

# STATE OF MISSISSIPPI: FIVE YEAR ACTION PLAN

Broadband Expansion and Accessibility of  
Mississippi (BEAM) Program





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# 1. Executive Summary

## **THE STATE OF MISSISSIPPI'S OFFICE OF BROADBAND EXPANSION AND ACCESSIBILITY ("BEAM")**

The Mississippi Legislature acknowledged the need for, and barriers to, high-speed internet for all Mississippians during the 2022 legislative session with the creation of the BEAM office. BEAM, or Broadband Expansion and Accessibility of Mississippi, was established to coordinate all broadband expansion and accessibility efforts on behalf of the state.

In July 2022, BEAM began this work by focusing on identifying barriers to affordable, reliable high speed internet access and identifying effective and efficient mechanisms for bridging the gaps to accessibility across the state of Mississippi. BEAM's mission of bringing high-speed, affordable broadband internet to Mississippi's unserved and underserved communities will ultimately bridge the "digital divide" and effectively transition Mississippi into the 21st century. This transition will open doors for economic development and growth across the State and residents will reap the benefits for generations to come.

BEAM first focused on determining unserved and underserved broadband serviceable locations within Mississippi and determining which of these locations had dedicated federal funding attached. BEAM then began outreach to stakeholders through a series of community engagement events, meetings with governmental officials, non-profit organizations, individuals, and state agencies.

BEAM used the BEAD planning grant funding for salary and travel support for its own office, and to fund data collection on barriers to accessibility through partnerships with all eight public four year universities, including three historically black universities, and partnerships with the fifteen regional community colleges throughout the state. In addition, BEAM contracted with Mississippi State Extension to perform an asset inventory in all 82 Mississippi Counties. BEAM engaged outside contractors to assist with mapping, the development of a speed test tool and online grant platform, data modeling, accounting, auditing, project management, and legal.

BEAM anticipates that all unserved locations in Mississippi will be reached with BEAD funding. Underserved locations may require additional funding support. Current buildout with private funding, federal broadband programs administered by entities other than BEAM, and awards under the Capital Projects Fund grant program will reduce the number of unserved locations. Those funds along with careful use of the extremely high cost per location threshold will determine the gap between available funds provided by BEAD and its match requirements, and the total cost of buildout to unserved and underserved locations.

# ACRONYMS

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<b>ACP</b>	Affordable Connectivity Program
<b>ARPA</b>	American Rescue Plan Act
<b>AT</b>	Assistive Technology
<b>ACS</b>	American Community Survey
<b>BEAD</b>	Broadband Equity, Access, and Deployment
<b>BSL</b>	Broadband Servicable Location
<b>CAI</b>	Community Anchor Institution
<b>DSA</b>	Digital Skills and Accessibility Plan
<b>FCC</b>	Federal Communications Commission
<b>HUD</b>	United States Department of Housing and Urban Development
<b>ISP</b>	Internet Service Provider
<b>IIJA</b>	The Infrastructure Investment and Jobs Act
<b>Mbps</b>	Megabits per second
<b>NOFO</b>	Notice of Funding Opportunity
<b>NTIA</b>	National Telecommunications and Information Administration
<b>RDOF</b>	Rural Digital Opportunity Fund
<b>RFI</b>	Request for Input
<b>USF</b>	Universal Service Fund

#	BEAD NOFO REQUIREMENT	REFERENCE LOCATION
1	Provide details of the existing broadband program or office within the Eligible Entity, including any activities that the program or office currently conducts, any previous entity-wide plans or goals for availability of broadband, and any prior experience awarding broadband deployment grants.	2. Overview of the Five-year Action Plan 3.1 Existing Programs
2	Identify the funding that the Eligible Entity currently has available for broadband deployment and other broadband-related activities, including data collection and local planning, and the sources of that funding, including whether the funds are from the Eligible Entity or from the federal government.	3.1 Existing Programs
3	Identify existing efforts funded by the federal government, including the Universal Service Fund, or an Eligible Entity to deploy broadband and close the digital divide.	3.1 Existing Programs 3.2 Asset Inventory
4	Identify the current full-time and part-time employees of the Eligible Entity who will assist in implementing and administering the BEAD Program and the duties assigned to those employees, as well as any existing contracted support, and any planned expansion of employees or contractors.	3.1 Existing Programs
5	Identify known or potential obstacles or barriers to the successful implementation of the BEAD Program and the Eligible Entity's corresponding plans to address them.	4.0 Obstacles and Barriers
6	Include an asset inventory that catalogues broadband adoption, affordability, equity, access, and deployment activities occurring within the Eligible Entity and identifies and provides details regarding any relevant partners, such as community-based organizations and CAls that may inform broadband deployment and adoption planning.	3.1 Existing Programs 3.2 Asset Inventory
7	Include a description of the Eligible Entity's external engagement process, demonstrating collaboration with local, regional, and Tribal (as applicable) entities (governmental and non-governmental) and reflective of the local coordination requirements outlined herein, including outreach to underrepresented communities and unions and worker organizations. The engagement required must be undertaken both during the development of the Five-Year Action Plan itself and following submission of the plan, reflecting ongoing collaboration throughout the BEAD Program.	5.1 Stakeholders
8	Incorporate available federal, Eligible Entity, or local broadband availability and adoption data, including but not limited to Affordable Connectivity Program enrollment data. Other federal broadband federal data sources include the NTIA Internet Use Survey, <sup>29</sup> the NTIA Indicators of Broadband Need Map, <sup>30</sup> and the American Community Survey. <sup>31</sup>	3.3 Needs and Gaps Assessment
9	Identify local and regional broadband service needs and gaps within the Eligible Entity's boundaries, including unserved or underserved locations and CAls without gigabit service, and/or any plans to make these determinations where service availability is unclear.	3.3 Needs and Gaps Assessment

10	<p>Provide a comprehensive, high-level plan for providing reliable, affordable, high-speed internet service throughout the Eligible Entity, including:</p> <ul style="list-style-type: none"> <li>a. The estimated timeline and cost for universal service,</li> <li>b. The planned utilization of federal, Eligible Entity, and local funding sources,</li> <li>c. Prioritization of areas for federal support,</li> <li>d. Any consideration afforded to the use of public-private partnerships or cooperatives in addressing the needs of the Eligible Entity's residents,</li> <li>e. Strategies to address affordability issues, including but not limited to strategies to increase enrollment in the Affordable Connectivity Program by eligible households; and</li> <li>f. Strategies to ensure an available and highly skilled workforce (including by subgrantees, contractors, and subcontractors) to minimize project disruptions, including any plans to ensure strong labor standards and protections, such as those listed in Section IV.C.1.e; and plans to attract, retain, or transition the skilled workforce needed to achieve the plan's goals, including describing the involvement and partnerships of sub-grantees, contractors, and sub-contractors with existing in-house skills training programs, unions and worker organizations; community colleges and public school districts; supportive services providers; Registered Apprenticeship programs and other labor-management training programs, or other quality workforce training providers.</li> </ul>	5 Implementation Plan
11	<p>Identify digital equity and inclusion needs, goals, and implementation strategies, including ways in which the Eligible Entity plans to utilize BEAD funding, Digital Equity Act funding and/or other funding streams in concert to remedy inequities and barriers to inclusion. Accordingly, the Five-Year Action Plan should set forth a vision for digital equity, include the results of a needs assessment for underrepresented communities and an asset inventory of ongoing digital equity activities, and detail holistic strategies around affordability, devices, digital skills, technical support, and digital navigation. This requirement may be satisfied by the completion of a State Digital Equity Plan under the Digital Equity Act.<sup>32</sup> Please refer to the Digital Equity Act State Planning Grant Program NOFO for the requirements and deadlines applicable to that program.</p>	5 Implementation Plan
12	<p>Detail alignment of the Five-Year Action Plan with other existing and planned economic development, telehealth, workforce development, related connectivity efforts, and other Eligible Entity priorities.</p>	5.7 Alignment
13	<p>Describe technical assistance and additional capacity needed for successful implementation of the BEAD Program.</p>	5.8 Technical Assistance

# 2. Overview of the Five-Year Action Plan

## 2.1 VISION

“I’m committed to overcoming geographical barriers and leveling the playing field by providing technological opportunity for Mississippians across all corners of our state.”

- Governor Tate Reeves

Mississippi is a state of natural beauty and diversity. We produce people of talent and determination. A culture and land so deep and wide as to include the Delta of Robert Johnson and B.B. King, the Hills of William Faulkner and Jimmie Rogers, and the Gulf Coast of Walter Anderson and Jimmie Buffet. We best celebrate our past accomplishments and empower our future hopes by investing in infrastructure that propels our communities forward. Not just to survive, but to prosper.

The rural nature of Mississippi has prohibited private investment in broadband infrastructure across much of the State. Building out and maintaining service in low density areas with fewer than ten or even five servicable locations per mile is a tremendous financial risk for any internet service provider. The funding provided by the Broadband Equity and Accessibility Deployment (BEAD) grant will provide capital funds to reach unserved and underserved areas across Mississippi. Thoughtful strategies to provide universal service and increase digital literacy will allow access and skills needed for every Mississippian to participate and thrive in the digital world.

## 2.2 BACKGROUND

In 2021, the Federal Infrastructure Investment and Jobs Act (IIJA), passed into law the Bipartisan Infrastructure Deal allocating \$65 billion to expand broadband in historically unserved and underserved communities. This once in a generation investment will ensure all citizens have access to reliable highspeed internet. In turn, citizens will have new opportunities for employment, education, healthcare, and will improve the overall health of society.

The National Telecommunications and Information Administration (NTIA) is administrating the funding through six broadband programs. BEAM will distribute allocations from Broadband Equity, Access, and Deployment (BEAD) and the Digital Equity Act. The BEAD program’s allocation is \$42.45 billion and will be distributed among states, territories, Washington D.C., and Puerto Rico, to fund projects deploying broadband and broadband adoption. \$2.75 billion is allocated through the Digital Equity Act and will fund digital inclusion and equity, helping to ensure all citizens have access to the skills and technology needed to thrive in the digital world.

1. BEAD Five-Year Action Plan: Describes Mississippi's broadband goals, priorities and objectives to serve as a comprehensive needs assessment to inform the State's Initial Proposal.



2. Initial Proposal: Explains Mississippi's intentions in administering BEAD subgrants (i.e. challenge process, eligibility requirements, scoring criteria, for subgrantee selection) and ensure that every resident has access to a reliable, affordable, high-speed broadband connection.



3. Challenge Process: a transparent, data driven, fair, and expeditious challenge process under which a unit of local government, nonprofit organization or broadband service provider can challenge a determination in the Initial Proposal as to whether a location or community anchor institution within the jurisdiction of Mississippi is eligible for grant funds.



4. Subgrantee Selection Process: A fair, open and competitive process for selecting subgrantees.



5. Final Proposal: The outcome of Mississippi's subgrantee selection process and its detailed plan for administering the BEAD grant program.

Figure 1: BEAD Components and Process



### 2.3 GOALS AND OBJECTIVES

The following goals and objectives are necessary to close the digital divide in Mississippi

BROADBAND GOALS	OBJECTIVES
Create a fully comprehensive Mississippi broadband map.	<ul style="list-style-type: none"> <li>To determine grant awards and monitor expansion efforts.</li> <li>To prevent duplication of funds.</li> <li>To reflect digital skills and literacy training programs and device loan or assistance programs.</li> </ul>
Provide universal high-speed internet service.	<ul style="list-style-type: none"> <li>Provide service of 100Mbps / 20 Mbps to all Mississippians.</li> <li>Determine appropriate technology for high-cost locations and extremely high-cost locations.</li> </ul>
Increase statewide broadband adoption rates.	<ul style="list-style-type: none"> <li>Ensure all grant awardees comply with affordability requirements.</li> <li>Promote the FCC Affordable Connectivity Program.</li> </ul>
Increase digital skills and accessibility.	<ul style="list-style-type: none"> <li>Support and leverage existing efforts by state agencies.</li> <li>Identify barriers and develop strategies to address each obstacle.</li> </ul>
Comply with all BEAD Requirements.	<ul style="list-style-type: none"> <li>Accurately assess financial and technical capabilities of applicants.</li> <li>Monitor all aspects of subgrantee buildout for compliance.</li> <li>Meet all reporting and compliance requirements.</li> </ul>

# 3. Current State of Broadband and Digital Inclusion

## 3.1 EXISTING PROGRAMS

On April 13, 2022, Governor Tate Reeves signed the BEAM Act into law, establishing the Office of Broadband Expansion and Accessibility of Mississippi within the Department of Finance and Administration. BEAM assumes the primary responsibility for overseeing all broadband funding initiatives in the state of Mississippi, including responsibility for administering all federal and state grant programs, mapping, and broadband policy decisions.

BEAM has engaged in the following activities:

ACTIVITY	DESCRIPTION
Statewide Broadband Mapping	Collected data from federal sources, internet service providers, utility providers, and other various sources to determine the number of unserved and underserved locations in Mississippi. Filed challenges to include missing or incorrect locations on the FCC Broadband Map with 78,546 location challenges accepted. Provided a speed-test tool to collect observational data and a broadband audit with maps and data for each Mississippi County and town. A searchable map will be released in conjunction with the BEAD 5-year plan and required challenge process.
Administration of the Broadband Infrastructure Program	Applied for and received 32.6 million in funding for broadband expansion projects. Ongoing administration of grant funding including risk analysis, oversight of progress on right of way, permitting, and SHIPO approvals, approval of reimbursement of requests, and overall management of program. BEAM anticipates approximately 12,000 locations to be served through the BIP program.
Administration of the Capital Projects Fund	Secured approval and developed a competitive grant program for Mississippi's 162 million allocation of ARPA funding designated for broadband infrastructure projects under the Capital Projects Fund. Determined eligible locations and conducted a challenge process among potential applicants to further define Mississippi's unserved locations. Stood up application portal to be used with BEAD and other grant programs. Over 530 million in CPF applications are currently under review with awards to be made in the fall of 2023. BEAM anticipates over 35,000 locations to be served through CPF awards.
Administration of the BEAD Planning Grant	Completed application requirements on behalf of Mississippi, gathered data for the development of 5-year plan and initial proposal through outside contracts for data collection, mapping, data modeling, compliance and monitoring
Administration of the Digital Equity Planning Grant	Completed application requirements on behalf of Mississippi, developed deliverables gathered data for the development of the Digital Skills and Accessibility Plan. Partnered with Mississippi Universities for data collection. Will submit the Mississippi Skills and Accessibility Plan in the fall of 2023.
Administration of the Affordable Connectivity Grant	Applied for and received funding to reduce barriers and increase adoption of broadband service through increased awareness of the Affordable Connectivity Grant.

Coordinate community broadband efforts	Convene and coordinate meetings with stakeholders engaged in broadband efforts through community engagement meetings, coordination with the Delta Regional Commission, Appalachian Regional Commission, local governmental entities, and non-profit groups.
Increase the awareness of Internet Service Providers	Engage private sector in broadband infrastructure plans and opportunities through round table discussions, periodic calls, and meetings with providers.
Convene Digital Skills and Accessibility Core Planning Team	Convened a diverse set of stakeholders who lead underrepresented populations across the state to inform, coordinate, collaborate, and promote digital skills resources and initiatives.
Workforce Development	Collaboration with Accelerate Mississippi; met with all public community colleges to survey and local providers to determine workforce development needs.

Broadband efforts prior to the establishment of BEAM were administered by the Mississippi Public Utilities Staff as follows:

- 2020 - The State of Mississippi allocated \$75 million in CARES Act funding for broadband expansion. Fourteen broadband subsidiaries of rural electric cooperatives, one water association, and two ISP's participated in this effort that provided over 1,000 miles of new fiber across many of the most rural locations in Mississippi. All projects were completed by December 31, 2021.
- 2021 - The State of Mississippi applied for and was awarded \$32.6 million in grant funding under the federal Broadband Infrastructure Program (mentioned in the above table of current activities) in the spring of 2022. This program required a governmental partner for the application, and Governor Reeves encouraged the Public Utilities Staff to pursue this grant opportunity for Mississippi ISPs. With passage of the BEAM act, the BIP grant program was transferred to BEAM for administration. The BIP program includes twelve project areas across Mississippi with funding awarded to ten providers. The project has required at least two revisions to prevent duplication of federal funding and overbuilding.

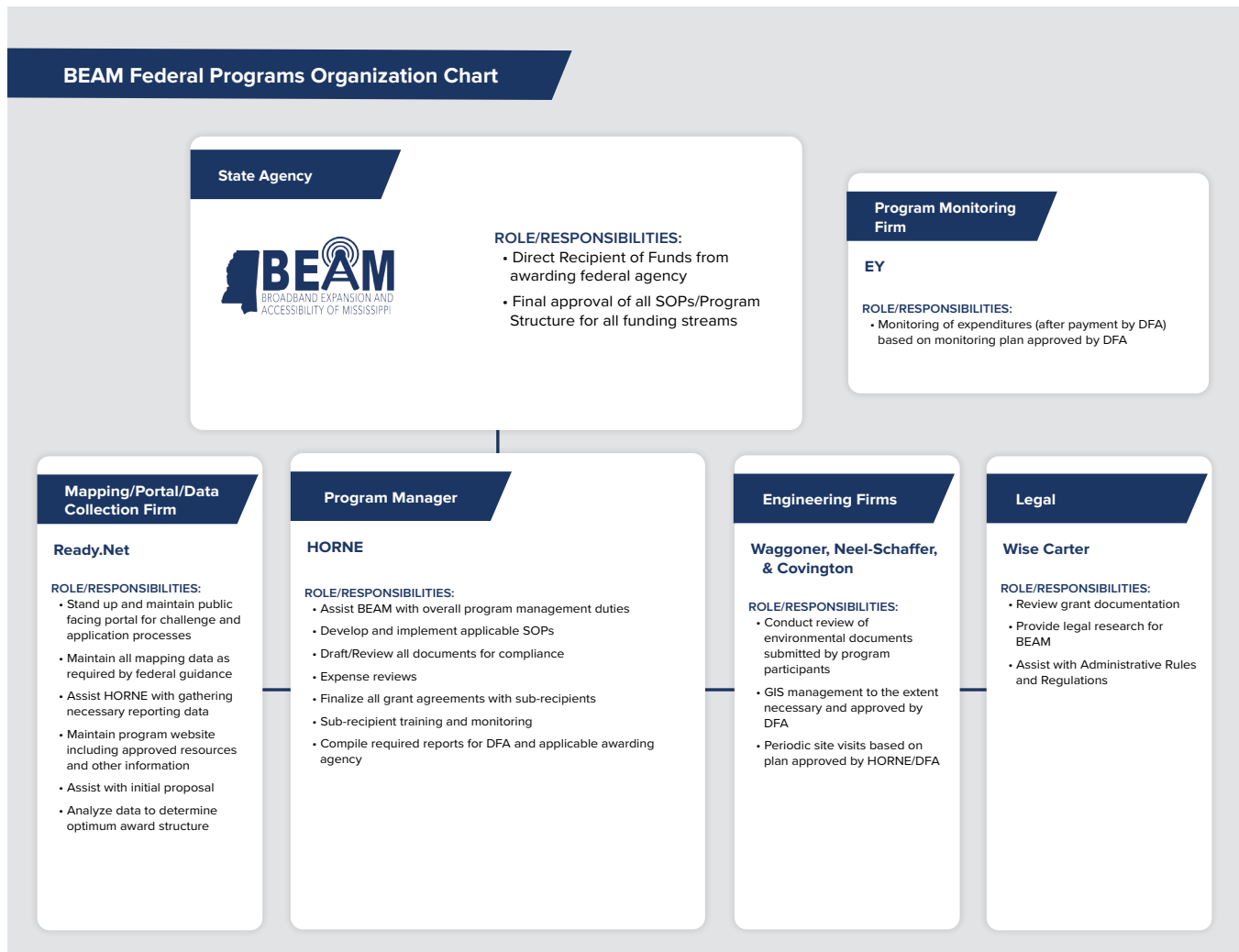
## CURRENT AND PLANNED FULL-TIME AND PART-TIME EMPLOYEES

The BEAM office is a division of the Department of Finance and Administration. Sally Doty was named director of BEAM and is the former Executive Director of the Mississippi Public Utilities Staff and State Senator. The BEAM office employs six state employees and two contract employees as follows:

JOB TITLE	DESCRIPTION
Director	Overall management of office and employees; implements the State's broadband policies and programs; administers federal programs, retains and employes technical assistance from contractors.
Deputy Director	Assists the Director in the management of office and employees; program planning and administration, manages vendor contracts and agency budget
Grants Manager	Prepares and reviews grant applications, reports, budgets, and related materials, direct contact with ISPs; directs and supports all activities related to grant awards and monitoring.
Grants Analyst	Assists the grants manager, collects and analyzes data for use in activities related to grant awards and monitoring.
Communications Director	Builds relationships and strengthens partnerships with stakeholders, plans community engagement events, develops communications and engagement materials, maintains website and social media.
Office Administrator	Coordinates all day-to-day activities of the BEAM office including scheduling, travel, and interaction with stakeholders
Director Skills & Accessibility (contractual employee)	Planning and management of statewide digital skills and accessibility initiatives, engages with external stakeholders, plans and develops materials, presentations, and gathers data to develop statewide plan.
Digital Skills & Accessibility Grant Analyst (contractual employee)	Assists the Director in all day-to-day activities; plans events, coordinates with stakeholders, conducts data analysis.

## CURRENT AND PLANNED CONTRACTOR SUPPORT

BEAM contracts for legal, engineering, mapping, auditing, and accounting services as follows:



## EXISTING FUNDING

On June 26, 2023, NTIA announced that Mississippi will receive \$1,203,561,563.05 million to expand access to broadband in the State as part of the federal BEAD Program. This program provides \$42.45 billion nationwide for planning, infrastructure development, and adoption programs. The Mississippi allocation is based on data published to the FCC’s National Broadband Map on June 26, 2023 that reflected 268,365 unserved and 39,397 underserved locations in the State.

- The BEAD program allowed \$5 million in planning funds that became accessible to BEAM in early 2023. These funds are currently used for salary support for the BEAM office, community engagement, mapping, engineering, data gathering, compliance and monitoring. Remaining BEAD funds will be released after NTIA approval of the BEAM Initial Proposal in 2024 and beyond.

The BEAM office is currently administering the \$32.6 million federal Broadband Infrastructure Program (BIP) grant with all funding obligated and over \$7 million in reimbursements made to subrecipient internet service providers. Construction on all BIP projects must be complete by September 2026.

BEAM is also currently administering the federal Capital Projects Fund (CPF) grant program in the amount of \$162 million. The Mississippi plan was approved by the U.S. Treasury Department on May 23, 2023. BEAM opened its CPF grant portal for applications on June 15, 2023 with an original closing date of July 15, 2023. Due to provider requests, the deadline for applications was extended to August 17, 2023. BEAM received over \$530 million in applications for CPF funding, well exceeding amounts available for funding. CPF applications are currently under review with awards anticipated to be made later this fall. CPF projects must be completed by December 31, 2026.

BEAM will also administer a \$500,000 Affordable Connectivity Program (ACP) grant to publicize the ACP in grant funded areas to assist with increasing adoption rates in areas with newly established services. BEAM has expended no funding from this program as of this date.

Mississippi has been the beneficiary of numerous other programmatic funds that are administered either directly from the federal awarding agency or in partnership with other Mississippi entities.

SOURCE	RECIPIENTS	PURPOSE	TOTAL
American Rescue Plan State and Local Fiscal Recovery Funds (ARPA-SLFRF)	Madison and Desoto Counties	Access	\$4,892,496.00
Coronavirus Aid, Relief, and Economic Security Act (CARES)	Desoto, Marshall, Tippah, Benton, Alcorn, Tishomingo, Prentiss, Lee, Union, Pontotoc, Lafayette, Clay, Panola, Jones, Quitman, Monroe, Webster, Calhoun, Carroll, Grenada, Chcoctaw, Kemper, Lauderdale, Tate, Perry and Pearl River Counties	Access	\$75,000,000.00
E-Rate Program1	Statewide	Access, Devices	\$158,070,331.36
FCC A-CAM	Statewide	Access	\$80,415,258.58
FCC A-CAM II	Statewide	Access	\$3,077,351.32
FCC Affordable Connectivity Program (ACP)	Statewide	Devices, Affordability	\$89,035,354.00
FCC Affordable Connectivity Outreach Grant	State of Mississippi, The University of Mississippi, Strategic Solutions for Families, Inc., Mississippi Center for Justice, Family Wellness Outreach Center of MS, Inc.	Devices, Access, Affordability	\$1,800,000.00
FCC Broadband Loop Support	Statewide	Access	\$5,004,320.00

FCC Connect America Fund (CAF II)	Statewide	Access	\$1,677,280.68
FCC Connected Care Pilot Program	University of Mississippi Medical Center, Covington County Hospital	Access	\$2,540,735.00
FCC Covid-19 Telehealth Award	Statewide	Access	\$5,422,440.16
FCC Emergency Broadband Benefit Program (EBB)	Statewide	Access, Devices	\$24,669,737.00
FCC Emergency Connectivity Fund	Statewide	Access, Devices	\$13,507,778.25
FCC Lifeline	Statewide	Affordability	\$46,647,128.00
FCC Rural Digital Opportunity Fund (RDOF)2	Statewide	Access	\$70,240,314.20
FCC Rural Health Care Program	Statewide	Access	\$63,351,822.80
Mississippi Wireless Information Network (MSWIN)	Statewide	Access	\$17,000,000.00
NTIA Broadband Infrastructure Program (BIP)	Smith, Lincoln, Issaquena, Benton, Madison, Covington, Calhoun, Pontotoc and Coahoma Counties	Planning, Access	\$32,700,000.00
NTIA Tribal Broadband Connectivity Program (TBCP)	Mississippi Band of Choctaw Indians	Access	\$8,433,633.26
USDA Reconnect	Bolivar, Smith, Newton, Tunica, Humpheries, Washington, Scott Counties	Access	\$65,973,009.00

## PARTNERSHIPS

BEAM has a statutory duty to coordinate all broadband expansion and accessibility efforts on behalf of the state and to ensure an effective and efficient use of broadband grant funds. To improve broadband access, affordability, and literacy, identifying partners was a critical first step that has proved advantageous to BEAM’s efforts. Many of the partners identified below have mutually beneficial interests in providing internet for all.

PARTNERS	DESCRIPTION OF CURRENT OR PLANNED ROLE IN BROADBAND DEPLOYMENT AND ADOPTION
MS Department of Education	Access, devices, and affordability for Students
MS Institutions of Higher Learning	Adoption, access, digital skills, devices, affordability, workforce upskilling for students, digital skills and accessibility core planning group
MS Community College Board	Adoption, access, digital skills, devices, affordability, workforce upskilling for students, digital skills and accessibility core planning group
MS Library Commission	Adoption, access, digital skills, devices, affordability
MS Planning and Development Districts	Access, digital skills planning, technical assistance
Accelerate Mississippi	Workforce development
MS Office of Homeland Security	Cybersecurity, climate resilience for infrastructure
MS Municipal League	Local Coordination
MS Band of Choctaw Indians	Tribal Coordination
MS Dept. of Finance & Admin.	Financial and technical reviews; grant reimbursements
MS Dept of Transportation	Infrastructure Permitting, Mapping assistance



MS Dept. of Medicaid	Telehealth access and planning
Univeristy of Mississippi Medical Center	Telehealth access, digital skills, accessibility
MS Board of Supervisors Assoc.	Local Coordination
MS Broadband Association	Engagement with internet service providers and stakeholder engagement and grant program rules feedback
Electric Co-Ops of Mississippi	Engagement with internet service providers and stakeholder engagement and grant program rules feedback.
AARP of Mississippi	Engagement with stakeholders, access, digital skills and affordability
MS Schools for Blind and Deaf	Identify obstacles for disabled, access and digital skills
Education SuperHighway	Develop strategy for Wi-Fi for multi-family Dwelling Units
MS Veterans Affairs Board	Adoption, access, digital skills, devices, affordability, workforce upskilling for students, digital skills and accessibility core planning group
MS GIS Counsel	Mapping and data assistance
Broadband Association of Alabama and Mississippi	Engagement with internet service providers and stakeholder engagement and grant program rules feedback.
MS Alliance of Nonprofits	Stakeholder engagement
MS Dept. of Information Technology	Access to provision of governmental services
MS Dept. of Human Services	Affordability
MS Field Office HUD	Wi-Fi Accessibility for Multi-Dwelling Units

### 3.2 ASSET INVENTORY

BEAM has been focused on collecting the most current broadband data to provide information for future investment decisions. BEAM worked with investor owned utilities, electric cooperatives, county e-911 offices, and Mississippi internet service providers to gather up-to-date information on address and service locations. Through this effort BEAM identified missing locations and overstated coverage on the FCC fabric and filed over 150,000 challenges with over 70,000 challenges accepted.

BEAM provided a Mississippi Broadband Audit with data regarding individual counties and overall data for the state as a whole at [www.broadbandms.com/audit](http://www.broadbandms.com/audit). This effort also included a speed test tool that includes three separate speed tests. While the speed test is running, participants are given the option to fill out a brief survey to help BEAM gain a better understanding of issues beyond what is observable through the speed measurements alone. A phone/text line is also available for Mississippians to report no service. This information is logged into the broadband audit data. This tool allows observational tool for Mississippians and will be used throughout the upcoming challenge process, awards and buildout of BEAD.

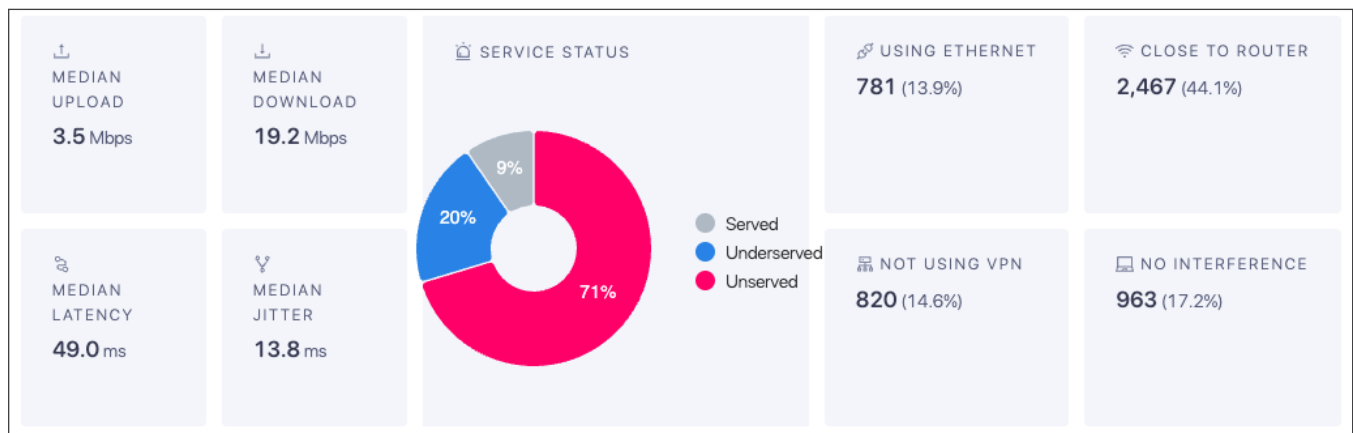


Figure 2: a Broadband performance survey. As of June 2023, there were 5,597 (3,858 self-reported addresses) performance tests taken via BEAM's speed test portal.

BEAM also identified the significant number of Mississippi BSLs with existing federal funding already attached. These pre-existing awards prohibit any additional federal funding (under BEAD) or other federal funding sources, even if no buildout has occurred to date.

Many BSLs across the State have existing commitments from the Rural Development Opportunity Fund. Mississippi was the second highest recipient of RDOF funds awarded during the FCC RDOF auction in 2020 that awarded \$9.2 billion in support to bidders across the country. Mississippi was initially awarded \$495.7 million in RDOF funding for 218,990 locations to be paid out over a 10-year period.

RDOF is not administered by BEAM, but instead is awarded directly to the service provider. RDOF participants must meet deployment milestones of 40% by year three, 60% by year four, 80% by year five, and 100% by end of year 6. RDOF locations in Mississippi are reflected below.

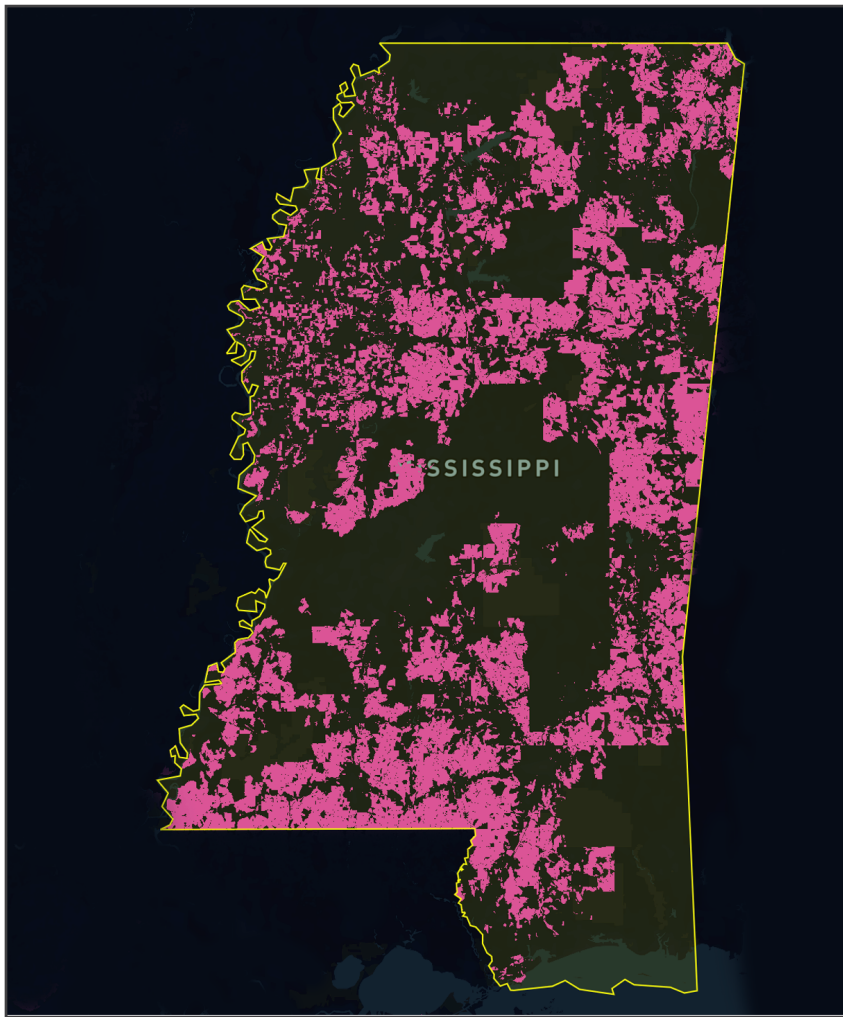


Figure 3.

At least two providers who were initially awarded locations in the RDOF auction either did not receive final approval or defaulted on RDOF awards. Those locations have been added back into the total number of unserved locations for Mississippi.

The majority of RDOF funding in Mississippi was awarded to the broadband subsidiaries of Rural Electric Coops. Currently 17 of the 25 Electric Cooperatives in Mississippi have broadband subsidiaries that are building out to their service territories around the State. Fourteen of these companies also received \$73,239,000 from the COVID 19 Broadband Grant Program established by the Mississippi Legislature from CARES Act funding in 2020.

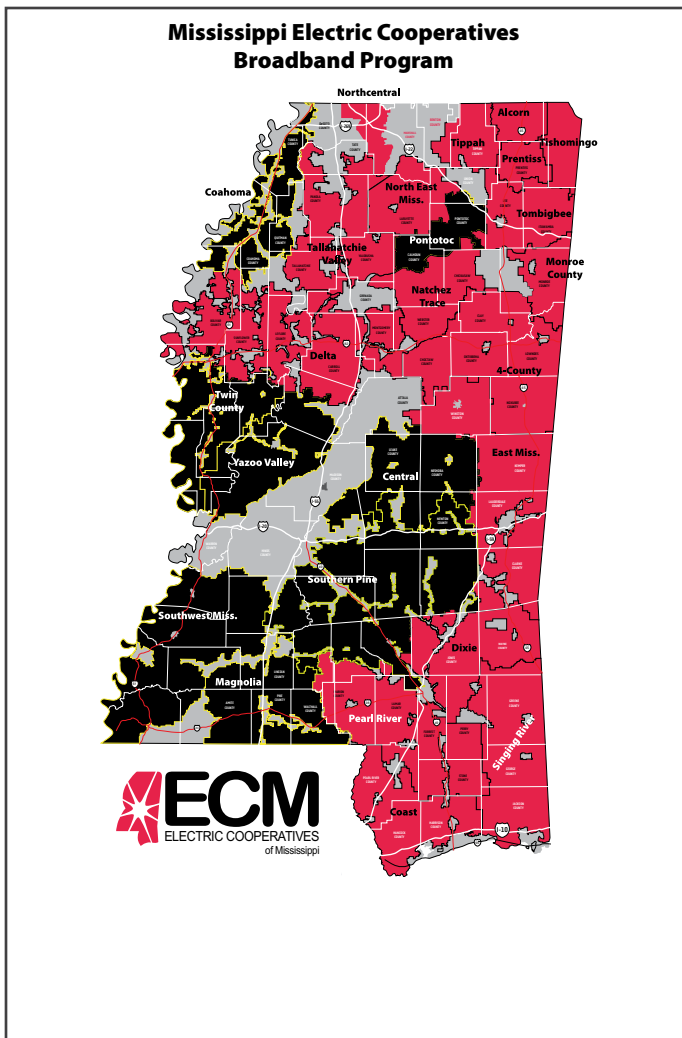


Figure 4: Covid-10 Grant program awards designated in yellow.

Locations with other federal funding sources such as the BIP program administered by BEAM and the ReConnect program funded by the USDA Rural Utilities Service program are identified on the Mississippi Broadband Audit as served. Likewise, when final determinations are made from the Capital Project Funds Grant program, those locations will be identified and moved from unserved to served on the Mississippi Broadband Audit as well. BEAM conducted a voluntary challenge process among providers prior to the Capital Projects Fund application period to assist with identification of unserved and federally funded areas.

## EDUCATIONAL RESOURCES

The federal Schools and Libraries Program known as E-Rate provides discounts on the costs of eligible telecommunications services, Internet access, and internal connections ranging from 20% to 90%. The highest discounts go to the schools and libraries serving the most disadvantaged populations based on the percentage of students within the district that are eligible for the National School Lunch Program. During the 25 years of the E-Rate Program, Mississippi has received on average approximately 1.4% annually of the national total with \$810.9 million in credits going to schools and libraries in Mississippi. The following table reflects the amount committed to Mississippi by year.

Source information: <https://tools.eratecentral.com/us/stateInformation.asp?state=MS>. Mississippi's E-Rate Funding

2022	\$21,780,130.39
2021	\$25,064,603.75
2020	\$31,139,267.20
2019	\$27,903,467.52
2018	\$27,484,622.02
2017	\$24,982,892.49

Additionally, the Mississippi Department of Education received a \$200 million appropriation from the Mississippi Legislature through the Equity in Distance Learning Act (EDLA) and the Mississippi Pandemic Response Broadband Availability Act in 2020 to provide every public-school student in Mississippi with technology to support both in-school and at-home learning. Both programs were funded through the CARES Act. Over 325,000 devices were purchased and distributed to establish a 1-1 ratio of students to computers. The program also provided funding for individual districts to expand connectivity, provide access to digital curricula and learning management systems, and connect students to telehealth and teletherapy services.

Contract 5000 is the State IT contract for the provision of internet services. This contract enables any public entity in the state to upgrade to fiber for the provision of internet services and is available to all Mississippi public schools. Approximately 104 of the State's 137 public school districts participate in Contract 5000.

Mississippi has 52 library systems with 237 library buildings and two bookmobiles. The Mississippi Library Commission has recently completed fiber buildout to all 237 library buildings under the State Contract. Individual libraries are now using a combination of E-Rate, state, and local funding to upgrade equipment and devices to accommodate the increased speeds now available. The Library Commission reports that for 2022 there were 2,496 public access computers in libraries with 615,365 computer usage sessions. All Mississippi libraries offer free public wi-fi with the total number of sessions for 2022 reported as 2,706,541.

## **MISSISSIPPI OPTICAL NETWORK**

The Mississippi Optical Network Infrastructure, or “Mission” is a statewide high performance, geographically diverse network that offers speeds up to 100 Gbps. First launched in 2010, comprehensive upgrades have increased bandwidth speeds, reduced overall latency, provided new interconnection with Internet 2, new route diversity and redundancy to ensure optimal network uptime and elimination of single point of failure. First available only to the State’s 4 research universities, the network has now expanded to include regional universities and community colleges, Stennis Space Center, the U.S. Army Corps of Engineers Engineer Research and Development Center in Vicksburg.

## **MISSISSIPPI WIRELESS INFORMATION NETWORK (MSWIN)**

The MSWIN system is a robust architecture with disaster recovery features that provide reliable communications under extreme conditions such as hurricanes, ice storms, and floods.

MSWIN is a P-25 700 MHz LMR public safety communication system which is designed to provide 97% mobile area coverage statewide via multiple sites. MSWIN is the only statewide interoperable emergency communication voice and data network available for use by both state and local public safety entities. MSWIN is designed to allow any manufacturer’s P-25 compliant radios to operate on the system. This type of system offers the following benefits:

- The ability to coordinate communications with other agencies or jurisdictions.
- The ability to purchase radios from more than one vendor.
- The ability to share resources to enhance communications and control costs.

MSWIN serves the State of Mississippi by providing reliable redundant communications for our state’s first responders. The MSWIN System consists of over 144 tower sites and a point-to-point microwave backhaul network. MSWIN is monitored 24 hours a day, 365 days per year to ensure that it is always available.

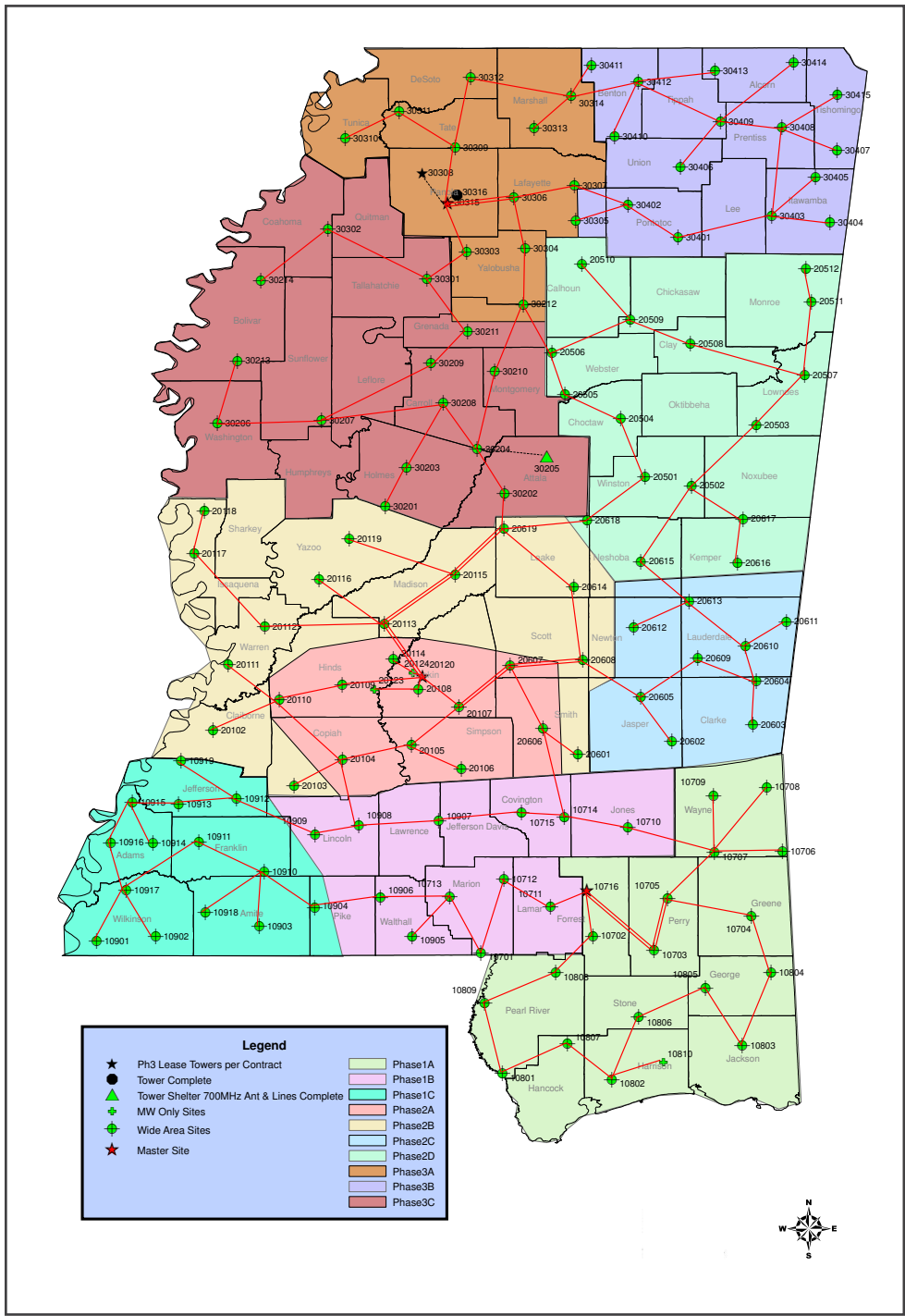


Figure 5: MSWIN Network

### 3.3 NEEDS AND GAPS ASSESSMENT

BEAM worked with subject matter experts to identify and collect key data across the state to form the most complete picture of Mississippi’s current broadband technology, digital assets, and digital equity status. The goal of this data collection effort was to accurately identify key needs and gaps across the State. Below are graphical depictions of the data collected to date.

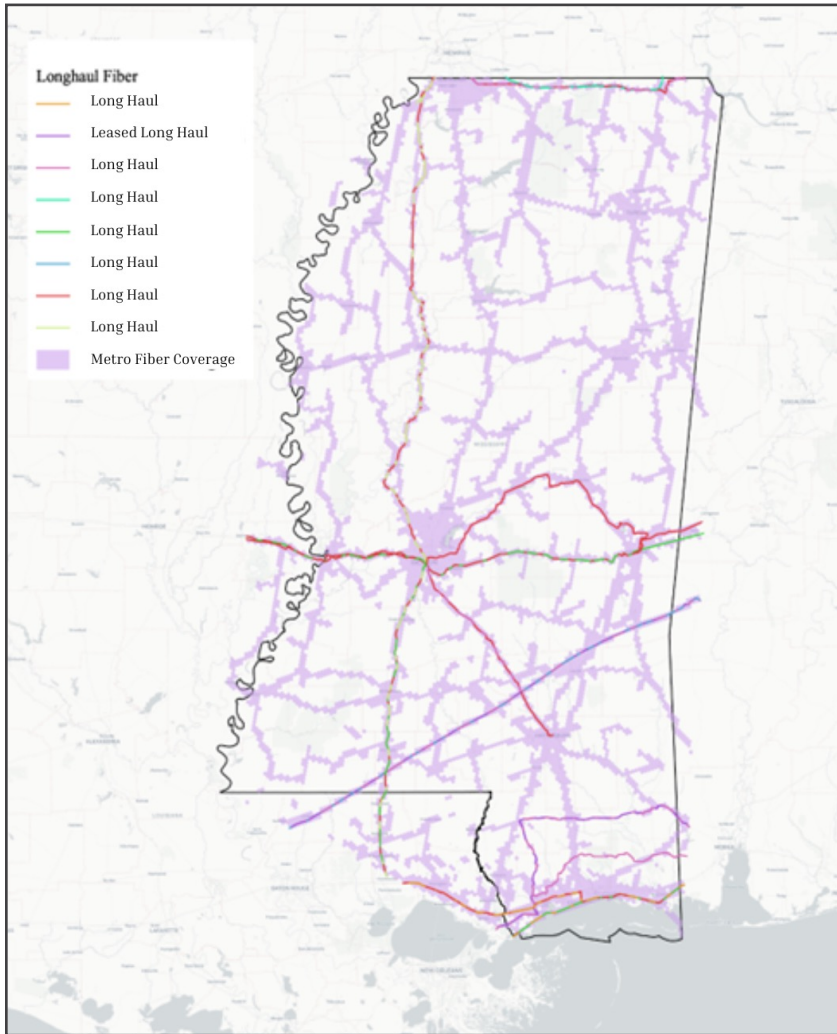


Figure 6: Fiber long haul and metros infrastructure in MS. Fiber broadband service is currently offered by 47 Internet Service Providers (ISPs) in MS. See Appendix for the number of BSLs covered per ISP.



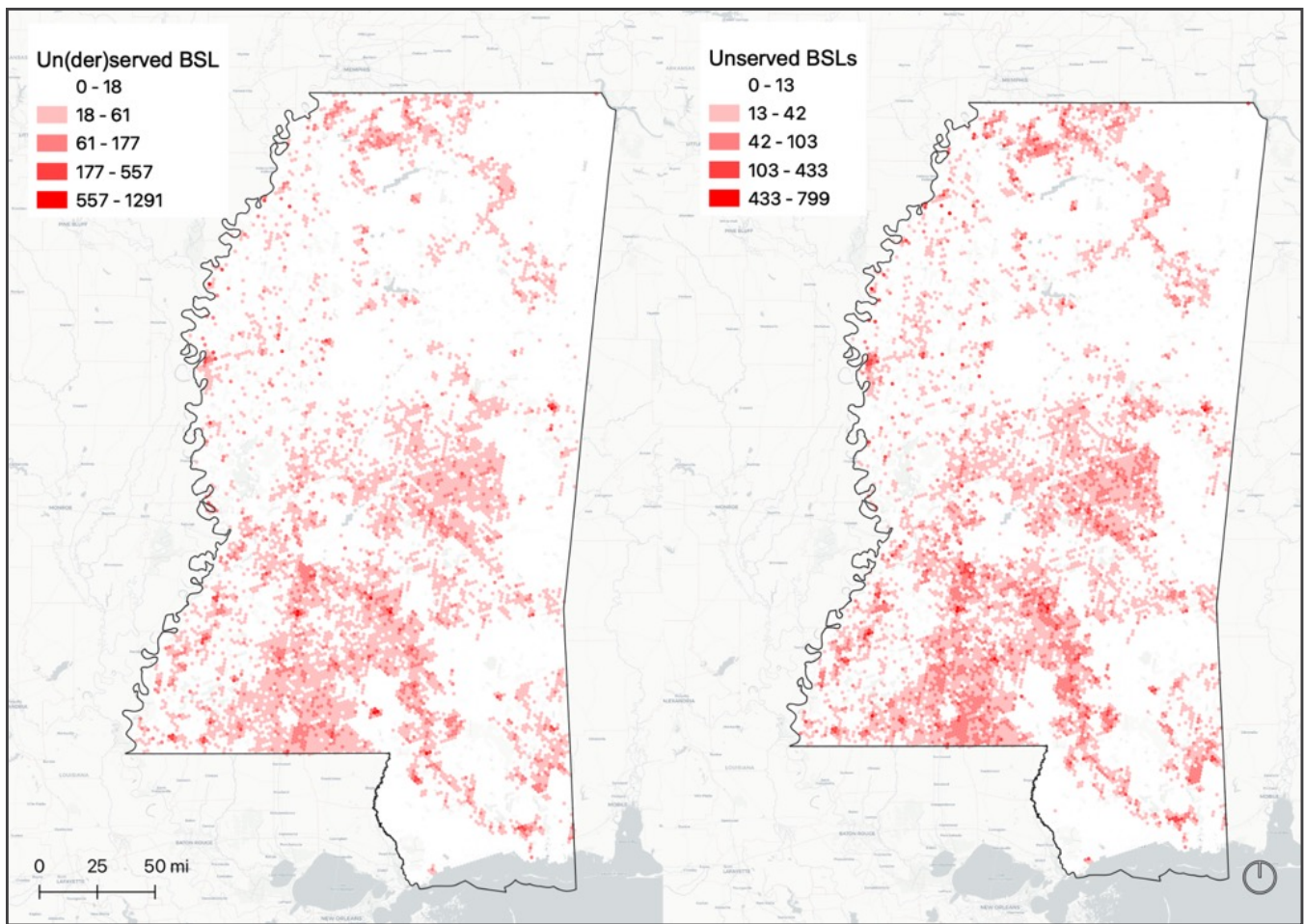


Figure 7: Left: Distribution of unserved and underserved broadband service locations (BSLs). The darker color represents higher volume of un(der)served locations. Right: Distribution of unserved broadband service locations (BSLs). Data provided by FCC national broadband map (last updated as of June 8th 2023).

SERVICE STATUS	BROADBAND SERVICABLE LOCATIONS (BSL)	TOTAL SERVICABLE UNITS
UNSERVED	269,535	297,710
UNDERSERVED	40,162	45,807
SERVED	1,080,221	1,309,114

Table: Current distribution of served, underserved, and unserved locations, along with total serviceable units. One BSL may include more than one dwelling or business. BSLs include residential, commercial, and institutional locations.

## HIGHEST UNSERVED COUNTIES IN MS

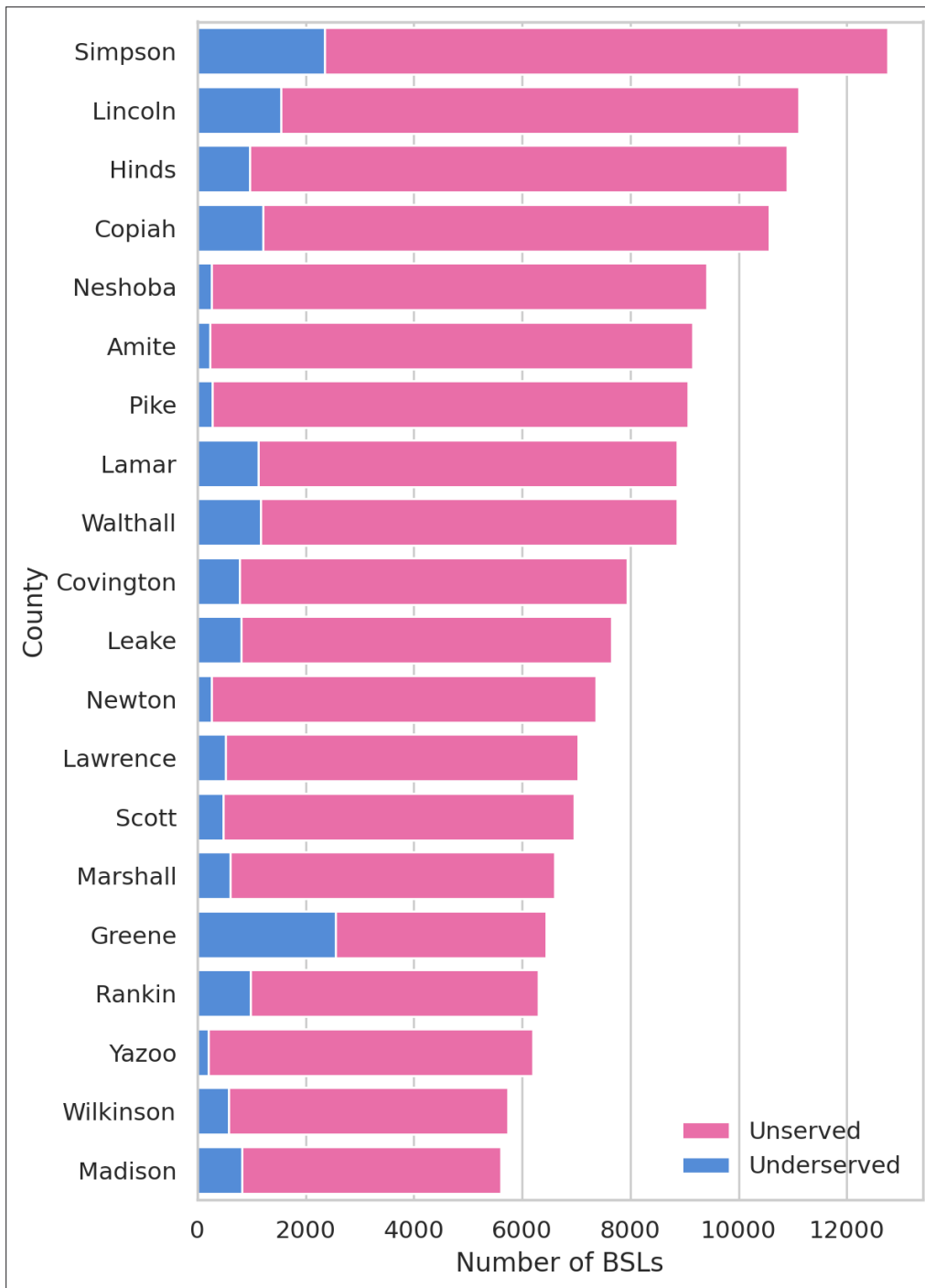


Figure 8.

### Highest Unservd Counties Below the Poverty Line

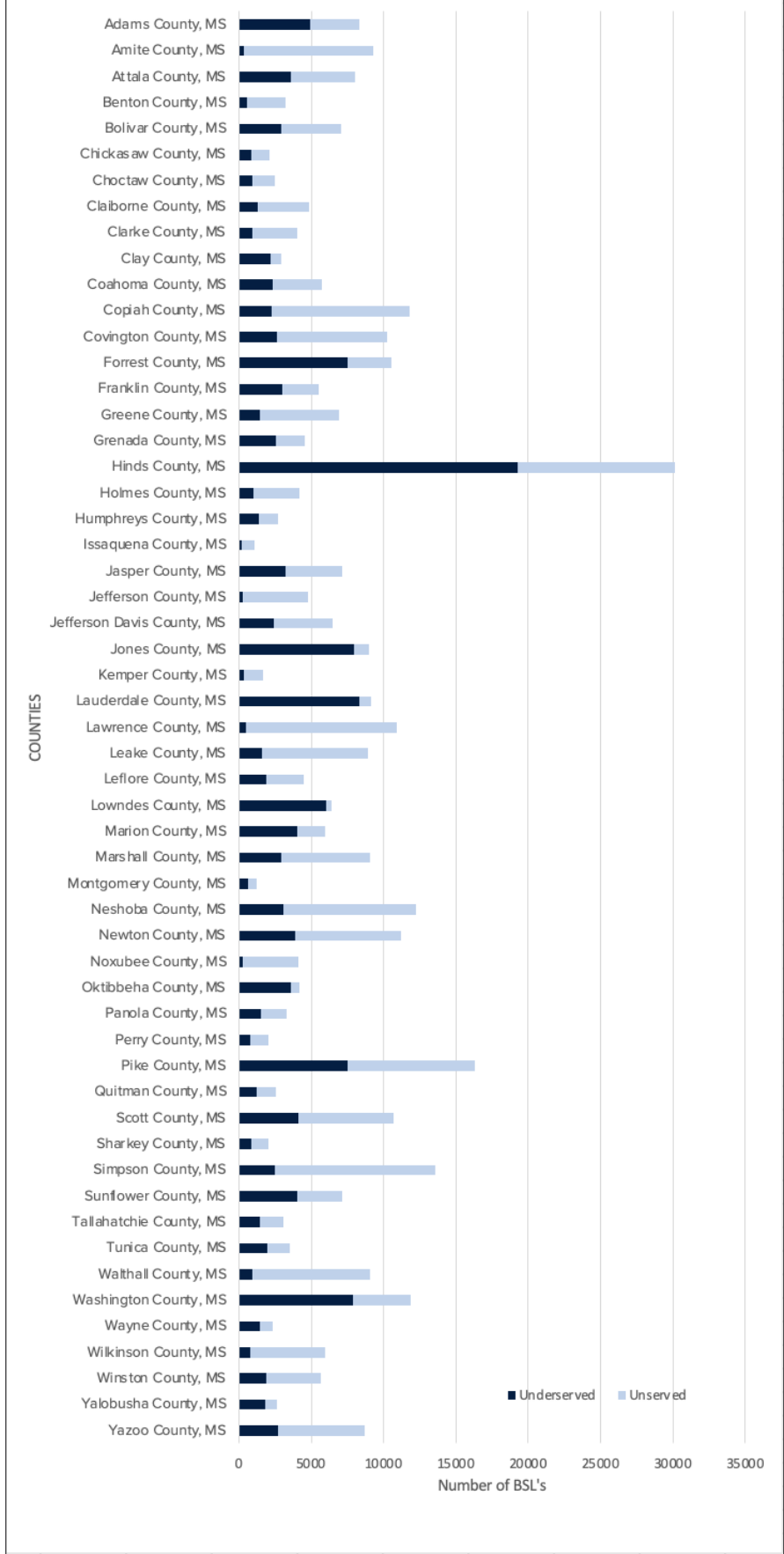


Figure 9.

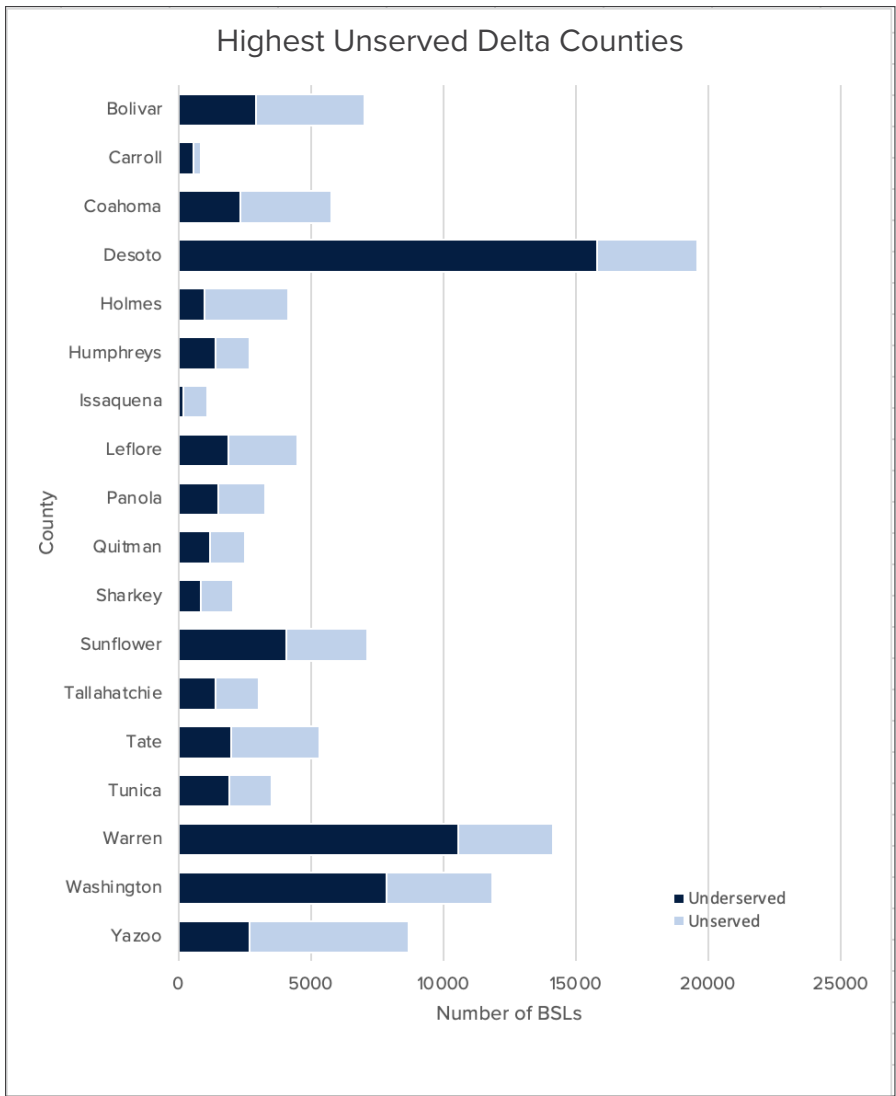


Figure 10.

(Figures 8-10: Counties with the highest number of un(der) served BSLs)

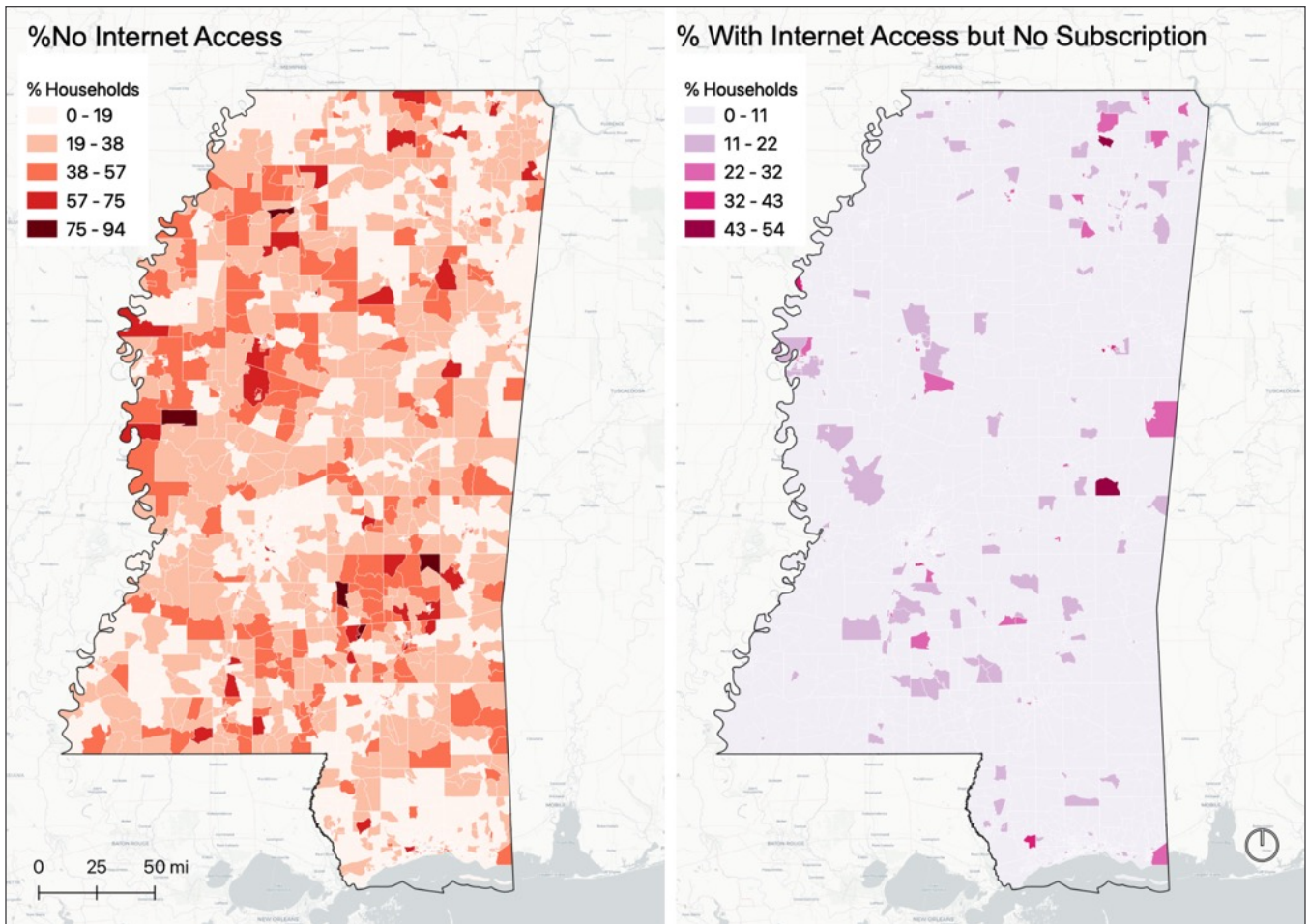


Figure 11: Left: Percentage of households with no Internet access; Right: Percentage of households with access to Internet but no subscription (American Community Survey (ACS) 5-year 2021)

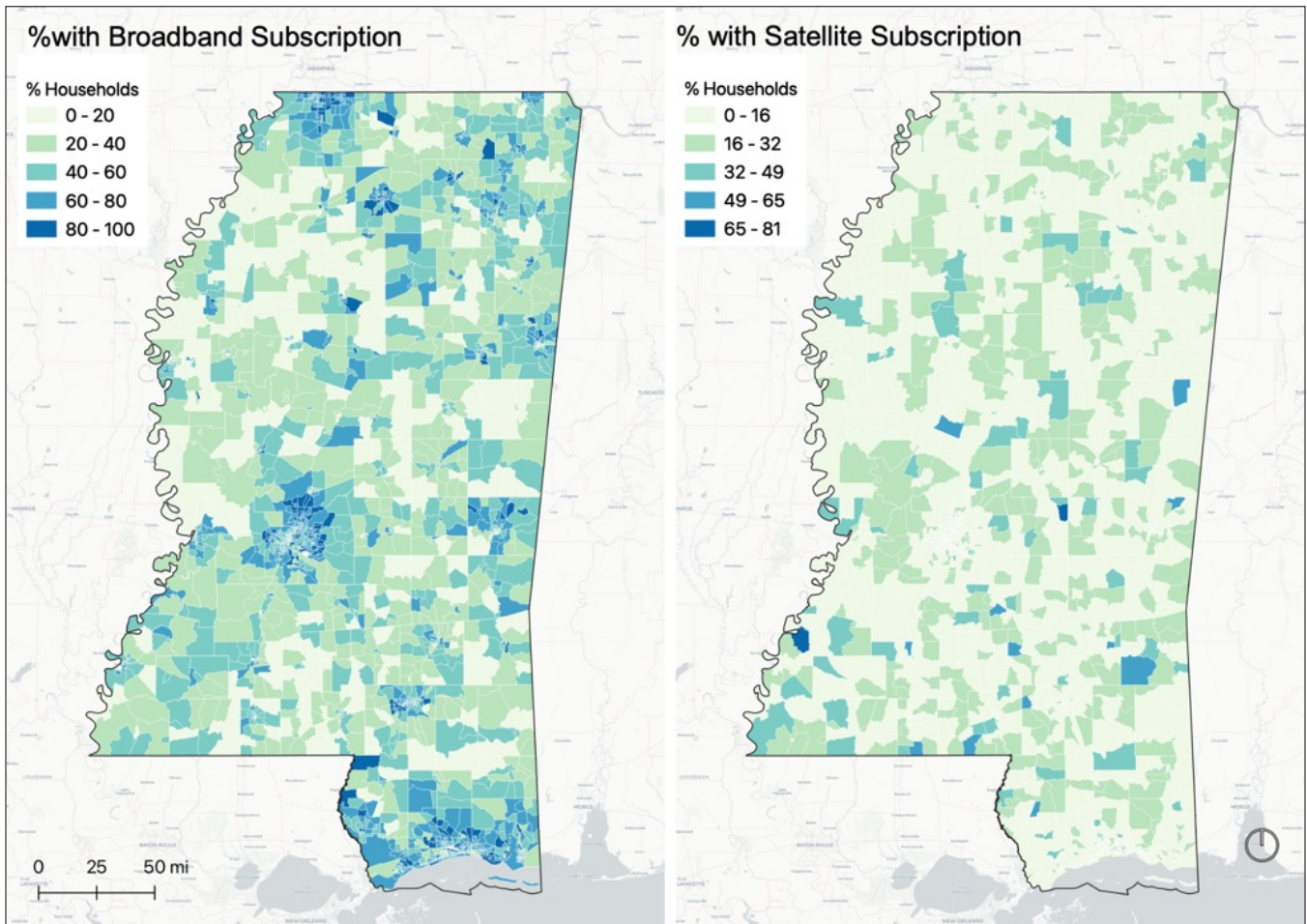


Figure 12: Left: Percentage of households with an Internet subscription Broadband such as cable, fiber optic or DSL (American Community Survey (ACS) 5-year 2021) Right: Percentage of households subscribing to satellite Internet service.

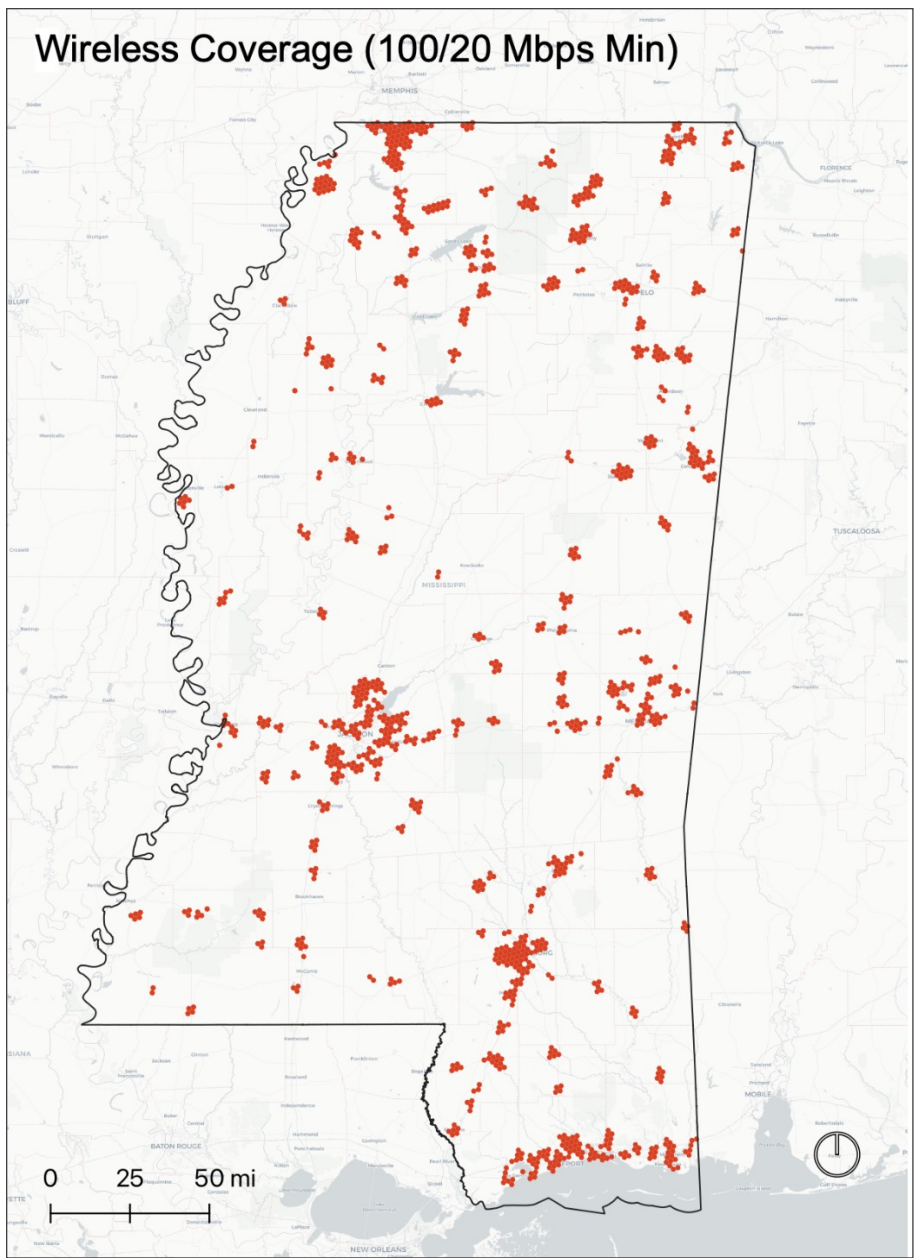


Figure 13: Wireless broadband coverage area (100/20 Mbps minimum). 97 K locations with wireless service at 100/20 Mbps.

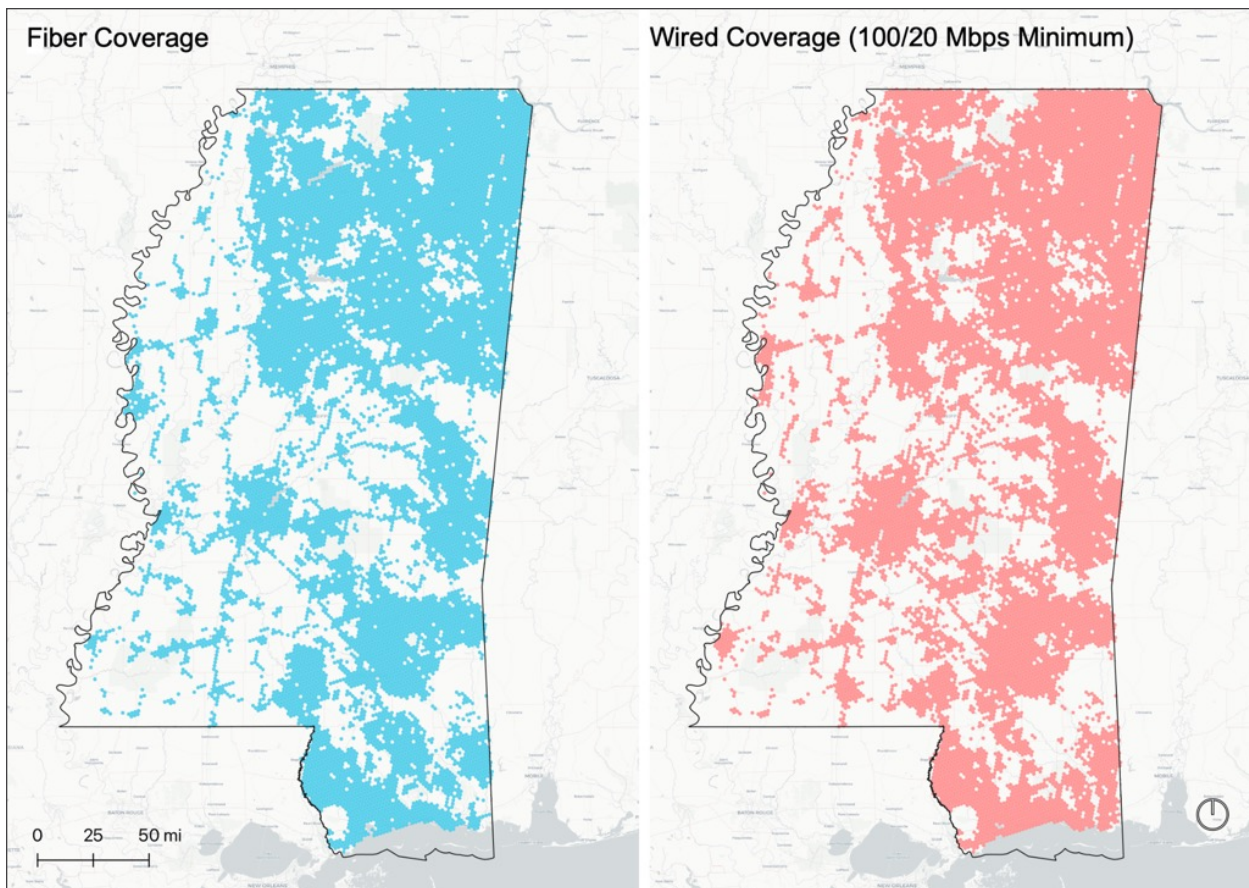


Figure 14: Left: Fiber broadband coverage area. 656 K, out of 1.4 million total locations, have access to fiber network. Right: Wired broadband coverage area (100/20 Mbps minimum). 1 million locations with wired service at 100/20 Mbps. Data provided by FCC (last updated on June 8th, 2023). Note: Some areas covered by fiber do not have service information provided to the FCC and therefore cannot be included in the map on the right.



## 4. Obstacles or Barriers

Mississippi faces a combination of factors that create obstacles or barriers to broadband deployment and adoption. Through community engagement events participation in local events and conferences, meetings with state and local governmental officials, state agencies, and non-profits, along with input from BEAM's Digital Skills and Accessibility (DSA) core planning team, BEAM has identified barriers in obtaining devices and accessing affordable, reliable high-speed internet.

### AFFORDABILITY PROGRAMS

A substantial portion of Mississippians qualify for and use the Affordable Connectivity Program which provides a \$30 monthly subsidy for broadband service. Cellular providers are allowed to participate in the ACP program and aggressively recruit participants. When choosing between cell phone service and residential broadband service, participants choose cell phone service as first among equally necessary services. However, once the cellphone is in a pocket or purse and leaves the residence, schoolchildren or other family members lose access to broadband service. Feedback from BEAM's community outreach and listening sessions, including with The Mississippi Band of Choctaw Indians, has identified the availability of cellular service within the ACP program is a significant barrier to the affordability of broadband service and thus broadband deployment in Mississippi.

### LABOR SHORTAGES

With over 1.2 billion in BEAD funding headed to Mississippi for broadband investments, internet service providers will face shortages in skilled labor for buildout, operation, and ongoing maintenance. BEAM partnered with the 15 public community colleges across Mississippi, two of which are considered HBCUs, Coahoma Community College in Clarksdale and Mississippi Delta Community College in Morehead. These partnerships are primarily focused on cataloging current workforce development programs and defining future needs. Each college has hosted a focus group meeting with the internet service providers in their areas to discuss foreseeable needs in both the near and long term, with focus on how the Community Colleges can best prepare curriculums to meet these needs. The Community Colleges also publicized the Affordable Connectivity Program in their student and community populations and administered a connectivity survey. This information is currently being compiled and will also be included in the DSA Plan to be submitted to NTIA this fall.

### SUPPLY CHAIN AND MATERIAL CHALLENGES

Mississippi's current broadband deployment efforts reveal that the supply chain issues of recent years still exist unabated. Reports from existing in-state broadband providers indicate significant price increases and long lead times for materials and equipment due to these ongoing supply chain issues.

BEAM proposes to address this issue by providing technical assistance and will assist broadband

providers in their efforts to leverage all state and federal loan and grant programs to manage cashflow issues arising from long lead times. Finally, BEAM will work closely with the Executive and Legislative branches of government to develop and consider the possibility of tax and/or other incentives to mitigate the effects of supply chain disruption.

### **PROCUREMENT AND CONTRACTING CHALLENGES**

Through administration of the BIP grant, the BEAM office has seen first hand difficulties in procurement and contracting. Most providers in Mississippi have not received federal funding or been subject to the procurement or contracting rules required. BEAM will leverage its relationship with NTIA to provide technical assistance on procurement and contracting with providers and rely heavily on its project management firm to conduct technical assistance training as needed. Identifying challenges early is key with procurement and contracting.

### **INDUSTRY PARTICIPATION CHALLENGES**

Numerous providers have expressed concern over the federal requirements for BEAD funding. Likewise, concerns exist over the ability to maintain and operate systems with a low density of BSLs. Providing technical assistance to providers at each stage of the grant and construction process will be key.

### **ADOPTION CHALLENGES**

Many Mississippians do not realize the importance of or opportunities provided by high-speed internet. BEAM will address affordability and digital skills through its DSA plan and work with providers to increase adoption rates.

### **TOPOGRAPHY CHALLENGES**

From the flat fertile farmland of the Delta and Black Prairie to the rolling North Central Hills and towering forests of the Piney Woods, and the sandy Coastal Meadows, Mississippi's geography is as diverse as it is beautiful. Our unique and varied topography presents challenges for broadband deployment and will likely require the use of all available technology to meet last mile service goals.

BEAM proposes to address this issue by developing tools to objectively analyze and optimize which broadband technologies, or combinations thereof, constitute the most economical construction approach in each geographical area. BEAM has developed a mapping tool which incorporates topography, among a myriad of other data, which assists in project assessment. Routing and technology recommendations are also indicated by the mapping tool. BEAM will also encourage industry best practices for system hardening and resiliency specific to each Mississippi geographic region and natural disaster contingency.

## **LETTER OF CREDIT ISSUES:**

Mississippi's broadband deployment strategy requires the existence of a many different types of internet service providers. BEAM has identified NTIA's requirement that awardees maintain an irrevocable letter of credit as a potential barrier to the creation and/or expansion of small, local providers who may provide the only option for low density areas in Mississippi. NTIA requires all awardees to obtain an irrevocable letter of credit in the amount of 25% of the grant award. The letter of credit must be maintained throughout the construction period or to project completion. Letters of credit are costly, and typically range from 1% to 5% of the grant award annually. Also, financial institutions typically require businesses to have an existing performance record and credit history to qualify for an irrevocable letter of credit. These requirements may prove to be insurmountable barriers to many small businesses. Experience has shown that women-owned and minority-owned businesses may be disproportionately affected by the irrevocable letter of credit requirement.

BEAM proposes to address this issue by encouraging NTIA to consider alternatives to the irrevocable letter of credit requirement as it exists today. Specifically, for certain awardees, BEAM encourages NTIA to lower the 25% of award requirement, and to consider performance bonds as an alternative security instrument.

## **DIGITAL SKILLS CHALLENGES**

Digital skills are required to access telehealth, educational and economic opportunities and participate in much of daily life. Large and small businesses alike are seeking workers with technology skills. Lack of access and affordability of high-speed internet is a key factor in the lack of digital skills. BEAM will detail strategies for each population by the federal Digital Equity Grant in its upcoming DSA plan.

According to the Bureau of Labor Statistics, employment openings in computer science and IT-related careers are projected to grow by at least 10% by 2029. In Mississippi, there are about 1,500 IT-related openings existing currently in the State. Recognizing the importance of digital skills, and training a workforce prepared for these skills, Mississippi enacted laws in 2021 requiring all elementary, middle, and high schools to teach computer science by the 2024-25 school year. This curriculum will expose our students at the earliest possible level to the tools for the jobs of the future.

# 5. Implementation Plan

## 5.1 STAKEHOLDERS

BEAM has worked from its inception to partner with state agencies, non-profits, associations, elected officials, community leaders, and any organization that can help close the digital divide in Mississippi. BEAM created a core planning team as suggested by NTIA for development of the Digital Skills and Accessibility Plan. Leaders of organizations who work with covered populations were invited to participate in periodic meetings to understand the funding opportunities available under BEAD and discuss the needs of their particular groups. Individual meetings with members of the core planning team were held to discuss needs and possible outreach to each particular covered population. Members of the Core Planning Team include representatives from the following organizations:

- AARP Mississippi
- Community Foundation of North Mississippi
- FCC Communications Equity Diversity Committee
- Mississippi Missionary Baptist Convention
- Hope Credit Union – Hope Policy Institute
- One Shred of Hope
- Mississippi Department of Corrections
- Mississippi Minority Business Development Agency
- Mississippi Library Commission
- Mississippi Veterans Affairs
- Mississippi Community College Board
- Mississippi Institutes of Higher Learning
- Mississippi Farm Bureau
- National Telecommunications and Information Administration

No stakeholder or community is the same across the State. Rather, different stakeholders require different versions of outreach and community engagement to yield reliable data that will result in strategies to reach covered populations. Accordingly, BEAM works closely with each stakeholder group to develop a targeted outreach plan that will produce reliable results in a timely fashion.

To date, BEAM has hosted more than 20 community engagement meetings that were attended by local elected officials, community leaders, non-profit representatives, and residents across the State. These

meetings included two parts. The first being a presentation educating attendees on grant funding, the timeline of broadband deployment and buildout, who is eligible/ineligible for funding, and resources available to help bridge access and skills. The second half of these meetings allowed for participants to ask questions and to share their experiences with unreliable internet or no access to the internet. The team documented questions and feedback received from these in-person meetings to develop programs that yield quality results for covered populations.

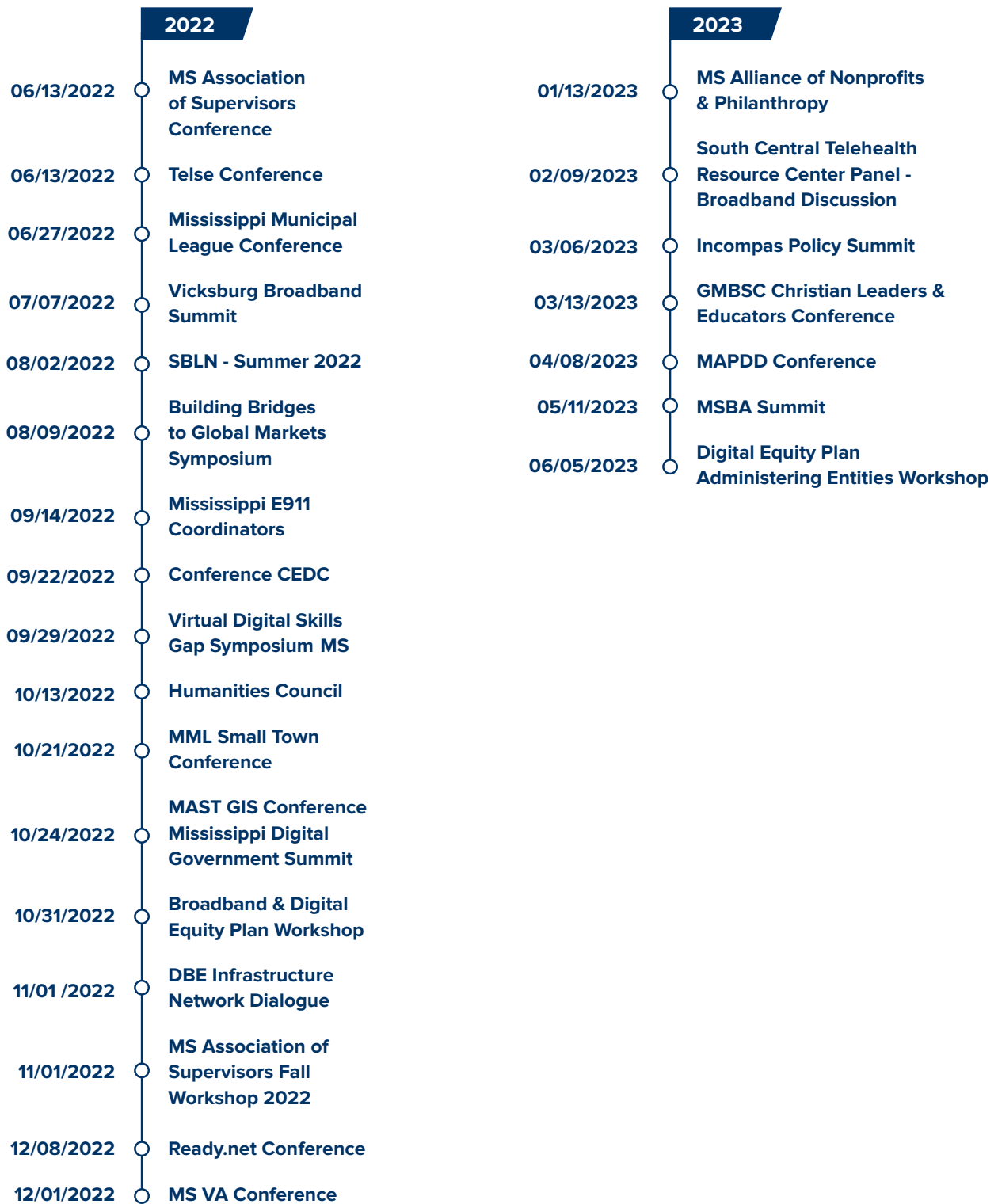


Below is a summary of consistent feedback heard during these informational sessions:

- Unable to work remotely after moving back to Mississippi to care for elderly parents.
- Multiple children are unable to complete homework assignments because of inadequate service or availability of devices.
- High-speed internet access is unavailable for telehealth.
- Service is needed immediately - availability in 3 or 4 years seems like a lifetime.
- Service is too expensive.
- Even cell phone service is unreliable, and lack of high-speed internet is a health and safety issue.

Each community engagement event included a discussion of the ACP and its eligibility requirements. Participants were encouraged to use the speed-test tool to record their speeds or call 601-439-2535 to record no service.

BEAM also attended various in-state conferences and events to further encourage and facilitate stakeholder engagement.



BEAM also partnered with each of Mississippi’s eight four-year public institutions of higher learning to gather additional data regarding barriers to access for covered populations. This effort included three historically black colleges and universities (“HBCU”); Jackson State University located in the Capitol City, Mississippi Valley State located in the Delta, and Alcorn State University, a land-grant institution located in SW Mississippi which is the most unserved area of the state. Each University hosted a focus group with their assigned covered population and collected other research on barriers and obstacles for these groups. This information is currently being compiled and will be available in the Mississippi Digital Skills and Accessibility Plan.

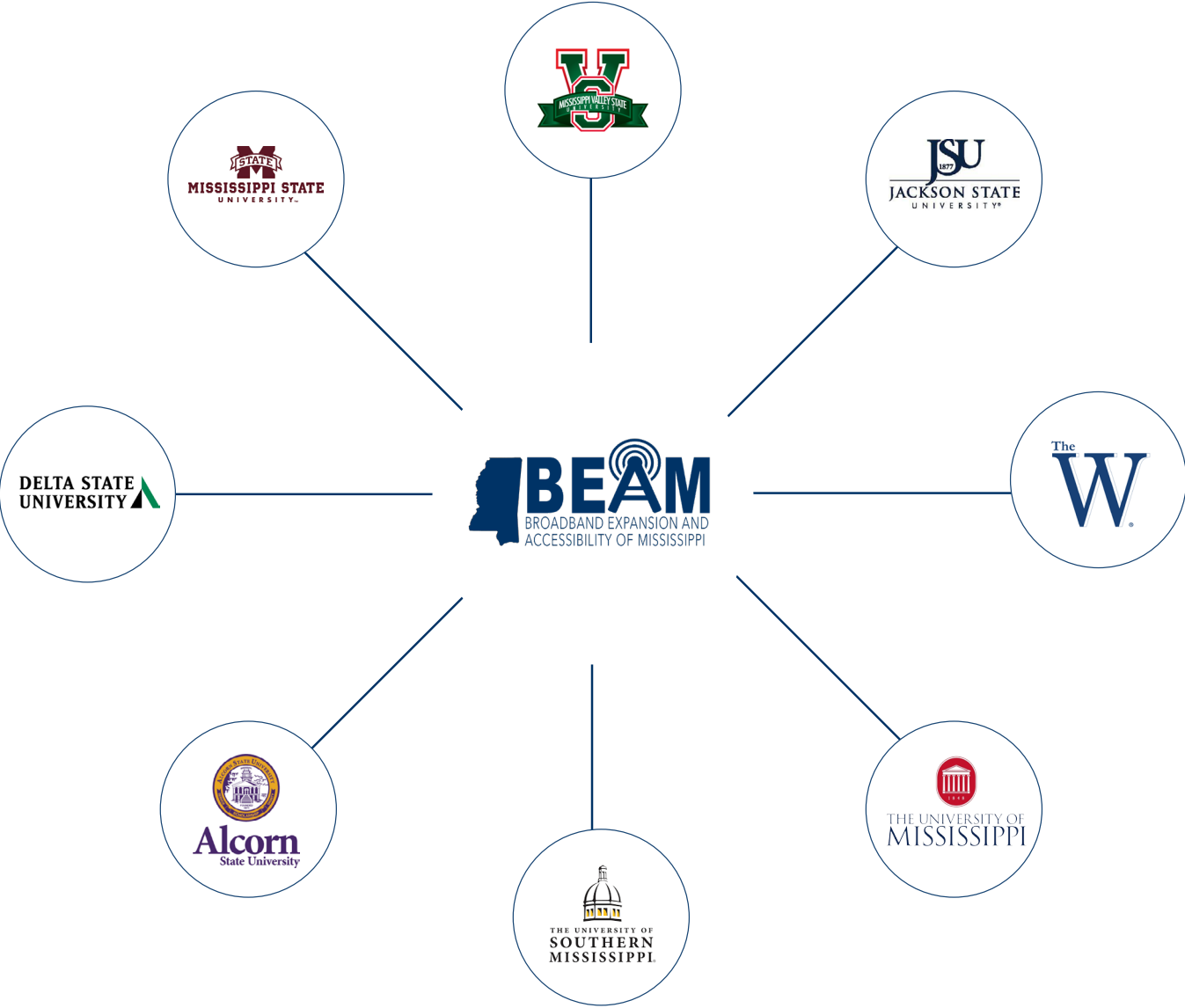
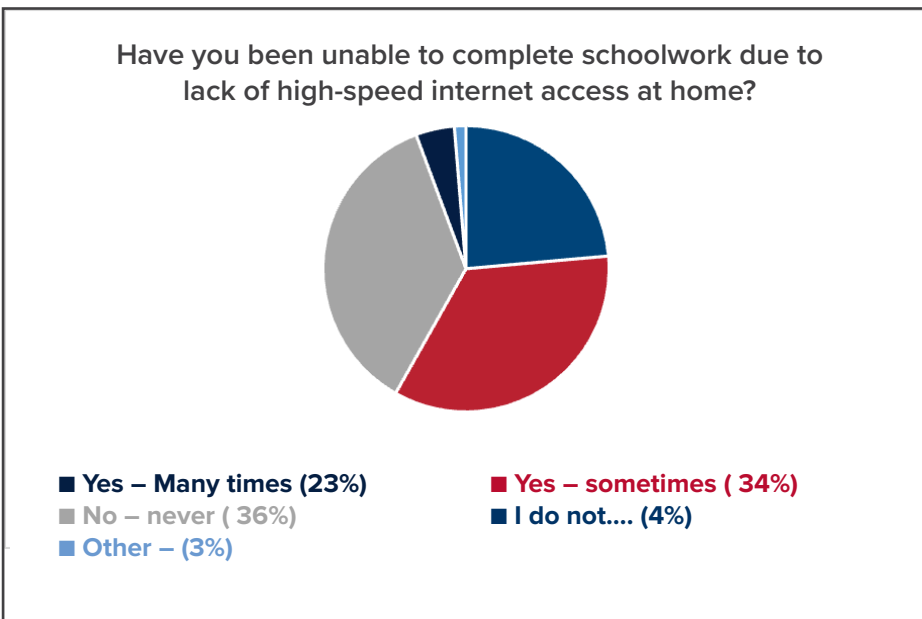
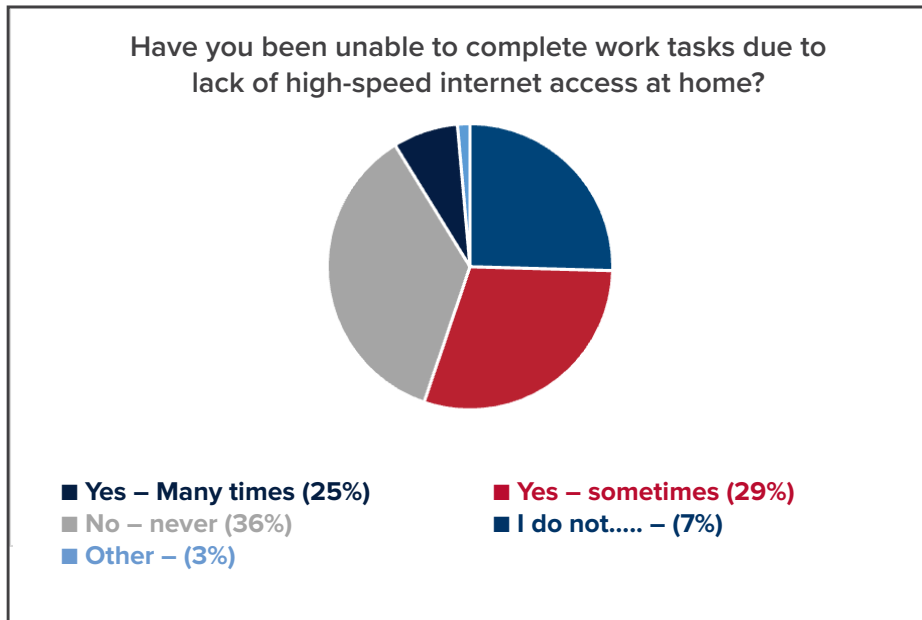


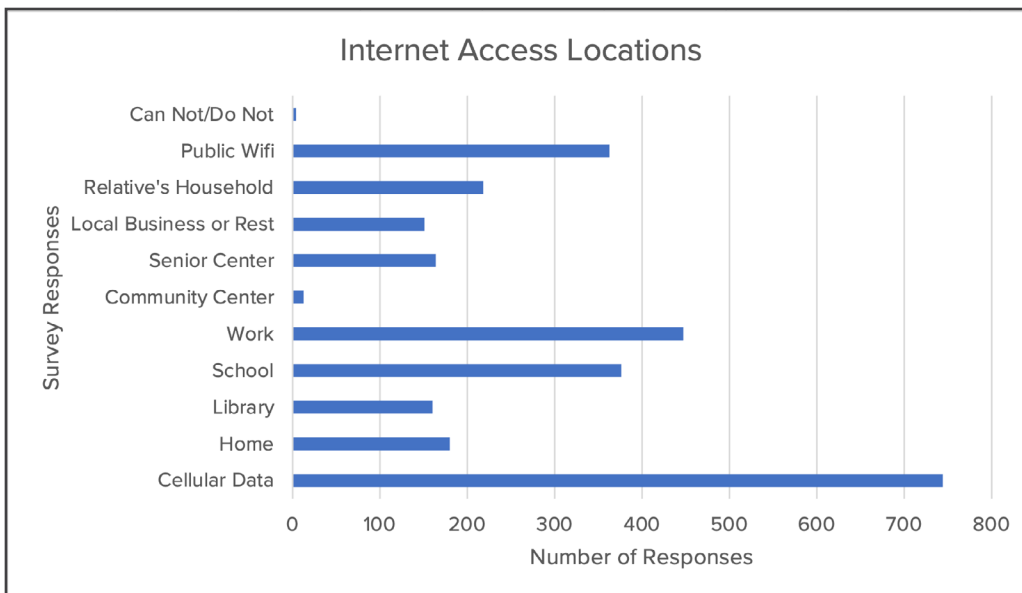
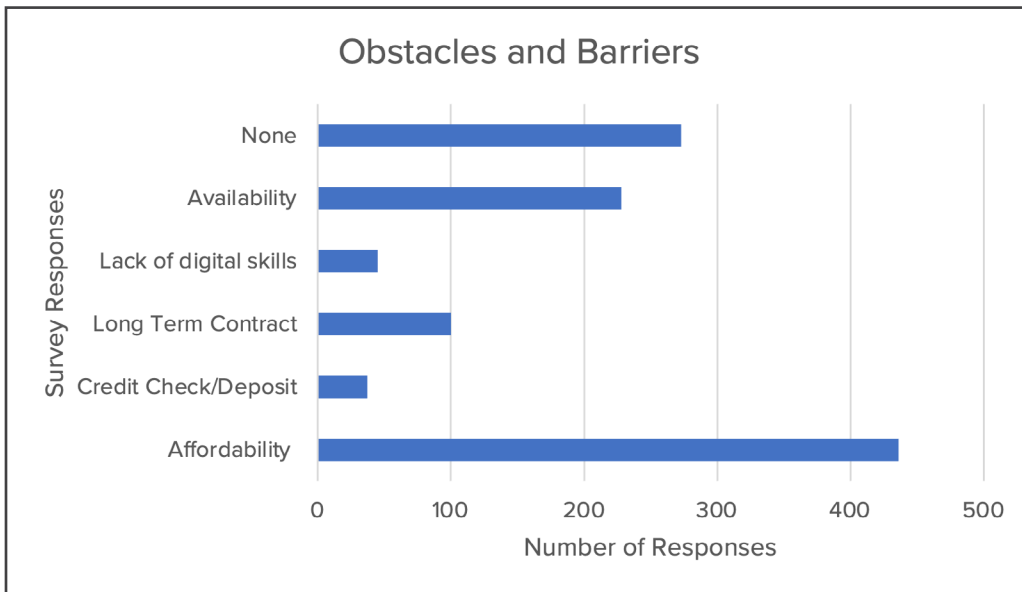
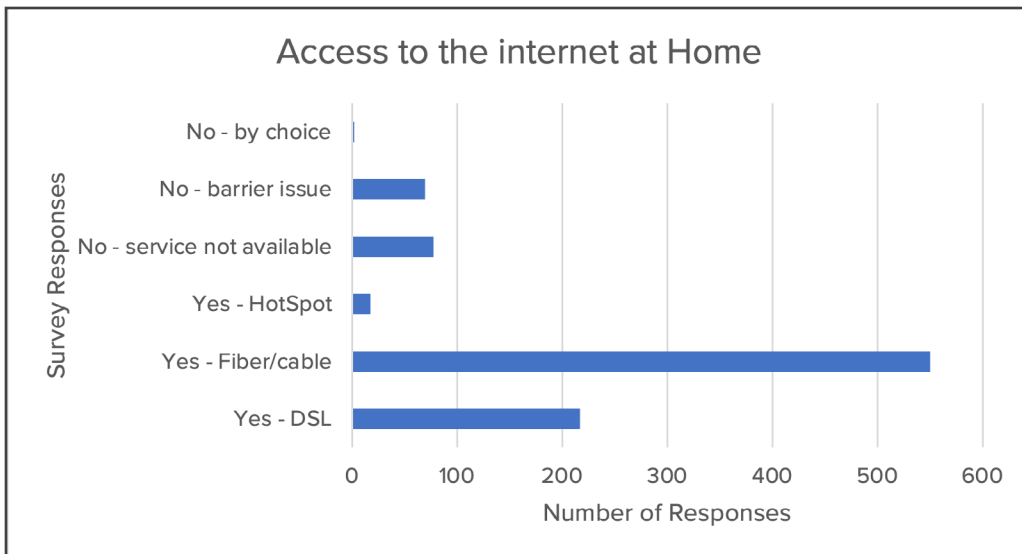
Figure 15:

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Figures 16-17:





Figures 17-18:

BEAM gathered information and participated in events with numerous organizations across the state that are providing digital skills training. The Mississippi Library Commission is a consistent leader in digital access and skills training. With 246 physical locations across the state, the Library Commission has recently completed the arduous task of connecting all locations with fiber. This was accomplished by taking advantage of the state contract that requires a fiber broadband connection for all governmental entities. The Commission reports that local library branches are now upgrading equipment to take advantage of high-speed access through the e-rate program, but local funding issues make this a slow process. Mississippi libraries provide computers on-site for use, wi-fi that often extends outdoors and is available to the public, loan devices, and engage in digital skills training. BEAM intends to work closely with the Mississippi Library Commission to enhance these existing programs.

Likewise, BEAM met with the Mississippi Department of Education on numerous occasions to determine obstacles and barriers among students and teachers to be addressed. During the pandemic, the Mississippi Legislature used \$100 million of CARES funding to provide tablets or other devices for all students to participate in remote learning. Students in rural areas with no access to high-speed internet were unable to use the devices as intended. While all public schools in Mississippi have access to fiber broadband if they choose to avail themselves of the state contract for high-speed internet services, some districts chose other technology and have reported slow speeds and difficulty with connections. Mississippi school districts participate in a connectivity survey each year and BEAM will provide that information within its DSA plan, as the most recent data is currently being collected for the beginning of the 2023-24 school year.

BEAM recently hosted a meeting with all state agencies to gather information on any obstacles or barriers faced by the populations they serve. This meeting also provided information from agencies on any skills training or broadband programs they may provide. A similar meeting is planned for the Mississippi Alliance of Nonprofits and Philanthropy in September. All information will be categorized in the DSA plan.

BEAM recognizes that non-profits are essential for digital skills training and has met with numerous organizations including:

- The BEAN Path in Jackson provides programming for the Jackson Public School System and introduces students to a digital maker's space that allows students to use digital skills in creative means.
- The Basecamp Coding Academy in Water Valley provides high-school graduates with a free program of study that leads to a career as a software developer.
- The Issac Chapel Rosenwald School is one of the few surviving Rosenwald schools in Mississippi and is now the home of digital skills training for local high school students.
- Save the Children funds a bus equipped with wi-fi in the Mississippi Delta that travels to small communities to allow students to increase their digital skills when school is not in session.

Non-profits will guide strategies included in the DSA plan to implement a holistic approach to skills training and leverage the federal funding to close the digital divide in Mississippi.

Through the Office of Governor Tate Reeves, the BEAM office requested consultation with the Mississippi Band of Choctaw Indians (MBCI). The BEAM director met with the MBCI Chief and his leadership team. MBCI provided an update on the buildout funded with the \$8.6 million Tribal Connectivity Grant received in 2023 and detailed concerns surrounding adoption of service. MBCI stressed the importance of digital skills training and the need for additional funding for these programs. BEAM will include strategies provided by MBCI in its upcoming DSA plan. MBCI recently notified BEAM of a Tribal Council resolution creating “Chahta Link Communications, LLC” (Chata is the word for Choctaw in the tribal language). MBCI anticipates growing their existing network to serve additional communities that are not situated within the defined Choctaw Reservation.

Stakeholder engagement points to several common obstacles across Mississippi. First and foremost is a lack of high-speed internet availability across large swaths of the state. If service is in fact available, affording that service is the next most common obstacle. Other factors exist, such as lack of devices, lack of digital literacy, and privacy concerns must be addressed to fully close the digital divide in Mississippi.

ACCESS	
Leverage Existing Assets and deploy service to all Mississippians.	Incentivize applications that utilize existing infrastructure, provide lowest cost per passing, increased completion times and cost sharing.
High-Cost and Extremely High-Cost Locations	Identify high-cost areas for deployment and develop a matrix for awarding these areas at higher subsidy rates to incentivize all locations for inclusivity in the competitive grant process.
Multiple Dwelling Units	Invest in Wi-Fi access to MDU's among low income and affordable housing.
ADOPTION	
Adoption Outreach	Partner with internet service providers to facilitate ongoing outreach methods and solutions for future methods.
Public Outreach and Engagement	Continue engagement efforts to communicate funding awards and promote the ACP.
AFFORDABILITY	
Promote uses of ACP	Media campaign in grant awarded areas using ACP outreach grant awarded to BEAM and coordinate efforts with other awardees.
Prioritize buildouts that offer long-term, low-cost service	Incentivize ISP applications that propose to offer communities price stability for a defined number of years.
DIGITAL SKILLS	
Identify and employ digital navigators	Leverage existing efforts by the Mississippi Library Commission and Mississippi State University Extension.
Ensure disadvantaged areas awareness of opportunities	Coordinate with local partners and non-profits; maintain map of digital skills programs.

Cybersecurity concerns	Educate residents and business owners through cooperation with the Mississippi Dept. of Homeland Security and other partners.
Expansion of Precision Agriculture	Partner with the 2 Mississippi land grant institutions Alcorn State University and Mississippi State University.
Expansion of Telehealth	Explore federal and state opportunities for health care providers to submit for reimbursement of telehealth services, partner with the Mississippi Dept. of Medicaid and the University of Mississippi Medical Center.
<b>ECONOMIC DEVELOPMENT</b>	
Service to key locations for job growth	Work with the Mississippi Development Authority to prioritize buildout.
Streamlined Permitting	Work with local, state, and federal stakeholders to offer a streamlined permitting process for use of existing rights-of-way.
Industry Partners	Identify and recruit potential businesses to fill gaps in the broadband supply chain.
<b>RESILIENCY</b>	
Climate Resilient Networks	Strengthen broadband infrastructure in at-risk communities.

### 5.3 PLANNED ACTIVITIES

Over the next 5 years, BEAM will be focused on the activities defined in this plan to eliminate the digital divide. This plan is not static and will be expanded or modified as needed to accurately reflect the diverse and changing needs of Mississippians. BEAM will continue to convene many different stakeholder groups throughout the upcoming years.

#### BROADBAND ACCESS

Funding Source: Capital Projects Fund and BEAD

- Eliminate the unserved population (access to speeds of less than 25 Mbps down and 3 Mbps upstream as defined by BEAD).
- Increase speeds and reliability for underserved populations (access to speeds of less than 100 Mbps down and 20 Mbps upstream).
- As funding allows, invest in wi-fi access to MDUs among low income and affordable housing to ensure universal coverage.

## **BROADBAND ADOPTION**

Funding Source: BEAD, Digital EQUITY, ACP

- Engagement with communities when broadband services are provided.
- Information regarding ACP or other affordability programs.

## **DIGITAL SKILLS AND ACCESSIBILITY**

Funding Source: Digital Equity

- Increase digital skills by leveraging programs already in existence at universities, community colleges, K-12, libraries.
- Identify key non-profits to partner with for device availability and affordability programs.
- Expand outreach to covered populations.
- Other activities as defined in the Mississippi DSA plan.

## **ECONOMIC DEVELOPMENT FUNDING SOURCE: BEAD AND DIGITAL EQUITY**

- Provide funding for curriculum, scholarships, apprenticeships, train-the-trainer, or other assistance as identified by Accelerate Mississippi to increase local, broadband-related workforce levels to ensure timely, efficient, and cost-effective buildout of infrastructure.
- Address permitting and procurement concerns through work through communication with federal and state agencies and identifying key issues requiring technical assistance.
- Work with MDA or other economic stakeholders to identify and recruit companies to fill gaps in the broadband supply chain.

## **RESILIENCY**

- Encourage buried fiber for buildouts in at-risk areas.

#### 5.4 KEY EXECUTION STRATEGIES

As BEAD and funding for DSA are authorized for use in Mississippi, the BEAM office intends to implement strategies to close the digital divide. Below are key execution strategies.



## 5.5 ESTIMATED TIMELINE FOR UNIVERSAL SERVICE

BEAM defines Universal Service as the ability to serve each household in Mississippi with reliable highspeed broadband. This process is already underway as the state has begun identifying all unserved and underserved locations in Mississippi and making those the targets for future broadband deployment. In accordance with program guidelines, BEAD subgrantees will be required to complete construction within four years of the receipt of funds with a potential extension of no more than 12 months. BEAM will accelerate those timelines if at all possible. Assuming BEAD grants are made in 2024, the latest that deployment activities will conclude is the end of 2028. The timeline for universal service relies heavily on the matching commitment provided by eligible applicants in the competitive grant process as well as the investments made outside of the existing federal funding programs. Other federally funded projects throughout the state have projected completion timelines similar to that of BEAD. Therefore, Mississippi’s estimated time for universal service is the conclusion of 2028.

- **September 2023:**  
BEAD Five-Year Action Plan submitted to NTIA
- **Fall 2023:**  
BEAD Initial Proposal submitted to NTIA
- **December 2023 – March 2024 (pending approval from NTIA):**  
Process approved modifications and de-duplication of funding  
Conduct challenge process
- **March – August 2024:**  
Conduct subgrantee selection process and submit Final Proposal to NTIA
- **September 2024:**  
NTIA approval of Final Proposal and award subgrants
- **2023 – 2028:**  
Ongoing monitoring, reporting, and performance management
- **December 31, 2028:**  
Affordable high-speed broadband available to all Mississippians

## 5.6 ESTIMATED COST FOR UNIVERSAL SERVICE

BEAM will optimize the deployment of all federal and state programs to avoid overlaps and to ensure the most effective use of resources. Success requires current mapping tools, and dynamic realistic economic models. Toward that end, Mississippi employed two consultants, Ready.net and Bell Labs Consulting. Ready.net developed, and continues to maintain, a current and updated broadband coverage map of the state of Mississippi. The map accounts for all state and federal programs, including the most current FCC mapping data, and indicates all served and unserved areas as of the current date. This map is available to the public on BEAM’s website broadbandms.com. Bell Labs developed, and continues to refine and maintain, an economic modeling tool designed to estimate the cost of universal service for broadband utilizing actual industry cost data along with geographical optimization based on Mississippi county and census tract data.

Based on these efforts, and with the disclaimer that the cost model is evolving as input assumptions change, Mississippi has identified a total of 352,934 unserved and underserved locations, requiring the construction of a total of 50,762 fiber miles to serve, at a total estimated cost of \$1,953,277,214. The data is unbundled as follows:

TOTAL HOUSEHOLDS PASSED (HHP) DATA PROVIDED BY FCC NATIONAL BROADBAND MAP	
Unserved	269,535
Underserved	40,162
TOTAL	309,697
TOTAL FIBER MILES NEEDED	
Unserved	38,589
Underserved	12,173
TOTAL	50,762
TOTAL COST	
Unserved	\$ 1,528,127,371
Underserved	\$ 425,149,843
TOTAL	\$ 1,953,277,214

The cost analysis continues to be refined as new data becomes available. Importantly, we believe the above cost estimates are conservative, and that as the buildout progresses, significant opportunities for cost reductions will materialize. For example, 17 of Mississippi’s electric cooperatives have built and/or are building broadband networks to serve customers within their electric utility certificated areas.



BEAM anticipates a substantial reduction in the total number of unserved and underserved locations as 1) buildout is completed by the broadband subsidiaries of electric coops, 2) private infrastructure investments are updated during the upcoming challenge process, and 3) the Capital Projects Funds or other pending federal programs are awarded. So many changing variables present challenges in predicting whether the \$1.2 billion BEAD allocation will be sufficient to reach all unserved households in Mississippi. With current models approaching 2 billion to reach all served and unserved locations, BEAM has identified a possible gap of 200 -300 million to reach full universal service. Variables such as other public funding and private investment should reduce that gap, and this plan will be updated to reflect those investments. BEAM's continuing aim will be to reach universal service with the funding provided by maximizing all funding streams and effectively defining the extremely high-cost threshold to allow alternative technology in limited circumstances.

## **5.7 ALIGNMENT**

Prior to the establishment of BEAM, broadband programming lacked coordination by a centralized state body and broadband priorities were scattered throughout various state plans. In addition to the broadband deployment grants that BEAM will administer, the office has identified the following plans or agencies that have common interests. BEAM has been in contact with each agency to determine deployment or non-deployment broadband related issues or services.

MS Department of Archives and History State Historic Preservation Office (SHPO) is committed to the preservation of the state's cultural resources and manages federal project (section 106) reviews. BEAM is working toward a dedicated employee at MDAH to support SHPO reviews.

MS One Call provides underground utility notification location information through a computerized communications link between those who own and operate underground facilities in Mississippi. Increased coordination with MS One Call will be necessary for all providers awarded funding.

MDOT Broadband Infrastructure Registration for broadband infrastructure providers gives notification of planned highway projects in the hopes that it helps to facilitate the installation of broadband infrastructure throughout the state. Registration with MDOT ensures that providers are notified of MDOT's updated Statewide Transportation Improvement Plan.

MS Department of Information Technology Services Strategic Master Plan for Information Technology has goals and strategies to assist in delivering the most effective services to governmental entities in Mississippi and fostering innovation into the digital transformation of government services.

Mississippi Department of Education Mississippi Connects aspires to provide every public-school student in Mississippi with technology to support both in school and at home learning. BEAM will work with districts to identify and target connectivity issues in districts.

Mississippi Library Commission worked strenuously to expand Wi-Fi services during the pandemic and completed fiber connections to all locations in 2022. BEAM plans to leverage existing programs already

in place through the Mississippi Library Commission.

Mississippi Department of Human Services publicizes broadband affordability programs to SNAP and TANF participants. BEAM will leverage MDHS to provide additional information and support for these programs.

Mississippi Combined Workforce Development plan focuses on improving the skills of workers to connect them with high-demand jobs. Broadband deployment and ongoing system operation and maintenance will require additional training and resources.

## **5.8 TECHNICAL ASSISTANCE**

Technical assistance will be crucial in the implementation of the BEAD program. Many providers in Mississippi have never received federal funding and been subjected to the requirements that come with taxpayer funded projects. Environmental and SHPO approval, compliance with 2 CFR 200, and state reimbursement requirements are often challenging and complex. BEAM has worked through many technical issues while administering previous federal grants and is more able to identify issues and prepare providers for grant compliance. BEAM has outside accountants and auditors with extensive compliance and monitoring experience with federal grants that plan to offer local technical assistance as needed for awardees. Additionally, NTIA personnel offer quick assistance and guidance when obstacles or challenges arise. The calls, training, seminars, and other resources offered by NTIA on regulatory requirements are timely and effective in assisting BEAM with all aspects of technical assistance.

## 6. Conclusion

Over the course of the past year, BEAM has heard from thousands of Mississippians who lack high-speed internet service. BEAM has a sense of urgency in deploying federal grant funds as quickly as possible while meeting all federal requirements and metrics. This 5-year action plan gets us one step closer and provides a high-level overview of the work being done by the BEAM office to provide universal service, to create a comprehensive state broadband map, to increase broadband adoption, and to increase digital skills throughout Mississippi.

# 7. Appendices

## AWARDS CURRENTLY MADE UNDER THE BROADBAND INFRASTRUCTURE PROGRAM

ACTIVITY NAME	DESCRIPTION	INTENDED OUTCOME(S)
<p><b>BAY SPRINGS SMITH COUNTY COMMUNITY BROADBAND PROJECT</b></p>	<p>This project is led by broadband provider Bay Springs Telephone, a subsidiary of Telephone Electronics Corporation, which provides internet to over 6,500 customers in Mississippi. The project will service Smith County (population 16,009). The project includes 252 census blocks that are all eligible per FCC and NTIA maps. None were awarded RDOF funding, and all lack 25/3 service for residential customers.</p>	<p>The Fiber to the Home (FTTH) project will construct 126 miles of fiber. This area includes 1,511 unserved households, 2 businesses, 3 churches, and 1 anchor location. Bay Springs will offer broadband service from 250 Mbps at \$54.95 to gigabit speed at \$79.95. The project plans to leverage existing fiber and continue building a network using a fiber to the home architecture utilizing passive optical networking (PON) technology and topology.</p>
<p><b>BRUCE TELEPHONE COMPANY NTIA FIBER EXPANSION PROJECT</b></p>	<p>This project is led by Bruce Telephone, a subsidiary of Fail Telecommunications Corporation, which has decades of experience providing voice and broadband to rural Mississippi. This project will reach areas of rural Calhoun County.</p>	<p>The FTTH project will construct 154 miles of buried fiber. The project will include 216 census blocks serving 943 unserved household and 10 businesses. Bruce Telephone will offer broadband service of 250 Mbps for \$49.99 to gigabit speed for \$79.95. The project plans to leverage existing fiber and continue building a network using a fiber to the home architecture utilizing passive optical networking (PON) technology and topology.</p>
<p><b>CABLESOUTH MEDIA 3 DBA SWYFTCONNECT (COLLINS)</b></p>	<p>This project is led by CableSouth Media 3. The project will cover portion of Covington County and include 227 census blocks.</p>	<p>The project will upgrade 19 miles of a fiber/coaxial network to Docsis 3.1 technology. The project will serve 1,955 unserved households, 201 businesses, and 6 anchor institutions. CableSouth will offer broadband service from 200 Mbps at \$50 to gigabit speed at \$89.99. Collins will be built on a distribution network will be composed of Passive Optical Network (PON) elements delivered over a Fiber to the Premise (FTTP) distribution plant. These distribution elements will include Gigabit Passive Optical Networking and 10 Gigabit XGS-PON technologies. Last Mile subscribers will be served via PON nodes scaled as appropriate to meet subscriber bandwidth demands.</p>
<p><b>CABLESOUTH MEDIA 3 DBA SWYFTCONNECT (POPLARVILLE) *</b></p>	<p>This proposed project is led by CableSouth Media 3, a cable tv company operating in 6 cities in the state of Mississippi. The proposed project will cover areas of the City of Poplarville.</p>	<p>The proposed project will require approximately 46 miles of aerial fiber optic cable and offer service to 1,459 unserved household locations. Subscribers will have access to a network capable of 10 Gbps speeds.</p>

<p><b>C SPIRE ISSAQUENA (MAVERSVILLE):</b></p>	<p>This project is led by broadband provider C Spire, a privately held company that provides wireless telecommunications and all-fiber broadband services to nearly 1 million subscribers across 3 states.</p>	<p>The FTTH project will construct 10 miles of fiber. The project will cover areas of Issaquena County and cover 120 unserved household locations, 10 businesses, including 2 anchor locations, in 34 census blocks. C Spire will offer broadband service at \$80.00 for gigabit speed. The project will consist of a mix of middle-mile and last-mile connectivity of which engineering work and permitting has already begun. In order for Mayersville to receive connectivity, a middle mile route must be constructed of approximately 10 miles. Once the middle mile is complete, last-mile connectivity will be constructed to build out the entire community. The project plans to leverage existing fiber and continue building a network using a fiber to the home architecture utilizing passive optical networking (PON) technology and topology.</p>
<p><b>C SPIRE MADISON COUNTY (LIVINGSTON ROAD)</b></p>	<p>This project is led by broadband provider C Spire, a privately held company that provides wireless telecommunications and all-fiber broadband services to nearly 1 million subscribers across 3 states.</p>	<p>The FTTH project will construct 10.7 miles of fiber. The project will cover areas of Madison County and cover 101 unserved household locations, and 32 businesses in 33 census blocks. C Spire will offer broadband service at \$80.00 for gigabit speed. The project plans to leverage existing fiber and continue building a network using a fiber to the home architecture utilizing passive optical networking (PON) technology and topology.</p>
<p><b>FRANKLIN TELEPHONE (WEST LINCOLN COUNTY)</b></p>	<p>This project is led by Franklin Telephone Company. The project will cover portions of Lincoln County and include 86 census blocks.</p>	<p>The FTTH project will construct 68 miles of buried fiber and serve 223 unserved household locations. Franklin Telephone will offer broadband service from 25 Mbps at \$40 to gigabit speed at \$100. FTC has existing fiber cable and vacant duct facilities along Highways 84 and 98 close to these areas that will be utilized to provide not only connectivity but also ring protection for network resiliency. FTC utilizes transport equipment capable of deploying Active Ethernet service as well as a variety of PON options, e.g. GPON, XGS-PON, etc.</p>
<p><b>FRANKLIN TELEPHONE (BUDE) *</b></p>	<p>This proposed project is led by Franklin Telephone Company. This proposed project will cover the town of Bude in Franklin County to build Fiber to the Home (FTTH) facilities capable of providing broadband speeds of up to 1 Gbps symmetrical and beyond as technology improves.</p>	<p>This proposed project consists of 15.37 miles of buried construction in Lincoln County and will provide service to approximately 562 households, 22 business locations, and 21 community anchor institutions.</p>
<p><b>FRANKLIN TELEPHONE (LOWER MEADVILLE RD.) *</b></p>	<p>This proposed project is led by Franklin Telephone Company. This proposed project will cover the town of Bude in Franklin County as well as Lower Meadville Road in Lincoln County to build Fiber to the Home (FTTH) facilities capable of providing broadband speeds of up to 1 Gbps symmetrical and beyond as technology improves.</p>	<p>This proposed project consists of 0.9 miles of buried construction in Lincoln County and will provide service to approximately 16 households, 22 business locations, and 21 anchor institutions.</p>
<p><b>UPLINK LLC BROADBAND DEPLOYMENT TO COAHOMA COUNTY</b></p>	<p>This project is led by Uplink, a wireless internet service provider providing Coahoma County and the surrounding area with unlimited highspeed internet. The project will cover rural Coahoma County. The total county population is 22,124. The project will have a service area of 121 census blocks.</p>	<p>The project will include 90.87 miles of fiber construction and cover 984 unserved households. Uplink will offer broadband service from 100 Mbps at \$55 to gigabit speed at \$100. The provider will be using a mix of technologies, deploying fiber to the home in areas of high density and using wireless technology in areas of low density where the cost becomes excessive to deploy fiber optics.</p>

<p><b>UPLINK LLC (CLACK) *</b></p>	<p>This proposed project is led by Uplink, a wireless internet service provider providing Coahoma County and the surrounding area with unlimited highspeed internet. The proposed project will cover the Clack community in Tunica County.</p>	<p>The proposed project will consist of 23.6 miles passings a total of 344 unserved households within a 1,500-buffer zone along the route. This area is incredibly impoverished. Access to high-speed internet will allow BEAM and partners to bring digital skills and accessibility programs to this community.</p>
<p><b>UPLINK LLC (FISH CAMP) *</b></p>	<p>This proposed project is led by Uplink, a wireless internet service provider providing Coahoma County and the surrounding area with unlimited high-speed internet. The proposed project will cover the Fish Camp community in Tunica County.</p>	<p>The proposed project will construct 11 miles of fiber with 198 passings and offer 1 Gbps to a total of 198 unserved households. BEAM recently had a town hall meeting in Tunica and heard first-hand of poor cell phone service and people not being to call 911 for emergency services.</p>

## COMMUNITY ENGAGEMENT MEETINGS

NAME	TIMELINE - START
Bottom Rebuilders Legislative Forum	2022-07-25
MS Legislative Black Caucus Forum	2022-09-22
MS Legislative Black Caucus Update	2022-10-06
Delta Community Meeting	2022-10-27
Clinton Community Meeting (hosted by the City)	2022-11-17
Fayette - Jefferson Co. Board of Supervisors/Community Meeting	2022-12-12
Natchez Community (hosted by the City)	2022-12-12
Liberty Community Meeting	2022-12-12
Brookhaven Community Meeting	2022-12-13
Woodville Community Meeting	2022-12-13
Magnolia Community Meeting	2022-12-13
Quitman Community Meeting	2023-01-19
Tunica Community Meeting	2023-01-19
Hernando - DeSoto Co. Board of Supervisors/Community Meeting	2023-01-20
Okolona Community Meeting	2023-02-17
Goodman Community Meeting (Holmes CC hosted)	2023-02-22
Indianola Community Meeting (hosted by MCJ)	2023-03-08

Perkinston Community Engagement	2023-04-19
Kosciusko Community Engagement	2023-05-02
Terry Community Engagement	2023-05-09
Learned Community Engagement	2023-06-01
	2022-07-25



## ADMINISTRATIVE MEETINGS

NAME	TIMELINE - START
Mississippi State University (meeting with Extension Service, Mapping council, etc)	2022-04-28
Mississippi Delta Broadband Expansion Meeting	2022-05-24
Minority Business Development Agency	2022-04-28
Jackson Rotary Club	2022-06-14
Electric Cooperatives of Mississippi Board Meeting	2022-07-14
Brookhaven Servitium Club	2022-07-20
Broadband Discussion w/ City of Natchez	2022-07-23
NCPDD Board of Directors Meeting	2022-08-10
MAPDD Directors Meeting	2022-08-17
GIS Council Meeting	2022-10-12
Ridgeland City Administrative Meeting	2022-10-12
Department of Information Technology Services Board Meeting	2022-10-20
GIS Technical Advisory Meeting	2022-10-21
GIS Council Meeting	2022-12-07
Clarksdale - meeting with City/County Officials	2023-01-19
Rankin County Kiwanis	2023-01-25
BEAM Team @ Capitol (for legislators to discuss community engagement)	2022-12-15

Brookhaven City Board Meeting	2022-12-20
Okolona City/County Administrative meeting	2023-02-17
Broadband Expansion Planning Meeting (hosted by Children's Defense Fund & Southern Rural Black Women's Initiative)	2023-02-22
Starkville Rotary Club	2023-03-20
Hinds County Board of Supervisors Meeting	2023-04-03
BIP - TEC Groundbreaking	2023-04-12
Moss Point - City Board Meeting	2023-04-18
Minority Business Development Agency - When Disaster Strikes	2023-04-26
Philadelphia Meeting with City and County Leadership	2023-05-08
Choctaw Nation	2023-05-09
Delta Council - Meeting with BEAM/ Delta Council Director	2023-05-16
New Albany Meet & Greet with Local Officials & Business Leaders	2023-05-18
New Albany Rotary Club	2023-05-18
BIP - Uplink Internet Groundbreaking	2023-05-31
Carthage Rotary	2023-07-14
New Hebron - Meeting with local government	2023-07-17
Brookhaven Board of Aldermen Meeting	2023-07-18
	2022-04-28

## CONFERENCES & SUMMITS

NAME	TIMELINE - START
MS Connected Communities Conference	2022-05-18
Rural Infrastructure Summit	2022-06-02
MS Association of Supervisors Conference	2022-06-13
Telse Conference	2022-06-13
Mississippi Municipal League Conference	2022-06-27
Vicksburg Broadband Summit	2022-07-07
SBLN - Summer 2022	2022-08-02
Building Bridges to Global Markets Symposium	2022-08-09
CEDC Virtual Digital Skills Gap Symposium	2022-09-22
MS Humanities Council - Panel Discussion with BEAM & the Bean Path	2022-09-29
MML Small Town Conference	2022-10-13
MAST GIS Conference	2022-10-21
Mississippi Digital Government Summit	2022-09-14
Mississippi E911 Coordinators Conference	2022-10-24
DBE Infrastructure Network Dialogue	2022-11-01
MS Association of Supervisors Fall Workshop 2022	2022-11-01
Broadband & Digital Equity Plan Workshop	2022-10-31

Ready.net Conference	2022-12-08
MS Alliance of Nonprofits & Philanthropy	2023-01-13
MS VA Conference	2022-12-01
SBLN - Winter 2023	2023-02-07
South Central Telehealth Resource Center Panel - Broadband Discussion	2023-02-09
Incompas Policy Summit	2023-03-06
GMBCS Christian Leaders & Educators Conference	2023-03-13
MAPDD Conference	2023-04-18
MSBA Summit	2023-05-11
Digital Equity Plan Administering Entities Workshop	2023-06-05
MML Conference	2023-06-26
Broadband Brunch (State Agency Meeting)	2023-07-13
State Broadband Leaders Network Conference	2023-08-14
	2022-05-18

## RADIO, TV, AND OTHER EVENTS

NAME	TIMELINE - START
WLBT Interview	2022-07-26
Clarion Ledger Interview w/ Ross Reily	2022-09-08
Governor Reeves Press Conference	2022-11-01
Radio Interview with Randy Bell	2022-11-09
Gallo Radio Show	2022-11-30
MidDays with Gerard Gibert	2022-12-02
Mississippi Today Podcast	2022-12-15
Supertalk - Brookhaven	2023-02-22
AMA! With Broadband.money	2023-01-06
Fierce Telecom Interview	2023-03-08
Delta Business Journal Interview	2023-03-10
Supertalk MSGC	2023-04-13
WLBT Interview with Courtney Ann Jackson re: Telehealth	2023-04-25
Middays with Gerard - Supertalk MS	2023-05-30
MPB Interview	2023-05-30
iHeart Radio - Randy Bell	2023-06-02
WLBT Interview	2023-06-09

Gallo Radio Show	2023-06-27
	2022-07-26

