Connectivity Program	Consolidated Appropriations Act, 2021 and Infrastructure Investment and Jobs Act	Planning, deployment, affordability, devices, digital skills Expand adoption and deployment of broadband on tribal lands, and to support distance learning, remote work, and telehealth.	Tribal governments, organizations, or colleges and universities; Native Hawaiian Community; Native Corporations	Grant	\$1 billion from the Consolidated Appropriations Act, 2021 and \$2 billion from the Infrastructure Investment and Jobs Act
Broadband Infrastructure Program	Consolidated Appropriations Act, 2021	Deployment Deploy fixed broadband service to areas without service (census blocks in which broadband is not available at one or more households or businesses)	Partnerships between states (or political subdivisions) and fixed broadband providers	Grant	\$300 million
Connecting Minority Communities Pilot Program	Consolidated Appropriations Act, 2021	Affordability, devices, digital skills Support purchases of broadband service and equipment, or to hire and train information technology personnel	Historically Black Colleges and Universities, Tribal Colleges and Universities, and Minority Serving Institutions	Grant	\$285 million
<i>Federal Communications Commission</i>					
COVID-19 Telehealth Program	CARES Act and Consolidated Appropriations Act, 2021	Devices (and services) Support health care providers' in addressing COVID-19 through purchases of telecommunications services, information services, and connected devices	Health care providers, including local health departments or agencies	Reimbursement	\$200 million from the CARES Act and \$249.95 million from the Consolidated Appropriations Act, 2021
Affordable Connectivity Program (previously called the Emergency Broadband Benefit Program)	Consolidated Appropriations Act, 2021 and Infrastructure Investment and Jobs Act	Affordability, devices Help eligible households afford broadband service through a monthly service discount and a device discount	Low-income subscribers	Discount	\$3.2 billion from Consolidated Appropriations Act, 2021 and \$14.2 billion from the Infrastructure Investment and Jobs Act

Appendix II: Inventory of Federal Broadband Programs

Program's Name	Statute	Program's Purpose and Description	Eligible Recipients	Type of Funding	Appropriation
Emergency Connectivity Fund	American Rescue Plan Act of 2021	Affordability, devices Help schools and libraries cover the costs of broadband connectivity, laptops, tablets, wi-fi hotspots, and other devices for use off campus by students, staff, and library patrons during the COVID-19 emergency period	Schools, libraries	Reimbursement	\$7.1 billion
Connected Care Pilot	Under legal authority of § 254(h)(2)(A) of Telecommunications Act of 1996	Affordability, devices Cover 85% of the eligible costs of broadband connectivity, network equipment, and information services necessary to provide connected care services to patients	Health care providers	Reimbursement	Not an appropriation, but program is funded up to \$100 million from the Universal Service Fund
<i>Department of Health and Human Services</i>					
Telehealth Broadband Pilot Program	Public Health Service Act, as amended by the CARES Act	Planning One-time pilot program to assess broadband capacity of rural healthcare providers and patient communities and to improve their ability to participate in telehealth services	Telehealth Resource Centers and Rural-Focused Telehealth Research Centers	Grant	Not an appropriation, but the agency awarded \$8 million in January 2021.

Sources: GAO analysis of relevant statutes, regulations, and agency information. | GAO-22-104611

Note: New statutes enacted since March 2020 appropriated additional funding for broadband programs that already existed, such as USDA's ReConnect and Distance Learning and Telemedicine programs. We did not include such funding in this table. Information about those programs is included in table 3.

Appendix II: Inventory of Federal Broadband Programs

Table 4: Programs That Have Broadband as One Possible Purpose

These programs may be used to support broadband as one possible use of programs funds. For example, program documentation explicitly states that broadband is one (but not the main) purpose for the funds. Alternatively, program documentation may not explicitly cite broadband as a purpose, but the program has funded broadband projects and agency has indicated that the program supports broadband and falls into this category. We asked agencies to provide information about new programs established by recent statutes that permit broadband as one possible use of program funds—e.g., the CARES Act; Consolidated Appropriations Act, 2021; or American Rescue Plan Act of 2021—and we included these new programs below, as appropriate. We did not review the Infrastructure Investment and Jobs Act for new programs that have broadband as one possible use.

Program's Name	Program's Purpose Related to Broadband	Eligible Recipients	Type of Funding	Example of How Used for Broadband
<i>Appalachian Regional Commission</i>				
Area Development (including Distressed Counties Program)	Planning, deployment, devices Invest in critical infrastructure, including broadband	Local development districts, tribes, state and local governments, higher education institutions, nonprofits in the Appalachian region	Grant (\$15 million awarded for broadband FY2015-2020)	Supported an initiative to enhance economic development, including broadband, in 16 communities in Appalachia.
Partnerships for Opportunity and Workforce and Economic Revitalization	Planning, deployment, devices Invest in critical infrastructure, including access to and use of broadband	Local development districts, tribes, state and local governments, higher education institutions, nonprofits in the Appalachian region	Grant (\$32 million awarded for broadband FY2015-2020)	Provided a \$76,000 grant to conduct a feasibility study and create a broadband strategic plan for Lewis County, Kentucky.
<i>Delta Regional Authority</i>				
Community Infrastructure Fund	Deployment Invest in basic public and transportation infrastructure (including broadband)	State and local governments, public bodies, and non-profit entities in one of the representative states in the Delta Regional Authority	Grant	Grants to Pemiscot-Dunklin (\$750,000) and Southeast Missouri (\$250,000) electric co-ops to deploy broadband
States' Economic Development Assistance Program	Deployment Invest in basic public and transportation infrastructure (including broadband)	State and local governments, public bodies, and non-profit entities in one of the representative states in the Delta Regional Authority	Grant	\$75,000 grant to help deploy broadband to the Marquette Tech District Fiber Network in Cape Girardeau, MO
<i>Department of Agriculture</i>				
Business and Industry Guaranteed Loan Program	Deployment Loan guarantees to lenders for their loans to rural businesses	For-profit and nonprofit businesses, cooperatives, federally recognized tribes, public bodies, individuals engaged or proposing to engage in a business	Loan guarantee ^a	\$25 million loan to a wireless broadband provider for new equipment to provide services in underserved areas of rural Oklahoma.

Appendix II: Inventory of Federal Broadband Programs

Program's Name	Program's Purpose Related to Broadband	Eligible Recipients	Type of Funding	Example of How Used for Broadband
Community Facilities Guaranteed Loan Program	Devices Develop community facilities in rural areas, can be used for internal wiring for wi-fi, end-user equipment for telehealth and distance learning	Lenders	Loan guarantee ^a	Funding a facility's equipment, for telehealth and distance learning, internal wiring, and publicly available wi-fi capability
Emergency Rural Health Care Grant Program ^b	Devices Among other purposes, can be used to broaden access to health care services including telehealth services	Public bodies, community-based nonprofits, federally recognized tribes	Grant	Can be used to increase telehealth capabilities, including the purchase of equipment
Rural Economic Development Loan and Grant Program	Deployment Fund rural projects through local utility organizations	Local utility organizations	Loan, Grant	\$1 million loan to construct a fiber optic network for medical, emergency, and educational purposes
Rural Housing Service Community Facilities Direct Loan and Grant Program	Devices To provide funding to develop essential community facilities in rural areas—including telemedicine or distance learning equipment	Public bodies, community-based nonprofits, federally recognized tribes in certain rural areas.	Loan, Grant, Loan/grant combination	Funding a facility's equipment, health information technology, and publicly available wi-fi to support distance learning and telemedicine.
<i>Department of Commerce, Economic Development Administration (EDA)</i>				
Planning Program and Local Technical Assistance Program	Planning Fund planning activities, including addressing broadband needs as part of regional economic planning	EDA-designated economic development districts, tribes, state and local governments, higher education institutions, nonprofits	Grant (\$2.8 million awarded for broadband FY2015-2020)	\$75,000 to support a feasibility study to assess broadband needs and guide broadband planning in El Dorado, California.
Public Works and Economic Adjustment Assistance Programs	Planning, deployment Support broadband deployment projects, including planning and construction	EDA-designated economic development districts, tribes, state and local governments, higher education institutions, nonprofits	Grant (\$52.6 million awarded for broadband FY2015-2020)	\$1.9 million grant to install fiber-optic cable to deliver broadband to a business district in Oregon.
<i>Department of Education</i>				
Alaska Native Education Program	Devices, digital skills Support remote instruction and online learning, including support for computers and other devices	Isolated communities in Alaska	Grant	One grantee purchased laptops and mobile hotspots.

Appendix II: Inventory of Federal Broadband Programs

Program's Name	Program's Purpose Related to Broadband	Eligible Recipients	Type of Funding	Example of How Used for Broadband
Education Stabilization Fund: Elementary and Secondary School Emergency Relief Fund ^b	Affordability, devices, digital skills Address the impact of COVID-19 on elementary and secondary students	State educational agencies, who make subgrants to local educational agencies	Grant	Funds have been used to purchase laptops, remote instruction software, and hotspots for rural school districts.
Education Stabilization Fund: Governor's Emergency Education Relief Fund ^b	Affordability, devices, digital skills Provide emergency assistance as a result of COVID-19, including purchasing devices, equipment, internet service, installing community hotspots	Governors who make subawards to local educational agencies, institutions of higher education, and other educational entities	Grant	A governor has contracted to ensure equitable access to connectivity. Another governor purchased remote service software for students with complex needs.
Education Stabilization Fund: Higher Education Emergency Relief Fund ^b	Deployment, affordability, devices, digital skills May be used for technology hardware, staff training for online instruction, upgrading campus wi-fi access or extending open networks, subsidizing internet service	Higher education institutions	Grant	One institution is using funds to pay for additional technological hardware to students, such as laptops or tablets.
Education Stabilization Fund: Rethink K-12 Education Models Grant Program	Affordability, devices, digital skills Support projects to address remote learning, such as by providing microgrants to parents to purchase education-related services and materials (e.g., computers and internet access), or developing statewide virtual learning	State educational agencies	Grant	Grant funds provide parents with microgrants to purchase computers, hotspots and internet access. Funds have also been used to translate online literacy materials to Spanish for grades K-5, and to provide educators with training to improve remote instruction.
Hispanic-Serving Institutions – Science, Technology, Engineering, or Mathematics and Articulation Programs	Devices Increase the number of Hispanic and other low-income students earning degrees in science, technology, engineering or mathematics	Higher education institutions that meet program specific requirements to be defined as a Hispanic-serving institution	Grant	Funds may be used for technology, software, devices such as computers, tablets, and for computer laboratories.
Native Hawaiian Education Program	Affordability, digital skills Provide various education programs for Native Hawaiian students	Native Hawaiian educational organizations and community-based organizations, nonprofits, charter schools	Grant	One grantee is using funds to pay for reliable technology, software, and internet access for distance learning.

Appendix II: Inventory of Federal Broadband Programs

Program's Name	Program's Purpose Related to Broadband	Eligible Recipients	Type of Funding	Example of How Used for Broadband
Rural, Low-Income School Program	Affordability, devices, digital skills Provide financial assistance for student achievement initiatives, including for technology	State educational agencies with eligible local educational agencies (LEA). An LEA is eligible if it is rural and at least 20 percent of students come from families with incomes below the poverty line.	Grant	One local education agency purchased mobile hotspots; another purchased devices and funded digital skills training for teachers.
Small, Rural School Achievement Program	Affordability, devices, digital skills Provide financial assistance for student achievement initiatives, including for technology	Rural education agencies	Grant	One local education agency replaced the school's network and upgraded to fiber optic cabling; purchased mobile hotspots; others purchased devices and funded digital skills training for teachers.
Student Support and Academic Enrichment Program, Title IV, Part A	Devices, digital Skills Provide all students with access to a well-rounded education, improve school conditions for student learning, and improve the use of technology	State educational agencies	Grant	Funds may be used to provide broadband access to support remote learning for students.
Tribally Controlled Postsecondary Career and Technical Education Program	Deployment, devices, digital skills Provide basic support for the education and training of Indian students	Tribally controlled postsecondary career and technical institutions that do not receive assistance under the Tribally Controlled Colleges and Universities Assistance Act or Navajo Community College Act	Grant	A grantee broadcast its internet signal from towers across its region, equipped students with mobile hotspots, designated hot spots in campus parking lots, and provided laptops.
<i>Department of Health and Human Services</i>				
CARES Act Telehealth Grant Program ^b	Devices Support for telehealth access for families and to help providers prevent and respond to COVID-19	One-time funding to four recipients to support key areas in maternal and child health	Grant	Funds can be used to purchase devices such as tablets, cell phones, and wifi hotspots.
Maternal, Infant, and Early Childhood Home Visiting Program	Devices Support home visiting services in at-risk communities, including through purchase of devices to support virtual home visits, per authority specific to the COVID-19 public health emergency.	All states, 6 territories and jurisdictions serving the District of Columbia, Puerto Rico, Guam, the U.S. Virgin Islands, the Commonwealth of the Northern Mariana Islands, and American Samoa.	Grant	States have used authority provided through the Consolidated Appropriations Act, 2021 and funds from the American Rescue Plan Act of 2021 to purchase devices, including tablets, phones, and wifi hotspots to support broadband access for virtual home visits.

Appendix II: Inventory of Federal Broadband Programs

Program's Name	Program's Purpose Related to Broadband	Eligible Recipients	Type of Funding	Example of How Used for Broadband
<i>Department of Housing and Urban Development</i>				
Choice Neighborhoods	Devices Revitalize public or assisted housing; can be used to make housing broadband-ready	Local governments, tribal governments, public housing authorities, nonprofits	Grant	Housing built with program funds must include the physical hardware to access broadband, and that cost is part of the construction budget.
Community Development Block Grant	Deployment, devices, digital skills Develop urban communities; may be used to install wiring, fiber optic cables, and equipment, as well as fund digital literacy classes.	States, cities, and counties	Grant	Cleveland, Ohio allocated funding from this grant for community computer-training programs.
Indian Community Development Block Grant	Deployment, affordability Infrastructure development, including housing; can be used to provide broadband infrastructure access, make housing broadband-ready, pay for broadband connectivity as a utility assistance	Tribes	Grant	One project will bring fiber broadband to residents of the Fond du Lac Reservation. One tribe purchased internet services for tribal households.
Indian Housing Block Grant	Devices, affordability Provide affordable housing; can be used to makes homes broadband ready, pay for broadband connectivity as utility assistance, purchase devices to facilitate education	Tribes and tribally designated housing entities	Grant	Provided emergency temporary internet to rental units at the Spokane Indian Reservation. Another project assisted with monthly internet costs and provided devices to households. One tribe is establishing fiber optic infrastructure to support connectivity.
Native Hawaiian Housing Block Grant Program	Affordability Provide for affordable housing development; can be used to pay for broadband connectivity as a utility assistance	Department of Hawaiian Home Lands	Grant	Provided broadband as utility assistance for rental program tenants and homeowners.
<i>Department of the Treasury – Community Development Financial Institutions Fund</i>				
New Markets Tax Credit Program	Deployment Incentivize private investment in distressed communities; may be used to support broadband infrastructure and financing	Certified Community Development Entities	Tax credit (\$11.4 million in tax credits for broadband projects FY2015-2020)	Tax credit authority was used to finance portions of a broadband network in Alaska.

Appendix II: Inventory of Federal Broadband Programs

Program's Name	Program's Purpose Related to Broadband	Eligible Recipients	Type of Funding	Example of How Used for Broadband
<i>Department of the Treasury - Office of Recovery Programs^c</i>				
Coronavirus Capital Projects Fund ^b	Deployment, devices, affordability, digital skills Carry out critical capital projects that enable work, education, and health monitoring; broadband infrastructure is a key emphasis	States, territories, freely associated states, tribal governments	Grant	May be used for broadband deployment designed to deliver service that reliably meets or exceeds 100/100 Mbps; for purchase of devices such as computers and public wi-fi equipment to facilitate affordable broadband access; and for programs to facilitate digital equity and digital literacy.
Coronavirus State and Local Fiscal Recovery Funds ^b	Deployment, devices, affordability, digital skills Mitigate the fiscal effects stemming from the COVID-19 public health emergency; may be used to make necessary investments in broadband infrastructure. Other broadband-related purposes, such as related to distance learning, may be eligible.	States, territories, tribal governments, counties, metropolitan cities, non-entitlement units or smaller local governments	Direct Payment for specified uses	May be used to provide high-speed broadband infrastructure in areas of need, such as areas without access to adequate speeds or affordable service, and where connections are unreliable; completed projects must participate in a low-income subsidy program.
Homeowner Assistance Fund ^b	Affordability Mitigate homeowners' financial hardships associated with the COVID-19 pandemic by providing assistance to cover qualified expenses related to mortgages and housing, including but not limited to, loss of utilities or home energy services, such as internet service including broadband	States, territories, Tribes or their Tribal Designated Housing Entities, and the Department of Hawaiian Home Lands	Direct Payment for specified uses	May be used to pay for homeowner's internet service, including broadband internet access service as defined in 47 C.F.R. § 8.1(b) (or any successor regulation).
<i>Department of Transportation</i>				
Program's Name	Program's Purpose Related to Broadband	Eligible Recipients	Type of Funding	Example of How Used for Broadband
Infrastructure for Rebuilding America	Deployment Help fund highway and freight projects of national or regional significance; projects that deploy expanded access to broadband are encouraged	States, metropolitan planning organizations, local governments, political subdivisions, tribal governments, transportation authorities, among others	Grant	North Carolina DOT is installing hundreds of miles of fiber optic cable to expand broadband access in eastern North Carolina as part of a highway improvement project on I-95 and U.S. 70.

Appendix II: Inventory of Federal Broadband Programs

Program's Name	Program's Purpose Related to Broadband	Eligible Recipients	Type of Funding	Example of How Used for Broadband
Rebuilding American Infrastructure with Sustainability and Equity (RAISE)	Deployment Help fund highway and freight projects of national or regional significance; projects that deploy expanded access to broadband as part of a transportation project are encouraged	States, metropolitan planning organizations, local governments, political subdivisions, tribal governments, transportation authorities, among others	Grant	During the construction of a highway interchange in Lapwai, ID, Broadband conduit will be installed under the roads as part of the construction effort.
<i>Institute of Museum and Library Services</i>				
Accelerating Promising Practices in Small Libraries (digital inclusion category)	Devices, digital skills, affordability, planning Support small and/or rural libraries, including through digital inclusion, providing internet access and technology	Libraries	Grant	The North Riverside Public Library in Illinois is creating a mobile computer lab, upgrading wireless infrastructure, and offering digital literacy training.
Grants to States Program	Devices, digital skills, affordability, planning Expand services and resources provided by libraries, including digital literacy skills and new technologies	Libraries (grants made to state library administrative agencies)	Grants	The Pennsylvania Office of Commonwealth Libraries is providing consultation and resource services to support small libraries throughout the state with the deployment and utilization of broadband and infrastructure technologies to help meet the needs of their local communities.
Laura Bush 21st Century Librarian Program (national digital infrastructures and initiatives category)	Planning Support developing the knowledge and skills of library staff, including to support broadband adoption and use	Libraries	Grant	The University Corporation for Advanced Internet Development created a training program for rural and tribal libraries to help them gain skills needed to work with engineers to conduct planning studies for broadband.
National Leadership Grant Program for Libraries (National Digital Infrastructure and Initiatives category)	Digital skills, affordability, Planning Strengthen the capacity of libraries, including through enhancing digital inclusion efforts through expanded broadband connectivity	Libraries	Grant	The Digital Navigators Program at the Salt Lake City Public Library provides one-on-one support that includes help getting connected to the internet, computer skills, and training on navigating the internet, online privacy and security, and more.
National Leadership Grant Program for Museums	Digital skills Support museum services, including through digital inclusion efforts, platforms, and applications	Museums	Grant	The Digital Inclusion Corps Program engaged three state library agencies and two museum organizations to bolster digital inclusion in tribal and rural communities.

Appendix II: Inventory of Federal Broadband Programs

Program's Name	Program's Purpose Related to Broadband	Eligible Recipients	Type of Funding	Example of How Used for Broadband
Native American Library Services: Basic Grants	Devices, Digital Skills, Affordability Improve core library services, including support of digital literacy skills and purchase of equipment and services	Federally recognized tribes	Grant	In the Native Village of Napaimute, the library uses grant funds for fuel to generate its own electricity and provide internet access to serve the community.
Native American Library Services: Enhancement Grants	Devices, Digital Skills, Affordability, Planning Improve library core services, including to support digital literacy skills, and digital infrastructure	Federally recognized tribes	Grant	To address the homework gap of financially disadvantaged students, The Tohono O'odham Nation library is providing laptops and hotspots that can be checked out.
Native Hawaiian Library Services	Devices, Digital Skills, Affordability Improve library core services, including to support digital literacy skills, and digital infrastructure.	Native Hawaiian libraries, nonprofits that serve native Hawaiians	Grant	Provided computers for a new library Waimea, Hawaii. Library staff will provide digital literacy training for students, staff, and the community.
<i>Northern Border Regional Commission</i>				
Regional Forest Economy Partnership	Deployment Fund economic development projects, including broadband (beginning in 2021, broadband projects are no longer eligible)	State and local governments, tribes, nonprofits	Grant (\$1 million awarded for broadband FY2015-2020)	A multijurisdictional network across a state used the program to fill a gap in funding for a deployment project.
State Economic and Infrastructure Development Program	Planning, Deployment Fund economic development and infrastructure projects; including broadband projects consistent with economic development goals	State and local governments, nonprofits, tribes	Grant \$3.2 million awarded for broadband FY2015-2020)	A grantee installed 5.5 miles of fiber for businesses, created wireless hotspots and provided broadband access to 125 unserved homes in Franklin, New York.

Source: GAO analysis of agency information, including interviews with officials. | GAO-22-104611

^aA guaranteed loan is a nonfederal loan to which a federal guarantee is attached.

^bProgram newly created in 2020 or 2021.

^cAt the conclusion of our review, Treasury indicated that the Emergency Rental Assistance Program permits eligible assistance to include internet service.

Appendix III: Federal Broadband Investments, Fiscal Years 2015–2020

Table 5: Federal Broadband Funding Awarded, Fiscal Years (FY) 2015–2020

Program	Type of Funding ^a	Total Broadband Funding Awarded by Agency in FY 2015-2020 ^b
Federal Communications Commission (funds disbursed through the Universal Service Fund)		
High Cost Program	Subsidy	\$28.3 billion ^c
E-rate Program	Discount	\$9.5 billion ^c
Lifeline Program (broadband and bundled services only)	Discount	\$2 billion ^c
Rural Health Care Program - Health Care Connect Fund	Discount	\$853 million ^d
Department of Agriculture		
ReConnect Program	Grant/loan/grant-loan combination	\$1.4 billion
Telecommunications Infrastructure Program	Loan, loan guarantee	\$1.3 billion
Distance Learning and Telemedicine Program	Grant	\$237.1 million
Community Connect Grant Program	Grant	\$132 million
Rural Broadband Program	Loan, loan/grant combination, loan guarantee	\$95.8 million
Department of the Interior		
National Tribal Broadband Grant Program	Grant	\$1.5 million
Department of Commerce – Economic Development Administration		
Public Works and Economic Adjustment Assistance Programs	Grant	\$52.6 million
Planning Program and Local Technical Assistance Program	Grant	\$2.8 million
Appalachian Regional Commission		
Central Appalachia and North Central/North Appalachia Broadband	Grant	\$64.4 million
Partnerships for Opportunity and Workforce and Economic Revitalization	Grant	\$32.0 million
Department of the Treasury – Community Development Financial Institutions Fund		
New Markets Tax Credit Program	Tax credit	\$11.4 million
Northern Border Regional Commission		
State Economic and Infrastructure Development Investment Program	Grant	\$2.3 million
Regional Forest Economy Partnership	Grant	\$1.0 million
Denali Commission		
Alaska Broadband Program	Grant	\$1.1 million

Source: Data provided by respective agencies. | GAO-22-104611

Notes: These totals are not adjusted for inflation. If funding was provided in at least one of the fiscal years from FY2015 to FY2020, we included it in the totals above; however, some of the programs did not award funding in all of these fiscal years. For most programs that have broadband as one possible use of funds, agency officials said they do not track the specific amounts that have gone to

**Appendix III: Federal Broadband Investments,
Fiscal Years 2015–2020**

support broadband—thus the totals above likely understates the full amount of federal broadband support.

^aA guaranteed loan is a nonfederal loan to which a federal guarantee is attached. A subsidy is a payment or benefit made by the federal government where the benefit exceeds the cost to the beneficiary. Subsidies are designed to support the conduct of an economic enterprise or activity.

^bThese totals do not include funding awarded through appropriations from the CARES Act; Consolidated Appropriations Act, 2021; American Rescue Plan Act of 2021; or Infrastructure Investment and Jobs Act.

^cData on FCC's High Cost, E-rate, and Lifeline programs' disbursements are not reported by fiscal year (FY), but we performed calculations to aggregate disbursements by fiscal year. E-rate data were only available since July 2016. Disbursement data for the Lifeline program that included breakdowns for broadband and bundled services were only available since January 2018.

^dThis total represents funding disbursed July 1 to June 30, which is the funding year for the Rural Health Care program.

Appendix IV: Comments from the Department of Commerce



UNITED STATES DEPARTMENT OF COMMERCE
Office of the Chief Financial Officer and
Assistant Secretary for Administration
Washington, D.C. 20230

May 9, 2022

Mr. Andrew Von Ah
Director, Physical Infrastructure Issues
U.S. Government Accountability Office
441 G Street NW
Washington, DC 20548

Dear Mr. Von Ah:

Thank you for the opportunity to respond to the GAO draft report entitled GAO-22-104611, *National Strategy Needed to Guide Federal Efforts to Reduce Digital Divide*. The Department of Commerce appreciates the work the GAO has done to understand the range of federal broadband funding programs and how the government coordinates these programs.

GAO made three recommendations in this report, including two for NTIA. On behalf of the Department of Commerce, I have enclosed comments to the proposed report from NTIA that address the specific GAO recommendations. The Department agrees with the recommendations for NTIA and will prepare a formal action plan upon issuance of GAO's final report.

If you have any questions, please contact MaryAnn Mausser, Department GAO Audit Liaison, at (202) 482-8120 or mmausser@doc.gov.

Sincerely,

JENNIFER LANE Digitally signed by JENNIFER
LANE
Date: 2022.05.08 17:37:29 -04'00'

Jennifer S. Lane

Senior Advisor to the Deputy Secretary
Performing the non-exclusive duties of the
Chief Financial Officer and Assistant
Secretary for Administration

Enclosure: NTIA Response to Recommendations

**RESPONSE OF THE NATIONAL TELECOMMUNICATIONS AND INFORMATION
ADMINISTRATION TO RECOMMENDATIONS**

GAO REPORT 22-104611

Recommendation 1. The NTIA Administrator should direct the Office of Internet Connectivity and Growth (OICG), to consult with OMB, other White House offices, and relevant agencies and present to Congress a report that identifies the key statutory provisions that limit the beneficial alignment of broadband programs and offers legislative proposals to address the limitations, as appropriate.

Response: The passage of the American Rescue Plan, the Consolidated Appropriations Act, 2021, and the Infrastructure Investment and Jobs Act significantly expanded the scale of federal support for broadband, with the bulk of that funding administered by the FCC, USDA, Treasury and NTIA. As such, it is imperative that those four agencies are well-coordinated, and the agencies have established and are continuing to develop mechanisms to collect, share, and drive decision-making utilizing that data.

NTIA agrees with the recommendation and is prepared to develop this report as part of the shared missions of NTIA's Office of Internet Connectivity and Growth and Office of Policy Analysis and Development. Given that NTIA is the principal advisor to the Executive branch on telecommunications matters, and with the interagency coordination obligations assigned to NTIA as part of the ACCESS BROADBAND Act, NTIA has the statutory authority and expertise to conduct the analyses necessary to prepare such a report. NTIA will provide additional details on planned actions to develop this report when the final GAO report is issued.

Recommendation 2. The NTIA Administrator should direct the Office of Internet Connectivity and Growth to regularly seek and incorporate user feedback when updating the BroadbandUSA Federal Funding Guide.

Response: OICG sought and incorporated stakeholder feedback during development of the Federal Funding Guide and invites stakeholder feedback in the Guide itself. OICG also will be requesting feedback from federal agencies and other stakeholders prior to the Guide's next update. NTIA agrees with the recommendation and will provide additional details on planned actions to seek and incorporate user feedback for the Guide when the final GAO report is issued.

Appendix V: GAO Contact and Staff Acknowledgments

GAO Contact

Andrew Von Ah at (202) 512-2834 or VonAhA@gao.gov

Staff Acknowledgments

In addition to the individual named above, Keith Cunningham (Assistant Director); Kate Perl (Analyst-in-Charge); Eli Albagli; Oluwaseun Ajayi; Emilee Pugh Bell; Melissa Bodeau; Jason Coates; Philip Farah; Lois Hanshaw; Eric Hudson; Natasha Oliver; Joshua Ormond; Stephen Putansu; Matthew Rowen; Andrew Stavisky; Janet Temko-Blinder; and Sarah Veale made key contributions to this report.

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