ARIZONA
COMMERCE AUTHORITY

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

Arizona Commerce Authority

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1. Executive Summary

In the 21st century, reliable high-speed internet is a necessity for individuals and industry alike including business owners, medical practitioners, first responders, teachers, students, farmers, and consumers. The COVID-19 pandemic has highlighted the importance of affordable and reliable broadband service and the negative consequences that insufficient access to high-speed internet has on daily life. Communities without access to high-speed broadband services are at a competitive disadvantage and lack of access impacts low-income households, unserved and underserved communities more disproportionately, putting them at a greater risk of falling behind.

Recognizing this issue, federal, state, and local governments nationwide have increased their efforts in broadband infrastructure development to fully utilize tomorrow's opportunities and address future challenges. At the federal level, the recent passage of the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law, has allocated $42.45 billion towards the Broadband Equity Access and Deployment (BEAD) program. Coupled with the State Digital Equity Planning Grant Program (SDEPG), the BEAD program offers a once-in-a-generation opportunity to comprehensively address connectivity challenges and create a more digitally equitable Arizona.

In Governor Hobbs' inaugural State of the State in 2023, she highlighted Arizona's abundant opportunities and its resilient, diverse, and incredible people. To advance what the 2020 Census determined to be one of the fastest growing states in the country, the Governor Is working with the Arizona Commerce Authority (ACA) and the State Broadband Office (Arizona Broadband Office) to prioritize equitable access to internet service that connects unserved, underserved, and marginalized families across Arizona.

Approximately

177,325

UNSERVED ARIZONANS

UNSERVED

Available speed less than 25 Mbps download/ 3 Mbps upload

Approximately

141,417

UNDERSERVED ARIZONANS

UNDERSERVED

Available speed less than 100 Mbps download/ 20 Mbps upload

BROADBAND Equity, Access, and Deployment (BEAD) Program

Ensure that all Americans have access to affordable, reliable high-speed internet

** Unserved / underserved figures are generated from FCC Broadband Availability Map subject to change

The ACA was established to facilitate the beneficial economic growth and development of this state and to promote prosperity through the development and protection of the legitimate interests of Arizona business, industry and commerce within and outside the state. In 2022, Arizona enacted legislation to establish the State Broadband Office (Arizona Broadband Office) and State Broadband Director within ACA to coordinate and execute federal broadband grant applications with public and private stakeholders among other duties.

The Challenge

According to the FCC National Broadband Map[1], approximately 12.2 percent of households in Arizona do not have access to a wireline or licensed fixed wireless connection capable of achieving 100 Megabits per second (Mbps) download and 20 Mbps upload speed (100/20 Mbps). This includes 177,325 unserved locations without 25/3 Mbps service available and 141,417 underserved locations without 100/20 Mbps service available. These areas are predominantly rural and tribal communities and face additional barriers to access such as Arizona's geographic diversity and expansive rural regions with low population densities.

According to a report by the National Telecommunications and Information Administration (NTIA), lack of access to high-speed internet in underserved and unserved areas can result in limited economic opportunities, reduced access to education and healthcare services, and social isolation, among other negative impacts (NTIA, 2021)[2]. Therefore, it is crucial for the State to address this challenge and provide broadband access to all residents, regardless of their location or socio-economic status.

Our Vision

The Arizona Broadband Office of the ACA and Governor Hobbs are committed to working diligently to advance the development of broadband infrastructure across the state to provide high-speed, affordable, and reliable broadband services to every resident in Arizona. Recognizing the importance of a collaborative and integrative strategy, the ACA and the Governor commit to collaborate with state agencies, local governments, community stakeholders, and private sector service providers to achieve affordable and reliable broadband access throughout Arizona.

Arizona's vision is to provide dependable and affordable high-speed internet services to every community and access to the necessary digital skills, so every resident can fully participate in a digital world.

ACA is committed to:

- *Engage and coordinate with stakeholders – Working collaboratively with partnering state agencies as well as local governments, Tribal Nations, and community stakeholders;*
- *Maximize and optimize the use of available resources;*
- *Ensure equity in program design and implementation; and*
- *Promote sustainable and equitable solutions for all Arizona communities.*

[1] FCC's Broadband Serviceable Location Fabric (Fabric) dataset from June 2023
[2] NTIA. (2021). Exploring the digital divide. US Department of Commerce.

The ACA Broadband Office recognizes the significance of an integrated and collaborative approach and commits to partnering with state agencies, local governments, community stakeholders, and private sector service providers for achieving the state's vision and the following goals.

Our Goals

This BEAD Five-Year Action Plan serves as a guide to achieving the following:

01 Provide universal connectivity to unserved and underserved areas and ensure high-speed internet access is available to every household, business, anchor institution, Tribal Nations and community in Arizona

02 Promote digital equity and inclusion through increased digital skills and access to devices for all Arizona residents including Tribal Nations and their members

03 Create a 21st century workforce so Arizonans and Tribal Nations can succeed in the rapidly evolving job market where the state creates, grows and attracts high wage businesses to increase economic development

04 Coordinate broadband infrastructure investments with investments in healthcare, education, public safety, workforce and economic development statewide and on tribal lands

05 Promote broadband service pricing that is affordable to all Arizonans including Tribal Nations and their members

The Arizona Commerce Authority's leadership and the dedicated team of the ACA Broadband Office are responsible for making these activities and programs possible. To ensure the successful execution of the BEAD program within the intended timeframe, the ACA Broadband Office will continue to expand and engage partners as needed to achieve these goals.

Investment To Date

To get a sense of the future direction of broadband connectivity in Arizona, it is important to understand the state's current broadband accessibility situation. For years, the state of Arizona and the ACA Broadband Office have been actively working towards closing the connectivity gap in Arizona by strategically leveraging federal and state funding and incentivize private investment. Below are some of the highlighted broadband infrastructure programs:

- *Arizona Middle-Mile Program*: ACA partnered with the Arizona Department of Transportation (ADOT) and other key stakeholders to plan and implement an open access backbone network on interstates and other state routes. To that end, the ACA released the Arizona Statewide Broadband Middle-Mile Strategic Plan in February 2022. The first phase of this network was funded with approximately $158 million from the American Rescue Plan Act (ARPA) along 200 miles of Interstate 17 and Interstate 19, high priority corridors for the state. Interstate 40 West, from the California border to Flagstaff, consisting of 202 miles of open-access, middle-mile conduit is being designed currently and will be constructed in 2024.
- *Arizona Broadband Development Grant (ABDG) Program*: The ACA Broadband Office awarded $92.7 million to 18 broadband infrastructure projects covering the state under the ABDG program. The program will extend high-speed internet connectivity to unserved and

underserved areas funded from the Capital Projects Fund (CPF) under the American Rescue Plan Act (ARPA) of 2021. Collectively, these projects will develop approximately 2,900 miles of fiber-optic network and serve more than 711,000 Arizonans and 563 community anchor institutions. ABDG grants were distributed to support local jurisdictions, thus creating a framework and relationships that can be utilized during the roll out of the BEAD program.

- *Rural Broadband Development Grant (RBDG)*: To expand broadband services in underserved rural areas across the state, in 2018 a $3 million state funded grant program was awarded to eligible applicants. The RBDG supported broadband planning and deployment efforts, aimed at providing Arizona communities with reliable and affordable high-speed internet access at speeds and prices equal to national averages in rural areas.
- *E-Rate Special Construction*: The Arizona Broadband for Education Initiative has invested nearly $150 million to bring high speed internet to schools and libraries across Arizona. The Arizona Corporation Commission provided $8 million in funding for matching funds as a result of the Arizona Universal Service Fund (AUSF) updated rules in 2017. The Arizona State Legislature appropriated $3 million in 2017, and Governor Hobbs' FY24 Budget allocated another $5 million to further fund special construction projects for schools and libraries in the state.

The ACA Broadband Office's extensive experience and institutional knowledge in broadband programs form the basis for planning and implementing the BEAD program. ACA's past and current broadband initiatives align with and complement BEAD program objectives such as expanding access to telehealth services, deploying public Wi-Fi hotspots, and providing broadband access to underserved rural areas. By further partnering with state agencies and local government, private providers and community stakeholders, the ACA Broadband Office will create a more connected and equitable digital future for all Arizona residents.

Arizona Broadband Workshops	Arizona Digital Equity Plan	Capital Projects Fund (CPF)	Arizona Statewide Broadband Middle-Mile Strategic Plan	Arizona Community Forum

Our Approach and Initial Assessment

The ACA Broadband Office recognizes that addressing the digital divide in Arizona requires a deep understanding of the unique characteristics and challenges faced by the state. Arizona's geographic diversity, expansive rural regions with low population densities, and the 22 sovereign Tribal Nations present unique challenges that require well-designed, specific strategies to ensure equitable digital access and inclusion for all residents.

To assist with this effort, the ACA Broadband Office and Governor Hobbs have assembled an experienced and diverse team of researchers, evaluators, community engagement experts, and advisors. The team is currently creating a comprehensive inventory and assessing the current state of digital inclusion in the state. This effort is ongoing and includes developing a stakeholder asset and resource map, collecting data on access, adoption, and usage through statewide in-person listening sessions, public meetings, community and individual surveys and interviews. Once complete, this information will be reviewed and analyzed to identify barriers, needs, and

gaps in digital equity, and will inform Arizona's BEAD and Digital Equity plans. It will also help to identify rural, remote, tribal, and urban areas with a particular focus on “covered populations” as defined in the Digital Equity Act, including low-income households and historically marginalized communities. Overall, this research is vital to ensuring the success of Arizona's efforts in bridging the digital divide and promoting digital equity for all residents.

The ACA Broadband Office's continuing efforts and ongoing evaluation of the needs, gaps, and obstacles and barriers in the state are vital to bridging Arizona's digital divide and creating a more equitable and connected future for all residents. A summary of the initial assessment is presented in the sections below.

Broadband Ecosystem in Arizona

Recent FCC data identified 86 Internet Service Providers (ISPs) in Arizona. These ISPs play a crucial role in achieving universal connectivity in the state. Through monthly ISP roundtables hosted by the ACA Broadband Office and other direct engagement with the industry, the ACA Broadband Office has developed a thorough understanding of the current ISP ecosystem in the state and their approach towards the BEAD program. As a result of these engagements, the ACA Broadband Office has gained crucial insight and perspective from ISPs to help shape and refine the BEAD program's implementation approach by leveraging lessons learned and addressing the challenges faced in expanding broadband access. Additionally, the structure of the ISP roundtables hosted by the ACA Broadband Office is poised to hold as a convening space for government and industry to connect to ensure robust stakeholder engagement throughout the BEAD program

Key Barriers

It is critical for the BEAD Five-Year Action Plan to identify potential obstacles and barriers that may hinder the future deployment of broadband infrastructure. This will enable the development of appropriate strategies to address and mitigate any challenges that may arise. To gain insight into these obstacles and challenges, the ACA Broadband Office is actively soliciting input from a wide range of stakeholders through various tools and mechanisms such as survey forms, listening sessions, roundtable discussions, and direct consultation. The ACA Broadband Office is currently in the process of identifying key obstacles and barriers that could impede the successful implementation of the BEAD program and the deployment of high-speed internet networks throughout the state.

Recently, Governor Hobbs announced the creation of the Interagency and Community Broadband Advisory Council to support strategic planning of broadband deployment in Arizona. Members of this council include state agencies, tribal communities, local governments, labor representatives, industry and business representatives, telehealth representation, and institutions of higher education. The Chairwoman of the council is the CEO and President of the ACA. The council meets quarterly, and members break up into working groups that are designed to analyze and recommend suggestions for Arizona broadband policy.

While stakeholder engagement activities are still ongoing, the ACA Broadband Office has received initial feedback indicating that the main barriers fall into the following categories:

Infrastructure Deployment Barriers


Legislative or Regulatory Barriers


Weather and Climate


Local Capacity


Workforce Shortages


Cost of Deployment


Procurement, Contracting, and Industry Participation


Permitting


Supply Chain and Material Availability


Topography/ Geography


Knowledge and Communication

Digital Equity Barriers


Device Access and Cost


Inclusivity


Digital Literary and Skills


Relevance/ Awareness


Affordability

Our Path Forward

Key Priorities

After conducting a robust stakeholder engagement process and gaps and needs assessment, the ACA Broadband Office identified several priorities for the state of Arizona. The key priorities selected, based on the assessment, are highlighted below:

- *Universal Access*: The highest priority of the BEAD program is to establish reliable broadband networks throughout the state that provide 100/20 Mbps or higher broadband services to all unserved locations and underserved locations. Although deployment of end-to-end fiber networks is preferred, the focus remains on achieving universal broadband access. Therefore, other reliable broadband technologies will be considered where appropriate, including fixed wireless solutions. Additionally, the program may also consider providing gigabit symmetric service for Community Anchor Institutions (CAIs), depending on the availability of BEAD funds after achieving universal broadband access in the state. The ACA Broadband Office is currently assessing the overall needs of the state and how the available funds can be allocated to achieve the BEAD program's objectives.

- *Affordability*: Another key priority is to advance digital equity by mandating that BEAD subgrantees offer an affordable service option in conjunction with the deployment of broadband infrastructure which Arizona will define in its Initial Proposal, a requirement of the BEAD planning process. The ACA Broadband Office will prioritize projects that offer internet pricing models that make broadband services more affordable to qualifying households to further address the digital divide in Arizona.
- *Transparency*: The ACA Broadband Office will strive to create a subgrantee selection process that is fair and competitive to all participants, including those from smaller companies and underserved communities. In addition, the ACA Broadband Office plans to establish a clear and open communication platform with communities.

Any decisions related to the use of surplus BEAD funds, if applicable, will be addressed after the assessment of funding needs to achieve the BEAD program's goals. The BEAD Five-Year Action Plan will be updated accordingly to reflect this information.

Key Implementation Themes

The Five-Year Action Plan identifies several key strategies centered around the following main themes:

- *Focus on long-term*: Design the BEAD program that results in deployment that is commercially viable, operationally sustainable, resilient, and is anchored in strong community support.
- *Maximize reach*: Encourage partnerships and collaborations between government, private sector, and community stakeholders, while leveraging all eligible funding sources, incentivizing private capital investment and public-private partnerships, and promote the use of existing infrastructure, including Arizona's middle mile network.
- *Integrating infrastructure programs with non-deployment uses*: Establish connected device programs to promote public access, and drive program affordability by requiring subgrantees to offer low-cost plans while enhancing utilization of the broadband infrastructure.

The Arizona BEAD Five-Year Action Plan outlines the vision and goals for broadband in the state, describes the current state of broadband and related challenges and barriers to widespread deployment, and proposes the recommended approach to realizing the goal of universal broadband coverage across the state. The Five-Year Action Plan is the initial step in the planning phase to distribute nearly $1 billion in funding to realize Arizona’s vision. The Plan will evolve and improve as more data is available to fully understand Arizona’s barriers and gaps. Through the development of the Initial Proposal and the Final Proposal, Arizona will have a comprehensive roadmap to deliver on its commitment to achieve affordable and reliable broadband access throughout Arizona.

2. Overview of the Five-Year Action Plan

2.1 Vision

Arizona's vision is to provide dependable and affordable high-speed internet services to every community and access to the necessary digital skills so every resident can fully participate in a digital world.

Governor Hobbs and the state of Arizona is creating a robust broadband infrastructure that will provide reliable, affordable, high-speed internet access to all residents, community anchor institutions, and businesses, regardless of their location, income, or demographic characteristics. This vision includes establishing a competitive broadband grant program in compliance with the BEAD Program rules. The program will fund broadband infrastructure development and expansion investments that will ultimately ensure affordable high-speed internet access for all residents, creating a more connected and inclusive state.

The ACA is currently coordinating broadband development activities through partnerships with state and local government stakeholders, community stakeholders, as well as broadband service providers in the private sector. These efforts are designed to streamline regulatory systems and processes, align and synchronize broadband projects, and enable the state to use resources efficiently to achieve satisfactory financial and operational outcomes from BEAD deployment projects.

Furthermore, Governor Hobbs and the ACA view the broadband infrastructure deployed through the BEAD program as closely linked with Digital Equity planning and projects, enabling meaningful adoption and use of internet services among historically excluded populations such as minority communities, Tribal Nations, low-income areas, and rural communities. The goal is to provide equitable access to high-speed internet services, thus empowering communities and fostering greater connectivity across the state.

2.2 Goals and Objectives

To achieve its vision, the ACA Broadband Office, in accordance with the NTIA BEAD requirements, has developed specific goals and objectives to guide the implementation of broadband infrastructure development to bring universal coverage to all unserved and underserved as a priority and then 1 gigabit service to Community Anchor Institutions (CAI) if resources are available. The goals are designed to leverage existing infrastructure and programs to maximize the state's investment in and improve access to high-speed internet services and is in alignment with the Digital Equity Plan currently under development.

ACA has established the following goals and objectives for BEAD Program deployment.

Table 1: Goals & Objectives - BEAD Program Deployment

#	Goals	Objectives
1	Provide universal connectivity to unserved and underserved areas and ensure high-speed internet access is available to every household, business, anchor institution, Tribal Nation and community in Arizona	• Identify areas in the state where high-speed internet access does not meet the minimum broadband requirement of 100/20 Mbps. • Identify and mitigate obstacles and barriers preventing broadband expansion and adoption. • Remove regulatory barriers that hinder investment in broadband infrastructure. • Coordinate with all levels of government and utility providers to streamline permitting and right of way processes. • Develop and execute a data driven grant program that invests in new broadband infrastructure to meet minimum broadband standards.
2	Promote digital equity and inclusion through increased digital skills and access to devices for all Arizona residents including Tribal Nations and their members	• Collaborate and strengthen partnerships with local and national stakeholders to enhance current and planned digital equity programs. • Develop and implement programs to promote digital literacy and digital skills. • Ensure Arizonans have the resources and support necessary to obtain and utilize affordable devices. • Create and maintain a publicly available Digital Equity Asset Inventory.
3	Ensure a 21st century ready workforce where Arizonans and Tribal Nation members can succeed in the rapidly evolving job market where the state helps create, grow and attracts high wage businesses to increase economic development	• Utilize the Arizona Commerce Authority's extensive business development expertise and the Office of Economic Opportunity to create workforce development programs focusing on technology to support the new digital economy. • Coordinate with Arizona institutions of higher education to develop and enhance programs with K-12, community colleges, universities and technology and vocational schools to provide real world opportunities for students to qualify for technology jobs. • Coordinate with agencies and organizations to develop and enhance programs that offer reskill and upskill programs to retrain individuals that have been displaced or dislocated in the workforce.
4	Coordinate broadband infrastructure investments with investments in healthcare, education, public safety, workforce and	• Leverage the Statewide Middle-Mile program and other federal and state funded programs to ensure that all residents have access to 100/20 Mbps or higher speed internet.

#	Goals	Objectives
	economic development statewide and on tribal lands	• Leverage the state universities work via the Sun Corridor Network and partner with community colleges to expand broadband infrastructure across the state. • Enhance and coordinate with other investments in social programs, telehealth education, and economic equity and development to increase broadband deployment, affordability and adoption.
5	Promote broadband service pricing that is affordable to all Arizonans including Tribal Nations and their members	• Encourage internet service providers to offer affordable plans for low-income households and create programs to make broadband services and affordability programs more accessible. • Promote programs like the Affordable Connectivity Program (ACP) and other programs that offer subsidies that reduce the cost of internet service to low-income households. • Encourage competition in the market and provide incentives for service to high cost unserved and underserved locations.

2.3 Alignment with Digital Equity Vision and Mission

Digital Equity Vision:

A digitally equitable and inclusive Arizona where every Arizonan, regardless of their location or circumstance, has affordable and reliable high-speed internet and the tools, digital skills, and resources needed to thrive in the digital age.

Digital Equity Mission:

To bridge the digital divide and promote digital equity across Arizona, the state is committed to ensuring universal broadband availability through infrastructure investments, supporting affordable broadband plans for all Arizona families, ensuring at least one internet enabled device per household, and providing inclusive digital skills training. Arizona will build digitally equitable ecosystems through strategic initiatives, collaborative partnerships, and community-responsive solutions. This work will specifically look at strategies to support Arizonans with the highest rate of digital inequity, such as seniors, tribal communities, Arizonans in rural areas, veterans, individuals with a language barrier, residents at corrections facilities, and individuals of a racial or ethnic minority group.

Governor Hobbs and the ACA Broadband Office are committed to digital inclusion and will coordinate the planning and implementation of the BEAD program with the State Digital Equity Plan and State Digital Equity Capacity Grant Program to achieve digital equity goals in a way that strengthen the BEAD program and broadband deployment in unserved and underserved areas of Arizona.

3. Current State of Broadband and Digital Inclusion

3.1 Existing Programs

The ACA has secured federal and state funding to develop and execute its broadband infrastructure program in Arizona. Beginning with the first award of $3 million for the Rural Broadband Development Program (RBDG) for planning and infrastructure projects in rural Arizona and complemented by nearly $100 million Arizona Broadband Development Grant Program (ABDG) funded by the U.S. Treasury Capital Projects Fund, the ACA has built a foundation to effectively allocate resources to expand broadband access in the state.

Table 2 presents a summary of Arizona's investment and outcomes of these federal and state funded programs.

Current Activities

Table 2: Current Activities of the ACA Broadband Office

Activity Name	Description	Intended Outcome(s)
Coronavirus Capital Projects Fund (CPF)	ACA has awarded $92.7 million in broadband infrastructure funds to 18 subrecipients that will provide reliable internet access throughout the state that currently lack adequate service. The competitive grant program allocated approximately $75 million to Arizona's rural counties and $25 million to the two urban counties to expand high-speed broadband infrastructure in communities with the greatest need.	Upon project completion, the projected broadband infrastructure deployed will be nearly 3,000 miles of fiber and provide internet service to 113 communities serving a population of over 711,000, including 563 Community Anchor Institutions
Arizona Digital Equity Plan	The state's Digital Equity Plan is currently being developed to promote digital equity and inclusion for all Arizonans. The plan will guide the activities to ensure all people and communities have the skills, technology and capacity needed to realize the full benefits of a digital economy.	The Digital Equity Plan will be the framework for digital equity and inclusion efforts and will identify the needs to be addressed with the Digital Equity Capacity Grant funding. The intended outcome is raising adoption rates, promoting digital skills and meaningful use of the internet.

Activity Name	Description	Intended Outcome(s)
Arizona Broadband Serviceable Location (BSL) Fabric Challenge	ACA analyzed the accuracy of the fabric data of Broadband Serviceable Locations (BSLs) that will be used for determining the allocation of BEAD program grant funding for locations that are unserved and underserved.	ACA conducted a geospatial data analysis and submitted approximately 60,000 additional locations as part the challenge process outlined by FCC. The outcome resulted in a significant increase in Arizona's BEAD allocation.
Arizona Community Forum	The ACA hosts a series of statewide community forums to discuss internet access, adoption, and technology options. As part of these community forums, community representatives can share their thoughts about what programs and services would be helpful in the area.	The statewide community forums are organized with an intent to engage the community to better understand their perspective(s) on affordable broadband services available in their regions.
Arizona Statewide Broadband Middle-Mile Strategic Plan	The ACA in partnership with the Arizona Department of Transportation (ADOT) developed the Arizona Statewide Broadband Middle-Mile Strategic Plan. The Plan will guide broadband expansion and broadband infrastructure deployment, first along Interstate 17, Interstate 19, and Interstate 40 West and later other state highway corridors.	Deploy open access conduit and fiber along interstate and state highways. Develop points of presence and cell phone towers along these routes to help deploy last mile services to cities and towns. Support future middle mile expansion along interstate and select state highway routes. Create a network to enable last mile deployment.

Current and Planned Full-time and Part-time Employees

The ACA is Arizona's leading agency for economic development whose primary mission is to grow and strengthen the state's economy. The Office of the Governor of Arizona has designated the ACA as the authorized entity to lead and coordinate Arizona's statewide broadband initiatives and programs, including the implementation of BEAD and Digital Equity programs.

The Broadband Office within ACA is responsible for the coordination and execution of these programs. Currently the office consists of six full-time positions committed to supporting broadband infrastructure expansion and digital equity to all Arizonans. The ACA Broadband Office is supported by ACA's various divisions from Rural Economic Development, Finance, Procurement, Legal Counsel and Marketing. These divisions provide expert guidance and support to all broadband activities to extend and broaden the capacity of the ACA State Broadband Office staff.

To ensure tribal voices are heard and an integral part of the planning process, the ACA hired a Tribal Liaison as a dedicated resource to build relationships and address the unique conditions and requirements for deploying broadband infrastructure in Tribal lands.

The table below identifies the roles of the ACA Broadband Office in enabling and promoting broadband development across the state.

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

Current/ Planned	Part Time/ Full Time	Position	Description
Current	Full Time	VP of Infrastructure and State Broadband Director	The State Broadband Director facilitates the enhancement of broadband connectivity to Arizona's rural regions, streamlines regulatory hurdles and works with communities to implement federal and state funded programs.
Current	Full Time	Broadband Data GIS Analyst	Coordinates broadband-related mapping, data collection, data analysis, and report formation for policymakers and other stakeholders. Responsible for collecting, analyzing, and interpreting large data sets related to broadband access, affordability, and adoption in Arizona, and provide technical support for the ACA and for public inquiries related to mapping resources and broadband access in the state.
Current	Full Time	Broadband Digital Equity Manager	Develop and oversee the ACA Broadband Office digital equity strategies and initiatives, advancing efforts to close the digital divide in Arizona. Responsible for decisions on the design and delivery of broadband digital equity programs, programmatic and unit processes and procedures, and the allocation of unit resources. This position develops the strategic direction for the unit, including program work, staff deployment, legislative requests, grant programs and awards, and partnerships with other state agencies and stakeholders.
Current	Full Time	Broadband Grants and Compliance Manager	Responsible for managing the solicitation, award and post award activities for broadband infrastructure development grants. This includes providing technical assistance, compliance management, and

Current/ Planned	Part Time/ Full Time	Position	Description
			reporting on state and federally funded programs.
Current	Full Time	Tribal Liaison	Lead coordination and support to Arizona's Tribal Nations for broadband programs and activities.
Current	Full Time	Broadband Program Manager	Lead broadband infrastructure program design and implementation. Support the design and deployment of last mile connections and middle mile projects. Deploy broadband infrastructure program funding according to strategic and operational principles established in the Broadband strategy.
Current	Part Time	Administrative Assistant	Provides administrative support to Broadband Director and team. Coordinates calendars and meetings, tracks team tasks and deadlines, facilitates administrative processes for record keeping
Planned	TBD	Broadband Program Manager	Lead broadband infrastructure program design and implementation. Support the design and deployment of last mile connections and middle mile projects. Deploy broadband infrastructure program funding according to strategic and operational principles established in the Broadband strategy.

Current and Planned Contractor Support

In addition to ACA full and part-time staff, broadband development and planning efforts are augmented by teams of experts that support technical and programmatic activities through contracted services.

Table 4: Current and Planned Contractor Support

Current/Planned	Part Time/Full Time	Position	Description
Current	Full Time	Plan and program development/ Community engagement support	Provides advisory services to the ACA and the Broadband Office including broadband infrastructure program planning, community

Current/Planned	Part Time/Full Time	Position	Description
		Technical support	engagement support, and program development and implementation. Mapping services and financial analytics.
Current	Full Time	Broadband program administration	Provides broadband program, grant administration services and support to the ACA Broadband Office.
Current	Full Time	Digital Equity Plan support	Provides advisory services for the Digital Equity Plan development and stakeholder engagement process.

Broadband Funding

The state of Arizona receives federal and state funding from several different programs and entities that support broadband infrastructure deployment. The ACA administers several of these programs through the ACA Broadband Office. Examples of such programs include the Capital Projects Fund Arizona Broadband Development Grant program and the Arizona Rural Broadband Development Grant which have both been successfully deployed.

The following table outlines the total, expended, and available amounts for each of these federal and state funded programs awarded for broadband projects in Arizona.

Table 5: Broadband Funding Sources

Source	Purpose	Total	Expended	Available
Broadband Equity, Access, and Deployment Program (BEAD)	Funded through IIJA, this program is the largest source of broadband funding. Priority is given to building broadband networks that connect unserved and underserved locations and community anchor institutions. This program will be implemented as a subgrant program to a variety of entities including private ISPs, nonprofits, communities, cooperatives, and others. $5 million of the	$993.1M	$0	$993.1M

Source	Purpose	Total	Expended	Available
	grant is used for BEAD Planning.			
State Digital Equity Planning (SDEPG)	The State Digital Equity Planning Grant Program provides funding to develop the state digital equity plan.	$1.1M	TBA	$0
State Digital Equity Capacity Grant Programs (SDECG)	The State Digital Equity Capacity Program will fund digital equity projects and the implementation of digital equity plan.	TBA	TBA	$0
US Treasury, Coronavirus Capital Projects Fund (CPF)	The US Dept. of Treasury awarded Arizona CPF funds to provide reliable internet access to areas of the state lacking adequate service. Arizona created the Arizona Broadband Development Rural Infrastructure Grant program (ABDG-Rural) and the Arizona Broadband Development Urban Infrastructure Grant program (ABDG-Urban).	$92.7M	$0* Funds have been committed to projects	$0
USDA ReConnect	The USDA ReConnect program is a federal initiative that provides loans and grants to expand access to broadband services in rural communities to improve economic and educational opportunities, as well as healthcare and public safety, by supporting the development of high-speed internet infrastructure in underserved areas. A mix of grants and loans were awarded to projects in Arizona from 2019-2023. Of which, entities serving Tribal lands received ~$45,890,373.	YTD $73.7M	TBA* This award is not managed by ACA therefore, limited information is available on expenditures	$0

Source	Purpose	Total	Expended	Available
Tribal Broadband Connectivity Program (TBCP)	The Tribal Broadband Connectivity Program funding supports increasing efforts in bringing high-speed internet service to Tribal lands. In the first round of funding released in 2021, Tribal Lands in Arizona received $154.4m.	$154.4M	TBA* This award is not managed by ACA therefore, limited information is available on expenditures	$0
Arizona Rural Broadband Development Grant (RBDG)	Awarded in 2019, this grant program is intended to accelerate the enhancement of broadband infrastructure to support economic growth and improve quality of life for Arizona's rural residents.	$3.0M	$3.0M	$0
State appropriated matching funds	The Governor's budget included funding for BEAD matching funds for rural communities that need assistance in meeting the 25% match requirement.	$23.6M	$0	$23.6M
State Middle Mile Program	Arizona is leveraging ARPA funding to increase middle-mile broadband service along I-17, I-19, and I-40 to connect unserved and underserved communities.	$158.1M	$60.0M	$98.1M
Pima County Middle Mile Program	Pima County was awarded $30M in federal funds from NTIA with $12M matching requirement for a total project of $42 million	$42.0M	$0	$0M
Arizona E-Rate Program	*E-Rate Special Construction*: Arizona Broadband for Education Initiative has invested nearly $150 million to bring high speed internet to schools and libraries across Arizona. It is administered by	$148.0M	$148.0	$0

Source	Purpose	Total	Expended	Available
	the Universal Service Administrative Company (USAC), a non-profit designated by the Federal Communications Commission (FCC).			
E-Rate Matching Funds	State matching funds to match federal E-rate program.	$16M	$11M	$5M
Arizona Final Mile Project	Funded through the Department of Education, the Final Mile Project goal is to give every K–12 student in Arizona the opportunity to take part in teacher-led classes from anywhere in the state.	$2.5M	$1.5M	$0
FCC Rural Digital Opportunity Fund	RDOF supports broadband networks in rural communities across the country. RDOF Phase I began in 2020 and targeted over six million homes and businesses in census blocks that are entirely unserved by voice and broadband with speeds of at least 25/3 Mbps. Phase II will cover locations in census blocks that are partially served, as well as locations not funded in Phase I. Phase I obligated funds to be paid over 10 years.	$19.6M[3]	TBA* This award is not managed by ACA therefore, limited information is available on expenditures	TBA
FCC Connect America Fund – Phase II Auction	The federal universal service high-cost program (also known as the Connect America Fund) is designed to ensure that consumers in rural, insular, and high-cost areas have access to modern communications networks capable of providing voice and broadband service, both fixed	$28.4M[4]	TBA* This award is not managed by ACA therefore, limited information is available on expenditures	$0

[3] https://auctiondata.fcc.gov/public/projects/auction904/reports/total_assigned_by_state
[4] FCC Connect America Fund Phase II Auction | FCC (fcc.gov)

Source	Purpose	Total	Expended	Available
	and mobile, at rates that are reasonably comparable to those in urban areas. The program fulfills this universal service goal by allowing eligible carriers who serve these areas to recover some of their costs from the federal Universal Service Fund to connect 7,285 locations.			
ACP Reimbursements	The Affordable Connectivity Program provides a monthly discount on internet service of up to $30 per eligible household (or up to $75 per eligible household on Tribal lands). The participating broadband service provider will receive the funds directly. Currently, over 400,000 Arizonans participate in ACP.	$183.0M	$183.0M	$0
ACP Outreach Grants	The ACP Outreach Grants provides qualifying low-income households discounts on broadband service and connected devices, and expressly authorizes the Federal Communications Commission (FCC) outreach for the ACP, including providing grants to outreach partners. Arizona grant recipients are Chicanos Por la Causa, City of Phoenix and Promise Arizona	$1.6M	TBA* This award is not managed by ACA therefore, limited information is available on expenditures	$0

3.2 Partnerships

The deployment of broadband infrastructure is a multifaceted effort that involves numerous stakeholders. The ACA Broadband Office has been designated as the primary entity for broadband in Arizona; however, for the ACA Broadband Office to be successful it is necessary to involve partners with unique areas of expertise and perspective.

Table 6 provides a comprehensive list of organizations that currently or will play a vital role for the BEAD program deployment and efforts aimed at narrowing the digital divide. These agencies will assist the ACA Broadband Office as existing or potential partners. The table below briefly outlines the expected role of each organization.

Table 6: ACA Broadband Office Partners

Partners	Description of Current or Planned Role in Broadband Deployment and Adoption
Arizona Commerce Authority	• Coordinator and administrator of all broadband infrastructure funding programs in Arizona • Key administration stakeholder and Subject Matter Expert (SME) on digital inclusion
Executive Office of the Governor	• Designates the administering entity for program funds for broadband infrastructure development • Guides state broadband policy and convenes stakeholders in coordination with ACA via the Governor's Interagency and Community Broadband Advisory Council • Guides BEAD and Digital Equity strategy, engagement and requirements within administration
State Legislative and Federal Congressional members	• Provide legislative support for regulatory changes • Constituent input and services • Guide federal policy on broadband and create and fund federal broadband programs
Arizona Corporation Commission – Utilities Division	• Provides context on telecom/cable issues • Works closely with FCC
Arizona Department of Agriculture	• Coordinates with and advocates rural communities for development of broadband infrastructure
Arizona Department of Health Services	• Engages directly with vulnerable and covered populations • Assists with Digital Equity program coordination
Arizona Department of Education	• Provides expertise in digital skills and training • Coordinates with vulnerable populations via local schools • Coordinates with the complementary E-rate program
Arizona Department of Transportation (ADOT)	• Multimodal transportation agency involved in planning, building, and operating the highway system. ACA collaborates with ADOT to streamline broadband deployment opportunities and its Arizona's Middle Mile program • Owns certain broadband assets that can be leveraged for middle mile backbone

Partners	Description of Current or Planned Role in Broadband Deployment and Adoption
Arizona Office of Economic Opportunity	• Assists in ensuring Arizonans have the necessary skills to succeed and meet industry needs
Arizona Department of Housing and Urban Development	• Engages with public housing entities, which are home to many people from Digital Equity Act (DEA) and BEAD covered populations, qualify as CAIs eligible for gigabit symmetric service under BEAD
Arizona Strategic Enterprise Technology (ASET) Office	• Responsible for the statewide IT strategy while also providing capabilities, services, and infrastructure to ensure the continuity of mission-critical and essential systems.
Arizona Department of Environmental Quality	• Assists with environmental permitting
Arizona Department of Corrections	• Engages with covered populations • Provides perspective on workforce development
Arizona Attorney General Civil Rights Division	• Provides context and outreach on issues of digital equity and inclusion
Arizona Departments of Military Services and Veterans' Services	• Engages with covered populations • Provides perspective on workforce development
Arizona State Historic Preservation Office	• Assists with the identification, evaluation, protection, and enhancement of historic and archeological properties that have significance for local communities and the State of Arizona
Arizona Department of Economic Security	• Assists with promoting digital equity, developing the capacity of communities, and adoption of broadband services • Engages directly with vulnerable and covered populations
Arizona Department of Administration (ADOA)	• Assists in creating new broadband sector related jobs • Assists with administration and business operations of state government
Arizona State Land Department	• Assists in identifying and managing extensive state lands • Assists in facilitation of broadband infrastructure deployment • Manages state GIS mapping portal - AZGeo

Partners	Description of Current or Planned Role in Broadband Deployment and Adoption
Arizona Department of Public Safety	• Assists coordination with public safety broadband and telecommunication networks
Arizona Telemedicine Program	• Fosters the use of broadband for telemedicine
Arizona Board of Regents (ABOR), State Universities, Community Colleges and LEAs	• Promotes digital learning and skills • Supports broadband demand • Serves as anchor tenants for internet exchange points and other backhaul assets
Libraries / Arizona Library Association	• Publicly available resource specializing in providing access to knowledge and information with a grassroots presence throughout the state • Provides internet access to area residents • Supports digital equity activities
Covered Population Organizations	• Provides the ACA with information and context for addressing the needs of those they represent (i.e., Aging individuals, Incarcerated individuals, Veterans, Individuals with disabilities, Individuals with a language barrier, Racial and ethnic minorities, Rural community members)
Community Anchor Institutions	• Focuses on the needs of the state's many and varied community anchor institutions
Grassroots / Community Organizations	• Engages with residents, businesses, institutions, and NGOs at the local community level throughout the state • Provides guidance on local engagement for digital equity planning and how to engage community organizations for implementation
Deployment Supporting Organizations	• Advises on infrastructure planning, development, and implementation by providing insight to barriers and opportunities for coordination to rights-of-way, permitting, pole attachments, and other physical deployment needs of broadband networks • Streamlining and coordinating permit processes
Economic Opportunity Supporting Organizations	• Provides guidance to the plan on how the business and economic development communities can leverage new broadband networks to create economic opportunity for Arizona residents and businesses
Tribal Communities	• Provide guidance and input to unique connectivity needs that can be addressed with BEAD program support

Partners	Description of Current or Planned Role in Broadband Deployment and Adoption
Local Government	• Provides valuable insights into the connectivity needs of Arizona's many and varied communities • Assists the ACA with broadband map development
Workforce Development Organizations	• Ensures that Arizona has a well-trained workforce (unions, educational entities, trade associations, etc.) that can use information and communications technology to support timely deployment of broadband infrastructure in the short-term and to grow Arizona's economy into the future
Digital Equity Organizations	• Non-profits and civic organizations bringing together partners from across the public, private, and academic sector to work alongside local organizations and school districts to deliver digital equity programs
League of Arizona Cities and Towns	• League of Arizona Cities and Towns is an association of a collective group of cities and towns across Arizona that provides regional leadership over critical policy areas
County Supervisors Association of Arizona	• County Supervisors Association of Arizona provides regional leadership over critical policy areas, including policies necessary to ensure safe communities, protect public health, promote economic development, and plan and manage land use for sustainable development by providing a mechanism to share information and to develop a proactive state and federal policy agenda
Electric Service Providers	• Electric Service Providers including Electric Cooperatives that can advance and expand the broadband access to underserved and rural communities in Arizona

3.3 Asset Inventory

Arizona's assets for the BEAD program include physical assets such as the middle-mile network, towers, and public Wi-Fi, as well as intangible assets such as the population's inclination to subscribe to broadband, participation in federal programs like ACP, previous policy planning work, research, data collection, and digital skills.

3.3.1 Broadband Deployment Assets

Governor Hobbs and the ACA Broadband Office will build on past successes and initiatives to realize universal broadband coverage. Considerable progress through public and private efforts has already established robust broadband networks to serve the state's population, including urban and some rural areas. These physical networks represent Arizona's most valuable assets and can be leveraged to extend broadband access to currently unserved and underserved areas. Furthermore, Arizona recently formulated a Statewide Middle-Mile Strategic Plan for public investment in middle-mile fiber networks and launched a CPF-funded Arizona Broadband Development Grant (ABDG) program. However, many of the hard assets needed for broadband deployment are privately owned, with their locations and capacity kept confidential and not available to the public.

The ACA Broadband Office will leverage state-owned assets such as its middle-mile fiber network in implementing the BEAD program. Although the middle-mile fiber network is crucial for implementing the BEAD program in Arizona, the ACA anticipates that a majority of BEAD subgrantees are likely to rely on privately-owned backhaul assets to link their last-mile installations to the internet backbone.

State Owned Middle Mile Assets and the Statewide Middle-Mile Strategic Plan

In collaboration with the Arizona Department of Transportation (ADOT), the ACA released the Arizona Broadband Statewide Middle-Mile Strategic Plan in February 2022. This plan builds on the 2018 Arizona Statewide Broadband Strategic Plan and presents a comprehensive analysis and set of recommendations that function as a roadmap for ensuring equal digital opportunities for all Arizonans, irrespective of their location. The plan specifically emphasizes the significance of middle-mile infrastructure and its role in achieving Arizona's goal of 100 Mbps download and 20 Mbps upload speeds to the entire state's population. This plan determined that a vast majority of the state's population resides within a 5-mile radius of the state highway network, and expanding the middle-mile network along interstate highways and select intrastate roads has the potential to reach many unserved and underserved households. By attracting public and private sector investment and build-out of an open access network, middle-mile investment is expected to generate interest and more investment from the private sector, increase competition, and reduce the cost of internet service for consumers and businesses throughout the state.

Public investment in middle-mile broadband infrastructure, paired with investment from other last mile broadband grant programs such as CPF and BEAD, will expedite Arizona's efforts to connect unserved and underserved households. The middle-mile network's investment will establish a point of presence (PoP) in all primary population centers along the interstate and select intrastate routes. Adopting this middle-mile strategy will help accelerate deployment, enhance network resilience, reduce costs, and stimulate the private sector's construction of additional middle-mile and last mile networks. This includes ISPs, electric co-ops, telcos, and other service providers.

The Plan provides information on middle-mile assets, including the Sun Corridor Network, which provides high-speed connectivity to K-20 educational institutions throughout the state. Other state-owned assets that could function as middle-mile assets supporting the BEAD network include the ADOA state network, the 911 system, and other infrastructure.

The Arizona Broadband Development Grant (ABDG) Program

The ACA Broadband Office awarded $92.7 million to 18 broadband infrastructure projects across the state under the ABDG program. The program will extend high-speed internet connectivity to unserved and underserved areas funded from the Capital Projects Fund under the American Rescue Plan Act (ARPA) of 2021.

ABDG Program	Total	Grant	Match	Grant %	Match %
Total Rural (12 Awardees)	$148,628,180	$69,043,437	$79,584,743	46.5%	53.5%
Total Urban (6-Awardees)	$37,760,793	$23,638,667	$14,122,126	62.6%	37.4%
TOTAL ABDG AWARDS:	**$186,388,973**	**$92,682,104**	**$93,706,869**	**49.7%**	**50.3%**

The ABDG subrecipients committed $93.7 million in local matching funds with projects ranging from fiber optic installations, middle-mile network expansion, and deployment of Wi-Fi access points and networking equipment. Collectively, these projects will develop approximately 2,900 miles of fiber-optic network and serve more than 711,000 Arizonans and 563 community anchor institutions. The ABDG program is specifically designed to support rural and urban broadband development projects. The ABDG-Rural program provides funding for broadband deployment projects in rural and underserved areas, while the ABDG-Urban program is intended to support broadband infrastructure projects in urban areas that have limited access to high-speed internet. Both of these programs are intended to help expand broadband infrastructure throughout Arizona and create greater access to high-speed internet for all residents and businesses. As the state's middle-mile strategy is executed, the ACA Broadband Office priority and focus is on last mile broadband infrastructure resourcing, stakeholder engagement and coordination, assessment, analysis, and planning.

Arizona Department of Administration State Network

The Arizona Department of Administration (ADOA) State Network is the state's core technology infrastructure that provides connectivity for government agencies and institutions across Arizona. This multi-agency network offers reliable and secure access to digital resources like data centers, cloud computing services, and collaboration tools to support public services. The state network operates using modern technology practices, such as virtualization and cloud migration, enhancing system security, saving energy, and reducing IT costs. The ADOA's State Network is the backbone of the state's digital ecosystem, providing a high-speed and high-capacity backbone to support the delivery of essential services to Arizonans.

Sun Corridor Network

Arizona's Sun Corridor Network is a state-of-the-art fiber optic network that spans from Phoenix to Tucson and connects the state to other major metropolitan areas. This high-capacity network offers reliable and affordable connectivity to businesses, education institutions, and research centers across Arizona. It provides access to big data and cloud computing resources that can improve work efficiency, collaboration, and decision-making. By leveraging this advanced modern technology infrastructure, businesses can expand their reach into national and international markets. The Sun Corridor Network also supports scientific research institutions and fosters innovation. It provides a platform for researchers to collaborate, share, and analyze data, accelerating scientific discoveries. The network also promotes economic growth in Arizona by attracting new businesses and creating job opportunities. Overall, the Sun Corridor Network is instrumental to Arizona's digital future and the state's ability to compete in the global marketplace.

Arizona's 9-1-1 System

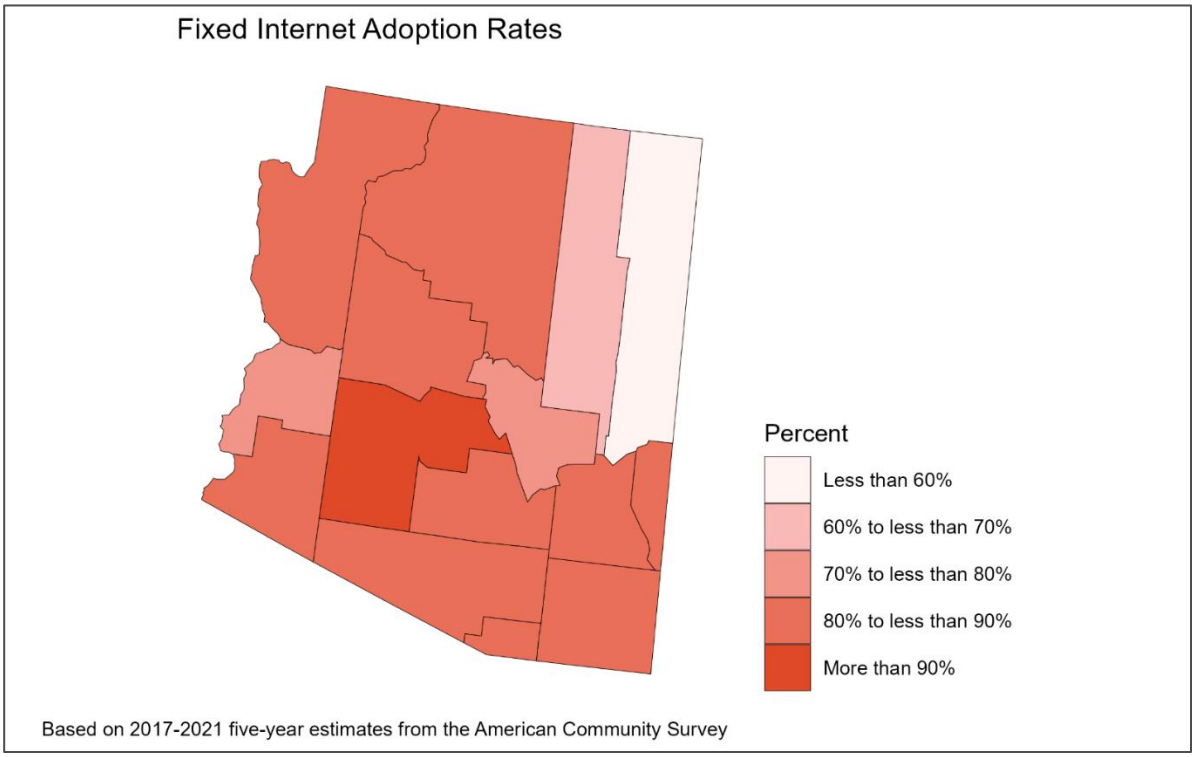
Arizona's 9-1-1 system is the most critical component of the state's emergency response infrastructure. This system is responsible for answering and directing emergency calls to first responders such as police, fire, and ambulance services. The NG9-1-1 project is a statewide effort to modernize the existing 9-1-1 system in Arizona. The project aims to improve the efficiency, effectiveness, and reliability of 9-1-1 services while enabling new capabilities such as geospatial routing, improved redundancy and leveraging an Emergency Service IP Network (ESiNET). The NG9-1-1 project involves upgrading and integrating various 9-1-1 technologies, including 9-1-1 call handling systems, dispatch systems, mapping systems, and database systems.

The NG9-1-1 project is being led by the Arizona Department of Administrations (ADOA) 9-1-1 Program in partnership with Comtech Telecommunications, AT&T, and Motorola. The project is funded through a combination of state and federal grants and the state 9-1-1 surcharge, a collection of wireless, wireline, VoIP, and prepaid user fees. The NG9-1-1 project is expected to significantly enhance the ability of 9-1-1 responders to respond to emergencies quickly and effectively and to provide more comprehensive and reliable 9-1-1 services to the residents of Arizona.

3.3.2 Broadband Adoption Assets

Closing the digital divide requires adoption of broadband connectivity for two key reasons. First, households without broadband subscriptions, despite having broadband available, remain at a digital disadvantage. While it is crucial to respect individual choices, encouraging affordable and dependable internet usage benefits the public. Second, high subscription rates may positively affect the business case for broadband infrastructure development. Marginal decisions by some Arizonans to subscribe to broadband service can benefit others by creating positive externalities, making the broadband networks' financial and operational sustainability more feasible.

Figure 1: Fixed home internet adoption rates by county in Arizona



The American Community Survey (ACS) from the United States Census Bureau collects data on home internet subscriptions and internet-enabled computing devices in the household, which exist at various levels of aggregation, including state and county levels and based on household income. Figure 1 depicted above illustrates the ACS 2017-2021[5] five-year estimate of fixed home internet adoption at the county level, excluding households with only cellular data plans, or satellite internet services.

[5] U.S. Census Bureau QuickFacts: Arizona City CDP, Arizona

At the statewide level, approximately 88.4 percent of households subscribe to internet of some kind, but only 72.7 percent of households subscribe to fixed home internet services such as cable, fiber optic, or DSL. The adoption rates, however, vary significantly between counties. Maricopa County, which is predominantly urban, has the highest rate of fixed home internet adoption, with 90.4 percent of households subscribing. The majority of counties (80-90 percent of households) have fixed home internet adoption rates within this range. However, counties with larger populations living on tribal lands tend to have much lower rates than the statewide average. For example, Navajo County has an adoption rate of 68.1 percent, and Apache County, located in northeast Arizona, has an adoption rate of only 43.2 percent for fixed home internet, which is less than half of the state's average.

There are multiple resources available across the state designed to promote, enhance, and support broadband adoption. ACA will continue to build an asset inventory list to identify all resources available for broadband deployment and digital equity. Connect Arizona and the Digital Navigator program are state level programs and are an example of the adoption assets across the state.

Connect Arizona

During the COVID-19 pandemic, the Arizona State Library, Archives, and Public Records (LAPR) spearheaded a drive to collate many of these resources into a central location known as Connect Arizona, making it simpler for Arizonans to locate and gain access to the information and resources necessary to flourish in the digital economy. The Connect Arizona site offers resources for obtaining internet service, such as information about the Affordable Connectivity Program (ACP) and participating ISPs, a location map of Wi-Fi hotspots, a list of low-cost internet service plans and providers statewide, and guidance on where to find and buy low-cost, refurbished devices.

Digital Navigators

In tandem with these resources, LAPR also launched a Digital Navigator service, modeled on the National Digital Inclusion Alliance (NDIA) Digital Navigators model. This program enables librarians from various locations throughout the state to assist community members in locating internet service, building digital literacy skills, and accessing technical support needed to become more efficient and effective internet users.

3.3.3 Broadband Affordability Assets

According to Pew Research Center[6], nearly 1 in 4 Americans do not subscribe to a home broadband connection, even when one is available. Pew ties this trend to affordability, access to internet-compatible devices, and digital skills. As a result of some families choosing to go without internet service, ISPs need to charge some of their customers more than marginal cost to cover their fixed expenses associated with building, maintaining, and operating broadband networks. If they can fund a significant portion of fixed costs with revenue from more affluent clients, they can provide low-income customers with highly subsidized or discounted internet service to encourage them to subscribe. Therefore, well-designed, means-tested broadband affordability programs have the potential to improve both the social and commercial sustainability of broadband networks. The ACA Broadband Office recognizes that publicizing, administering, and enrolling in such programs could be a significant challenge for ISPs but it necessary to support affordable options for subscribers.

[6] https://www.pewtrusts.org/en/research-and-analysis/fact-sheets/2022/07/how-do-speed-infrastructure-access-and-adoption-inform-broadband-policy

Affordable Connectivity Program (ACP)

The federal government has established several programs to promote affordable home internet service and help minimize the delta between broadband access and adoption rates. The Infrastructure Investment and Jobs Act created the Affordable Connectivity Program, which provides a $30 monthly discount toward internet service subscriptions and a one-time $100 discount toward the purchase of an internet-enabled device for eligible households. For households residing on tribal lands and in high cost areas, the monthly discount increases to $75. Eligibility is determined either by household income (which must be below 200 percent of federal poverty guidelines) or via participation in other federal or tribal assistance programs, such as SNAP, Medicaid, or Federal Housing Assistance.

Lifeline

The Lifeline program is the other principal federal initiative that provides low-income households with affordable home internet service and phone connections. The program is administered by the Universal Service Administrative Company (USAC) and reduces the monthly cost of telephone or internet service for eligible households by $9.25. Residents living on tribal lands are eligible for an enhanced benefit of $34.25 per month and may qualify for up to a $100 reduction in first-time connection fees.

Provider Discount Programs

Several ISPs offer programs to low-income households that meet income eligibility requirements. Programs vary and include services like free installation and equipment rental. These programs are designed to work in concert with the Affordable Connectivity Program to cover the full cost of internet service.

Tribal Discount Programs

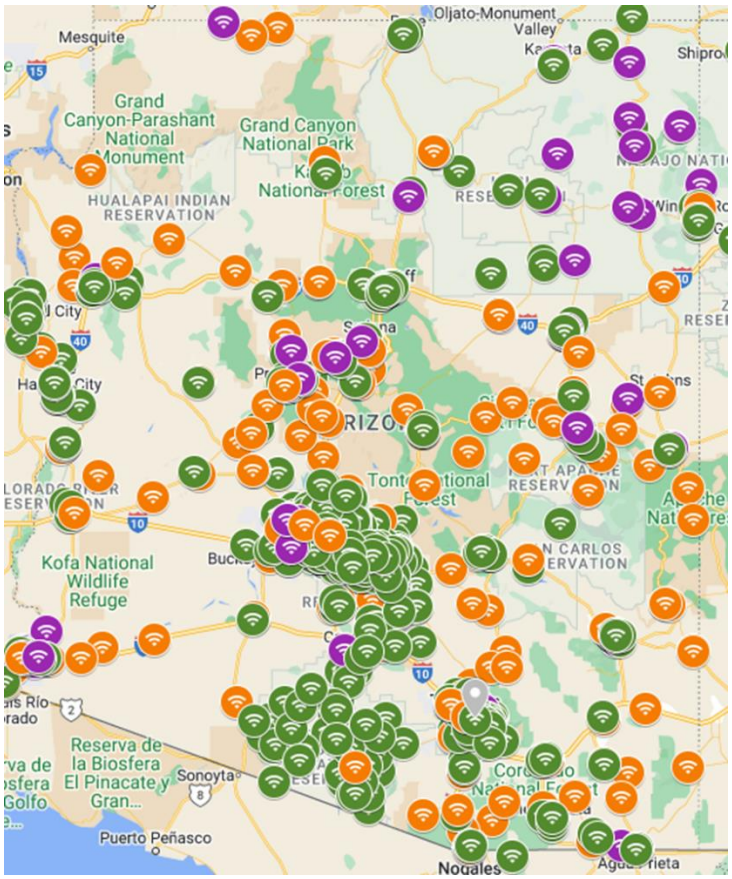
In addition to non-tribal ISPs offering service on tribal lands, there are programs offered by tribes that provide up to a 40 percent discount on internet service for students or households with students.

3.3.4 Broadband Access Assets

Public libraries are a crucial resource for accessing internet service particularly for those who do not have home internet access. These libraries are located throughout the state, as displayed in the map on the website hosted by the Arizona State Library, Archives, and Public Records (LAPR). The Arizona State LAPR's mission is to provide Arizona's residents and government agencies with access to public information, promote collaborative historical and cultural research and information projects, and guarantee the preservation of Arizona's history.

The Arizona State LAPR offers general information services, research assistance, and reference services, manages state and federal grants for public libraries, and provides consulting services to both public libraries and government agencies. The division also provides special library and information services to individuals who cannot use or read standard printed materials due to visual or physical limitations, organizes public record archival retention initiatives, and collaborates with the Arizona Department of Education to leverage federal funds for the provision of Wi-Fi service throughout the state.

Figure 2: Stakeholder Asset and Resource Map



As shown in the Stakeholder Asset and Resource Map, there are many other organizations across the state who provide free internet as well as enable access to computing devices.

- Libraries
- Schools
- Other

LAPR created Connect Arizona, a website making it simpler for Arizonans to locate and gain access to the information and resources necessary to flourish in the digital economy. The Connect Arizona site offers resources for obtaining internet service, such as information about the Affordable Connectivity Program (ACP) and participating ISPs, a location map of Wi-Fi hotspots, a list of low-cost internet service plans and providers statewide, and guidance on where to find and buy low-cost, refurbished devices.

Figure 3: Libraries in Arizona

Device Refurbish Programs

Many ISPs, non-profit organizations and tribal entities offer device refurbishment programs to maximize the use of devices and distribute to individuals that may not be able to afford new devices to effectively use the internet. Some of these programs provide real-world technology training to Arizona's students and educators. These programs teach students valuable technology skills; provide quality refurbished computers to schools and non-profits around the state; and positively contribute to the environment by diverting old equipment from landfills.

The state's middle-mile strategic plan, as previously mentioned in section 3.3.1, emphasizes that the vast majority of the state's population is located within a 5-mile radius of the state highway network. It also contends that by expanding the middle-mile network along Arizona’s interstate highways and select intrastate routes, the unserved and underserved households can be reached. Through the collaboration of the public and private sectors and the development of an open-access network, this strategy can attract more private sector interest and investment, increase competition, and provide more affordable internet services to both consumers and businesses.

Public investment in middle-mile broadband infrastructure in conjunction with investment from other last-mile broadband grant programs such as CPF and BEAD can hasten Arizona's journey towards linking unserved and underserved households across the state. According to the plan, investments in the middle-mile network will establish a point-of-presence (PoP) in all major population centers along the interstate and select intrastate routes. This middle-mile strategy and plan will help expedite time-to-deployment, create resilience in the network, reduce cost, and spur further middle-mile and last-mile network construction done by private sector internet service providers, electric cooperatives, telecommunications companies, among others.

3.3.5 Digital Equity Assets

Arizona has several entities that provide assets related to broadband and digital opportunities. The complete asset inventory can be found in Appendix B. Please note that the inventory is not an exhaustive representation of all of Arizona's assets, and there may be additional assets not included in the current inventory. The Stakeholder Asset and Resource Map identifies several organizations within state and local government, the private sector, and non-profits that are actively involved in providing various programs and services to address digital equity in Arizona. These organizations offer technical support or digital navigator services, as well as entry-level digital literacy training or more advanced workforce development programs.

Digital Equity Institute

The Digital Equity Institute (DEI) provides a range of digital equity ecosystem supports including age and stage-appropriate digital skill building, digital and financial literacy training, and 21st-century workforce development. They offer a robust in-person, hybrid, and virtual digital navigator program, and provide digital navigator and digital health navigator training. Additionally, DEI offers telehealth system design and support services and provides device distribution and online safety training. DEI Tech Hives are culturally responsive community spaces designed to increase a sense of belonging in the digital world while improving use, adoption, and affinity for technology.

Maricopa County Digital Equity Program

An excellent example of the recent digital equity program in Arizona was launched in September of 2022. The Maricopa County Board of Supervisors recently granted Arizona State University (ASU) $34.6 million in ARPA (American Rescue Plan Act) funding until 2026. The funding is intended to

ensure that every individual in the region is a fully engaged and active participant in the digital economy. ASU will now have the most substantial university-led digital equity program in the United States. The program will be run through ASU Enterprise Technology, the Sun Corridor Network, and the Digital Equity Institute, which are working together and leading the way toward enhancing broadband access, connecting community anchor institutions, mobilizing community resources and support systems, and providing technology and training programs to those areas in need.

Stakeholder Networks

Arizona Telecommunications and Information Council (ATIC)

The Arizona Telecommunications and Information Council (ATIC) is a non-profit that brings together leaders from various disciplines, including business, government, and academia, to provide their knowledge and guide telecommunications and digital technology policy development and deployment throughout Arizona. Over the years, the organization has played a vital role in facilitating collaboration, coordination, information sharing, and communication among key public, private, and non-profit stakeholders committed to expanding broadband deployment in Arizona.

Arizona Broadband Stakeholder Network (AZBSN)

ATIC worked closely with the Greater Arizona eLearning Association to convene the Arizona Broadband Stakeholder Network (AZBSN). During the COVID-19 pandemic, ATIC and AZBSN formed the AZBSN COVID-19 Digital Access Task Force and produced an extensive report and recommendations to address the digital needs identified as a result of the pandemic.

AZBSN is responsible for facilitating collaboration, coordination, information sharing and communication among key public, private and nonprofit stakeholders. AZBSN also collaborates on priority initiatives for schools, libraries, telemedicine, and community projects.

Arizona Digital Inclusion Network (ADIN)

The Arizona Digital Inclusion Network (ADIN) is a coalition of organizations and individuals from across the state that provides networking opportunities and supports community leaders interested in advancing digital inclusion within their communities. ADIN is affiliated with National Digital Inclusion Alliance (NDIA) and working to advance digital equity in Arizona.

3.4 Needs & Gaps

The lack of broadband infrastructure is just one of the challenges identified in the broadband and digital equity needs and gaps assessment. In many areas of the state, broadband service is available, but services are often unreliable and unaffordable for some residents, or residents lack the digital skills or necessary tools to maximize the benefits of an internet connection. These issues are even more pronounced when it comes to devices. The task of identifying needs and setting standards to address digital skills and digital equity issues is still in the early stages.

3.4.1 Broadband Deployment

The ACA Broadband Office is currently creating a state broadband mapping system to better inform ACA on where the needs and gaps are in Arizona. This project is still in progress; therefore, the following information is based on data from the FCC's National Broadband Map and provides a description of broadband coverage as well as the needs and gaps within Arizona.

The majority of Arizona's population resides within a limited number of urban areas, specifically 64 percent in Maricopa County, metro Phoenix, and metro Tucson. These areas generally have access to high-speed internet speeds surpassing the 100/20 Mbps speeds that the BEAD program targets. This high-speed internet is provided through reliable technologies as defined by the BEAD NOFO. While only a small portion of the population in Arizona has access to gigabit speeds, almost 90 percent have access to 250 Mbps. In terms of broadband infrastructure, only a limited number of Arizonans are on the wrong side of the "digital divide." However, most of Arizona's *territory* falls outside the coverage area of these broadband networks.

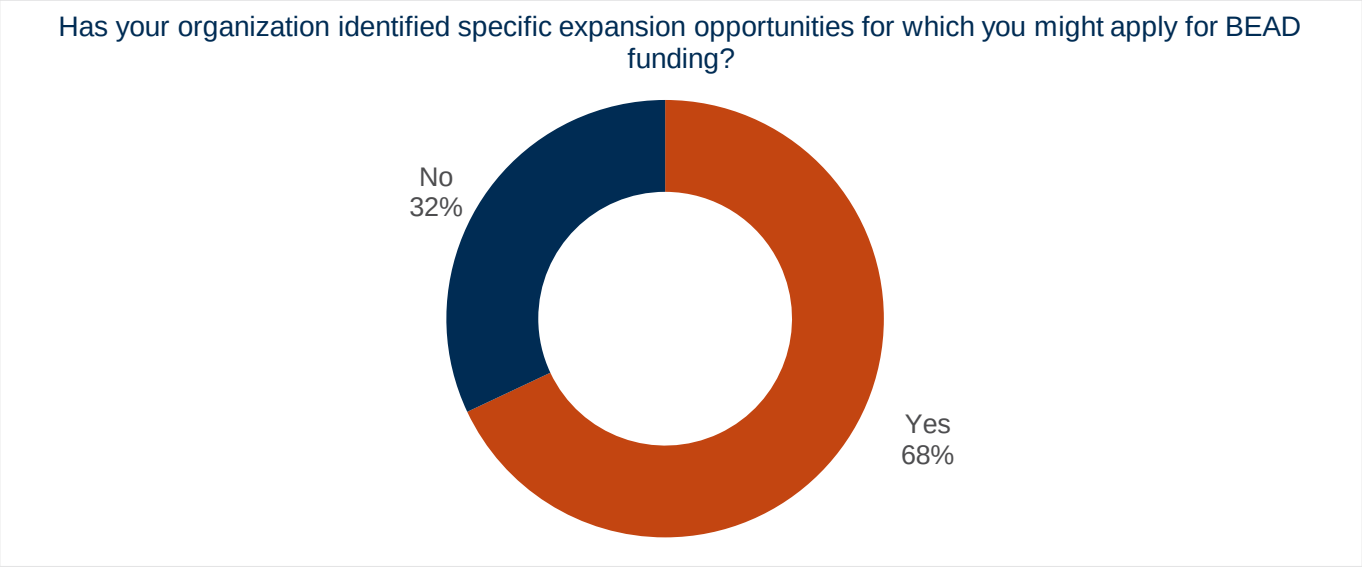
In contrast, the entire population in Arizona, along with the vast majority of its territory, has access to broadband service through ISPs that claim to offer speeds of at least 25/3 Mbps. In some areas, fixed wireless networks extend beyond the reach of wireline providers. Additionally, satellite ISPs have statewide reach and claim to provide coverage at all inhabited locations in Arizona. However, satellite ISPs suffer from significant technical limitations due to their inability to provide latency lower than half a second. This presents significant issues for interactive internet applications. Despite low-Earth orbit satellites offering the promise of resolving latency issues, they require large look angles and remain relatively unproven as a mass solution for convenient and reliable broadband access. Furthermore, they lack a comprehensive track record, and speed remains another issue to be addressed.

While fixed wireless ISPs offer 100/20 Mbps speeds at some of their locations, just over half of all locations have access to those speeds. A significant majority of Arizona's territory currently lacks access to fixed wireless speeds above 100/20 Mbps. Furthermore, some of the fixed wireless coverage available is unlicensed, which makes it susceptible to interference. As a result, such coverage has not been considered reliable enough to meet the technical standards of the BEAD program.

Broadband coverage quality in Arizona varies significantly by region. North of Flagstaff and Kingman, in northern Arizona, there is almost no 100/20 Mbps broadband coverage offered through reliable technologies, leaving that portion of the state predominantly unserved or underserved. That being said, many parts of northeast Arizona have 25/3 Mbps coverage based on licensed fixed wireless technology. Even though some towns, such as Pinon, Round Rock, Cottonwood, and Cow Springs, have some form of broadband under the current definition of the FCC, they are still considered underserved. Many residents who live between these towns lack access to any form of broadband coverage.

Towards the southern part of the state, there exist pockets of high-quality broadband coverage amidst large gaps. Some of these gaps are either uninhabited or have serviceable locations with no available providers. Wireline broadband services are offered in and around Phoenix, Prescott, Flagstaff, Snowflake, Safford, Tucson, Yuma, Sells, Clifton, Miami, and other smaller towns and suburbs. In some areas, fixed wireless networks are designed to cover locations where the wireline service is unavailable. Nevertheless, many of these larger areas lack broadband coverage. These regions are sparsely populated but still have a significant number of households lacking proper internet service. In general, the main challenge Arizona faces is the task of extending broadband networks from highly developed urban centers to the sparsely populated areas across the state. Most of these areas present high deployment costs per location, making the task even more challenging. The ACA Broadband Office is expecting to provide further information on the broadband coverage gaps within Arizona as a part of the Initial Proposal.

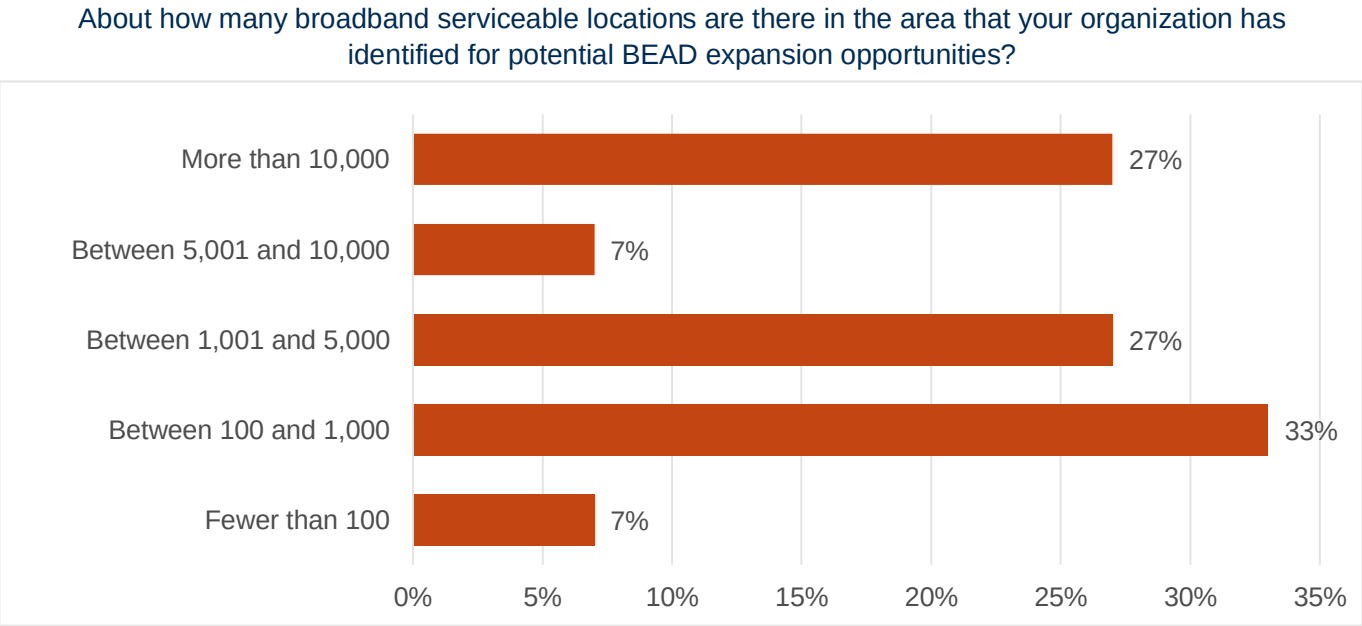
Figure 4: ISP survey respondents have specific expansion plans to leverage BEAD funds



N=15 respondents who have identified areas for potential BEAD expansion

The survey also asked ISPs how many locations their planned BEAD expansion projects would serve. The responses are shown below.

Figure 5: The range of planned BEAD expansion projects



N=22 respondents who reported that they will definitely or probably apply for upcoming BEAD grants

Four ISPs have planned expansions of more than 10,000 locations. Since there is no upper bound on this category, some of these projects might be far larger than 10,000 and the total cannot be inferred, but based on what information is available about the potential ranges, there may be in excess of 50,000 locations covered by these expansion plans. Further details of the ISP survey are presented as part of ACA's Stakeholder Engagement process. Additionally, the ISP survey results

are presented throughout this document as they help inform many sections of Arizona's Five-Year Action Plan.

3.4.2 Broadband Adoption

Arizona Counties with the Lowest Fixed Home Internet Adoption Rate

Counties in Arizona vary considerably in their rates of fixed home internet adoption. The counties with the lowest rates are shown in Table below.

Table 7: Arizona counties with the lowest fixed home internet adoption rates

Rank	County	Fixed Home Internet Adoption Rate
11	Coconino County	80.8%
12	Gila County	74.5%
13	La Paz County	72.0%
14	Navajo County	68.1%
15	Apache County	43.2%

3.4.3 Broadband Affordability

The Pew Research Center study showed that 43 percent of households earning less than $30,000 per year do not have home internet subscriptions, compared to merely 8 percent of households earning over $75,000. Many cited costs as the primary explanation for not subscribing to internet service[7]. One way of expressing the difference between these households is that, given the present pricing models, households earning under $30,000 per year typically have to pay over 2 percent of their annual income for broadband service.

Based on this 2 percent standard, the median household in Arizona would be considered cost-burdened with broadband service that costs more than $100 per month. Per the BEAD program requirements, the ACA Broadband Office will develop an affordable pricing structure for eligible households which subrecipients of BEAD funding must offer to bridge the gap in affordability.

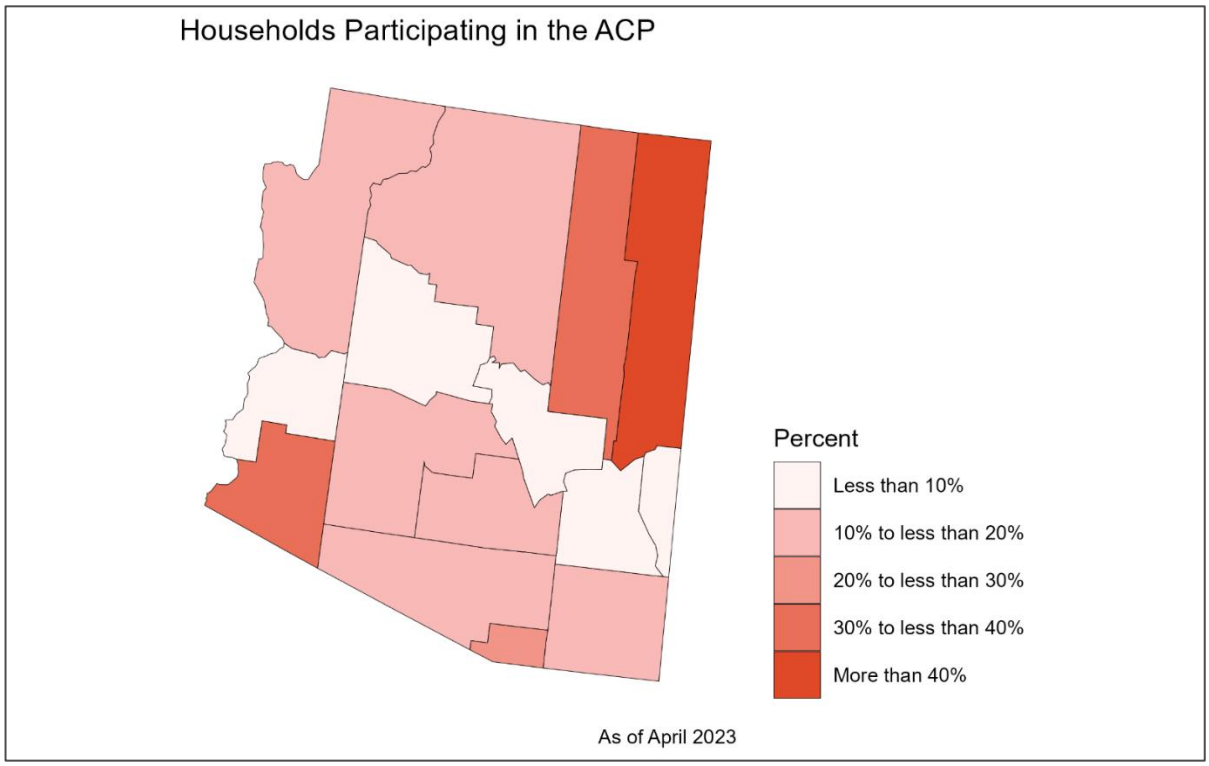
Although the Federal Communications Commission discloses comprehensive information on broadband availability at the location level, the data on pricing is absent from the FCC National Broadband Map. Although the data is expected to become more accurate as the challenge process and other learning initiatives continue, the ACA Broadband Office is currently unable to determine the number of households in Arizona that experience cost burdens from the expense of internet service.

Identifying the population who are eligible for the ACP program is a challenging task since the ACS provides data only on household incomes and estimates of the percentage of households below various poverty levels, but not on the number of households enrolled in other assistance programs. According to estimates made by Education Superhighway and based on the 2021 ACS data, 42.7

[7] https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2023/04/broadband-challenges-and-opportunities-in-affordable-rental-housing#:~:text=Data%20from%20the%20Pew%20Research,more%20than%20%2475%2C000%20a%20year

percent of households in Arizona are eligible for the ACP[8]. Out of those who are eligible, 36.9 percent of households have enrolled in the ACP, according to the USAC's ACP Enrollment and Claims Tracker data as of June 19, 2023[9]. Arizona is 19th in the country in terms of ACP participation.

Figure 6: Household Participation in the Affordable Connectivity Plan



In August 2023, Governor Hobbs advocated for the renewal of funding for the Affordable Connectivity Program (ACP) by writing to Arizona Senators Kelly and Sinema. With more than 400,000 Arizonans participating in ACP, this program is critical in supplementing Arizona's work to prioritize projects with internet pricing models that make internet more affordable. In addition to the Governor's advocacy for renewal of funding, the Governor and the ACA are working in coordination with state entities such as the Department of Economic Security and Arizona Board of Regents to increase the number of enrollees based on eligibility from programs such as SNAP, Medicaid, and the Pell Grant.

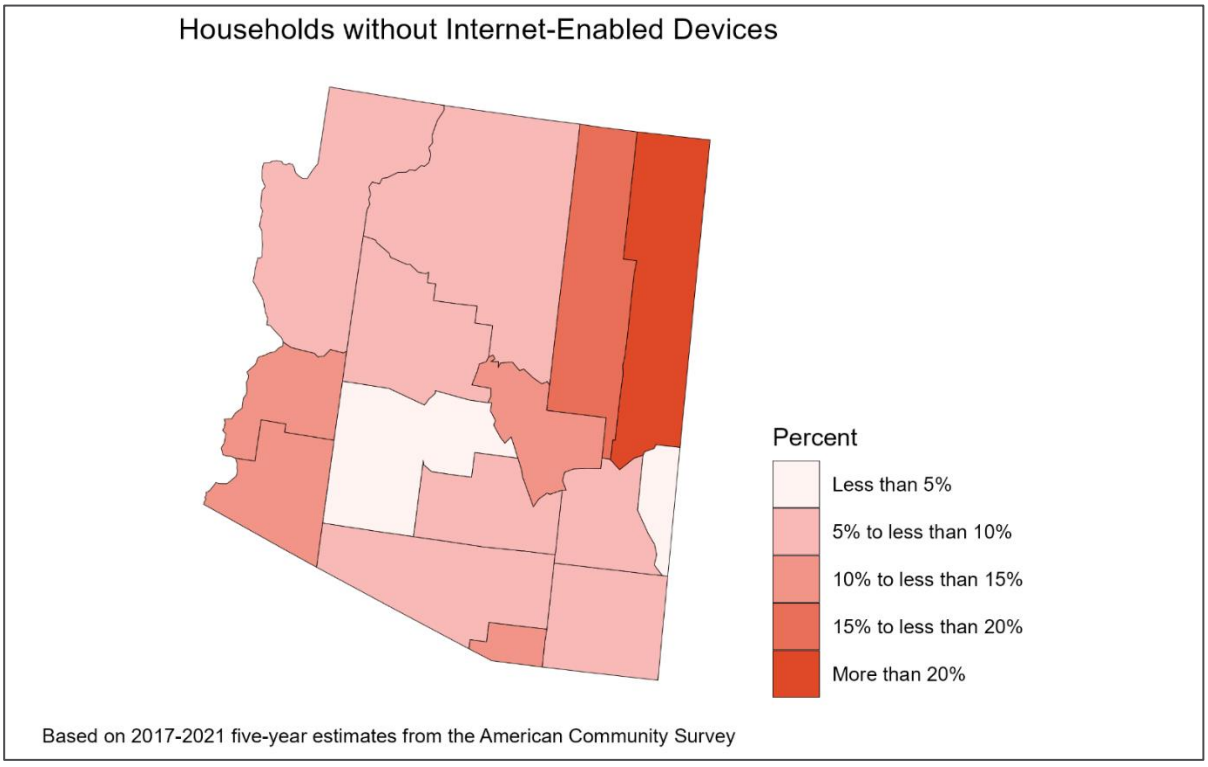
Figure 6 shows the percentage of total households in each county that have enrolled in the ACP program as of April 2023; however, eligibility data at the county level is not available. Data on ACP enrollment comes from USAC's ACP Enrollment and Claims Tracker, while the number of households in each county comes from 2017-2021 five-year ACS estimates. Participation in the ACP program varies broadly across the state, with most counties having participation rates of less than 15 percent. On the lower end, only 5.1 percent of households in Greenlee County, and 5.3 percent of households in Yavapai County take part in the program. In contrast, in Navajo County and Yuma County, 39.7 percent and 39.8 percent, respectively, of households participated in the program. Apache County is a significant outlier in terms of program participation, with a participation rate of 71.8 percent, nearly double the second-highest county, and almost 14 times higher than the lowest county in the state.

[8] https://www.educationsuperhighway.org/no-home-left-offline/acp-data/
[9] https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker/#enrollment-by-state

Device Ownership and Access

Public policy has approached the issue of devices differently than broadband infrastructure, as the lack of devices is typically perceived as an issue that individuals solve for themselves. While accessing broadband networks often requires relying on ISPs, households can purchase devices from ISPs or online. However, some households may face difficulty in obtaining suitable devices due to poverty, limited knowledge about technology, or a combination of both. Public programs like device lending have stepped in to help fill the resulting gaps and assist people in obtaining the devices they need. Moving forward, as policy becomes more focused on assisting the most digitally disadvantaged populations, there may be a need to expand these efforts. The following paragraphs provide an overview of device ownership and access in Arizona. Figure 7 displays the percentage of households without any internet-capable devices, sourced from the American Community Survey 2017-2021 five-year estimates, for each county in Arizona. Most counties exhibit a rate of under 12 percent of households that lack an internet-connected device, with Greenlee County recording the lowest percentage at 3.7 percent. In contrast, Maricopa County, an urban county, has only 4.3 percent of households without any kind of device. Other counties have much higher rates of households without devices.

Figure 7: Percentage of households without internet-enabled devices by county



While attention has largely been directed towards facilitating broadband access and adoption, the ACA Broadband Office and Governor Hobbs recognize that limited access to computing devices can also hinder internet access. Without devices, households lack the motivation to subscribe to home or cellular internet services. Additionally, households lacking home internet or devices must depend on community anchor institutions such as libraries and schools to bridge the gap, which can be inconvenient or even impractical in some instances.

Table 8 below illustrates the five counties with the highest rates of households without internet-enabled devices.

Table 8: Arizona counties with the highest rates of households without internet-connected devices

Rank	County	Percent of Households without a Computing Device
11	Santa Cruz County	10.6%
12	La Paz County	11.2%
13	Gila County	13.2%
14	Navajo County	17.2%
15	Apache County	37.9%

Although some counties do not deviate noticeably from the state average, others exhibit notably high percentages of households without devices. Navajo County, for instance, has 17.2 percent of households without access to internet devices, whereas Apache County's rate is exceptionally high, with 37.9 percent of households not owning any internet-capable devices.

Figure 8: Scatter plot between poverty rate & rate of households without devices at the county level

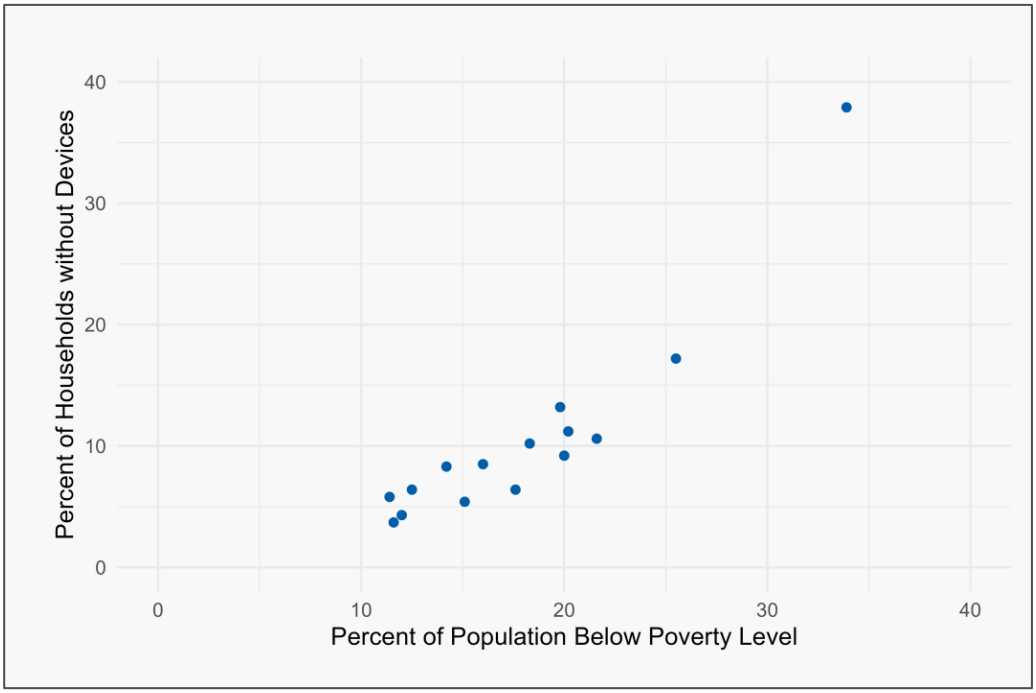


Figure 8 shows the issue of affordability by displaying a scatter plot that depicts the correlation between the percentage of a county's population living below the poverty line (X axis) and the percentage of households without any internet-capable devices (Y axis). As anticipated, the data

indicates that there is a positive and direct correlation between these two indicators, i.e., counties with a higher percentage of poverty-stricken residents also exhibit higher rates of households without devices to access the internet.

3.4.4 Broadband Access

The term "broadband access" can encompass various forms of access, including deployment, which is covered in section 3.4.1 of the plan. In Arizona, the ACA Broadband Office expects that the Community Anchor Institutions (CAIs) will play an important role in providing public access points to disadvantaged populations for online services. The ACA Broadband Office is in the process of establishing a comprehensive list of CAIs and gathering information regarding the broadband speeds they offer as part of the Initial Proposal development process. Additionally, the digital equity planning workstream will establish metrics and benchmarks for targeting as part of the State Digital Equity Capacity Grant implementation. These endeavors will contribute to a better understanding of existing broadband access resources and what constitutes an adequate level of availability, enabling the creation of a well-justified definition of needs and gaps.

3.4.5 Digital Equity

Arizona is committed to achieving digital equity, as demonstrated by its ongoing development of a comprehensive Digital Equity Plan. This transformative roadmap will bridge the digital divide throughout the state with tailored strategies designed to address Arizona's unique challenges and characteristics. The state's geographic diversity, extensive rural areas, and 22 sovereign Tribal Nations present complex issues that demand targeted approaches to ensure equitable digital access for all residents. The Digital Equity Plan demonstrates a deep understanding of these issues and outlines a path toward a digitally empowered and resilient state where the benefits of the digital age are accessible to everyone, irrespective of their location or background.

The Digital Equity Plan that Arizona is preparing will feature a comprehensive, inclusive approach that integrates extensive research, stakeholder engagement, and data-driven insights. This approach underlines Arizona's commitment to fostering an inclusive digital future. By tapping into the knowledge and perspectives of diverse stakeholders, promoting collaboration, and prioritizing the elimination of barriers to digital access and complete participation, the plan aspires to unleash technology's transformative potential for education, healthcare, economic opportunities, and civic engagement.

Arizona's forthcoming Digital Equity Plan will prioritize preparing communities for 21st-century job demands and skill-building. The state recognizes that the workforce is dynamic and acknowledges the importance of individuals possessing digital skills that are congruent with emerging job opportunities. By implementing comprehensive digital literacy and skill-scaffolding programs, workforce development initiatives, and fostering entrepreneurship support, Arizona intends to provide its residents with the skills necessary to flourish in the digital economy. Promoting a culture of lifelong learning and skill-building, the state seeks to empower individuals, allowing them to adapt to shifting job market demands and pursue gratifying and sustainable careers.

Arizona is pursuing a Digital Equity Planning process which focuses on:

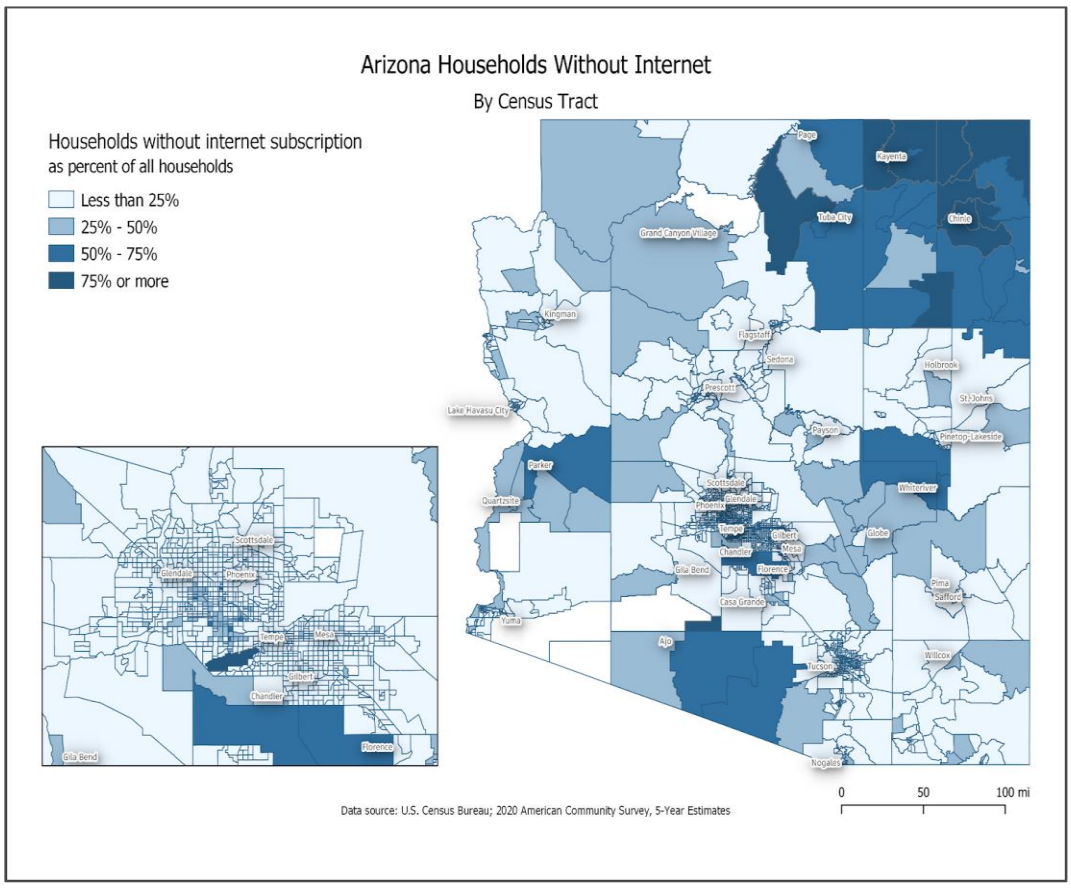
1. Meaningful community and stakeholder engagement
2. Ecosystem building

3. Threat casting
4. Asset, Stakeholder, and Resource mapping
5. Modeling and predictive analytics
6. Data collection and analysis

Methodology for Exploring Digital Equity

One of the most significant needs for digital equity in Arizona is better data to comprehend the state's digital equity demands. Census and other data indicate that a considerable proportion of the population lacks computers, smartphones, and/or internet connections, and it is evident that such inadequacies are incompatible with a typical 21st-century lifestyle. While it is reasonable for people to have unconventional preferences and make unusual choices, a lack of computing and connectivity should generally be taken to signal a state of deprivation and a need for assistance. However, the reasons behind these deficits require further exploration and understanding. As such, the Digital Equity Planning process commences with gathering information.

Figure 9: Estimates of Arizona Households without Internet from the U.S. Census American



Arizona's comprehensive data collection and community engagement initiatives will seek to enable the state to attain universal digital equity, promote digital inclusion activities, and bolster broadband adoption and use capacity. Effective planning is critical to ensuring safety, mitigating risks, prioritizing privacy, and promoting programs' long-term sustainability as access becomes available. Upon completion, the Digital Equity Plan will play a pivotal role in supporting Arizona's economic, workforce development, education, and healthcare objectives while also fostering civic and social engagement.

Figure 10 below shows the methods that are being used by the ACA Broadband Office to study digital equity.

Figure 10: Digital Equity Research Methodologies for Arizona

The efforts associated with digital inclusion in Arizona is on-going. Examples of various digital inclusion strategies employed by the ACA Broadband Office include listening sessions, collaboration with local media, targeted outreach events, and social network analysis. The Initial Proposal will include outcomes of digital inclusion efforts.

Framework for Digital Inclusion Strategy:

01 Defining desired outcomes

02 Obtaining stakeholder buy-in

03 Coordinating various stakeholders

04 Establishing a governance model

05 Developing integrated approaches for scaling

The framework for digital inclusion is all about working together collaboratively to create a successful and safe learning environment where people can share their ideas, avoid conflicts, and work toward the same goals. Various tools are used to measure progress towards these goals, and the State of Arizona is hosting Listening Sessions to gather information for their Digital Equity Ecosystem plan. The objective is for everyone to benefit, and for people to feel involved and recognized. It promotes open standards and encourages everyone to participate.

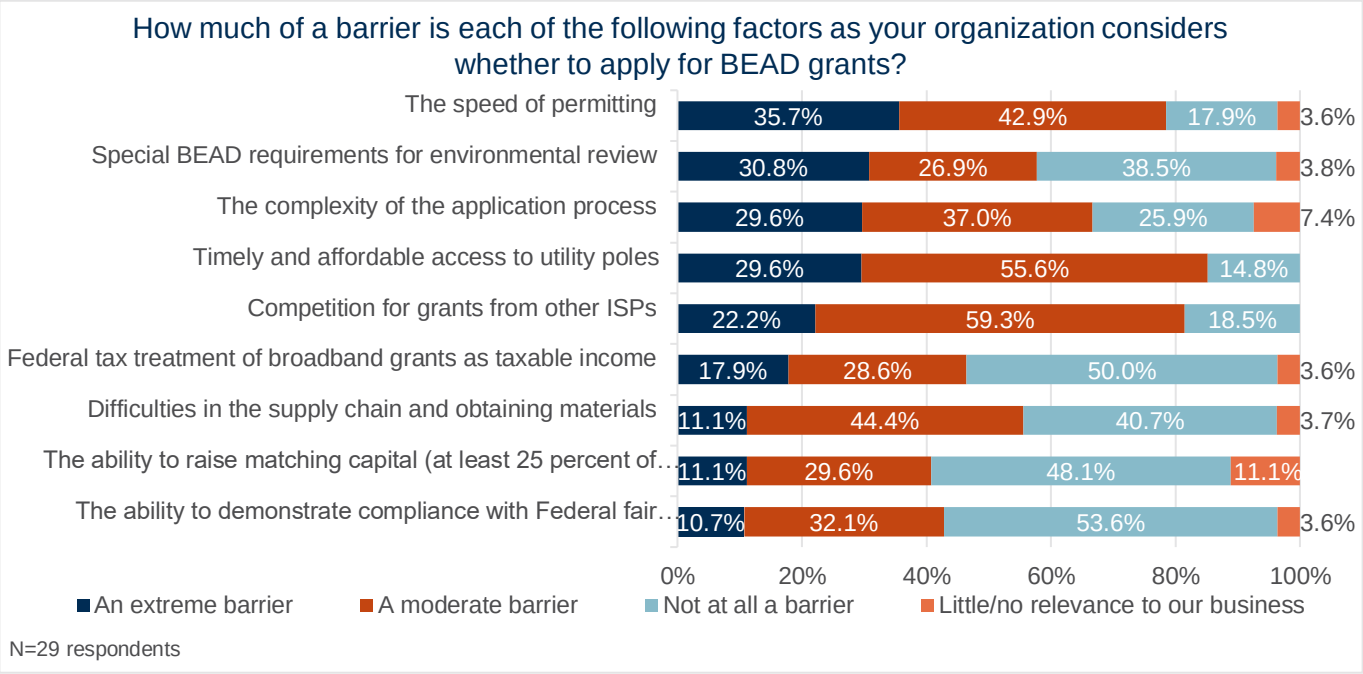
4. Obstacles and Barriers

In 2017, the Arizona Department of Administration held Broadband Focus Groups across the state to collect valuable input about broadband in rural Arizona. During the sessions, participants shared their perspective on the current state of broadband in their communities, their vision for the future of broadband and strategies to achieve that vision and overcome obstacles. A Findings Report was published in 2018 and was the foundation for development of the 2018 Arizona Broadband Strategic Plan.

The Findings Report identified essentially the same barriers that were reported during the community forums and the ACA survey conducted from May to July 2023, with the exception of new challenges with labor and workforce availability and supply chain issues. Although some progress has been made since the 2018 report, the obstacles and barriers remain very much the same and reinforces the need to address the issues in a comprehensive strategy through the BEAD Program.

The current obstacles and barriers to implementing the BEAD program in Arizona are identified in the following section. The information was gathered from ACA's partnership roundtables and survey responses as well as known obstacles and barriers that have been identified over the years in previous work. The current barriers that have been identified include regulatory obstacles, labor and workforce availability, supply chain issues, local coordination and capacity, digital equity, and affordability concerns as identified in the outreach and surveys conducted but ACA.

Figure 11: Top barriers to participation in the BEAD program



ISP survey respondents identified supply chain difficulties and the acquisition of necessary materials as either an "extreme" or "moderate" obstacle. The ACA Broadband Office acknowledges the industry's concern that broadband deployment may be hampered by supply chain challenges, particularly in view of the "Buy America" regulations.

ISPs also identified their own specific challenges associated with broadband deployment such as the speed of permitting, environmental review requirements, the complexity of the application process, and accessibility and affordability of utility poles. According to ISP survey participants, the top barrier is "speed of permitting," with 79 percent of survey respondents considering it a barrier and 36 percent rating it an "extreme barrier." Additionally, the competition for grant funding from other ISPs is viewed as a hurdle by 82 percent of participants, with 22 percent considering it an "extreme barrier."

4.1 Regulatory Barriers

Regulatory barriers are the legal and regulatory hurdles set out by state, local, and federal government entities with regards to infrastructure deployment. These typically involve requirements that must be satisfied, permissions that must be granted, such as pole attachments and right-of-way permitting and accessibility, as well as tax obligations at the state and local levels. Regulatory barriers can also involve fulfilling the National Environmental Policy Act (NEPA) requirements, amongst others. ISPs have expressed concern over regulatory barriers primarily because of the time and cost implications, which could lead to extended wait periods that hinder timely deployment of the broadband infrastructure.

The ACA Broadband Office and Governor Hobbs are preparing to meet the challenges of regulatory barriers by convening and strategizing with the Broadband Advisory Council who will be in the unique position to recommend solutions. Some of the specific regulatory barriers expected to impact BEAD are listed below.

Pole attachments

According to the ISP survey respondents, 29.6 percent of them consider timely and affordable access to utility poles and pole components an extreme threat to broadband deployment, while 55.6 percent view it as a moderate barrier to deployment. The FCC has set out certified regulations governing pole attachments, and the owners of utility poles must follow them while completing their own permitting process. The ACA Broadband Office is anticipating that with the expected rise in requests for utility pole attachments during the BEAD program deployment, the permitting process may slow down since staffing could be insufficient. Furthermore, decision-making could be slow since the number of requests must be weighed against applicable regulations and optimal use of poles. From the ISPs' perspective, utility pole attachments could incur high fees, space availability could be limited, and there could be poles that are either damaged or unavailable in targeted deployment areas.

Local Government / Municipal participation

Local government and other entities' participation in the broadband ecosystem may also present challenges. The ISP survey found that 62 percent of respondents found obtaining right-of-way permits from municipal entities to be particularly concerning. The ACA Broadband Office acknowledges that effective broadband infrastructure deployment requires the support of local governments and the participation of municipalities in order to assist in the timely completion of

regulatory processes. Local governments may have their own policies and regulations that pertain to broadband infrastructure deployment in addition to state and federal regulations. These local regulations can potentially hinder or slow down the broadband infrastructure deployment process if they are not streamlined and in sync with the state and federal regulations.

Arizona Utility Notification Center (Arizona 811) capacity

Another regulatory requirement that impacts broadband deployment in Arizona is the Arizona Utility Notification Center, which offers pre-excavation / digging notification services and expected right-of-way marking requests within the state. Before any new infrastructure can be deployed, each ISP / broadband infrastructure developer is required to contact Arizona 811 at least two business days in advance and wait two business days from contact to begin digging. If the notification center does not respond to all listed digging items within the specified timeframe, digging cannot proceed. This requirement demands additional planning from ISPs and can lead to potential roadblocks if the requirement is not met or responded to in a timely manner.

Network facilities relocation

The process by which ISPs are required to move their existing facilities during construction projects in the right-of-way is known as "relocation of facilities." This process can be time-consuming and disruptive to deployment. When infrastructure is being deployed, construction projects or other work within the right-of-way may require broadband facilities to be moved temporarily or permanently. The relocation process involves various steps, including proper notice before the relocation, obtaining the necessary permits, surveying the new facility location, and completing the relocation work. This could slow down the deployment progress and cause disruptions during the relocation process. Hence, it's a concern that ISPs must account for when planning broadband infrastructure deployment.

Lack of open access backhaul options and/or middle-mile infrastructure

Backhaul and middle-mile fiber connectivity can pose significant challenges during the deployment of last mile infrastructure. These challenges emerge when middle-mile infrastructure either is not available or is owned and operated by specific entities or is propagated on a proprietary and exclusive basis. In such cases, ISPs may face challenges in obtaining agreements or permissions for using available backhaul or middle-mile connections and may need to develop their own network infrastructure. Obtaining these agreements or permissions can be a time-consuming and complex process that requires extensive negotiations with third-party stakeholders. The success of last mile infrastructure deployment is reliant on the availability of access to backhaul and middle-mile connections.

Franchise fees and in-kind contributions for high-cost areas

Franchise fees and the value of "in-kind" obligations imposed by franchising authorities on ISPs are another regulatory barrier to broadband infrastructure deployment. Franchise fees are paid by ISPs to local governments for the privilege of accessing and using public rights-of-way. In some cases, franchising authorities may impose in-kind obligations, such as requirements for free or discounted internet service for community organizations and local government facilities. These additional fees and obligations can increase the overall deployment cost for ISPs, particularly for smaller ISPs with fewer resources. This poses a barrier to entry for smaller ISPs in the BEAD program and can result in slower broadband infrastructure deployment for communities.

Supply chain and Buy America

The broadband sector is currently facing supply chain issues related to disruptions caused by COVID-19 and geopolitical factors that are affecting the availability of raw materials and essential components required for fiber broadband deployment. These are leading to delays in the delivery of materials, increased costs, and intensified competition over materials that may further strain the supply chain. Additionally, the "Buy America" requirements, which require that materials, products, and services at least 51 percent of which are produced in the United States, are being implemented to support the American manufacturing sector. However, these may increase prices for certain materials or components, which may affect the broadband deployment in Arizona.

4.2 Permitting

Permitting is a long-standing barrier to infrastructure deployment in Arizona due to a history of lengthy permit approval and processing times. The approval of permits can take anywhere from a few weeks to a few months, with longer processing periods for Tribal Nations, which can take up to 18-30 months and hundreds of permits for a single infrastructure build. According to the ISP survey, 42.9 percent of respondents identified permit processing speed as a moderate barrier to deployment, while 35.7 percent of respondents deemed it an extreme barrier. Other permitting concerns arise from the need for submission and approval of federal, state, and local permits that may have varying requirements and timelines for approval. There is also the challenge of available staff to handle the influx of permits that will likely follow the start of the BEAD program funded infrastructure and to process them in a timely manner. The ACA Broadband Office recognizes that speeding up the permitting process and streamlining permitting requirements are necessary to support the timely broadband infrastructure deployment required by the BEAD program.

Federal permitting

Over 42 percent of Arizona is federally managed land and impose additional regulatory barriers to broadband infrastructure deployment. ISPs intending to deploy broadband infrastructure in these areas must obtain permits from federal agencies and follow the guidelines and regulations established by the agencies responsible for managing these areas. Some of the federal agencies that oversee federally managed lands in Arizona include the National Forest Service, the National Park Service, and the Bureau of Land Management. Complying with the permitting requirements and guidelines established by these federal agencies can increase deployment costs and lead to longer wait times for approval.

State permitting

Infrastructure expansion usually requires several regulatory permits, including state environmental, cultural, and historical permits, as well as right-of-way permits for deploying infrastructure within state-managed rights-of-way. This includes several state agencies, such as the Arizona Department of Transportation and Arizona State Land Department which issues right-of-way permits and regulates deployed infrastructure within state-managed rights-of-way. Besides, the deployment of broadband infrastructure often requires obtaining clearance from several state agencies such as the Arizona State Historic Preservation Office, which focuses on protecting historic sites and archeological properties in Arizona. The Agency reviews actions that may affect historic and archeological properties and ensures compliance with federal and state laws and regulations related to historic preservation and cultural resources management.

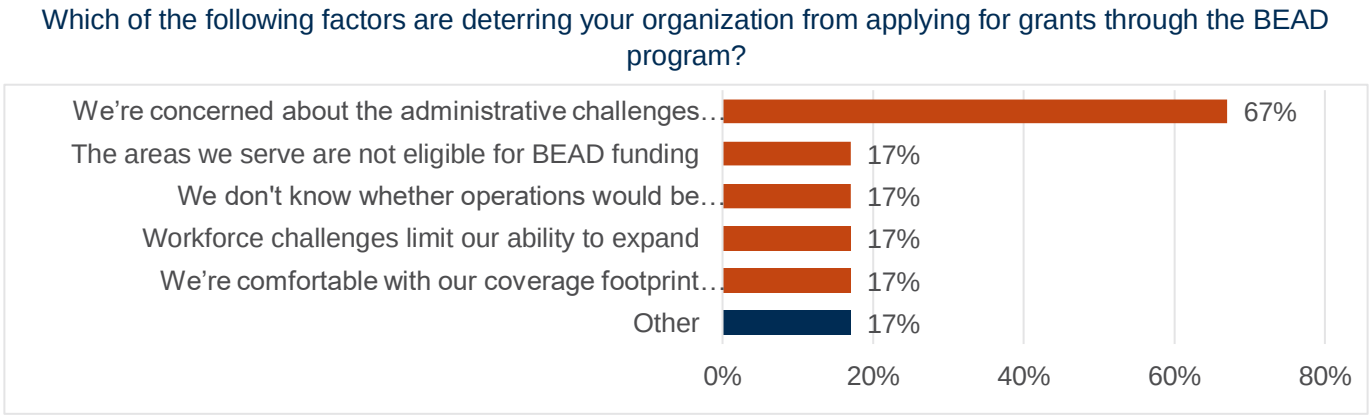
Compliance with the regulatory and permitting requirements established by these agencies can increase the overall deployment cost and extend the deployment timeline.

Local permitting

Deploying broadband infrastructure typically requires a range of permits from all levels of government, including local authorities. The permit approval process and requirements vary across different levels of government, adding complexity and delay to the deployment process. Generally, local permits tend to be more specific in regulations and have larger numbers because of the proximity of the project. These permits can include general city permits, rights-of-way permits, county drains, railroad crossing permits, and zoning permits. Obtaining all necessary permits requires coordination and compliance with a broad range of rules and regulations, leading to a more drawn-out and costly deployment process.

The ISP survey indicated that the foremost reason that ISPs may decide not to participate is concern of administrative challenges that may come from participating in the BEAD program.

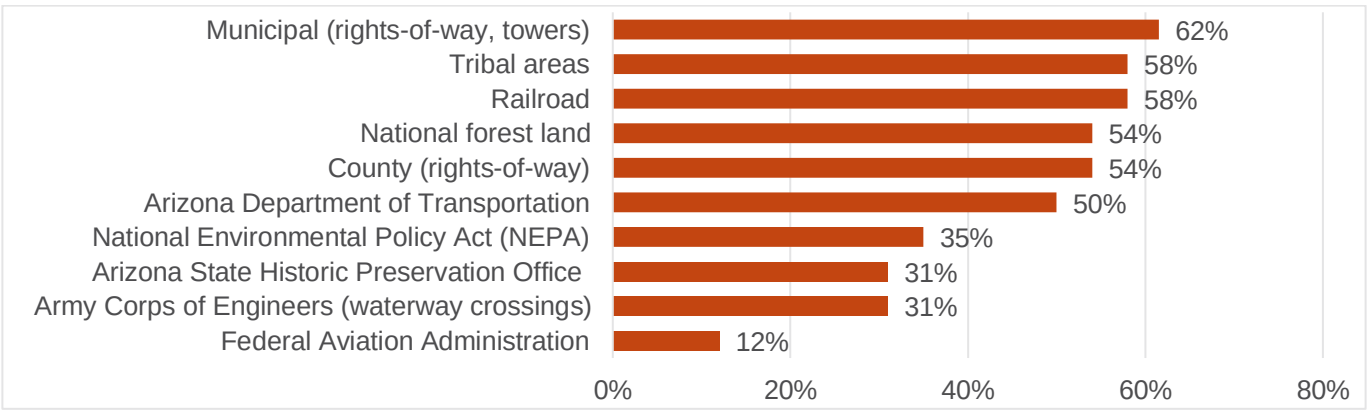
Figure 12: Bureaucratic burden is the main deterrent to BEAD program participation



N=6 respondents who report that they may not, probably won't, or definitely won't apply for upcoming BEAD grants

When we asked what kinds of permitting ISPs are most concerned about, the ISPs indicated that they are most concerned about obtaining municipal, tribal, railroad, national forest, and ADOT permitting in a timely and efficient manner.

Figure 13: Municipal, tribal, railroad, national forest, county and ADOT permits are of concern to most ISP survey respondents



N=26 respondents

4.3 Labor and Workforce Shortages

The ACA Broadband Office recognizes that availability of skilled labor and incentives to build up the workforce is a significant concern in deploying broadband infrastructure in Arizona. While the ACA is currently working with universities and community colleges to develop training programs for broadband, there is still the challenge of a lack of existing skilled labor or public interest in joining the broadband workforce. This could result in delays and increased costs for ISPs as physical deployment components may become almost unfeasible in the absence of skilled workers. Issues that discourage people from joining the workforce include costly certifications, a lack of on-the-job training, equity and discrimination barriers, sustainable workflow and job availability, livable wage, transportation, childcare, and a general lack of awareness of opportunities to work in the broadband industry. A study by the Harvard Business Review found that many employers require costly and time-consuming certifications for jobs that could be learned on the job, which creates barriers to entry for potential employees who may not have the resources or time to obtain these certifications[10]. Labor and workforce shortages also pose a threat to ISP participation in BEAD program deployment, as 100 percent of respondents in a survey of ISPs felt that the uncertainty of sufficient workforce resources has a moderate impact on their decision to participate in the BEAD program and future deployment. The ACA Broadband Office is working with its partners and state agencies to develop training programs and incentives for building up the broadband workforce, address knowledge and skill gaps and reduce barriers to employment to help mitigate workforce shortages and labor challenges in Arizona.

Skilled labor shortage

Deploying broadband infrastructure requires a skilled workforce, including engineers, construction workers, and technicians, amongst others. However, labor and discriminatory practices can affect the number of individuals available to work in broadband and develop the necessary skills. Unfair labor laws can limit job opportunities, reduce wages, and restrict the creation of skilled jobs. Additionally, discrimination and exclusion can result in a lack of diversity in the labor pool, leading to fewer interested people, skill gaps, and reduced access to experienced labor. To address such challenges, the ACA Broadband Office is working with its partners and state agencies to promote equitable access to employment and education opportunities regardless of race, gender, or other demographic factors. This includes providing equal opportunities for training and education and directly addressing systemic inequalities in labor markets. The ACA Broadband Office realizes that when a fair and equitable environment exists, the development of a solid broadband workforce will pave the way for the successful and efficient deployment of broadband infrastructure in Arizona.

Worker safety

If workers are unable to work due to safety concerns, it can significantly affect the timeline and efficiency of the deployment of broadband infrastructure in Arizona. Safety concerns can arise from several factors, including working at heights, operating heavy machinery, and exposure to environmental hazards, such as high temperatures and electrical hazards. Providing a safe work environment is crucial for the welfare of the workforce, and any risks to worker safety and health must be addressed to ensure their well-being. ISPs and contractors must promote workplace

[10] https://hbr.org/2019/01/why-companies-arent-getting-the-employees-they-need

safety, such as implementing safety protocols and procedures for workers to minimize injuries and accidents, providing necessary safety gear, offering training and equipment certifications, and minimizing exposure to environmental hazards. Ultimately, ensuring the safety of workers is essential to the timely and efficient progress of broadband infrastructure deployment.

Competition with other projects

Competition for workers between high-speed internet infrastructure projects and other large infrastructure projects, notably energy or utility related projects, can limit the availability of skilled labor needed for broadband infrastructure deployment in Arizona. The ACA Broadband Office recognizes that this could lead to potential cost overruns, schedule delays and decrease the number of projects that can be executed simultaneously, thereby slowing down the deployment of broadband infrastructure in Arizona. Due to large amounts of federal funding targeted towards broadband infrastructure projects and aggressive timeline for project completion, a majority of these projects can involve many similar trades, including engineers, construction workers, and other skilled labor, which can create competition for labor resources. The ACA Broadband Office acknowledges that it can be beneficial for the public agencies and project sponsors to work with different industry partners and groups to share resources and to coordinate labor recruitment efforts.

Training needs

The ACA Broadband Office is working with its partners and state agencies to develop additional training programs to enhance the workforce's skills. The training programs will need to be structured to meet the requirements of the broadband industry and support both the short-term and long-term workforce development needs. For the short-term, training programs can be geared towards quickly upskilling the existing workforce with the latest skills required for broadband deployment. On the other hand, long-term training programs can focus on building the supply of highly skilled workers to meet future requirements. Developing effective training programs will require collaboration between stakeholders like state agencies, local governments, academia, trade unions, and ISPs to identify the skills currently in short supply and tailor the curriculum to develop the needed skillset. Apprenticeships and internships, supported by industry-based certification programs, can enable the workforce not just to acquire skills but also to gain practical experience in this growing field.

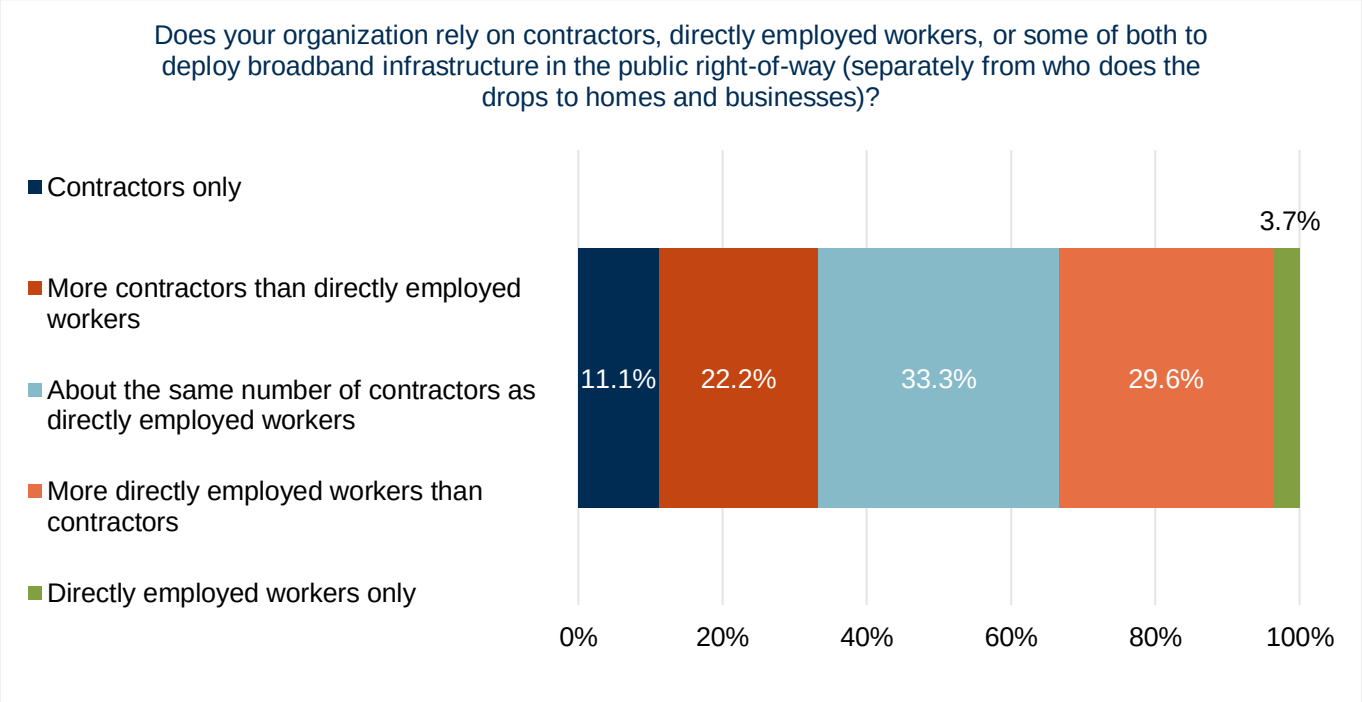
Seasonal labor availability

Weather patterns and topographical/geographical challenges in Arizona can impact the ability to deploy broadband infrastructure throughout the year. Adverse weather conditions, such as high temperature, rain, and high winds, can delay infrastructure installation and cause further delays in the deployment process. Additionally, the difficulty of terrain can add complexity to deployment efforts, especially in rural and Tribal areas, where the population is sparse and infrastructure installation can be more challenging to execute.

Concerns over workforce participation in broadband deployment initiatives due to the perception of the job being seasonal or temporary can add risk to timely and efficient project delivery. ACA is working with state agencies and private sector partners to identify and promote long-term opportunities in the broadband sector by promoting the potential benefits of broadband and emerging technology as a career to align the supply and demand of labor resources. ISPs plan to

meet the workforce challenges of accelerated deployment by hiring slightly more contractors than directly employed workers, as per the survey results. One successful strategy used by ISPs involves partnering with local colleges and vocational schools to offer broadband technology courses and training programs. This approach could enhance the skillset of the local labor force and make them more attractive for recruitment by ISPs. Additionally, open recruitment processes could broaden the talent pool, including different underutilized talent pools, and support the development of a more robust and diverse workforce.

Figure 14: The broadband deployment workforce is largely contractors



N=27 respondents

Ultimately, it will be essential to develop a collaborative and proactive approach to workforce development to mitigate workforce challenges and ensure the successful delivery of broadband infrastructure in Arizona.

4.4 Local Capacity

Local capacity in the context of broadband deployment in Arizona refers to enhancing the broadband skills and abilities of people and communities. The ACA Broadband Office understands that building local capacity ensures that communities and individuals can harness the benefits of high-speed internet technologies, such as increased access to education, telemedicine, commerce, and social and economic development. However, there may be limited demand for broadband services among consumers and limited local resources available, posing challenges to enhancing local capacity.

The ACA Broadband Office will work collaboratively with its local governments and ISPs to help address these challenges by developing awareness and promoting the value of broadband services in rural and tribal areas, developing public-private partnerships to leverage resources and expertise, creating local support groups, and developing policy solutions for long-term

implementation of broadband deployment. Efforts will be focused on developing training programs, supporting the development of digital skills, and creating skills-based hiring practices targeting potential weaknesses in the labor market. Investing in local capacity building is expected to bring long-term benefits for community growth, workforce development, and overall economic prosperity for the state of Arizona.

Limited demand to receive broadband service

Arizona's large number of rural and tribal areas presents additional challenges to deploying broadband infrastructure and enhancing local capacity. Deploying broadband networks requires a sufficient level of demand to justify the investment and ongoing maintenance costs. One of the crucial factors that influence demand for broadband service is the number of residents and businesses in the area. In regions with small populations, demand for service may be limited, making infrastructure deployment difficult to justify for providers. While grant programs can alleviate these costs, extremely remote areas with low population densities may still face challenges connecting due to the relative lack of demand or the return on investment (ROI) for the provider. Furthermore, lack of awareness or understanding of the benefits of high-speed internet in the area may contribute to low demand. If residents and businesses are not fully aware of the benefits of broadband service, they may not perceive the need to subscribe to the service, which can ultimately result in limited demand.

To address these challenges, the ACA Broadband Office is working with state and local governments and Tribal Nations to increase awareness of the benefits of broadband access in rural and tribal communities, and the greater economic and social benefits that go along with it. Ultimately, developing local demand for broadband access is necessary to encourage business development and social and economic growth in rural and tribal regions, and support the deployment of broadband infrastructure to underserved areas in Arizona.

Limited local resources

One of the barriers to broadband deployment is the lack of local resources, including investors in broadband infrastructure projects, local governments, and community organizations. Limited resources can impact the feasibility and sustainability of broadband deployment, and it is essential to address these issues to ensure successful deployment in underserved or unserved areas of Arizona.

The deployment of broadband infrastructure requires significant investments in both capital and operating expenses with differing investment models and incentive structures suited to the specific region of the state. For example, local government roundtable participants highlighted the importance of matching funds from the state and local entities in order to support ISP matching percentage availability. The ACA Broadband Office recognizes that local governments and community organizations have limited organizational capacity, both in terms of human capital and financial resources, to support community growth such as providing broadband workforce training, teaching digital skills, spreading awareness, and providing device access.

4.5 Local Coordination

The ACA Broadband Office recognizes that community participation is essential for the successful sharing of program information and access to broadband across Arizona. Local coordination and mobilization of resources are critical to ensure that the communities throughout the state can fully

leverage the benefits of the BEAD program. ACA has identified the importance of community participation in initiatives, such as the Affordable Connectivity Program, which provides a discount for broadband services to increase the accessibility of broadband by supporting eligible households in subscribing to affordable high-speed internet services. Active participation from local organizations and residents is critical to ensure that information about the program reaches those who need it most.

The ACA Broadband Office acknowledges that local coordination is not without its challenges, as identified by stakeholders during ACA stakeholder roundtables. These challenges include resistance to adopting new technologies, including internet connectivity and digital devices. Often, this resistance can stem from a lack of awareness or understanding of the benefits of broadband among community members.

Addressing these challenges and overcoming resistance to new technologies will require collaboration and engagement between ACA stakeholders, local organizations, and community members. This collaboration can involve building partnerships with anchor institutions such as community centers, institutions of higher education, K-12 schools, and libraries to provide digital skills training and establish digital opportunity centers in community spaces. It can also involve working with trusted community leaders and organizations to develop advocacy programs and outreach strategies that engage communities and create awareness of the importance and benefits of broadband.

Ultimately, building trust, promoting digital inclusion, and engaging communities are critical to overcoming the barriers to local coordination and ensuring that the communities across Arizona have access to the benefits of high-speed internet technologies.

Lack of Accurate Information

The ACA Broadband Office understands that effective communication and the promotion of information and awareness of broadband programs and services are critical to the success of broadband initiatives in Arizona. Such programs and services are essential to ensuring that all communities in Arizona have access to high-speed internet and the opportunities that this technology provides.

To address these communication gaps, ACA is working collaboratively with stakeholders across diverse domains and disciplines to develop and implement communication strategies, outreach programs, and public relations campaigns that will inform the public about different broadband initiatives and their importance. These initiatives include targeted awareness campaigns and local and/or regional roundtables that provide information about existing infrastructure, unserved and underserved areas within the state, and technical support for successful broadband deployment. Effective and timely communication between infrastructure developers, ISPs, and the state and local agencies can help establish trust and support and encourage informed investment decisions that can drive broadband deployment in Arizona.

Addressing community concerns and fears about internet deployment requires education in privacy, security, and digital skills specific to communities. Addressing these challenges can involve establishing local support groups, providing education sessions and resources, and promoting partnerships between trusted community leaders and organizations. These efforts can

provide opportunities for individuals and community organizations to voice their concerns and fears, establish trust, and build confidence in the benefits of broadband deployment.

Overall, addressing these communication gaps and promoting awareness will create a clear vision and sense of the value of broadband access and stimulate the demand for high-speed internet solutions that increase citizen and economic benefits for the state.

4.6 Digital Equity Barriers

Arizona's BEAD program is designed to promote digital equity for all and universal adoption and coverage for those who are most affected, which is the community. However, accomplishing this goal faces various challenges such as limited access to devices, lack of digital literacy and skills, unaffordable service costs, inadequate inclusivity, as well as language and cultural barriers.

Access to High-Speed Internet Capable Devices

The ACA Broadband Office realizes that accessing devices with the ability to connect to high-speed internet and carry out essential daily tasks is becoming increasingly crucial, yet unfortunately, more inaccessible specifically in rural and Tribal areas. The biggest hindrances to device accessibility are the cost and the rapid pace at which technology evolves. The cost of owning and operating a device with the necessary capabilities has become less affordable for community members across all income brackets. Furthermore, limited budgets have made it more difficult for local community anchor institutions such as schools and libraries to purchase capable devices and make them accessible to the community. The impact of cost is also compounded by the speed at which technology evolves, making older and less expensive technology obsolete, and necessitating the purchase of newer and more expensive devices. Obtaining devices is also challenging as many providers offer contractual alternatives as a substitute for high market pricing, which may require down payments, credit and social security checks, or other documentation that some may not be able to provide.

Digital Literacy and Skills

Digital literacy and skills are essential for success in today's world. However, not everyone has equal access to the necessary training and resources to develop these skills. The ACA Broadband Office acknowledges that this can hinder the adoption of new technology and increase resistance to using high-speed internet and related devices in rural and Tribal regions of Arizona. It can also limit access to important online resources such as education, job opportunities, and applications. Additionally, a lack of digital skills can be a barrier to accessing higher paying jobs, making it difficult to afford high-speed internet and personal devices. Other potential barriers to developing digital skills include a limited availability of technical assistance and affordable training classes. To address these issues and ensure equal access to digital resources and training, The ACA Broadband Office is working collaboratively with local governments and communities and not-for-profit organizations to make necessary investments in these resources.

Digital Inclusion

The ACA Broadband Office understands that promoting digital equity requires inclusivity and there are several barriers to achieving digital inclusion in Arizona. Research shows that Black and

Hispanic adults in the U.S. are less likely than white adults to have home internet[11]. In addition, In Indian Country, 18% of reservation residents have no internet at home, 33% rely on cell phone service for at-home internet, 49% utilize a land-based internet service provider (cable, DSL), and 31% have spotty or no connection at home via smartphone.[12] Discrimination based on age, race, socioeconomic status, or geography can be a significant barrier to inclusivity, particularly in relation to broadband access. Those with lower socioeconomic status may also be excluded simply because of a lack of affordable access to devices or reliable community access to computers and other devices. The ACA Broadband Office will be working collaboratively with the local governments, Tribal Nations, and community organizations to address these barriers through a concerted effort to increase access to technology and ensure that everyone has equal opportunities to participate in the digital world.

Another barrier to inclusivity in promoting digital equity is accessibility. Individuals with physical or non-physical disabilities may face challenges accessing the internet due to a lack of resources and accommodations. Furthermore, the varied geography and topography of Arizona present a significant challenge. The hard dirt and soil and heavily mountainous areas make it difficult and expensive to install broadband infrastructure. In addition, low population density in rural and tribal regions have a lower return on investment (ROI). This makes it less profitable for service providers to cover these areas, resulting in higher service costs and decreased access to broadband for consumers. Additionally, Arizona is a very rural state, with 80 percent of the population residing on only 20 percent of the land, and 64 percent living in one county, Maricopa, resulting in a very low population density in many parts of the state. These geographic and topographic barriers create difficulties for low density rural and Tribal locations, affecting the economics of broadband connectivity in those areas. All these factors make it challenging to promote digital equity and require a multifaceted approach to addressing these barriers and bringing internet access to all residents of Arizona regardless of their location or abilities.

From 2017 to 2021, 26.6 percent of Arizona census respondents reported speaking a language other than English at home, highlighting linguistic diversity in Arizona. Additionally, there are several native languages spoken across Tribal Nations in Arizona. Increasing linguistic diversity can create potential barriers to communication in terms of public service announcements, program applications, and presentations, as there may be a lack of translated materials or a need for translators. The ACA Broadband Office recognizes that there is also the potential for cultural barriers, given the different communication methods and approaches across diverse cultures in the State. This can lead to lower prioritization of broadband and digital connections, as well as more room for misunderstandings if appropriate measures, training, respect, and sensitivity are not in place. To overcome these barriers, the ACA is working diligently with its partners, tribal communities, and local communities to prioritize cultural sensitivity and invest in translating materials and offering language support to ensure everyone has equal access to digital resources.

Affordability of Service and Deployment

Digital devices and high-speed internet access have become essential for daily life, but their affordability remains a significant barrier to universal access. Research shows that U.S. internet

[11] https://www.pewtrusts.org/en/research-and-analysis/articles/2020/06/08/covid-19-could-spur-opportunities-to-narrow-digital-divide

[12] https://aipi.asu.edu/sites/default/files/tribal_tech_assessment_compressed.pdf

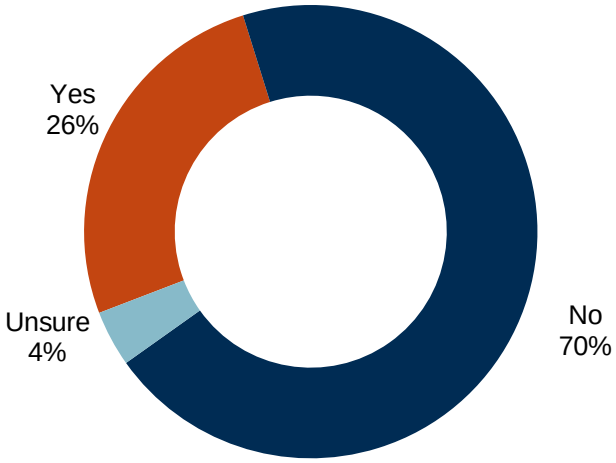
prices are among the world's highest, particularly in rural and tribal communities.[13] There are many Arizona residents who cannot afford the varying rates for internet access and to keep up with rapidly evolving technology. This is especially true for those in middle-class and low-income households, rural and Tribal regions, as well as those living in high-cost locations where the price of internet access may be an unaffordable expense. ACA realizes that lack of access can have serious consequences, limiting access to critical resources such as education, healthcare, job opportunities, and connecting with loved ones. The ACA Broadband Office is working with local governments and communities to help address these affordability challenges to promote digital equity and ensure that all Arizona residents have equal access to the tools they need to participate in the digital world.

Several barriers to affordable broadband for consumers exist, including the limited availability of low-cost options, varying providers, and varying pricing based on internet speeds. High-speed internet options often come with barriers such as higher monthly costs, and terms of contracts and subscription requirements. Additionally, there may be varying fees, such as monthly equipment rental fees, that add to the overall cost of internet access. To increase adoption of BEAD program-deployed service and sustain service for households over a longer period of time, there must be a push towards offering low- and middle-cost service options.

The BEAD program and ACA are making efforts to address the affordability problem by requiring subgrantee ISPs to offer "low-cost options" to income-constrained households in Arizona. However, according to a survey of ISP respondents, the vast majority (70 percent) currently do not have any discounted subscription plans for low-income households, apart from ACP and Lifeline. Given the large scale of planned participation in the BEAD program, ACA, as the BEAD program administrator, will work with local ISPs and communities to make necessary changes in pricing practices among BEAD program participants to meet the requirement of offering low-cost broadband options. This highlights the challenges of promoting digital equity and ensuring affordable access to high-speed internet for all Arizona residents but could also provide opportunities for the public entity and private industry to work together to address this important issue.

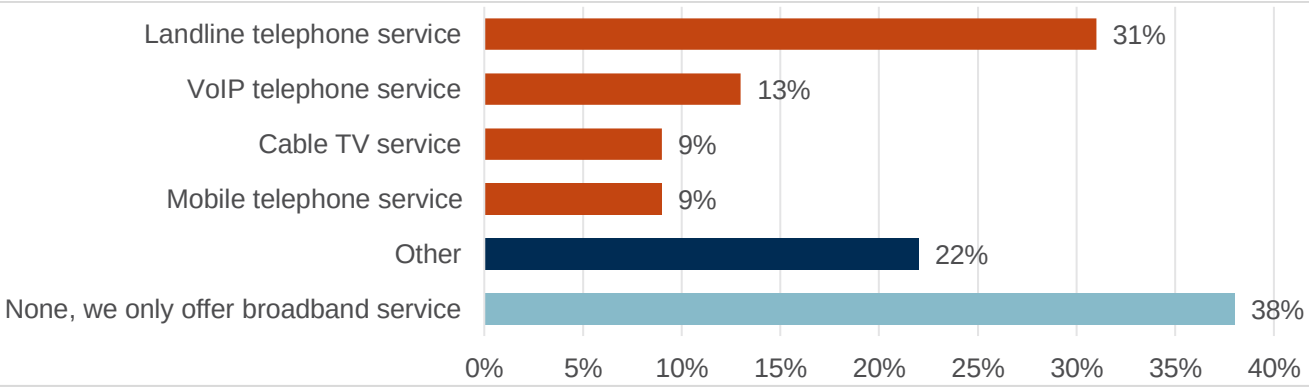
[13] https://www.newamerica.org/oti/reports/cost-connectivity-navajo-nation/#:~:text=The%20average%20advertised%20monthly%2C%20non,plans%20across%20the%20United%20States.

Figure 15: ISP offerings of low-cost broadband options



Affordability is also a barrier for ISPs, as deploying broadband network(s) as part of the BEAD program can be costly. Figure 16 shows that almost 40 percent of survey respondents indicated that they do not have multiple product and revenue streams, and they are relying primarily on broadband service for profit and funding of projects. This reliance on broadband revenue can make it challenging for ISPs to invest in broadband infrastructure deployment or apply for the BEAD program funds, given the high costs and matching requirements involved. The ACA Broadband Office realizes that it is important for both public sector and private industry to work together to address these affordability issues and promote more widespread deployment of high-speed internet in Arizona.

Figure 16: Most broadband providers offer other services



Additionally, the broadband industry in Arizona is currently pivoting from greater financial self-reliance to greater government support, given the high costs associated with deploying broadband infrastructure. Even though federal broadband funding has been available through multiple programs for years, most (67 percent) of the ISP survey respondents have never received funding from the major federal broadband programs of the past few years. This highlights the need for more widespread access to federal broadband funding, as well as the importance of the BEAD program and other initiatives that promote digital equity and broadband deployment in unserved and underserved areas.

5. Implementation Plan

The implementation plan for the BEAD program in Arizona will continue to be refined through a comprehensive stakeholder engagement process for gathering information on barriers, needs, recommendations, and priorities. ACA is conducting extensive stakeholder engagement, which has included community meetings, ISP surveys and roundtables, local government surveys and stakeholder meetings, and consultations with Tribal Nations.

The data and feedback collected through stakeholder engagement continue to be synthesized to identify key priorities for the BEAD program, which will duly inform the development of execution strategies required to ensure that the program's goals will be met. This Plan articulates ACA's strategic thinking and planned activities at this point in time, which will be further defined in the Initial Proposal.

Overall, the implementation plan for the BEAD program is comprehensive and takes into account the unique needs of different regions and communities in Arizona. By leveraging stakeholder engagement and prioritizing key areas of focus, ACA intends to overcome barriers and maximize the impact of the BEAD program, ultimately achieving its goal of universal broadband access in a way that is also conducive to advancing digital equity more broadly. This plan will only be possible with the combined efforts of ACA, Governor Hobbs, stakeholders, subgrantees, local and tribal governments, and the NTIA.

BEAD Program Governance

The Arizona Commerce Authority is the eligible entity for the BEAD program in Arizona and serves as the program administrator. The ACA Broadband Office has significant responsibility for program oversight, including managing grant applications, award distributions, and ensuring compliance with program regulations. The ACA Broadband Office is also responsible for establishing eligibility criteria for subgrantees, including telecommunication service providers and private ISPs, local government entities, and Tribal Nations. The ACA Broadband Office will monitor the implementation of the BEAD program, including tracking broadband deployment progress and ensuring compliance with program requirements.

The governance of the BEAD program is further supported by regular reporting requirements. Subgrantees are required to provide regular updates on project progress and spending, as well as any issues that arise during implementation. ACA will collect data on program outcomes and report regularly to state and federal governments about the program's success in deploying broadband to unserved and underserved areas, the related objectives of digital equity, and bridging the digital divide in Arizona. Overall, the ACA Broadband Office has a significant role in the governance of the BEAD program, ensuring compliance with program requirements and driving progress towards achieving the program's goals. Through careful oversight, the ACA Broadband Office will ensure that the BEAD program is implemented effectively, promoting attaining high-speed universal broadband access for all Arizona residents.

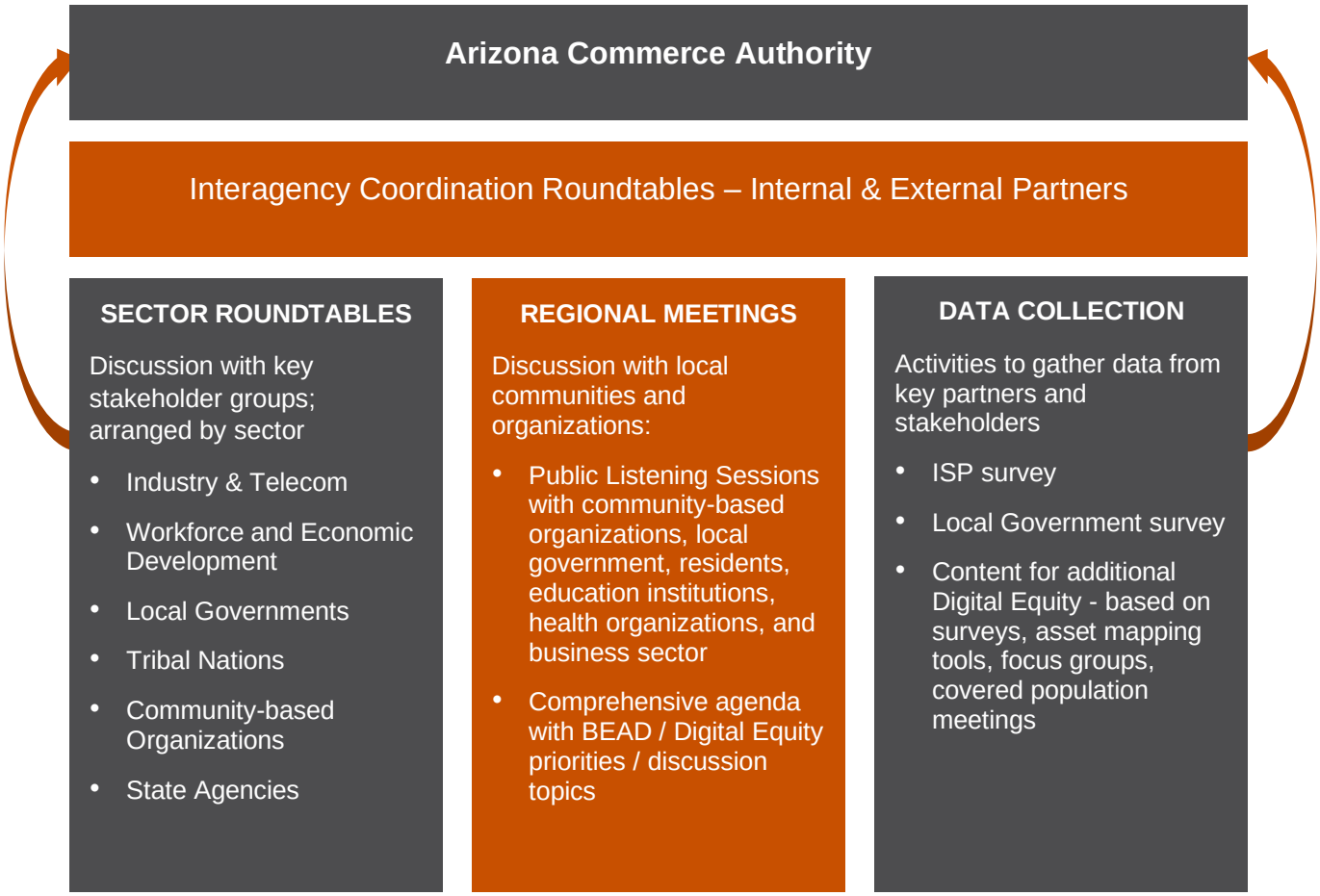
5.1 Stakeholder Engagement

The stakeholder engagement process for the BEAD program in Arizona was developed to align with the requirements of the Digital Equity Plan Act and give a voice to communities with the greatest digital needs. The ACA Broadband Office recognizes the importance of ongoing community feedback to track the impact of execution strategies and planned activities, ensuring that the priorities identified in the plan are achieved.

A series of virtual partnership roundtables were convened to gather input from the wider external stakeholders throughout Arizona. Participants of the roundtables consisted of representatives from internet service providers and industry representatives, tribal nations, local governments, and nonprofit organizations representing covered populations. The ACA Broadband Office is committed to providing ongoing public updates on the results of its efforts and continuously updating its website to reflect progress towards closing the digital divide and achieving universal broadband service in Arizona. The ACA Broadband Office recognizes the critical role of stakeholder engagement in achieving its goals and is committed to ongoing community feedback to ensure that the BEAD program is implemented effectively and equitably.

Figure 17 below details the stakeholder and partner engagement strategy of ACA.

Figure 17: Stakeholder and Partner Engagement Strategy of ACA



The Arizona Commerce Authority leveraged sector roundtables to engage with key stakeholder groups individually and in focused and open discussions since May 2023. These groups included voluntary participants from the broadband industry and telecom industry, Tribal Nations, and representatives from local governments.

In addition to live roundtables, the ACA Broadband Office collected stakeholder data by launching individual surveys for each stakeholder group. These surveys captured detailed responses and short responses to increase accessibility and participation. ACA team members and Governor Hobbs' office also distributed the surveys via email to partners and stakeholder groups and encouraged them to actively participate by submitting their responses.

Moreover, the ACA Broadband Office plans to host interagency coordination roundtables amongst its internal and external partners in the near future. The ACA Broadband Office has planned a series of workshops with two key partners, the League of Arizona Cities and Towns and the County Supervisors Association to introduce the BEAD program and conduct policy discussions to inform the BEAD program development. The ACA Broadband Office coordinated with the Digital Equity Institute to run community regional listening sessions to collect data to inform the Digital Equity plan.

The surveys allowed the agency to directly engage with key stakeholders and collect data to inform BEAD program development. The ACA Broadband Office's focus on coordination and engagement with stakeholders, as well as its partnership with other state and local government agencies, including Tribal Nations, will be critical to achieving the BEAD program goals and advancing digital equity in Arizona.

The table below shows the comprehensive stakeholder engagement conducted to gather input for the BEAD Five Year Action Plan.

BEAD Stakeholder Engagement

- **December 2022**
  - First Tribal Consultation with ACA
- **February 2023:**
  - Second Tribal Consultation with ACA
- **March 2023:**
  - Arizona Tribal Partners Broadband Meeting with ACA
- **May 2023:**
  - Third Tribal Consultation with Governor Hobbs and ACA
- **June 2023**: Conducted the following stakeholder engagement sessions:
  - ✓ First Industry Roundtable
  - ✓ Second Industry Roundtable
  - ✓ First County Supervisor Association Roundtable
  - ✓ Tribal Communities Roundtable
  - ✓ Monthly Arizona Broadband Community Roundtable
  - ✓ Digital Equity Listening Sessions
- **July 2023**: Conducted the following stakeholder engagement sessions:
  - ✓ Virtual Tribal Roundtable
  - ✓ Second County Supervisor Association Roundtable
  - ✓ Monthly Arizona Community Roundtable
  - ✓ Digital Equity Listening Sessions
- **August 2023:** Conducted the following stakeholder engagement sessions:
  - ✓ Digital Equity Listening Sessions
  - ✓ First BEAD League of Arizona Cities and Towns Roundtable
  - ✓ Third County Supervisor Association Roundtable
  - ✓ Monthly Arizona Broadband Community Roundtable
  - ✓ Tribal Consultation at NTTA Tribal Broadband Summit

These stakeholder engagement sessions and state-wide tour helped promote equity by building relationships with local communities to understand their unique needs and provided a platform for gathering feedback and data to inform the BEAD program's development and implementation. By taking a community-centered approach, the ACA Broadband Office is working to ensure that digital equity is achieved for all Arizona residents, regardless of location or background.

Arizona Broadband Workshops

The ACA partnered with the US Department of Commerce's NTIA, the US Department of Agriculture (USDA), and Economic Development Administration (EDA) to hold webinars for city officials, economic developers, and business leaders to provide updates regarding on-going broadband programs and initiatives. The goal was to build a comprehensive roadmap for planning broadband infrastructure projects, including identifying funding opportunities and service providers.

Arizona Community Roundtables and Listening Sessions

The ACA Broadband Office recognizes the importance of community input and is committed to ensuring that all stakeholders have a voice in the BEAD program development. To this end, the ACA Broadband Office held a series of statewide community forums and listening sessions to discuss internet access and technology and gain insight on the impact of internet and devices on local communities.

The ACA Broadband Office's commitment to engaging with communities and gathering input will ensure that the BEAD program is implemented effectively and equitably, ultimately achieving the goal of universal connectivity in Arizona. The community forums were conducted until August 10, 2023, giving stakeholders sufficient time and opportunity to provide their feedback and contribute to the BEAD program's development. Stakeholder and community engagement will continue not just during the planning phase of the BEAD program but also through the implementation phase.

Digital Equity Listening Sessions

The ACA Broadband Office coordinated with the Digital Equity Institute to run community regional listening sessions, giving them an opportunity to connect with local regions to discuss BEAD and Digital Equity priorities, areas of concern and answer questions. A total of 41 Listening Sessions were held across the state. The data collected through the sessions and the digital equity survey will inform the development of the Digital Equity Plan.

Industry & Telecom

The ACA Broadband Office is working with ISPs as external partners in implementing the BEAD program in Arizona. These partners have a vested interest in the program's funds, and thus it is important to collaborate with them to promote equal access and fair competition. Additionally, ISPs have critical information that is necessary for the program's success, as they have first-hand insight into broadband infrastructure costs, customer demand, and commercial sustainability of the broadband network(s).

To engage with the industry, the ACA Broadband Office and its advisors conducted a multifaceted approach consisting of two roundtable meetings and surveys. The first roundtable meeting provided introductions, context and background, and conducted brief discussions on major policy decision points. The second roundtable meeting focused on garnering feedback on the BEAD program. The ACA Broadband Office also conducted a survey of the broadband industry in Arizona between May and July 2023, with 40 unique respondents providing information, of which 24 completed the survey and 16 provided partial responses. Identifying information was collected for response validity but kept confidential.

These industry engagement efforts have given the ACA Broadband Office a well-informed perspective on the attitudes and concerns of the broadband industry with respect to the BEAD program.

The below graphic displays the key takeaways of the main topics covered in discussion.

Extremely High-Cost Threshold

Key takeaway: Reassurance that more recent data will be used to accurately determine the appropriate threshold

BEAD Subgrantee Selection Scoring Rubric

Key takeaway: The ACA Broadband Office encourages participants to share their opinion on the future subgrantee scoring rubric to ensure a fair rubric and selection process

Geospatial Competition and Closing the Divide

Key takeaways:

- Suggestion for service providers to be clear to ensure the accuracy of coverage maps by participating in the BEAD challenge process as announced in the Initial Proposal
- Focus on serving unserved and underserved locations first
- Support for a low-cost option and ACP adoption

Middle Mile and Long Haul

Key takeaway: Prioritization for last mile reconfirmed

Local Government Outreach

To engage local governments in Arizona, the ACA Broadband Office has launched outreach efforts, including roundtable meetings for county supervisors and municipal staff and a local government survey. While the results of these outreach efforts have not yet been reported on due to ongoing promotion efforts, the ACA Broadband Office has seen an acceleration in responses and local government associations have reported they expect participation to continue over the next few weeks. To allow for sufficient time for participation, a deadline for the survey has not yet

been established; however, the ACA Broadband Office is planning to close the survey by the end of August or early September 2023. The ACA Broadband Office plans to continue a comprehensive gathering of valuable input from local governments and outreach efforts to inform the development of the Initial Proposal.

The ACA Broadband Office's BEAD County Supervisors Association (CSA) Roundtable meetings, which were conducted on June 23rd, July 13th, and July 20th, are a crucial part of the strategy for mobilizing Arizona stakeholders to meet the challenges of the BEAD program. County supervisors play a key role in local coordination as part of the broader BEAD planning and implementation process and are tireless advocates for the interests of local communities across Arizona.

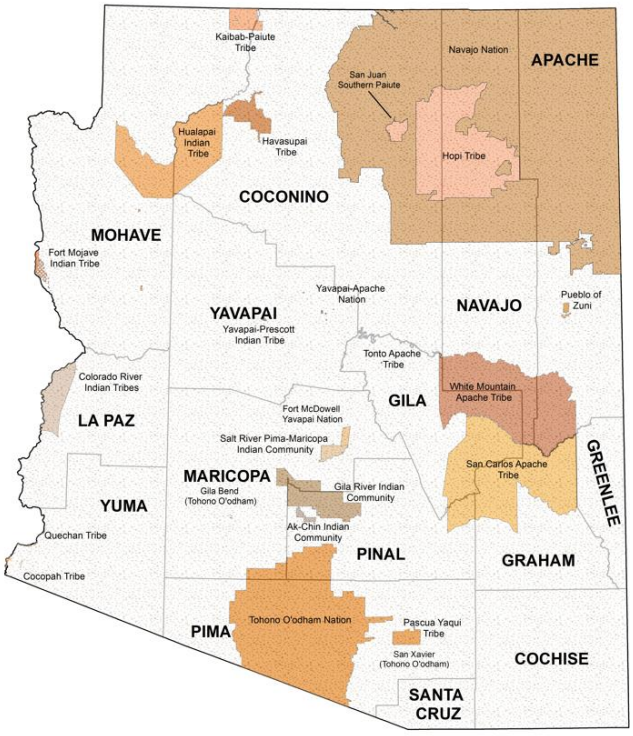
The ACA Broadband Office has additional roundtable meetings scheduled with the League of Arizona Cities and Towns over the next two months. The League membership is comprised of local public officials at the municipal level and represents over ninety incorporated cities and towns in Arizona. Like CSA, they play an important role in coordination and the planning process for broadband deployment.

Tribal Coordination and Consultation

The ACA Broadband Office acknowledges that no entity can represent tribal communities better than the Tribal Nations themselves; therefore, tribal applicants are best suited to serve tribal households. The ACA Broadband Office intends to achieve total representation and inclusion of tribal governments throughout the planning, development, and deployment of BEAD. Historically tribes have been left out of important conversations and not consulted early enough to be fully engaged and informed stakeholders. The ACA is working to ensure tribal leaders and their respective communities are kept apprised of important updates, milestones, and deadlines as it pertains to BEAD and Digital Equity programs.

There are 22 federally recognized tribes across the state of Arizona. The ACA Broadband Office acknowledges and respects each Tribal Nation’s sovereignty and adheres to the formal tribal consultation policy when interacting with the tribes.

Tribal Homelands In Arizona



Tribal Nations in Arizona:

Tribal Nations in Arizona	
• Ak-Chin Indian Community	• Cocopah Tribe
• Colorado River Indian Tribes	• Fort McDowell Yavapai Nation
• Fort Mojave Tribe	• Gila River Indian Community
• Havasupai Tribe	• Hopi Tribe
• Hualapai Tribe	• Kaibab Band of Paiute Indians
• Navajo Nation	• Pascua Yaqui Tribe
• Pueblo of Zuni	• Quechan Tribe
• Salt River Pima-Maricopa Indian Community	• San Carlos Apache Tribe
• San Juan Southern Paiute	• Tohono O'odham Nation
• Tonto Apache Tribe	• White Mountain Apache Tribe
• Yavapai-Apache Nation	• Yavapai-Prescott Indian Tribe

The ACA, in partnership with the Governor's Office on Tribal Relations, issued formal notices of consultation by sending a Dear Tribal Leader letter to all 22 Tribal Nations in Arizona to discuss broadband on tribal lands. This commenced the May 2023 Tribal Consultation led by Governor Hobbs and illustrated the Governor's commitment to broadband and tribal relations in her administration. The ACA Broadband Office recognizes the crucial need for broadband access in Arizona's tribal communities and has made it a priority to coordinate and consult with Tribal Nations across the state. On March 22, 2023, Governor Hobbs' office and the ACA Broadband Office hosted in-person session with Tribal leaders to learn more about challenges faced in their specific communities. On July 11, 2023, the ACA Broadband Office hosted a Tribal Communities Roundtable meeting with key stakeholders and those with an interest in broadband on tribal lands. The purpose of this roundtable was to hear directly from Tribal Nations, understand their challenges with high-speed internet access, and discuss vital topics related to broadband infrastructure development within tribal lands. The ACA Broadband Office also provided an update on the state's BEAD and Digital Equity planning and timelines.

The ACA Broadband Office and Governor Hobbs are committed to supporting Tribal Nations and are working to meet with interested tribes one-on-one to better understand their connectivity needs and how BEAD funding can assist in achieving internet access. In addition, the Governor's Office on Tribal Relations, the Inter-Tribal Council of Arizona (ITCA), whose membership consists of 21 of the 22 federally recognized Tribes in the state, and the American Indian Policy Institute, all hold seats on the Governor's Interagency and Community Broadband Advisory Council to ensure Arizona broadband policy is fully encompassing tribal perspectives. Prior to the

roundtable, the ACA Broadband Office and the Governor's Office on Tribal Relations had already had many interactions and engagements with Tribal leaders across the state. The topics and key takeaways from these meetings are summarized below.

Meeting w/Tribal Leaders – 02.21.23

ACA Broadband Office Director presented at the NTTA (National Tribal Telecommunications Association) Summit and met with Tribal leaders.

NTTA Summit – 03.22.23

ACA Broadband Office hosted a Tribal Sessions with Tribal leaders at the NTTA Summit.

Tribal Consultation Meeting – 05.19.23

AZ Governor Hobbs hosted a Tribal Consultation with the 22 federally recognized Tribal Nations in the state (16 attended).

Tribal Liaison Hired – 06.26.23

The ACA's Tribal Liaison is hired. The Tribal Liaison will play a leading role in government-to-government Tribal consultations related to the BEAD and Digital Equity program.

General Topics from All Discussions

Topics Covered	Key Take Aways
Technical Assistance	• ACA will work closely with the tribes to ensure accuracy of population and underserved/unserved locations are accurately represented • Provide technical assistance to initiate a tribal telecom or select a carrier as an implementation partner • Provide technical assistance for technology selection
Data Sovereignty and Privacy	• ACA prioritizes the protection of Tribal data and security
Broadband Access, Adoption, and Use	• Suggestion for training programs • Prioritize individually meeting with Tribal nations
Infrastructure Deployment	• Identifying and aligning on broadband funding available to Tribal Nations including committed funds (e.g., TBCP - Tribal Broadband Connectivity Program), funding gaps, and opportunities for Tribes as BEAD subgrantees. • Extremely high-cost areas • Barrier to deployment due to historically long permitting process

The ACA Broadband Office will host one-on-one tribal consultations at the upcoming National Tribal Telecommunications Association Broadband Summit August 28-30, 2023. Additionally, the ACA Tribal Liaison will be visiting tribal communities, discussing options and opportunities with tribal entities, following up on general correspondence, working with tribal governments to establish tribal data-sharing agreements, and ensuring perspectives and feedback are communicated back to the ACA Broadband Office. The ACA Broadband Office will also continue to host monthly roundtable discussions for tribal communities.

5.2 Priorities

After engaging with stakeholders, the ACA Broadband Office utilized feedback, input, and data to develop high-level priorities for the BEAD program. Through this process, twelve primary priorities were identified, which are complementary to the ACA Broadband Office and Governor Hobbs' vision and goals for the BEAD program. These priorities will act as guiding principles throughout the life of the program.

Table 9: Priority Descriptions

Priority	Description
1. Deployment commitments for the unserved and underserved areas	The ACA Broadband Office plans to secure broadband deployment commitments from ISPs for all unserved locations in the state through a competitive broadband grant program(s) described in the BEAD Notice of Funding Opportunity (NOFO). Unserved locations are defined in the NOFO as lacking access to "reliable" broadband service at speeds of at least 25 Mbps download, 3 Mbps upload (25/3), using fiber, cable, DSL, or licensed fixed wireless. Underserved locations are defined as where 25/3 Mbps broadband is available, however the internet service does not meet 100/20 Mbps threshold.
2. End-to-end fiber where possible	The ACA Broadband Office will reflect the prioritization scheme prescribed in the BEAD NOFO and give priority to end-to-end fiber over other technologies up to a certain threshold, to be determined by the Extremely High Cost Per Location Threshold. If fiber projects with a cost below this threshold are available, they will be preferred over other projects / technologies.
3. Gigabit symmetrical service for CAIs	As required by the IIJA statute and the BEAD NOFO, Arizona will establish and track progress towards a goal of providing symmetrical gigabit service to all community anchor institutions (CAIs) across the state. However, this is designated as the third priority and may not receive funding as BEAD funds will be prioritized for projects deploying to unserved and underserved areas.
4. Reducing barriers to deployment	Eliminating barriers is a critical factor in increasing access and implementing the BEAD program cost-effectively. These barriers can range from workforce gaps and regulatory barriers to limited resources and adoption barriers. The success of the ACA Broadband Office's deployment timeline and the program's

Priority	Description
	ultimate reach depends on eliminating and mitigating these barriers. Such barriers are not limited to physical components like infrastructure and permits, but also human factors such as the distribution of information and adoption of the internet provided.
5. Support development of the Broadband Workforce	The ACA Broadband Office recognizes the need for a broadband workforce to meet the expected increase in demand resulting from the implementation of the BEAD program. As a result, the ACA Broadband Office has made the growth and development of Arizona's broadband workforce a priority. This includes working with stakeholders in the state to address workforce gaps through digital skills support.
6. Enhance competition and transparency of the subgrantee selection process	The ACA Broadband Office places emphasis on creating a fair and open subgrantee selection process for the BEAD program. The ACA Broadband Office is prioritizing input from industry stakeholders to establish an equitable process and encourage participation from all applicants. The goal is to create a selection process that is competitive and fair to all participants, including those from smaller companies and underserved communities.
7. Maximize distribution and leverage of federal funds	Arizona intends to effectively use broadband funds by maximizing private sector participation and matching funds. Additionally, the state will leverage existing funding to aid low population and low-income area providers in offering service to unserved and underserved locations. By leveraging existing funding and partnering with private sector entities, the ACA Broadband Office is seeking to maximize the impact of BEAD funds and make broadband service available to as many people across the state as possible.
8. Expand reliable and sustainable high-speed broadband infrastructure to reach unserved and underserved areas.	Efforts towards creating and maintaining reliability include setting standards of service for ISPs, implementing standards of construction maintenance, and mitigation plans for cybersecurity, natural disasters, and outages. Sustainable infrastructure will ensure that the infrastructure deployed is manageable, affordable, and serviceable for decades after deployment. By implementing standards of service, construction, maintenance and developing mitigation plans, Arizona can ensure that broadband deployment is reliable and sustainable, meeting the long-term needs of Arizonans.

Priority	Description
9. Maintain transparency and communication with community members	Incorporating community input is essential in driving program planning, spending, and broadband deployment precisely where they are needed most. Community engagement and involvement will play a pivotal role in informing several aspects of creating the BEAD program and will aid the ACA Broadband Office in identifying how best to serve those communities. Community engagement helps Arizona's policymakers, Governor Hobbs, and the ACA Broadband Office prioritize where to allocate BEAD funds and deliver meaningful broadband access to those impacted communities.
10. Increasing opportunities for community-based organizations and other stakeholders to support broadband adoption and digital inclusion	The ACA Broadband Office recognizes that it cannot bring about complete digital adoption and inclusion to Arizona alone. In this regard, community-based organizations, libraries, local governments, counties and other stakeholders play an essential and integral role in the distribution of information, devices, and promoting access to technology applications such as the ACP. Engaging key community-based stakeholders is essential in reaching communities that might be missed or forgotten by statewide initiatives. Local organizations are also trusted entities within their communities, making them essential to both disseminate information and build relationships with community members.
11. Promoting streamlined permitting processes and cost-effective access to poles, conduits, easements, and rights of way, including the imposition of reasonable access requirements	Delay in processing permits, pole attachments, right of way access, and other related processes can be detrimental to the efficient deployment of the BEAD program in Arizona. Expediting these processes requires a collaborative effort between the state, local governments, the private sector, and communities. Eliminating these barriers will lead to quicker deployment, reduce lead times, and lessen costs associated with delayed work progress. To eliminate these barriers, the ACA Broadband Office will work closely with states, local governments, and other stakeholders to streamline processes that might slow down this initiative.
12. Tribal Coordination and Involvement	Arizona is home to 22 federally recognized Native tribes, but historically, broadband initiatives have not always effectively served Tribal communities. To address this, the ACA Broadband Office and Governor Hobbs' Office on Tribal Relations will prioritize the coordination, involvement, and sharing of information with Tribal Nations throughout the development of the BEAD program and deployment of BEAD funds. The ACA Broadband Office and Governor Hobbs are committed to working directly with tribal leaders, communities, and other stakeholders to ensure their voices are heard and their needs are taken into account throughout the broadband deployment process.

5.3 Planned Activities

Table 10 below details the ACA Broadband Office's activities, funding sources, key implementors, and expected outcomes that will be utilized to drive the BEAD program implementation and attain broadband objectives for the state of Arizona. Additionally, the creation of the Governor's Interagency and Community Broadband Advisory Council will advise the ACA Broadband Office on strategies to achieve the goals of universal coverage and digital equity.

Table 10: Planned Activity, Implementors, Funding Source and Expected Outcome

Activity	Key Implementor	Funding Source	Expected Outcome(s)
Design, announce, and execute a competitive broadband grant program that allocates the $993.1 million of BEAD funds to projects that will build networks capable of serving all unserved and underserved Arizonans	ACA	BEAD Program	BEAD Final Proposal that establishes a statewide plan for universal 100/20 Mbps broadband access in partnership with specific ISPs as subgrantees for specific project
Monitor BEAD-funded broadband deployments to make sure that ISPs use funds properly, meet milestones, and are on track to fulfill their commitments	ACA	BEAD Program Administrative Funds	Ongoing reliable information about the status of deployment. Timely completion of deployment within 4 years of provision of awards to BEAD subgrantee ISPs.
Select a mapping vendor and develop Arizona's broadband map for the state challenge process	ACA	BEAD Planning funds and/or BEAD admin funds	Enhance accuracy of underserved and unserved locations represented throughout Arizona
Provide technical assistance to local governments and tribal communities to help them participate in the BEAD state challenge process	ACA	BEAD admin funds	Ensure that municipal and county governments and tribal communities can review the accuracy of coverage maps and advocate necessary revisions / changes.
Act as a bridge between the counties and service providers to promote workforce training	ACA, Internal and External Stakeholders	N/A	Strengthen relationship between counties and service providers and encourage collaboration for developing workforce training programs
Continue to work with communities and institutions of higher	ACA, External Stakeholders	SDEPG	Increase availability of free to low-cost options for the public to obtain general

Activity	Key Implementor	Funding Source	Expected Outcome(s)
education to establish broadband workforce training, digital skills training, and certification curriculums			digital skills and necessary training and certifications for joining the workforce
Engage with stakeholder groups	ACA, External Stakeholders	BEAD funding	Encourage feedback from stakeholders, raising awareness and support for the BEAD program deployment.
Work with permitting offices to streamline permitting by encouraging assessment of current processes, increasing workforce available, and other negotiations	ACA, Internal and External Stakeholders	BEAD funding	Decrease the length of the permitting process and support timely deployment of broadband infrastructure
Work with State and local broadband policy makers to evaluate policy requirements for efficient BEAD deployment	ACA and Stakeholders	N/A	Address broadband policies that may impact deployment of infrastructure and limit BEAD program reach
Partner with local organizations and public institutions to develop connected device programs and centers such as: school laptop programs, refurbish, laptop lending, public computer centers, etc.	ACA, Internal and External Stakeholders	SDEPG, BEAD funding	Increase access to devices for community members outside of traditional means of individual purchase
Continue distribution of content and updates on the development and progress of Arizona's BEAD program, community, and partner engagement	ACA	BEAD funding	Spread awareness of the BEAD program and inform the residents and communities
Continue community, partnership, and stakeholder communications and engagement	ACA	BEAD planning funds and/or BEAD admin funds	Encourage continuous community participation. Continue inclusion of partner, community, stakeholder input

Activity	Key Implementor	Funding Source	Expected Outcome(s)
Include subgrantee scoring criteria of sustainability, include coverage of unserved / underserved criteria in subprogram scoring, and reliability of infrastructure and service	ACA	BEAD planning funds	Promote affordable and sustainable service offerings with a long-term financial and operational viability
Align with partners and stakeholders on the methods of promoting broadband infrastructure sustainability and resiliency	ACA, External Stakeholders	BEAD planning funds	Establish the importance of resilient and sustainable broadband deployment to service providers and spread information
ACA will work closely with the Governor's office to support infrastructure affordability	ACA	BEAD Planning Funds	Promote use of governor matching funds and impact cost for ISPs and encourage participation in the BEAD program
Promote use of existing infrastructure	ACA	N/A	Reduce costs of deployment new infrastructure for service providers by promoting use of existing infrastructure
Secure and limit public GIS mapping data	ACA	BEAD Planning Funds	Reinforce data sovereignty across Arizona in regard to mapping data
Coordinate early and often with other government entities (e.g., Department of Transportation and Federal agencies) and easement holders (e.g., railroads)	ACA and Stakeholders	N/A	Prepare and establish a relationship between ACA and noted organizations for preparation of the BEAD program impacts due to deployment and adopt mitigation strategies
Advocate for network hardening and climate resilience requirements that incorporate climate change adaptation strategies into risk management programs to reduce property, infrastructure, and supply chain vulnerabilities	ACA, Internal and External Stakeholders	N/A	Support design and construction of resilient broadband infrastructure

Activity	Key Implementor	Funding Source	Expected Outcome(s)
Emphasize subgrantee selection scoring criteria inclusion of economic criteria	ACA	BEAD planning funding	Maximize the number of locations served by encouraging inclusion of high-cost areas and low-cost areas
Leverage the incoming middle mile infrastructure by informing and encouraging ISPs to take advantage of the new infrastructure	ACA	BEAD planning funding	Address potential uncertainty among service providers to build last mile infrastructure due to additional costs constructing middle mile infrastructure to serve unserved / underserved locations
Encourage private entity contribution	ACA	BEAD planning funds	Maximize BEAD funding

5.4 Key Strategies

The following discussion presents the primary strategies that the ACA Broadband Office will implement to achieve its goals and objectives, while also ensuring compliance with the BEAD statutory requirements. Specifically, the ACA Broadband Office has identified 11 key strategies that are essential to reach its targets. Subsequently, there is a detailed explanation of the ACA Broadband Office's approach to optimize BEAD grants via leveraging private capital funds.

Key Strategy – Promote the deployment of resilient and sustainable infrastructure

Planned Activities:

- Implement a competitive broadband grant program that will maximize the impact of funds by leveraging private matching capital. This will involve budgeting a sufficient amount to secure deployment commitments in the most difficult-to-serve areas.
- Finalize the selection of a mapping vendor and utilize the vendor's services to develop ACA's mapping system which will accurately identify unserved and underserved areas.
- Advocate for network hardening and climate resiliency requirements. This will include incorporating climate change adaptation measures with the intent of reducing vulnerabilities in property, infrastructure, and supply chain systems.

Key Strategy – Mitigate barriers to deployment and non-deployment activities

Planned Activities:

- Collaborate with permitting agencies to simplify the process of granting permits. This includes recommending a review of existing procedures, augmenting the number of available staff, and implementing other necessary measures.
- Engage in communication with right-of-way and permitting agencies to prepare for an anticipated surge in requests resulting from BEAD-driven deployment.
- Advocate for the development and implementation of comprehensive workforce training programs.
- Foster close coordination with other government branches, including transportation departments and federal agencies, as well as with easement holders such as railroads, in order to facilitate efficient deployment of BEAD initiatives.

Key Strategy – Gather comprehensive input for the development of Arizona's BEAD program

Planned Activities:

- Sustain ongoing efforts to actively engage with communities, stakeholders, and partners through effective communication channels.
- Ensure that public GIS mapping data is acquired, secured, and limited as necessary to prevent unauthorized access and protect tribal data sovereignty.

Key Strategy – Develop broadband-ready communities

Planned Activities:

- Function as the intermediary between local governments and service providers in order to encourage investment in workforce training initiatives that promote the effective deployment and expansion of broadband networks.
- Sustain ongoing efforts to collaborate with communities and institutions of higher education to develop and implement broadband workforce training programs, digital skills training, and certification curriculums.
- Foster investment in digital skills training initiatives to equip the workforce with the necessary skills to support and maintain digital infrastructure.

Key Strategy – Maximize benefits of statewide middle-mile network deployment

Planned Activities:

- Utilize the new middle-mile infrastructure as a catalyst to support last mile service and encourage ISPs to capitalize on the benefits of the improved infrastructure.
- Leverage the Sun Corridor Network

Key Strategy – Leverage all eligible funding sources

Planned Activities:

- Promote private sector investment in broadband infrastructure deployment and expansion initiatives.
- Provide support for ISPs matching program so that ISPs can take advantage of eligible federal funds to reduce their financial burden and fast-track deployment timelines.
- Ensure that funding is distributed efficiently and fairly by minimizing overlap and redundancy in the allocation of funds to target areas.

Key Strategy – Develop a subgrantee selection process that promotes long-term, sustainable, affordable projects

Planned Activities:

- Maintain robust community outreach, partnership, and stakeholder engagement initiatives to keep all relevant parties informed and updated on broadband deployment and expansion efforts.
- Prioritize sustainability and reliability of broadband infrastructure and service when developing criteria for subgrantee selection to ensure that subgrantees are well-equipped to operate and maintain the required infrastructure and services over the long term.

Key Strategy – Encourage cost saving measures for ISPs

Planned Activities:

- Promote the utilization of existing broadband infrastructure to maximize its benefits and reduce deployment costs.
- Collaborate with the Governor's office to explore various options for enhancing infrastructure affordability and developing matching program that can boost private sector investment.

Key Strategy – Empower communities through broadband access and transparency

Planned Activities:

- Sustain the distribution of regular updates on the development and progress of Arizona's BEAD program to promote transparency and keep community partners informed.
- Collaborate with key partners and stakeholders to promote strategies for enhancing the sustainability and resiliency of broadband infrastructure.

Key Strategy – Advocate for wider public access to connected devices

Planned Activities:

- Collaborate with relevant local organizations and public institutions to establish connected device programs and centers such as school laptop initiatives, device refurbishment programs, laptop lending programs, and public computing centers.

Leveraging Private Capital for BEAD Program Implementation

Achieving universal broadband access with finite available funds is the top priority for BEAD implementation in the state of Arizona. This involves selecting projects that are cost-effective for the state and include private sector investment to share the burden of the overall broadband infrastructure deployment costs. Figure 18 provides a conceptual framework for determining how much private matching capital should be mobilized. By not funding the whole CapEx cost of projects and only funding the gap between required CapEx and realistic private investment, the state can maximize the impact of available federal funding. In some cases, a match well above 25 percent may be appropriate and obtainable.

Figure 18: Leveraging Private Capital

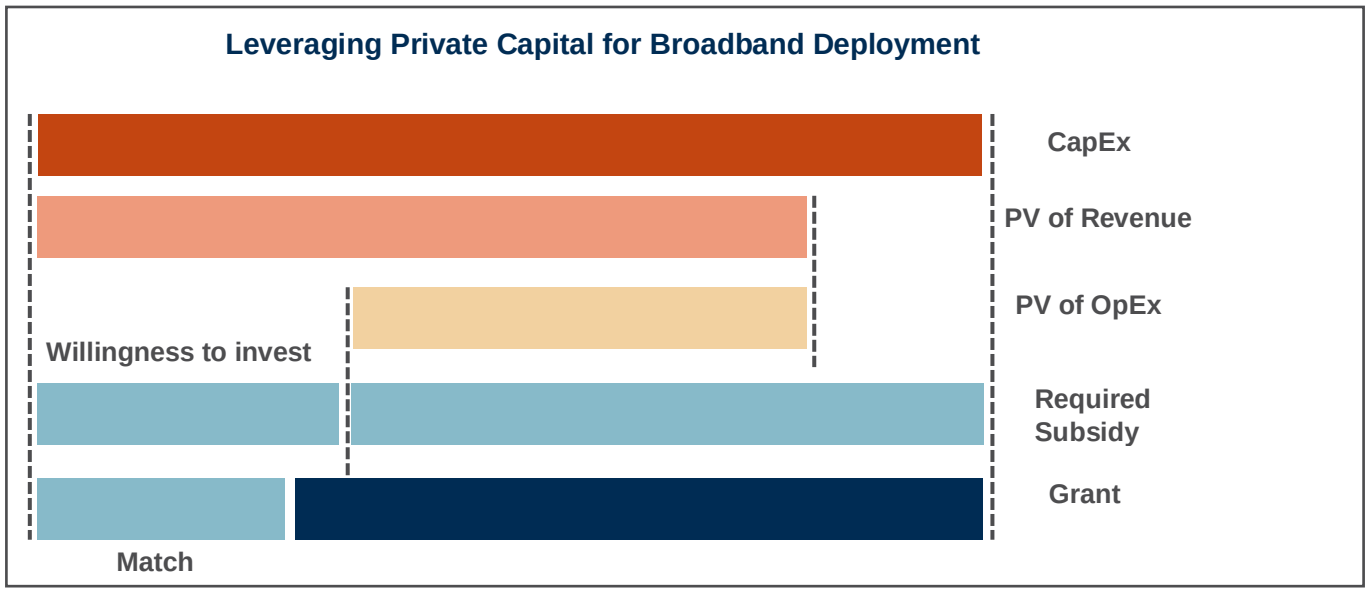


Figure 18 depicts three key factors: (1) the capital expenditure (CapEx) costs associated with deploying broadband infrastructure to a target area; (2) the present value (PV) of the expected revenue from customers that an ISP anticipates after the network is built; and (3) the PV of the anticipated ongoing operating and maintenance expenses (OpEx) after the deployment is completed. When the PV of customer revenue outweighs CapEx plus PV of OpEx, no subsidies are required to facilitate deployment. Typically, unserved and underserved areas present challenging business cases for deployment, as the PV of revenue tends to fall below the sum of CapEx and PV of OpEx.

Building on the three values outlined in Figure 18, two additional factors can be extrapolated: the willingness of an ISP to invest, which accounts for a normal rate of return on capital, and the required subsidy that an ISP needs to close the gap between its willingness to invest and CapEx. While it may not always be feasible for ACA to provide grant funds that match the minimum required subsidy and simultaneously achieve universal broadband access, ACA strives to minimize payments beyond the minimum subsidy required. In various situations, The ACA Broadband Office will conduct a complete financial analysis and use a combination of ex-ante price setting, competition, and collaborate in accordance with NOFO guidance provided for establishing grants at the appropriate levels that maximize taxpayer value for money.

5.5 Estimated Timeline for Universal Service

In accordance with the BEAD program requirements, the ACA Broadband Office intends to complete its deployment for the BEAD program by 2030. ACA has identified several major milestones that must be achieved, including the submission of the Five-Year Action Plan, the Initial Proposal, and the initiation of the subgrantee selection process. The ACA Broadband Office's estimated timeline for achieving universal service is presented below.

Figure 19: Timelines for Submissions and Development (1/2)

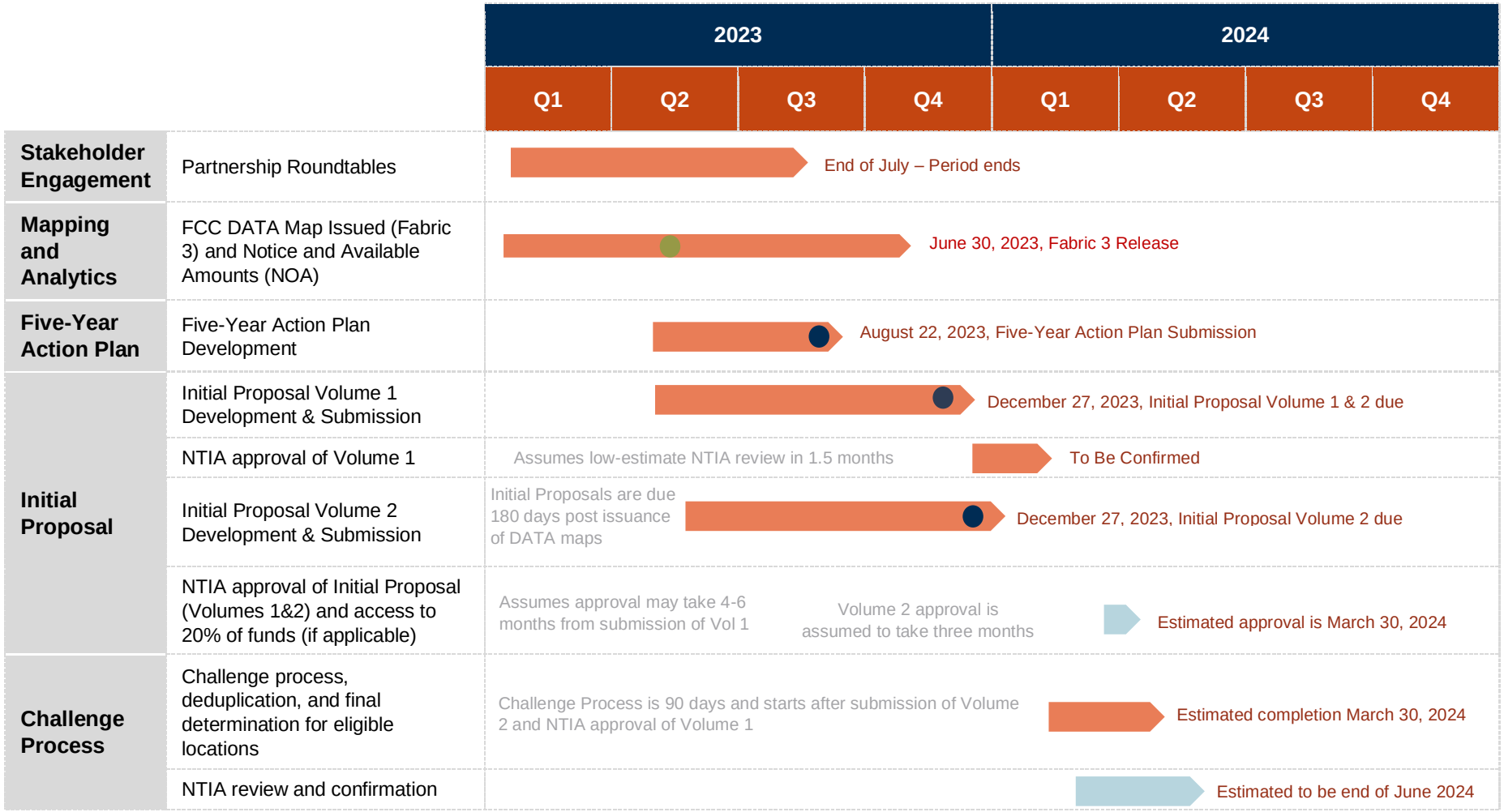
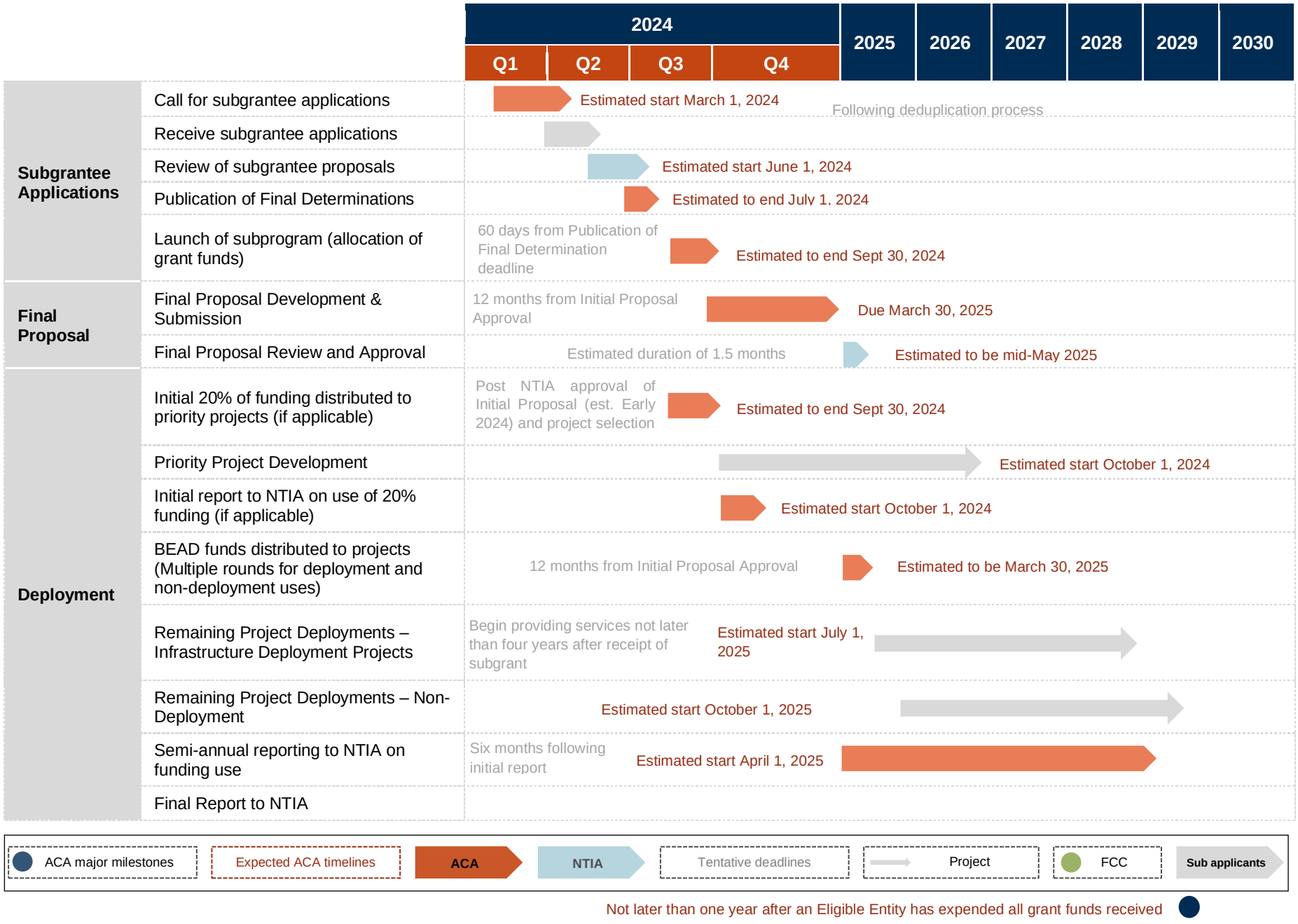


Figure 20: Timelines for Submissions and Development (2/2)



5.6 Estimated Cost for Universal Service

The ACA Broadband Office is currently analyzing the available data from NTIA, FCC and other sources to determine the estimated cost of achieving universal broadband availability in Arizona. As part of the analysis, the ACA Broadband Office has identified several key factors that will be taken into account when estimating the costs of delivering universal broadband service. To ensure accuracy, a data-driven methodology will be utilized to estimate the costs of providing universal broadband service in the state based on either fiber-optic or other technology options for connectivity. The ACA Broadband Office will also implement a targeted investment strategy to focus its resources on underserved areas with the greatest need.

5.7 Alignment

The purpose of this section is to outline how the Five-Year Action Plan converges with Arizona's priorities and existing and planned initiatives as set by Governor Hobbs. The following section provides an overview of key state plans that support and enable both the BEAD Five-Year Action Plan and the state Digital Equity Plan.

Governor's Office Infrastructure Priorities

In Governor Hobbs' inaugural State of State, she highlighted Arizona's abundant opportunities and its resilient, diverse, and incredible people. To advance what the 2020 Census determined to be one of the fastest growing states in the country, Governor Hobbs will connect Arizonans and promote economic vitality through accessible, cost-effective infrastructure. Specifically, the Governor is committed to ensuring universal connectivity for all Arizonans in rural, urban, and tribal areas, particularly low-income and historically marginalized communities. In addition, Governor Hobbs is committed to ensuring internet access is affordable for Arizona families by promoting competition, utilizing federal programs designed at financing internet service for low-income families, such as the ACP, and increasing pricing transparency. Leveraging historic federal and state investments, Governor Hobbs will prioritize equitable access to transportation and internet service to connect unserved, underserved, and marginalized families across Arizona. These generational investments will connect Arizonans to good jobs, quality healthcare, and education and position Arizona to continue its dynamic growth for years. These infrastructure goals are designed to make Arizona a more livable and sustainable state with a strong economy that can thrive in the 21st century.

Economic Development

Governor Hobbs is working to grow an economy for all Arizonans – focused on putting money back in Arizonans' pockets, improving the affordability of everyday expenses, growing our workforce and wages, and positioning Arizona to be at the epicenter of economic success. The Arizona Commerce Authority is the state's leading economic development organization with a streamlined mission to grow and strengthen Arizona's economy. The ACA uses a three-pronged approach to advance the overall economy: recruit, grow, create – recruit out-of-state companies to expand their operations in Arizona; work with existing companies to grow their business in Arizona and beyond; and partner with entrepreneurs and companies large and small to create new jobs and businesses in targeted industries.

The ACA coordinates broadband development activities in partnership with state and local government stakeholders and the private sector to streamline regulatory hurdles and maximize strategic broadband funding for Arizona.

Reliable, high-speed internet has become an essential element of 21st-century life. It's as ubiquitous as electricity, water and transportation. Increased connectivity impacts public health and safety, education, health care and transportation across both rural and metropolitan communities. Governor Hobbs and the ACA continue to work to expand the state's digital infrastructure statewide to improve the economy and quality of life of today's Arizonans.

Further, the ACA provides rural economic development workshops, small business workshops and access to tribal economic development resources via their website in order to support the growth and health of the state's overall workforce. The ACA is overseen by a public-private sector board of directors bringing together industry, academia, and government. Chaired by Arizona Governor Katie Hobbs, the board is comprised of private-sector business leaders, university and community college presidents, and elected officials.

The ACA's executive management team drives the organization's day-to-day operations, ensuring it maintains focus on the recruitment of quality companies and jobs to the state of Arizona. This team brings together the best and brightest in economic development, management and communications.

Education and Training

Arizona's workforce system, known as ARIZONA@WORK, is a public-private partnership consisting of state agencies, local areas (12) and offices (59) that provide services to individuals and businesses through workforce development programs. These programs increase individuals, particularly those with barriers to employment, access to and opportunities for employment, education, training and support services needed to succeed in the labor market and provides Arizona employers with the skilled workers they need to succeed in the global economy. For more information regarding this initiative, refer to link to PY21 Workforce AZ Council Annual Report:

https://www.azed.gov/sites/default/files/2022/12/PY21 Workforce AZ Council Annual Report.pdf

Additionally, Arizona Adult Education Services provides comprehensive services to students 16 years of age and older who are not enrolled in a K-12 school. Adult Education offers access to quality educational programs to assist students to: earn a High School Equivalency Diploma (HSE); connect to employment and job training opportunities; transition to post-secondary education; and become proficient in English. Adult Education assists adult learners to acquire the academic and employment skills to be college and career ready and to realize their full potential, so individuals, families, and communities can thrive.

Cybersecurity Measures

With the increasing reliance on technology, cybercrime has become a growing concern for individuals and businesses alike. As for the cybersecurity requirements for broadband infrastructure deployment and operations under the BEAD program, the IIJA specifies that all broadband projects funded through the BEAD Program must comply with applicable Federal and state laws and regulations related to cybersecurity. Additionally, the National Institute of

Standards and Technology (NIST) Cybersecurity Framework provides a set of best practices and guidelines for organizations to manage and reduce cybersecurity risk

The ACA Broadband Office's approach to cybersecurity consists of (1) establishing standards and guidelines for information security management for the physical broadband infrastructure and operations; (2) increasing awareness of measures to ensure online privacy and cybersecurity as part of the digital equity initiatives. A solid cybersecurity framework encompasses preventing data breaches, safeguarding against digital harassment, discrimination, and harmful content. These safeguards are critical for marginalized individuals who may already be facing disproportionate vulnerabilities and risks in their offline lives. By implementing cybersecurity standards, guidelines, best practices, and training, and maintaining a cybersecurity risk management plan, the ACA Broadband Office will help ensure that these requirements are met for all funded infrastructure projects to ensure a secure and resilient digital infrastructure.

As governments and citizens become increasingly connected online through significant broadband and digital equity efforts, the State is especially concerned about what threats may be looking to take advantage of this. The State of Arizona, primarily through The Arizona Department of Homeland Security and its programs, is focused on several key cybersecurity initiatives to help State and Local government entities rise to meet these challenges.

Through the Enterprise Security Program, which focuses internally on providing cybersecurity services for all State agencies, and the Statewide Cyber Readiness Program, which offers similar services for local government entities, including cities, counties, K12 schools, and tribal governments, the Department is taking a whole-of-state approach to securing Arizona government. The Department also facilitates several cyber-focused Federal grants to provide funding and support directly to local government Homeland Security stakeholders. These programs are committed to raising the collective bar, providing sophisticated cyber protections and best practices at no additional cost to participants while addressing the fundamental problem of cyber poverty for some of Arizona's most vulnerable populations.

Information sharing is critical in providing a whole-state collective defense where many of the same threat actors are attacking all levels of government. To this end, the Department has established the Arizona Information Sharing and Analysis Center and the Arizona Cyber Command Center to collect, analyze, and rapidly share actionable cyber threat information and respond to cyber threats across all levels of government within Arizona. This supports coordination with private sector information-sharing organizations, law enforcement, and relevant Federal partners, including a close partnership with the Arizona National Guard Cyber Joint Task Force which is tasked with two primary missions in support of all echelons of Arizona government: respond to suspected or verified cybersecurity incidents, and conduct an assessment of vulnerabilities that could be exploited.

As we provide technology, connectivity, and digital services, we must be aware that threat actors are looking to take advantage of vulnerable technologies and people and do everything we can to prepare and protect both.

A final critical component of improving cyber protections for the entire State is an adequately resourced and trained cyber workforce. To this end, the Department is collaborating with all levels of the education sector, including K-12, Community Colleges and Universities, industry partners,

and other organizations, to establish sustainable workforce pipelines and creative development of effective cyber professionals.

Right-of-Way

The Arizona State Land Department plays an important role in regulating the use of public land in the state. Recently, the Department approved the use of right-of-way for a new infrastructure project. This means that a company or organization has been granted permission to use a specific section of public land for a specific infrastructure purpose. The Department's approval of right-of-way use reflects a careful and thoughtful approach to managing and regulating the use of public land in the state to allow broadband ROW for third party use on public land. This rule change allows electric utilities to sublease dark fiber optic infrastructure on its transmission towers to broadband carriers.

Environment

Compounding threats to Arizona's water, natural resources, and climate are disrupting our economy, livelihoods, and quality of life. Broadband buildout and digital equity are critical to supporting Governor Hobbs' mission to deliver a resilient environment for future generations to come. The Arizona Department of Environmental Quality (ADEQ) is responsible for administering the state's environmental laws and delegated federal programs to prevent air, water and land pollution and ensure cleanup. Under the Environmental Quality Act of 1986, the Arizona State Legislature created ADEQ in 1987 as the state's cabinet-level environmental agency. ADEQ is composed of three environmental programs: Air Quality, Water Quality and Waste, with functional units responsible for technical, operational and policy support. ADEQ carries out several core functions: planning, permitting, compliance management, monitoring, assessment, cleanups and outreach.

ADEQ's mission and vision is to protect and enhance public health and the environment in Arizona through consistent, science-based environmental regulation; and clear, equitable engagement and communication; with integrity, respect, and the highest standards of effectiveness and efficiency to treasure the unique environment of the state and performing an essential role in sustaining well-being and economic vitality, today and for future generations. For more information about how ADEQ helps protect the environment, refer to the link below:

https://static.azdeq.gov/about/adeq_8yr_continuation_fs.pdf

Health

Access to affordable, high-quality health care is a matter of life, death, and liberty for Arizonans. Arizona's broadband work will complement Governor Hobbs' priority of growing Arizona's health workforce, thereby ensuring access to affordable, high-quality care for years to come. The Arizona Department of Health Services (ADHS) mission is to promote, protect, and improve the health and wellness of individuals and communities in Arizona. ADHS promotes and protects the health of Arizona's children and adults. The Department strives to set the standard for personal and community health through direct care, science, public policy, and leadership. The Department operates programs in the following areas:

- Disease prevention and control
- Health promotion

- Community public health
- Environmental health
- Maternal and child health
- Emergency preparedness
- Regulation of childcare centers, assisted living centers, nursing homes, hospitals, other health care providers, and emergency services.

The deployment of universal high-speed internet service and addressing digital equity in Arizona will help contribute to each of these programs. In addition, this work will further solidify Arizona's role as a leader in telemedicine, will expand health education opportunities, and will promote access to care via digital diagnostic tools. Utilizing technology will greatly contribute to Governor Hobbs' goals of expanding healthcare delivery, enhance patient outcomes, and support families in achieving optimal health and well-being.

Transportation

Governor Hobbs is committed to ensuring Arizonans have access to safe, reliable, and multimodal transportation options. The Arizona Department of Transportation (ADOT) is a multimodal transportation agency serving one of the fastest-growing areas of the country. ADOT is responsible for planning, building and operating a complex highway system in addition to building and maintaining bridges and the Grand Canyon Airport. Arizona's transportation network puts people to work building projects. Projects, in turn, deliver goods and services that spur economic development and attract jobs to the state, creating a cycle of economic benefit.

Arizona Department of Transportation Rights-of-Way for Commercial Broadband Construction - HB 2596 authorizes ADOT to open its ROW next to highways for commercial broadband deployment. The legislation draws on the best practices of other western states and allows broadband companies to access new routes to reach rural communities.

ADOT continues to examine diverse, integrated transportation options for moving people and goods to create jobs and deliver economic and quality-of-life benefits for Arizona residents and businesses. ADOT's role is to assist policymakers by providing objective information that helps them decide the best solutions to connect communities across Arizona with the full range of resources available.

Arizona Broadband Statewide Middle-Mile Strategic Plan

The Arizona Commerce Authority, in partnership with ADOT, issued the Arizona Statewide Broadband Middle-Mile Strategic Plan in February 2022. The strategic plan supports current broadband expansion efforts on Interstate 17, Interstate 19, and Interstate 40 East. The plan has led to the creation of the Statewide Middle-Mile Network, which will increase broadband infrastructure deployment along I-17, I-19 and I-40 East and future expansion along additional interstate and state highways.

Broadband expansion along I-17, I-19, and I-40 East and other interstate and state highways in Arizona will help address public and private sector connectivity requirements, promote economic development, improve public safety, and encourage innovation in modern technology adoption and support environmental sustainability and quality of life for Arizonans. ACA will work in tandem

with ADOT and other partners to fully leverage the middle-mile network to facilitate the last mile infrastructure deployment through BEAD program funding. For more information, refer to the link:

https://www.azcommerce.com/media/vvslgr2e/aca-broadband-strategic-plan-final-2-2-22.pdf

Workforce Development

ARIZONA@WORK is the statewide workforce development network that helps employers of all sizes and types of recruits, develop and retain the qualified employees for their needs. For job seekers throughout the state, it provides services and resources to pursue employment opportunities. The organization is a public and private partnership with 12 regional areas and 59 local offices, all working together through one unit–ARIZONA@WORK-and all sharing one mission of providing innovative workforce solutions to employers and job seekers.

Through the support of federal funding, services are provided at no charge. The organization is integrated with local communities to meet the employment needs of all different organizations and job seekers. The organization works closely with:

- The Workforce Arizona Council is responsible for implementing the Governor's strategic vision for a robust and effective workforce system in the State of Arizona. Consisting of industry leaders in private business, community and labor organizations, local and state government agencies, and members of the State's legislature, the Council serves as a guiding force towards a stronger Arizona workforce and labor market. The Council receives its authority from the Workforce Innovation and Opportunity Act which was passed by the Federal legislature in 2014 by a large bipartisan majority. This act signaled a nationwide push to "put Americans back to work" and Arizona intends be at the forefront of this enormous effort.
- The Local Board represents a wide variety of individuals, businesses, and organizations throughout a local area. The Local Board represents a wide variety of individuals, businesses, and organizations throughout a local area. They serve as a critical lynchpin role in ensuring that workforce training and investments are aligned with the needs of a workforce area's economy through the design, delivery, and oversight of the local workforce development system.
- ACA and National Institute of Standards and Technology has formed Arizona Manufacturing Extension Partnership (Arizona MEP) – a national manufacturing network to grow and strengthen Arizona's economy. The association includes 4,600+ small-to-medium-sized Arizona manufacturers. The Arizona MEP team combines decades of leadership, manufacturing, operational, and business experience to help clients achieve their business goals in the most cost effective manner possible.

Digital Equity and Inclusion

To ensure that the BEAD and Digital Equity plans are well-coordinated, ACA has established regular working sessions and updates between the internal teams and stakeholders assigned to each plan. Additionally, the BEAD and Digital Equity planning teams have collaborated to foster comprehensive stakeholder engagement. This includes identifying key stakeholders, developing engagement processes, establishing timelines, conducting outreach and communication, hosting roundtable discussions, and administering surveys. Furthermore, statewide asset and resource mapping will be conducted to identify existing resources, stakeholders, and services offered, as well as funding mechanisms and existing broadband and digital equity plans. The collected

information will be analyzed to determine barriers, needs, and gaps to broadband and digital equity, which will inform the development of both the Digital Equity and BEAD plans.

Additionally, ACA hired a Digital Equity Program Manager to develop and oversee the ACA Broadband Office's digital equity initiatives and implementation of the Digital Equity Plan. To foster continual alignment, the Digital Equity Program Manager, the State Broadband Director and the Broadband Program Manager will be conducting statewide outreach to jointly discuss both the BEAD and Digital Equity programs.

5.8 Technical Assistance

ACA values the technical assistance provided by NTIA to date and looks forward to NTIA's ongoing and future support. Key areas where NTIA could provide additional technical assistance are outlined below.

ACA and NTIA Coordination on Technical Assistance

- Identification of Extremely High Cost Per Location
- Tools and guidelines for the subgrantee selection process
- Developing grant applications
- Procedures for distribution of funds
- Preference for maximum subgrantee contribution and minimal BEAD subsidy determinations
- Determining minimal BEAD subsidy determinations
- Dedicated technical assistance in the revision process of the Initial Proposal
- Audit requirements
- Subgrantee compliance and reporting requirements including timelines, templates, and tutorials
- Resiliency standards or guidance
- Application CFR 200 requirements including real property, program income, cost principles and procurement standards
- Low-Cost Option

6. Conclusion

High-speed internet enables access to employment, education, healthcare, and other critical services essential for thriving in the 21st century. The digital divide disproportionately impacts communities that have been previously overlooked or historically disadvantaged. The BEAD program offers an opportunity for Arizona to finally close the infrastructural aspect of the digital divide and achieve its statewide goal of ensuring high-speed internet access is available to every home, business, institution, community and Tribal Nation so that all Arizona households can benefit from high-speed internet service.

The ACA Broadband Office and Governor Hobbs recognize that addressing broadband challenges must be tailored to the unique needs of Tribal Nations and all communities, urban and rural. Governor Hobbs and the ACA Broadband Office is committed to digital inclusion and will coordinate the planning and implementation of the BEAD program with the State Digital Equity Plan and State Digital Equity Capacity Grant Program to achieve digital equity goals in a way that strengthens the BEAD program and the case for broadband deployment in unserved and underserved areas of Arizona. The ACA Broadband Office will continue to conduct extensive industry, community and stakeholder engagement to identify and address obstacles and barriers to closing the digital divide and achieving digital equity in Arizona. The ACA Broadband Office and Governor Hobbs' office will continue to engage with stakeholders, ISPs, local governments, and state agencies to collect input and data to ensure that the BEAD program is implemented in a cost-effective way that durably meets the needs of Arizona communities for high-speed internet access, while creating momentum towards larger digital equity success.

The ACA Broadband Office and Governor Hobbs believe that by working collaboratively with partners and stakeholders throughout the state, Arizona is well-positioned to overcome barriers and address the digital divide and digital equity challenges in Arizona. This Five-Year Action Plan is the initial document that outlines Arizona's plan to achieve universal connectivity and digital equity in the state. The ACA Broadband Office is grateful to all those who participated in the engagement process and is committed to continued collaboration and dialogue to achieve its goals.

7. Appendices

7.1 Appendix A – Internet Service Provider (ISP) Survey Results

Figure 21: Internet Technologies Offered in Arizona

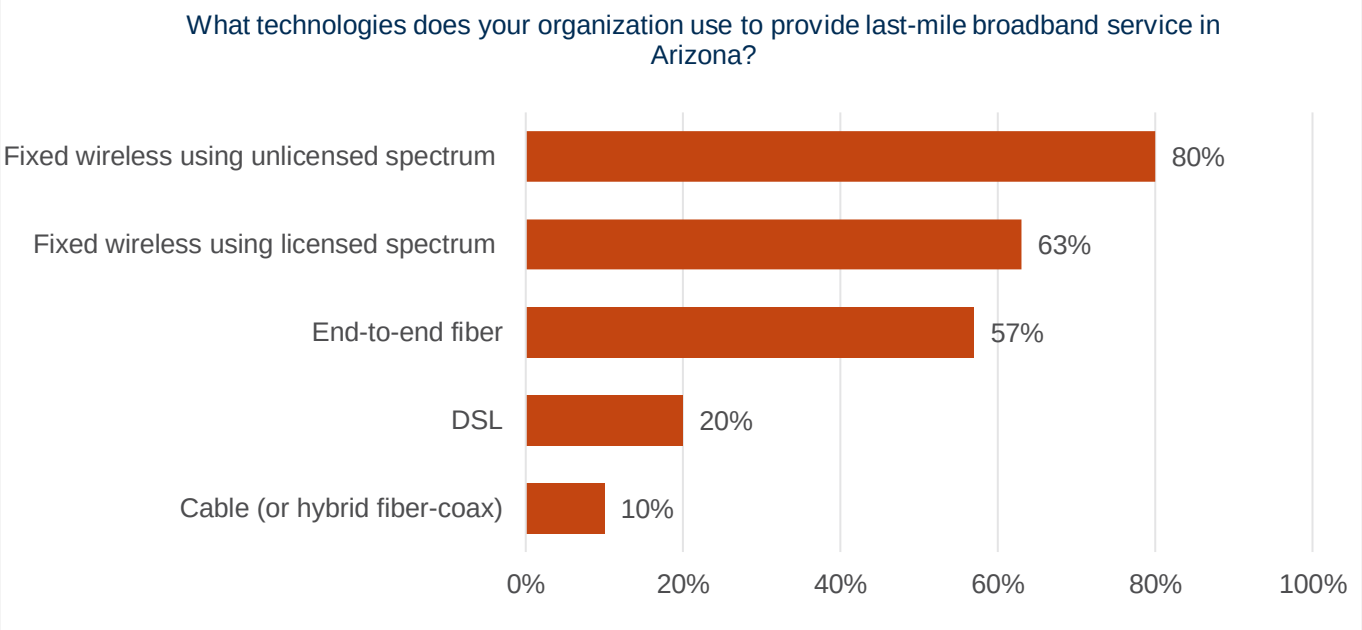


Figure 22: Subscribers Per Provider

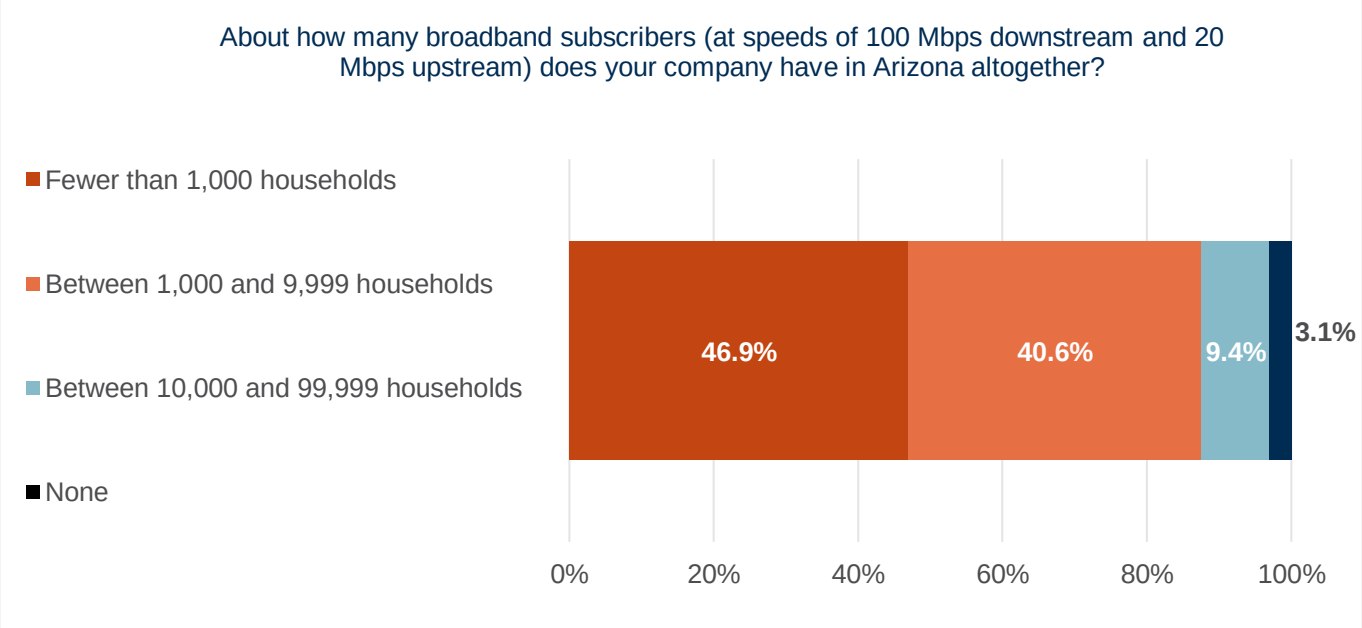


Figure 23: Additional Services Offered to Arizona Customers

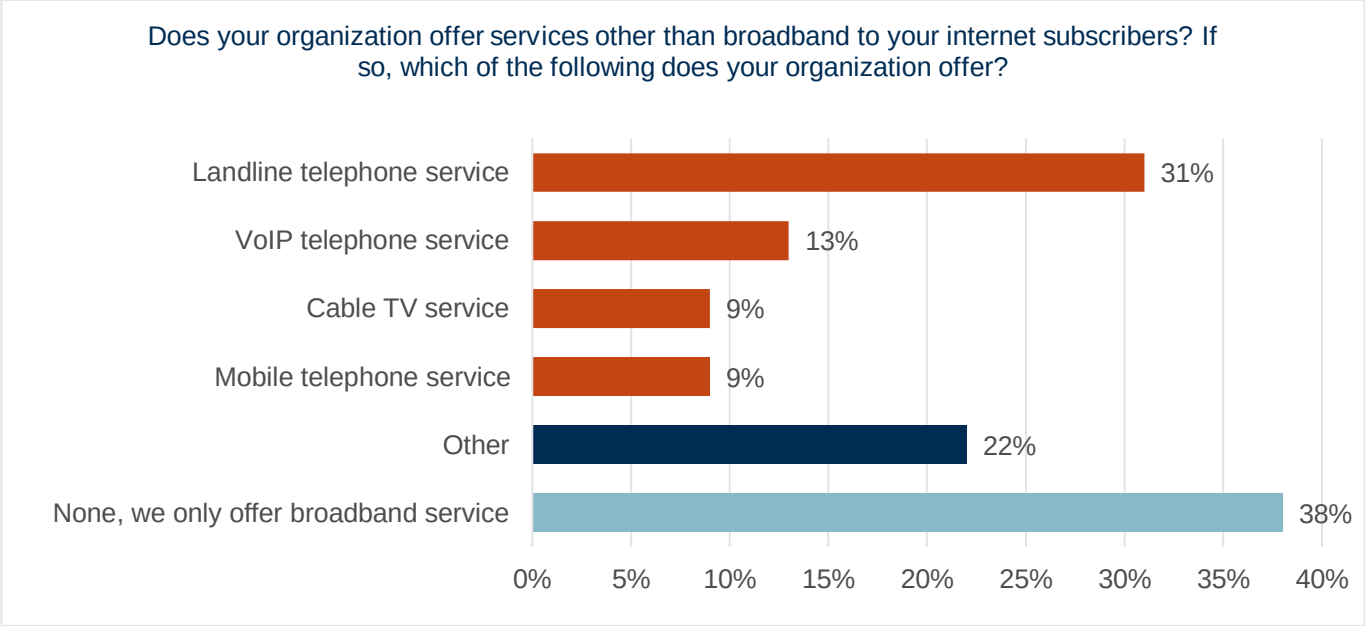


Figure 24: Digital Skills Training Programs

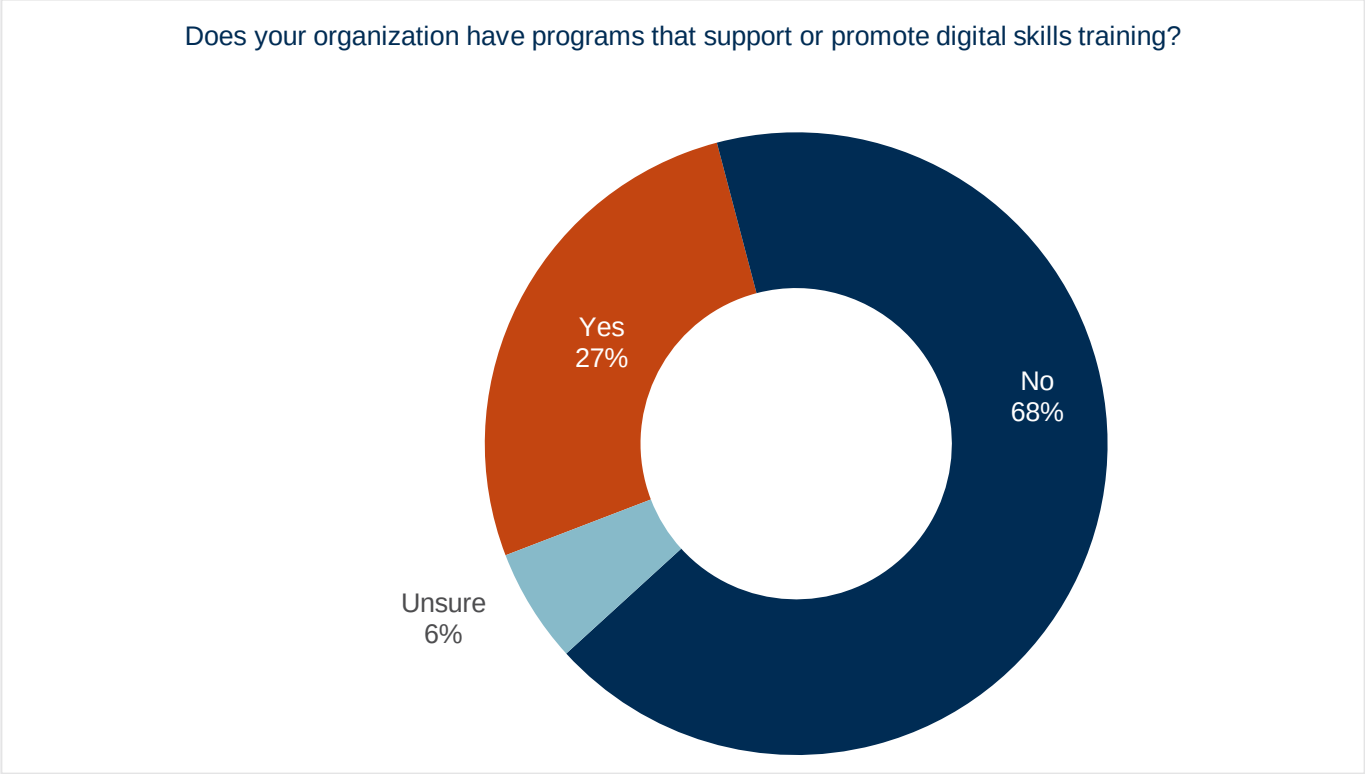


Figure 25: Technical Support Services

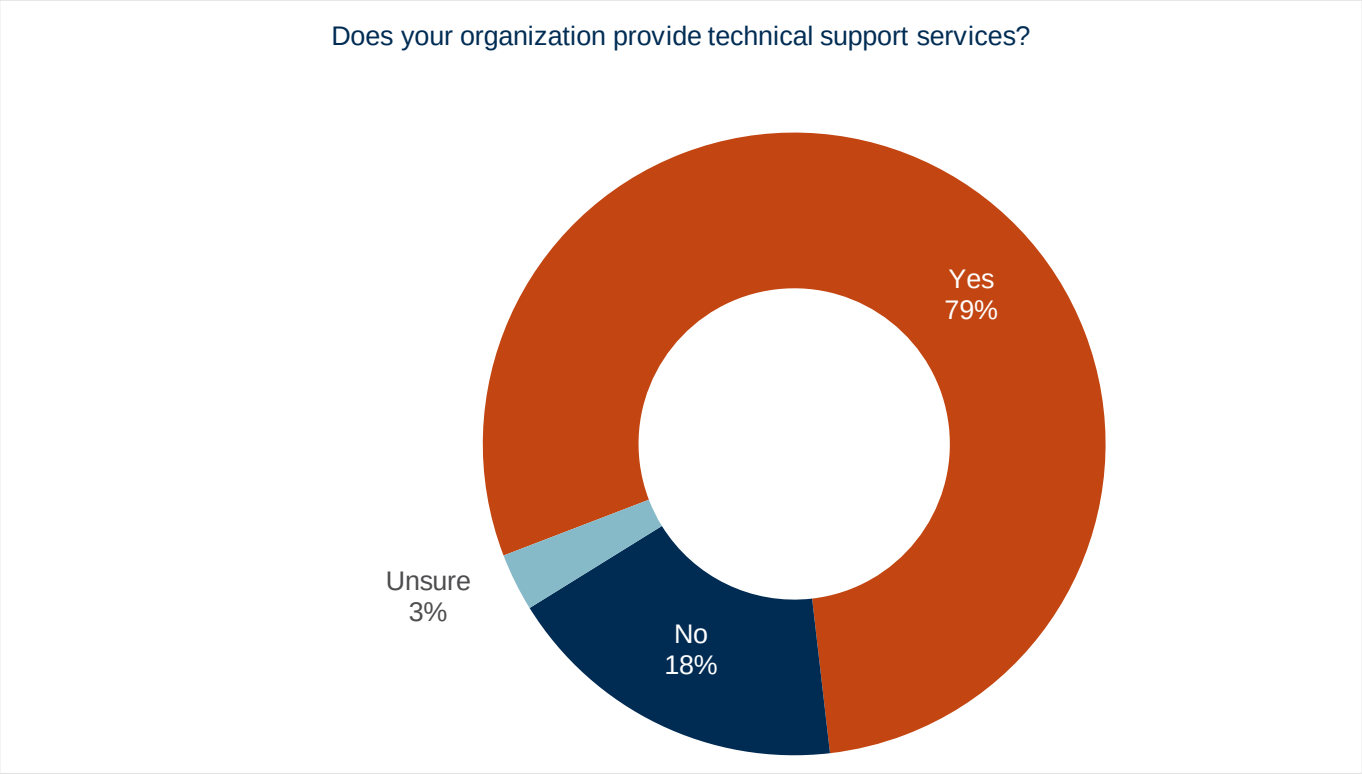


Figure 26: Computing Device Access Programs

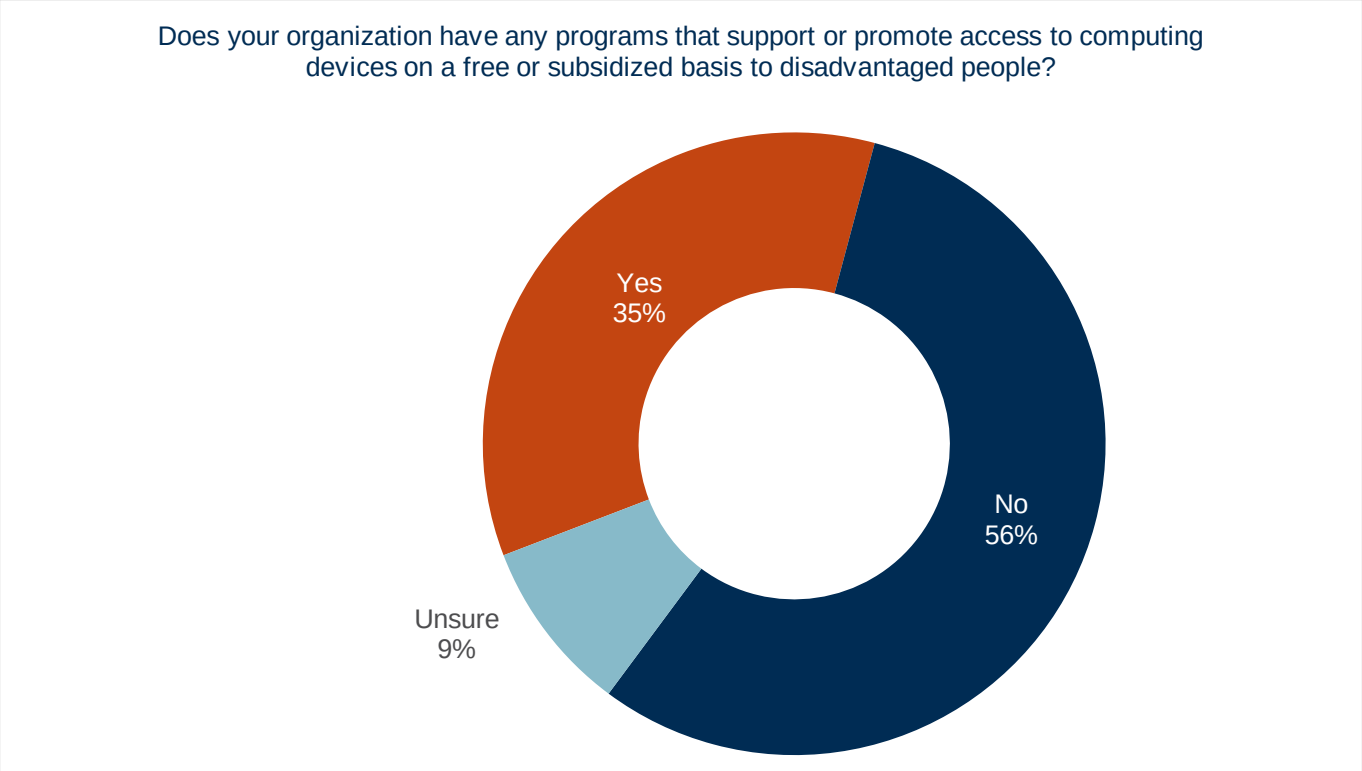


Figure 27: Types of Computing Device Programs

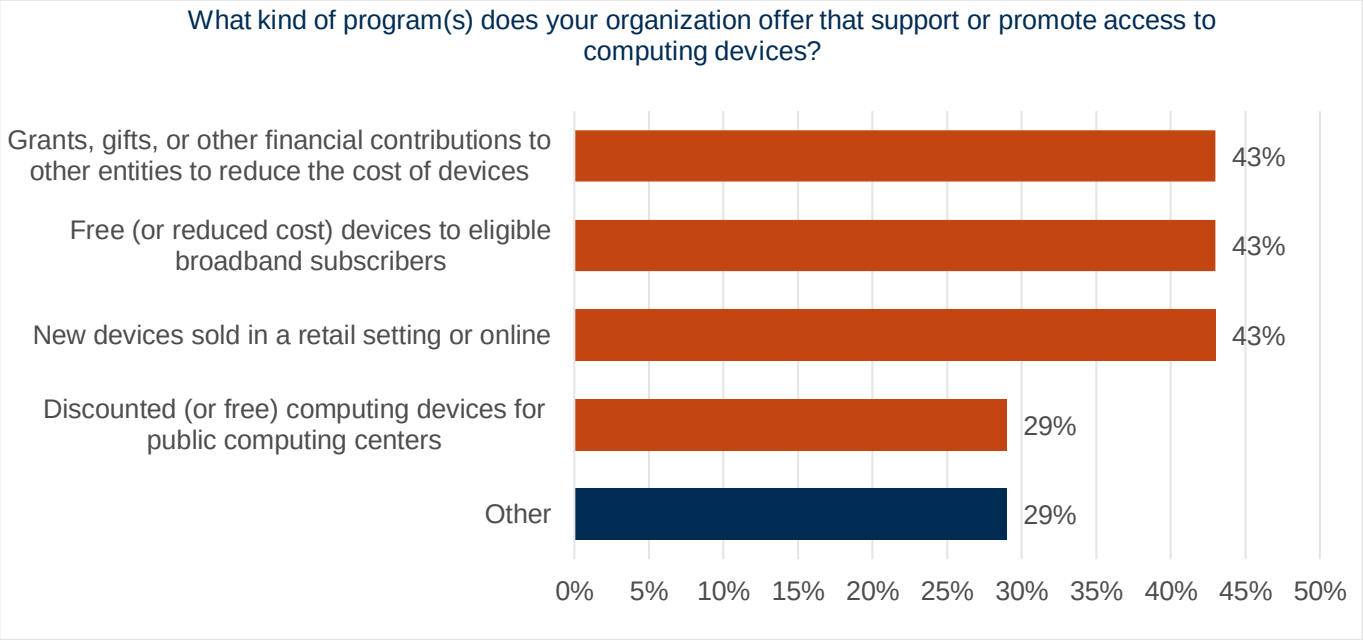


Figure 28: Digital Devices Offered by Internet Service Providers

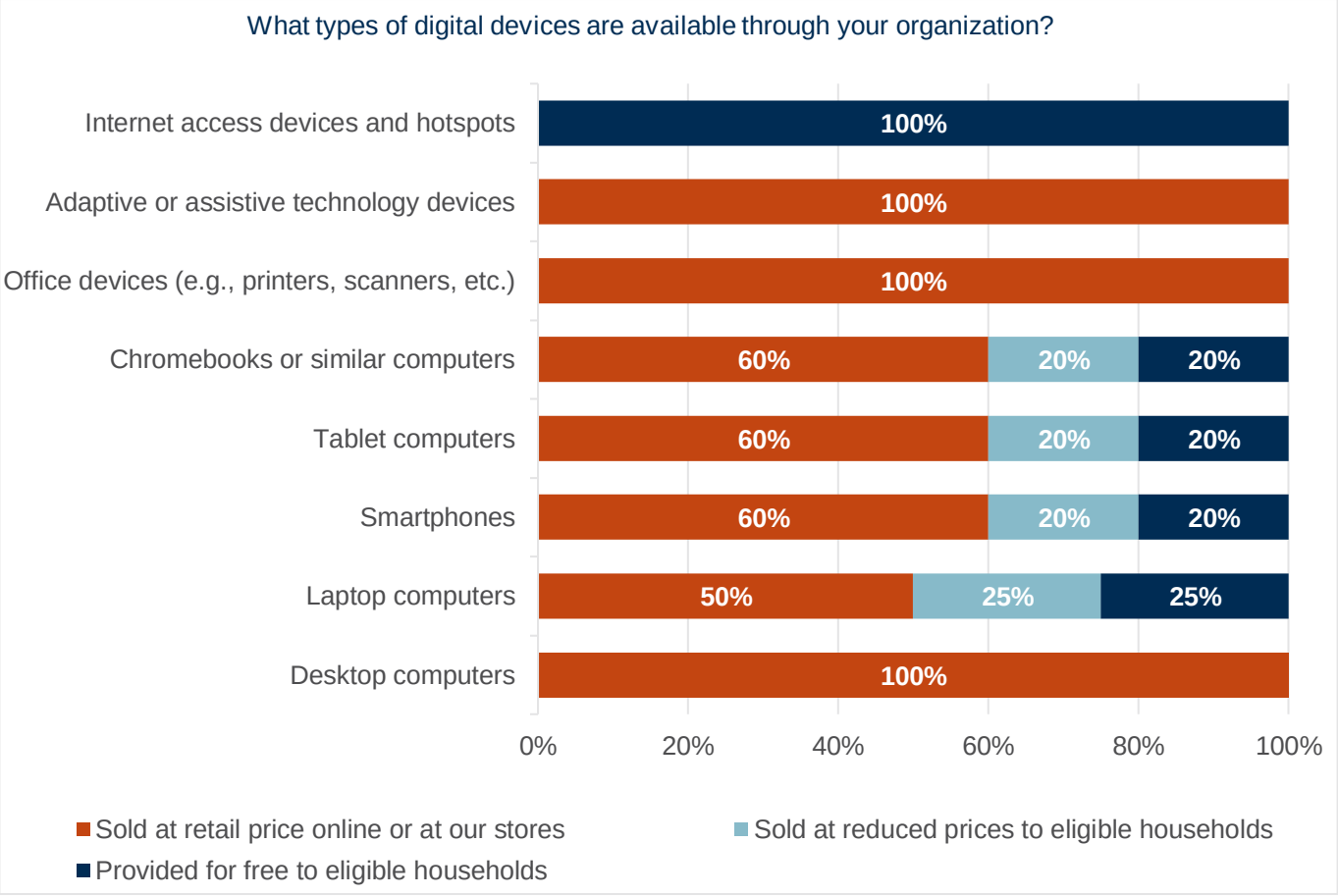


Figure 29: Eligibility for Affordability and Device Access Programs

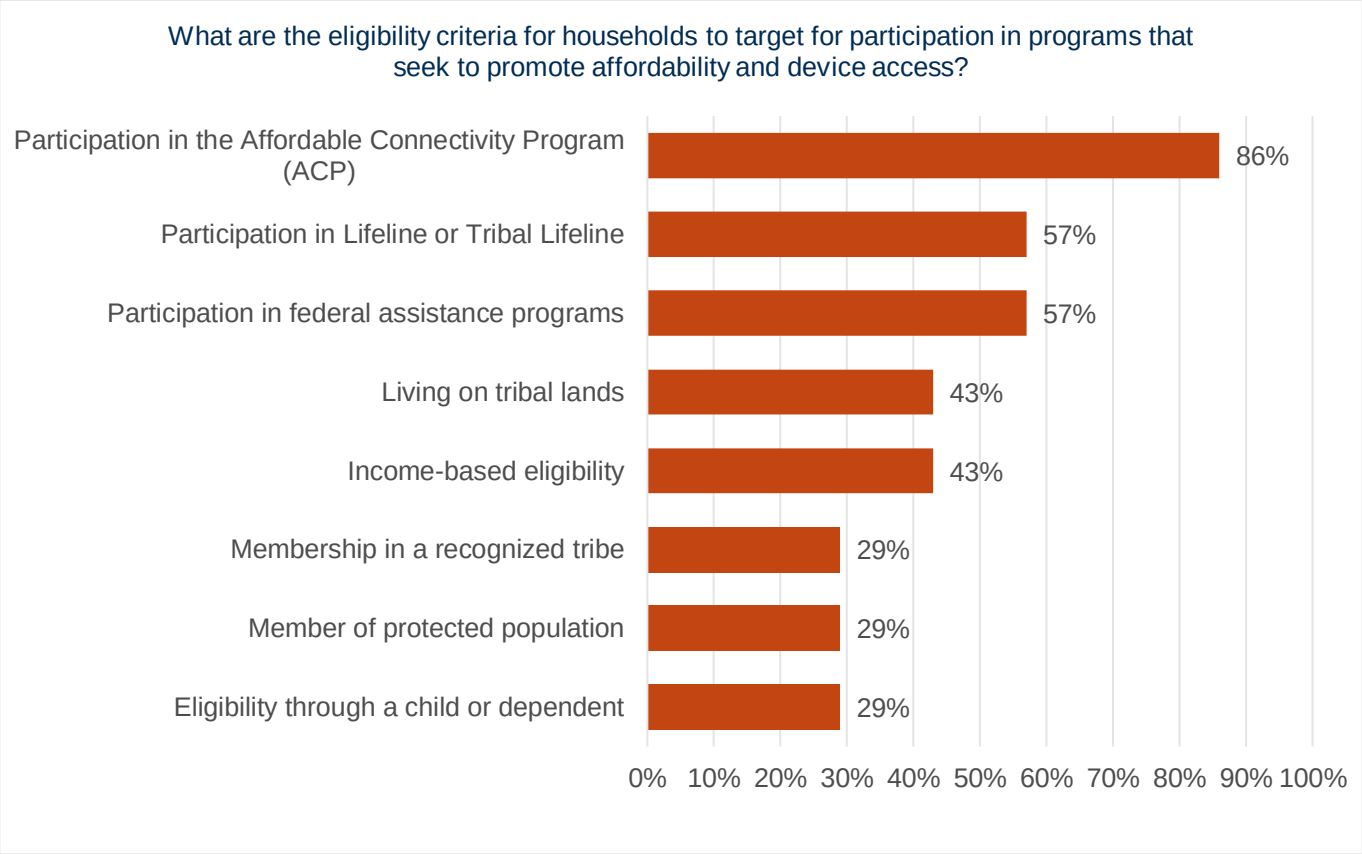


Figure 30: Federal Funding Received

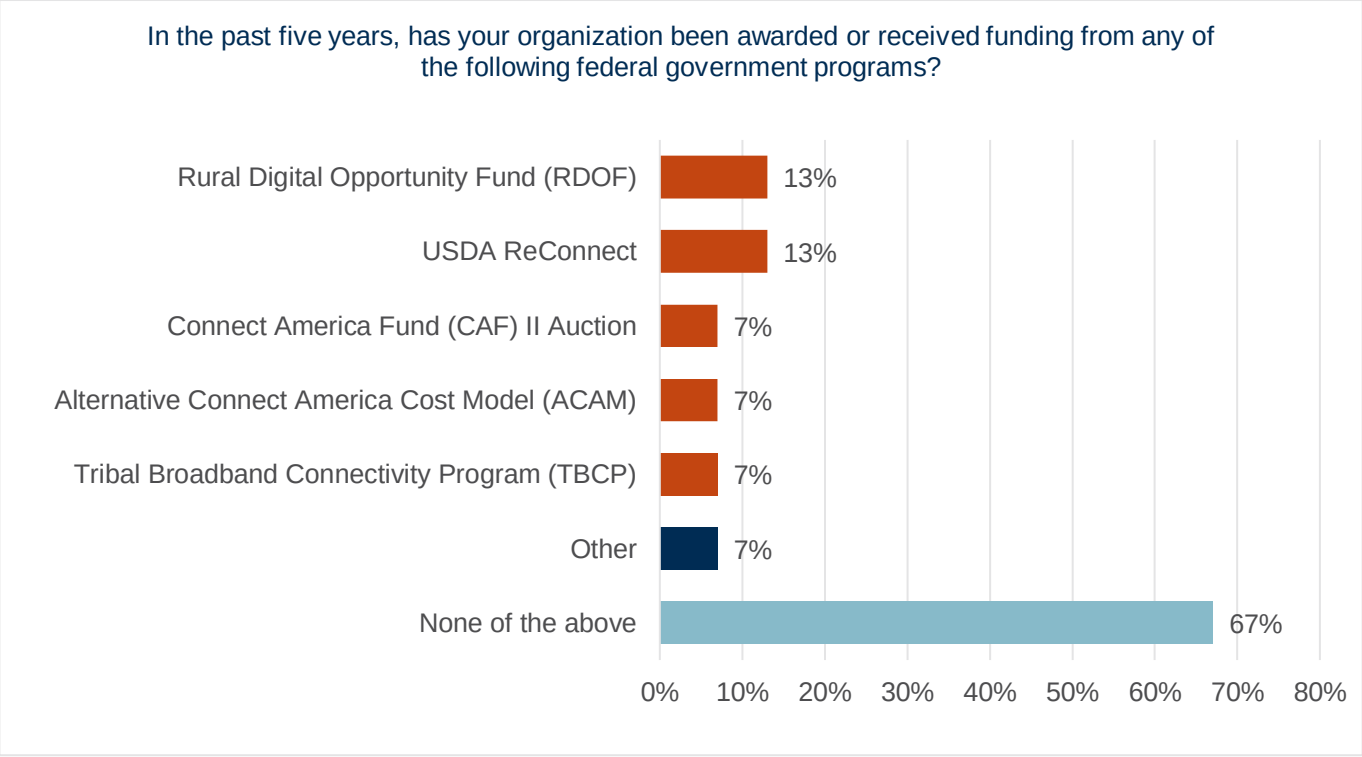


Figure 31: Interest in BEAD Participation

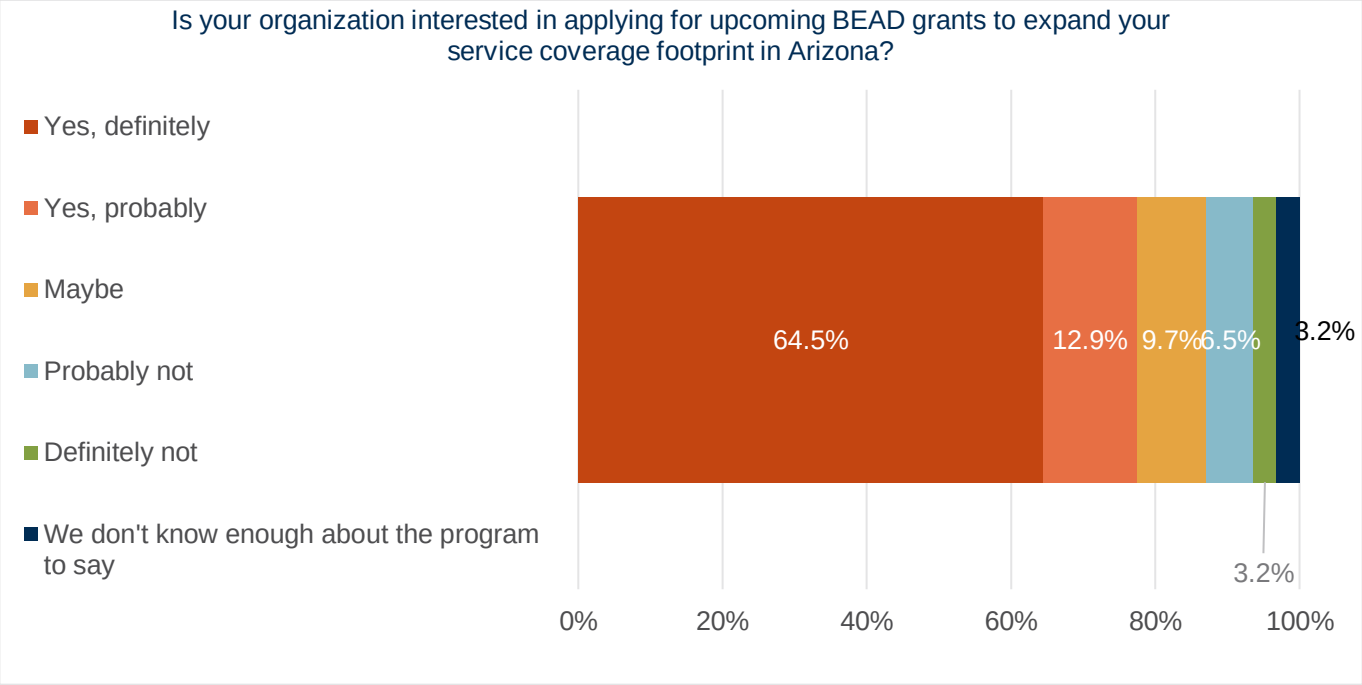


Figure 32: Deterrents to Applying for BEAD Grants

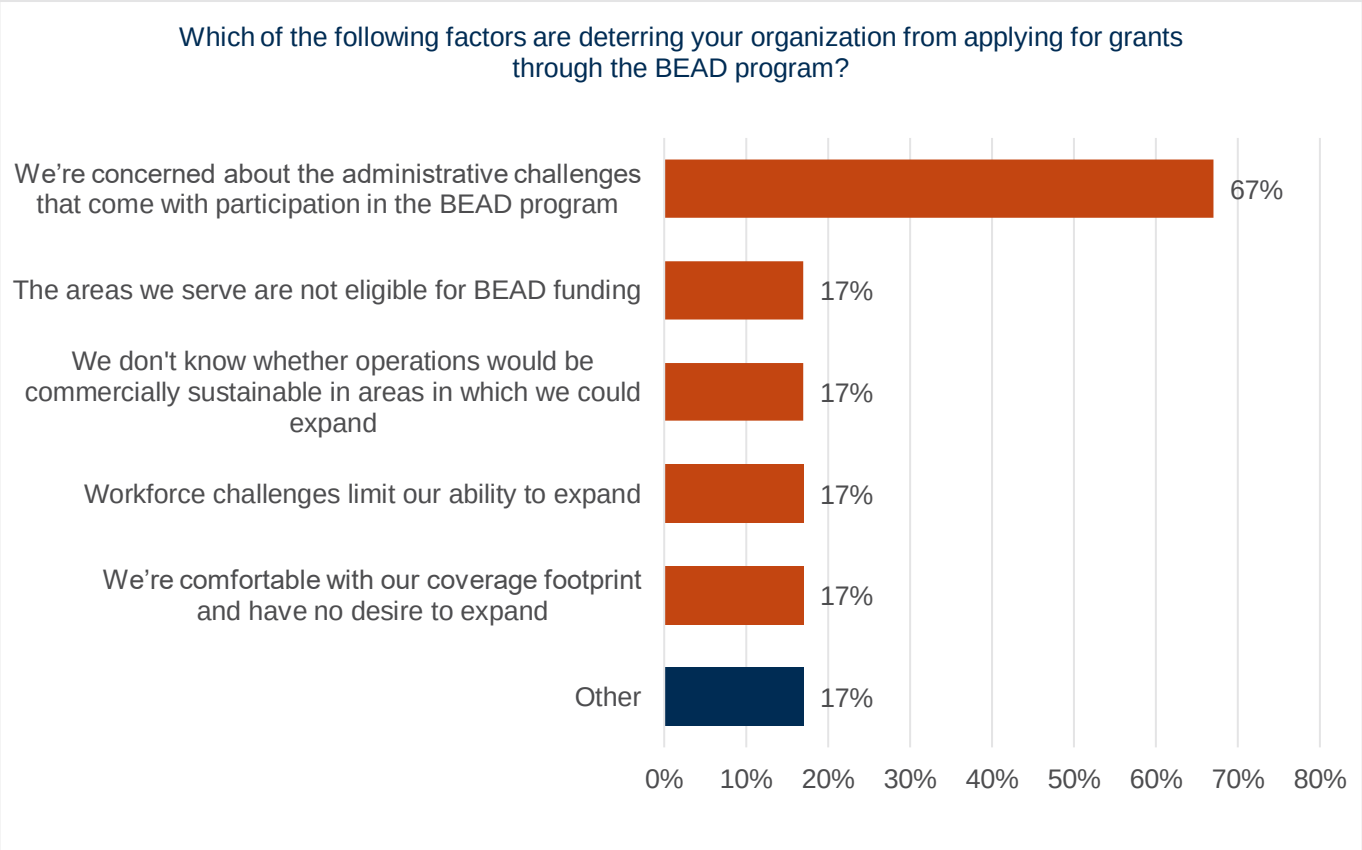


Figure 33: The Impact of Workforce Challenges

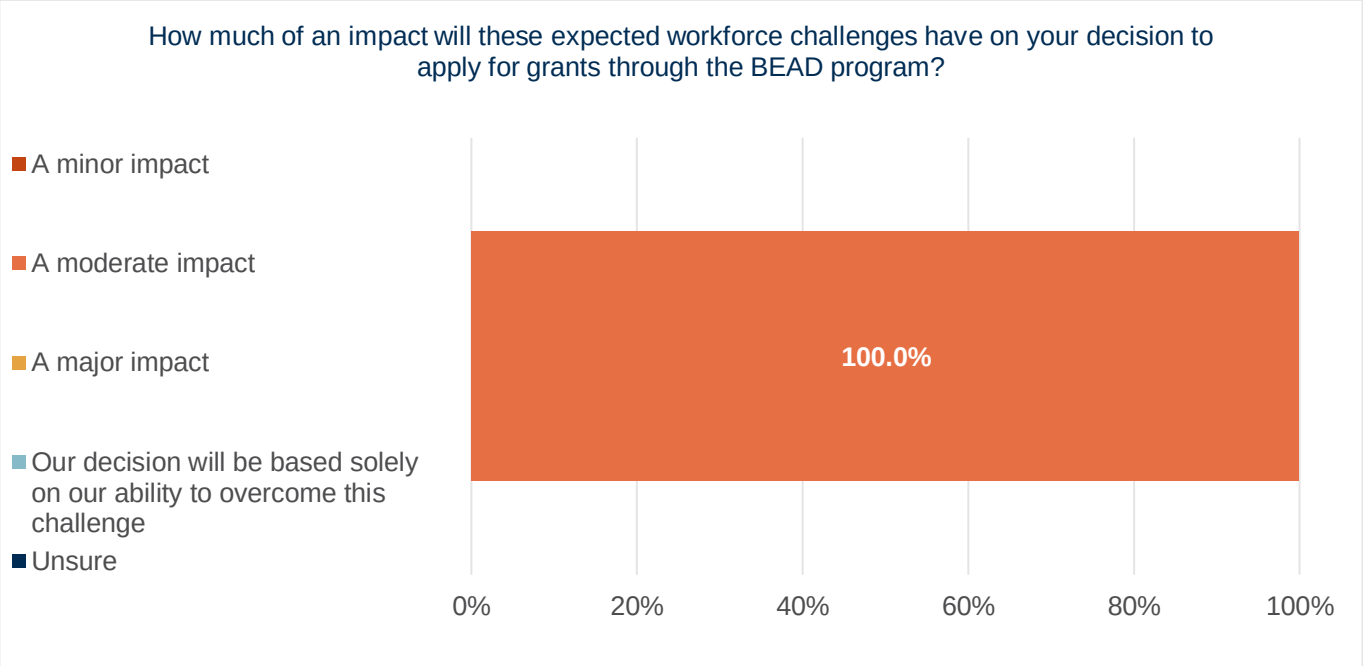


Figure 34: Identified BEAD Expansion Opportunities

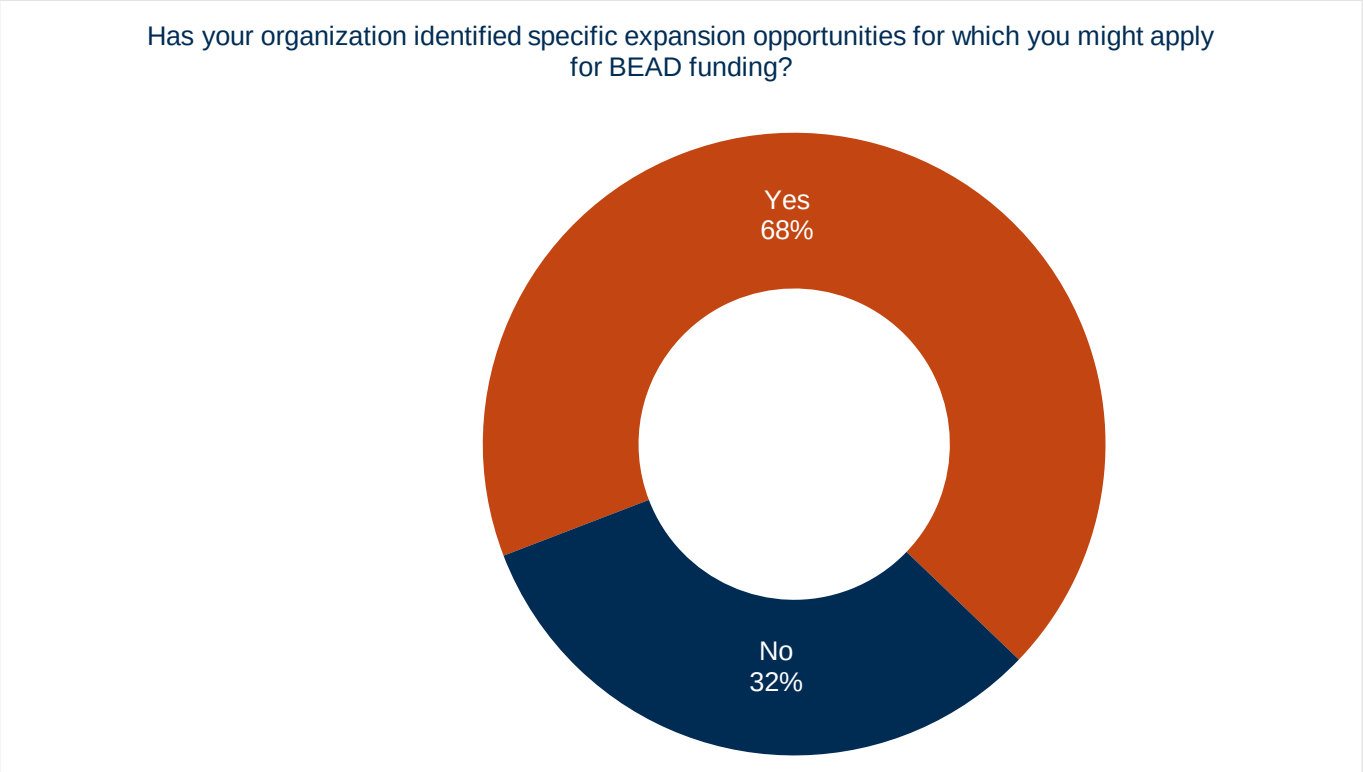


Figure 35: Serviceable Locations in Areas Identified for Expansion

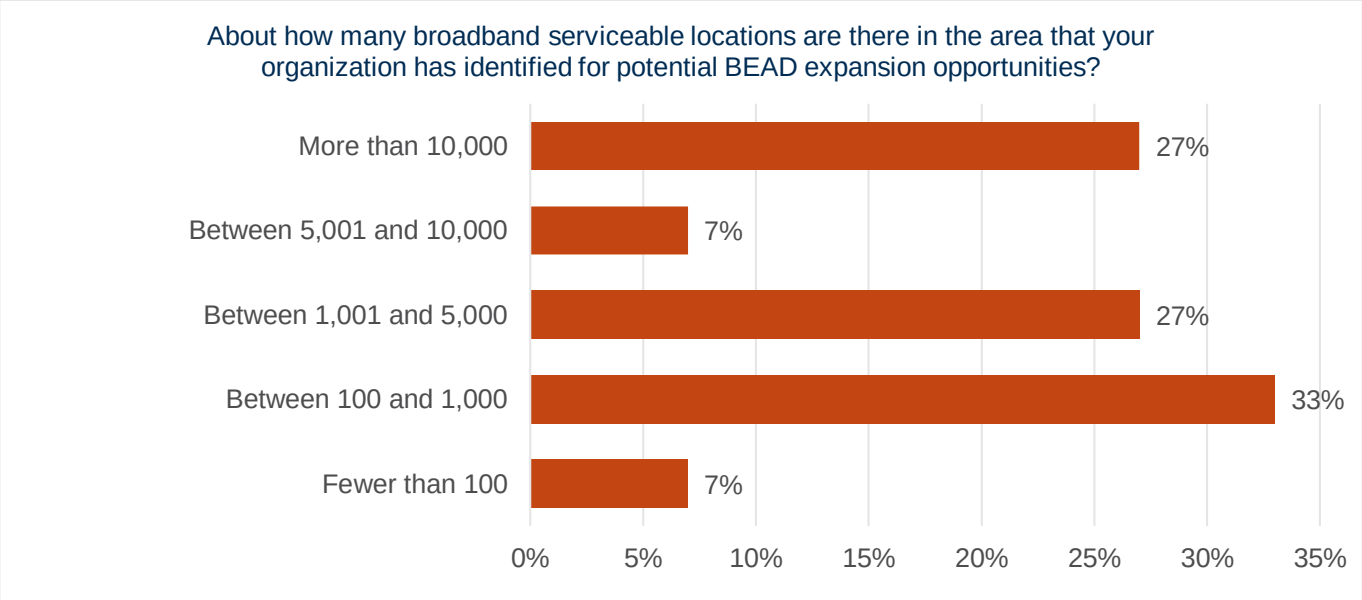


Figure 36: Willingness to Expand at Various Subsidy Amounts

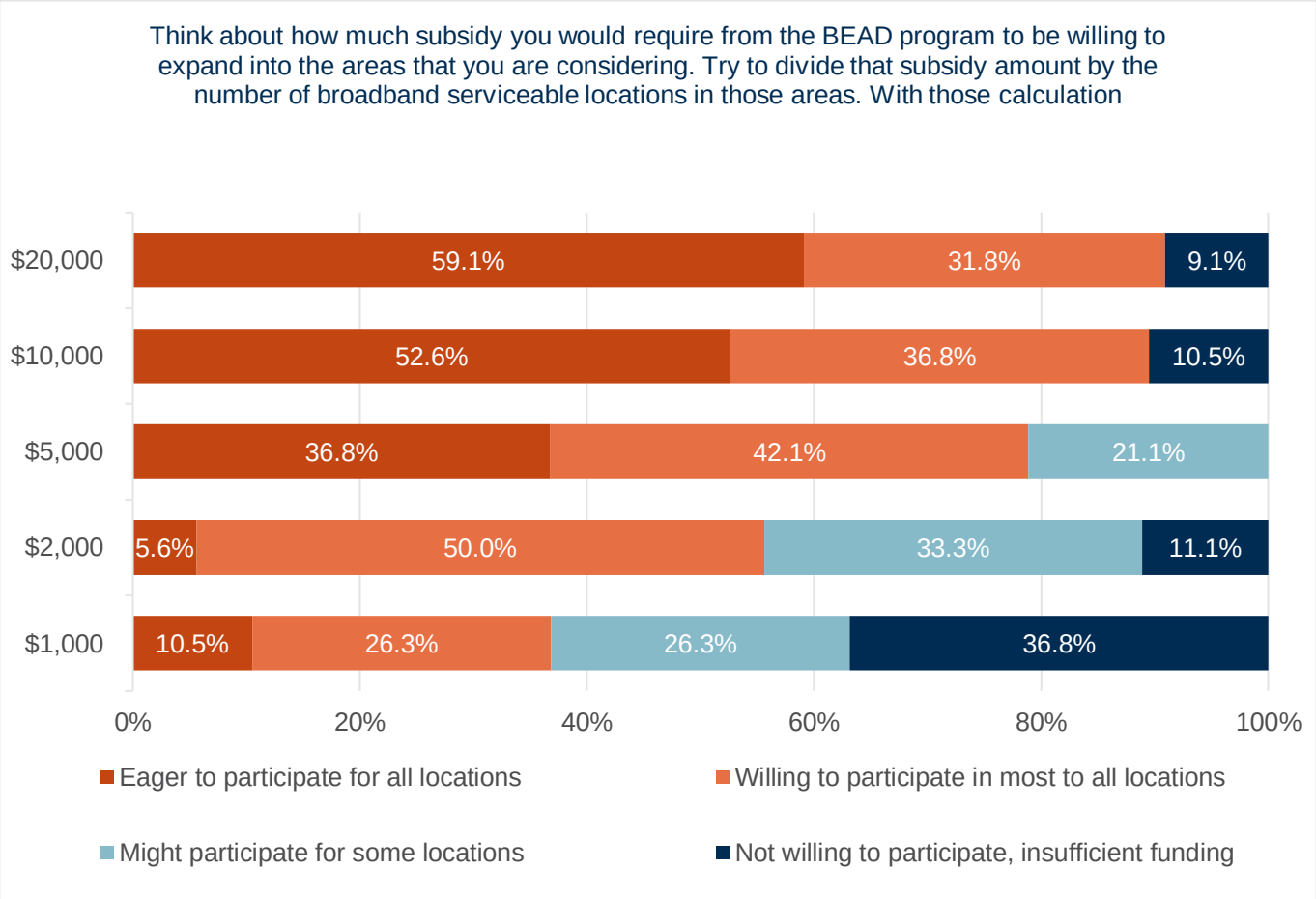


Figure 37: Planned Technologies for BEAD Deployment

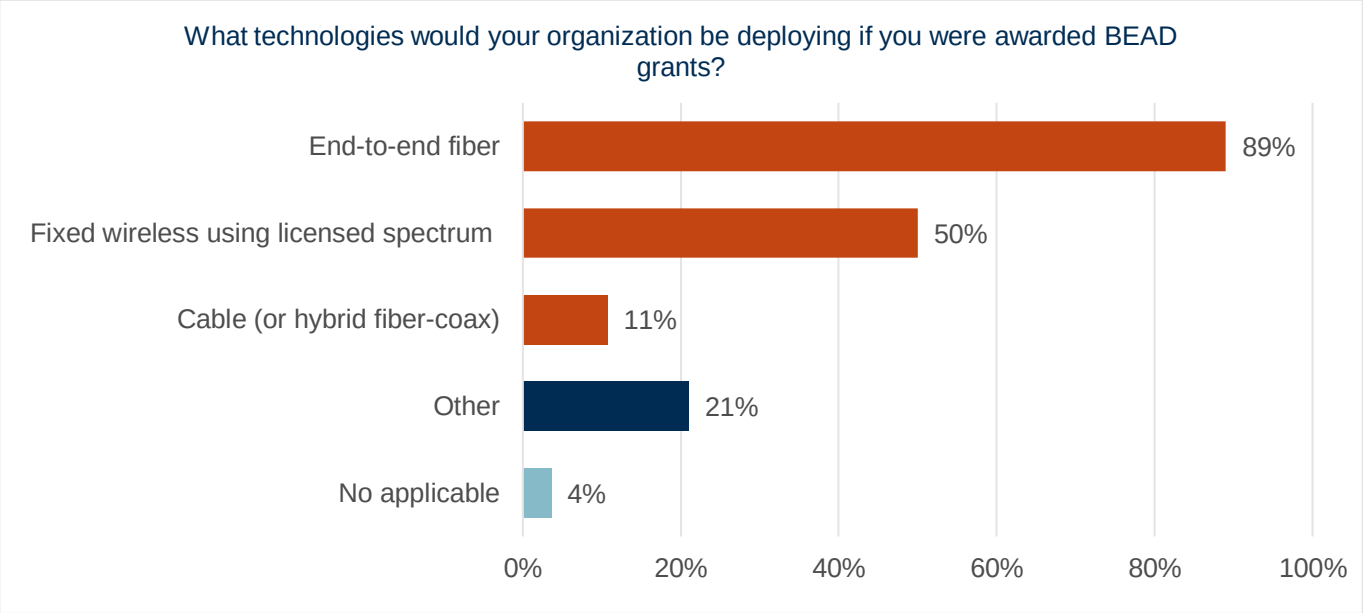


Figure 38: BEAD Grant Considerations

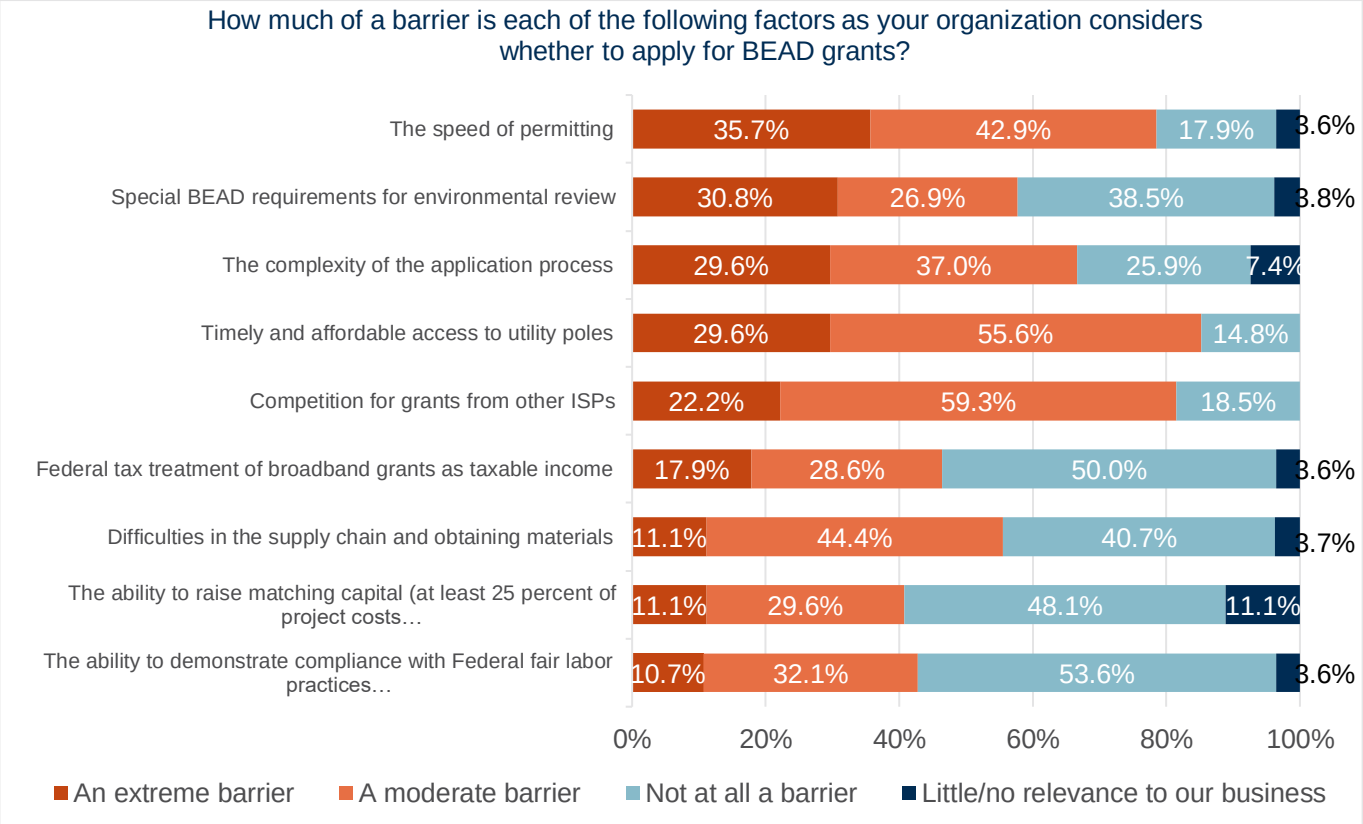


Figure 39: BEAD Grant Considerations (Continued)

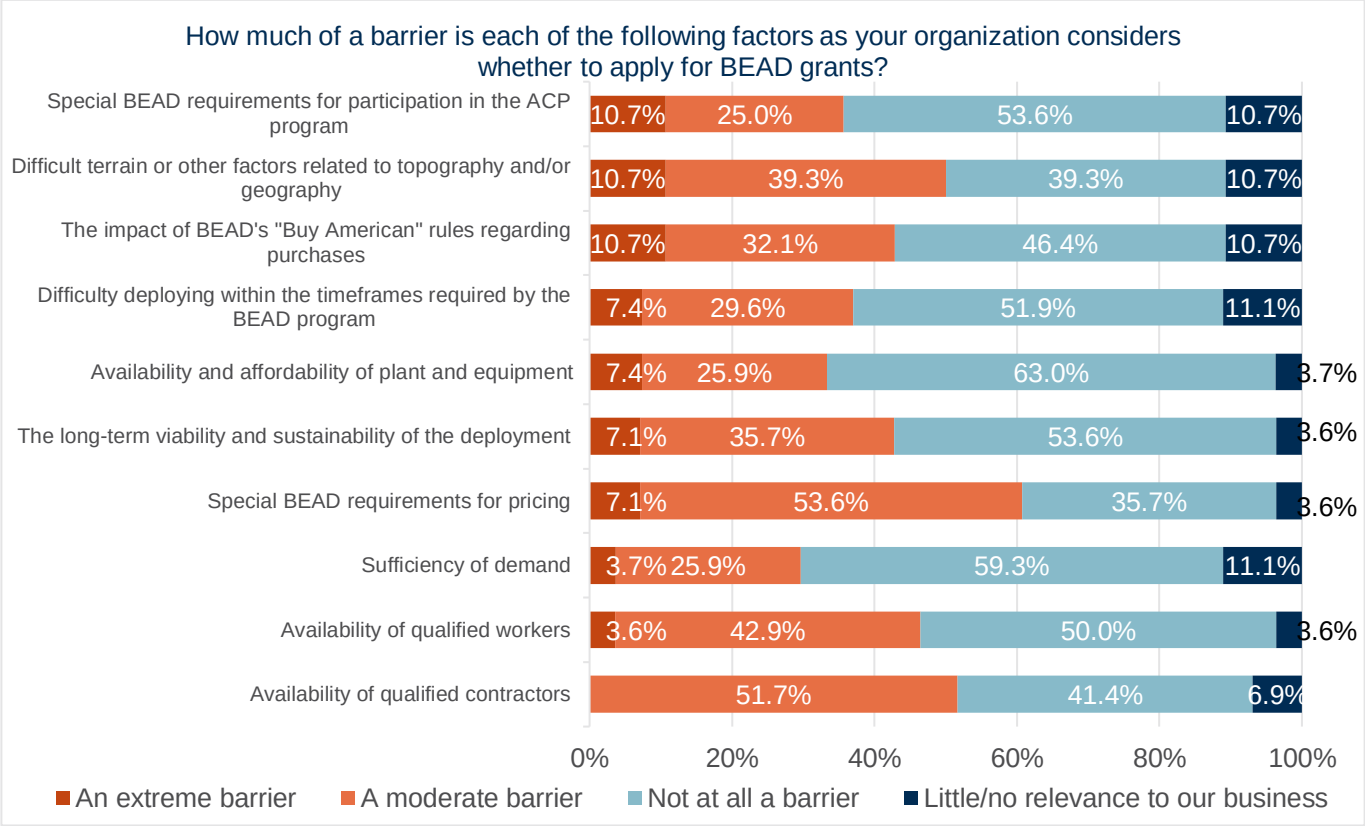


Figure 40: Permitting Concerns Related to BEAD

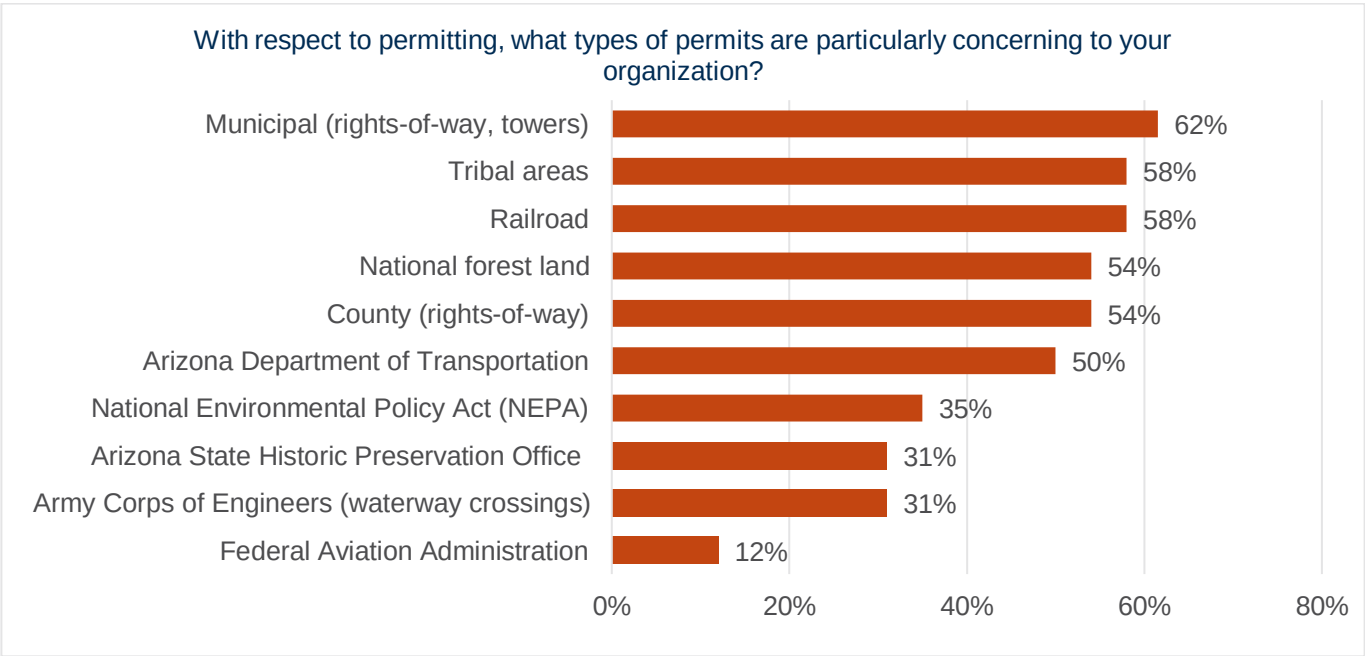


Figure 41: Broadband Deployment Staffing in Public Rights-of-Way

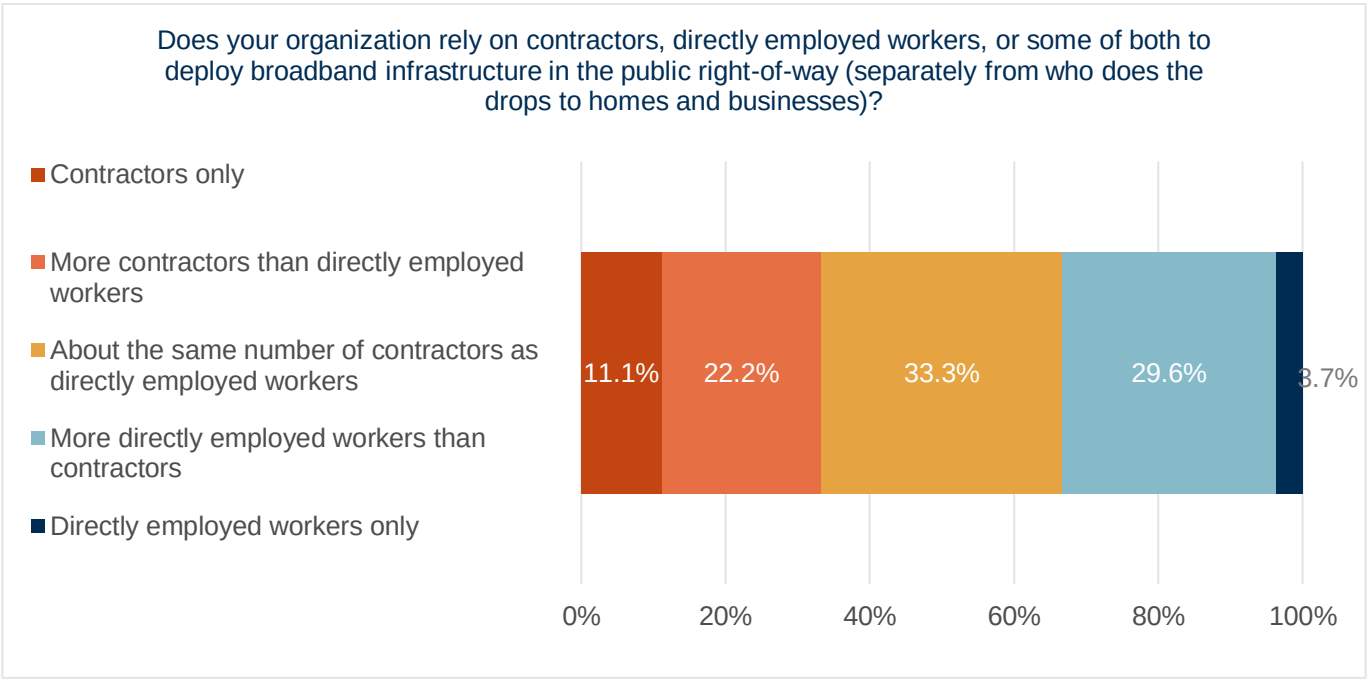


Figure 42: Discounted Broadband Subscription Plans

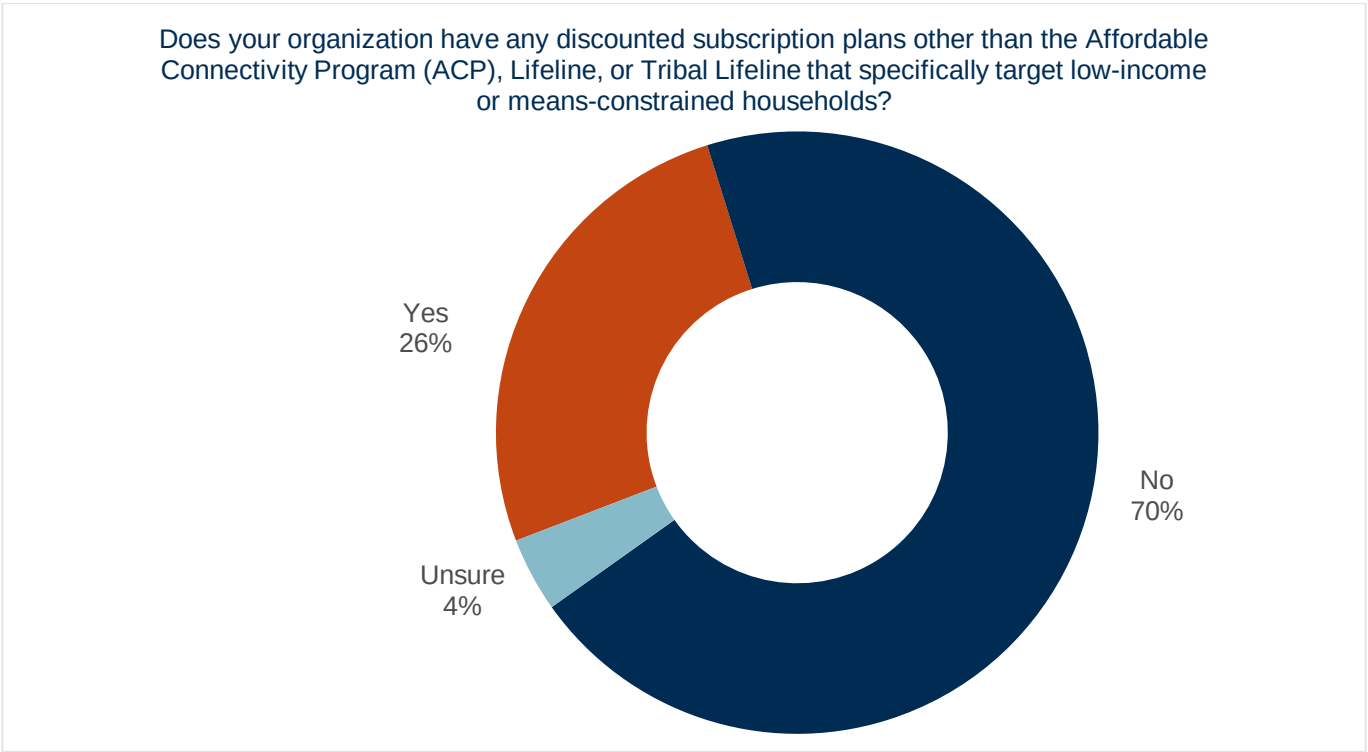


Figure 43: Eligibility for Multiple Discounted Broadband Subscription Plans

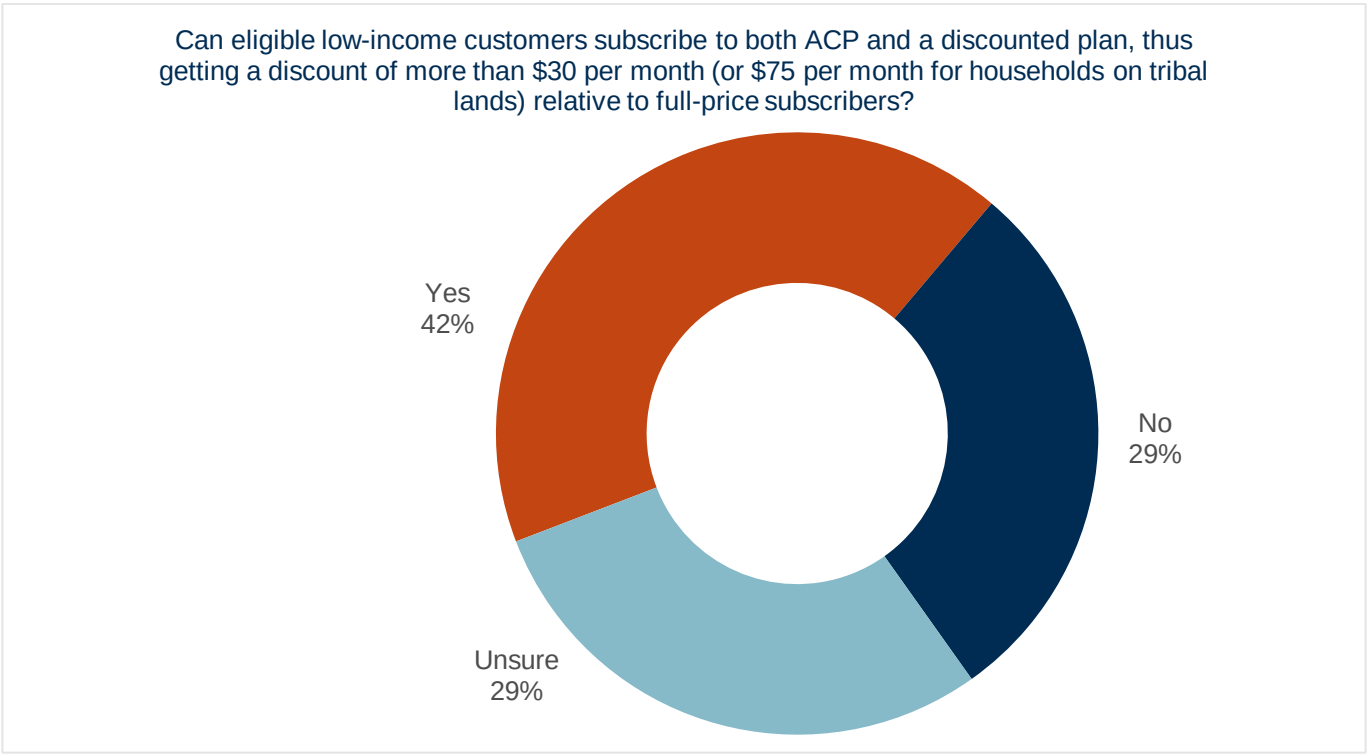


Figure 44: Participation in Broadband Plans for Low-Income Households

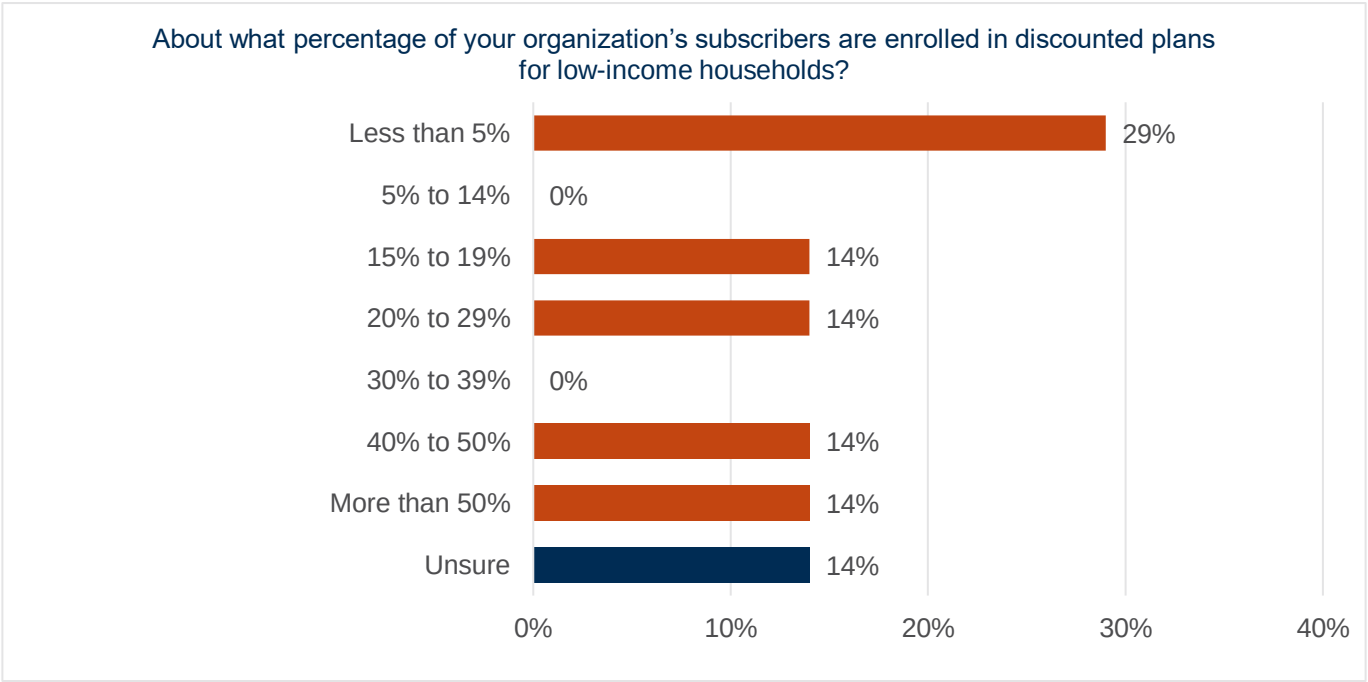


Figure 45: Participation in Federal Broadband Programs for Low-Income Households

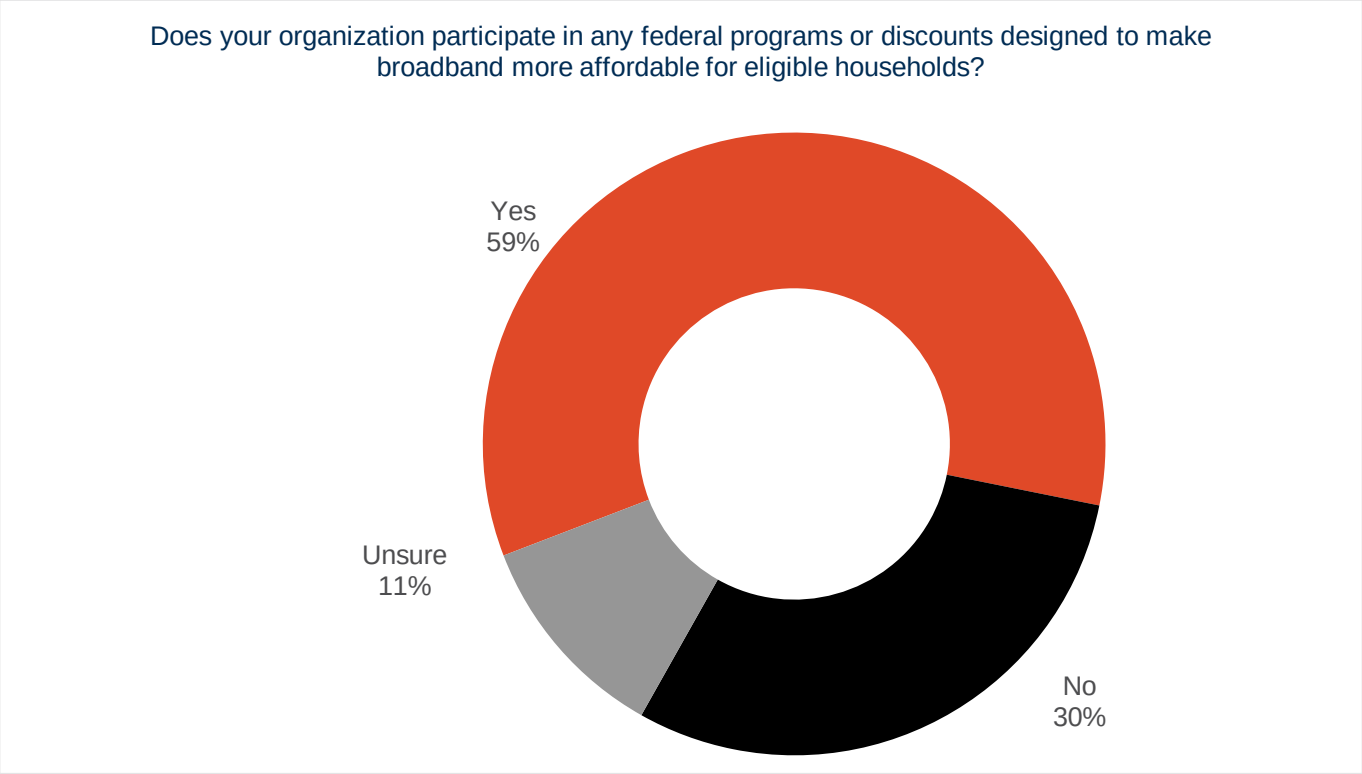


Figure 46: Federal Broadband Plans for Low-Income Households

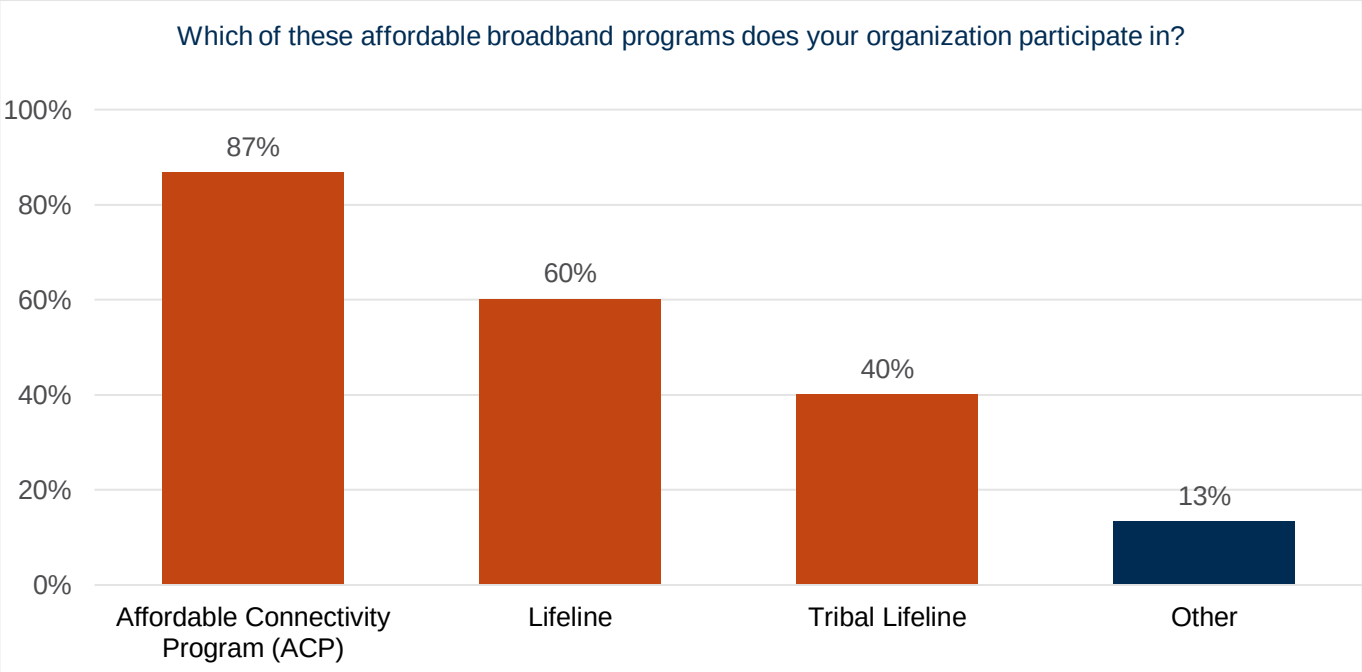


Figure 47: Promoting or Advertising the Affordable Connectivity Program

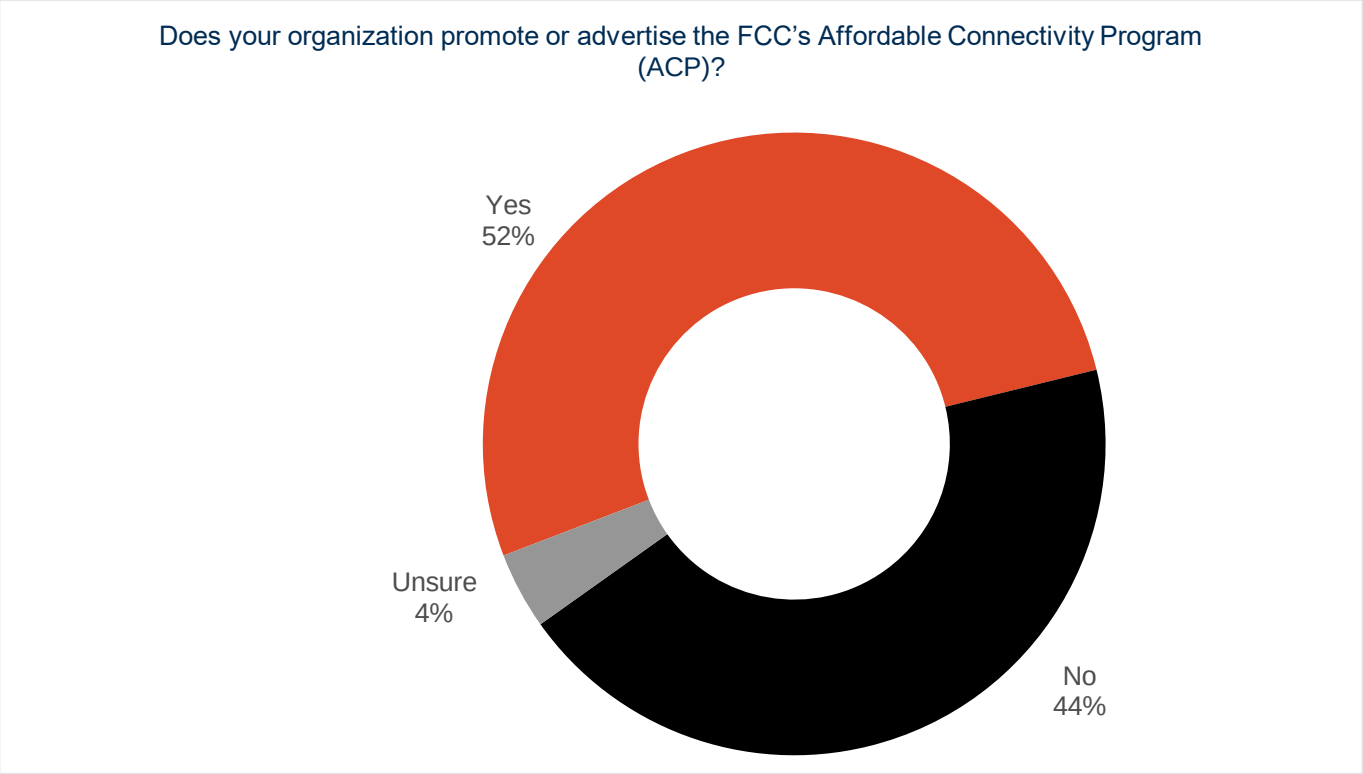


Figure 48: How ISPs Promote the Affordable Connectivity Program (ACP)

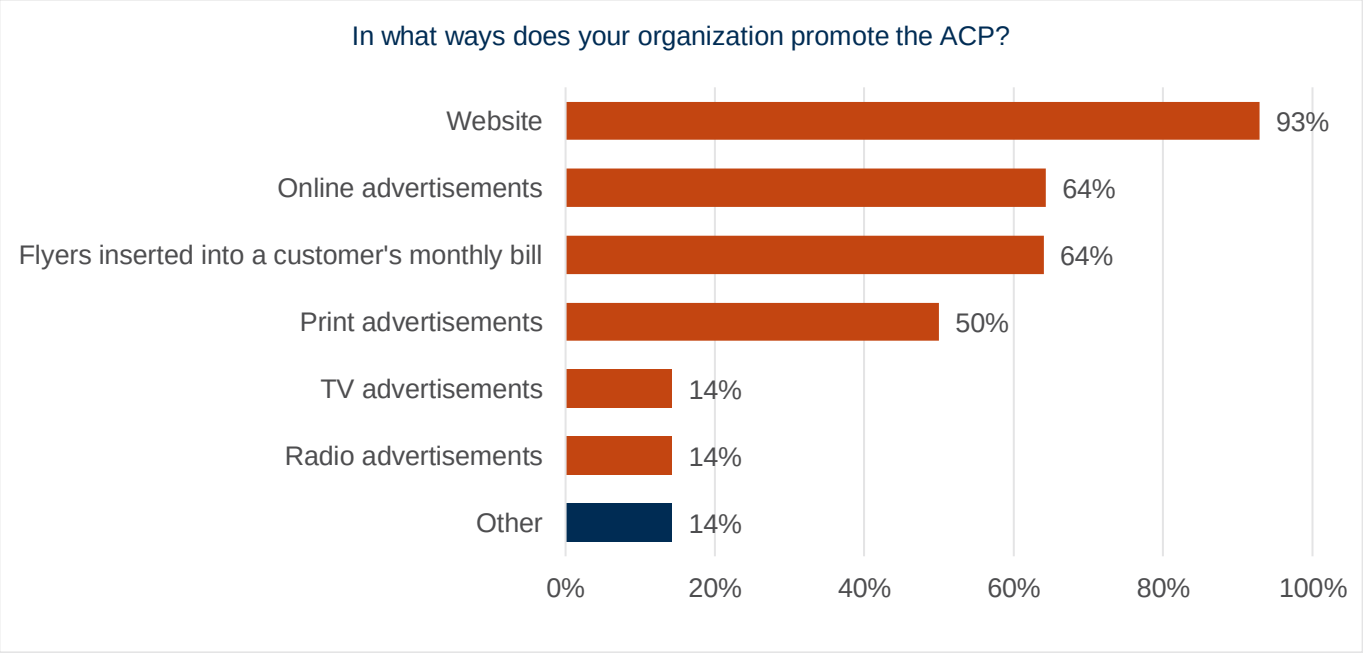


Figure 49: Enrollment Assistance for Subsidy Programs

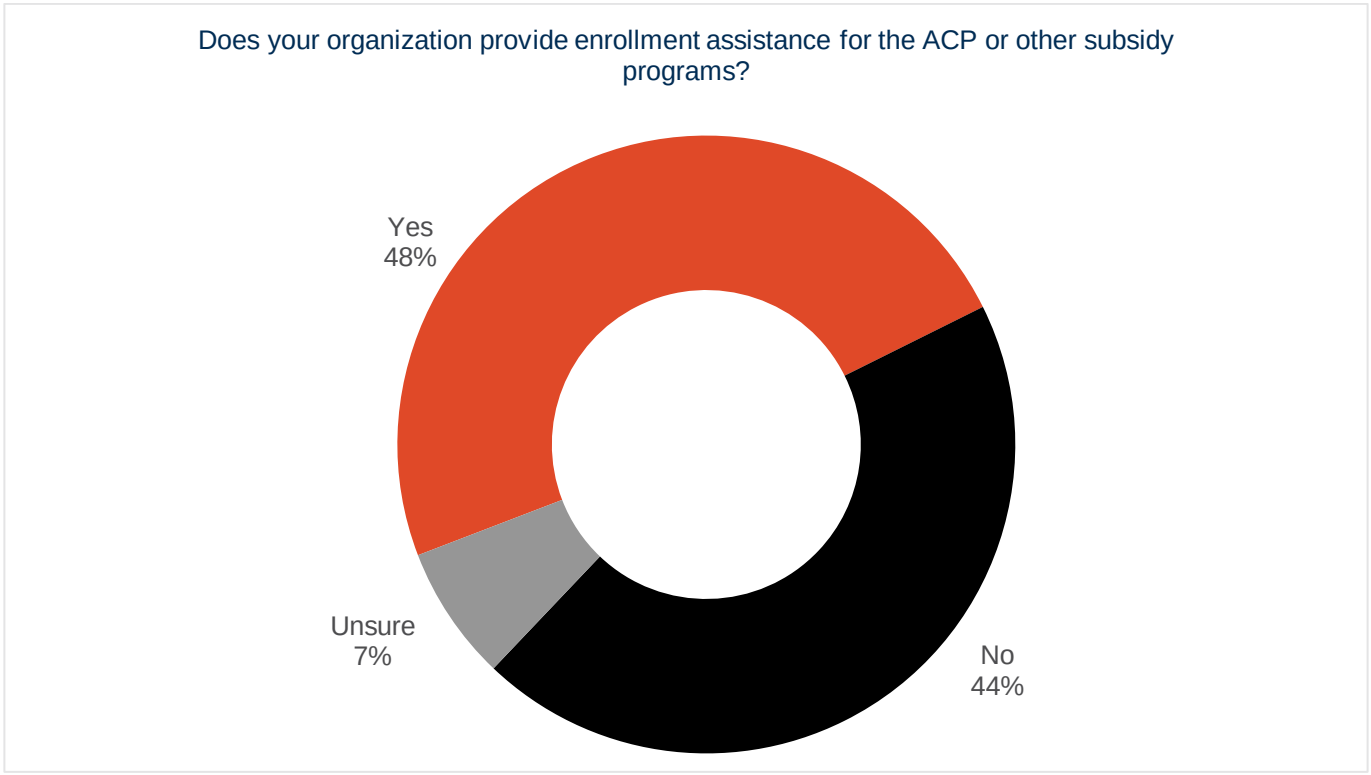


Figure 50: Challenges to Increasing Broadband Access and Affordability

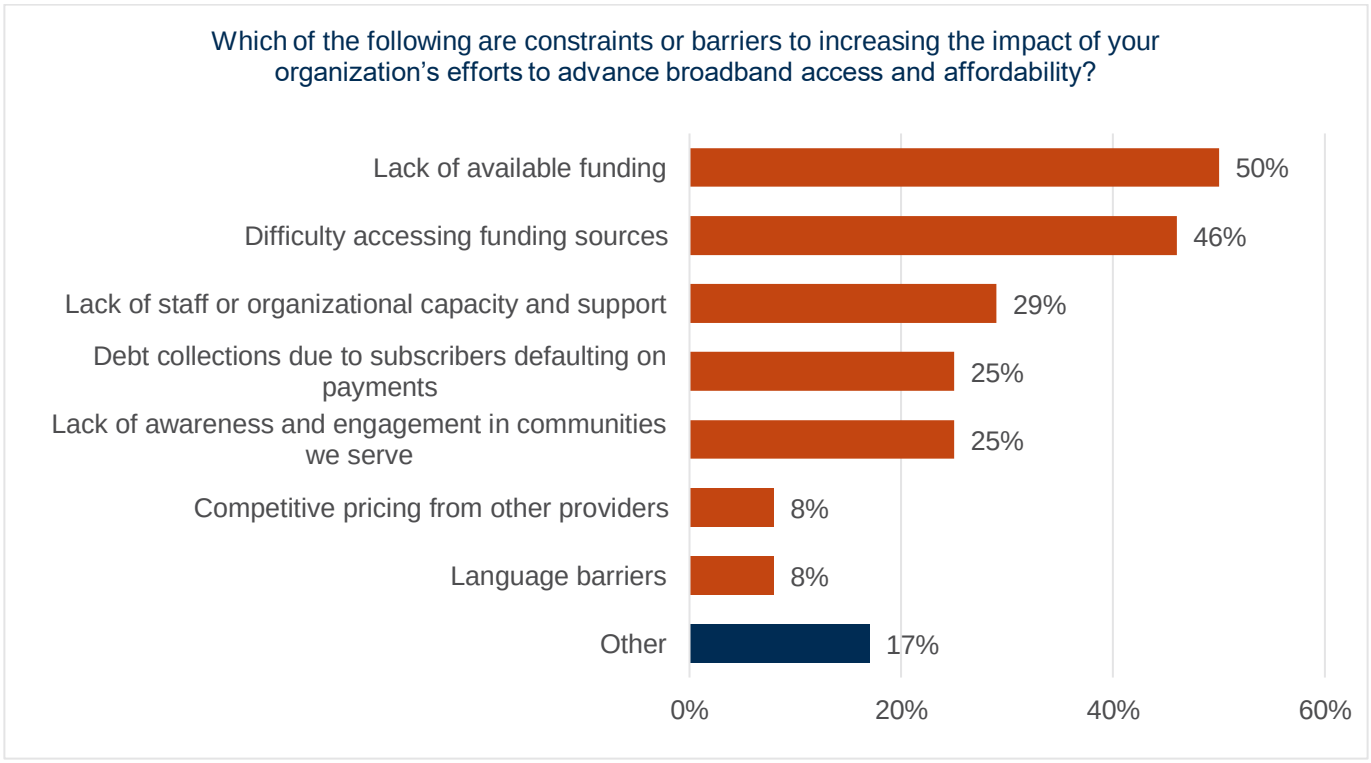


Figure 51: Funding Sources for Broadband Access and Affordability Programs

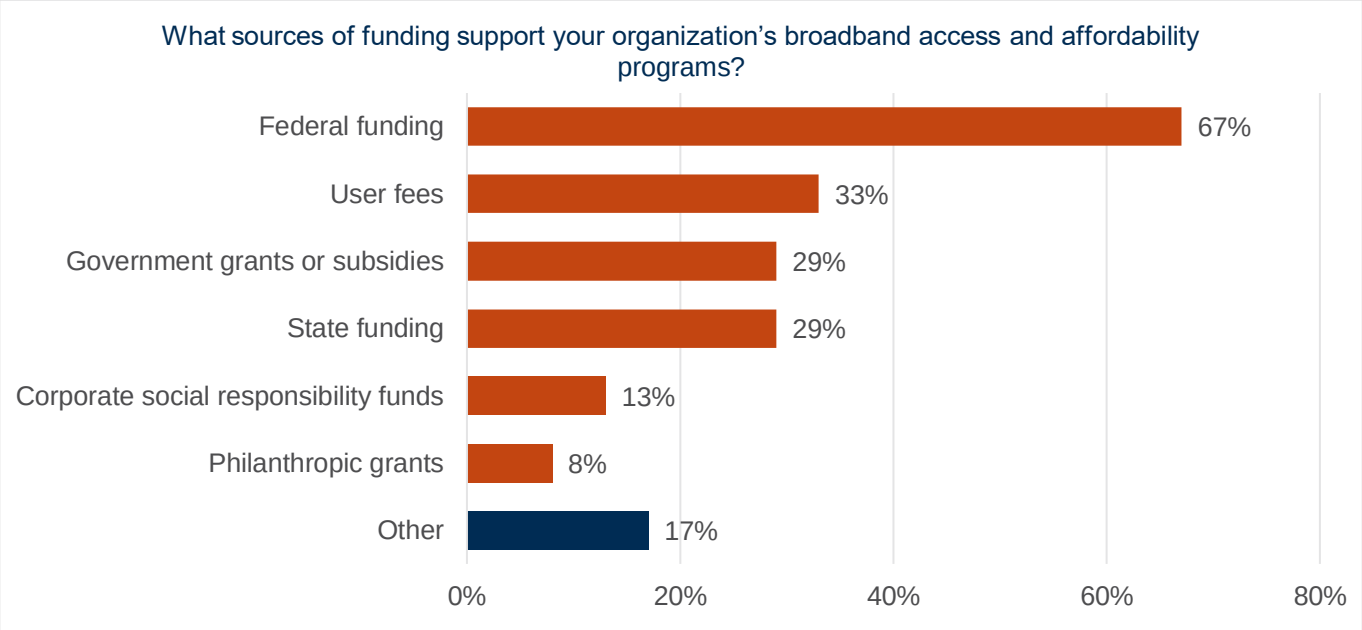
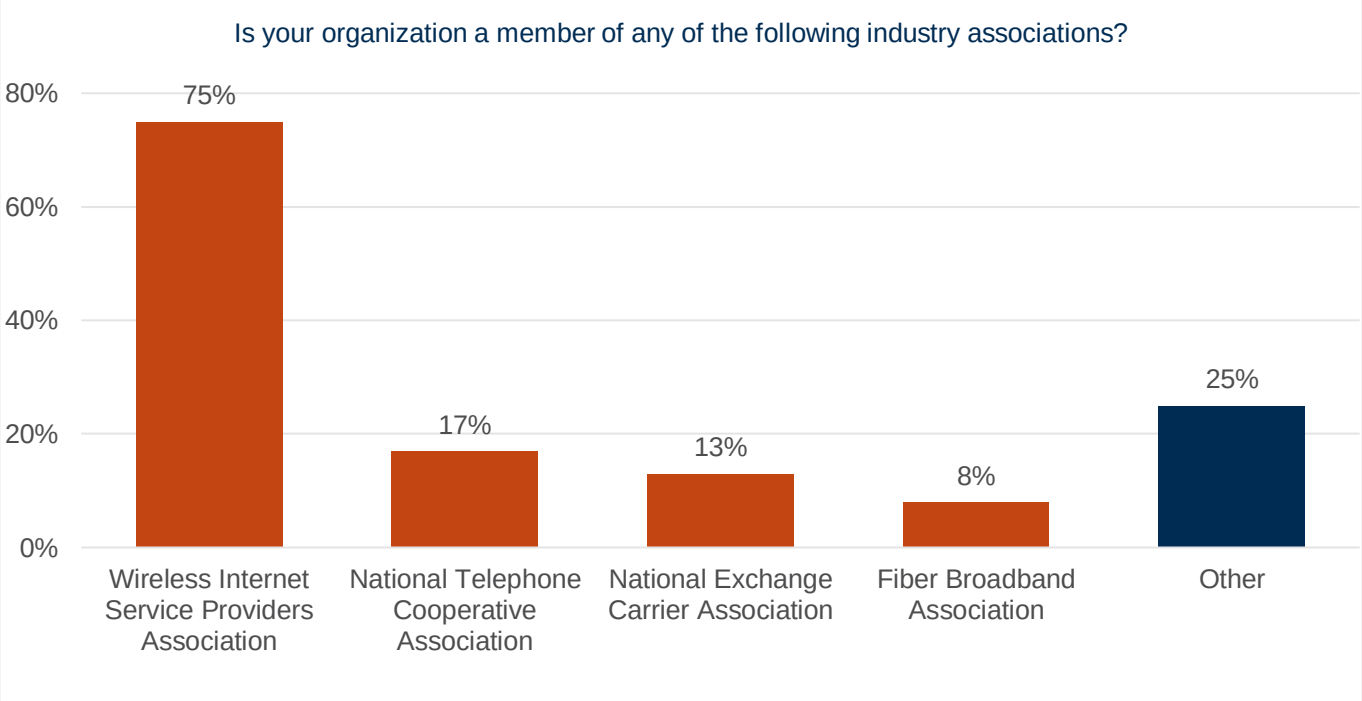


Figure 52: Industry Association Membership



7.2 Appendix B – Asset Inventory

Table 11: Preliminary Stakeholder Asset and Resource Inventory

Organization	Free Internet	Device Access	Digital Literacy Training	Tech / Navigator	Workforce Development	Addressing Affordability
AARP - Arizona		✓	✓	✓	✓	✓
Arizona @ Work					✓	
Arizona Broadband Stakeholders Network (AZBSN)		✓	✓	✓	✓	✓
AZ Chamber of Commerce and Industry					✓	
Arizona Commerce Authority					✓	
Arizona Community Foundation			✓			✓
Arizona Dept. of Economic Opportunity		✓	✓		✓	✓
Arizona Department of Economic Security					✓	
Arizona Department of Education	✓	✓	✓	✓	✓	
Arizona Department of Health Services	✓		✓			
Arizona Department of Housing		✓	✓		✓	✓
Arizona Digital Inclusion Network		✓	✓	✓	✓	✓
AZ Health Care Cost Containment System		✓				✓
Arizona Hispanic Chamber of Commerce		✓	✓	✓	✓	
Arizona Literacy & Learning Center		✓	✓	✓	✓	✓
Arizona Public Libraries	✓	✓	✓	✓	✓	✓
Arizona Rural Schools Association (ARSA)		✓	✓		✓	✓
Arizona State University	✓	✓	✓	✓	✓	✓

Organization	Free Internet	Device Access	Digital Literacy Training	Tech / Navigator	Workforce Development	Addressing Affordability
Arizona Technology Access Program	✓	✓	✓	✓	✓	✓
Arizona Technology Council		✓	✓	✓	✓	
Arizona Technology in Education Assoc.		✓	✓	✓	✓	
AT&T	✓	✓	✓			✓
Arizona Telecom & Information Council		✓			✓	✓
Arizona Telemedicine Program		✓	✓	✓	✓	
Arizona Western College			✓		✓	
ASU Local	✓		✓	✓	✓	
AZStRUT		✓				✓
Boys and Girls Club	✓	✓	✓	✓	✓	
Chicanos Por la Causa		✓	✓	✓	✓	
Connect Arizona				✓		
Common Sense Media		✓	✓			✓
Cox Communications	✓	✓	✓	✓	✓	✓
Digital Connect		✓	✓		✓	
Digital Equity Institute		✓	✓	✓	✓	✓
Education Superhighway						✓
EveryoneOn Arizona	✓	✓		✓		✓
Evolve | COPE Community Services					✓	

Organization	Free Internet	Device Access	Digital Literacy Training	Tech / Navigator	Workforce Development	Addressing Affordability
Financial Empowerment Foundation			✓		✓	
Geeks 2 You				✓		
GenTech Support				✓		
Girl Scouts of Arizona			✓	✓	✓	
Goodwill of Central and Northern Arizona			✓		✓	
Greater Phoenix Economic Council					✓	
Literacy Connects			✓			
Local First Arizona Rural Development					✓	
Maricopa Community Colleges	✓	✓	✓		✓	
Native American Connections			✓	✓	✓	
Northern Arizona University	✓	✓	✓	✓	✓	
Pascua Yaqui Networks			✓			
PCs for Refugees		✓				
Pima Community College			✓		✓	
Promise Arizona						✓
RefurbIT		✓				
Rural Arizona Development Council					✓	
Sahuarita Food Bank & Community Resource Center					✓	

Organization	Free Internet	Device Access	Digital Literacy Training	Tech / Navigator	Workforce Development	Addressing Affordability
SER - Jobs for Progress of Southern Arizona, Inc.					✓	
SciTech Institute			✓		✓	
Southwest Human Development			✓			
Sun Corridor Network				✓		✓
T-Mobile	✓	✓	✓		✓	✓
Take Charge America			✓			
TechBridge Arizona			✓	✓	✓	
TechSupport Arizona				✓		
University of Arizona	✓	✓	✓	✓	✓	
Verizon		✓	✓	✓	✓	✓
We Care Tucson		✓				
Wildfire						✓
Workforce Development Association			✓		✓	
YMCA	✓	✓	✓		✓	

7.3 Appendix C – List of Tables

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7.4 Appendix D – List of Figures

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ARIZONA
COMMERCE AUTHORITY