Five-Year Action Plan
Broadband Equity, Access, and Deployment Program

Alabama Department of Economic and Community Affairs
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Contents

Figures

Tables

1. Executive summary

The Alabama Department of Economic and Community Affairs (ADECA), the Eligible Entity for the State of Alabama, is pleased to present this Alabama Broadband Equity, Access, and Deployment (BEAD) Program Five-Year Action Plan (Plan), which comprises a comprehensive needs assessment (including the needs of covered populations and underrepresented communities) and establishes Alabama's goal of ensuring universal broadband service availability and increased adoption among the residents, businesses, and institutions of Alabama.

1.1 Vision and objectives

The Alabama Connectivity Plan,[1] issued in December 2021 by the Alabama Digital Expansion Division (ADED), a division of ADECA, was designed to align with the opportunities created by the federal Infrastructure Investment and Jobs Act (IIJA) broadband funding programs even before the rules for those programs had been released by the National Telecommunications and Information Administration (NTIA). The Alabama Connectivity Plan states the following goals for achieving broadband connectivity for Alabamians:

- Facilitating the expansion of high-speed broadband
- Considering the need for broadband expansion in rural, underserved, and unserved areas
- Addressing obstacles to broadband adoption
- Developing funding strategies and plans for middle-mile and long-haul fiber, as well as last-mile infrastructure and services

1.2 Current state of broadband and digital opportunity

The latest available data from the Alabama Broadband Map[2] show that approximately 24 percent of locations in the state lack access to 100/100 Mbps service and approximately 12 percent lack access to 100/20 Mbps service. The level of broadband deployment in Alabama reflects years of work on the part of the state to build relationships with internet service providers (ISPs), develop and administer a cost-effective and efficient grant program, and collect broadband data. The level of broadband deployment in Alabama also reflects numerous challenges, described in detail in this Plan.

For example, surveys described in this Plan show that lower-income residents have lower-quality internet access, as do other groups such as seniors. Many county and municipal governments, businesses, and community anchor institutions (Anchor Institutions) such as libraries and

[1] "Alabama Connectivity Plan," ADECA, December 2021, https://adeca.alabama.gov/wp-content/uploads/Alabama-Connectivity-Plan.pdf.
[2] "Alabama Broadband Map," ADECA, https://broadband.alabama.gov/broadband-maps/.

hospitals responded to ADECA's outreach with stories of the inadequate broadband services available to them.

Through a comprehensive external engagement process conducted in preparation for this Plan (see Section 5.1), the state has identified the current state of broadband and digital opportunity—while also identifying partners, assets, and existing programs that will play a key role in enabling the successful implementation of this Plan. Notably, ADECA has many partners and potential partners, listed in Section 3.2.

1.3 Obstacles or barriers

ADECA has identified a range of potential obstacles or barriers it will seek to mitigate. As discussed in Section 4, these include issues related to labor shortages and the supply chain, service affordability, and workforce development.

1.4 Implementation plan

ADECA has developed a comprehensive approach to achieve universal service goals by distributing the state's BEAD allocation through a subrecipient selection process. Reliable, high-speed internet services can potentially be made available to all currently unserved locations across Alabama within five years (see Section 5).[3]

1.4.1 Priorities

The state's priorities for broadband deployment utilizing BEAD funding reflect the state's goals and objectives and are aligned with the principal focus of the BEAD Program:[4] If funds allow, the following goals may be achieved.

1. Serve 100 percent of unserved locations (i.e., below 25/3 Mbps) with a minimum of 100/20 Mbps service within five years
2. Serve 100 percent of underserved locations (i.e., between 25/3 Mbps and 100/20 Mbps) with a minimum of 100/20 Mbps service within five years (if sufficient funds are available)
3. Deliver gigabit connections to Anchor Institutions that do not have that level of service within five years (if sufficient funds are available)

[3] Subgrantees that receive BEAD funds are required to deploy their networks and begin serving customers within four years but are eligible for one-year extensions, which the state anticipates most subgrantees will request. (Notice of Funding Opportunity, Broadband Equity, Access, and Deployment Program, NTIA, https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/BEAD%20NOFO.pdf, p. 18 (BEAD NOFO)).
[4] BEAD NOFO, p. 7.

1.4.2 Estimated timeline and cost for universal service

Alabama has been allocated $1,401,221,901.77 for broadband deployment through BEAD[5] and has developed a comprehensive estimated timeline for the administration of a subrecipient selection process. The five-year period of performance for BEAD projects will be coordinated with and benefit from other broadband deployment projects the state is conducting.

ADECA estimates the total five-year deployment cost to be approximately $1.96 billion to reach the estimated 191,164 unserved addresses in Alabama and achieve an estimated service take-rate of approximately 59.5 percent (113,743 customers). A more comprehensive plan to address the state's broadband access needs, reaching all unserved and underserved addresses, would cost an estimated $2.3 billion over a five-year period of performance. This estimate includes a total of 23,625 miles of new fiber construction reaching all estimated 75,044 underserved locations and 191,164 unserved locations.

These projections do not include the positive timeline and cost impact of upcoming Capital Projects Fund (CPF) projects and any potential future Alabama Broadband Accessibility Fund (ABAF) last-mile broadband deployment projects. Project areas under the CPF program will not be known until late 2023 at the earliest, but ADECA has estimated that these projects will connect an estimated 55,000 unserved locations.[6]

Alabama is ready to allocate federal funds from other sources to deploy broadband to all of Alabama because the state recognizes the importance of broadband to economic development, health, education, and all areas of modern life.[7]

By strategically leveraging matching funds to maximize the BEAD allocations, the state can potentially achieve universal service to unserved locations in the BEAD five-year period of performance.

1.5 Confirmation that this BEAD Five-Year Action Plan meets minimum requirements

This Five-Year Action Plan meets minimum requirements as outlined in the BEAD NOFO and summarized in Section 7.1 of the NTIA's "Five-Year Action Plan: Guidance" document:

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[5] "Biden-Harris Administration Announces State Allocations for $42.45 Billion High-Speed Internet Grant Program as Part of Investing in America Agenda," NTIA Press Release, June 26, 2023, https://ntia.gov/press-release/2023/biden-harris-administration-announces-state-allocations-4245-billion-high-speed.

[6] U.S. Treasury, https://home.treasury.gov/system/files/136/Batch-8-State-Award-Fact-Sheet-AL-Jan-2023.pdf

[7] See, e.g., "Governor Ivey Signs Alabama Broadband Accessibility Act," Office of the Governor of Alabama, March 28, 2018, https://governor.alabama.gov/newsroom/2018/03/governor-ivey-signs-alabama-broadband-accessibility-act/ ("The internet is vital to economic development, health, education, and to be honest, all areas of our modern life," Governor Ivey said).

Requirement	Section in this Plan
1. Details of existing broadband program or office within the Eligible Entity	Section 3
2. Funding the Eligible Entity has available	Section 3.1
3. Existing efforts funded by the federal government	Section 3.1
4. Employees and contract support	Section 3.1
5. Obstacles or barriers	Section 4
6. Asset inventories	Section 3.3 Appendices
7. Description of external engagement process	Section 3 Section 5.1 Appendices
8. Broadband availability and adoption data	Section 3 Section 4 Section 5
9. Broadband service needs and gaps	Section 3 Section 5
10. Comprehensive, high-level plan, including timeline and cost for universal service	Section 5
11. Digital opportunity needs, goals, and implementation strategies	Section 3 Section 5
12. Alignment of the Plan with other efforts and priorities	Section 5.7
13. Technical assistance and capacity needed for successful implementation	Section 5.8

2. Overview of the Five-Year Action Plan

ADECA is the Eligible Entity for the State of Alabama. With the strong support of Alabama's Governor and Legislature, ADECA has conducted innovative work with the primary goal of ensuring that all Alabama residents have access to reliable, affordable broadband internet.

As detailed in this Plan, ADECA has conducted a comprehensive outreach effort, developed a data-driven broadband and digital opportunity needs assessment, and identified a clear implementation path for achieving the state's objectives.

2.1 Vision

Through the 2021 Connect Alabama Act, the state created the ADED within ADECA to:[8]

1. Promote the expansion and availability of high-speed broadband networks, services, and technologies throughout the state, including, but not limited to, rural areas, underserved areas, and unserved areas of the state.[9]
2. Develop and begin executing a statewide connectivity plan to facilitate the expansion and availability of high-speed broadband networks, services, and technologies throughout the state, including a timeline for implementation of the plan. The plan must consider the need for broadband expansion in rural areas, underserved areas, and unserved areas, as well as any other obstacles to broadband adoption.

The state will embrace this same vision for the BEAD program.

2.2 Goals and objectives

The Alabama Connectivity Plan adopted by the Alabama Digital Expansion Authority (ADEA) in 2022 was designed to align with the opportunities created by the IIJA broadband funding programs even before the rules for those programs had been released by the NTIA. The Alabama Connectivity Plan states the following goals for achieving broadband connectivity for Alabamians:

- Facilitating the expansion of high-speed broadband
- Considering the need for broadband expansion in rural, underserved, and unserved areas
- Addressing obstacles to broadband adoption

[8] Connect Alabama Act (SB 215), https://arc-sos.state.al.us/ucp/L0623329.A11.pdf.
[9] The Connect Alabama Act (SB 215) defines "unserved" as "any area that is determined by [ADED] to not have at least one provider of terrestrial broadband service that offers a connection to the Internet that meets or exceeds the minimum service threshold," where the minimum service threshold is defined as the "minimum speed per customer necessary to meet the definition of advanced telecommunications capability for fixed broadband services as set by the Federal Communications Commission." The Act defines rural area as any area "not included within the boundaries of any incorporated city or town having a population of more than 25,000 inhabitants, according to the last federal census." The Act does not define "underserved."

- Developing funding strategies and plans for middle-mile and long-haul fiber, as well as last-mile infrastructure and services

The state's primary objectives for broadband deployment are aligned with the principal focus of the BEAD Program:[10]

1. Serving 100 percent of unserved locations (i.e., below 25/3 Mbps) within five years
2. Serving 100 percent of underserved locations (i.e., between 25/3 Mbps and 100/20 Mbps) within five years (if sufficient funds are available)
3. Delivering gigabit connections to Anchor Institutions that do not have that level of service within five years (if sufficient funds are available)

Informed by earlier strategic planning and goals, as well as by the comprehensive and ongoing outreach efforts described in this Plan, the State of Alabama has identified the following goals and key objectives for achieving broadband deployment and digital opportunity:

Table 1: State broadband goals and objectives

Goal	Strategic areas	Key objectives
Facilitate the expansion of high-speed broadband	Broadband availability and access	1) Develop plans to provide broadband access to all unserved and underserved Alabama residents regardless of location (if sufficient funds are available). 2) Develop grant programs for high-quality, future-proof middle-mile and last-mile fiber deployment in the state with an emphasis on rural and unserved areas. 3) Develop, maintain, and expand capacity of a state broadband map that incorporates broadband service data for the public and in support of state grant programs.[11] 4) Foster productive working relationships with ISPs and other partners to support reliable, affordable, and future-proof broadband access via financially sustainable networks. 5) Support Anchor Institution access to gigabit broadband service.

[10] BEAD NOFO, p. 7.
[11] "Alabama Broadband Map," ADECA, https://broadband.alabama.gov/broadband-maps/.

Goal	Strategic areas	Key objectives
		6) Support economic growth through workforce development for broadband deployment.
Consider the need for broadband expansion in rural, underserved, and unserved areas	Broadband availability and adoption	1) Conduct technical assistance outreach to partners in each county. 2) Provide county broadband and digital opportunity profiles. 3) Complete and implement the Alabama Statewide Digital Opportunity Plan to address digital opportunity needs in line with the five pillars of digital opportunity defined in the IIJA.[12]
Address obstacles to broadband adoption	Broadband affordability and adoption, digital opportunity, and digital skills	1) Require ISPs that are awarded grant funds to participate in the FCC's Affordable Connectivity Program (ACP), as applicable. 2) Conduct survey outreach to residents to understand broadband and digital opportunity needs. 3) Conduct outreach and questionnaires to organizations that serve and represent covered populations and underrepresented communities to assess the needs of these populations. 4) Complete and implement the Alabama Statewide Digital Opportunity Plan.
Develop funding strategies and plans for middle-mile and long-haul fiber, as well as last-mile infrastructure and services	Strategic planning	1) Strategically leverage federal and state infrastructure funding sources to achieve universal availability of broadband throughout the state. 2) Develop grant programs for middle-mile fiber deployment in rural, unserved, and underserved areas in the state. 3) Develop grant programs for last-mile fiber deployment emphasizing rural and unserved areas.

[12] IIJA, Section 60304(c)(1)(B), https://www.congress.gov/bill/117th-congress/house-bill/3684/text.

3. Current state of broadband and digital opportunity

This section describes the current state of broadband and digital opportunity in Alabama, as documented through extensive data collection and outreach efforts. It provides an overview of the state's past and current efforts to promote broadband deployment and digital opportunity; describes the resources and relationships available to ADECA; presents detailed asset inventories related to broadband deployment, adoption, affordability, access, and digital opportunity; and presents a needs and gaps assessment.

Alabama's broadband efforts are regarded nationally as both ground-breaking and exemplary. The state's efforts include multi-year support for a robust grant program for ISPs, an address-level map of statewide broadband availability, direct support to low-income students, and support for low-income families seeking to access ISPs' low-income programs and federal subsidies.

Governor Kay Ivey issued Executive Order 704 in 2017,[13] establishing ADECA as the agency to assume all powers, duties, responsibilities, authority, and obligations belonging to the Office of Broadband Development.

Alabama has been awarding broadband grants for last-mile projects in rural areas since 2018. On March 28, 2018, Governor Ivey signed the Alabama Broadband Accessibility Act (ABAA)[14] to encourage the deployment of high-speed broadband services in unserved, rural areas of Alabama; promote economic development; improve education; enhance health care; and support emergency services.

The Alabama Legislature has continued to update the ABAA to ensure it remains forward looking and supports the ABAF, a grant program primarily for the construction of last-mile broadband networks in unserved rural areas. Initially, the ABAA used the Federal Communication Commission's (FCC) broadband definition of 25/3 Mbps as a basis for state-funded ABAF projects. However, in 2022, the ABAA was amended to update the state broadband definition to 100/20 Mbps (with any service below 100/20 Mbps considered "unserved") and require newly funded projects to provide 100/100 Mbps service.

In 2022, the updated ABAA specified "that the availability of high-speed broadband services, with the preference of speeds of 100 megabits per second of download speed and 100 megabits per second of upload speed or greater, in unserved rural Alabama is important for economic development, education, health care, and emergency services in Alabama, and that grants and

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[13] Governor Kay Ivey, "Executive Order 704," https://governor.alabama.gov/newsroom/2017/04/executive-order-no-704/.

[14] "Alabama Broadband Accessibility Act," SB149 (2018-395), passed in 2018 and amended in 2019 SB90 (2019-327 and 2022 SB124 (2022-138), https://adeca.alabama.gov/wp-content/uploads/Alabama-Broadband-Accessibility-Act.pdf; "Governor Ivey Signs Alabama Broadband Accessibility Act," Office of the Governor of Alabama, March 28, 2018, https://governor.alabama.gov/newsroom/2018/03/governor-ivey-signs-alabama-broadband-accessibility-act/.

other incentives set forth in this article will further those objectives by encouraging new investment in broadband infrastructure."[15]

ADECA has administered several rounds of grant funding under ABAF since 2018—awarding $90,089,999.70 in grant funds with a matching private investment of $191,108,489.62[16] for projects in rural unserved areas of the state.[17]

In 2020, ADECA, working closely with the Alabama Department of Finance, the Alabama State Department of Education, and CTC Technology & Energy, created the Alabama Broadband Connectivity (ABC) for Students program, which connected more than 200,000 Alabama students to broadband service.[18] This was a direct response to the Covid-19 pandemic and the needs for students to be connected from home to enable their education.

In 2021, Governor Kay Ivey signed the Connect Alabama Act (CAA),[19] which created the ADED, as a division of ADECA, with enumerated powers and duties, and a division chief. It also created the ADEA as a governing body "to advise, review, and approve the statewide connectivity plan" and "recommend policies and procedures for the expansion and availability of high-speed broadband services throughout the state through review and approval of the statewide connectivity plan."[20]

The ADEA approved the first Alabama Connectivity Plan in 2022 as a strategic plan to facilitate the expansion of high-speed broadband throughout the state.[21] To support development of the Alabama Connectivity Plan, ADECA conducted outreach to ISPs and other potential partners in ADECA's work of connecting residents of Alabama to broadband. Interviews focused on the issues that these groups had been facing in their attempts to encourage broadband development

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[15] "Alabama Broadband Accessibility Act," SB149 (2018-395), passed in 2018 and amended in 2019 SB90 (2019-327 and 2022 SB124 (2022-138), https://adeca.alabama.gov/wp-content/uploads/Alabama-Broadband-Accessibility-Act.pdf.

[16] "ADECA Annual Report – December 2022," ADECA, https://adeca.alabama.gov/wp-content/uploads/Annual-Report-December-2022.docx. Note that funds are paid to the awardee after the network is built and after the new network passes tests. Data as of December 2022.

[17] "Governor Ivey Continues Progressing Broadband Across the State, Awards $24.7 Million in Grants," Office of the Governor of Alabama, March 3, 2023, https://governor.alabama.gov/newsroom/2023/03/governor-ivey-continues-progressing-broadband-across-the-state-awards-24-7-million-in-grants/.

[18] "ABC for Students Program a 'game changer' and 'life saver' for Alabama schools," ADECA, March 29, 2021, https://adeca.alabama.gov/2021/03/29/abc-for-students-program-a-game-changer-and-life-saver-for-alabama-schools/; "Governor Ivey Extends Alabama Broadband Connectivity for Students Program into 2021," Office of the Governor of Alabama, December 28, 2020, https://governor.alabama.gov/newsroom/2020/12/governor-ivey-extends-alabama-broadband-connectivity-for-students-program-into-2021/; "ADECA Annual Report – December 2021," ADECA, https://adeca.alabama.gov/wp-content/uploads/Annual-Report-December-2021.docx.

[19] "Connect Alabama Act," ADECA, passed in 2021 and amended in 2022, https://adeca.alabama.gov/wp-content/uploads/Connect-Alabama-Act.pdf.

[20] *Id.* ADEA is engaged throughout the broadband implementation planning and execution phases for reporting status and program oversight.

[21] "The Alabama Connectivity Plan," ADECA, https://adeca.alabama.gov/wp-content/uploads/Alabama-Connectivity-Plan.pdf.

as well as suggestions for how the state could better support broadband expansion. Potential partners were also eager for ADECA to support digital skills programs.

In 2022, ADECA applied for and was awarded a $1 million grant from the U.S. Economic Development Administration to launch the Alabama Community Broadband Technical Assistance Program to provide planning support and technical assistance to local communities throughout the state. This funding supported outreach and education for 10 Alabama counties to advance local broadband planning. Through BEAD and Digital Equity Act planning funds, these activities were expanded to reach the remaining 57 of Alabama's 67 counties.

In early 2021, ADECA reached out to all known ISPs in the state to invite them to provide service availability and technology deployment data to inform the first iteration of both the public and internal (for ADECA grant-making purposes) versions of the Alabama Broadband Map.[22] The overwhelming majority of ISPs submitted the data requested. In late 2022, the map was updated to include a new layer with additional detail and granularity by showing unserved addresses.[23] The map is updated twice annually in the spring and fall with service footprint and expansion area information from ISPs. The ADECA website also hosts a speed test and a form for the public to report the lack of availability of internet at an address.[24]

In 2022, Alabama also provided bulk challenges to the FCC address fabric data, assisting the FCC to improve its broadband map.

In January 2023, the U.S. Treasury approved Alabama's plan to use CPF funding to build last-mile infrastructure that will serve approximately 55,000 locations in rural areas, delivering 100/100 Mbps symmetrical service to residences, businesses, and Anchor Institutions upon completion.[25] The program was opened for application on August 14, 2023.

NTIA announced Connecting Minority Communities Pilot Program grants to seven minority-serving colleges and universities in Alabama, out of a total of over 90 grants nationwide:[26]

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[22] "Alabama Broadband Map," ADECA, https://broadband.alabama.gov/broadband-maps/.
[23] "Annual Report – December 2022," ADECA, https://adeca.alabama.gov/wp-content/uploads/Annual-Report-December-2022.docx.
[24] "Take our survey and run a speed test!" ADECA, https://broadband.alabama.gov/survey/.
[25] "Capital Projects Fund Award Fact Sheet: Alabama," U.S. Department of the Treasury, January 2023, https://home.treasury.gov/system/files/136/Batch-8-State-Award-Fact-Sheet-AL-Jan-2023.pdf.
[26] NTIA, "Biden-Harris Administration Announces More Than $175 Million in Internet for All Grants to 61 Minority-Serving Colleges and Universities," Internet For All, February 27, 2023, https://www.internetforall.gov/news-media/biden-harris-administration-announces-more-175-million-internet-all-grants-61-minority; NTIA "Connecting Minority Communities Pilot Program," https://www.internet4all.gov/funding-recipients/connecting-minority-communities.

- Drake State Community College received funding for its Connecting Minority Communities of North Alabama project to provide access to laptops and home broadband to support students to earn degrees.
- H. Councill Trenholm State Community College received funding for its Bridging the Digital Divide, Closing the Opportunity Gap program to serve students and improve digital opportunity in the community.
- Stillman College received funding for its "Fiber for the Future" project to expand educational and remote learning opportunities.
- The Alabama State University (ASU) received funding for its "Broadening Access through Community, Connectivity, and Education" (BRACCE) project to expand online education, improve digital access on campus, and serve the local community.
- Talladega College received funding for its "Realizing Future Proof Technology to Create Connections between Talladega College's Students, Faculty and Surrounding Community in Rural Alabama" project to conduct a technology assessment, design and deploy a broadband network, and add relevant staff. The resulting network will serve the College and the surrounding community.
- Tuskegee University received funding for its "ConnecTUvity: Anchoring the Future of Tuskegee with Broadband Technology" project to upgrade the campus network and learning equipment and improve cybersecurity.
- University of West Alabama received funding for its UWA Connecting Minority Communities program to enhance broadband access, capacity, and adoption, and increase digital skills in Sumter and Greene Counties through a collaborative partnership.

Middle-mile projects are not funded by BEAD, but they are an asset to broadband providers. In September 2022, Governor Ivey announced the award of $82.45 million in American Rescue Plan Act (ARPA) funds from the Alabama Statewide Middle-Mile Network Grant Program to the Fiber Utility Network (FUN)[27] for construction of a middle-mile network. FUN is a consortium of seven Alabama electrical cooperatives and one generation and transmission electric cooperative: Central Alabama, Coosa Valley, Covington, Cullman, Joe Wheeler, North Alabama, Tombigbee, and PowerSouth.

[27] "Governor Ivey Awards $82.45 Million for Improved Access to Broadband through Alabama Middle-Mile Network," Office of the Governor of Alabama, September 27, 2022, https://governor.alabama.gov/newsroom/2022/09/governor-ivey-awards-82-45-million-for-improved-access-to-broadband-through-alabama-middle-mile-network/; "Alabama Statewide Middle-Mile Network Grant Program," ADECA, https://adeca.alabama.gov/alabama-middle-mile-network-grant-program/.

The Alabama legislature has allocated an additional $245 million in ARPA funds to ADECA[28] to create the Alabama Anchor Institution/Middle-Mile (AIMM) program to connect Anchor Institutions with existing or new middle-mile infrastructure providing high-speed connections and facilitating last-mile connections. The program was opened for application on August 14, 2023.

In June 2023, NTIA announced the funding of two middle-mile networks in Alabama through its Enabling Middle Mile Broadband Infrastructure Program.[29] The Connect Alabama program of Troy Cablevision will build 677.1 route miles through 28 of Alabama's 67 counties.[30] The Zayo Dallas to Atlanta Middle Mile project will improve existing fiber in five states along an 822-mile route that passes through 10 counties in Alabama.[31]

To support local broadband planning and development; ADECA held outreach meetings in each of Alabama's 67 counties between December 2022 and May 2023,[32]with follow-up meetings held with each county virtually in July and August of 2023. The purposes of these meetings included education of local leaders and the public about broadband issues, community engagement to learn about local challenges regarding access and opportunity, and community engagement to learn about assets related to broadband access and digital opportunity. These half- to full-day sessions gave community leaders, organizations, and members of the public the opportunity to interact with ISPs and to learn more about broadband and digital opportunity. In parallel, ADECA has hosted a series of broadband webinars and workshops to educate and engage partners from various state-wide entities to further understand assets and barriers. These ADECA webinars and workshops are archived on the ADECA website and available to assist local and regional entities.[33]

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[28] "Alabama in early stages of plans for using half-billion dollars for high-speed internet expansion," Advance Local, March 26, 2023, https://www.al.com/news/2023/03/alabama-in-early-stages-of-plans-for-using-half-billion-dollars-for-high-speed-internet-expansion.html.

[29] "Biden-Harris Administration Announces $930 Million to Expand and Strengthen America's High-Speed Internet Networks as Part of the Investing in America Agenda," NTIA, June 15, 2023, https://broadbandusa.ntia.gov/news/latest-news/biden-harris-administration-announces-930-million-expand-and-strengthen-americas.

[30] NTIA, "Funding Recipients," https://broadbandusa.ntia.gov/funding-programs/enabling-middle-mile-broadband-infrastructure-program/funding-recipients.

[31] NTIA, "Funding Recipients," https://broadbandusa.ntia.gov/funding-programs/enabling-middle-mile-broadband-infrastructure-program/funding-recipients.

[32] "Alabama Community Broadband Technical Assistance Program," ADECA, https://adeca.alabama.gov/alabama-community-broadband-technical-assistance-program/. Outreach to the first 10 counties was funded by the U.S. Economic Development Administration and outreach to the remaining 57 counties is funded by the NTIA's BEAD program.

[33] "Broadband Webinars and Workshops," ADECA, https://adeca.alabama.gov/broadband-webinars-and-workshops/.

Alabama encompasses several high-technology regions, sometimes called the "Silicon Valley of the South" or the "Next Silicon Valley."[34] Technology assets include the Alabama Supercomputer Authority (ASA),[35] which administers and operates a statewide high-technology program and the Alabama Research and Education Network (AREN).[36] Alabama is also home to technology-related academic programs too numerous to mention here.

In the following subsections of Section 3, this Plan highlights ADECA's existing programs and partners; Alabama's significant technology asset inventory; and the state's digital needs and gaps.

3.1 Existing programs

This section describes ADECA's existing broadband programs and assets.[37] The table below identifies ADECA's current and recent broadband-related activities and programs (including engagement conducted for purposes of the BEAD Five-Year Action Plan and the Alabama Statewide Digital Opportunity Plan); its previous statewide plans and programs comprising goals for the availability of broadband; and its prior experience awarding broadband deployment grants.

Table 2: Current and recent past activities that ADECA conducts

Activity name	Description	Intended outcome(s)
ABC for Students	Provided connectivity to students so they could continue their education during the Covid-19 pandemic.	At its conclusion, ABC for Students connected more than 200,000 students (in 107,000 households). Out of these households, 76,000 received vouchers directly from ADECA, while 31,000 received hotspots through school districts.[38]

[34] See, e.g., Zara Stone, "Inside Birmingham's Bid To Become The Southern Silicon Valley," *Forbes*, August 12, 2018, https://www.forbes.com/sites/zarastone/2018/08/12/inside-birminghams-bid-to-become-the-southern-silicon-valley/; Samuel Stebbins, "Huntsville, AL Has One of the Fastest Growing Tech Sectors," *24/7 Wall St. via The Center Square*, March 30, 2022, https://www.thecentersquare.com/alabama/huntsville-al-has-one-of-the-fastest-growing-tech-sectors/article_7631b252-e4fa-5b5a-9747-01732a36be8d.html.

[35] "About ASA," ASA, https://www.asc.edu/about/about-asa.

[36] "Network Services," ASA, https://www.asc.edu/service-area/network-services.

[37] This section addresses BEAD NOFO section IV.B.3.b. items 1-4 (p.26), https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/BEAD%20NOFO.pdf.

[38] Erezi Ogbo, "Connecting Low-Income Families Using Broadband Vouchers," Benton Institute for Broadband & Society, September 20, 2022, https://www.benton.org/blog/connecting-low-income-families-using-broadband-vouchers.

Activity name	Description	Intended outcome(s)
Alabama Broadband Accessibility Fund[39]	Competitive grant program for broadband deployment. See Table 5 for funding amounts.	Fund eligible projects to deploy last-mile and related middle-mile services to unserved, rural households.
Alabama Broadband Map (internal to ADECA under non-disclosure agreements (NDAs))	Visible only to ADECA, this map shows address-level service availability data collected under NDAs from ISPs that enables ADECA to make funding decisions and track broadband deployment and availability statewide.	Support grant programs and other planning and investments.
Alabama Broadband Map[40] (public)	Display the percentage of an area that is served and any unserved locations. It includes data collected directly from ISPs and is updated semi-annually.	Help ISPs develop applications for funding by showing eligible unserved locations. Provide broadband service information to state and local officials so they can better understand connectivity in their community/jurisdiction. Provide broadband service information to the public.[41]
Alabama Capital Projects Fund Program[42]	Competitive grant program for broadband deployment.	Fund eligible projects to deploy last-mile services to unserved, rural households.
Alabama Anchor Institution/Middle-Mile Program[43]	Competitive grant program for broadband deployment.	Fund eligible projects to deploy middle-mile fiber to support the needs of Anchor Institutions and support last-mile services to unserved, rural households.
Alabama Community Broadband Technical	Provide broadband technical assistance to applicants in the	1) Conduct broadband planning to help prevent,

[39] "Alabama Broadband Accessibility Fund Grant Application and Implementation," ADECA, https://adeca.alabama.gov/grant-application-and-implementation/.
[40] "Alabama Broadband Map," ADECA, https://broadband.alabama.gov/broadband-maps/.
[41] This map is iterative and requires ongoing updates and improvement of the underlying map data.
[42] "Alabama Capital Projects Fund," ADECA, https://adeca.alabama.gov/alcapitalprojectsfund/.
[43] "Alabama Anchor Institution/Middle-Mile Program, ADECA, https://adeca.alabama.gov/alanchormiddlemile/.

Activity name	Description	Intended outcome(s)
Assistance Program (TAP), Phase One[44]	state (across 10 counties); funded by the U.S. Department of Commerce's Economic Development Administration.	prepare for, and respond to impacts of the pandemic; 2) Understand broadband needs of residents, businesses, workers, and students in the county and develop plans for adequate broadband service; and 3) Develop capacity needed to support telehealth and business and employment opportunities and improve broadband adoption in communities of greatest need.
Alabama Community Broadband Technical Assistance Program (TAP), Phase Two[45]	Provide broadband technical assistance to the remaining 57 counties in the state; funded by BEAD and Digital Equity Act planning funds.	1) Engage community and identify local challenges and assets; 2) Assess current broadband service levels and evaluate unmet needs for broadband, training, devices, and support; and 3) Develop strategic approaches to public-private collaboration and provide guidance on funding for broadband and digital opportunity.
Alabama Connectivity Plan[46]	Strategic plan for facilitating the expansion of broadband throughout Alabama. Required by the State Legislature as part of the formation of the ADED.	A strategic plan designed to align with federal funding opportunities for broadband and digital access expansion.
Alabama Statewide Middle-Mile Network Grant Program[47]	Competitive grant program for middle-mile deployment. See Table 5 for funding amounts.	Fund middle-mile infrastructure to serve as a unified statewide resource for

[44] "Alabama Community Broadband Technical Assistance Program," ADECA, https://adeca.alabama.gov/alabama-community-broadband-technical-assistance-program/.
[45] *Id.*
[46] "The Alabama Connectivity Plan," ADECA, https://adeca.alabama.gov/wp-content/uploads/Alabama-Connectivity-Plan.pdf.
[47] "Alabama Statewide Middle-Mile Network Grant Program Application and Implementation," ADECA, https://adeca.alabama.gov/alabama-middle-mile-network-grant-program/.

Activity name	Description	Intended outcome(s)
		ISPs to plan and deploy last-mile connectivity.
Internet speed test and location availability reporting[48]	Webpage that enables individuals to test internet speed and report lack of availability at business or residential locations.	Provide ADECA with information about speeds/connectivity across the state.
Partner engagement – government agencies and Anchor Institutions	In spring 2023, ADECA facilitated virtual sessions with experts from local and regional governments and Anchor Institutions on specific topics addressed in the BEAD and Digital Equity Act NOFOs.	Collect input from critical partners to aid in planning for the use of available funds. Input provided detailed information for the state's BEAD and Digital Equity Act funded planning efforts.
Partner engagement – ISPs	In spring 2023, ADECA facilitated virtual sessions with ISPs on specific topics addressed in the BEAD and Digital Equity Act NOFOs.	Collect input from critical partners to aid in planning for the use of available funds. Input provided detailed information for the state's BEAD and Digital Equity Act funded planning efforts.
Partner engagement – nonprofit organizations	In spring 2023, ADECA facilitated virtual sessions with experts from community-based organizations, including those representing covered populations and underrepresented communities, on specific topics addressed in the BEAD and Digital Equity Act NOFOs.	Collect input from critical partners to aid in planning for the use of available funds. Input provided detailed information for the state's BEAD and Digital Equity Act funded planning efforts.
Partner questionnaires	In spring 2023, ADECA collected information from government agencies, Anchor Institutions, nonprofits, and ISPs in the following areas: 1) Anchor Institution internet access; 2) workforce development needs and programs for broadband	Input provided detailed information for the state's BEAD and Digital Equity Act funded planning efforts.

[48] "Take our survey and run a speed test!" ADECA, https://broadband.alabama.gov/survey/.

Activity name	Description	Intended outcome(s)
	deployment; 3) digital opportunity programs inventory; 4) vulnerable populations barriers and obstacles assessment; and 5) infrastructure inventory for assets that can support broadband deployment.	
Statewide, region-by-region resident phone survey	Conducted in spring 2023, this resident survey assessed broadband access and digital connectivity participation.	Gather data to support the development of measurable objectives in the areas of broadband access and adoption, devices and technical support, digital skills, and data privacy and cybersecurity. Input provided detailed information for the state's BEAD and Digital Equity Act funded planning efforts.

The table below lists the current and planned employees that will assist in implementing and administering BEAD-funded activities and programs to achieve ADECA's broadband goals and objectives.

Table 3: Current and planned full-time and part-time employees

Current/ planned	Time	Position	Description of role
Current	PT	Alabama Digital Expansion Division Chief	Oversee and manage broadband programs across the state. This position charges to indirect.
Current	PT	Legal Counsel	Review necessary revisions to state statutory authority and regulations, review federal compliance issues, review contracts related to BEAD planning, and draft and execute subaward agreements and Memoranda of Understanding (MOUs) related to BEAD programs. This position charges to indirect.
Current	PT	Deputy Legal Counsel	Review necessary revisions to state statutory authority and regulations, review federal compliance issues, review

Current/ planned	Time	Position	Description of role
			contracts related to BEAD planning, and draft and execute subaward agreements and Memoranda of Understanding (MOUs) related to BEAD programs. This position charges to indirect.
Current	PT	Administrative Support Assistant	Provides general administrative support to the program. This position charges to indirect.
Current	PT	Grants Management and Compliance Unit Chief	Manage BEAD activities, including development of the Five-Year Action Plan, coordinating with partners, hosting meetings/workshops with partners, conducting data collection efforts and data analysis, and being responsible for program and project evaluation and success.
Current	PT	Grants Management and Compliance Program Specialist	Two positions that support the Grants Management and Compliance Unit Chief.
Current	PT	GIS Specialist	Provides GIS, mapping, and data analysis in support of the program.

The table below lists the current and planned contractors that will assist ADECA in implementing and administering BEAD-funded activities and programs to achieve ADECA's goals and objectives.

Table 4: Current and planned contractor support

Current/ planned	Time	Position	Description of role
Administrative and legal expenses			
Current	PT	Budget Planning & Financial Analyst	Assist ADECA with administrative budget planning and financial analysis to manage BEAD grant reporting for five years.
Current	PT	Budget Planning & Financial Analysis: Jr. Analyst	Assist ADECA with administrative budget planning and financial analysis to manage BEAD grant reporting for five years.
Other architectural and engineering fees			
Current	PT	Senior Engineer – Asset Mapping	Gather ISP information; collect and collate data into the mapping software and conduct analysis of final maps to make determinations of areas of need;
Current	PT	Junior Engineer – Asset Mapping	

Current/ planned	Time	Position	Description of role
Current	PT	GIS Analyst – Asset Mapping	conduct asset mapping; maintain the broadband map for both public interface and ADECA use; and conduct other mapping and analysis for state, county, and regional projects.
Current	PT	Sr. Consultant – Asset Mapping	
Current	PT	Senior Engineer – Modeling	Develop the cost optimization model for network design and business planning and define Capital Expenses and Operating Expenses for each county; develop the model that considers the most cost-effective and efficient broadband deployment partners to optimize federal funding.
Current	PT	Junior Engineer – Modeling	
Current	PT	GIS Analyst – Modeling	
Current	PT	Sr. Consultant – Modeling	
Current	PT	Senior Engineer – Field Review	Help ADECA verify current infrastructure capabilities and inspect networks—by both desk surveys and on-site walkouts and inspections—to plan for BEAD-funded subgrants.
Current	PT	Junior Engineer – Field Review	
Current	PT	GIS Analyst – Field Review	
Current	PT	GIS Analyst – Other Mapping	Assist ADECA with mapping and analysis for state, county, and regional projects.
Miscellaneous			
Current	PT	Principle Consultant – Strategy	Help ADECA develop an overarching strategy for collecting data from subgrantees, how to store the data for records retention requirements, and address the requirements for the BEAD Five-Year Action Plan. Assist ADECA with collecting, analyzing, and posting broadband and digital opportunity data in county profiles.
Current	PT	Senior Engineer – Strategy	
Current	PT	Junior Engineer – Strategy	
Current	PT	GIS Analyst– Strategy	
Current	PT	Web Design, Development, and Maintenance	Develop, design, and host data dashboards.
Current	PT	Call Center Supervisor	Work with ADECA to develop and conduct surveys by phone to obtain the information necessary to assess broadband needs and better understand barriers to adoption in unserved and underserved areas and for underrepresented communities.
Current	PT	Call Center Staff	

The table below identifies ADECA's currently available funding for broadband deployment and other broadband-related activities.

Table 5: Broadband funding

Source	Purpose	Total	Expended	Available
ABAF[49]	State-administered program expanding broadband in Alabama	$92,400,000.00	$90,089,999.70 *obligated/ expended	$2,310,000.30
ARPA Round 1 – Alabama Statewide Middle-Mile Network Grant Program[50]	Middle-mile network by FUN, a corporation formed by seven Alabama electrical cooperatives and one generation and transmission electric cooperative	$85,000,000.00	$82,450,000.00[51] *obligated	$2,550,000.00
ARPA Round 2 – Alabama AIMM Program[52]	Expanding middle-mile broadband and Anchor Institution connectivity and associated last-mile	$245,000,000.00[53]	$0.00	$245,000,000.00

[49] "Alabama Broadband Accessibility Fund Grant Application and Implementation," ADECA, https://adeca.alabama.gov/grant-application-and-implementation/. Note that ABAF provides funds only when the network is 100% built and has passed tests. Therefore, the available funds are allocated to awardees who are constructing networks but who have not completed the construction.
[50] "Alabama Statewide Middle-Mile Network Grant Program Application and Implementation," ADECA, https://adeca.alabama.gov/alabama-middle-mile-network-grant-program/.
[51] "Governor Ivey Awards $82.45 Million for Improved Access to Broadband through Alabama Middle-Mile Network," Office of the Governor of Alabama, September 27, 2022, https://governor.alabama.gov/newsroom/2022/09/governor-ivey-awards-82-45-million-for-improved-access-to-broadband-through-alabama-middle-mile-network/.
[52] "Alabama Anchor Institution/Middle-Mile Program, ADECA, https://adeca.alabama.gov/alanchormiddlemile/.
[53] "Alabama Anchor Institution/Middle-Mile Program Application and Application Guide," ADECA, https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fadeca.alabama.gov%2Fwp-content%2Fuploads%2FAIMM-Application-and-Guide-.docx&wdOrigin=BROWSELINK.

Source	Purpose	Total	Expended	Available
	deployment in Alabama			
FCC Rural Digital Opportunity Fund (RDOF) Phase I[54]	Expanding rural broadband	$330,804,827.50[55]	Estimated: $33,633,593.00	Estimated: $213,679,238.00[56]
NTIA – Enabling Middle Mile Broadband Infrastructure Program award to Troy Cablevision for Connect Alabama project	Build and operate the Connect Alabama Network for 677.1 route miles; enable open access to last-mile providers, electrical cooperatives, military facilities, and Poarch Band of Creek Indians tribal headquarters along its path.	$26,299,960.63[57]	$0.00	$26,299,960.63
NTIA – BEAD	Expand last-mile broadband to unserved, underserved, and Anchor	$1,401,221,901.77	$0.00	$1,401,221,901.77

[54] "Auction 904 Winning Bidders: Attachment B," FCC, https://www.fcc.gov/document/auction-904-winning-bidders.
[55] Of the $330,804,827.50 amount of winning RDOF bids in Alabama, 6 bids were defaulted for a total of $83,491,995. The remaining bids were fully authorized for a total RDOF investment in Alabama of $247,312,832. See Authorized Auction 904 Long Form Applicants (updated 1/13/2023) and Census Blocks Covered by 904 Defaults (updated May 23, 2023), posted at https://www.fcc.gov/auction/904.
[56] FCC, https://fundingmap.fcc.gov/data-download/funding-data. Because ADECA does not have access to reported project expenditures, expended and available amounts for RDOF are estimates as of July 1, 2023, based on a percentage of time from the estimated project start date of the 120-month period of performance and total funding amounts as provided through the FCC's publicly-available resources.
[57] NTIA, "Funding Recipients," https://broadbandusa.ntia.gov/funding-programs/enabling-middle-mile-broadband-infrastructure-program/funding-recipients. Total project cost is $52,610,443.35.

Source	Purpose	Total	Expended	Available
	Institution locations			
NTIA – Connecting Minority Communities Pilot Program: Alabama State University	Expand broadband internet access and wireless coverage on campus and provide digital technology center in community.	$2,999,695.37[58]	$0.00	$2,999,695.37
NTIA – Connecting Minority Communities Pilot Program: H Councill Trenholm State Community College	Add second ISP, gain access to virtual desktop infrastructure for students, provide training and certification exams for college IT staff and recruit and train IT workforce.	$2,066,454.00[59]	$0.00	$2,066,454.00
NTIA Connecting Minority Communities Pilot Program: Stillman College	Install fiber broadband network on campus and wireless network for campus and	$2,774,257.37[60]	$0.00	$2,774,257.37

[58] NTIA, "Biden-Harris Administration Announces More Than $175 Million in Internet for All Grants to 61 Minority-Serving Colleges and Universities," Internet For All, February 27, 2023, https://www.internetforall.gov/news-media/biden-harris-administration-announces-more-175-million-internet-all-grants-61-minority.

[59] NTIA, "Biden-Harris Administration Announces More Than $33.5 Million in Internet for All Grants to 12 Minority-Serving Colleges and Universities," https://www.ntia.gov/press-release/2023/biden-harris-administration-announces-more-335-million-internet-all-grants-12.

[60] NTIA, "Biden-Harris Administration Announces More Than $175 Million in Internet for All Grants to 61 Minority-Serving Colleges and Universities," Internet For All, February 27, 2023, https://www.internetforall.gov/news-media/biden-harris-administration-announces-more-175-million-internet-all-grants-61-minority; "Sewell announces $18.4 million to expand broadband at Alabama HBCUs," Alabama Political Reporter, March 1, 2023, https://www.alreporter.com/2023/03/01/sewell-announces-18-4-million-to-expand-broadband-at-alabama-hbcus/.

Source	Purpose	Total	Expended	Available
	community, and improve device access for remote learning.			
NTIA – Connecting Minority Communities Pilot Program: Talladega College	Create a campus-wide broadband network that will extend into the city of Talladega and portions of Talladega County.	$2,969,121.59[61]	$0.00	$2,969,121.59
NTIA – Connecting Minority Communities Pilot Program: Drake State Community College	To support students' potential and ambition to earn an Associate's degree, and for those who desire it, the opportunity to earn an online bachelor's degree in information technology management or micro-credentials in industry-recognized computer science information certificates.	$2,413,182.20[62]	$0.00	$2,413,182.20

[61] *Id.*
[62] NTIA, Connecting Minority Communities Program, "Award Recipients," https://broadbandusa.ntia.doc.gov/funding-programs/connecting-minority-communities/award-recipients.

Source	Purpose	Total	Expended	Available
NTIA – Connecting Minority Communities Pilot Program: University of West Alabama	Enhance broadband access, capacity, and adoption, and increase digital skills in Sumter and Greene Counties through a collaborative partnership.	$1,649,440.00[63]	$0.00	$1,649,440.00
NTIA – Connecting Minority Communities Pilot Program: Tuskegee University	Upgrade the campus fiber backbone.	$3,569,618.00[64]	$0.00	$3,569,618.00
NTIA Enabling Middle-Mile Broadband Infrastructure Program for Zayo, LLC – Dallas to Atlanta Middle Mile[65]	Middle-mile infrastructure deployment. Project will also build 180-foot towers for wireless broadband. Zayo identified 209 Anchor Institutions located within 1 mile of the fiber route.	$13,688,241.00	$0.00	$13,688,241.00

[63] *Id.*
[64] *Id.*
[65] "Funding Recipients," NTIA, https://broadbandusa.ntia.doc.gov/funding-programs/enabling-middle-mile-broadband-infrastructure-program/funding-recipients. The project spans five states but includes Shelby, St. Clair, Cleburne, Jefferson, Tuscaloosa, Calhoun, Talladega, Bibb, Hale, and Greene counties in Alabama. Total project cost is $19,554,630.00 for the five-state project.

Source	Purpose	Total	Expended	Available
U.S. Treasury – CPF	Competitive grant program for last-mile broadband expansion modelled on the successful ABAF program (above)[66]	$191,887,857.00[67]	$0.00	$191,887,857.00
USDA ReConnect	Grants and loans for the provision of broadband service in eligible rural areas	$178,289,060.00[68]	Estimated: $76,832,836.00	Estimated: $101,456,224.00
U.S. Department of Commerce – EDA Technical Assistance Grant	Alabama Community Broadband Technical Assistance Program[69]	$1,000,000.00	$626,207.28	$373,792.72

[66] "Alabama Digital Expansion Division ARPA Report – February 2023," ADECA, https://adeca.alabama.gov/wp-content/uploads/American-Rescue-Act-Oversight-Committee-Annual-Report-February-2023.pptx, slide 7.
[67] Alabama Governor's Office, Press Release, "Governor Ivey Announces Additional Broadband Funds Coming to Alabama with Approval of State's Capital Projects Fund Plan," January 26, 2023, https://governor.alabama.gov/newsroom/2023/01/governor-ivey-announces-additional-broadband-funds-coming-to-alabama-with-approval-of-states-capital-projects-fund-plan/; "Alabama Allocates More Than $276 Million for Broadband Under American Rescue Plan," Bradley law firm, February 2, 2022, https://www.bradley.com/insights/publications/2022/02/alabama-allocates-more-than-276-million-for-broadband-under-american-rescue-plan.
[68] Awardees by year published at "ReConnect Loan and Grant Program," U.S. Department of Agriculture, https://www.usda.gov/reconnect. Note that the total cited above includes grants and loans; each grantee receives either 100% grant, 50% grant and 50% loan, or 100% loan. The total does not include matching funds. Because ADECA does not have access to reported project expenditures, ReConnect expended and available amounts are estimates as of July 1, 2023, based on the percentage of time from the estimated project start date of the 60-month period of performance for each project, and total funding amounts as provided through the USDA's publicly-available resources.
[69] "Alabama Community Broadband Technical Assistance Program," ADECA, https://adeca.alabama.gov/alabama-community-broadband-technical-assistance-program/.

3.2 Partnerships

The table below identifies ADECA's current and potential future partners in the development and implementation of this Plan.[70] These partners include organizations already engaged in broadband deployment and digital opportunity efforts (e.g., local governments, K-12 schools, higher education, ISPs) and entities that ADECA has identified as potential future collaborators.

Table 6: Partners

Partners	Description of current or planned role in broadband deployment and adoption
County governments	Regular communication and commitment to continued collaboration with the state on future broadband deployment and adoption efforts. Held on-site outreach sessions and virtual follow up sessions with all 67 counties.
Municipal governments	Regular communication and commitment to continued collaboration with the state on future broadband deployment and adoption efforts. Invited to and often attended on-site outreach and virtual follow up sessions in the counties.
Higher education institutions	Regular communication and commitment to continued collaboration with the state on future broadband deployment and adoption efforts. Held a combination of on-site and virtual sessions with most historically black colleges and universities (HBCUs) and worked with the Student Freedom Initiative to incorporate HBCU input in the BEAD and Digital Equity Act funded planning processes.
K-12 school systems	Local school districts throughout Alabama. Representatives from numerous districts assisted ADECA in planning for and/or participating in county public meetings.
AARP	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings. Continued coordination to understand and respond to the needs of the organization's members. A resource for senior digital skills training curriculum and program implementation.
Alabama Association of Housing & Redevelopment Authorities	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings. Member Housing Authorities often attended on-site outreach sessions in the counties.
Alabama Association of Regional Councils	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
Alabama Cable and Broadband Association	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings. As a representative for

[70] This section addresses part of BEAD NOFO section IV.B.3.b. item 6 (p.26) ("Include an asset inventory that… identifies and provides details regarding any relevant partners, such as community-based organizations and CAIs [community anchor institutions] that may inform broadband deployment and adoption planning").

Partners	Description of current or planned role in broadband deployment and adoption
	several providers, ADECA will continue to work with the Association throughout the BEAD program.
Alabama Community College System	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings. Resource for workforce development programs. Held a combination of on-site and virtual sessions with most HBCUs and worked with the Student Freedom Initiative to incorporate HBCU input in the BEAD and Digital Equity Act funded planning processes.
Alabama Cooperative Extension System (ACES)	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings. Resource for digital skills and workforce development programs, advocate for agricultural industry needs.
Alabama Department of Agriculture & Industries	State partner agency.
Alabama Department of Commerce	State partner agency invited to participate in outreach for the BEAD and Digital Equity Act funded programs. Operates Alabama Industrial Development Training (AIDT), Alabama's workforce training agency which runs the Workforce Council, the Alabama Career Centers, and the Alabama Office of Apprenticeship. The Workforce Development Division (WDD) participated in Statewide Facilitated Partner Meetings and is a potential resource for workforce development programs.
Alabama Department of Corrections	State partner agency.
Alabama Department of Education	State partner agency.
Alabama Department of Finance	State partner agency.
Alabama Department of Human Resources	State partner agency – participant in county meetings.
Alabama Department of Labor	State partner agency.
Alabama Department of Mental Health	State partner agency.
Alabama Department of Public Health	State partner agency.
Alabama Department of Rehabilitation Services	State partner agency.
Alabama Department of Senior Services	State partner agency.
Alabama Department of Transportation (ALDOT)	State partner agency that ADECA has engaged with to understand ALDOT's operational broadband infrastructure and understand how ALDOT can support broadband deployment. Planned

Partners	Description of current or planned role in broadband deployment and adoption
	continued coordination to support broadband deployment as needed.
Alabama Department of Veterans Affairs	State partner agency – participant in county meetings.
Alabama Department of Youth Services	State partner agency.
Alabama Disability Leadership Coalition	Statewide coalition, advocate for unique needs of disabled population – participant in county meetings.
Alabama Emergency Management Agency	State partner agency.
Alabama Farmers Federation	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
Alabama Hospital Association (AlaHA)	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings. ADECA has met with AlaHA on several occasions to understand needs and barriers.
Alabama Institute for the Deaf & Blind	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
Alabama League of Municipalities (ALM)	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings. Supported the dissemination of outreach and other information to its members.
Alabama Library Association	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
Alabama Lightwave	Internet service provider that has provided service data for the Alabama broadband map and/or received state grant funds.
Alabama NAACP	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
Alabama Network of Family Resource Centers (ANFRC)	Statewide organization that oversees numerous family resource centers across Alabama – participant in county meetings.
Alabama Power	Covers most of Alabama, leases middle-mile fiber to middle-mile and last-mile providers, assisted in the planning for and attended county public meetings.
Alabama Public Health – various programs	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
Alabama Public Library Service (APLS)	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
Alabama Public Service Commission (APSC)	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
Alabama Regional Medical Services	Regional medical centers that assisted ADECA in planning for and/or participating in county public meetings.
Alabama Rural Electric Association of Cooperatives	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.

Partners	Description of current or planned role in broadband deployment and adoption
Alabama Rural Health Association	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
Alabama Supercomputer Authority (ASA)	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings. ADECA has met with ASA on several occasions to understand needs, barriers, and broadband assets.
Alabama Tombigbee Regional Commission (ATRC)	Regional planning organization that assisted ADECA in planning for and/or participating in county public meetings
AlabamaWorks	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
American Federation of Labor Congress of Industrial Organizations (AFL-CIO)	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
Ardmore Telephone Company	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Association of County Commissions of Alabama	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings. Supported the dissemination of outreach and other information to its members.
AT&T	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
AT&T Wireless	Internet and cellular service provider.
BDA Wireless, LLC	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Black Belt Community Foundation (BBCF)	A community foundation with a presence throughout the Black Belt Region; assisted ADECA in planning for and/or participating in county public meetings.
Black Churches 4 Digital Equity	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
BlackBelt Technologies	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Brightspeed[71]	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Castleberry Telephone Company	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.

[71] Much of Brightspeed's service in Alabama is offered through assets acquired from Lumen (formerly CenturyLink). On August 22, 2022, the FCC approved the sale of Lumen's incumbent local exchange carrier (ILEC) business to Brightspeed in 20 states, including Alabama. *See* "FCC Approves Sale of Lumen Assets to Brightspeed," Brightspeed Newsroom, August 22, 2022, https://www.brightspeed.com/brightspeed-news/fcc-approves-sale-of-lumen-assets-to-brightspeed. Accessed July 10, 2023.

Partners	Description of current or planned role in broadband deployment and adoption
Central Alabama Electric Cooperative (Central Access)	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Central Alabama Regional Planning & Development Commission (CARPDC)	Regional planning organization that assisted ADECA in planning for and/or participating in county public meetings.
Charter Communications (Spectrum)	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Comcast Corporation	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Communication Workers Association of America Union (CWA)	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
Community Action Agency Association	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings. Supported the dissemination of outreach and other information to its local members.
Community Cable and Broadband	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Consolidated Communications	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Coosa Valley Electric Cooperative (Coosa Valley Technologies)	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Covington Electric Cooperative (Buzz Broadband)	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Crenshaw County Economic & Industrial Development Authority	County organization that assisted ADECA in planning for and/or participating in county public meetings.
C-Spire	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
CTV Beam	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Cullman Electric Cooperative	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Cyber Broadband	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Demopolis CATV	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Eagle Internet Services, LLC	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.

Partners	Description of current or planned role in broadband deployment and adoption
East Alabama Regional Planning and Development Commission (EARPDC)	Regional planning organization that assisted ADECA in planning for and/or participating in county public meetings.
Economic Development Partnership of Alabama	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
E-Footprints Partners, LLC / EFP Broadband, LLC	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Farmers Telecommunications Cooperative (FTC)	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Fast Wireless LLC	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Frontier Communications	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Gadsden-Etowah Industrial Development Authority	County organization that assisted ADECA in planning for and/or participating in county public meetings.
GetWiredAlabama	The South Central Alabama Broadband Cooperative District to expand service throughout the Black Belt region. Participated in county public meetings.
GoNetspeed (OTELCO, Inc.)	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Greater Shoals Broadband Cooperative District (GSBCD)	A coalition of utilities and local governments in Colbert and Lauderdale counties advocating for service deployment in their region. Participated in county public meetings.
Greene County Industrial Development Authority	County organization that assisted ADECA in planning for and/or participating in county public meetings.
Hayneville Fiber Transport (HFT)	Wholesale service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Hayneville Telephone Company (Camellia Communications)	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
HDD Broadband	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Highspeed Country Internet	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
HighStream Fiber	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Hispanic Interest Coalition of Alabama	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
Hurricane WiFi LLC	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.

Partners	Description of current or planned role in broadband deployment and adoption
International Brotherhood of Electric Workers (IBEW)	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
JMF Solutions (WaveFly)	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Joe Wheeler EMC (Flash Fiber)	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Just Transition Fund	National nonprofit that provides funding and technical support to enable coal communities to apply for federal grants, including for broadband infrastructure and digital opportunity efforts.
Lee-Russell Council of Governments (LRCOG)	Regional planning organization that assisted ADECA in planning for and/or participating in county public meetings.
Low Income Housing Coalition of Alabama	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
Mediacom Communications Corporation	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Meridiam	Global investment and asset manager; participated in county meetings.
Micro-Comm	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Millry Communications	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Mon-Cre Telephone Cooperative	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Moundville Telephone Company	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
National Telephone of Alabama	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
New Hope Telephone Cooperative (NHTC)	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
North Alabama Electric Cooperative (NAEC)	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
North-Central Alabama Regional Council of Governments (NARCOG)	Regional planning organization that assisted ADECA in planning for and/or participating in county public meetings.
Northwest Alabama Council of Local Governments (NACOLG)	Regional planning organization that assisted ADECA in planning for and/or participating in county public meetings.
Omnipoint Technology	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Pea River Electric Cooperative	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.

Partners	Description of current or planned role in broadband deployment and adoption
Pine Belt Broadcasting	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Pine Belt Cellular	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Pine Belt Telephone Company	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Point Broadband	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Ragland Telephone Company	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Regional Planning Commission of Greater Birmingham (RPCGB)	Regional planning organization that assisted ADECA in planning for and/or participating in county public meetings.
Riviera Utilities	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Roanoke Telephone Company	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
School Superintendents of Alabama	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
Scottsboro Electric Power Board	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
South Alabama Regional Planning Commission (SARPC)	Regional planning organization that assisted ADECA in planning for and/or participating in county public meetings.
South Central Alabama Development Commission (SCADC)	Regional planning organization that assisted ADECA in planning for and/or participating in county public meetings.
Southeast Alabama Community Action Partnership (SEACAP)	Regional organization that assisted ADECA in planning for and/or participating in county public meetings.
Southeast Alabama Regional Planning and Development Commission (SEARPDC)	Regional planning organization that assisted ADECA in planning for and/or participating in county public meetings.
Sparklight (formerly Cable One and Hargray)	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Sylacauga Utilities Board	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
TDS Telecom	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Tennessee Valley Authority	Regional planning organization that assisted ADECA in planning for and/or participating in county public meetings.

Partners	Description of current or planned role in broadband deployment and adoption
The Arc of Alabama	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
The Center for Rural Enterprise and Environmental Justice	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
The Economic Development Alliance of Pickens County	County organization that assisted ADECA in planning for and/or participating in county public meetings.
Thrive Regional Partnership	Regional organization that assisted ADECA in planning for and/or participating in county public meetings.
T-Mobile	Internet and cellular service provider.
Tombigbee Electric Cooperative (Tombigbee Communications)	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Top of Alabama Regional Council of Governments (TARCOG)	Regional planning organization that assisted ADECA in planning for and/or participating in county public meetings.
Troy Cablevision	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Union Springs Telephone Company	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
United Cerebral Palsy	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
United Way	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
University of Alabama	Statewide organization that assisted ADECA in planning for and/or participating in county public meetings.
Verizon Wireless	Internet and cellular service provider.
Vyve Broadband	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
Weiss Internet	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
West Alabama Regional Commission (WARC)	Regional planning organization that assisted ADECA in planning for and/or participating in county public meetings.
Windstream	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.
WOW!	Internet service provider that has provided service data for the Alabama Broadband Map and/or received state grant funds.

3.3 Asset inventory

This section catalogs and describes a sample of broadband deployment (infrastructure), broadband adoption, broadband affordability, broadband access, and digital opportunity activities

across the State of Alabama. These inventories comprise the institutions that possess hard assets, such as utility poles and land, and soft assets, such as programs and activities that aim to improve broadband access and use. These sections are not exhaustive in their scope; rather, they focus on key assets ADECA believes can be readily leveraged to implement the Plan.

3.3.1 Broadband deployment

This section lists examples of state-owned structures, land, rights-of-way, utility poles, conduit, fiber, and other assets owned by the state or other entities that might be leveraged to implement the Plan.

One potential broadband deployment asset suggested by NTIA is planned or existing road projects to which fiber conduit or similar fiber assets could be added. The Alabama Department of Transportation (ALDOT) maintains a list of regional road projects.[72] These projects are at various stages of development and not all will be suitable for fiber construction, but ADECA may consider those that are throughout the BEAD deployment process. Currently, ADECA requires applicants to consider ALDOT projects when developing broadband expansion projects using funds administered by ADECA.

Table 7: Broadband deployment assets

Asset name	Description
Physical assets	
FUN [73] open-access middle-mile network	Planned open-access middle-mile network will connect almost 3,000 miles of existing and new fiber infrastructure within a three-year period and will ease last-mile deployments throughout the state (see Table 2 and Table 5). FUN is a consortium of seven rural electric cooperatives and one power generation and distribution cooperative: Central Alabama, Coosa Valley, Covington, Cullman, Joe Wheeler, North Alabama, Tombigbee, and PowerSouth.
Greater Shoals Broadband Cooperative	Facilitates middle-mile connectivity to provide better, more resilient connectivity and provides connectivity to underserved communities in Colbert and Lauderdale counties.
Local housing authority assets	Greene County Housing Authority and Sylacauga Housing Authority indicated the availability of utility poles and other infrastructure.
Rights-of-way	Rights-of-way controlled by ALDOT or local entities may be available for placement of fiber, huts, or other broadband infrastructure.

[72] "Region Projects," ALDOT, https://www.dot.state.al.us/projects/regionProjects.html.
[73] Alabama Governor Ivey, Press Release, "Governor Ivey Awards $82.45 Million for Improved Access to Broadband through Alabama Middle-Mile Network," https://governor.alabama.gov/newsroom/2022/09/governor-ivey-awards-82-45-million-for-improved-access-to-broadband-through-alabama-middle-mile-network/.

Asset name	Description
State-owned buildings	Buildings owned by state or local governmental entities may be available for placement of network electronics or other broadband infrastructure.
State-owned fiber	ALDOT owns minimal fiber to support its operations, leasing access to broadband. This fiber is not available for use by broadband providers.
State-owned land	Land owned by state or local governmental entities may be available for placement of huts or other broadband infrastructure.
State-owned towers	Towers owned by state entities, such as ALDOT or the Alabama Emergency Management Agency, may be available for placement of antennas or other broadband infrastructure. Towers owned by local agencies for public safety communications may be available for placement of antennas or other broadband infrastructure.
Troy Cablevision – Connect Alabama open-access middle-mile project[74]	Middle-mile fiber project to construct 677.1 route miles: 411.5 route miles for access to unserved area, 29.8 route miles for access to underserved areas, and 235.8 route miles for connectivity to four internet peering points. Traverses 26 unserved/underserved Alabama counties and enables open access to last-mile providers, electrical cooperatives, military facilities, and the Poarch Band of Creek Indians tribal headquarters.
Uniti Fiber	Middle-mile fiber services; connects Anchor Institutions.
Zayo – Dallas to Atlanta Middle Mile[75]	Middle-mile fiber project to create new access points along 822-mile, five-state, underground existing middle-mile fiber route, providing a resilient alternative to the aerial fiber used currently, which is subject to outages, to provide better service to unserved and underserved areas. This project will traverse 10 counties in Alabama (Shelby, St. Clair, Cleburne, Jefferson, Tuscaloosa, Calhoun, Talladega, Bibb, Hale, and Greene).
State-related workforce programs	
Alabama Industrial Development Training (AIDT), a division of Alabama's Department of commerce[76]	Provides a full range of customized technical training programs that are offered at no cost to employers and to the trainees in classrooms or via Mobile Training Units (MTUs).
AIDT Military Transition Program (AMTP)[77]	Training is provided at no cost to transitioning military/Department of Defense personnel.
Alabama Career Center System[78]	Offers support to job seekers across the state.

[74] "Funding Recipients," NTIA, https://broadbandusa.ntia.gov/funding-programs/enabling-middle-mile-broadband-infrastructure-program/funding-recipients. Total project cost is $52,610,443.35.
[75] *Id.* Total project cost is $19,554,630.00.
[76] AIDT, https://www.aidt.edu/.
[77] AIDT Military Transition Program (AMTP), https://www.aidt.edu/aidt-military-transition-program/.
[78] "Find a Career Center near you," AlabamaWorks!, https://alabamaworks.alabama.gov/vosnet/default.aspx.

Asset name	Description
Alabama Department of Rehabilitation Services (ADRS)[79]	Works to increase employment opportunities for those with disabilities, with a special job training program, the Business Enterprise Program, for those that are blind.
Alabama Office of Apprenticeship[80]	Dedicated to expanding the use of registered apprenticeships (RAs) and Alabama industry-recognized apprenticeship programs (AIRAPs). Part of the Department of Commerce; works with AIDT.
AlabamaWorks![81]	Connects citizens across the state with local employment and training opportunities through its seven regional initiatives.
Northeast Alabama Community College	Offers Fiber Optics Association Training: Certified Fiber Optics Training (CFOT), Fiber Optics Technician, Specialists.[82]
University of North Alabama	Designing new workforce development center for Northwest Alabama. Additionally, could potentially provide options for ISP communication.
Wallace Community College	Offers Fiber Optics Association Training: Certified Fiber Optics Training (CFOT), Fiber Optics Technician, Specialists at Dothan and Sparks campuses. Developed fiber optic training course for Alabama Community College System.[83] The ACCS Innovation Center has made the Fiber Optics Technician program available at all community college campuses in Alabama. The program is available at no charge to students and includes virtual and hands-on components. The program was developed in partnership with industry employers.
ISP broadband deployment workforce programs	
AT&T	Mentorships, apprenticeships, and internships, to support workforce development.
Camellia Communications / Hayneville Telephone Company	Workforce programs, interested in partnerships with local companies and local schools to expand offerings.
Central Alabama Electric Cooperative (CAEC) – Lineman Training and Apprenticeship Programs	CAEC participates in workforce development and apprenticeship programs by interviewing through the local workforce development office and offering linemen a scholarship program of $5,000 for students of electrical line work. Interested in collaborative partnerships with local governments and community organizations to expand its line-worker training to include fiber line-worker training.

[79] Alabama Department of Rehabilitation Services, https://www.rehab.alabama.gov/.
[80] Alabama Office of Apprenticeship, https://www.alapprentice.org/.
[81] "About," AlabamaWorks!, https://alabamaworks.com/about/.
[82] "Non-Credit Industry Workshops, Northeast Alabama Community College, https://www.nacc.edu/programs-of-study/skills-training/non-credit-workshops.
[83] "Fiber Optics," Wallace Community College, https://www.wallace.edu/programs-training/fast-track-workforce-development-training-programs/fiber-optic-training/.

Asset name	Description
Charter/Spectrum	Recruiting and training program for workforce development.
Comcast	Trade or vocational certificate programs, internships, and sponsorships/scholarships for third-party training and classes to support workforce development.
Coosa Valley Technologies	Apprenticeship lineman program that attracts locals, turns them into journeymen/linemen.
C-Spire	Internships, and has worked in the Wiregrass region to help develop curriculum with Wallace Community College for a fiber deployment training and certification program.
Cullman Electric Cooperative	Partners with local career technical school to offer training to high-school students to become Certified Fiber Technicians upon graduation.
E-Footprints	Mentorships, apprenticeships, and sponsorships/scholarships for third-party training and classes.
Farmers Telecommunications Cooperative	Mentorships, apprenticeships, and internships to support workforce development; works with the Alabama Community College System
GetWiredAlabama	Apprenticeships and mentorships to support workforce development. Interested in partnering with local workforce development offices/community colleges to expand these programs.
GoNetspeed	Internships to support workforce development.
Highspeed Country Internet	Mentorships, apprenticeships, and internships to support workforce development.
Lit Communities	Mentorships, certification programs, apprenticeships, internships, and sponsors/offers scholarships for third-party training and classes. Interested in doing more to support workforce development.
Micro-comm	Internships, apprenticeships, mentorships, and sponsors/scholarships for third-party training and classes to support workforce development.
Mon-Cre Telephone Cooperative	Sponsorships/scholarships for third-party training and classes, interested in doing more.
Omnipoint Workforce	Apprenticeship opportunities to support workforce readiness.
Open Broadband LLC	Formalized and accredited Wi-Fi technician training program.
Pea River	Apprenticeships to support workforce development.
Scottsboro Electric Power Board	Mentorship, apprenticeship, and internship opportunities to support workforce development. Internships are offered through a partnership with the local school system.
Uniti Fiber	Internships and sponsors third-party training and classes to support workforce development. Affirmative Action Plan for employees promotes open positions to target diverse groups

Asset name	Description
	through network of community-based organizations and niche diversity sites.
Vyve Broadband	Mentorships, certification programs, sponsorships/scholarships for third-party training and classes, and a Career Progression Program.
Weiss Internet	Mentorships, sponsorships/scholarships for third-party training, and classes.
WOW!	Workforce training through standards certification and safety programs, trade or vocational certificate programs, internships for skills supporting network deployment and operation. Belonging Community at WOW! provides employees access and participation to affinity groups including the LGBTQA+, Disability Awareness, Women in the Workforce, Aging Workforce and Multi-Ethnicity Affinity Groups.

3.3.2 Broadband adoption

This section describes the current state of broadband adoption (i.e., the percentage of residents who have adopted broadband) and identifies broadband adoption assets for households and businesses. According to the most recent NTIA data (November 2021), 71.7 percent of Alabama residents use the internet at home and 78.3 percent of residents use the internet at any location.[84]

Through the Alabama Community Broadband Technical Assistance Program, individual residents made valuable connections. At a meeting in Montgomery County, Alabama, one attendee said that every time she used her computer, she downloaded a virus and her children got angry at her, so she stopped using the computer. A representative of Montgomery Public Libraries offered a digital skills class that could install antivirus software on her computer and teach her to use it.

Other organizations have come to outreach meetings in search of partners. At one meeting in Lawrence County, a representative of the North Central Alabama Regional Council of Governments[85] expressed an interest in supporting digital skills classes for seniors. At a meeting in Greene County, a representative of AT&T[86] expressed an interest in creating public-private partnerships to deliver broadband to the most remote unserved and underserved communities in Alabama.

Local partners also began to coordinate with each other during these meetings to share resources and ideas for future collaboration regarding broadband adoption. For example:

[84] "Digital Nation Data Explorer," NTIA Data Central, https://ntia.gov/other-publication/2022/digital-nation-data-explorer.
[85] North Central Alabama Regional Council of Governments (NARCOG), https://www.narcog.org/.
[86] AT&T, https://www.att.com/.

- In Marshall County, ADECA introduced a representative of the ISP GoNetspeed[87] to a representative of Community Action[88] for a possible partnership between an ISP and a community service organization to improve digital skills.
- In Chilton County, Black Belt and Central Alabama Housing (BBCAH)[89] expressed an interest in services for low-income families and ADECA connected it with the Greene County Industrial Development Authority.[90]
- In Cullman County, a representative of the North Central Alabama Regional Council of Governments said that it has funding to offer digital skills but no partner to teach the classes. A representative of the Alabama Community College System said that it was eager to participate.

The table below lists programs that promote broadband adoption—such as through digital skills training, public computing labs, device and hotspot loans, K-12 schools with one-to-one computer programs, computer refurbishing efforts, and other broadband awareness and outreach efforts. Most assets are available to all covered populations and underrepresented communities.

Table 8: Broadband adoption assets

Asset name	Description
AARP – Senior Planet	Online classes for seniors.
Alabama Career Center System – computer skills and workforce development	Provides online basic computer skills and business software skills and other workforce development resources.
Alabama Career Center System – Montgomery	Northstar Digital Literacy services: Assessments, Assessment certificates, Computer classes, Northstar Online Learning accounts for learning and practice.
Alabama Community College System – Partnerships with local organizations for digital skills/skills classes	Provides adult education technical and workforce development programs, and partners with senior service organizations.
Alabama Cooperative Extension System	Provides range of programs in each county through state and online courses, including computer science skills, personal finance, and workforce development.
Alabama Cooperative Extension System – 4H Tech Changemakers	Program designed to place youth in leadership positions by training them to teach digital skills to underserved audiences.

[87] "Great Options for Alabama: Which is right for you?" GoNetspeed, https://www.gonetspeed.com/alabama/.
[88] Community Action Association of Alabama (Community Action), https://caaalabama.org/.
[89] Black Belt and Central Alabama Housing, https://www.bcah99.com/.
[90] Green County Industrial Development Authority, https://www.gcida.com/.

Asset name	Description
Alabama Goodwill Industries	Northstar Digital Literacy services: Assessments, Assessment certificates, Computer classes, Northstar Online Learning accounts for learning and practice.
Alabama Institute for Deaf and Blind – E.H. Gentry Campus	Northstar Digital Literacy services: Assessments, Assessment certificates, Computer classes, Northstar Online Learning accounts for learning and practice.
Alabama Institute for the Deaf and Blind (AIDB) – various programs	Provides assistive technology, digital skills, and computer skills programs, opportunities for students to earn Northstar Digital Literacy certifications and additional services.
APLS "Get the Internet to Go"	Addresses the digital divide in many of Alabama's most underserved rural communities by providing mobile hotspots to select Alabama public libraries.
Alabama Regional Planning Councils (AARC) – various programs	The 12 regional commissions and councils of government provide a variety of programs.
Alabama State Department of Education – Course of Study	K-12 curriculum for digital skills and computer science.
Ardmore Telephone Company	Offers digital skills training consisting of short videos, less than 3 minutes each, powered by Microsoft Digital Literacy.
Area Agency on Aging – Alabama Tombigbee Regional Commission	Provides computer skills classes at senior centers.
Area Agency on Aging – Central Alabama Aging Consortium	Provides computer skills classes at senior centers.
Area Agency on Aging – East Alabama Regional Planning and Development Commission	Provides computer skills classes at senior centers.
Area Agency on Aging – Lee-Russell Council of Governments	Provides computer skills classes at senior centers.
Area Agency on Aging – Middle Alabama Area Agency on Aging (M4A)	Provides computer skills classes at senior centers.
Area Agency on Aging – North Central Alabama Regional Council of Governments	Provides computer skills classes at senior centers.
Area Agency on Aging – North West Alabama Council of Local Governments	Provides computer skills classes at senior centers.

Asset name	Description
Area Agency on Aging – South Alabama Regional Planning Commission	Provides computer skills classes at senior centers.
Area Agency on Aging – South Central Alabama Development Commission	Provides computer skills classes at senior centers.
Area Agency on Aging – Southern Alabama Regional Council on Aging	Provides computer skills classes at senior centers.
Area Agency on Aging – United Way of Jefferson County	Provides computer skills classes at senior centers.
Area Agency on Aging – West Alabama Regional Commission	Provides computer skills classes at senior centers.
Barbour County Adult Education	Provides computer skills courses.
Bishop State Community College, (an HBCU) – workforce development programs	Adult education and training courses and Northstar Digital Literacy.
Black Belt Community Foundation	Working with Google to provide digital skills programs to advance economic opportunity for people impacted by incarceration.
Central Alabama Community College Adult Education Program	Northstar Digital Literacy services: Assessments, Assessment certificates, Computer classes, Northstar Online Learning accounts for learning and practice.
C.H.O.I.C.E. (Choosing to Help Others in Our Community Excel)	Digital navigator program, hotspot program, and broadband advocacy in Uniontown and vicinity.
Coastal Alabama Community College – Baldwin County Adult Education	Northstar Digital Literacy services: Assessments, Assessment certificates, Computer classes, Northstar Online Learning accounts for learning and practice.
Coastal Alabama Community College – Escambia County Adult Education	Northstar Digital Literacy: Assessments, Assessment certificates, Computer classes, Northstar Online Learning accounts for learning and practice.
Community Action Association of Alabama (CAA) – support for the FCC's ACP	Statewide association of member community action agencies that offer a range of programs for low-income individuals and families. Received funding for awareness campaign to inform eligible households about the ACP, which provides a monthly broadband service subsidy to low-income and other eligible households.

Asset name	Description
Community Action Association of Alabama TCRCC – ACP support	Support to help residents enroll in ACP and receive a free tablet in partnership with SWA Connect.
Community colleges and regional library system	Community colleges and regional library system to conduct programs for digital skills
Community Service Programs of West Alabama, Inc. – Digital Navigators	National Digital Navigator Corps awardee. Plans to expand digital navigator program in west Alabama.
Connect99	City of Birmingham awareness campaign to help people throughout all 99 neighborhoods of the city get ACP benefits.
Family Guidance Center – computer skills training, Lowndes-Hayneville	No cost computer skills classes. Open computer labs allow for both group instruction and self-paced learning.
Family Guidance Center – computer skills training, Montgomery	No cost computer skills classes. Open computer labs allow for both group instruction and self-paced learning.
Family Guidance Center – computer skills training	No cost computer skills classes. Open computer labs allow for both group instruction and self-paced learning.
First Stop	Offering a computer lab and digital skills classes to people experiencing homelessness in Huntsville.
GOAL – digital skills classes	Free digital skills classes. Entry-level computer class designed to provide computer skills and training to compete in today's job market.
Goodwill Gulf Coast – digital skills classes	Beginner, upskill, and certification level courses available.
Google Digital Opportunity Fund in Huntsville	Awarding funds to local digital opportunity groups.
Housing Authority of the Birmingham District – Your Home, Your Internet	Pilot program aimed at providing ACP outreach and application assistance to eligible households. Received funding from FCC in 2023.
Huntsville Community Drumline	Teaches digital skills through music.
Huntsville Inner City Learning Center	Volunteer-based organization offers a STEAM resource lab for children.
Huntsville Madison County Library – workforce development and computer classes	Has two workforce development centers and teaches digital skills through one-on-one assistance and computer training classes and workshops.
Lake Martin Area United Way	Programs include health, education, youth development, financial stability, and access to essential services.
Literacy Council of Central Alabama	Helps people to learn to use a computer, among other programs.

Asset name	Description
Luverne Public Library	Provides digital navigator classes.
Mediacom – ACP Community Workshops	Mediacom offers to hold ACP workshops on community request. Offers ACP information online in English, French, Spanish, and Farsi.
National Center for Women in Technology – digital skills	Provides digital skills training programs for women.
North Central Alabama Regional Council of Governments	Can offer a digital skills program for elderly persons, with partner providing a 10 percent match. Has funding available.
North Central Alabama Regional Council of Governments – digital skills training for seniors	Digital skills classes at senior centers and other locations to teach people how to access the internet on their phone, navigate internet, reboot their modem, and other simple digital skills.
Northeast Alabama Community College	Northstar Digital Literacy services: Assessments, Assessment certificates, Computer classes, Northstar Online Learning accounts for learning and practice.
Prichard Housing Authority	Provides digital device programs and community and citizen education in digital connectivity.
Randolph County Economic Development Authority – digital skills training	Community Skills Initiative Alabama Region program offers access to free online training courses that boost digital skills.
Reid State – CACC Monroeville	Northstar Digital Literacy services: Assessments, Assessment certificates, Computer classes, Northstar Online Learning accounts for learning and practice.
Senior Center in Clio	Offers digital skills classes.
Shelton State Community College (an HBCU) – workforce development programs	GED, Northstar Digital Literacy Certificate, and English as a Second Language.
The Black Belt Digital Equity and Inclusion Coalition	Partnership between The Elmore Bolling Initiative and The South-Central Alabama Broadband Cooperative District's GetWiredAlabama initiative to advance digital opportunity for the South-Central Alabama Black Belt region. Working to develop computing centers in each county to support development of digital skills.
The Pathfinder	Huntsville-based sober living facility offering career education and digital skills.
Thrive Regional Broadband Alliance – digital skills	Offers basic digital skills classes such as Broadband 101.
Troy University – online education program	Adult education certificates.

Asset name	Description
Tuscaloosa's One Place Workforce Development	Workforce development programs in partnership with Alabama Network of Family Resource Centers, A-RESET (Alabama Resources for Enrichment, Self-Sufficiency, and Employability Training), and Temporary Assistance for Needy Families (TANF).
United Way of East Central Alabama	Northstar Digital Literacy services: Assessments, Assessment certificates, Computer classes, Northstar Online Learning accounts for learning and practice.
United Way of East Central Alabama	Programs include health, education, youth development, financial stability, digital skills, access to essential services.
United Ways of Alabama	Coordination of programs across the 20+ regional and local United Ways throughout the state. Delivers A-RESET employability training program through United Ways and other organizations throughout the state.
University of Alabama – Culverhouse School of Accountancy – computer skills training	Adults of any age are encouraged to sign up and take classes. The adults will be paired with one university student who will teach them one-on-one.
University of Alabama – Osher Lifelong Learning Institute	Computer classes for senior citizen members. Residents of some facilities and housing complexes also can sign up through the actual facility for computer and phone tutoring.
University of West Alabama (UWA) – Leveraging Integrated Networks for Change and Sustainability (LINCS)	Project to develop a rural regional workforce in a 10-county service area across the Black Belt. Funded by a $2.5 million grant from the U. S. Department of Labor and the Delta Regional Authority. Has skills-on-wheels mobile equipment that goes to rural areas on rotating basis.
UWA – Black Belt Digital Initiative in 2023	To "enhance broadband access, capacity, and adoption and increase digital skills in Sumter and Greene Counties through a collaborative partnership." Received a $1.7 million NTIA Connecting Minority Communities grant to hire a program coordinator (with IT technician and assistant); procure computers and Zoom room equipment; deploy these in town halls, libraries, and chambers of commerce in towns in Sumter County; and provide training and digital skills training for community members who want to learn to use the equipment and for students at university.

3.3.3 Broadband affordability

ADECA continues to assess Alabama's broadband landscape and promote affordable broadband for residents and businesses.

A total of 355,757 households in Alabama were enrolled in the FCC's ACP, according to data from the Universal Service Administrative Company (USAC) as of June 14, 2023.[91] Only 38 percent of eligible households in Alabama were enrolled in ACP as of April 2023, according to the enrollment dashboard of the nonprofit EducationSuperHighway, but Alabama is nevertheless ahead of the national average in ACP adoption rate.[92]

As ADECA conducts outreach to each county in Alabama, it is learning of entities that are willing and able to provide ACP enrollment outreach. Additionally, Alabama's past subsidy programs, such as the successful ABC for Students program, a $50 million statewide initiative through which the state provided free internet access to more than 200,000 low-income students, have provided ADECA with valuable relationships and an understanding of available assets. During initial partner education and outreach meetings in each county, entities offered to support ACP outreach at the local, regional, and state level.

The table below Identifies a sampling of ISPs' discounted service and device programs for low-income subscribers and related broadband affordability assets in the state. These assets are available to all covered populations and underrepresented communities.

Table 9: Broadband affordability assets

Asset name	Description
Alabama Public Health Women, Infants and Children (WIC)[93]	Provides ACP outreach while providing critical services to low-income households.
Ardmore Telephone Company – ACP[94]	Participates in ACP, with plans starting at $54.95 per month for download speeds of 10 Mbps. Plans offering 300/300 Mbps for $89.90 are available in some areas.[95]
AT&T – ACP[96]	Offers up to 100 Mbps, where available, for $30 month (free after $30 ACP subsidy).
Brightspeed – ACP[97]	Households that qualify for ACP receive an additional $30 discount, supplementing the $30 discount for ACP. Brightspeed's plans cost $50 per month, no matter the speed.

[91] USAC, "ACP Enrollment and Claims Tracker: Enrollment by State," https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker/#enrollment-by-state.
[92] EducationSuperHighway, "Affordable Connectivity Program Enrollment Dashboard," https://www.educationsuperhighway.org/no-home-left-offline/acp-data/. The dashboard provides city-level enrollment data for 461 municipalities in Alabama.
[93] "Women, Infants and Children (WIC)," Alabama Public Health, https://www.alabamapublichealth.gov/wic/.
[94] ACP participation indicated by a representative of Ardmore Telephone Company via survey and could not be confirmed through online resources.
[95] "Ardmore Telephone Residential Internet," Ardmore Telephone Company, https://ardmore.net/internet/. Ardmore Telephone Company does not disclose upload speeds for these plans in its online resources.
[96] "Affordable Connectivity Program," AT&T, https://www.att.com/affordable-connectivity-program/.
[97] "Affordable Connectivity Program," Brightspeed, https://www.brightspeed.com/aboutus/community/lifeline/acp/.

Asset name	Description
Buzz Broadband (from the Covington Electric Cooperative) – ACP[98]	Participates in ACP, lowest priced tier is $59.95 per month for 200 Mbps.[99]
C Spire – ACP[100]	C Spire participates in ACP for both internet and cellular service; prices of internet service may vary by location.[101]
Cable TV of East Alabama (CTV Beam, R.M. Greene, Inc.)[102]	Participates in ACP; prices may vary by location.[103]
Charter Communications – Spectrum Internet for Low Income Households[104]	Spectrum offers up to 300 Mbps for $49.99 for 12 months, before charges and fees, and participates in the ACP program.[105]
Comcast – Internet Essentials[106]	Comcast Internet Essentials delivers speeds of up to 200 Mbps for $25.00 per month.[107] Households that subscribe to Internet Essentials can purchase a new Dell laptop or Chromebook for $149.99 plus tax.[108]
Coosa Valley Electric Cooperative (Coosa Valley Technologies) – ACP[109]	Participates in ACP, with plans starting at $59.99 for 300/300 Mbps.[110]
Farmers Telecommunications Cooperative – ACP	Participates in ACP[111] (and Lifeline)[112] and its lowest-priced internet service is 60 Mbps symmetrical for the eligibility-required Community Connect Plan at $50 per month.
Frontier Communications – ACP[113]	Offers Fiber 100 and "Frontier Essentials Internet" (speeds may vary), both free after $30 ACP credit.

[98] "Internet Bill Assistance," Buzz Broadband, https://buzzbroadband.com/internet-bill-assistance/.
[99] "Pricing Options," Buzz Broadband, https://buzzbroadband.com/for-home/internet/.
[100] "Affordable Connectivity Program Form," C Spire, https://www.cspire.com/cms/home-services/packages/affordable-connectivity-program-fiber/.
[101] "Home Services Bundle," C Spire, https://www.cspire.com/cms/home-services/packages/home-services-bundle/.
[102] "Affordable Connectivity Program BEAM Registration Form," Cable TV of East Alabama, https://form.jotform.com/211256347505149.
[103] "High-Speed Internet for All East Alabama," Cable TV of East Alabama, https://ctvbeam.com/internet/.
[104] "Spectrum Internet for Low Income Households," Spectrum, https://www.spectrum.com/internet/spectrum-internet-assist.
[105] "Spectrum Internet Plans," Spectrum, https://www.spectrum.com/internet/plans.
[106] Comcast, application for Internet Essentials plan, https://apply.internetessentials.com/
[107] "Internet Essentials," Comcast, https://www.xfinity.com/learn/internet-service/internet-essentials.
[108] "Low-Cost Computer," Comcast, https://internetessentials.com/low-cost-computer.
[109] ACP participation indicated by a representative of Coosa Valley Electric Cooperative via survey and could not be confirmed through online resources.
[110] "Our Services," Coosa Valley Technologies, https://connect.coosavalleytech.com/front_end/products.
[111] "What is the Affordable Connectivity Program (ACP)?" FTC, https://farmerstel.com/acp/.
[112] "Lifeline," FTC, https://farmerstel.com/lifeline/.
[113] "How you'll save on Frontier Internet with an ACP credit," Frontier, https://frontier.com/discount-programs/affordable-connectivity-program.

Asset name	Description
GoNetspeed – GoCommunity[114]	100/100 Mbps fiber is free after $30 ACP credit.
Hayneville Telephone Company (Camellia Communications) – ACP[115]	Participates in ACP, with plans starting at $39.95 per month for download speeds of 3 Mbps. Plans offering download speeds of 50 Mbps for $50.95 are available in some areas.[116]
Lit Communities – ACP[117]	Participates in ACP.
Mediacom Communications – ACP[118]	Offers Connect2Compete Plus (C2C+) tier for ACP households providing 100 Mbps download speeds for free after $30 ACP credit.
Micro-comm – ACP[119]	Participates in ACP[120]
Millry Communications – ACP[121]	Participates in ACP; prices of plans vary by location.
Mon-Cre Telephone Cooperative – ACP[122]	Participates in ACP, with plans starting at $42 per month for 25/25 Mbps.
New Hope Telephone Cooperative (NHTC) – ACP[123]	Participates in ACP; lowest priced service is 1 Gbps for $69.99 per month.[124]
Open Broadband – ACP[125]	Offers ACP, with the lowest priced service of $39.99 per month before fees for up to 50/5 Mbps.
Omnipoint Technology – ACP[126]	Participates in ACP, with lowest-priced service of $65 per month for 100/50 Mbps, with 300/300 Mbps available for $49.99 per month in some markets.[127]
Pea River Electric Cooperative – ACP[128]	Participates in ACP; prices of plans may vary by location.[129]

[114] "GoCommunity," GoNetSpeed, https://www.gonetspeed.com/about/gocommunity-program/.
[115] "Residential Fiber & Broadband Plans," Camellia Communications, https://camelliacom.com/broadband/.
[116] Camellia Communications does not disclose upload speeds for these plans in its online resources. Camellia Communications, https://camelliacom.com/broadband/.
[117] Information provided by a representative of Lit Communities via survey and could not be confirmed through online resources.
[118] "Affordable Connectivity Program," Mediacom Communications, https://mediacomcable.com/acp/.
[119] Information provided by a representative of Micro-comm via survey and could not be confirmed through online resources.
[120] "Internet," Micro-comm, http://www.micro-comm.com/internet.php.
[121] Information provided by a representative of Millry Communications via survey and could not be confirmed through online resources.
[122] "Internet," Mon-Cre, https://www.mon-cre.net/internet/.
[123] "What is the Affordable Connectivity Program (ACP)?" NHTC, https://nhtc.coop/acp-program/.
[124] "Fiber Fast Internet Packages," NHTC, https://nhtc.coop/broadband-internet/.
[125] Information provided by a representative of Open Broadband via survey and could not be confirmed through online resources.
[126] "ACP: Do I Qualify?," Omnipoint, https://omnipointbroadband.com/do-i-qualify/.
[127] "Plans," Omnipoint, https://omnipointbroadband.com/packages-2/.
[128] Participation indicated by a representative of Pea River Electric Cooperative via survey and could not be confirmed through online resources.
[129] "Pea River Broadband," Pea River Electric Cooperative, https://broadband.peariver.com/.

Asset name	Description
Point Broadband – ACP[130]	Offers ACP; prices of plans vary by location.[131]
Riviera Utilities – EBB[132]	Participated in the Emergency Broadband Benefit Program, a precursor to ACP, and its lowest priced tier is 100 Mbps download/20 Mbps upload for $49.95 per month.[133]
Scottsboro Electric Power Board – ACP[134]	Participates in ACP, with services starting at $39.95 per month for 25/25 Mbps.
Sprout Fiber Internet (Cullman Electric Cooperative) – ACP[135]	Participates in ACP; prices of plans vary by location.[136]
TDS – ACP[137]	Participates in ACP; prices of plans vary by location.[138]
TEC (National Telephone of Alabama, Inc.) – ACP[139]	Participates in ACP; prices of plans vary by location.[140]
Weiss Internet – ACP[141]	Participates in ACP. Residential service begins at 3/1 Mbps for $55 per month.
Windstream (Kinetic) – ACP[142]	Participates in ACP; prices of plans vary by location.[143]
Wow! Internet – ACP[144]	Internet 100 service can be free after $30 ACP credit.

The state was a pioneer in addressing the broadband affordability issue at the start of the Covid-19 pandemic—quickly establishing a statewide program to ensure low-income households with school-age children would not be prevented from accessing broadband due to financial constraints.

[130] "Affordable Connectivity Program," Point Broadband, https://www.point-broadband.com/acp.
[131] "Ultra-Fast Internet for the Speed of Life," Point Broadband, https://www.point-broadband.com/services/internet.
[132] "Emergency Broadband Benefit Program," Riviera Utilities, https://www.rivierautilities.com/newsroom/emergency-broadband-benefit-program.
[133] "Internet & Cable TV Services," Riviera Utilities, https://www.rivierautilities.com/services/internet#rates.
[134] "Residential Internet Packages," Scottsboro Electric Power Board, https://www.sepb.net/home/home-internet/.
[135] "Sprout Residential," Cullman Electric Cooperative, https://cullmanec.com/sprout-residential.
[136] "Check Availability," Cullman Electric Cooperative, https://cullmanec.com/check-sprout-availability.
[137] "Affordable Connectivity Program," TDS, https://tdstelecom.com/information/affordable-connectivity-program.html.
[138] "High-Speed Internet Plans," TDS, https://tdstelecom.com/shop/internet-services/high-speed-internet-plans.html.
[139] "Affordable Connectivity Program," TEC, https://www.tec.com/promotions/affordable-connectivity-program.
[140] "Residential Internet," TEC, https://www.tec.com/residential/internet.
[141] Information provided by a representative of Weiss Internet via survey and could not be confirmed through online resources.
[142] "Apply for the Affordable Connectivity Program," Windstream, https://www.windstream.com/affordable-connectivity-program.
[143] Windstream, click on "residential," https://www.windstream.com/.
[144] "WOW! Affordable Connectivity Program," Wow!, https://www.wowway.com/affordable-connectivity-program.

ABC for Students was a first-of-its-kind program with a remarkable set of outcomes. Significant elements of the program's structure have been replicated in other states, including Georgia, Delaware, and New Mexico.

ABC for Students provided broadband funding for the entire 2020–2021 school year. As the subsidy funding came to an end in June 2021, the program's call center remained open through August and actively helped families transition from the ABC for Students program to the FCC's Emergency Broadband Benefit (EBB) program (now the ACP), which offered a similar monthly subsidy for broadband service.

The ABC for Students call center worked with ISPs and families to enable a smooth transition from the state's program to the federal program—and to ensure that Alabama's families continued to receive service. The program helped more than 2,000 families enroll in the EBB program.

3.3.4 Broadband access

The following table identifies examples of broadband assets that either provide direct access to services for end users, such as public Wi-Fi networks and cellular connectivity (mobile broadband), or assets that facilitate last-mile applications and public networks. (Note that open-access middle-mile networks are listed previously in Table 7.) These assets are available, or will be available upon project completion, to all covered populations/underrepresented communities either directly or by facilitating projects that will support access to covered populations/underrepresented communities.

Table 10: Broadband access assets

Asset name	Description
AT&T cellular service (mobile broadband)	AT&T delivers cellular connectivity (mobile broadband) throughout most of Alabama.
T-Mobile cellular service (mobile broadband)	T-Mobile delivers cellular connectivity (mobile broadband) throughout most of Alabama.
Verizon Wireless cellular service (mobile broadband)	Verizon Wireless delivers cellular connectivity (mobile broadband) throughout most of Alabama.
APLS	Many Alabama libraries offer after-hours Wi-Fi in their parking lots and several libraries also offer hotspots to go.[145]
NTIA Connecting Minority Communities Pilot Program: Alabama State University	Federal grant awarded in 2023 to expand broadband internet access and provide extended wireless network coverage to campus locations with limited, unreliable, or no wireless access; provide the surrounding community with an innovative digital technology center to provide residents with access to both digital technologies and digital navigation services.

[145] "Alabama Hotspot Lending Program," APLS, https://apls.libguides.com/hotspot; Northwest Alabamian, "Need free WiFi for a week? Visit your local library," January 25, 2022, https://mynwapaper.com/node/10439.

Asset name	Description
NTIA Connecting Minority Communities Pilot Program: H Councill Trenholm State Community College	The Connecting Montgomery project aims to strengthen Trenholm's ability to serve its students and improve digital opportunity for thousands of others in its community. The project will expand and strengthen the broadband and IT capacity of the College and its key partner, Mercy House, a community-based non-profit that is working to improve the lives of those living in West Montgomery, Alabama.
NTIA Connecting Minority Communities Pilot Program: Stillman College	Federal grant awarded in 2023 to (1) install a fiber optic broadband network on campus; (2) install a new wireless infrastructure for the campus and local community; and (3) purchase devices for student use in remote learning situations for dual enrollment students at area high schools
NTIA Connecting Minority Communities Pilot Program: Talladega College	Federal grant awarded in 2023 to create a broadband network that will provide internet services across the college's campus and extend into the city of Talladega and portions of Talladega County.
Public Wi-Fi	Some cities in Alabama provide free public Wi-Fi, such as the City of Athens[146] and the City of Mountain Brook.[147]

3.3.5 Digital opportunity

This section identifies digital opportunity assets in Alabama, including workforce development training and employment services related to broadband adoption; technical assistance programs aimed at supporting digital opportunity; and nonprofits, partnerships, and coalitions that work toward digital opportunity. Table 11 lists representative digital opportunity assets; a complete list can be found in Appendix A.

Table 11: Digital opportunity assets

Asset name	Description
Alabama Alliance for Students with Disabilities, Alabama State University – various programs	Works to increase the opportunities in STEM education for students with disabilities.[148]
Alabama Area Agencies on Aging – various programs	Thirteen regional area agencies on aging, some of which are part of regional councils of government, provide a range of programs for seniors including computer skills.[149]

[146] "Public Wi-Fi," Athens, Alabama, https://www.athensalabama.us/308/Public-Wi-FI.
[147] "Free WIFI Available," City of Mountain Brook, https://www.mtnbrook.org/cmo/page/free-wifi-available.
[148] "Alabama Alliance for Students With Disabilities," Alabama State University, https://www.alasu.edu/academics/researchcenters/alabama-alliance-students-disabilities.
[149] "Alabama Area Agencies On Aging (By Region)," Area Agency on Aging of West Alabama, https://www.westalabamaaging.org/alabama-area-agencies-on-aging.

Asset name	Description
Alabama Association of Housing & Redevelopment Authorities	Provides training to local housing authorities; maintains directory of 300+ housing authorities throughout the state. Some local housing authorities in the state offer programs in digital skills.[150]
Alabama Association of Regional Councils (AARC) – various programs	The 12 regional commissions and councils of government provide a variety of programs, including job training, financial counseling, youth leadership programs, veterans' programs, programs for seniors and other programs that may include digital skills and training.[151]
Alabama Career Center System – computer skills and workforce development	The system has 7 comprehensive career centers, 25 affiliate career centers, 7 satellite career centers, and 16 itinerant career centers located around the state. Provides online basic computer skills and business software skills and other workforce development resources.[152]
Alabama Community College System (ACCS) – Innovation Center and partnerships with local organizations for digital skills classes	The ACCS Innovation Center provides industry-recognized non-credit training. ACCS provides adult education technical and workforce development programs. Senior service organizations can partner with ACCS to teach classes at senior centers and town halls. Leverages World Education digital skills programs.[153]
Alabama Cooperative Extension System	Primary outreach and engagement organization for the land-grant mission of Alabama A&M University and Auburn University in cooperation with Tuskegee University. Provides range of programs in each county through state and online courses including computer science skills, personal finance, and workforce development.[154]
Alabama Cooperative Extension System – 4H Tech Changemakers	Program places youth in leadership positions by training them to teach digital skills to underserved audiences. Provides computer and internet basics, email fraud and scam prevention, searching for online information and jobs, and using tools and templates to develop resumés.[155]
Alabama Department of Human Resources (DHR) – County Field Representatives	County field representatives are primary point of contact to families that receive assistance for government services and are in a unique position to communicate about ACP and other broadband access subsidies, digital opportunity, and workforce

[150] "Housing Authority Directory," Alabama Association of Housing & Redevelopment Authorities, https://www.aahra.org/hadirectory.
[151] "Programs," AARC, https://alarc.org/programs/.
[152] "Alabama's Career Center Services," Workforce Innovation & Opportunity Act | Alabama, https://wioa-alabama.org/career-services.
[153] See, e.g., "Fiber Optics," Wallace Community College, https://www.wallace.edu/programs-training/fast-track-workforce-development-training-programs/fiber-optic-training/.
[154] Alabama Cooperative Extension System, https://www.aces.edu/blog/category/counties/.
[155] Angela Williams, "Success Story: 4-H Tech Changemakers," Alabama Cooperative Extension System blog, March 28, 2023, https://www.aces.edu/blog/topics/about-us/success-story-4-h-tech-changemakers/.

Asset name	Description
	training programs that may be available to covered populations.[156]
Alabama Department of Veterans Affairs – various programs, telehealth	Assists veterans in obtaining benefits and healthcare, including telehealth, through resources in each county throughout the state.[157]
Alabama Institute for the Deaf and Blind (AIDB) – assistive technology, digital skills, and computer skills programs	Opportunities for students to earn Northstar Digital Literacy certifications. Assistive Technology classes are for each student's individual needs. Training and instruction are offered relating to the use and care of equipment and devices, such as pagers, videophones, vibrating alarms, doorbell flashers, etc. The Computer Skills program prepares students with skills to obtain entry-level office technology, computer support, and/or Web technology positions. AIDB has 10 regional centers located in Birmingham, Decatur, Dothan, Huntsville, Mobile, Montgomery, Opelika, Shoals, Talladega, and Tuscaloosa which extend the program offerings throughout the state.[158]
Alabama Network of Family Resource Centers	Partners with community colleges. Centers offer case management, support, and help to overcome barriers like transportation and childcare. Provides workforce training, access information to families, and internet skills classes to children and adults.
APLS – "Get the Internet to Go"	Addresses the Digital Divide in many of Alabama's most underserved rural communities by providing mobile hotspots to select Alabama public libraries. (1) Empowers public libraries in areas of low household broadband connectivity, which are often poor and rural counties, to serve a need made all the more urgent by the Covid-19 pandemic and (2) Empowers local libraries in these communities to proactively maintain a lifeline to online information in the event of additional Covid-19 closures or a future crisis, whether disease or natural disaster, by enabling the circulation of mobile hotspots to patrons.[159]
APLS – services for the blind and physically disabled	APLS is a network member of the National Library Service (NLS) for the Blind and Print Disabled, a division of the Library of Congress. The Regional Library for the Blind and Physically Disabled is a free braille and talking book library service for people with temporary or permanent low vision, blindness, or physical, perceptual, or reading disability that prevents them from using regular print materials. The Regional Library circulates books and magazines in braille or audio formats that

[156] "County Office Contacts," DHR, https://dhr.alabama.gov/county-office-contact/.
[157] "Find Your Veterans Service Office," Alabama Department of Veterans' Affairs (ADVA), https://va.alabama.gov/serviceofficer/.
[158] "General Services," AIDB, https://www.aidb.org/Page/281.
[159] "Alabama Hotspot Lending Program: Home," APLS, https://apls.libguides.com/hotspot/.

Asset name	Description
	are instantly downloadable to a personal device or delivered by mail free of charge.[160]
APLS – various programs	APLS supports a network of nearly 300 local and regional libraries throughout the state. APLS fosters the ongoing professional development of library staff throughout Alabama, enabling them to be well-informed and competent to provide quality services to their constituencies. Homework Alabama provides statewide access to Learning Express databases.[161]
Arc of Alabama, The	Non-profit, volunteer-based membership organization whose primary role is to advocate for the rights and protections of people with intellectual and developmental disabilities (I/DD) and their families. This advocacy is provided through Information and Referral services, educational opportunities like the annual Alabama disABILITY Conference, and public policy initiatives.[162]
Bishop State Community College (an HBCU) – workforce development programs	Adult education and training courses, including the General Educational Development (GED) diploma, designed to be equivalent to a high school diploma, as well as the following telecommunications-relevant certifications: OSHA 10, OSHA 30, and Northstar Digital Literacy.[163]
Black Belt Community Foundation	Working with Google to provide digital skills programs to advance economic opportunity for people impacted by incarceration.[164]
Black Churches 4 Digital Equity	Developed toolkit to help Black church leaders spread the word in their communities about the ACP, encourage members of their congregations to sign up, and effectively advocate for digital opportunity.
Community Action Association of Alabama (CAA) – ACP support	Statewide association of member community action agencies that offer range of programs for low-income individuals and families. Received funding for ACP awareness campaign.[165]
Community Service Programs of West Alabama, Inc. Digital Navigators	National Digital Navigator Corps awardee. Founded in 1967, provides resources and services which resolve immediate needs and leads to long-term self-sufficiency for low-income and

[160] "Library for the blind," APLS, https://aplsws2.apls.state.al.us/library-for-the-blind/.
[161] "About Us," APLS, https://aplsws2.apls.state.al.us/about-us/.
[162] The Arc of Alabama, http://thearcofal.org/; Alabama disABILITY Conference, https://www.aldisabilityconference.org/.
[163] "Adult Education & Workforce Development," Bishop State Community College, http://catalog.bishop.edu/content.php?catoid=11&navoid=617.
[164] "Black Belt Community Foundation Joins Google Program to Offer Digital Skills Training for People Impacted by Incarceration," Black Belt Community Foundation, November 18, 2022, https://blackbeltfound.org/news/black-belt-community-foundation-joins-google-program-to-offer-digital-skills-training-for-people-impacted-by-incarceration/.
[165] CAA, https://caaalabama.org/.

Asset name	Description
	vulnerable populations.[166] Plans to expand digital navigator program in West Alabama.
Equal Justice Initiative (EJI)	Works with communities marginalized by poverty and discouraged by unequal treatment. Provides research and recommendations to assist advocates and policymakers in criminal justice reform.[167]
Gadsden State Community College (an HBCU) – services for veterans	Computer skills training and an individual action plan for each veteran served, via its Veterans Upward Bound program.[168]
Governor's Office of Volunteer Services	Works to increase the ethic of service and volunteerism in Alabama, strengthen the capacity of Alabama's faith and community-based organizations, and promote collaboration among individuals and organizations striving to meet some of the greatest needs in our state, including education, health care, substance abuse, homelessness, and maintaining a healthy environment. Administers ReadyAlabama.gov, a statewide initiative promoting disaster preparedness events and messaging across Alabama.[169]
Hispanic Interest Coalition of Alabama – various programs	Community development and advocacy organization that champions economic equality, civic engagement, and social justice for Latino and immigrant families in Alabama.[170]
Housing Authority of the Birmingham District – Your Home, Your Internet	Pilot program aimed at providing ACP outreach and application assistance to eligible households. Received funding from FCC in 2023.[171]
Low Income Housing Coalition of Alabama (LIHCA)	Increases housing opportunities for Alabamians with the greatest financial need.[172]
Mercy House – various programs	Operates MAP Center for Excellence for career guidance, adult education, and family services. Partnered with Trenholm State Community College.[173]
National Center for Women in Technology – digital skills	Provides digital skills training programs for women.[174]

[166] "NDIA's National Digital Navigator Corps in Rural & Tribal Communities," National Digital Inclusion Alliance, https://www.digitalinclusion.org/digital-navigator-corps/.
[167] "About EJI," EJI, https://eji.org/about/.
[168] "Veterans Upward Bound," Gadsden State Community College, https://www.gadsdenstate.edu/students/vub.cms.
[169] Alabama Governor's Office of Volunteer Services, https://www.servealabama.gov/; Ready Alabama, https://www.readyalabama.gov/.
[170] "About ¡HICA!" HICA, https://hicaalabama.org/en/about-us.
[171] "Consumer and Governmental Affairs Bureau and Wireline Competition Bureau announce ACP Pilot Program Grants Target Funding," FCC, March 15, 2023, https://docs.fcc.gov/public/attachments/DA-23-219A1.pdf.
[172] LIHCA, https://lihca.org/.
[173] Mercy House and Map, https://www.mercyhousemgm.org/.
[174] "Search Results for: Alabama," NCWIT, https://ncwit.org/?s=alabama.

Asset name	Description
Randolph County Economic Development Authority – digital skills training	Received funding from Microsoft Philanthropies to launch the Community Skills Initiative Alabama Region program. A suite of online training and resources, accessed through the Community Skills Initiative Alabama website, offers access to free online digital skills training courses.[175]
Shelton State Community College (an HBCU) – workforce development programs	Provides GED, Northstar Digital Literacy Certificate, and English as a Second Language programs.[176]
Tennessee Valley Authority – Connected Communities	The Tennessee Valley Authority (TVA), which operates in northern counties in the state, has identified broadband and digital skills as a focus area for the organization through its "Connected Communities" initiative.[177] In 2022, TVA released a "Broadband Solutions Implementation Guide" to support local governments and power companies within its service area in implementing connected community solutions and a "Broadband Funding Guide" that provides an overview of available state and federal funding.[178]
Thrive Regional Broadband Alliance – digital skills	Thrive is a cross-sector partnership framework where partners can share ideas and resources related to digital access and opportunity, build empathy, and spark connections across organizations and county and state lines. Offers basic digital skills classes such as Broadband 101.[179]
United Ways of Alabama – various programs	Coordinates programs across the 20+ regional and local United Ways throughout the state. Delivers A-RESET employability training program through United Ways and other organizations throughout the state.[180]

[175] "Randolph County Economic Development Authority," Community Skills Initiative, https://www.communityskilling.org/partner/rceda; Jerry Underwood, "Microsoft taps Randolph County to lead digital skills initiative in Alabama," Made In Alabama, October 13, 2022, https://www.madeinalabama.com/2022/10/microsoft-taps-randolph-county-to-lead-digital-skills-initiative-in-alabama/.
[176] "Adult Education," Shelton State Community College, https://www.sheltonstate.edu/instruction-workforce-development/adult-education/. See also, "Shelton State Adult Education Online Cycles Set to Begin," WVUA23, May 21, 2020, https://www.wvua23.com/shelton-state-adult-education-online-cycles-set-to-begin/ ("These online classes are free, and focus on topics such as digital literacy, workplace skills and GED preparation.").
[177] "Connected Communities," Tennessee Valley Authority, https://www.tva.com/energy/technology-innovation/connected-communities.
[178] "Broadband Solutions Implementation Guide," Tennessee Valley Authority, https://www.tva.com/energy/technology-innovation/connected-communities/broadband-solutions-implementation-guide; "Broadband Funding Guide," Tennessee Valley Authority, https://tva-azr-eastus-cdn-ep-tvawcm-prd.azureedge.net/cdn-tvawcma/docs/default-source/energy/technology-innovation/connected-communities/broadband-funding-guide-final85ca3ac7-96cb-42d4-9be0-24aeb0e5401b.pdf?sfvrsn=9df58a9_5.
[179] "Regional Broadband Alliance," Thrive Regional Partnership, https://www.thriveregionalpartnership.org/projects/regional-broadband-alliance.
[180] "Mission," United Ways of Alabama, https://www.unitedwaysofalabama.org/mission/.

Asset name	Description
University of Alabama – Culverhouse School of Accountancy – computer skills training	Adults of any age are encouraged to sign up and take classes. The adults will be paired with one University student who will teach them one-on-one.[181]
University of West Alabama – Black Belt Digital Initiative in 2023	Goal is to "enhance broadband access, capacity, and adoption and increase digital skills in Sumter and Greene Counties through a collaborative partnership." Received a $1.7 million NTIA Connecting Minority Communities grant to hire a program coordinator (with IT technician and assistant), procure computers and Zoom room equipment, deploy these in town halls, libraries, and chambers of commerce in towns in Sumter County, and provide training and digital skills training for community members who want to learn to use the equipment and for students at university.[182]
University of West Alabama – Leveraging Integrated Networks for Change and Sustainability (LINCS)	Project to develop a rural regional workforce based on industry-recognized credentials and need to strengthen the economy and population in West Alabama in a 10-county service area across the Black Belt. Funded by a $2.5 million grant from the U. S. Department of Labor and the Delta Regional Authority. Has skills-on-wheels mobile equipment that goes to rural areas on rotating basis.[183]
Walker Area Community Foundation	Grassroots organization partnered with more than 100 nonprofits. Many partners provide the social-safety network of their service area: children/youth, education, health, arts and humanities, and social welfare programs.[184]

3.4 Needs and gaps assessment

Over the last decade, Alabama has pioneered best practices and strategies for addressing needs and gaps in broadband deployment and digital opportunity. With support from Alabama Governor Kay Ivey and the Alabama Legislature, the state has made significant progress in addressing these. In addition, ADECA conducted outreach to numerous state and local organizations, as well as ISPs providing service in the state, to listen and understand their specific needs.

[181] "Computer & Phone Skills Training," Culverhouse School of Accountancy, University of Alabama, https://lift.culverhouse.ua.edu/classes/computer-skills-training/.
[182] "Digital Equity Coordinator for Black Belt Digital Institute," UWA, Current Openings, May 1, 2023, https://www.uwa.edu/about/universitydepartments/employment/currentopenings/cmcdigitalequitycoordinator.
[183] Phillip Tutor, "UWA puts wheels under skills training, career exploration," UWA, November 2021, https://www.uwa.edu/news/dewd/skillsonwheelsNov2021.
[184] "Walker Area Community Foundation," https://www.wacf.org/.

For example, in 2022, prior to the IIJA, ADECA met with the APLS, Thrive Regional Partnership, the Alabama Supercomputer Authority, the Alabama Cable and Broadband Association, Alabama Rural Electric Association of Cooperatives, Alabama Power, the Alabama League of Municipalities, the Association of County Commissions of Alabama, the Alabama Hospital Association, AARP of Alabama, the Alabama Department of Education, and the Community Action Association of Alabama.

ADECA collected information on their roles in providing broadband or needs in receiving broadband, networks owned or leased, services offered or used, funding offered or acquired, and their Covid-19 response or needs. ADECA also met with several ISPs to understand their barriers to deployment, collect feedback on the state broadband program, and discuss the Alabama Broadband Map. These partners, and more, are listed in Section 3.2 Partnerships.

Presently, ADECA has conducted on-site meetings in each of the 67 counties in the state, interacting with county and local governments, ISPs, nonprofits, and other potential partners that have an important and constructive role in achieving the Plan's goals and objectives described in Section 2. ADECA has synthesized the information collected during these meetings with other data to create county-focused profiles. These profiles were shared with the counties through a series of 67 virtual meetings held during July and August. The profiles are currently available on the newly launched Be Linked Alabama website (https://broadband.alabama.gov/).

Additional descriptions of needs and gaps identified through the state's outreach efforts are included in Appendix C: Needs and gaps identified through engagement.

3.4.1 Broadband deployment

Based on the FCC National Broadband Map data[185] and federal and state broadband deployment grants, internet service availability at 100/20 Mbps or higher in Alabama is 87.8 percent, based on a total of 2,177,600 addresses:

- 191,164 addresses unserved – below 25/3 Mbps (approximately 8.8 percent of the total)
- 75,044 addresses underserved – 25/3 Mbps or higher but below 100/20 Mbps (approximately 3.4 percent of the total)
- 1,911,392 addresses served – 100/20 Mbps or higher (approximately 87.8 percent of the total)

Figure 1 shows all federal and state broadband deployment grant project areas either planned or under construction.

[185] National Broadband Map, May 30, 2023, plus V2 fabric data.

Figure 1: Federal and state grant areas

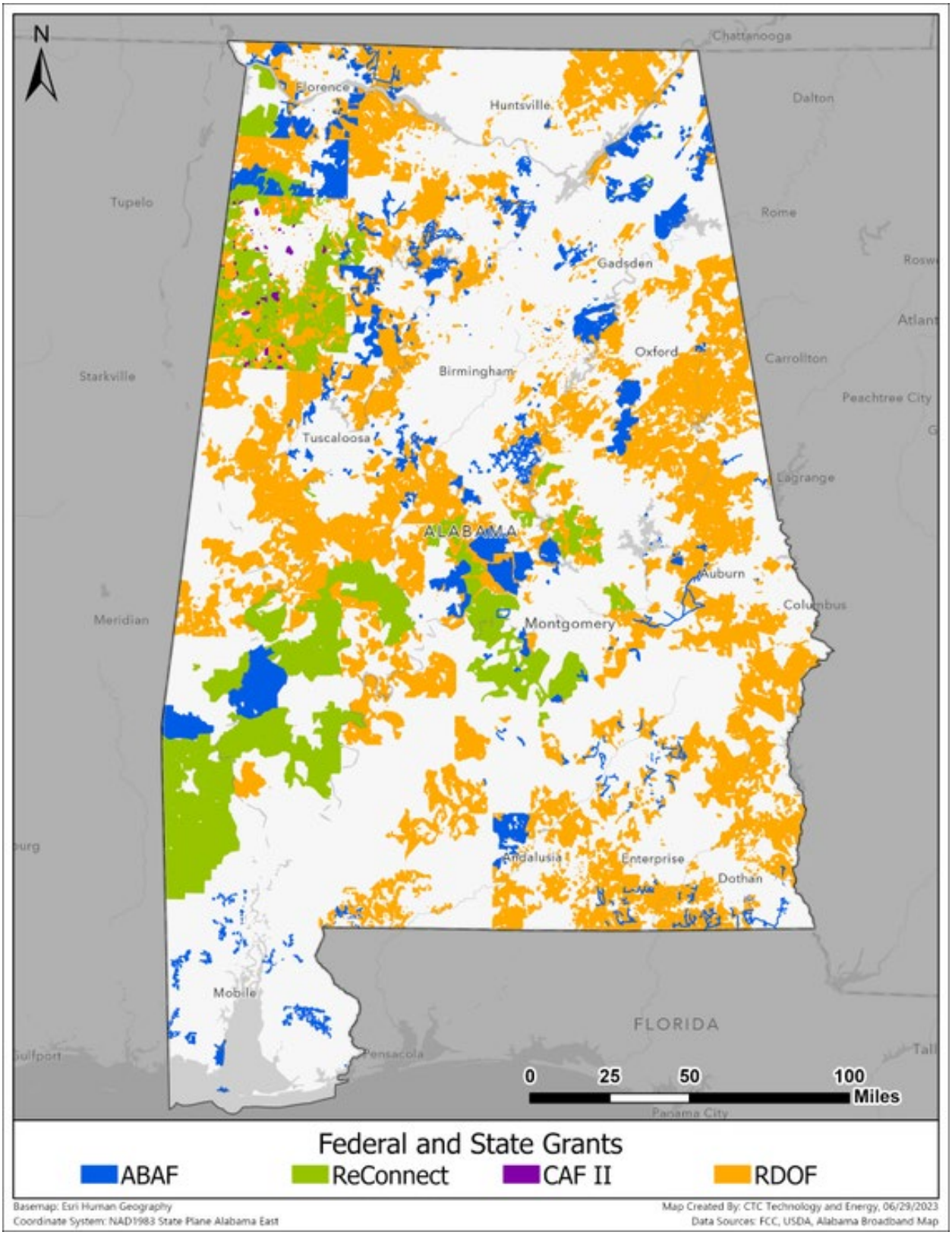


Figure 2 shows unserved locations per census block after considering all current and planned broadband infrastructure projects in the state.

Figure 2: Percent of unserved locations after grants

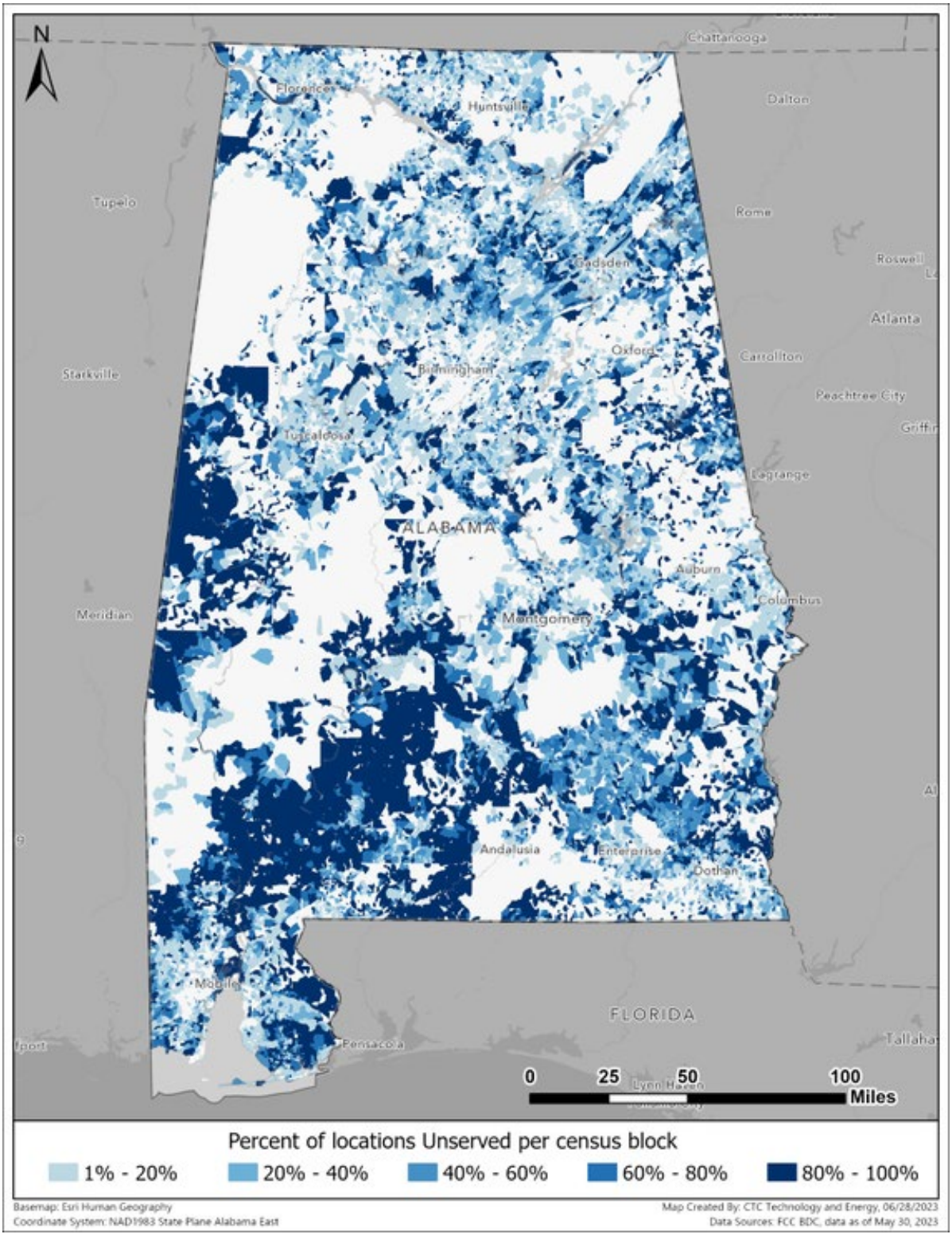


Figure 3 shows underserved locations per census block after considering all current and planned broadband infrastructure projects in the state.

Figure 3: Percent of underserved locations after grants

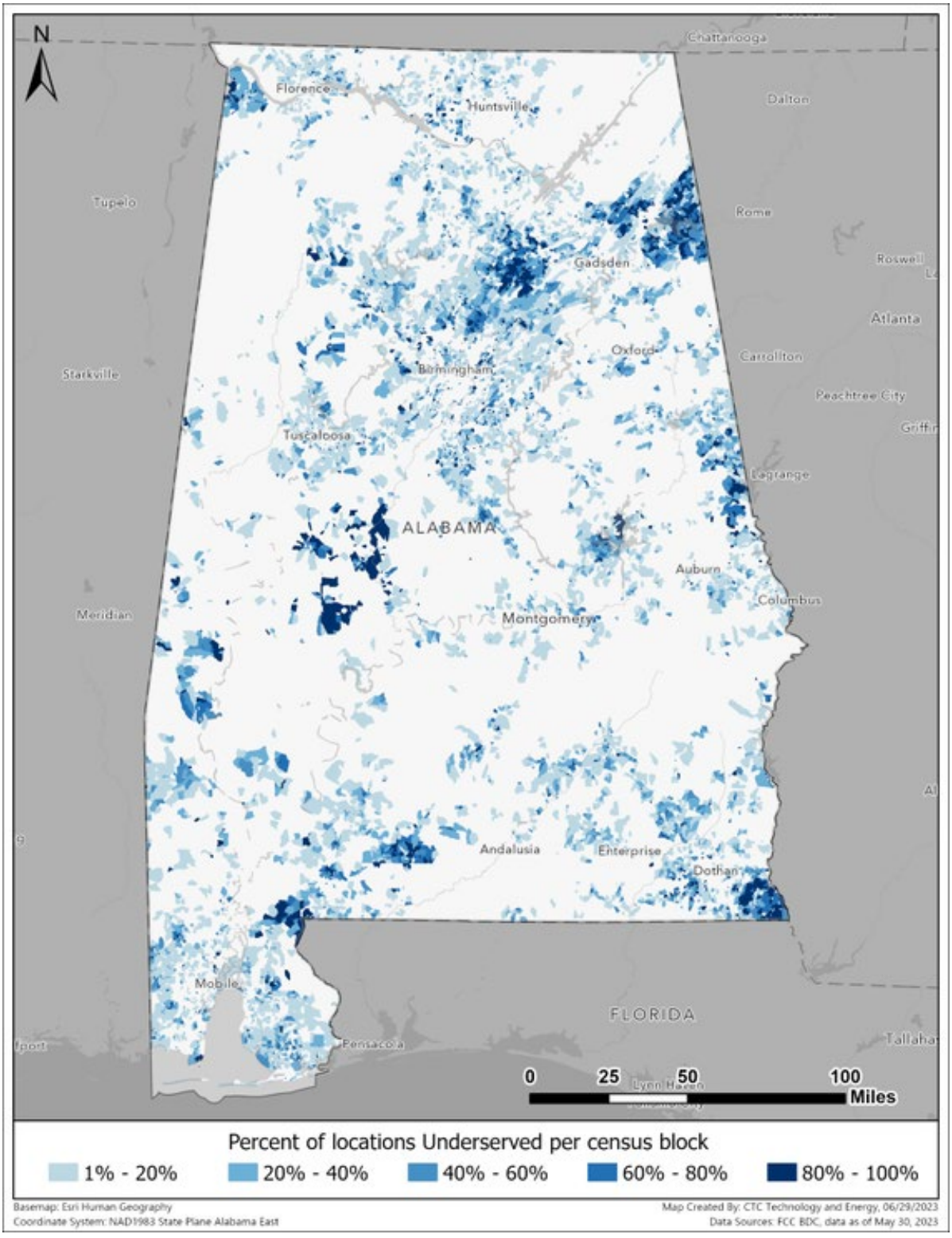
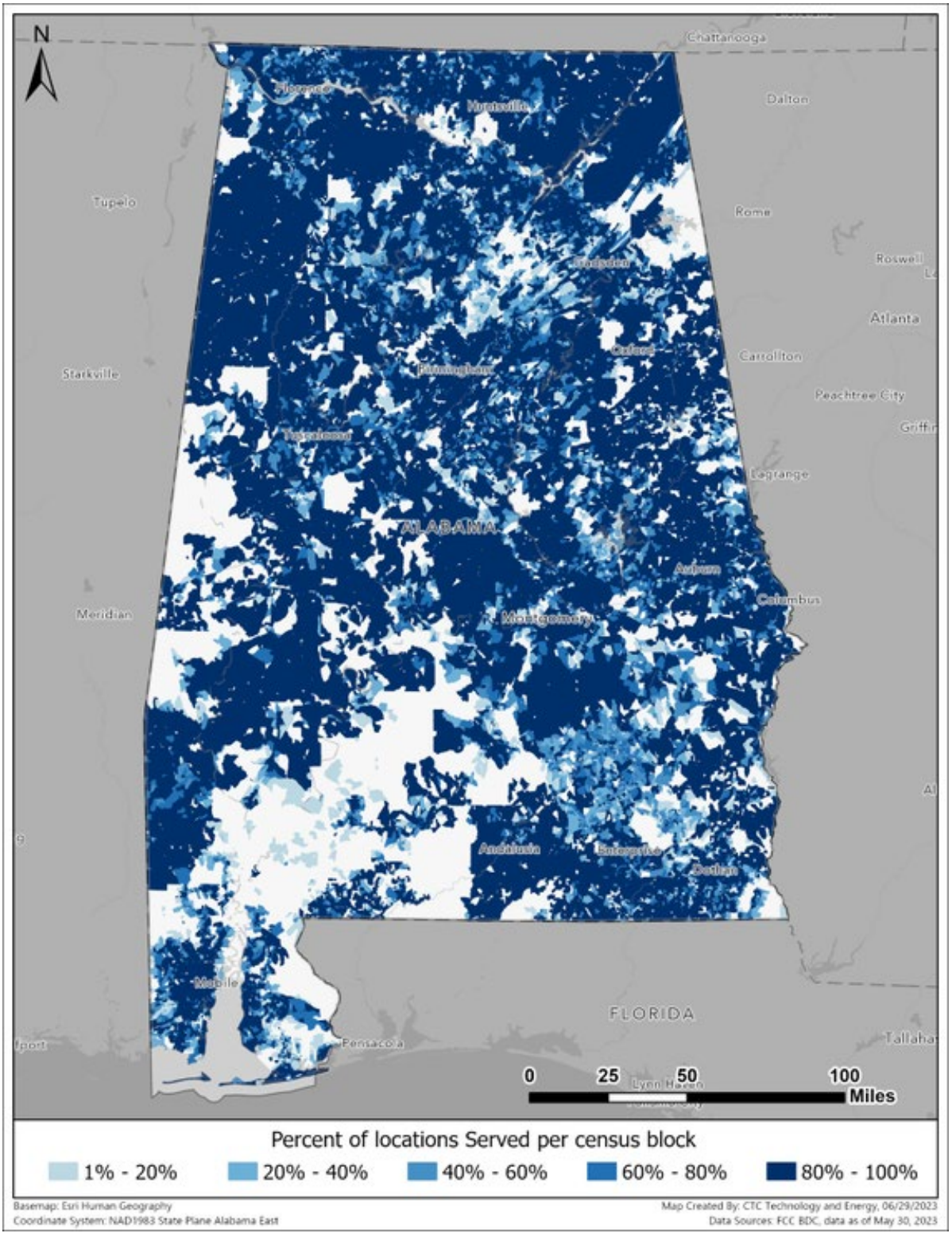


Figure 4 shows served locations per census block after considering all current and planned broadband infrastructure projects in the state.

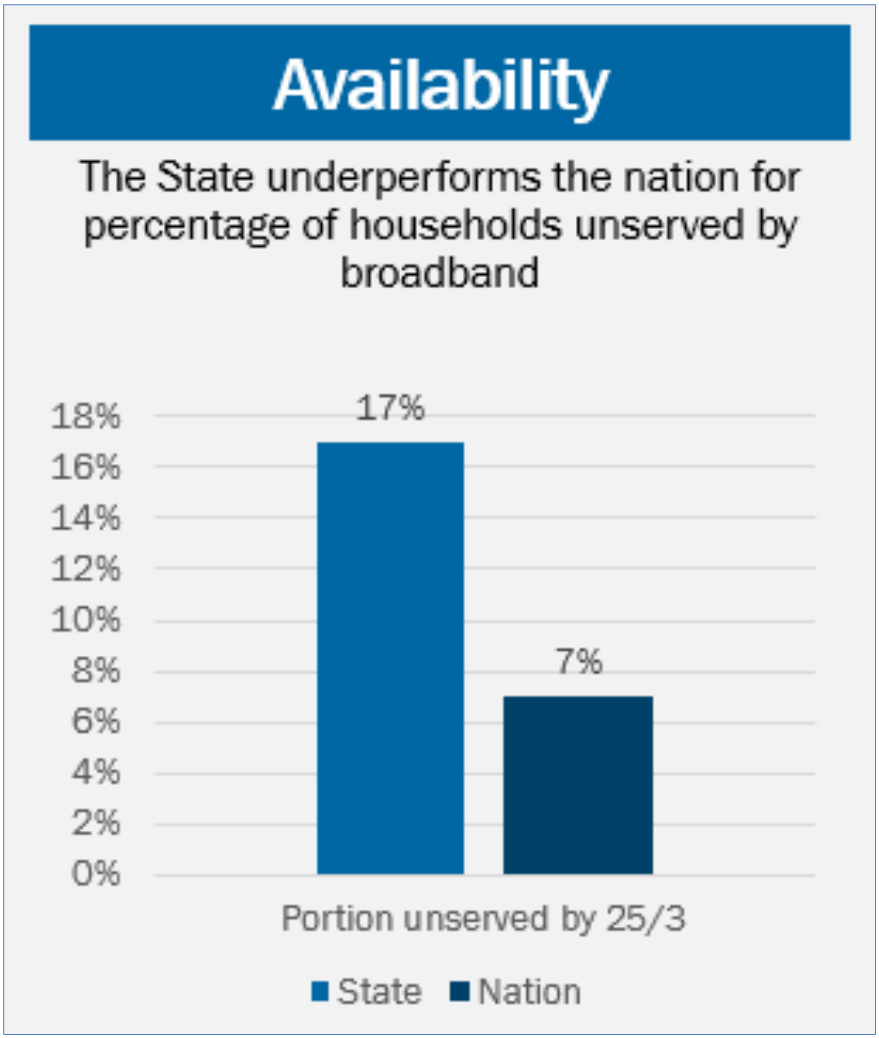
Figure 4: Percent of served locations after grants



Alabama's broadband gaps are caused, at least in part, by the geographic and economic challenges of rural areas. Most of these rural areas are sparsely populated and, in many, over 20 percent of people are living in poverty.

Based on the 2023 Alabama Broadband Map and FCC National Broadband Map, ACP enrollment, and 2021 American Community Survey data, Alabama is 10 percent above the national average in percentage of households unserved by broadband.

Figure 5: Alabama availability compared to national average



The next two figures highlight the correlation between low incomes and a lack of digital access.

Figure 6 indicates that the largest numbers of unserved households lie in the $28,000-$46,000 income range (nearly 70,000) and $46,000-$66,000 income range (nearly 90,000), compared to less than 30,000 unserved locations in income ranges over $66,000.

Figure 6: Unserved locations per median household income

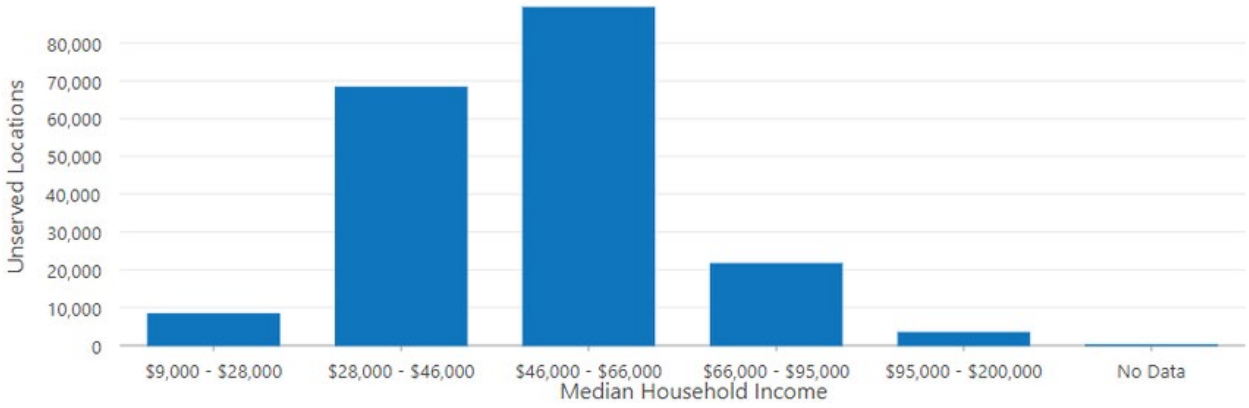
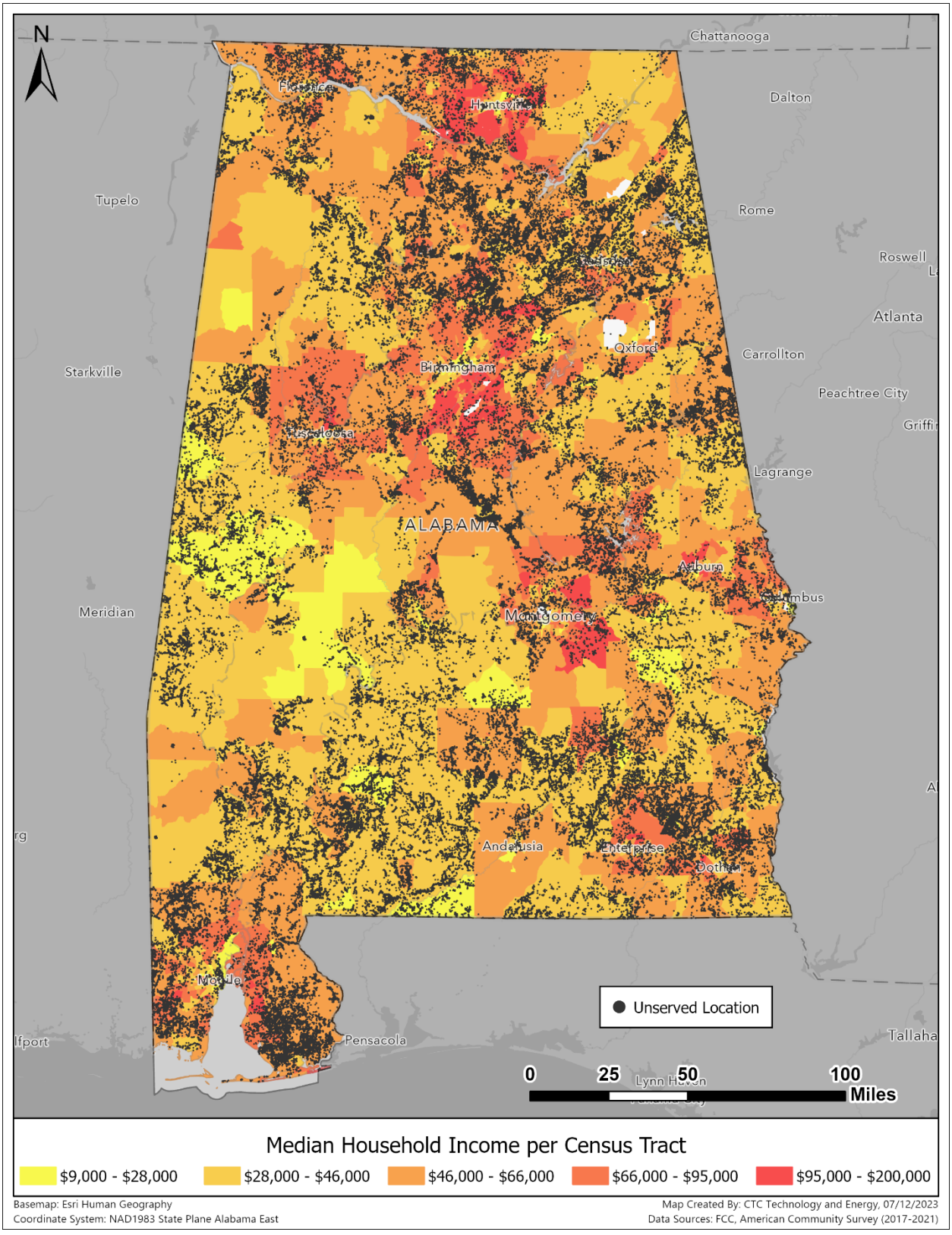


Figure 7 shows median household income per census tract overlaid with unserved locations. The figure highlights that unserved locations (black dots) tend to be areas with lower income levels.

Figure 7: Median household income per census tract and unserved locations

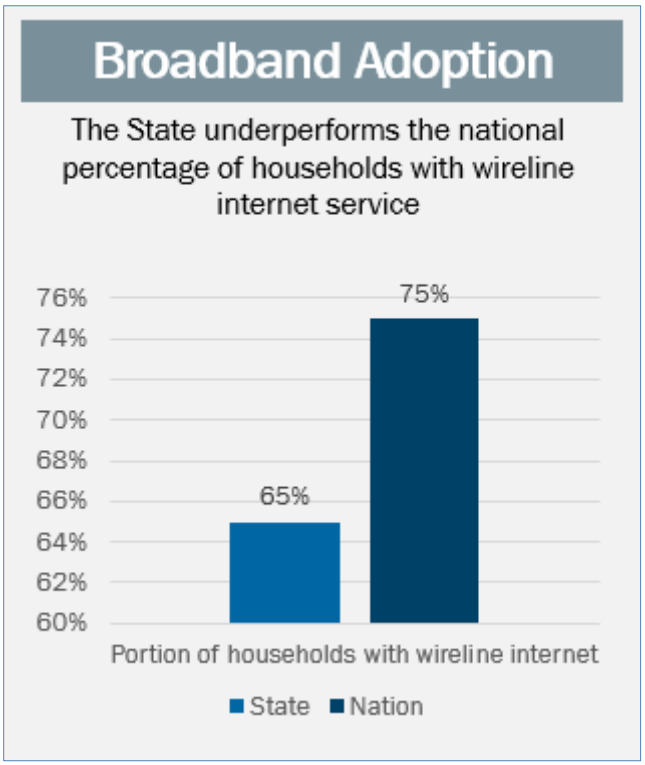


3.4.2 Broadband adoption

Even where broadband infrastructure and services are available, they may not be adopted by all members of the community. A complex combination of factors—including affordability, device access, digital skills, and language barriers—can inhibit use of broadband for internet access services, to the detriment of both economic and community development. Figure 8 shows that Alabama is behind in broadband adoption relative to the rest of the country.

Based on the 2023 Alabama Broadband Map and FCC National Broadband Map, ACP enrollment, and 2021 American Community Survey data, Alabama is 10 percent below the national average in broadband adoption.

Figure 8: Alabama adoption compared to national average



3.4.3 Broadband affordability

According to a survey conducted for the Alabama Connectivity Plan, approximately 20 percent of Alabama households did not subscribe to broadband services, among the highest numbers in the Southeast region.[186] The most cited reason in the survey for not subscribing was cost. As a corollary, the survey also found that awareness of federal subsidy programs was relatively low (though higher than in many neighboring states). This suggests that a considerable opportunity

[186] "The Alabama Connectivity Plan," ADECA, https://adeca.alabama.gov/wp-content/uploads/Alabama-Connectivity-Plan.pdf, p.3.

exists to increase use of broadband among Alabama households through outreach programs that help low-income families to connect through new federal subsidy programs—to the benefit of the households, the state's public policy goals, and the ISPs that are paid by the federal government to serve those families.

In Alabama, 355,757 households were enrolled in the ACP as of June 2023,[187] representing approximately 40 percent of the 889,233 eligible households in the state, well above the national average for ACP enrollment.[188]

Table 12: Overview of Alabama household enrollment in ACP

	State	U.S.
Total enrollment (households)	355,757	18,680,554
Estimated eligible households	889,233	55,266,900
Portion of estimated eligible households enrolled	40.0%	33.8%

ADECA supports ACP enrollment[189] and plans to support partners that provide ACP enrollment because it recognizes the challenges that affordability presents to residents. Repeated studies have shown that for low-income households the leading barrier to service is cost, as described in further detail in Section 4.6.

In 2023, ADECA conducted a series of regional phone surveys regarding internet availability and use in preparation for this Plan and the Alabama Statewide Digital Opportunity Plan. The surveys show that lower-income households are more likely to have no computer at home.[190]

The same series of surveys found that lower-income households are more likely to subscribe to introductory plans costing $39 per month or less,[191] and less likely to pay $100 or more for internet service.[192]

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[187] "ACP Enrollment and Claims Tracker," USAC, https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker/#enrollment-by-state (accessed June 14, 2023).
[188] "Affordable Connectivity Program Enrollment Dashboard," EducationSuperHighway, https://www.educationsuperhighway.org/no-home-left-offline/acp-data/#dashboard (accessed June 14, 2023).
[189] "Affordable Connectivity Program," ADECA, https://adeca.alabama.gov/affordable-connectivity-program/.
[190] As illustrative examples, in Region 6, only six percent of households with an income of $100,000 or more lacked a computer, while 28 percent of households with an income below $50,000 lacked a computer. In Jefferson County, eight percent of households with an income of $100,000 or more lacked a computer, while 36 percent of households with an income below $50,000 lacked a computer.
[191] As an illustrative example, in Region 3, 24 percent of households with an income below $50,000 were paying $39 per month or less for internet service, while only five percent of households with an income of $100,000 or more were paying $39 per month or less.
[192] As an illustrative example, in Region 4, 17 percent of households with an income below $50,000 were paying $100 or more for internet service, while 41 percent of households with an income of $100,000 or more were paying $100 or more.

3.4.4 Broadband access

Those without broadband at home may be able to obtain broadband from public Wi-Fi or other public networks, but even where public internet access is available, Alabama residents may be unable to take advantage of it.

In numerous on-site county meetings, residents and community service organizations noted that some low-income households lacked access to transportation to a location that offered a public internet connection, such as the parking lot of a local library. In some rural Alabama communities, the distance from a home to a local library can be many miles.

Although less desirable due to slower speeds and data caps, cell service can provide access to the internet. However, some parts of Alabama do not have access to wireline (fiber, cable, DSL), fixed wireless, *or* mobile wireless service. During one of the outreach sessions, Alabama Department of Human Resources (DHR) representatives stated that DHR field personnel must fill out paper applications with clients they serve during household visits where no cellular service is available and then complete paperwork when they return to the office.

During the outreach meetings in counties throughout the state, ADECA also heard from community leaders and representatives from Anchor Institutions who stated that not all Anchor Institutions have access to 1 Gbps broadband service, especially in rural areas in the state (See Appendix C: Needs and gaps identified through engagement). A questionnaire completed by Anchor Institutions as part of ADECA's broadband planning outreach in Spring 2023 found that 18 percent of the respondents indicated their organizations have locations that do not have access to 1 Gbps internet service and 32 percent were not sure what internet service was available at their locations.

Only 25 percent of questionnaire respondents indicated that their current internet service meets their organization's needs to deliver broadband-related programs to their clients and constituents. A respondent from the APLS stated, "[h]igh-speed broadband is a commodity that some of our more rural libraries still can't easily access. Libraries in Alabama are community hubs and need the same level of access that our schools and healthcare facilities possess."[193]

In addition, state agencies have provided information about Anchor Institutions' needs, especially in rural counties. The Alabama Department of Veterans Affairs indicated to ADECA that, among its service offices in 61 counties throughout the state, many of which are housed in county government locations, internet connectivity to these offices in rural counties can be inadequate, negatively impacting services offered and hindering veterans' access to critical health, education, and employment services. These service offices provide computing capabilities and access to veterans' service benefits and programs, including telehealth, scholarships, and training.[194] The

[193] ADECA, "Alabama Agency Asset and Programmatic Inventory," Appendix E.
[194] Alabama Department of Veterans Affairs, https://va.alabama.gov/serviceofficer/.

Alabama Emergency Management Agency (AMEA) indicated to ADECA that emergency operations centers in rural areas lack adequate connectivity and capacity. AMEA also noted that, due to the unreliability of cellular communications and the lack of broadband connectivity to homes in rural areas, residents are at greater risk of not receiving and being able to respond to emergency alerts and warnings.

3.4.5 Digital opportunity

Engagement and survey efforts indicate that Alabama's digital opportunity needs encompass access to affordable broadband services, increased enrollment in broadband service subsidy programs, device access, and digital skills training. For example, a representative of the American Association for Retired Persons (AARP) told ADECA in one of the on-site county engagement meetings conducted in preparation of this Plan that its members cannot rely on library internet alone. Seniors have needs beyond affordability. Those needs include access, adoption, reliability, opportunity, and technology—issues that require digital skills training or digital navigators, not just the provision of broadband internet.

ADECA has undertaken research and analysis to understand the challenges Alabama residents face in using broadband, particularly lower-income Alabamians. In November 2021, ADECA's project team surveyed low-income households in all geographic regions of Alabama to help assess the use of broadband and enrollment in internet subsidy programs among low-income households. The survey was designed to gather feedback and insights on the use of internet services, plus awareness and use of subsidy programs, by low-income households.[195]

The results of the survey, along with data from the U.S. Census Bureau and other sources, exhibit Alabama residents' current adoption and use of internet services and low-income subsidy programs. The survey found that internet service subscription is high, as 88 percent of low-income households surveyed by ADECA have some form of service, including home internet or mobile connections. However, as noted previously, the leading barrier to service was found to be cost.

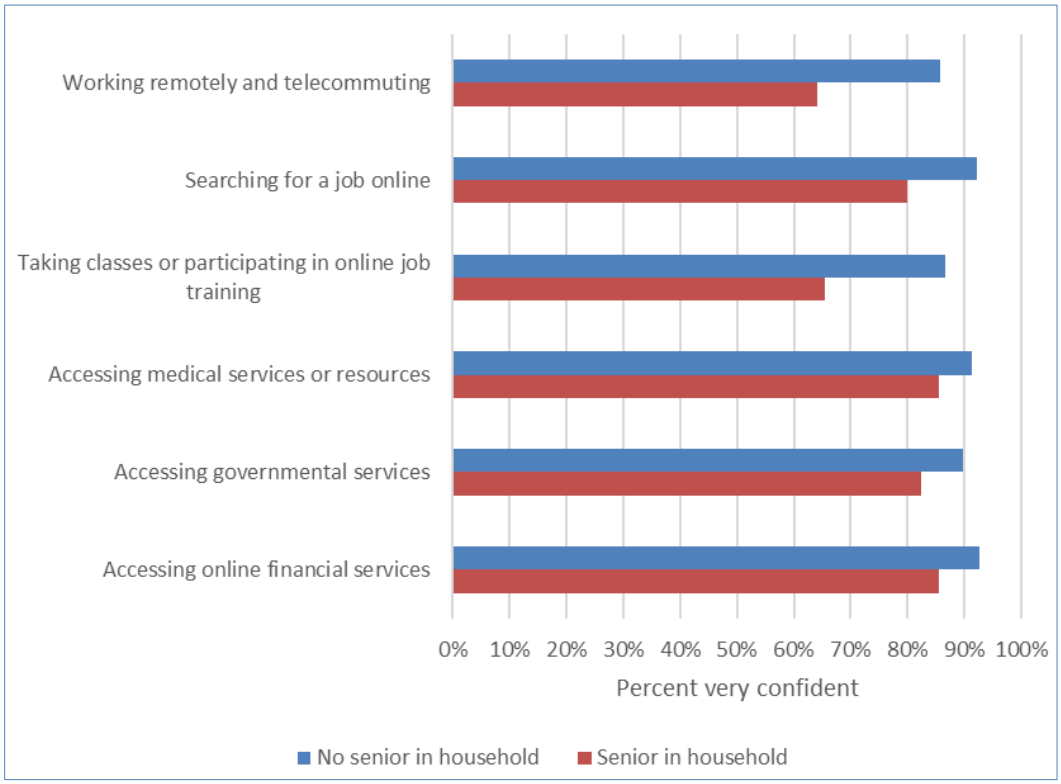
As also noted previously, Alabama ranked high among peer states for its residents' use of the FCC's EBB and ACP programs, indicating a gap in broadband service affordability. This ranking may be a result of the state's leading efforts to engage eligible families through the ABC for Students program.[196]

In 2023, Alabama added to these findings when it conducted the series of regional phone surveys. The surveys show that, in most regions, a substantial number of seniors need basic digital skills

[195] "The Alabama Connectivity Plan," ADECA, https://adeca.alabama.gov/wp-content/uploads/Alabama-Connectivity-Plan.pdf, p.23, n.13.
[196] "The Alabama Connectivity Plan," ADECA, https://adeca.alabama.gov/wp-content/uploads/Alabama-Connectivity-Plan.pdf, p.29-32.

training. Households with a senior were consistently less confident in performing tasks such as working remotely, taking an online class, accessing medical services, accessing government services, and accessing online financial services. Seniors were also less confident regarding the following tasks: "I can use and adjust privacy settings," "I can identify false or misleading information," and "I can recognize and avoid online fraud." Those aged 18 to 29 were far more confident regarding these basic internet safety tasks than those aged 65+.[197]

Figure 9: Confidence level in using the internet – senior in household compared to no senior in household (Region 7 – Southwest Alabama)



Today, most jobs require digital skills, and this shift can impact entire communities that see major employers begin to require highly-skilled workers. Jobs that now require digital skills include construction supervisors, police officers, and teachers.[198] "[G]aps in access to digital skills engender disparate access to the nation's best-paying, most desirable jobs and industries. Such gaps can spawn troublesome divides among not just people, but also places," according to a

[197] As illustrative examples, in Region 5, among those aged 65+, 28 percent lacked confidence in their ability to adjust privacy settings, compared to 3 percent of those aged 18 to 29. In Region 2, nine percent of those aged 65+ lacked confidence in their ability to recognize and avoid online fraud, compared to zero percent of those aged 18 to 29.

[198] Linda Poon, "As Jobs Go Digital, Who Gets Left Behind?" Bloomberg, February 9, 2023, https://www.bloomberg.com/news/articles/2023-02-09/most-us-jobs-now-demand-digital-skills-as-workplaces-transform.

recent report from The Brookings Institution.[199] This Plan will address those place-based disparities, supporting digital opportunity across Alabama.

Alabama acknowledges digital opportunity needs. The Alabama legislature has stated "[t]he continued lack of advanced communication capabilities, broadband facilities, and services in rural and underserved areas deprives citizens residing in these areas from access to opportunities such that the state needs to take action to correct and eliminate these discrepancies."[200]

Local action has highlighted additional issues. For example, the Digital Inclusion Fund of the Community Foundation of Greater Huntsville held a virtual community conversation on digital opportunity in April 2021 and posted the notes and list of participants online.[201] Among the issues highlighted was the fact that, regarding digital skills, many people do not know what knowledge they lack: "you don't know what you don't know."[202]

Awareness of digital skills for employment is a particularly important issue nationwide. The Brookings Institution (Brookings) calls it "digitalization"—the transformation of employment opportunities to require some level of digital skills and comfort with technology.[203] Brookings finds that as of 2020, 77 percent of employment in the United States has either a medium or high digitalization level.[204] Brookings also finds that the fastest growing employment sectors have the highest demand for digital skills.[205]

The FCC 2020 Broadband Deployment Advisory Committee (BDAC) Report also finds growth in professions with high digitalization, finding for example that jobs in cybersecurity have increased by 43 percent in 2022, compared to just an 18 percent increase in the more general labor market during the same timeframe.[206] This trend toward requiring increased digital skills even for "low tech" employment opportunities in warehouses, construction sites, and retail further exacerbates the digital divide. Statistics further shows that people of color are underrepresented in

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[199] Mark Muro and Sifan Liu, "As the digitalization of work expands, place-based solutions can bridge the gaps," The Brookings Institution, February 7, 2023, https://www.brookings.edu/research/as-the-digitalization-of-work-expands-place-based-solutions-can-bridge-the-gaps/.

[200] Ala. Code § 37-16-2(a)(4), https://casetext.com/statute/code-of-alabama/title-37-public-utilities-and-public-transportation/chapter-16-broadband-using-electric-easements-accessibility-act/section-37-16-2-legislative-findings.

[201] "Virtual Community Conversation on Digital Inclusion," Community Foundation of Greater Huntsville, April 22, 2021, https://givehsv.org/wp-content/uploads/2023/06/REPORT-DIF-Community-Conversation-2021-no-page-.pdf. Participants were aware of the additional benefits of broadband. For example, they were eager to have a strategic plan to be prepared for future disasters from a pandemic to a tornado.

[202] *Id.*

[203] Mark Muro and Sifan Liu, "As the digitalization of work expands, place-based solutions can bridge the gaps," The Brookings Institution, February 7, 2023, https://www.brookings.edu/research/as-the-digitalization-of-work-expands-place-based-solutions-can-bridge-the-gaps/.

[204] *Id.*

[205] *Id.*

[206] FCC BDAC Report, p.5, citing Brent Parton, U.S. Department of Labor Blog, "Strengthening and Diversifying the Cybersecurity Workforce," September 19, 2022, https://blog.dol.gov/2022/09/19/strengthening-and-diversifying-the-cybersecurity-workforce.

employment with high levels of digitalization.[207] Where the digital divide is greatest, the digitalization of employment creates a larger digital divide by leaving those without the opportunity to gain digital skills farther and farther behind.

It is also the case that increased digitalization brings with it increased productivity and increased pay levels. Brookings finds that the "wage premium" for jobs with high digitalization levels as compared to those jobs requiring medium digital skills is 47 percent.[208] Thus, communities with a concentration of employment opportunities with high demand for digital skills—which tend to be concentrated in urban and metro areas and on the east and west coast—have overall increased pay levels than those with lower digital skills jobs and more opportunity for workers to develop the necessary digital skills.[209] Creating a workforce with increased digital skills will not only help to close the digital divide, but create socioeconomic opportunities to support families and communities.

USDA further notes that closing the digital divide is critical to rural workforce development, as well as economic development with telehealth and remote work.[210]

The BEAD program's investment in expanding broadband access will lead to significant "indirect" job creation, which will require digital skills for those employees that intend to take advantage of these new jobs. For example, the National Governors Association has touted a program called the Workforce Innovation Network and members of that Network have created the State Digital Equity Scorecard.[211] This tool tracks how states are meeting digital workforce needs through trainings, apprenticeships, and funding programs. The State Digital Equity Scorecard is hosted by the National Digital Inclusion Alliance (NDIA).[212] Alabama scored 3.3 out of 6 possible points (better than all neighboring states) and the gaps that NDIA identified in state plans will likely be addressed by this Five-Year Action Plan and the forthcoming Alabama Statewide Digital Opportunity Plan.[213]

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[207] Mark Muro and Sifan Liu, "As the digitalization of work expands, place-based solutions can bridge the gaps," The Brookings Institution, February 7, 2023, https://www.brookings.edu/research/as-the-digitalization-of-work-expands-place-based-solutions-can-bridge-the-gaps/.
[208] *Id.*
[209] *Id.*
[210] U.S. Department of Agriculture, "USDA Resource Guide for Rural Workforce Development: Together, America Prospers," June 2021, https://www.rd.usda.gov/sites/default/files/060721-ic-ruralworkforceguide-final508.pdf.
[211] National Governors Association, Commentary, "Governors' Broadband Investments Are Creating Jobs," September 13, 2021, https://www.nga.org/news/commentary/governors-broadband-investments-are-creating-jobs/.
[212] "Digital Equity Scorecard: By State," NDIA, https://state-scorecard.digitalinclusion.org/scorecard/by_state.
[213] For example, the NDIA claimed that Alabama's broadband plan did not "recognize the need for and address increasing device accessibility or ownership for households," even though such initiatives are recognized in this Plan. *Id.*

Estimates from a 2016 Deloitte report suggest that just a 10 percent penetration in broadband access would create 800,000 jobs over three years.[214] The Federal Reserve Bank of Philadelphia issued a report finding that providing access to a computer and broadband services could bring 400,000 new job seekers into the market in the top 25 metropolitan areas in the country.[215]

[214] Jack Fritz and Dan Littmann, Deloitte Consulting LLP, "Broadband for all: charting a path to economic growth," April 2021, https://www2.deloitte.com/content/dam/Deloitte/us/Documents/process-and-operations/us-charting-a-path-to-economic-growth.pdf.

[215] Alvaro Sanchez and Adam Scavette, Federal Reserve Bank of Philadelphia, "Broadband Subscription, Computer Access, and Labor Market Attachment Across U.S. Metros," June 2021, https://www.philadelphiafed.org/-/media/frbp/assets/community-development/reports/broadband-subscription-computer-access-and-labor-market-attachment-across-us-metros.pdf.

4. Obstacles or barriers

This section describes known or potential obstacles or barriers that might impede the successful implementation of Alabama's BEAD Plan—as well as ADECA's plan to address these challenges.

In addition to the challenges identified in the subsections below, ADECA has included specific potential obstacles identified primarily at the local level during the comprehensive engagement process (see Appendix D: Potential local obstacles or barriers identified during engagement efforts). As ADECA continues its outreach efforts, it will identify additional or new obstacles or barriers encountered by governments, organizations, and ISPs and develop strategies to overcome them.

4.1 Legislative and regulatory

ADECA does not anticipate facing barriers caused by state legislation or regulation. The state has demonstrated its strong commitment to broadband deployment and digital opportunity and ADECA anticipates the legislature and the state's agencies will continue to support ADECA's efforts through implementation of this Plan.

The Alabama Legislature, through the Connect Alabama Act,[216] has given ADECA the authority needed to execute this Plan. The Alabama Legislature also prepared for the BEAD program by passing a constitutional amendment confirming that "[t]he state, a county, or a municipality is authorized to grant federal award funds or any other source of funding designated for broadband infrastructure by state law to any public or private entity for the purpose of providing or expanding broadband infrastructure."[217] Voters passed that amendment on November 8, 2022, by a wide margin.[218]

Previously, the Alabama Legislature in 2019 passed the "Broadband Using Electric Easements Accessibility Act,"[219] which allows electric providers to offer broadband internet access, and several have started to offer broadband services to the public.[220]

ADECA recognizes the importance of efforts to streamline access to assets for placement of equipment, including state and local permitting and pole attachment rates, in such a way as to

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[216] "Connect Alabama Act," ADECA, https://adeca.alabama.gov/wp-content/uploads/Connect-Alabama-Act.pdf.
[217] "House Bill 255," Alabama Legislature, 2022, http://alisondb.legislature.state.al.us/ALISON/SearchableInstruments/2022RS/PrintFiles/HB255-enr.pdf.
[218] "Canvass of Results, General Election, November 8, 2022," Alabama Secretary of State, https://www.sos.alabama.gov/sites/default/files/election-data/2022-11/Final%20Canvass%20of%20Results%20%28canvassed%20by%20state%20canvassing%20board%2011-28-2022%29.pdf (939,704 votes in favor, 256,541 votes opposed).
[219] "House Bill 400," Alabama Legislature, 2019, http://alisondb.legislature.state.al.us/ALISON/SearchableInstruments/2019RS/PrintFiles/HB400-enr.pdf.
[220] See, e.g., Christy Perry, *The Cullman Tribune*, "'This truly is a historic moment': First customers connected to Cullman Electric Cooperative's Sprout Fiber Internet," January 19, 2021, https://www.cullmantribune.com/2021/01/19/this-truly-is-a-historic-moment/.

protect the state's interests while also ensuring effective and efficient broadband construction permitting.[221] To that end, Alabama has remained under the FCC's pole attachment rate caps and framework to support reasonable pole attachment rates for electric utility and incumbent telephone company poles.[222]

Additionally, while the Alabama Legislature has given certain electric utilities the authority to offer broadband services, it has also adopted regulations for access to poles owned by these entities that support competitive access by other broadband providers.[223] Other electric providers, as members of the Tennessee Valley Authority, also have regulations that support competitive pole access.[224]

Feedback from outreach and engagement sessions noted that more work needs to be done to support broader access to poles, rights-of-way, and other assets to support new infrastructure builds. However, Alabama has created a structure and environment to support infrastructure access to these critical elements.

Federal environmental rules and regulations, such as the National Environmental Policy Act,[225] and rules regarding historic preservation,[226] could delay projects, particularly where subgrantees lack experience with these regulations. While the IIJA encourages participation by non-traditional broadband providers,[227] this is one challenge that might discourage some non-traditional broadband providers from participating in BEAD-funded projects.

An additional regulatory obstacle may be building on federally-owned lands, which comprise 2.7 percent of the state.[228] The NTIA has advised that ISPs deploying or expanding a wireline or

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[221] Lindsay McKenzie, "NTIA chief says states have 'homework assignments' on broadband permits," *State Scoop*, March 16, 2023, https://statescoop.com/alan-davidson-ntia-state-broadband-permits/.
[222] 47 USC §224(d)(1); 47 CFR §1.1406; Survey of Rates for Pole Attachments and Access to Rights of Way (April 24, 2018), https://www.fcc.gov/sites/default/files/ad-hoc-commitee-survey-04242018.pdf.
[223] See Ala. Code §§ 37-16-4, 37-16-9 (2019), http://alisondb.legislature.state.al.us/alison/codeofalabama/1975/coatoc.htm.
[224] TVA 2019 Board Resolution, https://tva-azr-eastus-cdn-ep-tvawcm-prd.azureedge.net/cdn-tvawcma/docs/default-source/about-tva/guidelines-reports/lpc/broadband_resolution_memo.pdf?sfvrsn=2f3d6c92_2; 2016 TVA Pole Attachment regulations, https://www.tva.com/about-tva/guidelines-and-reports.
[225] See, e.g., "National Environmental Policy Act," United States Environmental Protection Agency, https://www.epa.gov/nepa.
[226] See, e.g., "Environmental Planning and Historic Preservation," Federal Emergency Management Agency (FEMA), https://www.fema.gov/emergency-managers/practitioners/environmental-historic.
[227] The term "non-traditional broadband provider" is defined in the BEAD NOFO (https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/BEAD%20NOFO.pdf) as "an electric cooperative, nonprofit organization, public-private partnership, public or private utility, public utility district, Tribal entity, or local government (including any unit, subdivision, authority, or consortium of local governments) that provides or will provide broadband services," p.14.
[228] U.S. Bureau of Land Management, https://www.blm.gov/maps.

wireless network in rural America may need to work with several federal and state agencies to secure the permits and authorizations needed to deploy broadband infrastructure.[229]

4.2 Labor-related challenges

The state has identified labor-related challenges for broadband deployment, top among them a labor shortage. The following subsections describe each challenge in more detail. The state will seek to understand these issues in greater depth and determine strategies to effectively address or ameliorate them in its Workforce Development Plan as part of its Initial Proposal.

These challenges are corroborated by state and local engagement conducted as part of the development of this Plan (described in Section 5), including outreach to more than 60 organizations engaged in training and workforce development. Continued engagement with these organizations will inform the development of the state's Workforce Development Plan.

As of the writing of this Plan, ADECA plans to use existing relationships to encourage service providers to hire and train employees as part of their BEAD projects. Efforts supported by Digital Equity Act funding will focus on enhancing BEAD projects by supporting a larger, more diverse pool of talent. Several ISP broadband deployment workforce programs are already in place (Table 7); workforce opportunity programs are included in Appendix A: Asset inventory data – digital opportunity assets.

4.2.1 Labor shortage

Experts predict that the national pool of skilled workers for broadband deployment is smaller than what is necessary for the broadband projects that BEAD will fund nationwide. Other broadband programs such as RDOF and ReConnect, as well as those funded by CPF and ARPA, will also require broadband deployment personnel; although many of these programs are underway, there is an anticipated construction schedule overlap. Additionally, construction for Alabama's state-funded broadband projects will be ongoing for the next two to three years.

The Government Accountability Office's (GAO) December 2022 analysis of the telecommunications workforce states that, "thousands of additional skilled workers will be needed to deploy broadband and 5G" as a result of eight federal broadband funding programs, including the $41.6 billion investment from BEAD.[230] The GAO focused on eight "key broadband deployment occupations" for its analysis of growth and wages, including line technicians and repairers, fiber splicers, network engineers, field technicians, general construction laborers, heavy equipment operators, on-site home repair personnel, and central office personnel.[231]

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[229] NTIA, https://broadbandusa.ntia.gov/resources/federal-permitting-overview.
[230] GAO, "Telecommunications Workforce: Additional Workers Will Be Needed to Deploy Broadband, but Concerns Exist About Availability," (GAO Report) December 15, 2022, https://www.gao.gov/assets/gao-23-105626.pdf.
[231] *Id.*

In January 2023, the FCC's Telecommunications Workforce Interagency Group analyzed similar industry labor categories and found a "profound skills gap" in the telecommunications industry workforce that was created, in part, by the "vast new investment" in advanced communication infrastructure as a result of BEAD.[232]

Previously, in 2020 and prior to Congressional allocation of $41.6 billion to fund broadband infrastructure through BEAD, the FCC's Broadband Deployment Advisory Committee (BDAC) found that there are 29,000 broadband-related technicians in the U.S. and that there will be a demand to hire 20,000 more technicians over the next 10 years.[233] This report suggests that "considerable doubt has arisen among broadband infrastructure industry…[partners] as to whether they can meet build-out projections due to current workforce challenges."[234]

A 2021 Brookings analysis of an earlier version of the IIJA discusses the impact of a proposed $80 billion Congressional allocation of funding toward high-speed broadband. While the actual IIJA investment in broadband infrastructure is almost half as much as that, the Brookings analysis introduces a model that assumes that every $1 million in broadband investment results in the creation of 2.5 direct job opportunities.[235] By applying this Brookings analysis, planning for the IIJA's approximately $42 billion of broadband investment will result in the creation of an additional 105,000 broadband-related jobs over the next five years. This is a much higher number than the FCC's 2020 analysis predicting a demand for 20,000 additional jobs.

ADECA will leverage the extensive outreach and direct communication being conducted with governments, ISPs, educational institutions, and other organizations to determine a viable strategy to mitigate this expected labor shortage. (Identified workforce development programs and partners are listed in Section 3.3.1 Broadband deployment.) ADECA will also analyze the substantial amount of data collected during the initial engagements to inform that strategy. Key state agency partners in this effort include the Alabama Community College System and partner institutions of higher education such as Wallace Community College, which has developed a fiber optic training program; the Alabama Department of Rehabilitation Services; and the Alabama

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[232] FCC Telecom Interagency Working Group, "Recommendations to Address Workforce Needs," (2023 FCC Working Group Report) January 13, 2023, https://docs.fcc.gov/public/attachments/DOC-390665A1.pdf, p.5.
[233] FCC BDAC, "Broadband Infrastructure Deployment Job Skills and Training Opportunities Working Group Report," (FCC 2020 BDAC Report) October 29-30, 2020, https://www.fcc.gov/sites/default/files/bdac-job-skills-training-opportunities-approved-rec-10292020.pdf, p.7.
[234] *Id.* at p.6.
[235] Marcela Escobari, Dhruv Gandhi, and Sebastian Strauss, "How federal infrastructure investment can put America to work," Brookings, March 17, 2021, https://www.brookings.edu/research/how-federal-infrastructure-investment-can-put-america-to-work/, p.12, citing Robert Pollin, Shouvik Chakraborty, "Job Creation Estimates Through Proposed Economic Stimulus Measures," University of Massachusetts, Amherst Political Economy Research Institute, https://peri.umass.edu/publication/item/1297-job-creation-estimates-through-proposed-economic-stimulus-measures (studying the impact of a proposed $6 trillion 10-year economic stimulus plan that would have included broadband projects).

Department of Commerce's Alabama Industrial Development Training (AIDT) program, Workforce Council (AlabamaWorks), Alabama Career Centers, and Office of Apprenticeship.[236]

4.2.2 Occupational trend analysis overview

ISPs across the state supplied anecdotal evidence that they are facing workforce shortages, as summarized in Appendix C: Needs and gaps identified through engagement. Even where the state as a whole may have a sufficient workforce, there are regional obstacles. For example, Alabama has more "Telecommunications Equipment Installers and Repairers, Except Line Installers," than the national average, with a "location quotient" of 1.37, according to data from the Bureau of Labor Statistics.[237] The location quotient is the ratio of the area concentration of occupational employment to the national average concentration and means that Alabama has 1.37 times the national average of laborers in this category. But the regional location quotient varies from a high of 1.72 in the Birmingham-Hoover area to a low of 0.70 in the Auburn-Opelika area, suggesting that labor shortages may be acute in some areas of Alabama.

Labor shortages are a national problem during this period of unprecedented broadband construction. The GAO Report found that, with a five-year funding period for broadband deployment, an estimated 34,000 additional telecommunications workers would be needed nationwide.[238] The report found unemployment rates below the national average for seven of eight key broadband deployment occupations, and unemployment rates below the national average are suggestive of a labor shortage:[239]

1. Telecommunications line installers and repairers
2. Electrical power-line installers and repairers
3. Telecommunications equipment installers and repairers
4. Computer network architects
5. Surveyors and technicians
6. First-line supervisors of mechanics, installers, and repairers
7. Electrical and electronics engineers

The report combined "Audiovisual Equipment Installers and Repairers" and "Electrical and Electronics Repairers, Industrial and Utility" to create the eighth category, "AV and Electrical Installers and Repairers." The report found an oversupply of labor in the category of "AV and

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[236] Alabama Industrial Development Training, https://www.aidt.edu/.
[237] "Occupational Employment and Wages, May 2022: 49-2022 Telecommunications Equipment Installers and Repairers, Except Line Installers," U.S. Bureau of Labor Statistics, May 2022, https://www.bls.gov/oes/current/oes492022.htm.
[238] GAO Report, https://www.gao.gov/assets/gao-23-105626.pdf, p.10.
[239] *Id.* at p.11.

Electrical Installers and Repairers," which suggests that some workers could be repurposed from other specializations if the necessary training were made available.[240]

ADECA has identified numerous entities in Alabama that offer relevant training. The next step is to connect those looking for work with those offering training.

4.2.3 Other workforce growth and diversity challenges

In addition to a labor shortage for broadband deployment, the state must also address the following key workforce challenges—many of which are national challenges that were identified by the 2020 FCC BDAC. Subsequent reports, including the January 2023 FCC Working Group Report as well as the GAO 2022 analysis, reinforce the FCC's 2020 findings as they update the analysis to factor in IIJA BEAD project demands.

Lack of upward mobility: Broadband workers are more likely to be employed than the general workforce, but lack upward mobility.[241] The U.S. Department of Labor states that the "increasing share of people ages 65 and older contributes to a projected labor force growth rate that is slower than much of recent history, as well as a continued decline in the labor force participation rate…."[242] The broadband industry is not immune, as statistics show that broadband workers are getting older and close to retirement while there are fewer younger workers to take their place.[243] Even for positions that require significant on-the-job training like field technicians and line workers, there is significant turnover, making it difficult for employers to maintain workforce levels and justify investing in further training.[244]

Impact of Covid-19 and aging workforce: The FCC 2020 BDAC Report noted that the impact of Covid-19 and the "Great Resignation" must be considered when analyzing the market for low- and medium-wage workers, including the increased retirement of older workers and workers being squeezed out due to childcare or elder care obligations.[245]

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[240] *Id.*

[241] "Compared to the general workforce, broadband workers are more male, older, have less formal education; they are also better paid, more likely to work full-time, more likely to be covered by a union, and face lower barriers to entry. Compared to the current unemployed and underemployed population, they are also more likely to be white. On the flip side, broadband occupations offer limited pathways to higher-paying jobs and are expected to grow less over the next decade than most other occupations." Marcela Escobari, Dhruv Gandhi, and Sebastian Strauss, The Brookings Institute, "How federal infrastructure investment can put America to work," March 17, 2021, https://www.brookings.edu/research/how-federal-infrastructure-investment-can-put-america-to-work/.

[242] "Employment Projections and Occupational Outlook Handbook News Release," U.S. Bureau of Labor Statistics, September 8, 2022, https://www.bls.gov/news.release/ecopro.htm.

[243] FCC 2020 BDAC Report, https://www.fcc.gov/sites/default/files/bdac-job-skills-training-opportunities-approved-rec-10292020.pdf, p.11.

[244] *Id.*

[245] *Id.* at p.6; See also America Achieves, Rural Innovation Strategies, Inc. (RISI), "Creating and Expanding a Diverse Broadband Workforce with Good Jobs and Career Pathways: Broadband Equity, Access, and Deployment (BEAD)

Lack of awareness about broadband jobs: The FCC 2020 BDAC Report also found there is a lack of awareness among job seekers of the opportunities for strong employment in the broadband infrastructure industry caused in part by a lack of training and certification programs offered by either educational institutions or the industry.[246] This may be an area of opportunity for the state and its partners to ameliorate the potential broadband deployment workforce shortage.

The FCC provided a countervailing argument to the impact of Covid-19 and lack of awareness by noting that the importance of broadband and the increased reliance on broadband services during Covid-19, as well as the treatment of broadband workers as essential during that time, gives the industry an opportunity to expand awareness about the broadband labor market and demand.

Lack of standardized training: A lack of standardized training and coordination of employment opportunities in the industry leads to a lack of clear career pathways and broader skillsets among broadband workers that can be more generally applicable which, in turn, inhibits a flow of broadband workers to meet immediate demands for specific types of workers, as well as inhibiting career advancement and changes.

Both the FCC and a more recent paper by America Achieves and Rural Innovation Strategies, Inc. (RISI), found a growing credentialing environment with multiple organizations developing individual credentialling and training programs. [247] These certifications include multiple certification agency programs within several employment classifications, including cable splicing, tower technician, outside plant engineer, and several others.[248]

Recruitment challenges in rural areas: The GAO analysis further noted that recruiting necessary workers into rural areas may be more complicated due to the lower population density and remoteness of those communities, as well as statistics that suggest only 10 percent to 15 percent of telecommunications workers travel beyond 200 miles from their homes to work on remote projects.[249]

Program Playbook for Eligible Entities," (RISI BEAD Playbook) First Edition, June 22, 2022, https://americaachieves.org/wp-content/uploads/2022/06/America-Achieves-Broadband-Workforce-Report-June-2022.pdf, p.8-9; See also Marcela Escobari, Dhruv Gandhi, and Sebastian Strauss, The Brookings Institute, "How federal infrastructure investment can put America to work," March 17, 2021, https://www.brookings.edu/research/how-federal-infrastructure-investment-can-put-america-to-work/, p.1.

[246] FCC 2020 BDAC Report, https://www.fcc.gov/sites/default/files/bdac-job-skills-training-opportunities-approved-rec-10292020.pdf.

[247] *Id.* at 9, 17; RISI BEAD Playbook, pp.49-50, https://americaachieves.org/wp-content/uploads/2022/06/America-Achieves-Broadband-Workforce-Report-June-2022.pdf.

[248] RISI BEAD Playbook, pp. 48-49.

[249] GAO Report, https://www.gao.gov/assets/gao-23-105626.pdf, p.14.

Difficulty in hiring and retaining broadband workers: The FCC 2020 BDAC Report also found that these positions are difficult to hire and retain due to the uncertainty and project-based nature of the work, the requirement to be on-call and ready to report to work on a new job without much notice, and requirements to travel to a different city for long-term stays during a job, as well as delays in employment and requirements to stop work due to external factors like weather and material supply shortages.[250]

Lack of diversity in the broadband workforce: The National Governors Association notes that 83 percent of telecommunications line installers are white and only 6 percent are women, making it even more difficult to recruit workers if they do not see themselves in the positions.[251]

Increased competition from other broadband infrastructure projects: The RISI BEAD Playbook and the GAO note there will be increased competition for workers from other broadband infrastructure projects just getting under way with funding from the ARPA grant programs and USDA and RDOF programs, as well as additional competition for trades such as construction, electricians, and other labor categories that support large infrastructure projects as a result of the IIJA's other investments in transportation, water, and other infrastructure.[252]

The growth of fixed wireless and 5G installations could be viewed as competition for some of these labor categories, or as an opportunity and synergy to bring new workers into the telecommunications industry more generally. Experts note a boom in demand for high-wage, high-skilled workers for these jobs, many of which have crossover and adjacent skills to support wireline fiber broadband projects.[253]

The most critical broadband occupations—telecom line installers and equipment installers, electrical power line installers, electronics engineers, installation helpers, and "radio, cell, and tower equipment installers"—will require approximately 60,000 workers nationwide, according to a report by Brookings.[254] "[S]hortages could be partially filled by currently unemployed and underemployed workers from adjacent occupations such as Electricians, Engineers, A/V

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[250] FCC 2020 BDAC Report, https://www.fcc.gov/sites/default/files/bdac-job-skills-training-opportunities-approved-rec-10292020.pdf.
[251] National Governors Association, Commentary, "Governors' Broadband Investments Are Creating Jobs," September 13, 2021, https://www.nga.org/news/commentary/governors-broadband-investments-are-creating-jobs/.
[252] RISI BEAD Playbook, https://americaachieves.org/wp-content/uploads/2022/06/America-Achieves-Broadband-Workforce-Report-June-2022.pdf, p.8-9; See also, GAO Report, https://www.gao.gov/assets/gao-23-105626.pdf, p.14.
[253] RISI BEAD Playbook, https://americaachieves.org/wp-content/uploads/2022/06/America-Achieves-Broadband-Workforce-Report-June-2022.pdf, p.26.
[254] Marcela Escobari, Dhruv Gandhi, and Sebastian Strauss, "How federal infrastructure investment can put America to work," Brookings, March 17, 2021, https://www.brookings.edu/research/how-federal-infrastructure-investment-can-put-america-to-work/.

Equipment Installers and Repairers, and Construction Laborers," according to Brookings' report.[255]

No broadband-specific job codes: Gathering necessary statistics is made difficult by the fact that the U.S. Department of Labor has no broadband-specific job codes. Experts suggest there are 15 different Department of Labor job codes that could be included in the analysis of the broadband workforce market—ranging from general categories such as construction laborers and managers, miscellaneous assemblers, and sales representatives to more specific roles including telecommunications equipment installers and telecommunications line installers.[256]

4.3 Supply chain issues and materials availability

The extensive funding allocated to broadband infrastructure deployment by Congress—and the current and planned investments by state and local governments and ISPs nationwide[257]—has caused a spike in demand for labor and materials. This increased demand compounds an already disrupted market as Covid-19 caused factory closures and other issues in the supply chain.

Supply chain challenges reached unprecedented levels during the Covid-19 pandemic and have not disappeared. "Given that there are multiple new risk factors on the horizon, it is hard to envision trust in the system being restored to pre-Covid-19 levels any time soon," according to S&P Global Intelligence,[258] citing both geopolitical risks such as Ukraine and Taiwan and transportation risks including labor unrest and unanticipated cargo surges.

According to recent research, delays on orders of new fiber are decreasing, but are still challenging.[259] The allocation of BEAD funding may exacerbate the situation.

During 2023, inflation remains a potential barrier. "Even though inflation started to cool toward the end of 2022, it is still unclear how long it will take to return to its long-run average—that is, if currently high inflation will persist," the Federal Reserve Bank of St. Louis said in a blog post.[260]

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[255] *Id.* at 9.
[256] RISI BEAD Playbook, https://americaachieves.org/wp-content/uploads/2022/06/America-Achieves-Broadband-Workforce-Report-June-2022.pdf, p.24.
[257] Diana Goovaerts, "Editor's Corner: Is the fiber hangover real?" *Fierce Telecom*, March 15, 2023, https://www.fiercetelecom.com/broadband/editors-corner-fiber-hangover-real.
[258] Peter Tirschwell, S&P Global Market Intelligence, "Risk Will Define Supply Chains for Years To Come," January 13, 2023, https://www.spglobal.com/en/research-insights/featured/special-editorial/look-forward/risk-will-define-supply-chains-for-years-to-come.
[259] "Fiber Broadband Association Reports Dramatic Improvements to Supply Chain," Fiber Broadband Association, May 2, 2023, https://fiberbroadband.org/2023/05/02/fiber-broadband-association-reports-dramatic-improvements-to-supply-chain/ (reporting significantly improved lead times in several broadband categories, with delays down to approximately 5 weeks, depending on the category – hand holes were still registering delays of 8 to 14 weeks as of March 2023).
[260] Michael McCracken and Trần Khánh Ngân, "Will High Inflation Persist?" Federal Reserve Bank of St. Louis, *On the Economy Blog*, January 10, 2023, https://www.stlouisfed.org/on-the-economy/2023/jan/will-high-inflation-persist.

For example, the fiber optic cable producer price index from the Federal Reserve Bank of St. Louis rose over 20 percent between January 2020 and April 2023, as shown below.[261]

Table 13: Fiber optic cable producer price index, January 2020 to April 2023

ADECA will continue to monitor this issue and will incorporate the latest data into its grant program design. ADECA will continue to gather information regarding best practices from industry experts.[262]

4.4 Industry participation

Through its grant programs and other outreach, ADECA has engaged with most ISPs operating in the state and, therefore, the state expects strong, ongoing industry participation in efforts to implement the BEAD Program. Continuing outreach should enable ADECA to engage additional ISPs, including, for example, the few ISPs that did not contribute service data to Alabama's broadband map.[263]

ADECA recognizes that some non-traditional broadband providers and smaller providers may be discouraged from participating in BEAD-funded projects by the requirement that providers obtain a Letter of Credit.[264] ADECA will consider this as it develops its grant program. It will also apply a reasonable risk assessment review process and consistent technical and managerial

[261] "Producer Price Index by Industry: Fiber Optic Cable Manufacturing: Fiber Optic Cable, Made from Purchased Fiber Optic Strand (PCU3359213359210)" for the period January 2020 to April 2023, Federal Reserve Bank of St. Louis. The latest available data is at https://fred.stlouisfed.org/graph/fredgraph.png?g=14Kos. Because the URL links to the latest available data, the data accessible via the link may be more recent the data in the graph above. The series data is available at https://fred.stlouisfed.org/series/PCU3359213359210.

[262] "Fiber Broadband Association Reports Dramatic Improvements to Supply Chain," Fiber Broadband Association, May 2, 2023, https://fiberbroadband.org/2023/05/02/fiber-broadband-association-reports-dramatic-improvements-to-supply-chain/ (reporting significantly improved lead times in several broadband categories, with delays down to approximately 5 weeks, depending on the category – hand holes were still registering delays of 8 to 14 weeks as of March 2023).

[263] The ISP participation rate for Alabama's broadband map is 91 percent. ADECA, https://broadband.alabama.gov/.

[264] BEAD NOFO, p.72.

requirements for all participating providers. In its own ABAF grant program, to support further accountability and fiscal prudence, ADECA withholds payment until a network is built and has passed speed tests and other examinations.

4.5 Climate

Relatively mild winters, hot summers, and year-round precipitation characterize Alabama's agriculture-friendly climate, according to the 2022 State Climate Summary for Alabama[265] published by the National Oceanographic and Atmospheric Administration (NOAA) and the Cooperative Institute for Satellite Earth System Studies (CISESS). Tornadoes and hurricanes are two of the major weather hazards in Alabama. Between 1895 and 2019, an estimated 43 tornadoes, typically occurring in the spring and fall, touched down in Alabama each year.[266]

The National Risk Index map maintained by the Federal Emergency Management Agency (FEMA) highlights two counties as at risk from weather and flooding events: Jefferson County (which contains Birmingham) and Mobile County (which contains Mobile).[267]

The future-proof broadband networks made possible by the BEAD program will deliver more resilient networks.[268] As a functional matter, fiber networks will also enable faster disaster recovery, improving the safety of Alabama residents. During the outreach efforts conducted in preparation of this Plan, many Alabama residents told ADECA they believe that an important benefit of superior broadband networks would be better disaster recovery.

4.6 Affordability

Affordability is an issue for Alabama residents. In Alabama, 355,757 households were enrolled in the FCC's ACP as of June 2023,[269] representing approximately 40 percent of the 889,233 eligible households in the state, well above the national average for ACP enrollment.[270]

Table 14: Overview of Alabama household enrollment in ACP

Factor	State	U.S.
Total enrollment (households)	355,757	18,680,554
Estimated eligible households	889,233	55,266,900
Percentage of estimated eligible households enrolled	40.0%	33.8%

[265] "Alabama," NOAA and CISESS, https://statesummaries.ncics.org/chapter/al/.
[266] *Id.*
[267] "National Risk Index," FEMA, https://hazards.fema.gov/nri/map.
[268] BEAD NOFO, Section IV.C.1.h, "At present, weather- and climate-related risks to broadband networks include wildfires, extreme heat and cold, inland and coastal flooding, and the extreme winds produces by weather events such as tornadoes, hurricanes, and other weather events."
[269] "ACP Enrollment and Claims Tracker," USAC, https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker/#enrollment-by-state (accessed June 14, 2023).
[270] "Affordable Connectivity Program Enrollment Dashboard," EducationSuperHighway, https://www.educationsuperhighway.org/no-home-left-offline/acp-data/#dashboard (accessed June 14, 2023).

ADECA supports ACP enrollment[271] because it recognizes the challenges that affordability presents to residents. Repeated studies have shown that for low-income households, cost is a barrier to service.

During its outreach, ADECA has identified organizations that are willing and able to conduct activities to increase awareness of subsidies like the ACP. There is a clear need for this education. ADECA's 2021 survey of low-income households revealed that more than three-fourths (78 percent) of those who had not applied for a subsidy program said they were not aware of the programs.[272]

In the regional phone surveys conducted by ADECA in preparation for the Alabama Statewide Digital Opportunity Plan, households' reported willingness to pay for broadband correlated with income.[273] Affordability remains an issue for all residents of Alabama, but it is more acute at lower incomes.

The price of computers is a factor, as households earning less would be less likely to replace a lost computer within a day, according to the same phone surveys.[274]

The 2021 Alabama Connectivity Plan also recommended the development of joint initiatives between ADECA and ISPs to create programs to support low-income subscribers.

4.7 Digital skills

Gaps in digital skills are a national problem and, to the extent ADECA identifies digital skills concerns among its residents, it will take steps to address the issue. The first step is to identify successful existing programs and, in addition, to identify organizations that could potentially offer new digital skills programs. ADECA's ongoing outreach has identified organizations and will continue to seek out additional organizations. For a more complete description of ADECA's outreach, see Section 5.1, and for the digital opportunity asset inventory, see Section 3.3.5.

The regional residential surveys conducted in preparation for the forthcoming Alabama Statewide Digital Opportunity Plan identified a significant minority of Alabama residents who lack confidence

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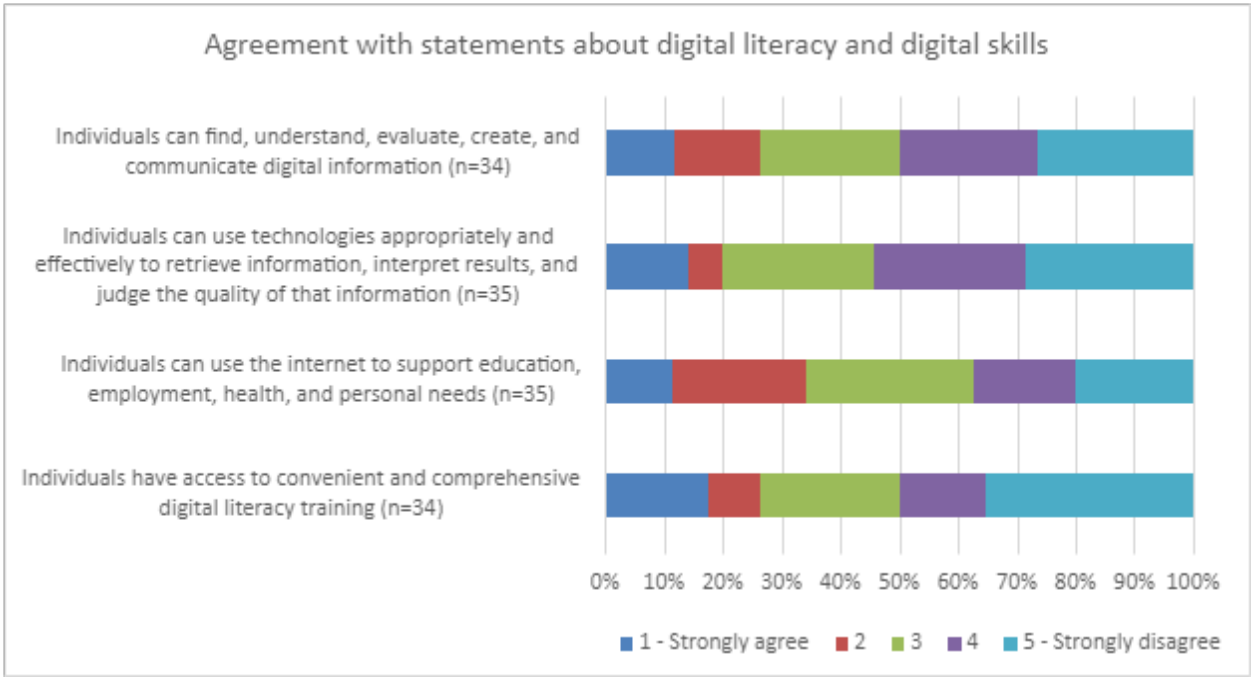
[271] "Affordable Connectivity Program," ADECA, https://adeca.alabama.gov/affordable-connectivity-program/.
[272] "The Alabama Connectivity Plan," ADECA, https://adeca.alabama.gov/wp-content/uploads/Alabama-Connectivity-Plan.pdf.
[273] For example, in Region 1, 22 percent of households earning $100,000 or more per year were willing to pay $100 or more per month for high-speed, reliable broadband internet, compared to four percent of households earning less than $50,000 per year. Similarly, in Region 5, 57 percent of households earning less than $50,000 were willing to pay no more than $59 per month, compared to 34 percent of households earning $100,000 or more.
[274] In Region 7, 47 percent of households earning $100,000 or more per year would be able to replace a computer within a day, compared to 26 percent of households earning less than $50,000 per year. In the Montgomery Region, 71 percent of households earning $100,000 or more per year would be able to replace a computer within a day, compared to 26 percent of households earning less than $50,000 per year.

in performing basic tasks online. Some lack confidence in sending and receiving emails.[275] More lack confidence in slightly more complex tasks, such as adjusting the privacy settings on social media services.[276]

In a Spring 2023 questionnaire to community-based organizations as part of ADECA's broadband planning outreach (see Appendix E: Questionnaires), representatives of these organizations indicated that at least 50 percent of the individuals they serve struggle to understand and communicate digital information, over 50 percent cannot effectively retrieve and judge the quality of information, and 50 percent do not have access to convenient and comprehensive digital skills training.[277]

Figure 10: Digital skills



[275] In the Montgomery region, for example, 15 percent of respondents were "Slightly confident" or "Not confident" in their ability to use the internet to send and receive emails, as were 11 percent of respondents in Region 4.

[276] In Region 2, 24 percent of respondents did not agree that they could use and adjust settings in social media. In Region 6, 25 percent of respondents did not agree that they could use and adjust settings in social media. However, it should be noted that experts have warned for years about the difficulty of locating and using social media settings. For example, an article on Facebook settings by Consumer Reports notes, "Facebook has 22 pages of settings, and many privacy controls aren't on the page labeled 'Privacy.'" Thomas Germain, "How to Use Facebook Privacy Settings," Consumer Reports, July 31, 2022, https://www.consumerreports.org/privacy/facebook-privacy-settings-a1775535782/.

[277] ADECA, "Alabama Community Organization Digital Barriers and Opportunities Questionnaire," Appendix E.

4.8 Covered populations

The state's comprehensive partner outreach program included extensive efforts to identify the needs of covered populations, which ADECA reported in the Alabama Statewide Digital Opportunity Plan Performance Report in April 2023. Outreach and data collection efforts included questionnaires, mapping efforts, desk research, and meetings with key state and local partners to develop broadband strategic plans and objectives; current and ongoing outreach and engagement with key partners during county-level meetings; and data collection through end user surveys with ongoing analysis of results.

Table 15: Key barriers and obstacles for covered populations

Covered population	Identified barriers and obstacles
Aging individuals	Lack of digital skills and comfort levels to use online tools to access public service or social and civic opportunities or entertainment; affordability of services and devices; inadequate services to receive remote healthcare in appropriate/private places; lack of loan or PC refurbish programs; accessing documents online necessary for proving eligibility for other programs; need for digital skills programs.
Incarcerated individuals	Lack of adequate broadband services and adequate funding for digital skills and workforce training inside correctional institutions; lack of digital skills and job training for formerly incarcerated to expand job opportunities.
Individuals that are members of a racial or ethnic minority	Barriers that come from historic underrepresentation in programs and opportunities that may have provided digital skills and access to robust broadband; crossover barriers with limited English speaking, low-income population.
Individuals who primarily reside in a rural area	Lack of access to affordable and reliable broadband that, in turn, creates barriers to developing digital skills; those with long driveways have to pay extra for hookup; lack of access to public computing spaces and support for digital skills and workforce develop skills; lack of competition drives up pricing; fear existing providers may leave due to low return on investment; lack of in-person customer support; slow to build to new rural communities.
Individuals with disabilities	Necessary adaptive technology can be expensive, scarce, and hard to use; affordability of services and appropriate devices; relevant on-line content; adequate services to allow work, education, and health care at home; access to telehealth.
Individuals with language barriers	Limited or lack of relevant and accessible content; lack of knowledge or access to accessibility tools to support online activity; lack of in-language digital skills training.
Low-income individuals	Unaffordable cost of service for speeds and data capacity necessary to meet critical needs, such as education and working from home; lack of knowledge or access to discount subsidy

Covered population	Identified barriers and obstacles
	programs; living in rural or low-income communities with outdated, unreliable, and slow service; old buildings with inadequate wiring; need for digital skills programs.
Veterans	Alabama's veterans face crossover challenges with aging individuals, individuals from racial and ethnic minorities, individuals with disabilities, individuals living in rural areas, and low-income individuals. These challenges are compounded in rural areas where lack of terrestrial and cellular broadband access is coupled with the inherent limitations of smartphones as inadequate to complete complex online benefits forms, participate in video hearings, or access other online veterans' services. As the Alabama Department of Veterans Affairs (ADVA) introduces a new online case management system, digitizes service forms, moves its process for dependent scholarship applications online, and takes other steps toward digitization, veterans' needs for access to broadband infrastructure at service centers and in homes, for computing devices to access services and programs including telehealth, and for digital skills training will continue to grow. There is a need to improve veterans' access to broadband discount programs such as the ACP and workforce training and digital skills improvement that could expand employment opportunities beyond skills developed in the military.

4.9 Other potential obstacles or barriers

Other potential obstacles or barriers include the following:

- **How to effectively run the State Challenge Process** – related to the discrepancies between the FCC's broadband map and the state's location and service data, the state will need to develop guidelines for an effective challenge process
- **How to define Extremely High-Cost locations** – for example, can Alabama include very long driveways (over 1,000 feet) and use alternatives to fiber to serve those locations? Can the state identify those long driveways before its subgrantee is on site?

5. Implementation plan

This section describes the state's comprehensive partner outreach and engagement process; its priorities, planned activities, and strategies in terms of implementing the BEAD Five-Year Action Plan; and the estimated cost and timeline for achieving universal service in Alabama.

5.1 External engagement process

This section describes the comprehensive external engagement process ADECA conducted in preparation of this Plan—including identification of key current and potential partners and representative groups.[278] Engagement efforts consisted of in-person meetings held in all 67 counties in the state, additional virtual discussion sessions, and multiple surveys capturing local knowledge from both groups and residents. Following submission of the Plan, ADECA will continue to engage and collaborate with partners throughout the implementation process.

The state has made significant progress in its external inclusive outreach and engagement efforts that will support both this Plan and the Alabama Statewide Digital Opportunity Plan:

- Identified key state and local partners that serve covered populations/underrepresented communities and have experience with barriers and opportunities to broadband access and digital opportunity to inform the state's planning processes; developed a comprehensive outreach list and online data tool for events and educational materials. Additional research and updates to the outreach list is ongoing.

- Developed and implemented a statistically valid, regionally based statewide resident survey on digital access and opportunity issues designed to "oversample" in ways that will identify unique needs of covered populations/underrepresented communities; analyzed survey results.

- Developed and distributed partner questionnaires and related presentation materials to gather data on programmatic assets, workforce, covered population/underrepresented community barriers and obstacles, affordability programs, and measurable objectives; analysis of the questionnaires is in progress.

- Planned and conducted in-person technical assistance meetings in all 67 Alabama counties with county-level executives and local, regional, and statewide community partners to provide technical assistance, discuss programmatic assets and opportunities, barriers to broadband access, and partner collaboration for planning activities. ADECA initiated this

[278] This section addresses BEAD NOFO section IV.B.3.b. item 7 (p.26) ("Include a description of the Eligible Entity's external engagement process, demonstrating collaboration with local, regional, and Tribal (as applicable) Entities (governmental and non-governmental) and reflective of the local coordination requirements outlined herein, including outreach to underrepresented communities and unions and worker organizations. The engagement required must be undertaken both during the development of the Five-Year Action Plan itself and following submission of the plan, reflecting ongoing collaboration throughout the BEAD Program").

program with its EDA grant, providing services to the applicants to ADECA's Alabama Community Broadband Technical Assistance Program.[279] It then expanded the program to all 67 counties. Having these meetings in the counties reduced the burden on the governments and community partners.

- Held statewide facilitated discussions virtually and developed specific presentation materials for ISP, local and regional government, and nonprofit community organization partners.

- Developed detailed county-level profiles that provide analysis of digital opportunity and broadband access data, resident survey results, mapping, research, and modeling to support local capacity building and planning for increased digital opportunity; work on these county-level analyses is ongoing and will serve as the foundation for additional outreach and meetings with key county government and local entity partners.

- Attempting to coordinate engagements with the federally-recognized Tribal Nation in Alabama, coordinating engagements with several state-recognized Tribes, HBCUs, and additional community-based organizations throughout the state.

5.1.1 Full geographic coverage

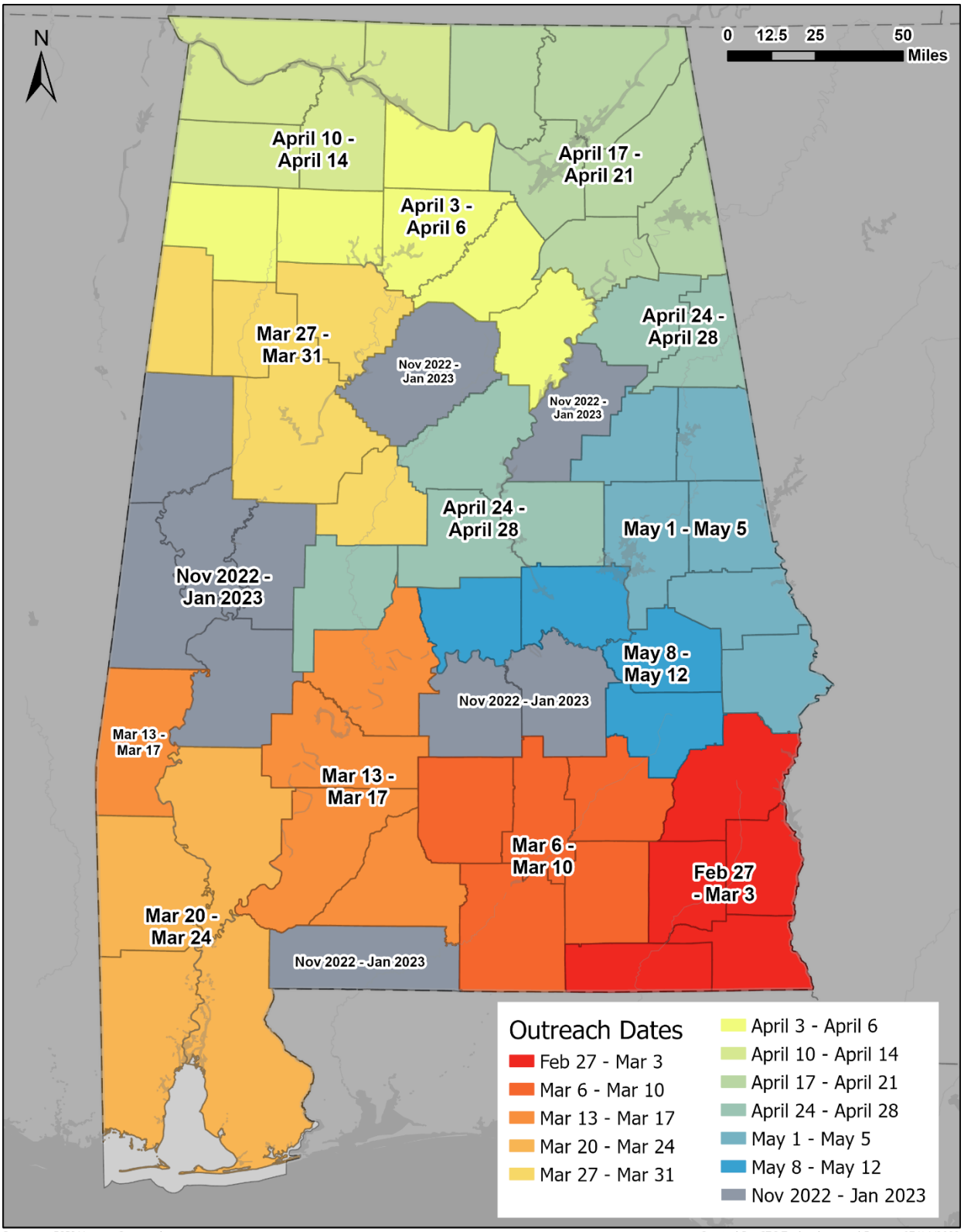
ADECA's outreach included in-person technical assistance meetings in each of the 67 counties in the state, as shown in the map below. ADECA took full advantage of local knowledge while planning for these engagements; local leadership investment in this process was critical to its success. An average of 19 attendees per session[280] and over 568 organizations[281] participated in these in-person sessions over a six-month period.

[279]ADECA, Alabama Community Broadband Technical Assistance Program, https://adeca.alabama.gov/alabama-community-broadband-technical-assistance-program/.

[280] The attendees totaled 1,316 in the 68 sessions (67 county sessions plus one Tribal session). Some attended more than one session.

[281] Some organizations attended multiple sessions and were only counted once for this tally of organizations. Each local Alabama Department of Human Resources office was treated as a separate organization. Where county officials only stated that they worked for the county, they were treated as coming from the same entity, but where they named their department, each county department was treated as a separate entity.

Figure 11: Alabama broadband technical assistance outreach to counties



Basemap: ESRI Human Geography
Coordinate System: NAD 1983 State Plan Alabama East

Created By: CTC Technology and Energy, 07/14/2023
Data Sources: Tiger/LINE Shapefiles

The engagement process began with outreach to county and local leaders to plan the in-person meeting. Planning participants varied by county but often included regional planning commission representatives, county commissioners and administrators, local elected officials, municipal clerks, county-level economic development authority representatives, and other interested organizations. ADECA worked with local planning entities to gather contacts for invitations and finalize on-site logistics.

In addition, ADECA worked with the local entities, as well as statewide member organizations, such as the Association of County Commissions of Alabama and the Alabama League of Municipalities, to help raise awareness among the public and colleagues by sharing the invitation to (and promotional materials about) the meetings as they deemed appropriate. ADECA felt the direct communication from local organizations would increase participation. State and regional partners were also invited to attend the local meetings.

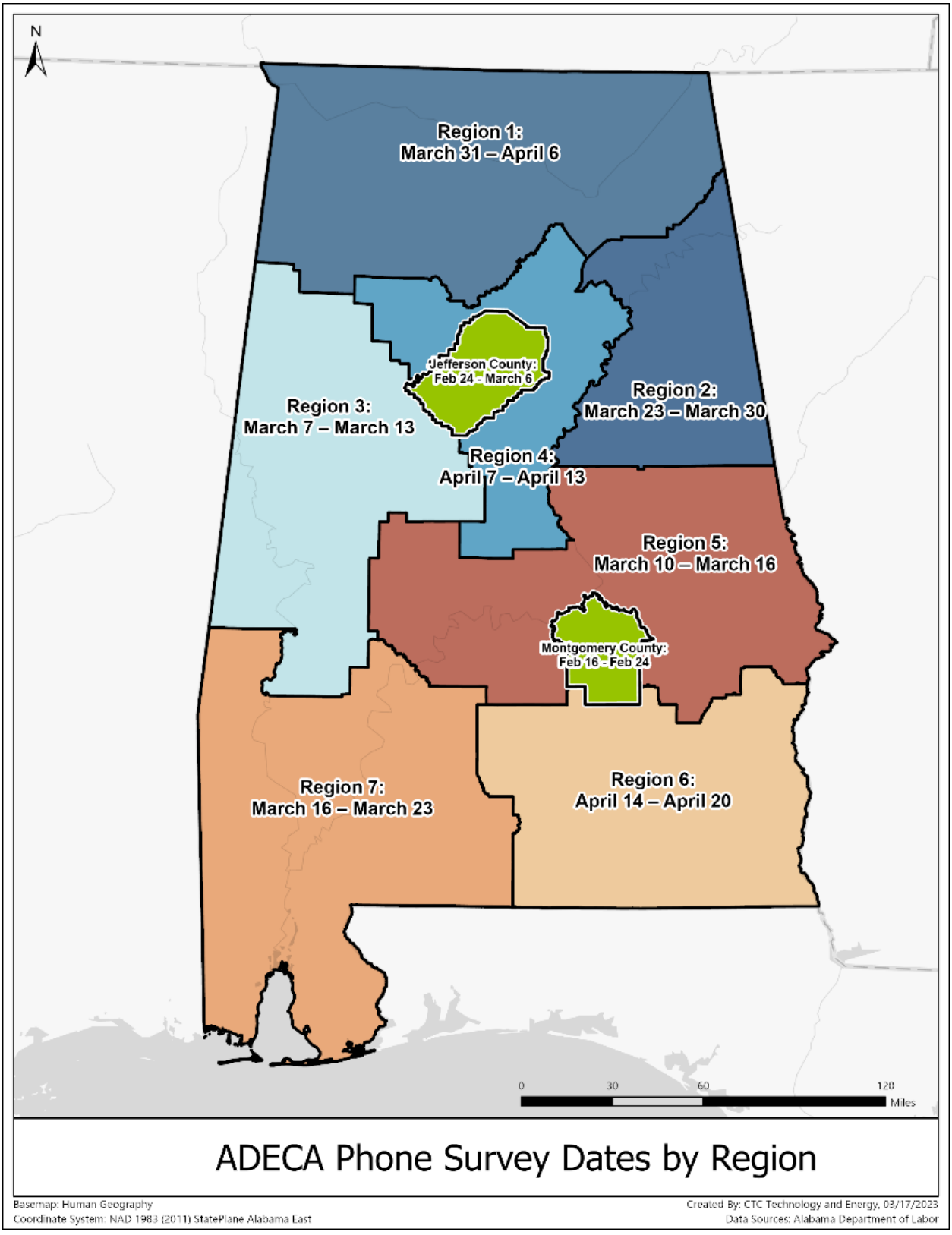
ADECA then held full- and half-day in-person meetings with attendees. As noted, members of the public were invited and encouraged to participate and commonly did. During these meetings, ADECA provided information about the various broadband programs; shared information about broadband service in the county based on the Alabama Broadband Map; and listened to feedback from partners and community members regarding service gaps, programmatic shortcomings, and other unmet needs preventing full use of the internet. ADECA documented discussions during these meetings to capture insights on local infrastructure and programmatic assets, barriers and obstacles to broadband (both accessibility and digital opportunity), and other needs and gaps.

In parallel to outreach through in-person engagements, ADECA conducted nine regional phone surveys in preparation for the Alabama Statewide Digital Opportunity Plan, which is forthcoming, as well as to inform this Plan to capture resident input across the state on a region-by-region basis. This approach informs needs and gaps analysis for the state's broadband and digital opportunity planning efforts with greater specificity than a single statewide survey.

The phone surveys collected data on the perceived reliability of Alabama residents' home internet, household monthly internet expenses, and perception of their digital skills, among other topics. Because of their larger populations, Jefferson and Montgomery counties were surveyed independently. Each survey collected a minimum of 400 responses, supporting estimation of true population proportions within ±2.5 percent.

ADECA conducted surveys over the phone to reach those without internet access. Calls were made from the morning through evening to capture input from those with various working hours. ADECA intends to provide resident survey analysis results in the Alabama Statewide Digital Opportunity Plan.

Figure 12: ADECA resident survey dates by region



5.1.2 Meaningful engagement and outreach to diverse groups

ADECA worked with county and local leaders to develop invitation lists for in-person sessions that included all entities listed in Section IV.C.1.c.ii of the BEAD NOFO.[282] Potential partners were identified via a combination of desk research, ADECA's local knowledge, and ADECA's ongoing outreach to and existing relationships with relevant entities. These entities included:

- Local government elected officials and agencies
- County elected officials and agencies
- Regional planning commissions and councils of government
- State agencies, especially those with local field representatives such as the Alabama Cooperative Extension Service, Alabama Department of Human Resources, and Alabama Department of Veterans Affairs
- Local chambers of commerce and economic development entities
- Local housing authorities and community support organizations and agencies
- Local libraries and schools
- Hospital and health care systems
- Public safety agencies
- Civil rights organizations
- The educational community, including higher education and workforce development entities
- Organizations that serve and represent:
    - Low-income households
    - Individuals with disabilities, including organizations that represent children with disabilities such as the Alabama Institute for the Deaf and Blind
    - Individuals who are 60 years of age or older
    - Individuals with language barriers, including English learners and individuals with low levels of literacy
    - People of color
    - LGBTQI+ people
    - Immigrants

[282] BEAD NOFO, https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/BEAD%20NOFO.pdf, p.53.

    - Veterans
    - Individuals in Alabama who are incarcerated or who were recently incarcerated
- ISPs and other companies, such as equipment providers, that support broadband deployment
- Labor unions
- Federal agencies with an interest in the region, such as the Tennessee Valley Authority
- Consumer advocates
- Faith-based organizations
- Neighborhood and regional associations
- Tribal governments (as a separate communication)
- Other organizations that serve as representatives of underrepresented communities

ADECA has also reached out to the Poarch Band of Creek Indians, Alabama's only federally-recognized Tribe, to schedule a listening session on Poarch territory. In January 2023, ADECA invited the Tribal Leadership to participate in a county session being held close to Tribal land but did not receive a response. In May 2023, ADECA sent a Dear Tribal Leader letter, but as of submission of this Plan, has not yet received a response. ADECA will continue to reach out to the Poarch Band of Creek Indians to try to schedule a listening session to inform both the BEAD and Digital Equity Act funded programs.

ADECA has conducted virtual meetings with the state-recognized MOWA Band of Choctaw Indians and the Southeastern Mvskoke Nation.[283]

ADECA also held virtual discussion sessions with partners statewide – one for ISPs and two each for government agencies and non-profit community-based organizations. Participants included state and regional potential partners who may not have been able to attend the in-person county meetings. These engagements included breakout sessions for potential partners by area of focus.

ADECA collected input on coverage gaps and digital opportunity needs, digital skills and workforce development programs currently in place, and how such programs could be improved with additional resources. This information was also captured from potential partners through questionnaires for ISPs, government agencies, and community-based organizations, which participants were encouraged to fill out after these meetings. Data collected were specific to the potential partners' area of focus.

[283] MOWA Band of Choctaw Indians, https://mowachoctawindians.com/; Southeastern Mvskoke Nation, https://southeasternmvskokenation.org/.

5.1.3 Multiple awareness and participation mechanisms

ADECA raised awareness about their outreach program via word-of-mouth through local leaders stemming from the initial planning call to set up the meeting; print, local media, and social media channels; and state outreach using the ADECA website and push pages to listserv subscribers. The processes described above details many of these mechanisms. In addition, to support distribution through local channels, ADECA provided meeting notice flyers, invitations, and social media blurbs to local leaders and organization leads (such as the Association of County Commissions of Alabama and the Alabama League of Municipalities, as mentioned above) to distribute via print and digital channels throughout their member organization or community. And during the planning phase for these engagements, ADECA asked if special accommodations were needed for persons with language barriers or disabilities and made appropriate accommodations.

Through its robust outreach efforts within each county throughout the state, regionally, and with statewide organizations, ADECA greatly expanded its list of broadband partner contacts and leveraged the resulting extensive contact list throughout the process. ADECA will continue to leverage this list for ongoing announcements and outreach throughout the state. ADECA also maintains a portal on its website that allows anyone to join its email distribution list.

ADECA posted information about both the public in-person and facilitated virtual sessions leading up to and after these events on its website. This information includes presentation slides, videos and handouts, and other information for and from these sessions.[284]

5.1.4 Clear procedures to ensure transparency

Through its BEAD and digital opportunity outreach efforts to every one of Alabama's counties, as described in Section 5.1.1, ADECA conducted public in-person engagements that enabled it to hear from community leaders and members about their needs and experiences regarding access to broadband services and digital opportunity programs. This input is captured in Appendix C: Needs and gaps identified through engagement and in Appendix D: Potential local obstacles or barriers identified during engagement efforts.

As is evident in the outreach process described above, ADECA was diligent about ensuring transparency to state and local leaders, community-based organizations, ISPs and other broadband-related companies, and the public. Much of the data collected will be included in the Alabama Statewide Digital Opportunity Plan, which will be posted for public review and comment.

Additionally, these local engagements informed and contributed to ADECA's development of county profiles, which specifically document broadband infrastructure and coverage, access and affordability barriers residents face, and digital skills and workforce programs for each county.

[284] "Broadband Webinars and Workshops," ADECA, https://adeca.alabama.gov/broadband-webinars-and-workshops/.

These profiles assess the county's broadband and digital opportunity needs and assets, and provide recommendations to local leaders on what actions the county and its communities may take to strengthen partnerships and leverage opportunities to achieve broadband and digital opportunity goals within the county.

During summer 2023, ADECA presented a draft county profile to county leaders in order to elicit local leaders' feedback before publishing a final version of the county's profile. The county profiles are publicly available on ADECA's newly launched, Be Linked Alabama website available at https://broadband.alabama.gov/.

The county engagement process and broadband profiles are integral to the success of Alabama's broadband goals. ADECA has invested in an approach that informs, listens to, and empowers communities to be active partners in achieving these statewide goals.

5.1.5 Outreach and engagement of unserved and underserved communities

ADECA reached out to and engaged with unserved, underserved, and underrepresented communities in each county in the state, inviting county and municipal government representatives, local organizations who represent covered and other populations (including those listed in the State Digital Equity Planning Grant NOFO Section I.C.g.), and ISPs to interactive workshops.

ADECA began its all-county on-site program in the Black Belt region of Alabama (Lowndes, Greene, Sumter, Marengo, Pickens, and Hale counties), a rural area with many low-income households without access to high-quality broadband. This enabled ADECA to immediately learn about barriers and obstacles from an area with a high concentration of individuals living in poverty, individuals from racial and ethnic minorities, and the elderly.

ADECA is conducting ongoing meetings with many of the HBCUs and Minority Serving Institutions (MSIs) in the state in conjunction with the Student Freedom Initiative,[285] a national nonprofit that supports African American students. Dr. Cynthia Warrick, president of Stillman College, told ADECA in a meeting at Stillman College, that students avoid the dining hall if the Wi-Fi is down. She added that she hopes to share the benefits of a better broadband network with the community around the school. ADECA has used these meetings to gather additional information about barriers and obstacles in the community, provide additional information to the institution's community, and to inform the community about the ACP.

ADECA also met with other community-based organizations that support underrepresented communities, such as C.H.O.I.C.E., which provides digital navigators and other digital support

[285] Student Freedom Initiative, https://studentfreedominitiative.org/.

services in Uniontown,[286] and AARP, which provides training and other support to the elderly throughout the state.[287]

As noted previously, ADECA has reached out to the one federally-recognized Tribe in the state,[288] the Poarch Band of Creek Indians,[289] and to state-recognized Tribes.[290] ADECA has held listening sessions with the MOWA Band of Choctaw Indians[291] and the Southeastern Mvskoke Nation[292] and is working to schedule listening sessions with the other Tribes.

5.2 Priorities

This section lists ADECA's priorities for broadband deployment and digital opportunity.[293] The state recognizes that access to broadband means access to opportunity, as broadband becomes increasingly vital for work, education, health, and the daily life of Alabama's residents. It is key to economic development. The state's high-level priorities for broadband deployment reflect the state's goals and objectives (see Section 2) and are aligned with the principal focus of the BEAD Program:

1. Serve 100 percent of unserved locations (i.e., below 25/3 Mbps) with a minimum of 100/20 Mbps service within five years
2. Serve 100 percent of underserved locations (i.e., between 25/3 Mbps and 100/20 Mbps) with a minimum of 100/20 Mbps service within five years (if sufficient funds are available)
3. Deliver gigabit connections to Anchor Institutions that do not have that level of service within five years (if sufficient funds are available)

The following table identifies the types of detail-level priorities ADECA will consider as it develops and implements this Five-Year Action Plan.

[286] Choosing to Help Others in Our Community Excel, https://choiceuniontown.org/.
[287] "Broadband Expansion in Alabama: Make Your Voice Heard," AARP, https://states.aarp.org/alabama/broadband-expansion-in-alabama-make-your-voice-heard.
[288] "Map of Indian Lands in the United States," Bureau of Indian Affairs, https://www.doi.gov/sites/doi.gov/files/uploads/12_bia_regions.pdf.
[289] Poarch Band of Creek Indians, https://pci-nsn.gov/.
[290] "Tribes Recognized by the State of Alabama," State of Alabama Indian Affairs Commission, https://aiac.alabama.gov/Tribal-Map.aspx.
[291] MOWA Choctaw Indians, https://mowachoctawindians.com/.
[292] Southeastern Mvskoke Nation, https://southeasternmvskokenation.org/.
[293] This section addresses BEAD NOFO section IV.B.3.b. item 10.c (p.27) ("Provide a comprehensive, high-level plan for providing reliable, affordable, high-speed internet service throughout the Eligible Entity, including… [p]rioritization of areas for federal support.").

Table 16: Priorities for broadband deployment and digital opportunity

Priority	Description
Facilitate broadband deployment by utilizing existing partnerships and ADECA's experience	ADECA will utilize all available grant resources to deliver high-quality, future-proof middle-mile and last-mile fiber deployment in the state, with an emphasis on rural and unserved areas. ADECA will continue to build productive relationships with partners such as ISPs. ADECA will also facilitate broadband deployment and support economic development by fostering workforce development for broadband deployment.
Develop, maintain, and expand the capacity of a state broadband map that incorporates broadband service data for the public and in support of state grant programs	Alabama's Broadband Map[294] will be a crucial resource in ADECA's data-driven broadband deployment activities. The Alabama Broadband Map will also help engage and inform the public by providing updated information about BEAD plans and deployment successes.
Support local broadband efforts and encourage local participation in this Plan	ADECA conducted technical assistance outreach to partners in every county in the state. As described in Section 5.1, ADECA has held meetings in each of Alabama's 67 counties and has built a County Profile for each county, highlighting that county's broadband needs and the feedback from the meeting in that county. Each County Profile has been presented to the county for further feedback, as part of ADECA's ongoing outreach and engagement.
Engage community partners to increase broadband adoption	ADECA will continue to require ISPs that are awarded funds to participate in the ACP, as applicable. As part of the Alabama Statewide Digital Opportunity Plan, ADECA will collect additional data regarding the needs of covered populations. This is one of the many ways in which the goals and activities of the forthcoming Alabama Statewide Digital Opportunity Plan will align with this Five-Year Action Plan.
Assist economic development	Alabama has always understood that broadband deployment improves economic development. The Five-Year Action Plan represents an opportunity to ensure that Alabama residents obtain or enhance skills related to broadband deployment and, more broadly, to ensure that Alabama residents have an opportunity to enhance their digital skills in an increasingly digitized world.

[294] "Alabama Broadband Map," ADECA, https://broadband.alabama.gov/broadband-maps/.

5.3 Planned activities

This section lists, at a high level, the activities that ADECA intends to implement to meet its goals and objectives, including the source of their funding.[295]

The state plans to:

1. Develop broadband investment and deployment strategies for unserved and underserved areas through continually engaging the broadband ecosystem, local governments, and covered populations/underrepresented communities, leveraging Alabama's history of success in this area

2. Leverage federal sources of broadband funding and subrecipient capital to ensure that the networks that are built have a sustainable business plan and provide reliable, future-proof broadband access to end users across the state that considers affordability

3. Develop and strengthen partnerships with business partners, particularly in the areas of telehealth, agriculture, education, and small business

4. Develop and strengthen partnerships with local government to help local entities achieve their goals, particularly in the area of public safety and digital government services

5. Via the implementation of the Alabama Statewide Digital Opportunity Plan, which is in development,[296] provide opportunities for Alabamians to achieve digital skills, improve secure online privacy and cybersecurity, gain access to affordable consumer devices and technical support for those devices, and develop and strengthen partnerships with and between entities that support digital opportunity

6. Develop and strengthen partnerships with and between entities that can work together to create targeted workforce development programs to support future broadband expansion efforts, maintenance, and technical support

More specifically, ADECA's plan for ensuring reliable, affordable broadband service to all Alabamians may include the following activities, among others that are developed as the state collects more data and partner input:

[295] This section addresses BEAD NOFO section IV.B.3.b. item 10.b (p.27) ("Provide a comprehensive, high-level plan for providing reliable, affordable, high-speed internet service throughout the Eligible Entity, including…[t]he planned utilization of federal, Eligible Entity, and local funding sources.").
[296] As an Eligible Entity that is also utilizing funding from the State Digital Equity Planning Grant (SDEPG) Program, Alabama will ensure that the BEAD and SDEPG programs and plans are coordinated and that its visions for the BEAD and SDEPG Programs are closely linked and aligned.

Table 17: Planned activities

Planned activity	Description
Provide grant funding to potential ISP partners to achieve full service at unserved/underserved locations	Use BEAD funding to award competitive grants to potential subrecipients to construct future-proof networks to unserved and underserved address locations, as identified by the FCC data fabric and certified by the state's challenge process. This activity will be complemented by the state's previously-awarded broadband deployment grants.
Award competitive grants to achieve 1 Gigabit connection speeds for Anchor Institutions	If funds allow, use BEAD funding, after unserved and underserved address locations are awarded for buildout, for competitive grants to potential subrecipients to supply fiber gigabit connection speeds to identified Anchor Institutions that do not currently have such service and are certified by the state's challenge process.

5.4 Key strategies

Alabama will leverage its extensive experience and network of partners to ensure reliable, high-speed broadband service throughout the state. Using a comprehensive set of mutually reinforcing key strategies that Alabama has honed over time, ADECA will continue to focus on the key strategies outlined in Section 2 to reach full service and achieve the state's goals and objectives.

5.4.1 Building on existing partnerships to increase broadband deployment and adoption

Alabama is a leader when it comes to creating strong partnerships with community partners to address broadband affordability issues. As described in the introduction to Section 3, ADECA worked with ISPs to create the Alabama Broadband Map, worked with school districts to create the ABC for Students broadband program, and has worked with numerous other state and local partners to create broadband programs during a period when broadband has become increasingly important for economic development, education, and daily life.

5.4.2 Supporting workforce development to enhance Alabama's broadband ecosystem

ADECA recognizes that a local and talented workforce will minimize potential disruptions in the recruitment of needed labor by subrecipients (and their contractors and subcontractors). Alabama's numerous high-quality institutions of higher learning and dedicated workforce training and apprenticeship organizations can deliver workforce development programs that will empower trainees to rapidly enter the market with skills that will allow them to establish a long career in their specialization.

Key positions within the broadband ecosystem, such as network engineers, cybersecurity specialists, broadband technicians, data analysts, and telecommunications equipment installers are instrumental in designing, installing, maintaining, managing, and safeguarding broadband networks.

Additionally, customer service representatives, sales and marketing professionals, planners and project managers help ensure efficient delivery and project implementation. By prioritizing specialized training and skill development, the state will ensure the proficiency of its workforce to be prepared for these roles and will be able to support the growth and stability of the sector.

5.4.3 Supporting subsidy programs to achieve affordability

ADECA shares information about the ACP and a link to the FCC's support center for the ACP on its website.[297]

Alabama has made broadband affordability and outreach for the ACP and similar subsidy programs a goal of the Alabama Broadband Accessibility Fund (ABAF). Out of 160 total possible points in the rating of each service provider's application for ABAF funding, service providers can earn up to 10 points for making a commitment to "improving the adoption rate of broadband services by offering programs to households that meet guidelines established by ADECA or the funding source, including, but not limited to, special service rates, Internet-enabled devices that meet the needs of the user, and digital skills training."[298]

That commitment can be met in part via "any low-cost broadband service options that would be provided through the project as well as the applicant's participation in any federal programs that provide low-income consumers with subsidies on broadband internet access services, including the Affordable Connectivity Program."[299]

ABAF welcomes applications from any "cooperative, corporation, limited liability company, partnership, or other private business entity or unit of government that currently provides broadband service."[300]

ADECA's experience with the design and operation of the ABAF grant process will enable it to design a subgrantee process that awards funding to projects via a competitive process that will be based on a scoring matrix that aligns with Alabama's goals and BEAD statutory requirements.

5.4.4 Preparing for the future

As the Covid-19 pandemic made clear, demand for broadband will not develop linearly. In response to unanticipated events, it can surge. Future surges in demand may be created by new services rather than by new challenges. For example, if virtual reality becomes a necessity for home health, for education, or for telework, demand may surge again. It is for this reason that

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[297] "Affordable Connectivity Program," ADECA, https://adeca.alabama.gov/affordable-connectivity-program/.
[298] "Alabama Broadband Accessibility Fund, 2023 Grant Application, ADECA, p.8 https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fadeca.alabama.gov%2Fwp-content%2Fuploads%2F2023-ABAF-Grant-Application-FINAL.docx&wdOrigin=BROWSELINK.
[299] "2023 ABAF Rating Criteria," ADECA, https://adeca.alabama.gov/wp-content/uploads/2023-ABAF-Rating-Criteria.xlsx.
[300] "Alabama Broadband Accessibility Fund, 2023 Program Guide," ADECA, https://adeca.alabama.gov/wp-content/uploads/2023-ABAF-Program-Guide.docx (emphasis omitted).

Congress required that networks built with BEAD funding must be future-proof; demand will surge in the future and then networks will need to be upgraded. In its state-funded broadband grant programs, Alabama has set a higher broadband threshold than federal laws and regulations require—100 Mbps symmetrical service—to prepare for future rapid increases in broadband demand.

5.5 Estimated timeline for universal service

This section provides an estimate of when reliable, affordable, high-speed internet will be made available throughout Alabama.[301]

Alabama has been allocated $1,401,221,901.77 for broadband deployment through BEAD[302] and has developed a comprehensive timeline to estimate the administration of a subrecipient selection process for the state's BEAD allocation deployment.

The five-year period of performance for BEAD projects will be coordinated with and benefit from other broadband deployment projects the state is conducting. These include its existing ABAF program, CPF for last-mile broadband expansion, and its ARPA 1 and ARPA 2 middle-mile and Anchor Institution programs.

While CPF has a two-year deployment cycle, ADECA will apply best practices from its years overseeing broadband deployment grants and anticipates seeing an estimated 55,000 unserved locations connected through the CPF program alone.[303] ADECA will also leverage deployment from its ARPA Round 2 funding of $245 million for the AIMM Program to help meet timeline goals for universal broadband service to unserved Alabamians.

By strategically leveraging matching funds to maximize the BEAD allocations and following its timeline and process, the state can potentially achieve universal service to unserved locations in the BEAD five-year period of performance.

5.6 Estimated cost for universal service

This section provides an estimate of how much it will cost to provide reliable, high-speed internet throughout Alabama.[304]

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[301] This section addresses part of BEAD NOFO section IV.B.3.b. item 10.a (p.27) ("Provide a comprehensive, high-level plan for providing reliable, affordable, high-speed internet service throughout the Eligible Entity, including…[t]he estimated timeline and cost for universal service.").
[302] "Biden-Harris Administration Announces State Allocations for $42.45 Billion High-Speed Internet Grant Program as Part of Investing in America Agenda," NTIA Press Release, June 26, 2023, https://ntia.gov/press-release/2023/biden-harris-administration-announces-state-allocations-4245-billion-high-speed.
[303] U.S. Treasury, https://home.treasury.gov/system/files/136/Batch-8-State-Award-Fact-Sheet-AL-Jan-2023.pdf
[304] This section addresses part of BEAD NOFO section IV.B.3.b. item 10.a (p.27) ("Provide a comprehensive, high-level plan for providing reliable, affordable, high-speed internet service throughout the Eligible Entity, including…[t]he estimated timeline and cost for universal service.").

The state's estimated costs for providing access to reliable broadband service to unserved and underserved locations in Alabama are based on an analytical model that incorporates local labor and material unit costs; the location of existing infrastructure that can be used as a starting point; and surveys of a statistically valid sample of unserved and underserved areas.

At the time of this report, ADECA estimated the total five-year deployment cost to be approximately $1.96 billion to reach the estimated 191,164 unserved addresses in Alabama and achieve an estimated service take-rate of approximately 59.5 percent (113,743 customers). This estimate assumes a timeframe of 60 months for the buildout of primary fiber-to-the-premises (FTTP) infrastructure passing each unserved home, with deployment activities related to customer activations, including service drop construction and installation of customer premises equipment (CPE), continuing through the five-year period of performance.

Table 18: Estimated deployment costs to reach all unserved addresses (5-year performance period reaching 59.5-percent take-rate)

Cost component	Estimated cost (unserved)
Physical fiber plant construction – FTTP distribution network	$1,661,900,000
Core and distribution network electronics	$79,800,000
Subscriber drop construction	$153,600,000
Customer premises equipment	$60,900,000
Total	$1,956,200,000

A more comprehensive plan to address the state's broadband access needs, reaching all unserved and underserved addresses, would cost an estimated $2.3 billion over a five-year period of performance (Table 19). This estimate includes a total of 23,625 miles of new fiber construction reaching all estimated 75,044 underserved locations and 191,164 unserved locations with an estimated service take-rate of approximately 47.5 percent. In this scenario, the buildout of primary FTTP infrastructure and customer activations extends through the five-year performance period.

Table 19: Estimated deployment costs to reach all unserved and underserved addresses (5-year performance period reaching 47.5-percent take-rate)

Cost component	Estimated cost (unserved & underserved)
Physical fiber plant construction – FTTP distribution network	$1,904,900,000
Core and distribution network electronics	$111,800,000
Subscriber drop construction	$195,300,000
Customer premises equipment	$85,300,000
Total	$2,297,300,000

Cost is dependent on a variety of factors and conditions, including but not limited to materials and labor costs, take-rates, and built-in assumptions such as Internal Rates of Return (IRR) for providers. The IRR varies based on the take rate—ISPs can charge less per customer where there are more customers per mile, and a lower price encourages a higher take-rate. In areas with a significant quantity of low-income households, the take-rate will vary depending on whether the FCC's ACP is funded beyond 2024.

These projections do not include the positive timeline and cost impact of upcoming CPF last-mile broadband deployment projects that ADECA will award. Project areas under the CPF program will not be known until early 2024 at the earliest, but ADECA has estimated that these projects will connect as many as 55,000 unserved locations.[305]

5.7 Alignment

This section describes how the Plan aligns with other Alabama existing and planned economic development, telehealth, workforce development, and related connectivity efforts, and other priorities.[306]

Alabama has numerous programs at the local, county, regional, and state level that will align with this Plan by supporting broadband deployment and the educational, funding, and outreach efforts that enable greater broadband adoption. ADECA expects that this Plan, when enacted, will create an environment wherein broadband deployment, education, and adoption initiatives all reinforce each other, accelerating the economic development impact in Alabama.

The successful execution of this Plan to achieve universal broadband connectivity for Alabamians will accelerate Alabama's economic development. According to the Alabama Connectivity Plan, prepared for ADECA in 2021:

Should an additional 110,000 to 220,000 households enroll in broadband, Alabama could conservatively see a $60 million to $132 million increase in household income, as well as 6,500 to 7,900 new jobs that result in $449 million to $550 million of additional earnings. Healthcare savings with telemedicine adoption could range from $409 million to $818 million, and the consumer surplus value over 10 years is $1.4 billion to $2.9 billion. In sum, the total economic impact over 10 years (not including the construction impact) will be between $2.4 billion and $4.4 billion.[307]

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[305] U.S. Treasury, https://home.treasury.gov/system/files/136/Batch-8-State-Award-Fact-Sheet-AL-Jan-2023.pdf

[306] This section addresses BEAD NOFO section IV.B.3.b. item 12 (p.28) ("Detail alignment of the Five-Year Action Plan with other existing and planned economic development, telehealth, workforce development, related connectivity efforts, and other Eligible Entity priorities.").

[307] "The Alabama Connectivity Plan," ADECA, https://adeca.alabama.gov/wp-content/uploads/Alabama-Connectivity-Plan.pdf, p. 95.

In addition to economic development, the state anticipates an improvement of healthcare, education, civic engagement, and general quality of life for Alabamians. Alabamians want to be able to work and conduct business from home, study from home, and, when necessary and possible, obtain healthcare from home. Those who live in areas that lack broadband told of numerous problems: having to drive to the library to enable children to complete schoolwork, being unable to work from home to balance caregiving and employment, and of being unable to access basic services.

Efforts outlined in this Plan align with goals of ADECA and other state agency programs—improvement of health, education, civic engagement, and general quality of life of Alabamians. Such programs include, but are not limited to, the following:

- Community Development Block Grants (CDBG)[308] funded by the U.S. Department of Housing and Urban Development (HUD) in support of national objectives, such as decent housing, suitable living environments, and expanded economic opportunities[309]
- Housing Opportunities for Persons with AIDS (HOPWA) to support low-income persons disabled by HIV/AIDS as well as their families[310]
- Neighborhood Stabilization Program (NSP) to stabilize communities that suffered from foreclosures and abandonment[311]
- Office of Minority Business Enterprise to identify small, minority-owned, and women-owned businesses capable of providing goods and/or services to both government and private sectors[312]
- Opportunity Zones program to foster private-sector investments in low-income rural and urban areas[313]

Alabama's outreach started at the municipal and county level and remains focused there. Based on ADECA's extensive outreach and engagement with communities throughout the state, Alabama has developed broadband and digital opportunity data profiles for each of Alabama's 67 counties that will serve as a planning and strategy tool for county and municipal governments, regional planning commissions and councils of government, and state government agencies for alignment with other goals in the areas of economic development, workforce development, education, healthcare, and civic engagement. These county profiles also serve community-based

[308] "What is CDBG?" ADECA, https://adeca.alabama.gov/faq/what-is-cdbg/.
[309] Kathleen A Rasmussen, Ph.D., "ADECA's CDBG Program: National Objectives and Eligible Activities," https://adeca.alabama.gov/wp-content/uploads/2023-CDBG-Application-Workshop-National-Objectives-and-Eligible-Activities.ppt.
[310] "HOPWA," ADECA, https://adeca.alabama.gov/category/ced/hopwa/.
[311] "Neighborhood Stabilization Program," ADECA, https://adeca.alabama.gov/nsp/.
[312] "Office of Minority Business Enterprise," ADECA, https://adeca.alabama.gov/ombe/.
[313] "Opportunity Zones Program," ADECA, https://adeca.alabama.gov/opportunityzones/.

organizations, ISPs, and other partners committed to bringing universal service and digital opportunity to Alabamians, as well as informing members of the public with an assessment of broadband and digital opportunity in their communities.

Alabama has proactive leadership at the regional level. Alabama's 12 regional councils are organized under the Alabama Association of Regional Councils (AARC).[314] Each of the 12 regional councils produces a Comprehensive Economic Development Strategy (CEDS), many of which include broadband or will incorporate broadband goals.

Reliable internet is critical to businesses, governments, schools, libraries, hospitals, public safety, and other institutions. ADECA's approach in achieving universal connectivity addresses not only the needs of unserved and underserved Alabamians but also the needs of Anchor Institutions that are critical to help the state achieve its goals in healthcare, education, economic and workforce development, and civic engagement.

For example, ADECA expects that its subgrantee award process will prioritize projects that provide a material enhancement to healthcare facilities located in rural areas, and that support local libraries in Alabama in offering digital skills training. Projects under the Alabama Broadband Accessibility Fund (ABAF) last-mile broadband deployment program receive 10 points each for supporting healthcare and for supporting digital skills training by libraries.[315]

As part of the development of its 2021 Strategic Plan, ADECA met with the Alabama Hospital Association (AlaHA) and plans to coordinate broadband plans with AlaHA, as appropriate. The AlaHA Broadband Consortium assists participating healthcare providers in obtaining affordable broadband that enables the delivery of telemedicine services, for example via group purchasing,[316] and the initiatives outlined in this Plan will make it easier for AlaHA's participating healthcare providers to achieve their broadband goals.

5.8 Technical assistance

Although ADECA does not anticipate requiring technical assistance for itself, ADECA's ADED staff are in regular contact with Alabama's NTIA Federal Program Officer to ensure that there is an existing channel of communication in case needs arise. As noted in Section 4, ADECA may request assistance for any subgrantees who lack experience with federal rules and regulations, such as permitting rules regarding the environment and historic preservation.

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[314] "The Councils," AARC, https://alarc.org/the-councils/.
[315] "Alabama Broadband Accessibility Fund, 2023 Grant Application, ADECA, pp.7-8 https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fadeca.alabama.gov%2Fwp-content%2Fuploads%2F2023-ABAF-Grant-Application-FINAL.docx&wdOrigin=BROWSELINK.
[316] "AlaHA Broadband Consortium Network Plan 2020," as filed with the Universal Service Administrative Corporation, https://rhc.usac.org/hcf/documents/downloadResource.xhtml;documentId=document_1791303.

6. Conclusion

This Five-Year Action Plan establishes Alabama's broadband goals and priorities—and presents a comprehensive needs assessment that will inform the state's Initial Proposal.

ADECA will work to ensure that every Alabamian has reliable access to the internet along with the access to necessary tools and skills that unlock opportunities for educational advancement, economic success, improved health, and strengthened social ties. This will create more connected, resilient, and prosperous communities.

The state's primary objectives for broadband deployment are aligned with the principal focus of the BEAD Program:

1. Serve 100 percent of unserved locations (i.e., below 25/3 Mbps) with a minimum of 100/20 Mbps service within five years
2. Serve 100 percent of underserved locations (i.e., between 25/3 Mbps and 100/20 Mbps) with a minimum of 100/20 Mbps service within five years (if sufficient funds are available)
3. Deliver gigabit connections to Anchor Institutions that do not have that level of service within five years (if sufficient funds are available)

In this work, the state will build on the goals first stated in the Alabama Connectivity Plan issued in December 2021:

- Facilitate the expansion of high-speed broadband;
- Consider the need for broadband expansion in rural, underserved, and unserved areas;
- Address obstacles to broadband adoption; and
- Develop funding strategies and plans for fiber deployment.

The State of Alabama has been at the forefront of broadband efforts nationwide, with a detailed broadband availability map, established state broadband personnel, and grant funding to provide high-speed internet access to homes and businesses across the state. However, broadband access remains unavailable to many. BEAD funding will allow the state to achieve its goal of delivering high-speed internet connections to all Alabamians, with a particular focus on unserved populations.

On behalf of Alabama, ADECA submits this Five-Year Action Plan—continuing the state's commitment of operating under a strong and unified guiding vision and through the lens of full transparency. ADECA looks forward to next submitting the state's Initial Proposal.

Appendix A: Asset inventory data – digital opportunity assets

The following table details entities that have digital opportunity assets, including digital skills and workforce development programs.

Table 20: Additional digital opportunity assets

Asset name	Description
AARP – Senior Planet	Online classes.[317]
Alabama Alliance for Students with Disabilities, Alabama State University – various programs	Works to increase the opportunities in STEM education for students with disabilities.[318]
Alabama Area Agencies on Aging – various programs	Thirteen regional area agencies on aging, some of which are part of regional councils of government, provide a range of programs for seniors including computer skills.[319]
Alabama Association of Housing & Redevelopment Authorities	Provides training to local housing authorities; maintains directory of 300+ housing authorities throughout the state. Some local housing authorities in the state offer programs in digital skills.[320]
Alabama Association of Regional Planning Councils (AARC) – various programs	The 12 regional commissions and councils of government provide a variety of programs, including job training, financial counseling, youth leadership programs, veterans' programs, programs for seniors and other programs that may include digital skills and training.[321]
Alabama Career Center System – computer skills and workforce development	The system has 7 comprehensive career centers, 25 affiliate career centers, 7 satellite career centers, and 16 itinerant career centers located around the state. Provides online basic computer skills and business software skills and other workforce development resources.[322]
Alabama Career Center System – Montgomery	Northstar Digital Literacy services: Assessments, Assessment certificates, Computer classes, Northstar Online Learning accounts for learning and practice.[323]

[317] "Senior Planet from AARP," Senior Planet, https://seniorplanet.org/.
[318] "Alabama Alliance for Students With Disabilities," Alabama State University, https://www.alasu.edu/academics/researchcenters/alabama-alliance-students-disabilities.
[319] "Alabama Area Agencies On Aging (By Region)," Area Agency on Aging of West Alabama, https://www.westalabamaaging.org/alabama-area-agencies-on-aging.
[320] "Housing Authority Directory," Alabama Association of Housing & Redevelopment Authorities, https://www.aahra.org/hadirectory.
[321] "Programs," AARC, https://alarc.org/programs/.
[322] "Alabama's Career Center Services," Workforce Innovation & Opportunity Act | Alabama, https://wioa-alabama.org/career-services.
[323] *Id.*; "Alabama Career Center System," Northstar Digital Literacy, https://www.digitalliteracyassessment.org/find-location.

Asset name	Description
Alabama Community College System (ACCS) – Innovation Center and partnerships with local organizations for digital skills classes	The ACCS Innovation Center provides industry-recognized non-credit training. ACCS provides adult education technical and workforce development programs. Senior service organizations can partner with ACCS to teach classes at senior centers and town halls. Leverages World Education digital skills programs.[324]
Alabama Cooperative Extension System	Primary outreach and engagement organization for the land-grant mission of Alabama A&M University and Auburn University in cooperation with Tuskegee University. Provides range of programs in each county through state and online courses, including computer science skills, personal finance, and workforce development.[325]
Alabama Cooperative Extension System – 4H Tech Changemakers	Program places youth in leadership positions by training them to teach digital skills to underserved audiences. Provides computer and Internet basics, email fraud and scam prevention, searching for online information and jobs, and using tools and templates to develop resumés.[326]
Alabama Department of Human Resources (DHR) – County Field Representatives	County field representatives are primary point of contact to families that receive assistance for government services and are in a unique position to communicate about ACP and other broadband access subsidies, digital opportunity, and workforce training programs that may be available to covered populations.[327]
Alabama Department of Veterans Affairs – various programs, telehealth	Assists veterans in obtaining benefits and healthcare, including telehealth, through resources in each county throughout the state.[328]
Alabama Goodwill Industries – digital skills	Northstar Digital Literacy services: Assessments, Assessment certificates, Computer classes, Northstar Online Learning accounts for learning and practice.[329]
Alabama Indian Affairs Commission (AIAC) – health and scholarship programs	Represents more than 38,000 American Indian families who are residents of the State of Alabama.[330]

[324] See, e.g., "Fiber Optics," Wallace Community College, https://www.wallace.edu/programs-training/fast-track-workforce-development-training-programs/fiber-optic-training/.
[325] Alabama Cooperative Extension System, https://www.aces.edu/blog/category/counties/.
[326] Angela Williams, "Success Story: 4-H Tech Changemakers," Alabama Cooperative Extension System blog, March 28, 2023, https://www.aces.edu/blog/topics/about-us/success-story-4-h-tech-changemakers/.
[327] "County Office Contacts," DHR, https://dhr.alabama.gov/county-office-contact/.
[328] "Find Your Veterans Service Office," Alabama Department of Veterans Affairs (ADVA), https://va.alabama.gov/serviceofficer/.
[329] Alabama Goodwill Industries, https://www.alabamagoodwill.org/; "Alabama Goodwill Industries," Northstar Digital Literacy, https://www.digitalliteracyassessment.org/locations/alabama-goodwill-industries-.
[330] "Overview / Staff," AIAC, https://aiac.alabama.gov/overview.aspx.

Asset name	Description
Alabama Institute for the Deaf and Blind (AIDB) – assistive technology, digital skills, and computer skills programs.	Opportunities for students to earn Northstar Digital Literacy certifications. Assistive Technology classes are for each student's individual needs. Training and instruction are offered relating to the use and care of equipment and devices such as pagers, videophones, vibrating alarms, doorbell flashers, etc. The Computer Skills program prepares students with skills to obtain entry-level office technology, computer support and/or Web technology positions. AIDB has 10 regional centers located in Birmingham, Decatur, Dothan, Huntsville, Mobile, Montgomery, Opelika, Shoals, Talladega, and Tuscaloosa which extend the program offerings throughout the state.[331]
Alabama Institute for Deaf and Blind – E.H. Gentry Campus	Northstar Digital Literacy services: Assessments, Assessment certificates, Computer classes, Northstar Online Learning accounts for learning and practice.[332]
Alabama Network of Family Resource Centers	Partners with community colleges. Centers offer case management, support, and help to overcome barriers like transportation and childcare. Provides workforce training, access information to families, and internet skills classes to children and adults.
Alabama Partnership for Children (APC)	Develops, designs, and implements a unified approach for improving outcomes of children from birth to age five in Alabama.[333]
APLS – "Get the Internet to Go"	Addresses the Digital Divide in many of Alabama's most underserved rural communities by providing mobile hotspots to select Alabama public libraries. (1) Empowers public libraries in areas of low household broadband connectivity, which are often poor and rural counties, to serve a need made all the more urgent by the Covid-19 pandemic; and (2) Empowers local libraries in these communities to proactively maintain a lifeline to online information in the event of additional Covid-19 closures or a future crisis, whether disease or natural disaster, by enabling the circulation of mobile hotspots to patrons.[334]
APLS Service – services for the blind and physically disabled	APLS is a network member of the National Library Service (NLS) for the Blind and Print Disabled, a division of the Library of Congress. The Regional Library for the Blind and Physically Disabled is a free braille and talking book library service for people with temporary or permanent low vision, blindness, or physical, perceptual, or reading disability that prevents them

[331] "General Services," AIDB, https://www.aidb.org/Page/281.
[332] Alabama Institute for Deaf and Blind – E.H. Gentry Campus, https://www.aidb.org/EHG; "Alabama Institute for Deaf and Blind – E.H. Gentry Campus," Northstar Digital Literacy, https://www.digitalliteracyassessment.org/locations/alabama-institute-for-deaf-and-blind-eh-gentry-campus.
[333] "About the Alabama Partnership for Children," APC, https://alabamapartnershipforchildren.org/about/.
[334] "Alabama Hotspot Lending Program: Home," APLS, https://apls.libguides.com/hotspot/.

Asset name	Description
	from using regular print materials. The Regional Library circulates books and magazines in braille or audio formats that are instantly downloadable to a personal device or delivered by mail free of charge.[335]
APLS – various programs	APLS supports a network of nearly 300 local and regional libraries throughout the state. APLS fosters the ongoing professional development of library staff throughout Alabama, enabling them to be well-informed and competent to provide quality services to their constituencies. Homework Alabama provides statewide access to Learning Express databases.[336]
Alabama State Department of Education – Course of Study	K-12 curriculum for digital skills and computer science.[337]
Arc of Alabama, The	Non-profit, volunteer-based membership organization whose primary role is to advocate for the rights and protections of people with intellectual and developmental disabilities (I/DD) and their families. This advocacy is provided through Information and Referral services, educational opportunities like the annual Alabama disABILITY Conference, and public policy initiatives.[338]
Ardmore Telephone Company	Offers digital skills training consisting of short videos, less than 3 minutes each, powered by Microsoft Digital Literacy.[339]
Area Agency on Aging – Central Alabama Aging Consortium	Provides computer skills classes at senior centers.[340]
Area Agency on Aging – East Alabama Regional Planning and Development Commission	Provides computer skills classes at senior centers.[341]
Area Agency on Aging – Lee-Russell Council of Governments	Provides computer skills classes at senior centers.[342]

[335] "Library for the blind," APLS, https://aplsws2.apls.state.al.us/library-for-the-blind/.
[336] "About Us," APLS, https://aplsws2.apls.state.al.us/about-us/.
[337] Ed Richardson, Interim State Superintendent of Education, "Alabama Course of Study: Digital Literacy and Computer Science," Alabama State Department of Education, May 14, 2019, https://www.alabamaachieves.org/wp-content/uploads/2021/03/Final-2018-Digital-Literacy-and-Computer-Science-COS-5-14-19.pdf.
[338] The Arc of Alabama, http://thearcofal.org/; Alabama disABILITY Conference, https://www.aldisabilityconference.org/.
[339] "Digital Literacy Training," Ardmore Telephone Company, https://ardmore.net/digital-literacy-training/.
[340] Central Alabama Aging Consortium, https://centralalabamaaging.org/.
[341] "Area Agency on Aging of East Alabama," EARPDC, https://www.eastalabamaaging.org/.
[342] "Lee-Russell Council of Governments," https://business.opelikachamber.com/list/member/lee-russell-council-of-governments-1342.

Asset name	Description
Area Agency on Aging – Middle Alabama Area Agency on Aging	Provides computer skills classes at senior centers.[343]
Area Agency on Aging – North Central Alabama Regional Council of Governments	Provides computer skills classes at senior centers.[344]
Area Agency on Aging – North West Alabama Council of Local Governments	Provides computer skills classes at senior centers.[345]
Area Agency on Aging – South Alabama Regional Planning Commission	Assists seniors in obtaining benefits.[346]
Area Agency on Aging – South Alabama Regional Planning Commission	Provides computer skills classes at senior centers.[347]
Area Agency on Aging – South Central Alabama Development Commission	Provides computer skills classes at senior centers.[348]
Area Agency on Aging – Southern Alabama Regional Council on Aging	Provides computer skills classes at senior centers.[349]
Area Agency on Aging – Alabama Tombigbee Regional Commission	Provides computer skills classes at senior centers.[350]
Area Agency on Aging – United Way of Jefferson County	Provides computer skills classes at senior centers.[351]
Area Agency on Aging – West Alabama Regional Commission	Provides computer skills classes at senior centers.[352]

[343] "About Us," M4A, https://m4a.org/about-us/.
[344] "Area Agency on Aging (AAA)," NARCOG, https://www.narcog.org/serving-people/area-agency-on-aging.
[345] "Department of Aging Services," NACOLG, https://www.nacolg.org/department-of-aging-services.
[346] "Area Agency on Aging," South Alabama Regional Planning Commission, https://agingsouthalabama.org/.
[347] "Area Agency on Aging: Home & Community-Based Services," South Alabama Regional Planning Commission, https://agingsouthalabama.org/home-community-based-services/.
[348] "About the Area Agency on Aging," SCADC, https://scadc.net/aging/about-scadc/.
[349] "Who We Are," SARCOA, https://sarcoa.org/who-we-are/.
[350] "Alabama Tombigbee Regional Commission (ATRC), Area Agency on Aging (AAA) (ATRC Aging)," ATRC Aging, https://www.atrcaging.com/.
[351] United Way Area Agency on Aging of Jefferson County, https://www.uwaaa.org/.
[352] "Senior Activity Centers," Area Agency on Aging of West Alabama, https://www.westalabamaaging.org/senior-activity-centers.

Asset name	Description
AT&T Workforce Equity Initiatives	Equity-focused workforce programs, recruits from HBCUs, has internal Employee Resource Groups.
Barbour County Adult Education	Provides computer skills courses.[353]
Bishop State Community College (an HBCU) – workforce development programs	Adult education and training courses, including the General Educational Development (GED) diploma, designed to be equivalent to a high school diploma, as well as the following telecommunications-relevant certifications: OSHA 10, OSHA 30, and Northstar Digital Literacy.[354]
Black Belt and Central Alabama Housing	Helps low-income families, veterans, and seniors in Wilcox County obtain housing, food, and health services.[355]
Black Belt Community Foundation	Working with Google to provide digital skills programs to advance economic opportunity for people impacted by incarceration.[356]
Black Churches 4 Digital Equity	Developed toolkit to help Black church leaders spread the word in their communities about the ACP, encourage members of their congregations to sign up, and effectively advocate for digital opportunity.
Central Alabama Community College Adult Education Program	Northstar Digital Literacy services: Assessments, Assessment certificates, Computer classes, Northstar Online Learning accounts for learning and practice.[357]
Central Alabama Pride / Action Network	Spreads message of equality through the production of LGBT Pride events.[358]
C.H.O.I.C.E. (Choosing to Help Others in Our Community Excel)	Digital navigator program, hotspot program, and broadband advocacy in Uniontown and vicinity.[359]
Coastal Alabama Community College – Baldwin County Adult Education	Northstar Digital Literacy services: Assessments, Assessment certificates, Computer classes, Northstar Online Learning accounts for learning and practice.[360]

[353] "Barbour County Adult Education," https://barbouradulted.weebly.com/.
[354] "Adult Education & Workforce Development," Bishop State Community College, http://catalog.bishop.edu/content.php?catoid=11&navoid=617.
[355] BBCAH, https://www.bcah99.com/.
[356] "Black Belt Community Foundation Joins Google Program to Offer Digital Skills Training for People Impacted by Incarceration," Black Belt Community Foundation, November 18, 2022, https://blackbeltfound.org/news/black-belt-community-foundation-joins-google-program-to-offer-digital-skills-training-for-people-impacted-by-incarceration/.
[357] "Adult Education," Central Alabama Community College, https://www.cacc.edu/academics/adult-education/; "Central Alabama Community College Adult Education Program," Northstar Digital Literacy, https://www.digitalliteracyassessment.org/locations/central-alabama-community-college-adult-education-program.
[358] "Central Alabama Pride," https://actionnetwork.org/groups/central-alabama-pride.
[359] C.H.O.I.C.E., https://choiceuniontown.org/.
[360] "Adult Education," Coastal Alabama Community College, https://www.coastalalabama.edu/academics/adult-education/; "Coastal Alabama Community College – Baldwin County Adult Education," Northstar Digital Literacy, https://www.digitalliteracyassessment.org/locations/baldwin-county.

Asset name	Description
Coastal Alabama Community College – Escambia County Adult Education	Northstar Digital Literacy services: Assessments, Assessment certificates, Computer classes, Northstar Online Learning accounts for learning and practice.[361]
Comcast Project UP	Partners with the Boys & Girls Club of West Alabama, Village of Promise, and Big Brothers Big Sisters of the Shoals as part of Project UP (includes providing Wi-Fi and digital skills training at partner locations).
Community Action Association of Alabama (CAA) – ACP support	Statewide association of member community action agencies that offer range of programs for low-income individuals and families. Received funding for ACP awareness campaign.[362]
Community Action Association of Alabama TCRCC – ACP support	Helps residents enroll in ACP and receive a free tablet in partnership with SWA Connect.
Community Action Agency of Northeast Alabama – workforce development	Family Services – GROW, a new program. Program budget between $100,000-$249,000; served 25 in previous year.
Community colleges and regional library system	Community colleges and regional library system to conduct programs for digital skills.
Community Service Programs of West Alabama, Inc. – Digital Navigators	National Digital Navigator Corps awardee. Founded in 1967, provide resources and services which resolve immediate needs and lead to long-term self-sufficiency for low-income and vulnerable populations.[363] Plans to expand digital navigator program in west Alabama.
Covington Electric – digital skills training	Seeking to work with local schools and community groups to teach internet/computer skills.
Cullman Electric Cooperative – digital skills training	Working with United Way/Commission on Aging to develop digital skills training sessions
Dallas County Schools	Digital skills programs for parents and aging individuals. Program budget under $25,000; served up to 25 in previous year.
Dovetail Landing – various programs	Provides support, job training, and other services to veterans transitioning to peacetime with issues such as PTSD.
Equal Justice Initiative (EJI)	Works with communities marginalized by poverty and discouraged by unequal treatment. Provides research and recommendations to assist advocates and policymakers in criminal justice reform.[364]

[361] "Adult Education," Coastal Alabama Community College, https://www.coastalalabama.edu/academics/adult-education/; "Coastal Alabama Community College – Escambia County Adult Education," Northstar Digital Literacy, https://www.digitalliteracyassessment.org/locations/escambia-county.
[362] CAA, https://caaalabama.org/.
[363] "NDIA's National Digital Navigator Corps in Rural & Tribal Communities," National Digital Inclusion Alliance, https://www.digitalinclusion.org/digital-navigator-corps/.
[364] "About EJI," EJI, https://eji.org/about/.

Asset name	Description
Family Guidance Center – computer skills training – Montgomery and in Lowndes-Hayneville	No cost computer skills classes from basic computer skill classes to the use of more intensive software; computer classes and open computer labs allow for both group instruction and self-paced learning.[365]
Fantasy Playhouse Children's Theater and Academy	Offers a STEAM learning lab and technical theater subjects, such as lighting and sound engineering.[366]
Farmers Telecommunications Cooperative – digital skills programs	Partnered with a local community college to host a "Protecting your Identity" workshop, partnered with the DeKalb E-Center and the Jackson County Impact Learning Center in the Rural LISC Digital Navigators Program. Hosted community streaming television workshops.
First Stop	Offers a computer lab and digital skills classes to people experiencing homelessness in Huntsville.[367]
Florence-Lauderdale Public Library	Offers public computer access, computer classes, hotspots for checkout, and digital resources.
Gadsden State Community College (an HBCU) – services for veterans	Computer skills training and an individual action plan for each veteran served, via its Veterans Upward Bound program.[368]
GOAL – digital skills classes	Provides free digital skills classes in Decatur, Huntsville, and Athens areas. Entry-level computer class designed to provide computer skills and training to compete in today's job market.[369]
GoNetSpeed – planned digital skills partnerships	GoNetSpeed plans to work with local schools and community groups to teach internet/computer skills.
Goodwill Gulf Coast – digital skills classes	Beginner, upskill, and certification level courses available.[370]
Google Digital Inclusion Fund in Huntsville	Awards funds to local digital opportunity groups.[371]
Governor's Office of Volunteer Services	Works to increase ethic of service and volunteerism in Alabama, strengthen the capacity of Alabama's faith and community-based organizations, and promote collaboration among individuals and organizations striving to meet some of the greatest needs in our state, including education, health care, substance abuse, homelessness, and maintaining a healthy

[365] "Computer Classes," FGC, https://familyguidancecenter.org/services/computer-classes/.
[366] Fantasy Playhouse Children's Theater and Academy, https://www.fantasyplayhouse.org/. An awardee of the Google Digital Inclusion Fund in Huntsville.
[367] First Stop, https://firststop.org/. An awardee of the Google Digital Opportunity Fund in Huntsville.
[368] "Veterans Upward Bound," Gadsden State Community College, https://www.gadsdenstate.edu/students/vub.cms.
[369] "Digital Literacy," GOAL, https://goalalabama.org/programs/digital-literacy/.
[370] "Digital Skills Classes," Goodwill Gulf Coast, https://www.gesgc.org/digitalskills/.
[371] Ann Kvach, Program Officer, Community Foundation of Greater Huntsville, "Guest Blog: Investing in digital inclusion in Huntsville," Google Blog, March 21, 2023, https://fiber.google.com/blog/2023/03/guest-blog-investing-in-digital.html.

Asset name	Description
	environment. Administers ReadyAlabama.gov, a statewide initiative promoting disaster preparedness events and messaging across Alabama.[372]
Hispanic Interest Coalition of Alabama – various programs	Community development and advocacy organization that champions economic equality, civic engagement, and social justice for Latino and immigrant families in Alabama.[373]
Housing Authority of the Birmingham District – Your Home, Your Internet	Pilot program aimed at providing ACP outreach and application assistance to eligible households. Received funding from FCC in 2023.[374]
Housing Authority of Greene County	Afterschool and summer enrichment programs. Program budget under $25,000; served up to 100 people in previous year.
Huntsville Community Drumline	Teaches digital skills through music.[375]
Huntsville Inner City Learning Center	Volunteer-based organization offering a STEAM resource lab for children.[376]
Huntsville Madison County Library (HMCPL) – workforce development and computer classes	Has two workforce development centers, the Technology Training Center (TTC) at the Downtown Huntsville Library and the Workforce Development Lab at the North Huntsville Library. Committed to increasing digital skills in our community through one-on-one assistance and computer training classes and workshops.[377]
Lake Martin Area United Way	Programs include health, education, youth development, financial stability, access to essential services.[378]
Lauderdale County Board of Education	Common Sense Media Digital Citizenship – digital skills and cybersecurity for children and youth 6-18. Program budget under $25,000; served over 100 people in previous year.
Literacy Council of Central Alabama	Helps people to learn to use a computer, among other programs.[379]
Low Income Housing Coalition of Alabama (LIHCA)	Increases housing opportunities for Alabamians with the greatest financial need.[380]

[372] Alabama Governor's Office of Volunteer Services, https://www.servealabama.gov/; Ready Alabama, https://www.readyalabama.gov/.
[373] "About ¡HICA!" HICA, https://hicaalabama.org/en/about-us.
[374] "Consumer and Governmental Affairs Bureau and Wireline Competition Bureau Announce ACP Pilot Program Grants Target Funding," FCC, March 15, 2023, https://docs.fcc.gov/public/attachments/DA-23-219A1.pdf.
[375] Huntsville Community Drumline, https://hcdrumline.org/. An awardee of the Google Digital Inclusion Fund in Huntsville.
[376] Huntsville Learning Center, https://www.hiclc.org/. An awardee of the Google Digital Inclusion Fund in Huntsville.
[377] "Workforce Development and Computer Classes," HMCPL, https://www.hmcpl.org/workforce.
[378] Lake Martin Area United Way, https://www.unitedwaylakemartin.org/.
[379] Literacy Council of Central Alabama, https://literacy-council.org/.
[380] LIHCA, https://lihca.org/.

Asset name	Description
Lowndes County Schools – Career Technical School	Provides devices and technical support, online accessibility, and workforce development training. Program budget between $50,000 and $99,999; served up to 50 people in previous year.
Luverne Public Library	Provides digital navigator classes.[381]
Mediacom – ACP Community Workshops	Mediacom offers to hold ACP workshops on community request. Offers ACP information in English, French, Spanish, and Farsi.[382]
Mercy House – various programs	Operates MAP Center for Excellence for career guidance, adult education, and family services. Partnered with Trenholm State Community College.[383]
National Center for Women in Technology – digital skills	Provides digital skills training programs for women.[384]
North Central Alabama Regional Council of Governments	Can offer a digital skills program for elderly, with partner providing a 10 percent match. Has funding available.[385]
North Central Alabama Regional Council of Governments – digital skills training for seniors	Digital skills classes at senior centers and other locations to teach people how to access the internet on their phone, navigate internet, reboot their modem, and other simple digital skills.[386]
Northeast Alabama Community College	Northstar Digital Literacy services: Assessments, Assessment certificates, Computer classes, Northstar Online Learning accounts for learning and practice.[387]
Randolph County Economic Development Authority – digital skills training	Received funding from Microsoft Philanthropies to launch the Community Skills Initiative Alabama Region program. A suite of online training and resources, accessed through the Community Skills Initiative Alabama website, offers access to free online digital skills training courses.[388]

[381] Luverne Public Library, http://www.luvernepubliclibrary.com/.
[382] "Affordable Connectivity Program," Mediacom, https://mediacomcable.com/acp/.
[383] Mercy House and Map, https://www.mercyhousemgm.org/.
[384] "Search Results for: Alabama," NCWIT, https://ncwit.org/?s=alabama.
[385] NARCOG, https://www.narcog.org/.
[386] *Id.*
[387] NACC, https://www.nacc.edu/; "Northeast Alabama Community College," Northstar Digital Literacy, https://www.digitalliteracyassessment.org/locations/northeast-alabama-community-college.
[388] "Randolph County Economic Development Authority," Community Skills Initiative, https://www.communityskilling.org/partner/rceda; Jerry Underwood, "Microsoft taps Randolph County to lead digital skills initiative in Alabama," Made In Alabama, October 13, 2022, https://www.madeinalabama.com/2022/10/microsoft-taps-randolph-county-to-lead-digital-skills-initiative-in-alabama/.

Asset name	Description
Reid State – CACC Monroeville	Northstar Digital Literacy services: Assessments, Assessment certificates, Computer classes, Northstar Online Learning accounts for learning and practice.[389]
Senior Center in Clio	Offers digital skills classes.
Shelton State Community College (an HBCU) – workforce development programs	Provides GED, Northstar Digital Literacy Certificate, and English as a Second Language programs.[390]
Springville Senior Center	Developing and distributing accessible online content directed at populations with specific needs, such as seniors, low-income residents, those with low literacy, and those whose first language is not English.
Still Serving Veterans – Huntsville	Connects veterans and their families with local resources.[391]
Sumter County Opportunities	Head Start program covering transportation, nutrition, education, health; has an "early learning" program that introduces technology tools to its preschool students.[392]
The Black Belt Digital Equity and Inclusion Coalition	Partnership between The Elmore Bolling Initiative and The South Central Alabama Broadband Cooperative District's GetWiredAlabama initiative to advance digital opportunity for the South-Central Alabama Black Belt region. Working to develop computing centers in each county to support development of digital skills.[393]
The Pathfinder	Sober living facility offering career education and digital skills.[394]
Thrive Regional Broadband Alliance – digital skills	Thrive is a cross-sector partnership framework where partners can share ideas and resources related to digital access and opportunity, build empathy, and spark connections across organizations and county and state lines. Offers basic digital skills classes such as Broadband 101.[395]

[389] "Adult Education Services," Reid State Technical College, https://www.rstc.edu/adulteducation; "Reid State – CACC Monroeville," Northstar Digital Literacy, https://www.digitalliteracyassessment.org/locations/reid-state-cacc-monroeville.
[390] "Adult Education," Shelton State Community College, https://www.sheltonstate.edu/instruction-workforce-development/adult-education/. See also, "Shelton State Adult Education Online Cycles Set to Begin," WVUA23, May 21, 2020, https://www.wvua23.com/shelton-state-adult-education-online-cycles-set-to-begin/ ("These online classes are free, and focus on topics such as digital literacy, workplace skills and GED preparation.").
[391] Still Serving Veterans, https://ssv.org/veteran-resource-connection.
[392] "Services," Sumter County Opportunities, http://sumtercountyopportunity.org/services.html; "Sumter County Opportunities," Mightycause, https://www.mightycause.com/organization/Sumter-County-Opportunity.
[393] "The Elmore Bolling Initiative Receives Planning Grant," The Elmore Bolling Initiative, https://bollinginitiative.org/bdeic.
[394] The Pathfinder, https://thepathfinderhsv.com/. An awardee of the Google Digital Inclusion Fund in Huntsville.
[395] "Regional Broadband Alliance," Thrive Regional Partnership, https://www.thriveregionalpartnership.org/projects/regional-broadband-alliance.

Asset name	Description
Troy University – online education program	Adult education certificates.[396]
Tuscaloosa's One Place Workforce Development	Workforce development programs in partnership with Alabama Network of Family Resource Centers (ANFRC),[397] A-RESET (Alabama Resources for Enrichment, Self-Sufficiency, and Employability Training),[398] and Temporary Assistance for Needy Families (TANF).[399]
Tuscaloosa's One Place Workforce Development – Juvenile Detention Alternatives Initiative	Promotes changes to policies, practices, and programs to reduce reliance on secure confinement, improve public safety, reduce racial disparities, save taxpayer dollars, and stimulate overall juvenile justice reforms.[400]
United Cerebral Palsy of West Alabama	Dedicated to respecting the rights of the members and encouraging them to have an active role in choosing the types of activities they want to participate in while at the UCPWA Center.[401]
United Way of Central Alabama	Programs include Area Agency on Aging, financial stability, early childhood learning, post-secondary workforce development, veteran services, and access to community services.[402]
United Way of Cullman County	Programs include health, education, youth development, workforce development, financial stability, and access to essential services.[403]
United Way of East Central Alabama	Northstar Digital Literacy services: Assessments, Assessment certificates, Computer classes, Northstar Online Learning accounts for learning and practice.[404]
United Way of East Central Alabama	Programs include health, education, youth development, financial stability, digital skills, and access to essential services.[405]
United Way of Etowah County	Programs include health, education, youth development, financial stability, and access to essential services.[406]
United Way of Lee County	Programs include health, education, youth development, financial stability, and access to essential services.[407]

[396] "Adult Education Programs," Troy University, https://www.troy.edu/academics/academic-programs/graduate/education-professional-studies-programs.html.
[397] ANFRC, https://www.anfrc.org/.
[398] A-RESET, https://www.unitedwaysofalabama.org/a-reset/.
[399] "Our Programs," Tuscaloosa's One Place, https://www.tuscaloosaoneplace.org/what-we-do.
[400] *Id.*
[401] "Programs," UCPWA, https://ucpwa.org/programs/.
[402] "Our Programs," UWCA, https://www.uwca.org/about/programs/.
[403] "What We Do," United Way of Cullman County, https://www.uwaycc.org/what-we-do.
[404] United Way of East Central Alabama, https://www.uweca.org/; "United Way of East Central Alabama," Northstar Digital Literacy, https://www.digitalliteracyassessment.org/locations/united-way-of-east-central-alabama.
[405] United Way of East Central Alabama, https://www.uweca.org/.
[406] "Directory of Agencies," United Way of Etowah County, https://www.uwoec.org/directory-agencies.
[407] "Our Agencies," United Way of Lee County, https://www.unitedwayofleecounty.com/our-agencies.

Asset name	Description
United Way of Marshall County	Programs include health, education, youth development, financial stability, and access to essential services.[408]
United Way of Northwest Alabama	Programs include health, education, youth development, financial stability, adult skills, and access to essential services.[409]
United Way of Southwest Alabama	Programs include health, education, youth development, financial stability, and access to essential services.[410]
United Way of West Alabama	Programs include health, education, youth development, financial stability, and access to essential services.[411]
United Way Wiregrass	Programs include health, education, youth development, financial stability, access to essential services.[412]
United Ways of Alabama – various programs	Coordinates programs across the 20+ regional and local United Ways throughout the state. Delivers A-RESET employability training program through United Ways and other organizations throughout the state.[413]
University of Alabama – Culverhouse School of Accountancy – computer skills training	Adults of any age are encouraged to sign up and take classes. The adults will be paired with one University student who will teach them one-on-one.[414]
University of Alabama – Office of Teaching Innovation and Digital Education	Various flexible and innovative education programs, technical assistance, and applied research that create opportunities and touch lives.[415]
University of Alabama – Osher Lifelong Learning Institute	Computer classes for senior citizens if you are a member. Residents of these facilities and housing complexes also can sign up through the actual facility for computer and phone tutoring: Regency Retirement Village, Pine Valley Retirement Village, Clara Verner Apartments, Presbyterian Apartments, Holt Senior Center, and Hay Court. Residents of Branscomb Apartments can sign up for youth tutoring at the facility as well.[416]
University of West Alabama – Black Belt Digital Initiative in 2023	Goal is to "enhance broadband access, capacity, and adoption and increase digital skills in Sumter and Greene Counties through a collaborative partnership." Received a $1.7 million NTIA Connecting Minority Communities grant to hire a

[408] "Our Partners," United Way of Marshall County, https://www.unitedwaymarshall.org/Our-Partners.
[409] "Community Partners and Programs," United Way of Northwest Alabama, https://www.uwnwal.org/community-partners-and-programs.
[410] "Partner Agencies," United Way of Southwest Alabama, https://uwswa.org/our-partners/partner-agencies/.
[411] "Our Partner Agencies," United Way of West Alabama, https://uwwa.org/our-partners/partner-agencies.
[412] "Our Partnering Agencies," Wiregrass United Way, https://www.wuw.org/our-partnering-agencies.
[413] "Mission," United Ways of Alabama, https://www.unitedwaysofalabama.org/mission/.
[414] "Computer & Phone Skills Training," Culverhouse School of Accountancy, University of Alabama, https://lift.culverhouse.ua.edu/classes/computer-skills-training/.
[415] "Teaching Innovation and Digital Education," The University of Alabama, https://tide.ua.edu/.
[416] OLLI, The University of Alabama, https://olli.ua.edu/.

Asset name	Description
	program coordinator (with IT technician and assistant), procure computers and Zoom room equipment, deploy these in town halls, libraries, and chambers of commerce in towns in Sumter County, and provide training and digital skills training for community members who want to learn to use the equipment and for students at university.[417]
University of West Alabama – Leveraging Integrated Networks for Change and Sustainability (LINCS)	Project to develop a rural regional workforce based on industry-recognized credentials and need to strengthen the economy and population in West Alabama in a 10-county service area across the Black Belt. Funded by a $2.5 million grant from the U. S. Department of Labor and the Delta Regional Authority. Has skills-on-wheels mobile equipment that goes to rural areas on rotating basis.[418]
Walker Area Community Foundation	Grassroots organization partnered with more than 100 nonprofits. Many partners provide the social-safety network of our service area: children/youth, education, health, arts and humanities, and social welfare programs.[419]
WOW! – Belonging Community at WOW!	For employees, provides access and participation to affinity groups including the LGBTQA+, Disability Awareness, Women in the Workforce, Aging Workforce, and Multi-Ethnicity Affinity Groups.
ZHBC Community Development	Senior citizens basic computer skills class. Program budget under $25,000; served 25 people in previous year.

[417] "Digital Equity Coordinator for Black Belt Digital Institute," UWA, Current Openings, May 1, 2023, https://www.uwa.edu/about/universitydepartments/employment/currentopenings/cmcdigitalequitycoordinator.
[418] Phillip Tutor, "UWA puts wheels under skills training, career exploration," UWA, November 2021, https://www.uwa.edu/news/dewd/skillsonwheelsNov2021.
[419] "Walker Area Community Foundation," https://www.wacf.org/.

Appendix B: Supplementary asset inventory data from outreach and engagement

During ADECA's extensive outreach and engagement, various entities stated that they have broadband deployment (infrastructure), broadband adoption, broadband affordability, broadband access, and digital opportunity assets gaps. Those statements are reflected in the following tables.

Supplementary asset inventory – broadband deployment assets

The following table details entities that participated in ADECA's outreach and engagement sessions and that stated that they have programs or other broadband deployment assets.

Asset name	Description
Feasibility study	Shelby County has hired Sain Associates, a member of the local Chamber of Commerce, to do a feasibility study and prepare the county for negotiations with ISPs – timing of study not disclosed.[420]
Funding for broadband	A representative of the TVA has said at numerous ADECA outreach sessions that TVA Connected Communities program[421] funding can be used for broadband.
Partnership for deployment	AUBix,[422] a data center based in Auburn, is interested in partnering with ISPs.
Partnership for deployment	WOW!, an ISP, has an existing partnership with the City of Auburn and Auburn University.
Skilled workforce available to deploy broadband	A representative of C Spire[423] said that it has worked with Wallace Community College[424] to create a workforce development program.
Skilled workforce available to deploy broadband	A representative of Charter said that the company plans to work on workforce development.
Skilled workforce available to deploy broadband	A representative of Sprout Fiber said that they are building a workforce development program for high school students so that they can graduate from high school with their fiber license. The program offers hands-on training and began offering classes during the current school year.
Skilled workforce available to deploy broadband	A representative of the Community Action Association of Alabama[425] said that it is working on workforce education for jobs needed to deploy broadband.

[420] Alyssa Hochstetler, "Shelby County Broadband," SAIN Associates, April 24, 2023, https://www.sain.com/shelby-county-broadband/.
[421] "Economic Development," TVA, https://www.tva.com/economic-development.
[422] AUBix, https://aubix.net/.
[423] C Spire, https://www.cspire.com/.
[424] "Fast Track / Workforce Development Training Programs," Wallace Community College, https://www.wallace.edu/programs-training/fast-track-workforce-development-training-programs/.
[425] Community Action Association of Alabama, https://caaalabama.org/.

Asset name	Description
Skilled workforce available to deploy broadband	An attendee said that Cullman County Schools hires juniors and seniors and trains them primarily on electrical lines but also on fiber optic skills to meet the needs of the local electric cooperative, which offers fiber. The attendee encouraged everyone to talk to the school system because they are eager to share. For their most recent year, they had twice as many students as they had spaces.
Skilled workforce available to deploy broadband	C Spire worked with Wallace Community College to create a workforce development program.
Skilled workforce available to deploy broadband	Community Action Agency is interested in creating opportunities for low-income families to obtain skilled jobs.
Skilled workforce available to deploy broadband	Community Action Association of Alabama is working on workforce education for jobs needed to deploy broadband.
Skilled workforce available to deploy broadband	Shelby County's economic development corporation, 58 INC,[426] works with workforce initiatives that use donated materials from Thompson Tractors.

Supplementary asset inventory – broadband adoption assets

The following table details entities that participated in ADECA's outreach and engagement sessions and that stated that they have broadband adoption assets such as discounted or subsidized broadband tiers or ACP outreach programs. The Alabama Broadband Accessibility Fund (ABAF) last-mile grant program provides extra points for ISPs that include efforts to support broadband adoption and community engagement.

Asset name	Description
Private schools	In some private schools, a laptop is part of tuition, but no replacement for damage
Butler County Jail	Has tablets that inmates can use for video conferencing.
C.H.O.I.C.E.	Helps people apply for ACP.
Community Action Agency	Gives out free tablets to low-income families through the ACP program.
GoNetSpeed, an ISP	Donated 10 laptops to Oneonta Public Library.
Organized Community Action Program (OCAP)	Gave away tablets in Rutledge.
Russellville Public Library	Has five hotspots that are funded by the state that are constantly being checked out, and people from the entire county utilize the resources because they cannot connect at home.
St. Clair County local school system	Local school has ACP information on its website.

[426] 58 INC, https://58inc.org/.

Asset name	Description
Windstream	A representative of Windstream said, "the future of ACP is at the top of Windstream's Federal Priorities list."

Supplementary asset inventory – broadband affordability assets

The following table details entities that participated in ADECA's outreach and engagement sessions and that stated that they have broadband affordability assets such as providing public internet access.

Asset name	Description
Alabama Libraries	Some libraries are eager to host ACP events; some providers are eager to set up a booth at any local event to promote ACP; libraries know when their busy times are.
Comcast ACP Promotion	Comcast promotes ACP through community events, on-location sign-up events, and a partner portal
Community Action	ACP enrollment.
Community Action Association Alabama	Community organizations such as Community Action may be aware of ACP-eligible households and have trusted voice to describe program during outreach.
Community Action Association of Alabama	Has funding for ACP awareness campaign.
Cyber Broadband	This ISP participates in ACP and got started with affordability programs via ADECA's ABC for Students program.
Farmers Telecommunications Cooperative (FTC) ACP Promotion	FTC promotes ACP through community workshops and is interested in scaling these offerings
Mediacom ACP Promotion	Mediacom raises awareness of ACP through public events
Previous voucher program offered through collaboration with Charter	ADECA and Charter previously offered internet subsidy vouchers through a partnership with Charter Spectrum. Charter is interested in similar future partnerships.
Sprout Fiber Internet (Cullman Electric Cooperative) ACP Promotion	Cullman Electric Cooperative provides ACP outreach through partnership with United Way and the County Commission on Aging
Thrive, a community organization, is part of the Regional Broadband Alliance	Offers ACP enrollment training.
Volunteers	Local volunteers can help with ACP outreach.
WOW! ACP Promotion	WOW! advertises ACP to customers via monthly emails, call center outreach, and recorded messages when customers are on hold.

Supplementary asset inventory – broadband access assets

The following table identifies examples of broadband assets that either provide direct access to services for end users, such as public Wi-Fi networks and cellular connectivity (mobile broadband), or assets that facilitate last-mile applications and public networks.

Asset name	Description
ADECA	ADECA is offering points for ISP grant projects that offer public Wi-Fi via agreement with local municipality.
Alabama Hospital Association	Alabama Hospital Association is eager for hospitals to be treated as broadband hub of community.
Alabama Power	Alabama Power offers fiber leases (middle-mile).
Cherokee County library	We're in the 2nd year of the hotspot program with the APLS. They do circulate. ADECA: We'd be happy to work with you to see about getting more hotspots.
Cherokee County School System	We surveyed families during Covid. Sent 280 hotspots home with students. Our students and staff can check them out any time. ADECA: We'd be happy to work with you to see about getting more hotspots.
Elmore Bolling Initiative / Get Wired / Omnipoint	Elmore Bolling Initiative said it will set up local tech centers in Marengo and other nearby counties and that it is working with Get Wired and Omnipoint fiber to provide an open-access network.
Elmore Bolling Initiative / Get Wired / Omnipoint	Get Wired/Elmore Bolling initiative is working throughout the Black Belt to develop computing centers in each of the counties to support development of digital skills.
Geneva County Department of Veterans Affairs (DAV)	Geneva DAV helps provides services to veterans to include allowing veterans to come into the office and use company computers and phone to attend their telehealth appointments.
Hale County School System	A representative of the local school system said that it purchased Verizon/AT&T hotspots for students. But in certain areas, they still struggled with connectivity, so it bought from Southern Link – which worked for the most part. But some people had to put it on the porch or on a windowsill. Before lending out hotspots, it put the hotspots on buses and in accessible areas.
Libraries in Montgomery County	Have device lending programs.
Method for serving large rural properties	A County Commissioner in Clay County attended an outreach session and said that Charter Communications provided an amplifier on the house so that he could get service out in the shack beyond the pasture.
Mobile Housing Authority	Mobile Housing Authority: 8 different housing communities, approximately 1,300 housing units. Counterparts at public housing across the country, some have done Wi-Fi, and we are looking at that as an option.

Asset name	Description
Monroe County Library	Monroe County Library has free Wi-Fi – and at least five providers.
Public Library in Luverne, in Crenshaw County	Offers after-hours Wi-Fi access.
Washington County Library	Wi-Fi in parking lot is popular.

Supplementary asset inventory – digital opportunity assets

The following table details entities that participated in ADECA's outreach and engagement sessions and that stated that they have digital opportunity assets, such as digital skills classes and workforce development programs.

Asset name	Description
AARP	AARP is working on a partnership with United Way to identify existing community resources.
ACP support	Community Action Association of Alabama received funding for ACP awareness campaign.
Alabama Community College System	Older Americans Act has funding for serving seniors. Senior service organizations can partner with the Alabama Community College system to teach classes at senior centers and town halls.
Alabama Cooperative Extension System	County Extension coordinator: We took for granted that everyone had internet and when Covid hit, we had an inventory of math and science programs online, and the parents told us that they could not get to them. They had to go to the school parking lot or McDonald's, and those systems can bog down when there's too many people on them.
Alabama Institute for Deaf and Blind	Said they can help provide training to end users and provide sensitivity training to businesses that serve customers who experience dual sensory loss.
Black Belt and Central Alabama Housing (BBCAH) from Wilcox County, a corporation	Attended the Calhoun County outreach session and expressed an interest in building or obtaining housing for low-income families, veterans, and seniors in Wilcox County. ADECA connected them with Greene County Industrial Development Authority.
Communications Workers of America (CWA) (a union)	CWA is happy to partner with ISPs for training.
Community colleges and regional library system	Community colleges and regional library system to conduct programs for digital skills.
Community Service Programs of West Alabama	Has offered digital navigators since the pandemic and plans to add more, perhaps with federal funding.

Asset name	Description
Digital skills programming initiative through public libraries	The APLS announced a new partnership in 2022 to expand capacity for skills programming through the state's public libraries, including a new digital skills initiative.
GoNetSpeed / Community Action	At an outreach session, a representative of GoNetspeed was introduced to a representative of Community Action for a possible partnership for digital skills.
Lit Communities	In Birmingham, Lit Communities is working with partners to offer workforce development and digital opportunity programs.
Local library	Local library discontinued digital skills program because of lack of interest but could restart it if there were demand for it.
North Central Alabama Regional Council of Governments	Looking into implementing classes at senior centers and other locations to teach people how to access the internet on their phone, navigate the internet, reboot their modem, and other simple digital skills.
North Central Alabama Regional Council of Governments (NARCOG) and Alabama Community College System	NARCOG could offer a digital skills program with a partner, providing a 10 percent match. Has funding that it has not been using. Alabama Community College System replied that it would like to participate. In response to a question from Alabama DHR in Morgan, NARCOG said that classes will be geared at serving the elderly.
Potential ACP Community Workshops	Mediacom offers to hold ACP workshops on community request.
Public Library in Luverne	Has two employees that offer some digital navigator classes.
Senior Center in Clio	Offers digital skills classes.
Thrive, a community organization, is part of the Regional Broadband Alliance.	Offers basic digital skills classes such as Broadband 101.
Tuscaloosa library system	The library is seeking to work with other organizations that have a signal to set up story time and STEM education. Librarians in schools are not trained. One person checked out a hotspot and got their GED online.
University of West Alabama	Has skills-on-wheels mobile equipment. This will go to rural areas, probably two days a week in one area and then rotate.

Appendix C: Needs and gaps identified through engagement

The following table details a sample of the needs and gaps identified by participants in ADECA's outreach and engagement sessions. These are in addition to the items in the tables throughout Section 3.4.

Section number/ issue category	Description of issue
3.4.1 Broadband Deployment	25/3 Mbps is not enough for business. Business 1 Gbps service would cost $1200+ per month at one location in the county.
3.4.1 Broadband Deployment	6 Mbps internet is not enough to stream, run a security camera or get a Ring doorbell. "We are not offered what the people in the cities are offered."
3.4.1 Broadband Deployment	A lot of students lack access to the internet and have had to travel to access internet to complete assignments, do homework, etc.
3.4.1 Broadband Deployment	A mayor said, "I would like to see everyone who wants broadband get it. People are begging for it. It's on Facebook all the time: my internet is awful, how is yours?"
3.4.1 Broadband Deployment	A representative of Alabama Department of Human Resources (DHR) said that poor cell service hampers internet outreach.
3.4.1 Broadband Deployment	A representative of DHR warned that it still has to use paper applications to provide benefits to applicants as many lack internet service. If they had internet service, they would be able to better access benefits and possibly work from home.
3.4.1 Broadband Deployment	A representative of the local housing authority said that internet slows down at peak times so that residents cannot send or receive email.
3.4.1 Broadband Deployment	A representative of the local school system said, "We ordered enough hotspots for everyone who said they didn't have internet. But then families lied about not having it so they could also get free hotspots. So, we had to order more. Had to apply additional settings to devices so students could only use it for educational purposes. So, it definitely slows down at the high traffic times. But if still fails, we go back to paper and pen."
3.4.1 Broadband Deployment	A resident said that some local ISPs lose service after rain or high winds.
3.4.1 Broadband Deployment	A resident working on their master's degree said that the internet has deteriorated, which is a serious problem during a timed quiz. Sometimes they have to go somewhere else to do online classes.
3.4.1 Broadband Deployment	An ISP said that, in areas where ISPs have not built in the past, the support of local government could help with negotiations with power companies for pole access, and directly via access to rights of way, to lower projected costs, resulting in a viable business model.

Section number/ issue category	Description of issue
3.4.1 Broadband Deployment	AT&T would like a more efficient permitting process.
3.4.1 Broadband Deployment	Attendees concerned that Alabama's map overstates speeds in Wilcox County, particularly those offered by Frontier.
3.4.1 Broadband Deployment	Black Creek Fire Department does not even have 25/3 Mbps service, which is an issue for public safety. "I call it the Bermuda Triangle (Black Creek). We have nothing."
3.4.1 Broadband Deployment	Black Creek is in a cell phone dead spot and it's hurting education and safety.
3.4.1 Broadband Deployment	Broadband providers may serve one house but not the neighboring house.
3.4.1 Broadband Deployment	Caregiver wants to work at her mother's house but cannot because no internet service at mother's house.
3.4.1 Broadband Deployment	Cell broadband not good enough for education from home, whether high school or college.
3.4.1 Broadband Deployment	CERM, an engineering company, recommends that the state improve permitting to bring in ISPs for public-private partnerships. Work with libraries and churches to get the word out about new networks. Build a website so that someone can find out about progress and "when I am getting it."
3.4.1 Broadband Deployment	Cleburne County DHR representative: Low-income residents who have no internet and poor cell phone service are unable to do basic things such as obtain government services, and their kids have trouble with schoolwork. Said that she herself completed degree online while raising three sons and would not have been possible if had to go to a campus.
3.4.1 Broadband Deployment	Commissioners said that broadband is inadequate where they live. One said that they have 10/1 DSL, and another said that they cannot run a speed test. Yet another commissioner said that cellular hotspots are inadequate for school children who try to use them to do homework. Others complained about the speeds offered by Gigafy and HughesNet.
3.4.1 Broadband Deployment	Community is concerned about kids having to go to school parking lots to find hotspots to do schoolwork.
3.4.1 Broadband Deployment	Complaints about actual speeds vs. advertised speeds offered by TDS.
3.4.1 Broadband Deployment	Concern about older in-building wiring not being capable of supporting gigabit speeds.
3.4.1 Broadband Deployment	Coosa County DHR representative: lack of internet access prevented or slowed residents' access to services during the Covid-19 pandemic. Students had trouble accessing homework.
3.4.1 Broadband Deployment	Council on Aging: Some senior centers in the county also don't have internet, or even cell service.

Section number/ issue category	Description of issue
3.4.1 Broadband Deployment	Council president: my goal is to make sure we get better access for kids, whether in high school or at home for summer while in college.
3.4.1 Broadband Deployment	County Commissioner: Elementary school has bad cell service and about half of students cannot even use a cellular hotspot to do homework.
3.4.1 Broadband Deployment	County Extension coordinator: When Covid hit, we had to take 100 years of community education and do it digitally and we still have to do some things digitally. Our biggest issue now is that we want to go cashless, but parents need to go online. We have computers at the office and they're welcome to come and use it – our system is not as friendly on the phone. You have to turn the phone sideways sometimes.
3.4.1 Broadband Deployment	CWA, a telecommunications union, is concerned that non-union out of town labor will not meet safety standards.
3.4.1 Broadband Deployment	CWA: networks in the area (and state as a whole) appear to have been installed by unskilled labor with many code violations.
3.4.1 Broadband Deployment	Daughter came home from Tuscaloosa and wanted to take exams online but had to go to work with me to do it.
3.4.1 Broadband Deployment	DHR service workers can lose internet access while making site visits – have to take notes and then go to the office to enter the notes into the system.
3.4.1 Broadband Deployment	DHR: Not having service makes it more difficult for clients to apply for jobs, get food assistance, etc.
3.4.1 Broadband Deployment	Educator would like to do side jobs but cannot. Sister is environmental engineer and is on a job site and needs better internet access.
3.4.1 Broadband Deployment	Elderly clients do not want to drive to the VA clinic in Dothan only to be seen by a doctor in Atlanta. Many lack internet at home and the ability to travel to the clinic.
3.4.1 Broadband Deployment	Elected official said that constituents "can see the cable from their porch," but cannot get service.
3.4.1 Broadband Deployment	Elected official: We don't want Bullock County to become the "have-nots." We want to be on par with Montgomery Co. or Lee Co. We don't want to be second-class citizens.
3.4.1 Broadband Deployment	Etowah County Schools: "We have tons of students that don't have internet access" – were able to provide Chromebooks, but many students were unable to use them.
3.4.1 Broadband Deployment	Etowah County Sheriff (lives in Gallup) said that dead spots impact public safety.
3.4.1 Broadband Deployment	Gadsden City Schools need broadband for students.

Section number/ issue category	Description of issue
3.4.1 Broadband Deployment	Greene County Democrat is an online newspaper, but most people can't access it.
3.4.1 Broadband Deployment	Greene County Industrial Development Authority concerned about available broadband speeds and access.
3.4.1 Broadband Deployment	Hoke's Bluff: Children suffered in school when they couldn't do any of the work during Covid. I have to go camp at the falls to watch Netflix.
3.4.1 Broadband Deployment	Hospitals need reliable internet. In Wilcox County, the main hospital subscribes to all three providers to avoid being taking offline by an outage at one ISP.
3.4.1 Broadband Deployment	Households have started to use internet for tele-dental appointments for general hygiene check-ins but households with spotty/no internet struggle to get care.
3.4.1 Broadband Deployment	I am an underserved customer. I'm so underserved, I feel unserved, on rural Starlink.
3.4.1 Broadband Deployment	I don't have internet, but we don't qualify for grant programs because we're too close to homes that have internet. Forty other homes on our road. I have two children and when Covid hit, I moved to Texas for internet and left my husband here to do his job.
3.4.1 Broadband Deployment	I have terrible internet. Hughes. Zero cell phone coverage. I'm in trouble with my wife. She wants to move to town, and I don't.
3.4.1 Broadband Deployment	I live in the middle of nowhere. I have a hotspot and it ain't too hot. I live on a dirt road, and I go to church on a dirt road.
3.4.1 Broadband Deployment	I think there's going to be lot of pockets in the county that are served, and others that are not.
3.4.1 Broadband Deployment	I work in IT and my daughter goes to school. Sometimes I disconnect everything in the house just to get enough bandwidth to do voice or video. I cannot do both. Today, I'm using my T-Mobile hotspot, which is not great. I hang it from the shower head in the bathroom to get service. So, help us, please.
3.4.1 Broadband Deployment	I'm one of the fortunate ones. I have fiber to the door from TEC. It's a night and day difference. But I'm here to support my community.
3.4.1 Broadband Deployment	I'm two houses away from where y'all are putting in service. I'm here representing my neighbors and my daughters, one in high school and one in college. We don't have service. I'm here for my wife who works for the Alabama Court System, the Fifth Judicial Circuit – she cannot file things from home.
3.4.1 Broadband Deployment	If, as is frequently the case in older buildings that are multi-tenant, there is infrastructure to the building but not service to tenants, might make those locations unserved for purposes of state planning.

Section number/ issue category	Description of issue
3.4.1 Broadband Deployment	In Atmore, many complaints about quality and reliability of internet service.
3.4.1 Broadband Deployment	In Flomaton, complaint about data caps limiting access to internet and phone service.
3.4.1 Broadband Deployment	Internet service is not capable of supporting a resident's remote learning to the point where the resident must go to a coffee shop to complete assignments. The resident's provider is Brightspeed.
3.4.1 Broadband Deployment	Internet service is not capable of supporting resident's video streaming. The resident's provider is Brightspeed.
3.4.1 Broadband Deployment	ISP asked that municipalities consider pilot projects in the local housing authority. A local business such as a bank might fund it for $10K and it might be done quickly.
3.4.1 Broadband Deployment	ISP requested help with easement acquisitions from local municipalities
3.4.1 Broadband Deployment	ISP would like access to plat maps for new developments to plan or bid for broadband delivery before construction begins.
3.4.1 Broadband Deployment	ISPs are not using skilled local labor to construct networks.
3.4.1 Broadband Deployment	Jackson Steele Elementary set up Wi-Fi buses during the pandemic but needs a better solution. Even on rainy days, the internet goes down.
3.4.1 Broadband Deployment	Lack of awareness of broadband options.
3.4.1 Broadband Deployment	Local person said that the Alabama map overstated local broadband availability.
3.4.1 Broadband Deployment	Majority of attendees at an outreach session said they had internet service but less than half said that the service was adequate.
3.4.1 Broadband Deployment	Many lack broadband, according to Community Action Agency.
3.4.1 Broadband Deployment	Many people are relying on wireless technology.
3.4.1 Broadband Deployment	Many people do not have service even 2 miles from US 280.
3.4.1 Broadband Deployment	Mayor of Westover said that fiber passes through his community without delivering broadband to residents.
3.4.1 Broadband Deployment	Mayor: Courtland owns their own electric company and it's hard to find lineman who want to work for a small company. We are trying to bring people into our town to see how much we care and to see the need for broadband.
3.4.1 Broadband Deployment	Mayor: I have very good internet that I pay a lot for. I have a home-based business that I have to have dedicated business service for, but there's a real lack in the rest of the town. As a

Section number/ issue category	Description of issue
	general rule, our town is poorly served. I'm here for my constituents and as a consumer as well.
3.4.1 Broadband Deployment	Mayor: This is a growing area. People are moving in right outside city limits, some of them. One called after purchasing an expensive house and said that real estate people ought to be required by law to tell you about internet service. Has a business and two in college system and tried everything and he cannot get any internet service.
3.4.1 Broadband Deployment	Mayor: We have a lot of low-income individuals and families in Sheffield. We would love more information about the unserved areas. ADECA response: shows map, explains next steps for improving map data.
3.4.1 Broadband Deployment	Mediacom would like county and city zoning to provide notice of new construction to ISPs.
3.4.1 Broadband Deployment	Member of public with no service: "The children are hurting on our road." "CenturyLink says they're serving us, and that is a total joke. There used to be an office there, and now it's closed and a technician comes all the way from Oneonta."
3.4.1 Broadband Deployment	Member of public: Is any work going to be done in the un/underserved part on the other side of the river? Power goes out often, which is a hazard for aging communities. Who can I reach out to about this?
3.4.1 Broadband Deployment	Member of the public cannot rely on internet to be able to attend Zoom meetings. Don't have reliable internet and it's ridiculous. Help, please!
3.4.1 Broadband Deployment	Morgan County Economic Development said that broadband does not currently enable all resident to work from home.
3.4.1 Broadband Deployment	My wife does want me to move to a home that has internet. Broadband is very much needed. It is as important as water and power.
3.4.1 Broadband Deployment	No service in rural areas because ISPs cannot justify expenditures.
3.4.1 Broadband Deployment	Numerous roads in the county have just a few families and ISPs cannot find ROI to serve them.
3.4.1 Broadband Deployment	One person in the area said that their home internet is worse than dialup and video streaming is "out of the question."
3.4.1 Broadband Deployment	One person suggested standard should be 1 Gbps not 100/100.
3.4.1 Broadband Deployment	One resident was quoted $23,000 to extend internet service to their home.
3.4.1 Broadband Deployment	Parts of Pike County are an "internet desert."

Section number/ issue category	Description of issue
3.4.1 Broadband Deployment	People attempting to relocate to the area could not get broadband, which put their relocation on hold.
3.4.1 Broadband Deployment	Probate judge said that a lack of internet hampers economic development and that areas of sparse population density hamper broadband deployment.
3.4.1 Broadband Deployment	Public concerned that awarded areas won't receive service. Asked about timelines.
3.4.1 Broadband Deployment	Public concerned that existing service may leave when new service is being built.
3.4.1 Broadband Deployment	Public concerned that existing service may leave. ADECA answer: we are not funding overbuild of broadband.
3.4.1 Broadband Deployment	Public safety chief: We need broadband. Dead spots all over this area. We had a really difficult time during the pandemic when the kids were having to do schoolwork online. Broadband will help people communicate. It will allow people to visit doctors without going to the office. It will help people of all ages.
3.4.1 Broadband Deployment	Resident complained about quality of service, saying that wife called earlier to say that the internet is down.
3.4.1 Broadband Deployment	Resident is concerned about Alabama's ability to build a suitable workforce in the area to build the networks right the first time.
3.4.1 Broadband Deployment	Resident is concerned with ISPs' ability to coordinate with each other during deployments, wants them to share information that would benefit the group.
3.4.1 Broadband Deployment	Resident said that, during Covid when children were doing homework on computers, people on social media were posting places in the community with Wi-Fi and we had kids sitting in McDonald's and church parking lots just to get connected.
3.4.1 Broadband Deployment	Resident says that they have only one provider "who will come out here."
3.4.1 Broadband Deployment	Resident: We've called ISPs asking when service will be available. ISPs say call back in a few months. When we call back, they say it is still not available and to call back in another few months.
3.4.1 Broadband Deployment	Residents are concerned ISPs will not be capable of coordinating efficiently so as not to waste effort and public funds.
3.4.1 Broadband Deployment	Residents complain about lack of broadband availability.
3.4.1 Broadband Deployment	Residents complained about having only having one provider and the difficulty faced with trying to speak with the provider.
3.4.1 Broadband Deployment	Residents concerned that, without a public broadband utilities commission-type entity, there will not be a way to require ISPs to honor community priorities.
3.4.1 Broadband Deployment	Residents expressed a need for broadband, especially in the southern part of the county.

Section number/ issue category	Description of issue
3.4.1 Broadband Deployment	Residents said that many areas lack broadband and were skeptical about obtaining adequate service in rural areas. They were frustrated that there is long haul fiber that passes through the county without providing broadband to county residents.
3.4.1 Broadband Deployment	Residents struggle with online job applications and online housing applications due to limited digital skills or device access. Filling out an apartment rental application took 2 days due to issue.
3.4.1 Broadband Deployment	Rural churches lack the bandwidth to stream services.
3.4.1 Broadband Deployment	School had to hand out paper homework packets during remote learning because students lacked internet service. Then the school had to collect the paper homework packets.
3.4.1 Broadband Deployment	School is working to supply devices to children, but that does not help if they lack internet access at home. Has online math and English curriculum but it's hard for students without connection.
3.4.1 Broadband Deployment	School principal said that on a recent test, the internet went down and the school got red flagged by the state as potentially cheating.
3.4.1 Broadband Deployment	Schools are not able to go virtual very well because of lack of broadband availability and affordability.
3.4.1 Broadband Deployment	Some apartment buildings not allowing Tombigbee, an ISP, access to internal wiring.
3.4.1 Broadband Deployment	Some new subdivisions do not have internet at all.
3.4.1 Broadband Deployment	Sometimes when you sell a house, buyer cannot get even copper internet because company is not selling copper internet anymore.
3.4.1 Broadband Deployment	Southeast Alabama Rural Health Associates says patients are unable to access forms for intake, and unable to schedule appointments online.
3.4.1 Broadband Deployment	Sparsely populated areas do not make a compelling business case for ISP expansion.
3.4.1 Broadband Deployment	Speeds too slow for business and adequate speeds too costly ($1200+ for 1 Gbps).
3.4.1 Broadband Deployment	Time to repair: Mayor: What about response time to emergency when fiber is cut? Example: - We had a power outage with 23,000 + people out of electricity and the utility companies came and got power back on in 1-3 days. - Fiber cut on highway 72 and all of Lauderdale County Schools were out of internet for 1 week, and there was not the same sense of urgency. 8,000 students from 8AM-3PM without internet for one week—unacceptable.

Section number/ issue category	Description of issue
3.4.1 Broadband Deployment	Two un/underserved communities in the county – North End of Long Island Valley and Macedonia.
3.4.1 Broadband Deployment	Two weeks ago on Friday night we had storms, and I live here in the city, Spectrum is my provider. We had no internet, no Verizon cell service, no TV. Places in town could not take payment, were back to writing checks and taking cash. It was all day long – midnight until 6:30 PM (next night). Working in technology as I do – a weak link in technology [makes me worried]. I understand that you have acts of God that happen – but… [other person] I don't expect infrastructure to be perfect, but a storm should not take it out. [other person] Where's the cutover? We have this problem with all ISPs. My parents' landline is AT&T and is out more than it's on. ADECA: A big part of why we are funding middle-mile is to create redundancies. ISPs have started working with other ISPs to back each other up.
3.4.1 Broadband Deployment	Unserved locations exist in the county.
3.4.1 Broadband Deployment	Very rural areas may have 4+ miles between households. Am I going to see broadband?
3.4.1 Broadband Deployment	When it's a remote learning day, we know students won't be able to complete assignments that day. Even with a mobile hotspot, it may not feed the data fast enough for them to adequately learn.
3.4.2 Broadband Adoption	Poor reliability (Frontier) may be attributed to all ISPs; but Monroe County Library has free Wi-Fi – and at least five providers.
3.4.2 Broadband Adoption	Some elderly people have PC hardware that is so old, it does not support the latest browsers and, as a result, cannot access content.
3.4.3 Broadband Affordability	A resident asked, "What if you don't have a device to even sign up for ACP subsidy?"
3.4.3 Broadband Affordability	ADECA: Some people who are eligible for ACP don't have access to internet and we do not have data regarding the number who are eligible for ACP but don't have access.
3.4.3 Broadband Affordability	Affordability is a huge issue for all of us, not just low-income families.
3.4.3 Broadband Affordability	Affordability is an issue for residents.
3.4.3 Broadband Affordability	Can small churches be treated as residential rather than enterprise under ACP?
3.4.3 Broadband Affordability	City of Gadsden Housing Authority: Affordability is the biggest thing.

Section number/ issue category	Description of issue
3.4.3 Broadband Affordability	E-rate program does not allow the school district to switch one student's service to another student when one student leaves the district. Instead, the school district has to cancel one student's service and activate the others.
3.4.3 Broadband Affordability	Greene County Industrial Development Authority concerned about broadband affordability.
3.4.3 Broadband Affordability	High amount of free and reduced lunch households with children in Autauga County.
3.4.3 Broadband Affordability	In poor counties such as Bibb, ACP will drive broadband affordability.
3.4.3 Broadband Affordability	ISP: Customers on ACP lose access due to transfer outs – say Q Link gives them a cellphone and takes their broadband discount and they did not realize it or they did realize it and they were trying to get two discounts – we lose a full month's funding with zero notice – we bill in advance – a month goes by without funds – risk that subscriber owes money. You can only transfer once a month. So, if they transfer out in February, cannot come back in March. So, they lose a month for a cell phone that they never receive. May get kicked out of the program if don't keep info up to date, especially email address. If they don't reapply in 30 days, have to go through enrollment process again with USAC.
3.4.3 Broadband Affordability	Lack of awareness among residents about ACP.
3.4.3 Broadband Affordability	Long drops are often too expensive for homeowners in rural areas to afford.
3.4.3 Broadband Affordability	Member of county government said that the price for internet they were quoted was $600, which is too high.
3.4.3 Broadband Affordability	People can work from home in Hamilton now, and broadband has made that possible. Some people are still having a problem with affordability, however ($50/mo.). "We want everybody to be able to have it."
3.4.3 Broadband Affordability	People who cannot afford to drive may not be able to access free internet offered via public Wi-Fi.
3.4.3 Broadband Affordability	Public concerned about price if only one service provider.
3.4.3 Broadband Affordability	Public concerned about price if there is to be only one service provider.
3.4.3 Broadband Affordability	Remote tech worker is obtaining 35 Mbps/4 Mbps and paying $175 per month for ViaSat. Any service call is $175 fee, but support is fantastic.
3.4.3 Broadband Affordability	Resident concerned about broadband affordability.

Section number/ issue category	Description of issue
3.4.3 Broadband Affordability	Resident is concerned people struggle to afford internet because of the lack of quality jobs in the area.
3.4.3 Broadband Affordability	Residents are concerned about future service affordability after subsidy programs run out.
3.4.3 Broadband Affordability	Residents complain about affordability.
3.4.3 Broadband Affordability	Residents complain of lack of affordable broadband.
3.4.3 Broadband Affordability	Residents in a multi-tenant dwelling in town can't afford internet even though it's available.
3.4.3 Broadband Affordability	Residents were not aware of ACP.
3.4.3 Broadband Affordability	Slamming of subsidies – some people lose the broadband benefit every three months to unscrupulous operators.
3.4.3 Broadband Affordability	Some attendees did not know about the ACP program.
3.4.3 Broadband Affordability	The elderly want to learn how to use the internet and how to stream so that they can stop paying $200 per month for internet. Local people cannot afford $200 per month cable TV bill.
3.4.3 Broadband Affordability	Two small WISPs do not participate in ACP because overhead is too high.
3.4.4 Broadband Access	Cell broadband not good enough for education from home, whether high school or college.
3.4.4 Broadband Access	Community had to set up Wi-Fi in parks for kids whose families could not afford internet during lockdown.
3.4.4 Broadband Access	Need program to lend computers and laptops.
3.4.4 Broadband Access	Residents are concerned in-building wiring won't be capable of handling high-speed internet even if it's available in the area.
3.4.5 Digital Opportunity = Digital Skills	A representative of DHR said that for those without internet access, a lack of transportation is a barrier to enrollment and document submission.
3.4.5 Digital Opportunity = Digital Skills	A representative of the local school system said that it had Google Chromebooks that were damaged but that the students were not to blame because they lacked training.
3.4.5 Digital Opportunity = Digital Skills	AARP: Digital skills is an obstacle.
3.4.5 Digital Opportunity = Digital Skills	Alabama DHR: A large percentage of case work is non-parent caretakers, for example, grandparents helping grandchildren. 70+ year olds trying to help elementary children with online schoolwork. So really this is a digital skills problem.
3.4.5 Digital Opportunity = Digital Skills	Community Action says many of our elderly clientele don’t have digital skills.

Section number/ issue category	Description of issue
3.4.5 Digital Opportunity = Digital Skills	Elderly residents have difficulty accessing online documents.
3.4.5 Digital Opportunity = Digital Skills	ISP said there is a need for techs that can design networks, also for techs that can answer customer questions about cameras, phones, PCs, devices connected to the internet.
3.4.5 Digital Opportunity = Digital Skills	Jackson Steele Elementary says parents need better digital skills.
3.4.5 Digital Opportunity = Digital Skills	Lack of digital skills among the elderly.
3.4.5 Digital Opportunity = Digital Skills	Mayor: Our library in Courtland tries to help people of all ages—there are even 20, 30, and 40-year-olds in our community who have no digital skills.
3.4.5 Digital Opportunity = Digital Skills	Need for digital skills classes for seniors.
3.4.5 Digital Opportunity = Digital Skills	Need programs to provide digital skills.
3.4.5 Digital Opportunity = Digital Skills	One key part of digital skills is just knowing how to close browser tabs!
3.4.5 Digital Opportunity = Digital Skills	One Senior Center is only back to half attendance since Covid, and no longer offers a digital skills class.
3.4.5 Digital Opportunity = Digital Skills	People who have not adopted internet have cybersecurity fears and lack digital skills – they do not know "how to make computers meaningful in their lives."
3.4.5 Digital Opportunity = Digital Skills	Regarding telehealth, folks don't have digital skills to take advantage of internet even if they have it.
3.4.5 Digital Opportunity = Digital Skills	Resident notes that people in the community don't have the digital skills to appreciate how much they could benefit from the internet.
3.4.5 Digital Opportunity = Digital Skills	Resident said they "don't know technology."
3.4.5 Digital Opportunity = Digital Skills	Resident says there is a lack of digital skills and a lack of knowledge about the ACP program.
3.4.5 Digital Opportunity = Digital Skills	Resident would like to see computer classes for elderly people to learn how to use computers. Saw it done in Ozark county and said that it was fantastic to see the people that came to participate and to learn. Perhaps it could be offered by the library if funding were made available.
3.4.5 Digital Opportunity = Digital Skills	Residents say that some lack digital skills.
3.4.5 Digital Opportunity = Digital Skills	Seniors lack digital skills.
3.4.5 Digital Opportunity = Digital Skills	Seniors struggle to access documents online that are necessary for proving eligibility for entitlements.

Section number/ issue category	Description of issue
3.4.5 Digital Opportunity = Digital Skills	Seniors who have caretaking responsibilities for grandchildren need help getting the kids broadband access for school.
3.4.5 Digital Opportunity = Digital Skills	Some people don't want smartphones.
3.4.5 Digital Opportunity = Digital Skills	SSI recipients and elderly people need special outreach effort to ensure that they are aware of digital skills and affordability services to them.

Appendix D: Potential local obstacles or barriers identified during engagement efforts

The following table shows obstacles or barriers to broadband deployment and adoption identified by entities that participated in ADECA outreach and engagement sessions.

Obstacle or barrier category	Description of issue
4.1 Legislative and regulatory barriers	An ISP said there is a need for permitting and policies that help facilitate buildout (micro-trenching, for example, which is less expensive and faster).
4.1 Legislative and regulatory barriers	Challenge the FCC's broadband map. The map problem is like the census. Our road money is based on the census, so if you don't fill out the census, don't complain about the roads.
4.1 Legislative and regulatory barriers	Cities are eager to help, but not always sure of what they are allowed to do.
4.1 Legislative and regulatory barriers	County Engineer: With permitting, we have had some challenges. There's a lot of broadband being built in our county. That's a good thing and we don't want to get in the way. Utilities can create challenges with regard to our transportation projects.
4.1 Legislative and regulatory barriers	E-Rate program does not allow district to switch one student's service to another student when one student leaves the district. Instead have to cancel service.
4.1 Legislative and regulatory barriers	ISP: Pole permitting is an obstacle in construction.
4.1 Legislative and regulatory barriers	Make-ready costs that aren't covered are an obstacle/barrier for ISPs.
4.1 Legislative and regulatory barriers	Slow permitting for poles requires adjustment of buildout plan in St. Clair County, with a 4,000-permit backlog for one electric cooperative.
4.1 Legislative and regulatory barriers	Two small WISPs do not participate in ACP because overhead is too high.
4.2 Labor shortages	Cullman Electric Cooperative said that workforce development is a barrier to their business.
4.2 Labor shortages	CWA (a union) concerned non-union out of town labor will not meet safety standards.
4.2 Labor shortages	CWA on importance of good workmanship.
4.2 Labor shortages	Farmers Telecommunications Cooperative foresees workforce issues.
4.3 Supply chain issues and materials availability	BEAM, an ISP, said they are experiencing supply chain issues.
4.3 Supply chain issues and materials availability	Cullman Electric Cooperative / Sprout: The longer drops are hard to get, because of supply chain issues.

Obstacle or barrier category	Description of issue
4.3 Supply chain issues and materials availability	E-Footprints, an ISP, said that they face supply chain issues.
4.3 Supply chain issues and materials availability	Farmers Telecommunications Cooperative foresees supply chain issues.
4.3 Supply chain issues and materials availability	ISP is facing supply chain issues.
4.3 Supply chain issues and materials availability	Office of Congressman Robert Aderholt: We are working on supply chain issues.
4.3 Supply chain issues and materials availability	Labor and supply chain issues continue for small ISPs.
4.3 Supply chain issues and materials availability	Shortage of specific equipment for long drops.
4.4 Industry participation	Office of Congressman Barry Moore: WVA clinic does not have physician on staff. The physician is in Atlanta. Elderly people prefer telemedicine but experience issues with lack of broadband at home. Many elderly people do not have transportation to get to clinic.
4.5 Topography	Cyber Broadband (an ISP): Storms in the last 30 days caused us to spend $1.2 million on repairs. We get fiber to everyone regardless of if we lose money. We don't subsidize anything. Electric utility will not subsidize anything. It costs us more money to build outside of our footprint. There are no profits when we're building to 1-2 passings per mile. Comment from citizen: I just got Freedom Fiber last year and there have been multiple storms and tornadoes and when service goes down it comes right back up within one day, which is very helpful. Thank you so much.
4.6 Affordability	Broadband is too costly; residents want to cap costs.
4.6 Affordability	Council on Aging (COA): We only just found out about the ACP a few weeks ago.
4.7 Digital skills	Elderly people prefer telemedicine but experience issues with lack of broadband at home. Many elderly people do not have transportation to get to clinic.

Appendix E: Questionnaires

As a supplement to ADECA's extensive regional and local outreach, ADECA reached out to potential partners through three focused online questionnaires.

Survey instrument 1: Alabama agency asset and programmatic inventory questionnaire

The Alabama Agency Asset and Programmatic Inventory Questionnaire was provided via a direct link during the facilitated outreach sessions, posted to the state's website, and delivered through email to all partners.

ADECA
Alabama Department of Economic and Community Affairs

Alabama Agency Asset and Programmatic Inventory

By completing this questionnaire, you will help the Alabama Department of Economic and Community Affairs (ADECA) identify infrastructure, programmatic and planning assets, as well as workforce development opportunities, that may facilitate broadband deployment in Alabama. As the State engages with community partners to extend broadband access and availability, this information will support Alabama's goal of optimizing federal Broadband Equity, Access, and Deployment (BEAD) and Digital Equity planning funding to achieve statewide universal access to high-speed broadband.

1. Please provide your contact information

Agency name

Government level (State, regional, county, local, tribal)

First and last name

Title

Email

Phone number

Zip/Postal Code

Agency website URL (if any)

Next

ADECA
Alabama Department of Economic and Community Affairs

Alabama Agency Asset and Programmatic Inventory

2. Does your agency own or manage physical assets (i.e. conduit, fiber, structures, real estate, poles, etc.) that are available for lease to Internet Service Providers (ISP) for broadband deployment?

☐ Yes

☐ No

What information about these leasable assets would you like the State to include in its broadband planning and communications with ISPs?

3. Will your agency oversee capital construction projects between now and 2027 that include opportunities for the placement of communications facilities by your agency, other state or local agencies, regional or local consortia, or ISPs?

☐ Yes

☐ No

What information about these projects (i.e. scope, location, schedule) would you like included in State broadband planning and in communications with ISPs?

4. Are you aware of, or does your agency have reason to track and monitor frequent or widespread broadband or other communications outages that have significant impact on your community (or, if you represent a statewide organization, on the communities in Alabama)?

☐ Yes

☐ No

If yes, please describe your agency's role in monitoring or tracking communications reliability in your community and discuss the impact of significant outages.

5. Has your agency developed any policies, regulations, or guidance regarding emergency communications, network redundancy, climate resilience for emergency communications, disaster preparedness, or disaster recovery planning applicable to the broadband and communications industry in Alabama?

☐ Yes

☐ No

Please provide a URL link to any publicly available documents and briefly describe policies and other materials that you believe would be helpful to Alabama's broadband planning efforts, including climate and weather-related hazards. Please also provide a brief description of any internal policies that you believe would be helpful to Alabama's broadband planning efforts, including climate and weather-related hazards. You may email these materials to

6. Has your agency developed policies or strategic planning documents that will facilitate broadband access efforts in Alabama (e.g., publicly available information or internal policies that directly addresses digital equity, infrastructure deployment, economic development, network resilience, partnerships, business planning, or other related efforts)?

☐ Yes

☐ No

Please briefly summarize the material and provide a URL link or email information to [insert email address]

7. If you are aware, please share information regarding broadband-related planning efforts of other Alabama state and local agencies or contact information for agencies involved in broadband-related planning efforts that you believe would be helpful to ADECA's broadband planning efforts.

Prev Next

ADECA
Alabama Department of Economic and Community Affairs

Alabama Agency Asset and Programmatic Inventory

8. Does your agency offer programs that aim to ensure individuals and communities have the skills, technology, and capacity to fully engage in the digital economy, such as digital literacy, discounted devices, workforce training, discounted internet access services, community computing centers or homework centers?

- ○ Yes
- ○ No

Prev Next

ADECA
Alabama Department of Economic and Community Affairs

Alabama Agency Asset and Programmatic Inventory

Broadband Access and Digital Inclusion Programs and Support

9. What is the name of the program or programs?

10. What aspect of broadband access or digital inclusion does this program(s) address? Please select at least one.

- ☐ Availability and affordability of internet
- ☐ Digital literacy
- ☐ Cybersecurity
- ☐ Devices and technical support
- ☐ Online accessibility and inclusivity
- ☐ Workforce development

11. Does the program(s) focus on certain populations? Check all that apply.

- ☐ Veterans or current military personnel
- ☐ Individuals with disabilities
- ☐ Aging individuals (60 and above)
- ☐ Incarcerated or formerly incarcerated
- ☐ Individuals in low-income households or without reliable housing
- ☐ Individuals with a language barrier including English learners
- ☐ Individuals with a low level of literacy
- ☐ Individuals who are members of a racial or ethnic minority group(s)
- ☐ Individuals living in rural communities
- ☐ No particular focus on a population or community
- ☐ Other (please specify)

12. What is the annual budget the program or combined budget if more than one?

- ○ $1 to $24,999

- ○ $25,000 to $49,999
- ○ $50,000 to $99,999
- ○ $100,000 to $249,999
- ○ $250,000 to $499,999
- ○ Over $500,000

13. Do any of the programs impose a cost on the participant? If so, how much?

14. How many people were served by the program or programs in the last fiscal year?

- ○ Under 25 people
- ○ 26 to 50 people
- ○ 51 to 100 people
- ○ More than 100 people

15. If you had the resources, would you want to scale your programs to serve more communities and people?

- ○ Yes
- ○ No

16. Please describe how you can collaborate with ADECA, or what role ADECA can serve, to support expanded programs.

Prev Next

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Alabama Department of Economic and Community Affairs

Alabama Agency Asset and Programmatic Inventory

Programmatic Impact of Broadband Access

17. Please describe how access to affordable, reliable, and secure high-speed broadband by the communities that you serve may impact programmatic outcomes of your agency?

18. Do you have metrics to measure progress on your programmatic outcomes?

- ☐ Yes
- ☐ No

If yes, please describe or provide a URL link with documentation

Please provide examples or a discussion of metrics that you believe would be useful to track broadband related inputs and outcomes that are relevant to your mission, programs, and services.

19. Economic and workforce development outcomes - input and outcome metrics

20. Educational outcomes - input and outcome metrics

21. Health outcomes - input and outcome metrics

22. Civic and social engagement outcomes - input and outcome metrics

23. Delivery of other essential services outcomes - input and outcome metrics

24. If you do not currently provide or support a broadband access or digital inclusion program, is your agency in the process of developing such a program or does it have an interest in developing such a program?

- ☐ Yes
- ☐ No

If yes, please describe

25. Please describe how you can collaborate with ADECA, or what role ADECA can serve, to support expanded programs.

Prev Next

Alabama Agency Asset and Programmatic Inventory

Workforce Development

26. Has your agency analyzed workforce readiness (i.e., the availability of skilled labor) in Alabama as it may impact State broadband policies and deployment goals?

☐ Yes

☐ No

Please provide a URL link where relevant documents, presentations, or analyses are located or send to the following email address: [insert email address]

27. Do you offer workforce development programs for job placement and training?

○ Yes

○ No

Prev Next

ADECA
Alabama Department of Economic and Community Affairs

Alabama Agency Asset and Programmatic Inventory

28. Does your agency have a role in workforce development that would support wired or wireless broadband deployment (including training and recruitment for equipment technicians, cable installation and repair, and construction jobs)?

☐ Yes

☐ No

Please describe programs or initiatives that your agency operates or supports or relevant programs operated by other agencies.

Prev Next

ADECA
Alabama Department of Economic and Community Affairs

Alabama Agency Asset and Programmatic Inventory

29. What type of workforce development programs do you offer? (Select all that apply)

- ☐ On-the-job training placement
- ☐ Standards certification and safety programs
- ☐ Training programs through a public or private K-12 school
- ☐ Training programs through a school of higher education
- ☐ Trade or vocational certificate programs
- ☐ Job placement and recruiting services
- ☐ Formal apprenticeship opportunities

30. Which of the following communications professional designations are included in your programs? (Select all that apply)

- ☐ Construction laborers and heavy equipment operators
- ☐ Tower, line, equipment, maintenance, and testing specialists
- ☐ Supervisors / project managers
- ☐ Network design roles

31. Please describe barriers to developing a diverse, skilled workforce in your community that can fill employment opportunities in the communications industry. Additionally, please provide examples or ideas of incentives or programs that can mitigate those barriers to create a diverse pool of highly skilled workers.

32. Do you provide workforce development services in rural communities?

- ☐ Yes
- ☐ No

What types of incentives do you believe would be effective to recruit both skilled and manual labor

to rural communities?

33. Do you offer training in any of the following industries that have transferable skills that can be applied to communications network deployment? (Select all that apply)

- ☐ Utilities such as electricity
- ☐ HVAC
- ☐ Computer science
- ☐ Cybersecurity
- ☐ General electrician
- ☐ General construction
- ☐ Other

34. Are you interested in developing programs specifically targeted at employment opportunities in the communications industry?

- ☐ Yes
- ☐ No

Please describe your interest in developing these programs

35. If you had the resources, would you want to scale your programs to serve more communities and people?

- ○ Yes
- ○ No

36. Please describe how you can collaborate with ADECA, or what role ADECA can serve, to support expanded workforce programs.

37. Please describe how your agency can collaborate with the ADECA and participate in its efforts to achieve statewide universal access to high-speed broadband.

Prev Done

Survey instrument 2: Alabama community organization digital barriers and opportunities questionnaire

The Alabama Community Organization Digital Barriers and Opportunities Questionnaire was provided via a direct link during the facilitated outreach sessions, posted to the state's website, and delivered through email to all partners.

Alabama Community Organization Digital Barriers and Opportunities Questionnaire

Community anchor institutions and nonprofit organizations play a critical role in facilitating greater use of broadband by unserved and underserved populations as well as underrepresented communities. Your responses to this brief questionnaire will help the Alabama Department of Economic and Community Affairs (ADECA) identify programs to advance residents' opportunities to use broadband to work, learn, receive health care, and participate in civic events. This information will be an important part of Alabama's work toward achieving statewide universal access to high-speed broadband with federal funding through the Broadband, Equity, Access, and Deployment (BEAD) and Digital Equity planning programs.

1. Contact information

Your name

Your job title

Your e-mail

Your phone number

Organization name

Organization address

Organization website URL

Organization's number of employees

Please indicate if your organization serves statewide, regionally, or locally

2. Choose the option that best describes your organization. Select the one that best applies.

- ○ K-12 school
- ○ Higher education entity
- ○ Library
- ○ Health clinic, health center, hospital, or other medical provider
- ○ Public safety entity
- ○ Public housing organization (including HUD-assisted housing and tribal housing organizations)
- ○ Neighborhood organization and community center
- ○ Faith-based organization

- ○ Community support organization that facilitates use of broadband service by low-income or other underserved populations
- ○ Tribal authority or entity or organization that serves primarily tribal populations
- ○ Workforce development (including organized labor)
- ○ Nonprofit organizations or community support organization that represents or serves vulnerable communities

3. Does your organization conduct outreach or tailor its services to the needs of any of the following communities or groups? Select all that apply.

- ☐ Veterans or current military personnel
- ☐ Individuals with disabilities
- ☐ Aging individuals (60 and above)
- ☐ Incarcerated or formerly incarcerated
- ☐ Individuals in low-income households
- ☐ Individuals with a language barrier including English learners
- ☐ Individuals with a low level of literacy
- ☐ Individuals who are members of a racial or ethnic minority group(s)

or without reliable housing

- [ ] Individuals living in rural communities
- [ ] No particular focus on a population or community
- [ ] Other (please specify)

4. Which of the following programs or services do you offer to facilitate the use of broadband services by your constituents or clients? Select all that apply.

- [ ] Support for applicants to broadband subsidy programs such as the Affordable Connectivity Program (ACP)
- [ ] Loans or donations of devices (computers, tablets) to access the internet
- [ ] Hotspots and free or subsidized internet access
- [ ] Cybersecurity training
- [ ] Other digital literacy training
- [ ] Training, equipment, subsidized services, or other resources to facilitate access to telehealth and telemedicine services

- [ ] Training teachers of broadband skills and digital literacy
- [ ] Developing and distributing accessible online content or devices designed for us by persons with disabilities
- [ ] Developing and distributing accessible online content directed at populations with specific needs, such as seniors, low-income residents, those with low-literacy, and those whose first language is not English
- [ ] Broadband internet access services at community centers or other gathering spaces used by clients and constituents
- [ ] Funding of programs that provide any of the above services, including broadband infrastructure, devices, and subsidies to support affordability
- [ ] Program development and planning of broadband-related services
- [ ] Advocacy for digital inclusion, affordability, and the broadband-related needs of vulnerable populations
- [ ] Emergency and disaster relief services such as evacuation centers, charging stations, replacement equipment, and information on grants, loans, and services to those impacted by disasters

☐ My organization does **not** offer programs that facilitate the use of broadband services

☐ Other (please specify)

Next

ADECA
Alabama Department of Economic and Community Affairs

Alabama Community Organization Digital Barriers and Opportunities Questionnaire

5. What is the name(s) of the program or programs that you are referencing in Question #4?

6. What is the annual program budget, or combined budget if more than one program?

- ○ $1 to $24,999
- ○ $25,000 to $49,999
- ○ $50,000 to $99,999
- ○ $100,000 to $249,999
- ○ $250,000 to $499,999
- ○ Over $500,000

7. How many people were served by the program(s) in the last fiscal year?

- ◯ Under 25 people
- ◯ 26 to 50 people
- ◯ 51 to 100 people
- ◯ More than 100 people

8. Would your organization be interested in adding new programs to its current portfolio?

- ◯ Yes
- ◯ No

If yes, what types of resources do you believe would be necessary to add new programs to your current portfolio?

Prev Next

ADECA
Alabama Department of Economic and Community Affairs

Alabama Community Organization Digital Barriers and Opportunities Questionnaire

Programmatic Impact of Broadband Access

9. Please describe how access to affordable, reliable, and secure high-speed broadband by the communities that you serve may impact the programmatic outcomes of your organization.

10. Do you have metrics to measure progress on your programmatic outcomes?

- ○ Yes
- ○ No

If yes, please describe:

Please provide examples or a discussion of metrics that you believe would be useful to track broadband-related inputs and outcomes that are relevant to your mission, programs, and services, such as:

11. Economic and workforce development outcomes - input and outcome metrics

12. Educational outcomes - input and outcome metrics

13. Health outcomes - input and outcome metrics

14. Civic and social engagement outcomes - input and outcome metrics

15. Delivery of other essential services outcomes - input and outcome metrics

16. If you do not currently provide or support a broadband access or digital inclusion program, is your entity in the process of developing such a program or does it have an interest in developing such a program?

- ○ Yes
- ○ No

17. Please describe how you can collaborate with ADECA, or what role ADECA can serve, to support expanded programs.

Prev Next

ADECA
Alabama Department of Economic and Community Affairs

Alabama Community Organization Digital Barriers and Opportunities Questionnaire

Barriers to Meaningful Access

Thinking about the services or resources that you provide your constituents, including both broadband and non-broadband related, please answer the following questions:

18. Please indicate your agreement or disagreement with the following statements describing individuals from the population(s) you serve or represent. On a scale of 1 - 5, where 1 is "strongly agree" and 5 is "strongly disagree" as represented on this spectrum:

	1	2	3	4	5
Their households have access to some type of home internet service.	○	○	○	○	○
The available	○	○	○	○	○

	1	2	3	4	5
internet service is high-speed, sufficient for their needs, and reliable					
The available internet service is affordable.	○	○	○	○	○
Their households can choose from among more than one provider for high-speed, reliable, and affordable broadband service	○	○	○	○	○

19. Are there any unique barriers to reliable, affordable, and high-speed internet service for the population(s) you serve?

☐ Yes

☐ No

Please describe these barriers to accessing reliable, affordable, and high-speed internet service:

20. Please indicate your agreement or disagreement with the following statements describing households from the population you serve or represent. On a scale of 1 - 5, where 1 is "strongly agree" and 5 is "strongly disagree" as represented on this spectrum:

	1	2	3	4	5
There are computers in the households of the populations we serve or represent	○	○	○	○	○
The households can troubleshoot computer issues	○	○	○	○	○
The households can afford computer	○	○	○	○	○

	1	2	3	4	5
repairs or service					
The households have enough devices to serve their needs	○	○	○	○	○
There are public computers that are convenient to use and close by to these households	○	○	○	○	○

21. Are there any unique barriers to accessing home computers for the population(s) you serve?

☐ Yes

☐ No

Please describe these barriers to accessing computers and similar devices:

22. Please indicate your agreement or disagreement with the following statements describing individuals from the population you

serve or represent. On a scale of 1 - 5, where 1 is "strongly agree" and 5 is "strongly disagree" as represented on this spectrum:

	1	2	3	4	5
Individuals can find, understand, evaluate, create, and communicate digital information	○	○	○	○	○
Individuals can use technologies appropriately and effectively to retrieve information, interpret results, and judge the quality of that information	○	○	○	○	○
Individuals can use the internet to support education, employment, health, and personal needs	○	○	○	○	○
Individuals have access to	○	○	○	○	○

	1	2	3	4	5
convenient and comprehensive digital literacy training					

23. Are there any unique barriers to digital skills for the population(s) you serve?

☐ Yes

☐ No

Please describe these barriers to acquiring necessary digital skills:

24. Please indicate your agreement or disagreement with the following statements describing individuals from the population you serve or represent. On a scale of 1 - 5, where 1 is "strongly agree" and 5 is "strongly disagree" as represented on this spectrum:

	1	2	3	4	5
Individuals have access to meaningful website content that is written in	○	○	○	○	○

	1	2	3	4	5
plain language and is appropriate for the targeted user or audience					
Individuals have access to meaningful website content that is accurately translated into necessary languages	○	○	○	○	○
Individuals have access to meaningful website content that can be read by a screen reader	○	○	○	○	○
Individuals have access to meaningful website content	○	○	○	○	○

	1	2	3	4	5
with closed captioning					
Individuals have access to adequate and appropriate assistive technologies to support access to the internet and use of website content by people with disabilities	○	○	○	○	○

25. Are there any unique barriers to inclusive and accessible content for the population(s) you serve?

☐ Yes

☐ No

Please describe these barriers to inclusive and accessible content:

26. Please indicate your agreement or disagreement with the following statements describing individuals from the population you

serve or represent. On a scale of 1 - 5, where 1 is strongly agree" and 5 is "strongly disagree" as represented on this spectrum:

	1	2	3	4	5
Individuals know how to protect their information online	○	○	○	○	○
Individuals can recognize a phishing scam or other types of scams and illegal activity	○	○	○	○	○
Individuals use anti-virus and anti-malware software on their computers	○	○	○	○	○

27. Are there any unique barriers to data privacy and cyber security for the population(s) you serve?

☐ Yes

☐ No

Please describe these barriers to data privacy and cyber security

Prev Next

Alabama Community Organization Digital Barriers and Opportunities Questionnaire

Organization's Own Use and Need for Access to Broadband

28. Do all of your organization's locations, offices, or community centers have access to broadband internet services at speeds of at least 1 Gigabit per second (Gbps) symmetrical (both upload and download)?

- ☐ Yes
- ☐ No
- ☐ Don't know

If no, please provide the addresses of the locations where your organization does not have access to broadband internet services of at least 1 Gbps symmetrical (both upload and download).

29. Does your current internet service meet the needs of your organization to deliver broadband-related programs to your clients and constituents? (Select all that apply)

- ☐ Yes
- ☐ No, service is unavailable
- ☐ No, service is too slow
- ☐ No, service is unreliable
- ☐ No, service is too expensive
- ☐ No, customer service is inadequate
- ☐ No, service is too complicated to set up and/or maintain
- ☐ No, redundant connectivity necessary for our operations is too expensive/unavailable
- ☐ Other (please specify)

30. How essential is symmetrical Gigabit connectivity at your facilities to your ability to deliver your broadband-related services?

1 - Not important	2	3	4	5 - Critically important
○	○	○	○	○

31. Is it critical to your organization's mission and service delivery to maintain communications with **critical facilities** such as hospitals, schools, data centers, and public safety agencies during natural disasters and emergencies?

- [ ] Yes
- [ ] No

Please briefly describe your organization's need to remain connected to critical facilities and whether you believe your organization's current communications services meet this need.

32. Would your organization offer additional broadband-related services or programs to its constituents or clients if it had additional resources?

- [ ] Yes
- [ ] No

If yes, please describe those additional broadband-related services and the additional resources your organization would need to offer them (e.g. funding, skilled workforce, access to broadband internet services with faster speeds or more capacity).

Alabama Community Organization Digital Barriers and Opportunities Questionnaire

Workforce Readiness and Programs

33. Has your organization analyzed workforce readiness (i.e., the availability of skilled labor) in Alabama as it may impact State broadband policies and deployment goals?

- ○ Yes
- ○ No

Prev Next

Alabama Community Organization Digital Barriers and Opportunities Questionnaire

34. Does your organization have a role in workforce development in the communications industry (including training and recruitment for equipment technicians, cable installation and repair, and construction jobs)?

- ○ Yes
- ○ No

35. Does your organization offer workforce development programs for job placement and training?

- ○ Yes
- ○ No

Prev Next

efforts to achieve statewide universal access to high-speed broadband

Prev Done

Alabama Community Organization Digital Barriers and Opportunities Questionnaire

36. What type of workforce development programs related to the communications industry do you offer? (Select all that apply)

- ☐ On-the-job training placement
- ☐ Certification and standards programs
- ☐ Training programs through a public or private K-12 school
- ☐ Training programs through a school of higher education
- ☐ Trade or vocational programs
- ☐ Digital literacy trainings for specific employment opportunities
- ☐ Job placement and recruiting services
- ☐ Mentorship opportunities
- ☐ Internships

- [ ] Formal apprenticeship opportunities
- [ ] Other (please specify)

37. Which of the following communications professional designations are included in your programs? (Select all that apply)

- [ ] Construction laborers and heavy equipment operators
- [ ] Tower, line, equipment, maintenance, and testing specialists
- [ ] Supervisors / project managers
- [ ] Network design roles
- [ ] Locators or similar pre-construction planning field work

38. Please describe barriers to developing a diverse, skilled workforce in your community that can fill employment opportunities in the communications industry. Additionally, please provide examples or ideas of incentives or programs that can mitigate those barriers to create a diverse pool of highly skilled workers.

39. Do you provide workforce development services in rural communities?

- ○ Yes
- ○ No

40. What types of incentives do you believe would be effective to recruit both skilled and manual labor to rural communities?

41. Do you offer training in any of the following industries that have transferable skills that can be applied to communications network deployment? (Select all that apply)

- ☐ Utilities such as electricity
- ☐ HVAC
- ☐ Computer science
- ☐ Cybersecurity
- ☐ General electrician
- ☐ General construction
- ☐ Other

42. Are you interested in developing programs specifically targeted at employment opportunities in the communications industry?

- ☐ Yes
- ☐ No

Please describe your interest in developing these programs

43. If you had the resources, would you want to scale your programs to serve more communities and people?

- ○ Yes
- ○ No

44. Please describe how you can collaborate with ADECA, or what role ADECA can serve, to support expanded workforce programs.

45. Please describe how your entity can collaborate with ADECA and participate in its

Survey instrument 3: Alabama internet service provider engagement questionnaire

The Alabama Internet Service Provider Engagement Questionnaire was provided via a direct link during the facilitated outreach sessions, posted to the state's website, and delivered through email to all partners.

Alabama Internet Service Provider Engagement Questionnaire

The Alabama Department of Economic and Community Affairs (ADECA) seeks your input on a range of broadband-related issues. Your responses to this brief questionnaire will be an important part of Alabama's work toward achieving statewide universal access to high-speed broadband with federal funding through the Broadband, Equity, Access, and Deployment (BEAD) and Digital Equity planning programs.

1. Contact information

Your name

Your job title

Your email

Your phone number

Organization name

Organization address

Organization website URL

Organization's number of employees

2. Choose the option that best describes your organization and the services it offers:

Internet service provider (ISP)

Provider type

3. What recruitment and hiring sources does your organization use to hire technicians, line workers, engineers, construction laborers and managers, and similar positions? (Select all that apply)

- ☐ Internet-based employment posting sites
- ☐ Workforce development and community job placement centers
- ☐ Communications industry-specific training classes
- ☐ Third-party hiring and recruitment firms
- ☐ Advertisements in trade association publications and websites
- ☐ Incentivizing employee referrals

4. Does your organization offer, sponsor, or participate in any workforce development or apprenticeship programs?

- ○ Yes
- ○ No

5. If you answered yes to Q.4, please specify the type of programs. (Select all that apply)

- ☐ Mentorship
- ☐ Certification programs

- [ ] Apprenticeship
- [ ] Internship
- [ ] Sponsorships/scholarships for third-party training and classes
- [ ] Other (please specify)

6. What other sources or programs in Alabama do you use to train and support workforce readiness among your employees? (Select all that apply)

- [ ] Standards certification and safety programs
- [ ] Training programs through a public or private K-12 school
- [ ] Training programs through a school of higher education
- [ ] Trade or vocational certificate programs
- [ ] Formal apprenticeship programs

7. Do you have programs or incentives to support diversity among your employees when considering methods to attract, retain, and promote a skilled workforce?

- [ ] Yes

☐ No

If yes, what programs or incentives do you offer?

8. How would you propose to work with Alabama on workforce development issues related to broadband deployment, including programs to support readiness, recruitment, diversity and wrap around services?

9. Does your organization participate in the Affordable Connectivity Program (ACP)?

◯ Yes

◯ No

Next

ADECA
Alabama Department of Economic and Community Affairs

Alabama Internet Service Provider Engagement Questionnaire

10. What is the monthly post-subsidy price of your lowest-price ACP-eligible tier for participating subscribers?

- ○ $0
- ○ $1 - $10
- ○ $11 - $20
- ○ $21 - $30
- ○ More than $30

11. What is the speed of your lowest-price ACP-eligible tier?

- ○ 25/3 Mbps
- ○ Up to 50/5 Mbps
- ○ Up to 100/20 Mbps

○ Greater than 100/20 Mbps but less than 100/100 Mbps

○ 100/100 Mbps or more

12. How do you advertise or promote your participation in the ACP?

13. Does your organization offer other programs for low-income customers?

☐ Yes

☐ No

Please provide service speeds, monthly pricing, and a description of your low-income or discounted offerings.

14. Does your organization have programs to support consumer broadband skills or use of the internet?

☐ Yes

☐ No

If yes, please describe and provide URL links to relevant materials.

15. Does your organization have programs to support internet adoption?

- ☐ Yes
- ☐ No

If yes, please describe and provide URL links to relevant materials.

16. Please describe how your organization can collaborate with local communities and workforce development organizations on efforts to close the digital divide and, if applicable, please provide specific examples where you have done this successfully.

17. What strategies has your organization used to deploy broadband in the areas of Alabama that are most expensive to serve?

18. Please discuss your continuity and disaster recovery plans in the event of a natural disaster or human error, such as a fiber cut, and whether any of your plans target specific geographic areas.

Prev Done