December 29, 2017

Senator Bill Sample
Representative David L. Branscum
Arkansas Legislative Council
State Capitol, Room 315
Little Rock, Arkansas 72203

Dear Senator Sample and Representative Branscum,

Pursuant to Act 1168 of 2013, I am pleased to submit the Arkansas State Broadband Manager's Report for the July 1-December 31, 2017, reporting period.

A central focus of this Arkansas State Broadband Manager's Report is to continually evaluate Arkansas's progress in expanding broadband and to track the public and private initiatives that will make broadband increasingly available, adequate, and affordable to all Arkansans regardless of geographical location.

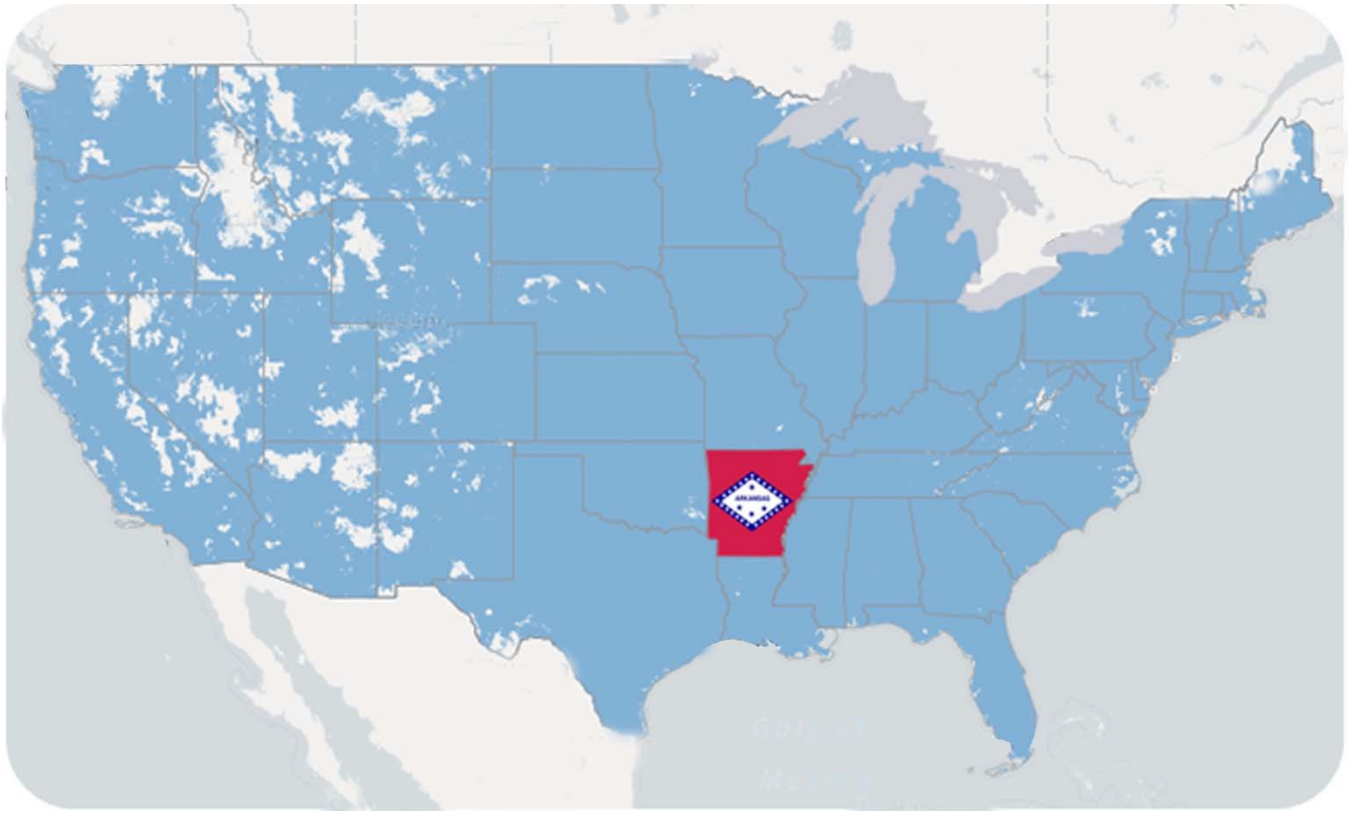
This report illustrates the areas of the state where access to broadband exists and areas where expansion is needed. It identifies barriers to broadband expansion on behalf of the provider community and outlines their suggestions for what the state can do from a regulatory or policy perspective to remove barriers and encourage broadband expansion. This report also underscores the numerous initiatives that reflect the personal commitment and financial investment being made in both the public and private sectors to help move the broadband needle for Arkansas.

Please contact me personally by email at yessica.jones@arkansas.gov or by phone at 501-682-5148 with any questions or additional information about this report.

Sincerely,

Yessica Jones
State Broadband Manager
State Chief Technology Officer
Director, Arkansas Department of Information Systems

ARKANSAS STATE BROADBAND MANAGER'S REPORT



PERIOD ENDING December 31, 2017

Cover Art: This is the National Broadband Map displaying broadband technologies offered to end users (DSL, cable, wireless, fiber, etc.). This data is created and maintained by the National Telecommunications and Information Administration (NTIA) in collaboration with the Federal Communications Commission (FCC), and in partnership with the 50 states, five territories and the District of Columbia.

Contents

Executive Summary

Internet connectivity and access to high speed broadband is now viewed by many as a necessity in parallel to other utilities such as water and electricity. It is also considered to be a critical tool for cultivating economic development; enhancing educational opportunities; increasing the effectiveness and responsiveness of public safety; expanding health care to rural Arkansans; empowering citizens to interact with and connect with government, among others.

This semi-annual Arkansas State Broadband Manager's Report reflects the initiatives taking place within the federal and state public sector and by the private sector to expand and bring the power of broadband to Arkansans in all geographic regions of the state. Initiatives range from the adoption of new policies, changes to existing policies, the build out of broadband infrastructure, and broadband mapping of the state to illustrate where adequate high speed broadband exists and areas where expansion is needed.

As the report provides details in the state's areas of focus (availability, affordability and adequacy) for broadband expansion, the following key findings illustrate the progress.

Key Findings

- 77-79.6 percent of Arkansans have access to FCC defined broadband speeds
- 80-100 percent of Arkansans will have access to at least 10Mbps of fixed broadband upon completion of projects funded by CAFII.
- 64.2 percent of Arkansans report a subscription to at least one or more of the following broadband internet subscriptions, DSL, cable, fiber optic, mobile broadband, satellite, or fixed wireless
- Broadband subscription rates drop to 20 percent or less within Little Rock Metro area neighborhoods with a 20%+ poverty rate
- 100 percent of K-12 school districts in Arkansas are not connected to an all fiber, high speed broadband network

Even with tremendous progress, Arkansas still ranks as the 48th most connected state in the nation, according to BroadbandNow. Much work remains to ensure that every Arkansan has access to high-speed internet in the coming years.

Background

Arkansas Code Annotated § 25-4-125 designates the director of the Arkansas Department of Information Systems to serve as the state broadband manager to coordinate the state's efforts to expand and improve broadband capacity and availability. The state broadband manager serves as the single point of contact for state agencies, boards, commissions, and constitutional officers, including without limitation the governor, Department of Education, Department of Higher Education, the Arkansas State Department of Transportation, private businesses, enterprises, broadband providers, nonprofits, governmental entities and other organizations. The legislation requires the state broadband manager to submit a report on a semiannual basis to the Arkansas Governor's Office, Arkansas Legislative Council, and Joint Committee on Advanced Communications and Information Technology of the activities and operations of the state broadband manager for the preceding six months. The report is to be submitted on or before January 1 and July 1 of each year.

What are the Areas of Focus for Arkansas?

- **Availability**
  Broadband is available if it is accessible to accomplish all necessary goals regardless of the nature of those goals (business or educational, economic or legislatively mandated).

- **Affordability**
  Broadband is affordable if it is both affordable to the consumer to purchase and for the provider to offer.

- **Adequacy**
  Broadband is considered adequate if it provides enough bandwidth to meet the personal, business, educational, and economic development needs of each constituency and is capable of expansion to meet future needs.

What is Broadband?

Definitions:

- Arkansas's Definition (Act 947 of 2009)-"Broadband" means any service used to provide internet access at a minimum speed that is the greater of:
  (A) Seven hundred sixty-eight kilobits per second (768 kbps) in at least one (1) direction; or
  (B) The minimum speed for broadband as defined by regulations of the Federal Communications Commission as of January 1, 2009, or as of a later date if adopted by rule of the Arkansas Broadband Advisory Council
- FCC's Definition - (Federal Communications Commission) categorizes an internet service as "broadband" if it transmits at a speed of at least 25 megabits/second (Mbps) for downloading and at least 3 Mbps for uploading
  Broadband speed requirements vary for personal use versus use by institutions

- Advanced Telecommunications Capability- The FCC has sometimes used the term "broadband" to refer to "advanced telecommunications capability." The definition of advanced telecommunications capability found within this report is without regard to any transmission media or technology, as high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology." The term broadband is not equated to advanced telecommunications capability, but the availability of various broadband services that contribute to advanced telecommunications capability is taken into consideration.

Source: https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-6A1.pdf

What are the Types of Broadband?

- Digital Subscriber Line (DSL)
- Fiber
- Satellite
- Cable Modem
- Wireless (Wi-Fi, Mobile, and Fixed Wireless)

Fixed Broadband

Fixed (wired) broadband services generally require a physical transmission path to connect a user to the internet. Examples include coaxial cable, copper wire, or fiber-optic cable. Cable modem accounts for approximately 59 percent of all fixed broadband service subscriptions. Cable, DSL, and fiber, collectively represent approximately 97 percent of the fixed broadband market.

Source: https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-6A1.pdf

Why is Broadband Important?

Broadband is fast becoming of primary importance for

- Citizens
- Public safety
- Economic development
- Business
- Education
- Health care
- Government
- Environmental management

All of which are significant enablers to economic growth, delivery of services and quality of life.

How Important Is Broadband Speed?

The FCC definition of broadband speed changes as technologies continue to evolve. The FCC indicated that advances in technology, market offerings by broadband providers and consumer demand prompted updating broadband benchmark speeds to 25 Mbps for downloads and 3 Mbps for uploads. The FCC's broadband speed guide below compares typical online activities with the minimum download speed needed to adequately perform each application.

Source: https://www.fcc.gov/reports-research/guides/broadband-speed-guide

Online Activity	
General Usage	**Minimum Download Speed (Mbps)**
• General Browsing and Email	1
• Streaming Online Radio	Less than 0.5
• VoIP Calls	Less than 0.5
• File Downloading	10
• Social Media	1
Watching Video	**Minimum Download Speed (Mbps)**
• Streaming Standard Definition Video	3-4
• Streaming High Definition (HD) Video	5-8
• Streaming Ultra HE 4K Video	25
Video Conferencing	**Minimum Download Speed (Mbps)**
• Standard Personal Video Call (e.g. Skype)	1
• HD Personal Video Call (e.g. Skype)	1.5
• HD Video Teleconferencing	6
Gaming	**Minimum Download Speed (Mbps)**
• Game Console Connecting to the Internet	3
• Online Multiplayer	4

Broadband Snapshot

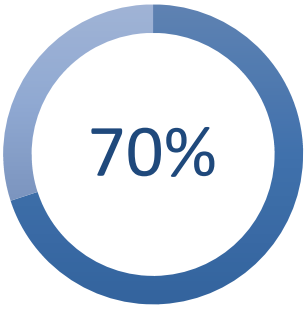
The following statistics provide a snapshot of broadband penetration in Arkansas as researched by BroadbandNow. This private company located in Austin, Texas, collects data for its statistics from the FCC and U.S. Census Bureau and compares it to data acquired from broadband providers and other sources.

Arkansas broadband stats from BroadbandNow:

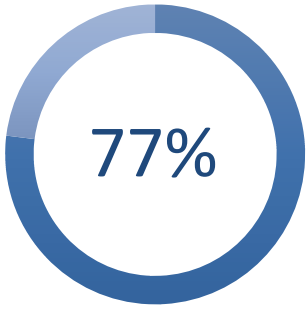
- **124 internet providers in Arkansas**
- **614,000 Arkansans without access to a wired connection capable of providing FCC defined broadband**
- **661,000 Arkansans with access to only one wired provider**
- **230,000 Arkansans without access to any wired provider**

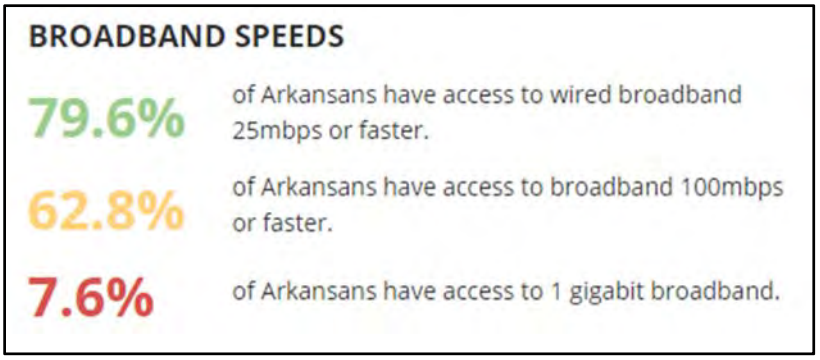
The charts below compare the percentage of Arkansans with access to the FCC defined broadband speed of at least 25mbps/3mbps from the June 30, 2017, reporting period to the December 31, 2017, reporting period. BroadbandNow places the percentage of Arkansans with access to FCC defined broadband from 77-79.6 percent.

As of 6.30.17



As of 12.31.17

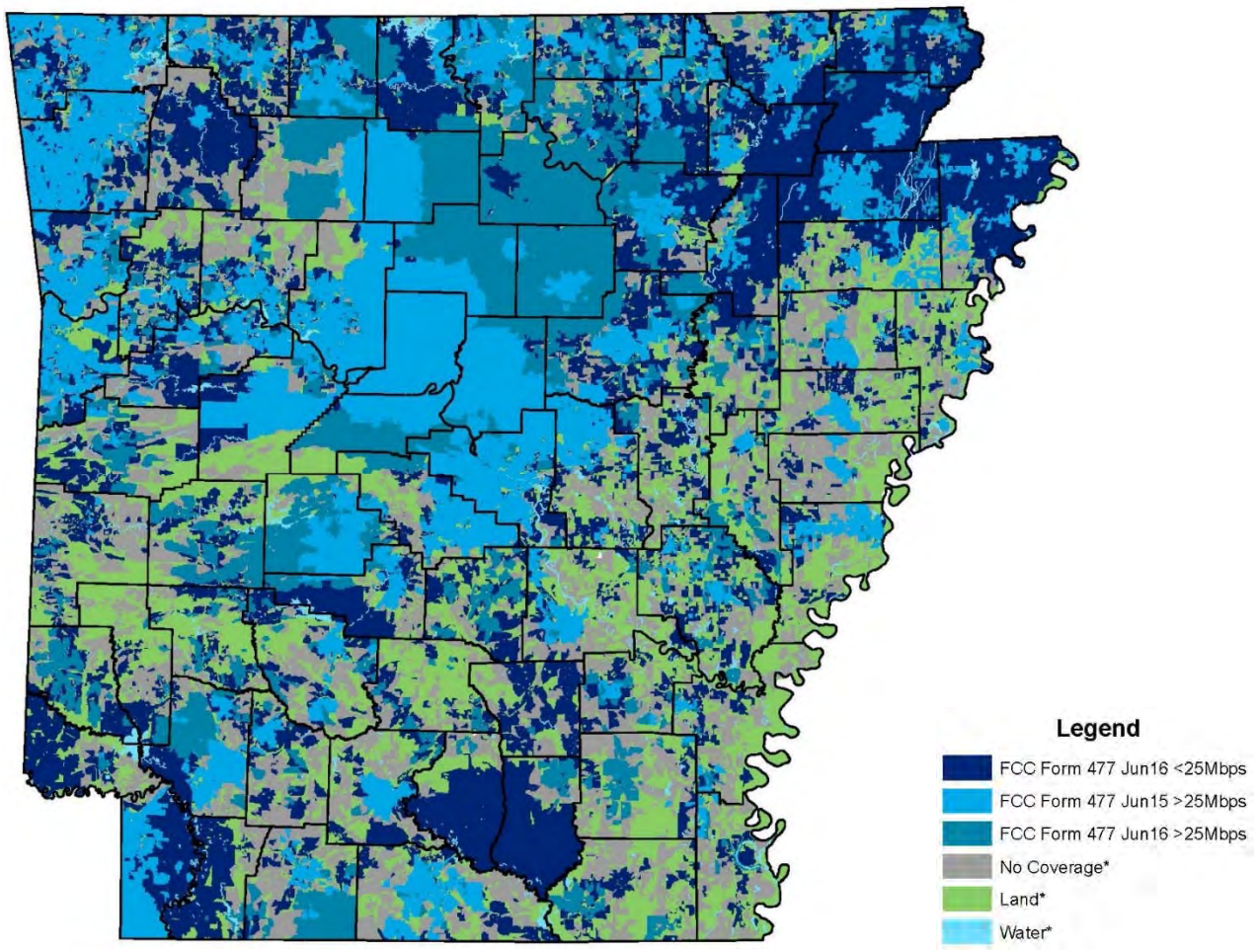




Source: https://broadbandnow.com/Arkansas

2015 & 2016 State Coverage Map of 25Mbps of Fixed Broadband Growth

This map depicts growth of FCC-defined fixed broadband (excluding satellite) of 25Mbps between June 2015 and June 2016.



Source: Arkansas Geographic Information Systems
AGIO Sources: https://www.fcc.gov/general/broadband-deployment-data-fcc-form-477

*No coverage areas on the map legend indicate census blocks containing 1) population 2) land 3) water.

Appendix I: Americans without Access to FCC Defined Telecommunications Capability by State and U.S. Territory
Appendix II: Percentage of County Population with Access to FCC Defined Broadband

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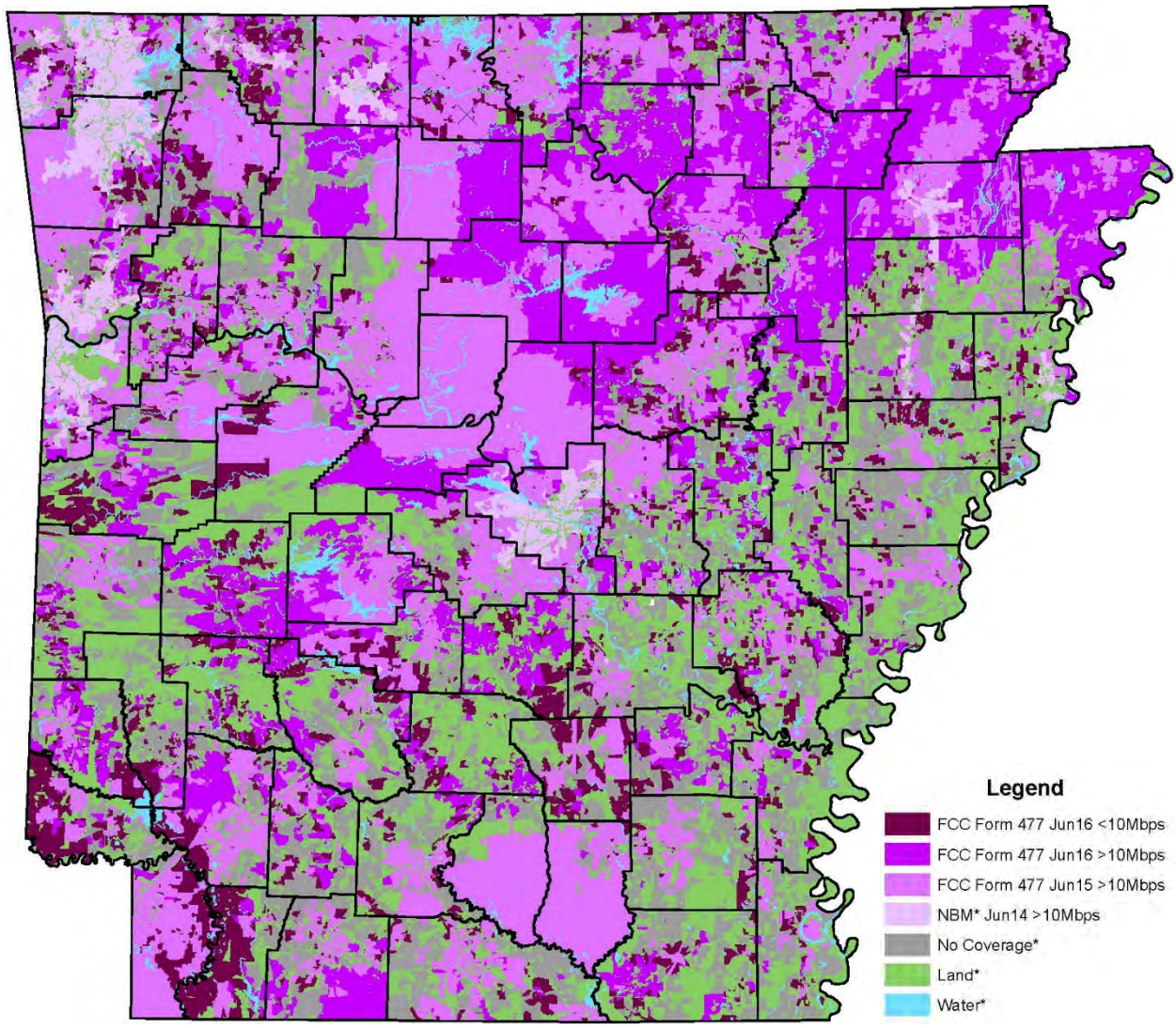
2014-2016 State Coverage Map of 10Mbps of Fixed Broadband Growth*



Source: Arkansas Geographic Information Systems
AGIO Sources: https://www.fcc.gov/general/broadband-deployment-data-fcc-form-477

* Excludes satellite. Although the FCC redefined broadband as 25Mbps/3Mbps, minimum speed requirements for phase II Connect America Fund eligibility were 10Mbps/1Mbps. No coverage areas on the map legend indicate census blocks containing 1) population 2) land 3) water.

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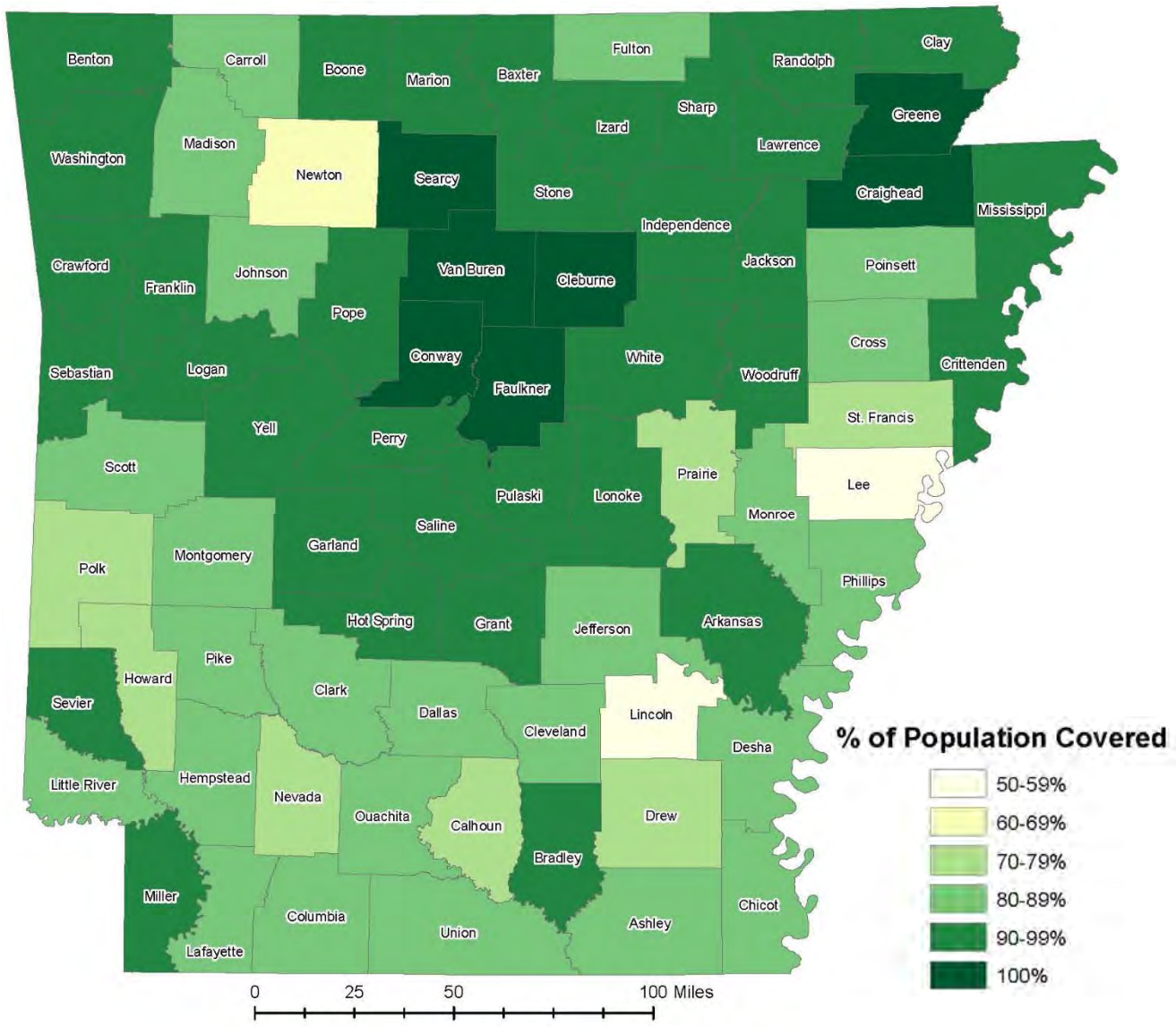
County Populations with Access to Fixed Broadband of any Speed



Source: Arkansas Geographic Information Systems

Appendix III: Percentage of County Population with Access to Broadband at any Speed

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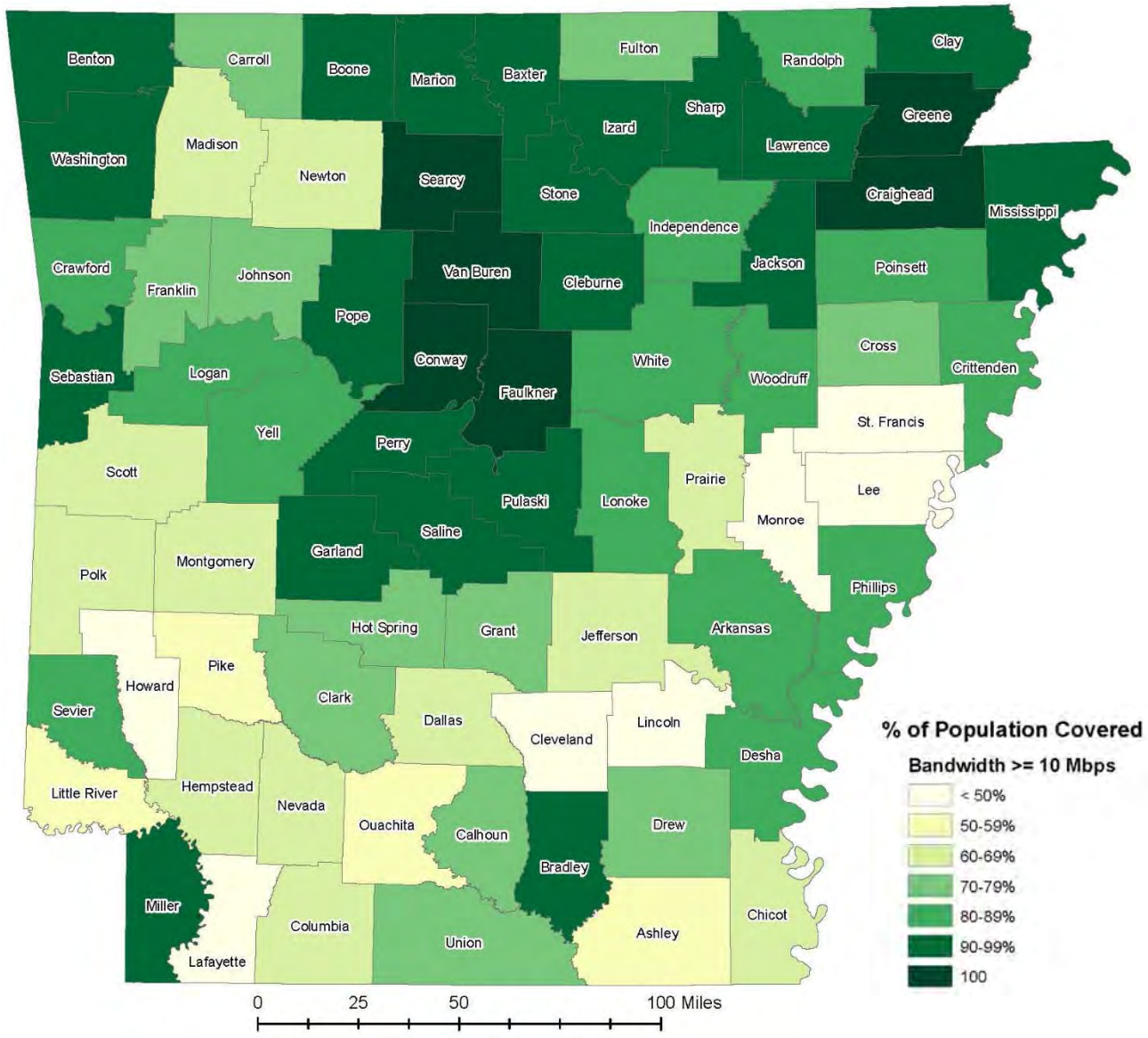
County Populations with Access to 10Mbps of Fixed Broadband*



Source: Arkansas Geographic Information Systems

***Excludes satellite. Although the FCC redefined broadband as 25Mbps/3Mbps, minimum speed requirements for phase II Connect America Fund eligibility were 10Mbps/1Mbps. The rationale for the difference is that it allowed carriers to build networks in rural areas capable of upgrading to faster speeds found in urban areas. The FCC further determined that additional flexibility made it easier for carriers to expand service to more challenging outlying households it otherwise would have excluded from expansion.

Appendix IV: Percentage of County Population with Access to 10Mbps Broadband

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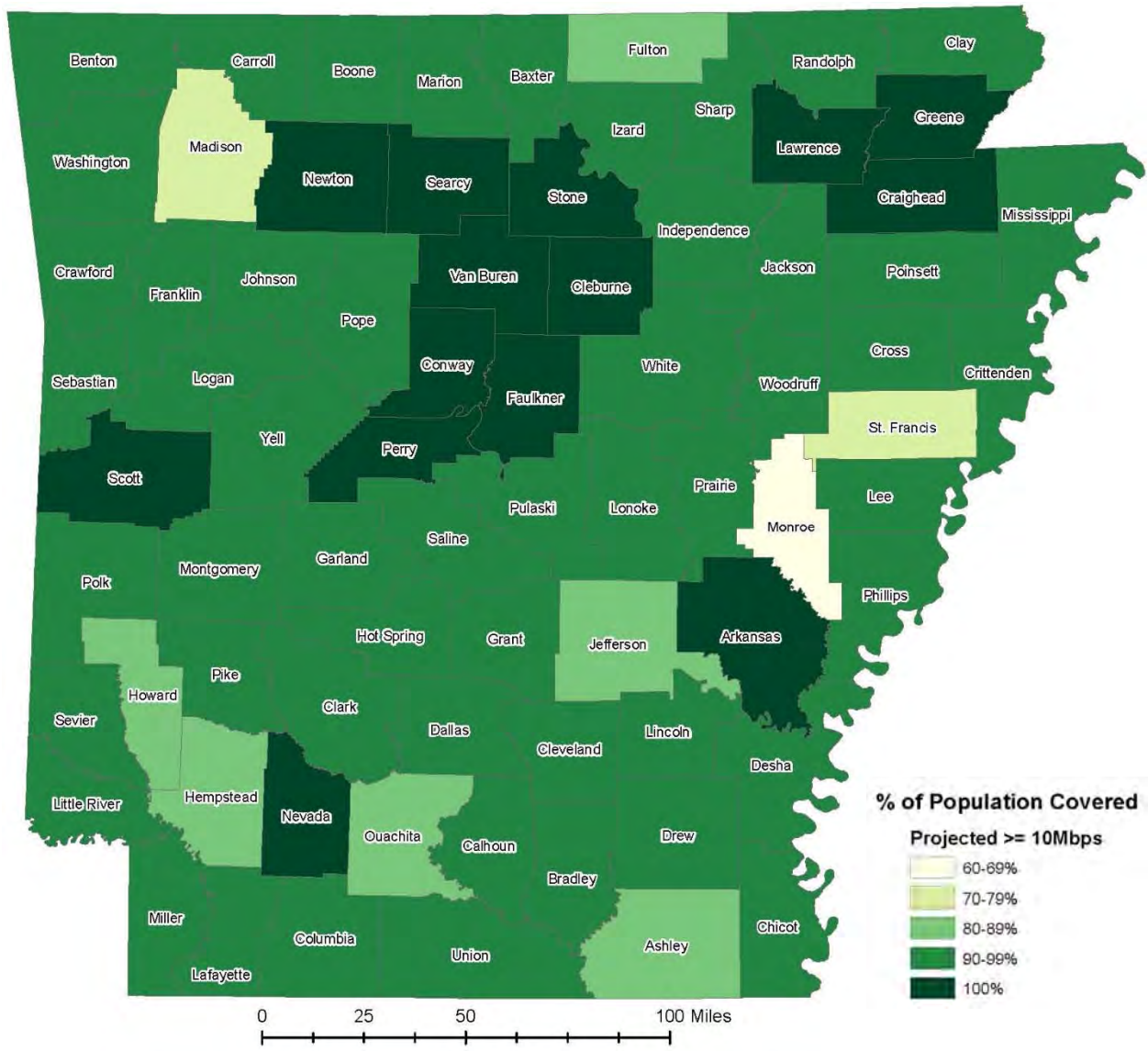
County Populations with Projected Access to 10Mbps of Fixed Broadband upon Completion of CAF II Funded Projects*



Source: Arkansas Geographic Information Systems

*In the Broadband Manager's Activities and Operations Report for period ending December 31, 2015, it was documented that AT&T and CenturyLink received a share of $54 million from phase II CAF to deploy broadband services in rural and remote areas of the state with little or no high speed internet access. This map depicts access to 10Mbps of fixed broadband when projects by AT&T and CenturyLink are completed. The combined total of Arkansans estimated to benefit from these projects was 97,500.

Appendix V: Percentage of County Population with Access to 10Mbps Broadband Upon Completion of CAFII

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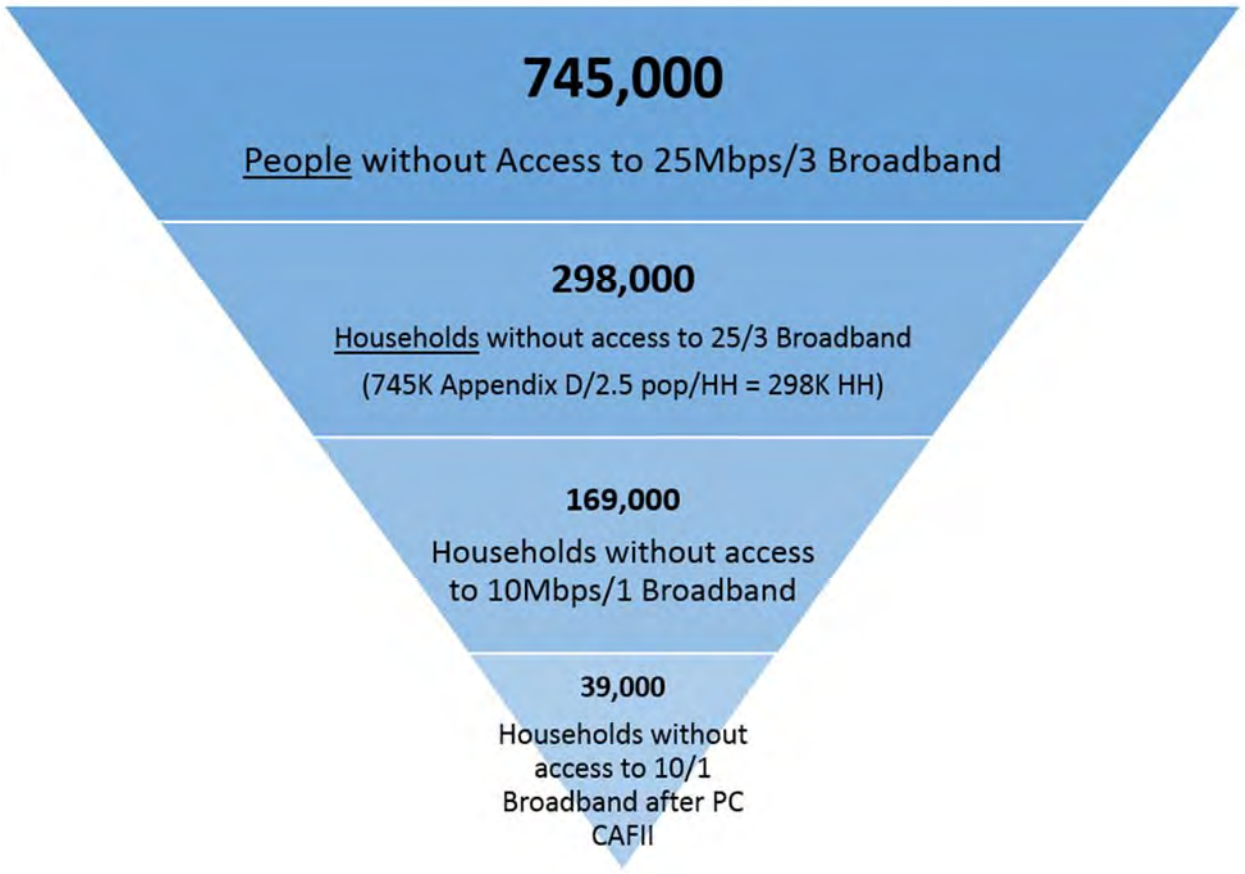
745,000 Unserved in Arkansas

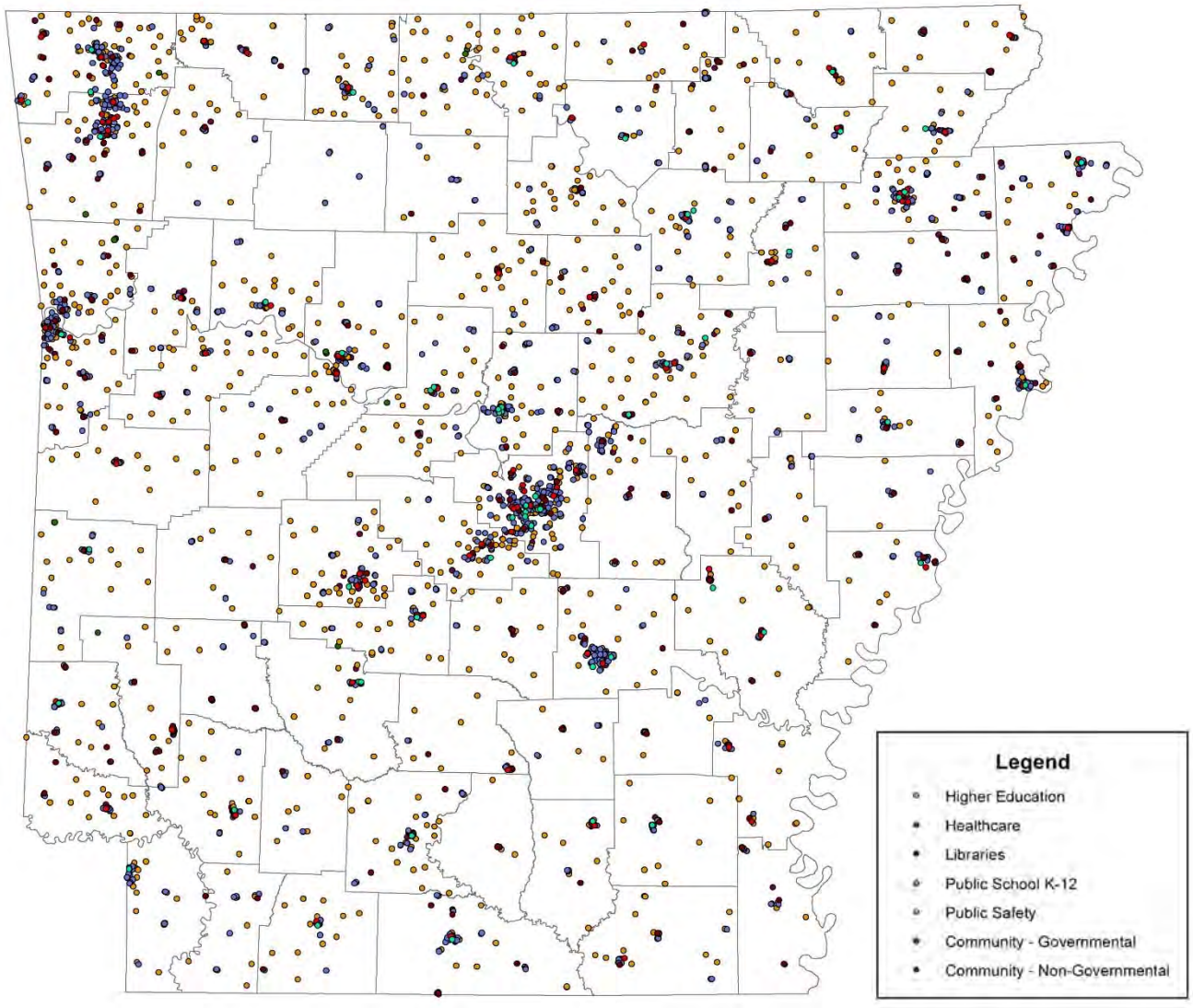


A 39,000 household (or 3.4%) issue after Price Cap carrier CAFII

Sources:
FCC 2016 Broadband Progress Report
https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-6A1.pdf
U.S. Census Bureau, Arkansas "QuickFacts"
http://www.census.gov/quickfacts
NTIA and FCC National Broadband Map
http://www.broadbandmap.gov
FCC Connect America Fund Phase II Funding by Carrier, State, and County
https://www.fcc.gov/document/connect-america-fund-phase-ii-funding-carrier-state-and-county

State Community Anchor Institutions

The dots on this map are state government locations including schools, libraries and other governmental entities where broadband exists.



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Broadband Adoption by Arkansans

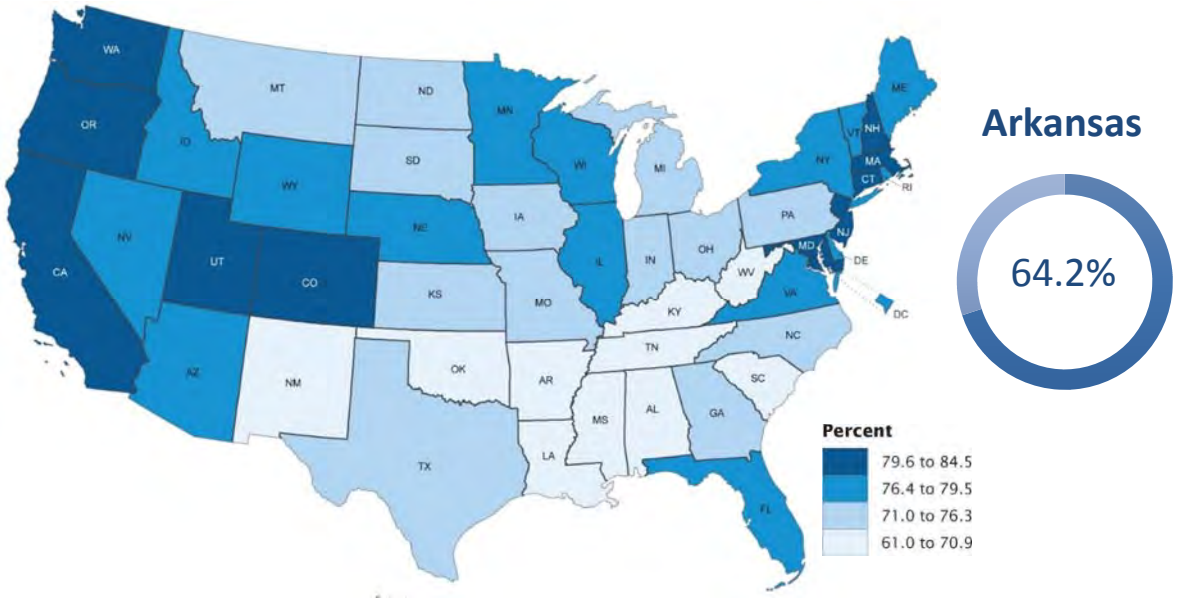
Although broadband adoption is on the rise, Arkansans still lag behind a vast majority of the population when turning to the internet for aspects of daily life, according to American Community Survey Reports on Computer and Internet Use in the United States by the U.S. Census Bureau.

The percentage of all U.S. households with either a desktop or laptop computer reached 78 percent, followed by 75 percent with a handheld computer such as a smartphone or other mobile device, and 77 percent had a broadband subscription. Overall, 62 percent of U.S. households had a combination of three (desktop, laptop, handheld device, smartphone, broadband internet subscription).

In Arkansas, 64.2 percent of the population reported having one or more of the following broadband internet subscriptions, DSL, cable, fiber optic, mobile broadband, satellite, or fixed wireless.

Percentage of Households with Broadband Internet Subscription by State 2015

(released in September 2017)



Source:
https://www.census.gov/content/dam/Census/library/publications/2017/acs/acs-37.pdf

Appendix VI: Percentage of U.S. households with a broadband internet subscription: 2015

Broadband Affordability in Arkansas

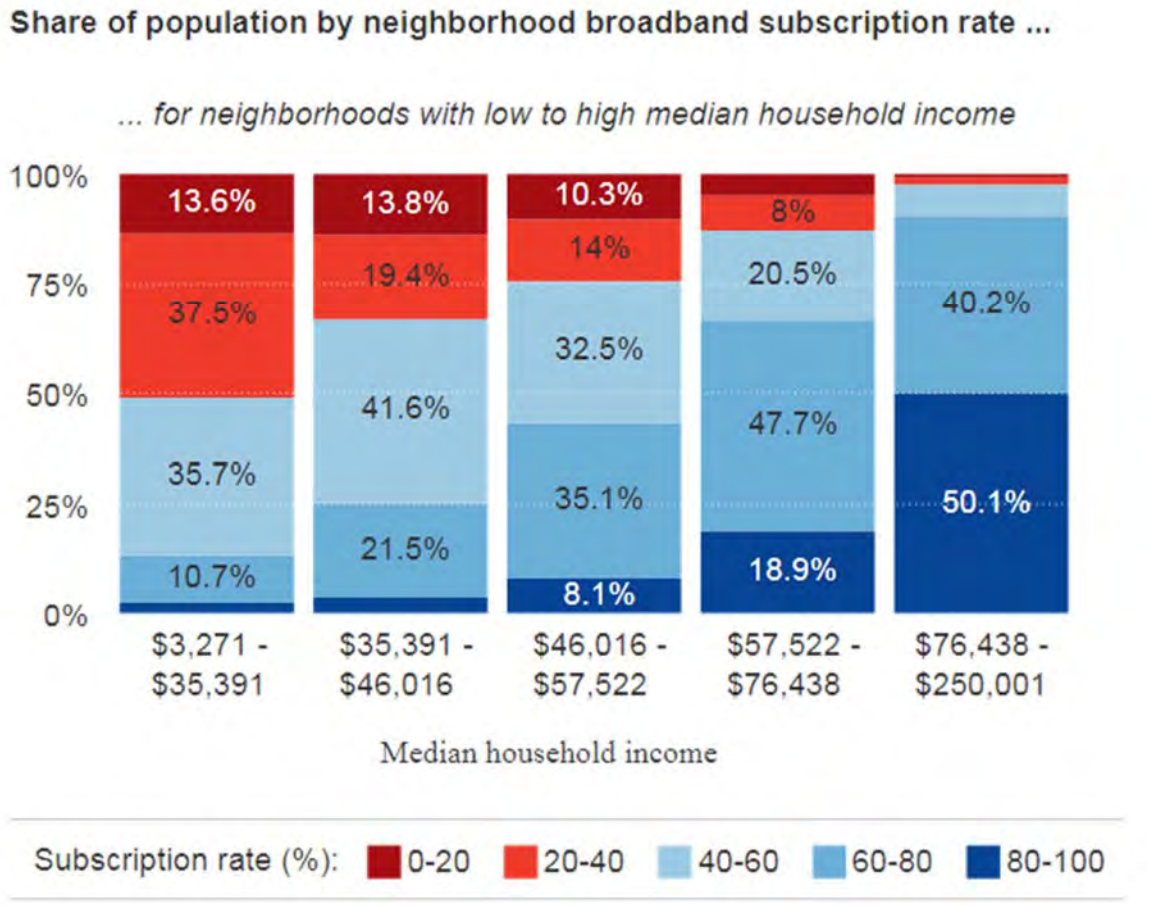
Cost continues to be the number one obstacle for broadband adoption at home. A study of barriers to broadband adoption by Pew Research Center pointed to multiple factors for why residents do not subscribe to high-speed service at home.

- Monthly cost of a broadband subscription is too much
- Cost of a computer
- Functionality of mobile devices rivals the monthly cost of in-home broadband makes traditional broadband a lesser priority
- Lack of access to suitable broadband service in their area

A majority (65 percent) of non-adopters said that a lack of home broadband is a major disadvantage of some sort.

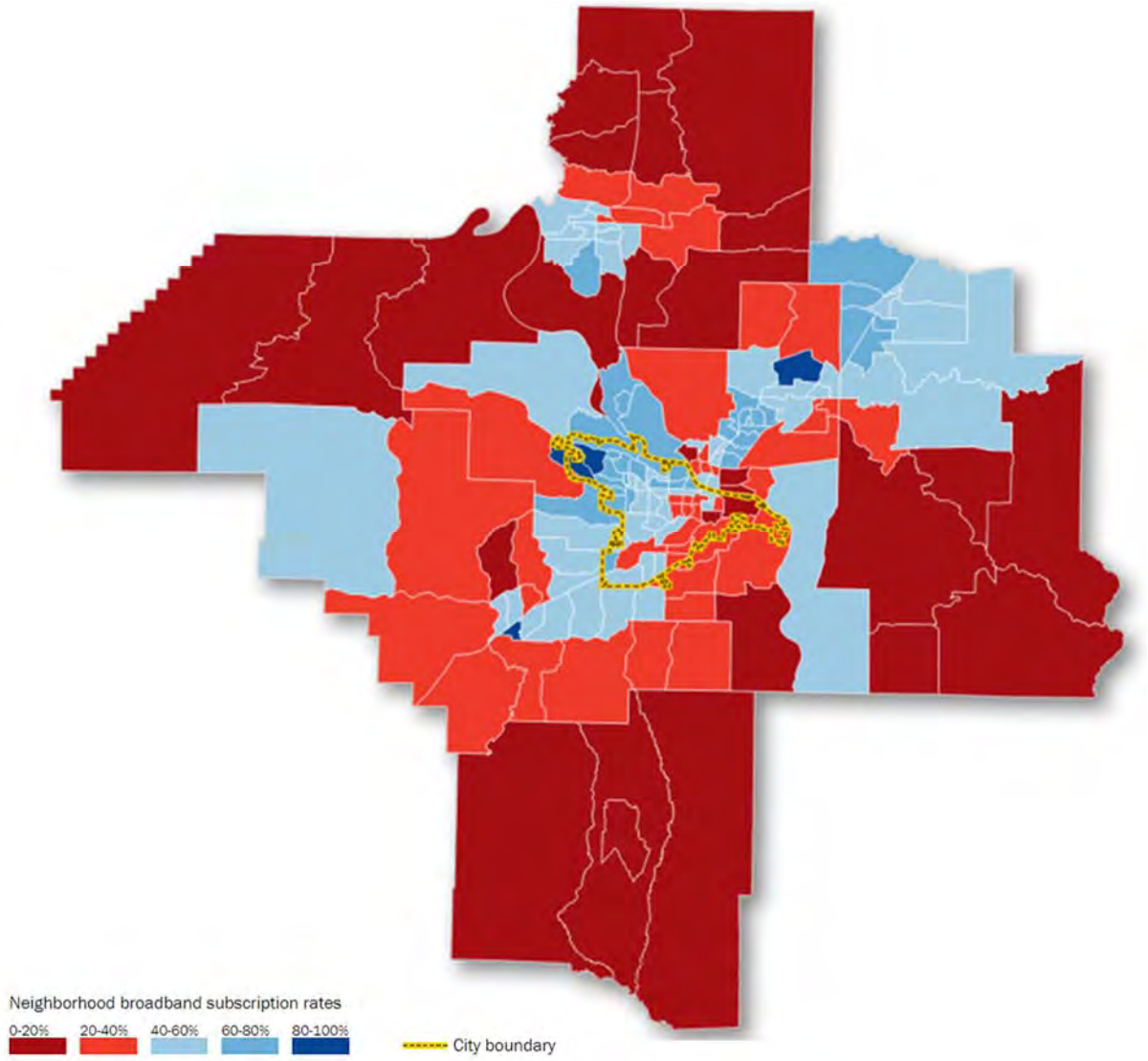
Source: http://www.pewinternet.org/2015/12/21/3-barriers-to-broadband-adoption-cost-is-now-a-substantial-challenge-for-many-non-users/

Income and education are also two key factors most closely correlated with broadband adoption. High subscription areas tend to be high income and have a smaller percentage of population with less than a high school diploma.

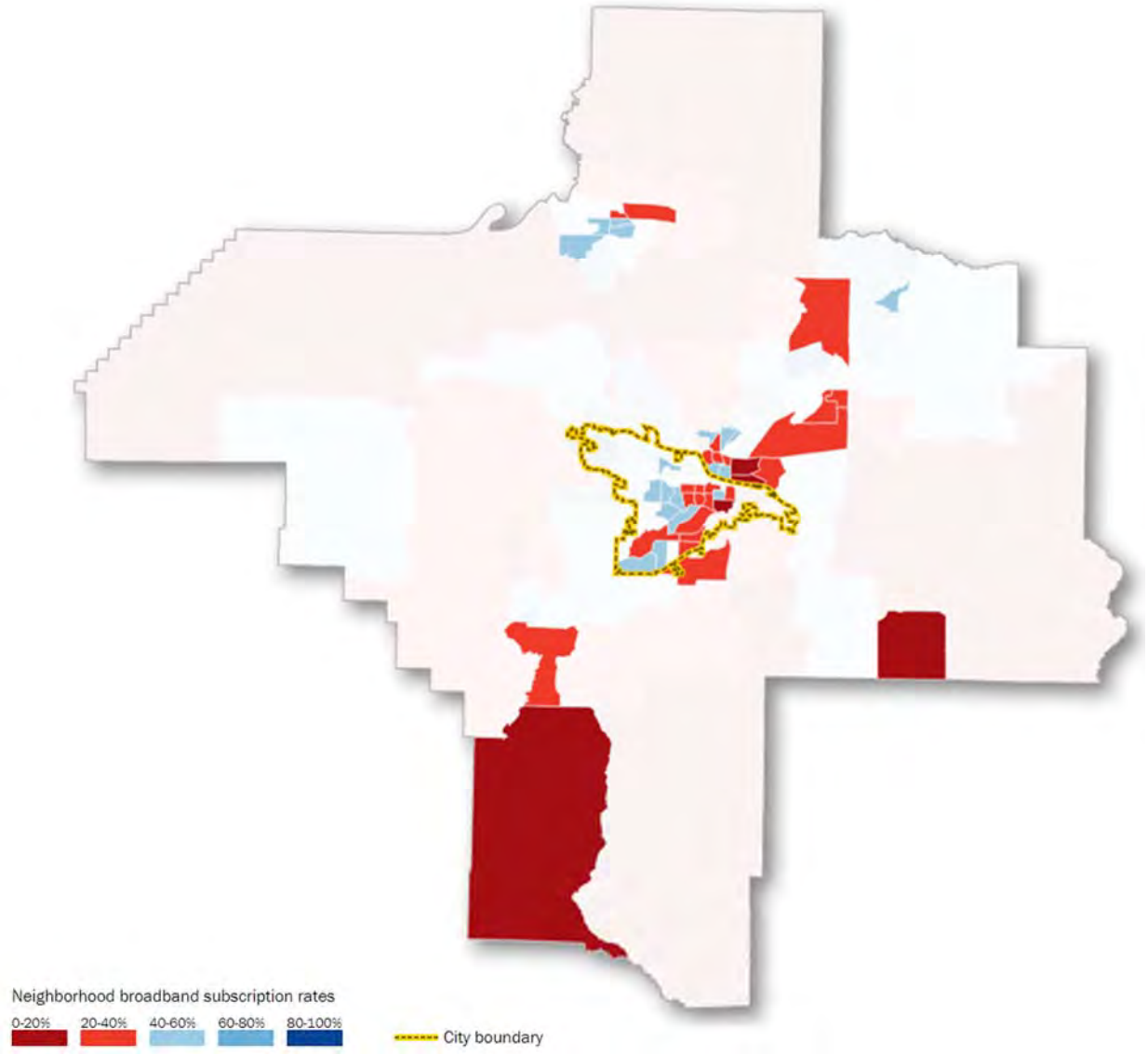


The digital disconnect and low subscription patterns become evident when mapping the broadband subscription data in the Little Rock metro area (Little Rock, North Little Rock, and Conway) at the neighborhood scale.

Little Rock Metro Broadband Subscription Rates



Little Rock Metro Broadband Subscriptions with a 20%+ Poverty Rate

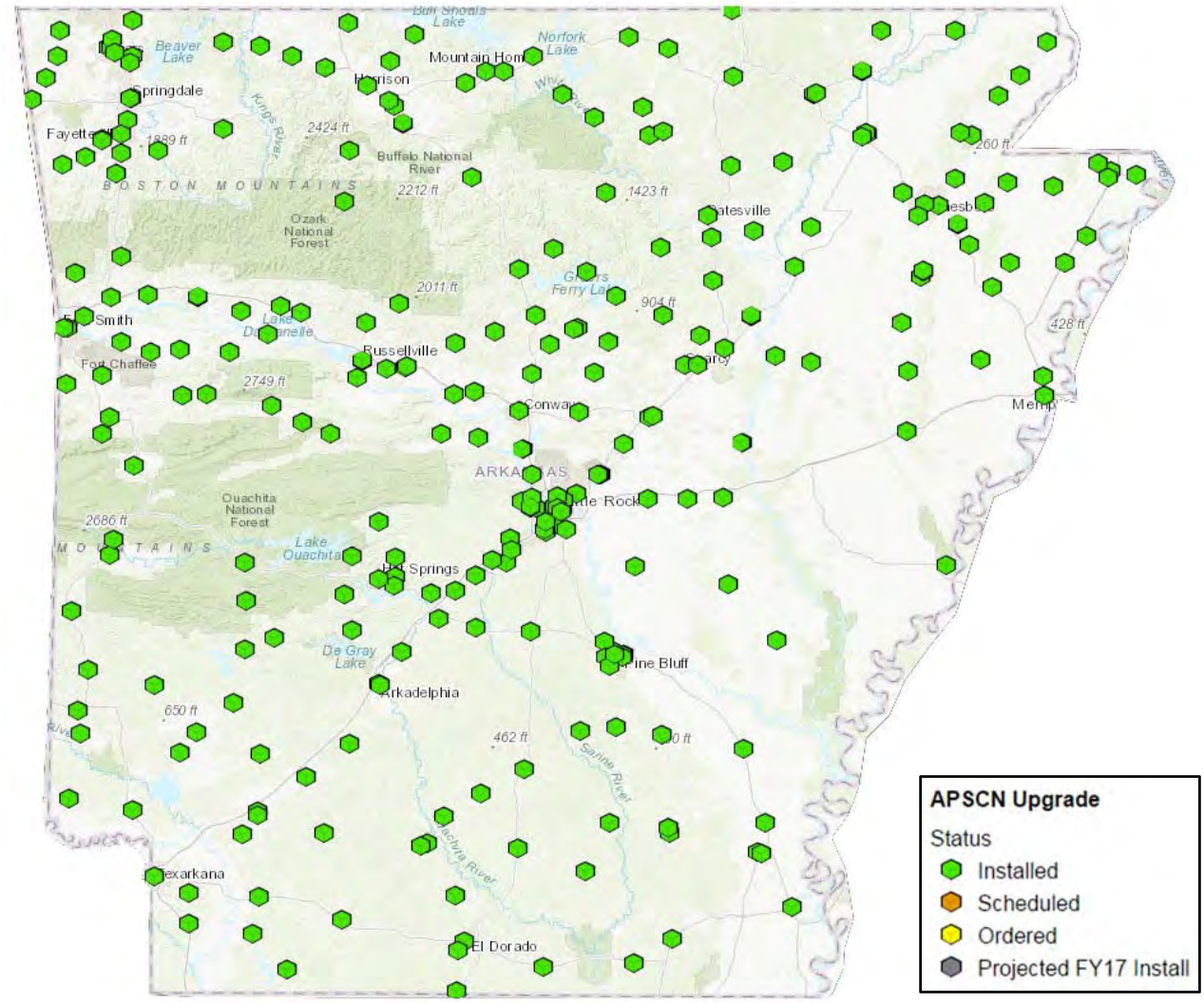


Source: https://www.brookings.edu/research/signs-of-digital-distress-mapping-broadband-availability/

Arkansas Public School Computer Network (APSCN)

A top priority for Governor Asa Hutchinson, the Arkansas Department of Education, and the Arkansas Department of Information Systems (DIS) was to ensure that the state's K-12 public schools had sufficient high-speed broadband services to support online testing and digital learning. This priority was realized in July 2017 when 100 percent of the state's K-12 school districts were connected to high speed broadband through the Arkansas Public School Computer Network (APSCN).

The accomplishment ranks Arkansas at the top of the nation as one of only nine other states (Hawaii, Kentucky, North Dakota, South Dakota, Utah, Vermont, West Virginia and Wyoming) to achieve broadband connectivity to 100 percent of its K-12 schools. Arkansas doubled the FCC internet access target of 100 Kbps/student to reach 200 Kbps/student off highly secure, E-rate eligible, state funded, high speed broadband connectivity.



Dark Fiber Transport Services

The Department of Information Systems (DIS) issued an Invitation for Bid (IFB) through the Office of State Procurement, November 9, 2016, to obtain pricing and contract(s) for dark fiber transport services. Bids were subsequently awarded to two vendors. The deployment of the dark fiber will form two fiber rings connecting the state's two data centers and multiple point to point spurs creating a High Speed Optical Network accommodating speeds of 10, 40, and 100 Gigabit Ethernet. This will encompass two fiber rings connecting the state's two data centers and other state buildings having a need for bandwidth and equipped with emergency power.

Update: As of this reporting period, the first dark fiber ring has been completed. The second ring is expected to be completed in January 2018. Spurs serving a number of major state buildings are on order from the vendors.

Appendix VII: Project Concept and Buildings with State Entities Impacted

FCC Announces Formation of Rural Broadband Auctions Task Force

The mission of the Rural Broadband Auctions Task Force will be to oversee the Connect America Fund Phase II (CAF-II) auction that will offer almost $2 billion to connect unserved and underserved locations over the next decade. The task force will also oversee the Mobility Fund II (MF-II) auction that will offer more than $4.5 billion in new funding for expanding 4G LTE mobile coverage across rural America.
Source: https://apps.fcc.gov/edocs_public/attachmatch/DOC-344201A1.pdf

Update: The FCC announced the first use of an auction to allocate Connect America Funds (CAF) for the expansion of fixed broadband and voice services in rural areas. The auction will provide $2 billion over 10 years in rural areas unserved by fixed broadband. The new auction approach is expected to attract new entities.
Appendix VIII: Full Press Release

H.R. 4308-Rural Broadband Expansion Act

The Rural Broadband Expansion Act would authorize $100 in new grant funding from the Community Connect Grant Program to expand broadband in rural areas where it is economically prohibitive for private providers. The funds would be authorized annually through 2023.
Source: https://www.congress.gov/bill/115th-congress/house-bill/4308/text

Private Initiatives to Expand Broadband

Aristotle/Southeast Arkansas Economic Development District Partnership

Aristotle and the Southeast Arkansas Economic Development District (SEAEDD) announced a partnership to develop a long-range plan for broadband deployment in a 10 county region served by the SEAEDD. Aristotle will be responsible for designing broadband network solutions. The counties served by the SEAEDD include Arkansas, Ashley, Bradley, Chicot, Cleveland, Desha, Drew, Grant, Jefferson and Lincoln.

Appendix IX: Southeast Arkansas Economic Development District and Aristotle Unified Communications Announce Broadband Initiative

Arkwest Communications

Arkwest Communications will be fiber to the home companywide by the third quarter 2018 making gigabit service possible to its entire customer base. This is made possible through RUS and the Arkansas High Cost Fund.
Source: Broadband provider survey

AT&T Launches Fixed Wireless Internet in Rural and Underserved Areas

Rural and underserved locations in Arkansas fell under a September 27 announcement by AT&T that fixed wireless internet was available to residents and small businesses in a rollout encompassing 18 states. The initiative to provide access to over 400,000 locations by the end of the year and over 1.1 million locations by 2020 was part of AT&T's FCC Connect America Fund commitment. The service delivers

CenturyLink

CenturyLink is competing in the CAFII program. Upon completion of the program, the company will upgrade or add over 44,000 living units. That number does not include the "halo" effect which includes customers benefitting from CAFII upgrades that are not located within CAFII areas.
Source: Broadband provider survey

HillBilly Wireless

HillBilly Wireless currently has 115 towers in the northeast corner of Arkansas and south of I-30 around Malvern and Poyen. Twelve towers are scheduled for turn up in May/June. Land was purchased. Eight towers were built and 12 water towers were leased over the last year to provide service to rural areas. A project to replace all back-hauls to provide customers with more bandwidth is 80 percent completed.
Source: Broadband provider survey

Ouachita Electric Cooperative

Ouachita Electric began a project to bring some of the fastest Internet service in the U.S. to its co-op members. A collaborative effort with South Arkansas Telephone, which already provides Internet service to half of Ouachita Electric's service territory, and the Arkansas Rural Internet Service (ARIS), is set to bring phone, video, and gigabit Internet service — more than ten times the speeds typically offered by cable companies — to all 9,500 homes and businesses throughout Ouachita Electric's service territory.
Source: https://ilsr.org/arkansas-utility-leads-on-energy-broadband/

Arkansas Electronic Cooperative Sets Bar for Rural Fiber Broadband

OzarksGo, a subsidiary of Ozarks Electric Cooperative, is set to become the first electric cooperative in the country to deploy NG-PON2. After launching the subsidiary in June of 2016 to bring broadband to its members in Northwest Arkansas and Northeast Oklahoma, OzarksGo has seen great success with its service offering, including all-fiber gigabit Internet, premium television, and telephone services. Now, with NG-PON2, OzarksGo is further surpassing their competition by preparing to offer speeds of up to 40 Gbps in the future and delivering a superior subscriber experience to both residents and businesses.
Appendix X: Full Press Release

Microsoft Outlines Vision for Rural Broadband Expansion

Microsoft unveiled a rural broadband strategy combining private sector capital investments along with public sector support that it says can eliminate the rural broadband gap by July 4, 2022. In the strategy, Microsoft said it will invest in partnerships with telecommunications providers that will connect 2 million rural Americans to broadband. It announced an initiative to provide digital literacy training to people in rural communities. It launched a new program to stimulate investment through technology licensing. In the report, Microsoft said TV white spaces offer an optimal solution to connect millions of Americans in rural areas to broadband at 50 percent less than the cost of fixed wireless (4G LTE) technology and 80 percent less than fiber-to-the-home.
Source: https://msblob.blob.core.windows.net/ncmedia/2017/07/Rural-Broadband-Strategy-Microsoft-Whitepaper-FINAL-7-10-17.pdf

Premier Broadband

Premier Broadband was started in a Hope, Arkansas, with the aim of delivering high quality and ultra-high speed internet service only available in large cities to residents in Hope and Hempstead County. According to the company's website, Premier will launch the new services prior to the holidays. It will offer business speeds up to 50 Mbps. The company said it would bring best-of-breed technologies major carriers deploy to rural Arkansas.
Source: https://www.premierbroadband.com/new-high-speed-internet-hope-arkansas/

Pinnacle Communications

Our CLEC (Pinnacle Telecom) has expanded fiber into Fort Smith, Alma and Van Buren. The company is currently building Ozark to bring faster internet solutions with gigabit capabilities to areas of these communities where demand and economies are aligned.
Source: Broadband provider survey
Update: The company has expanded fiber into Fort Smith, Alma and Van Buren. It is currently building Ozark to bring faster internet solutions with gigabit capabilities to areas of these communities where demand and economies are aligned.

The Computer Works

The Computer Works in Conway introduced fiber broadband to its customer base in Faulkner County. The company was focusing efforts on providing fiber service to residents of Vilonia. Certain neighborhoods have been completed. The company's goal was to have the majority of the city served by the end of the year.
Source: July 19, 2017 article published in the Log Cabin Democrat

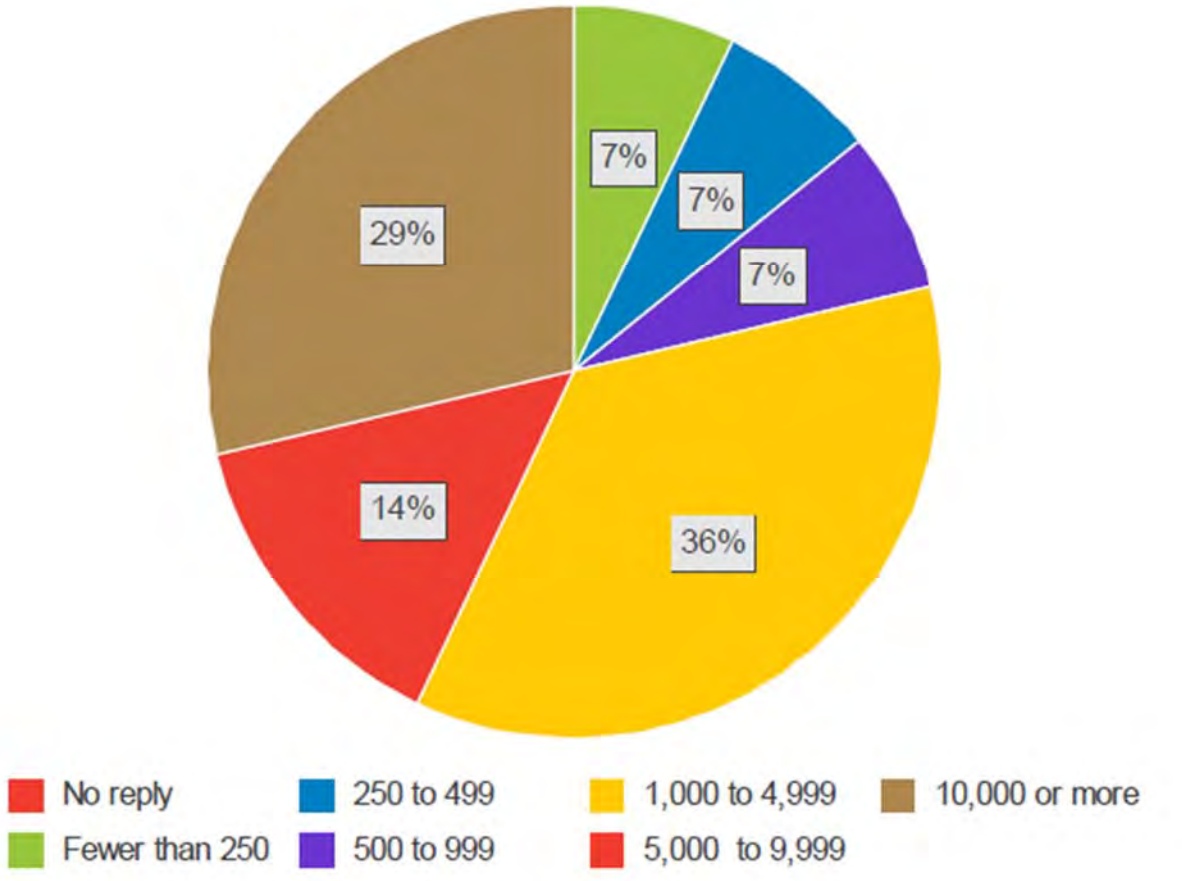
Windstream

Windstream has and will continue to upgrade and expand its network as part of the CAFII program. The company will continue to improve its network in Arkansas to increase broadband coverage and capabilities to both business and consumers throughout its service territory.
Source: Broadband provider survey

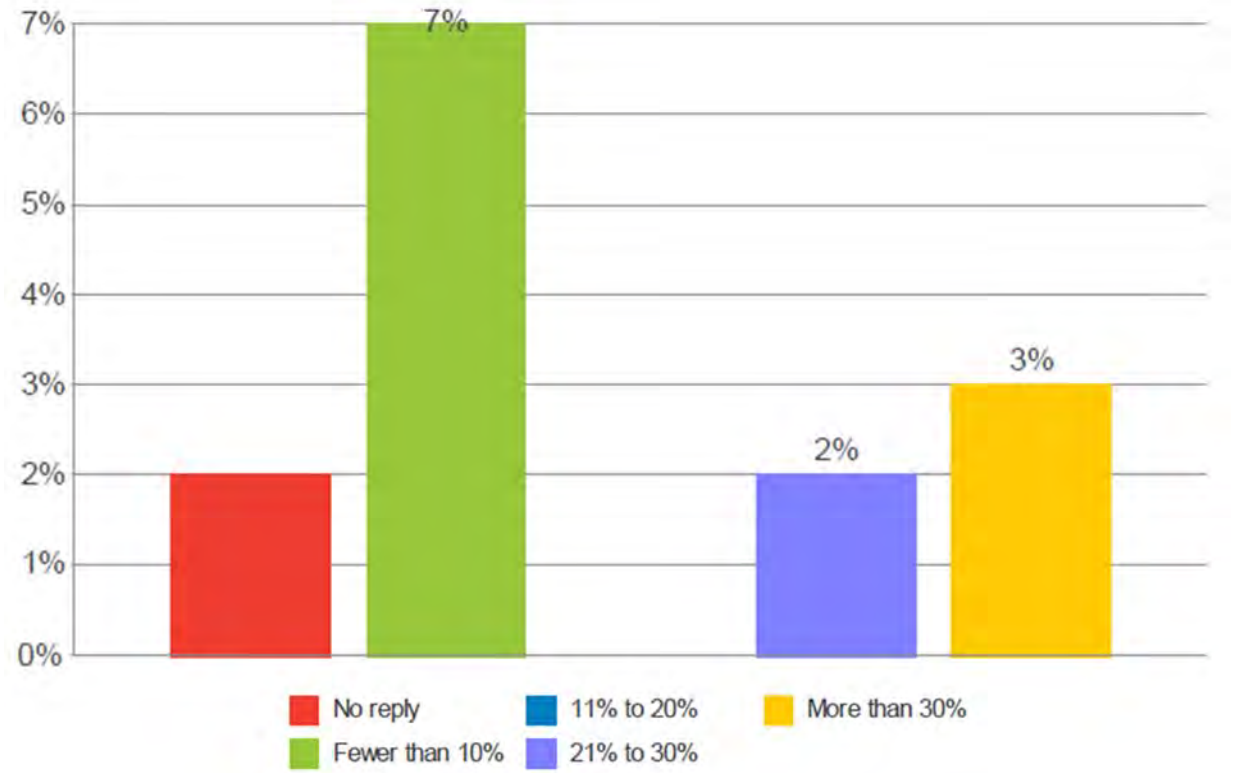
Provider Survey for Broadband Expansion*

A survey was sent to 56 Arkansas telecommunications providers to help provide a representation of Arkansas's current overall broadband standing, to create a guide for ensuring that broadband becomes readily available to all Arkansans regardless of geographical location, and to establish important benchmarks that can be used to measure progress toward moving the broadband needle for Arkansas. Survey responses were received from 14 providers.
*Survey is conducted annually and was conducted during reporting period ending June 30, 2017

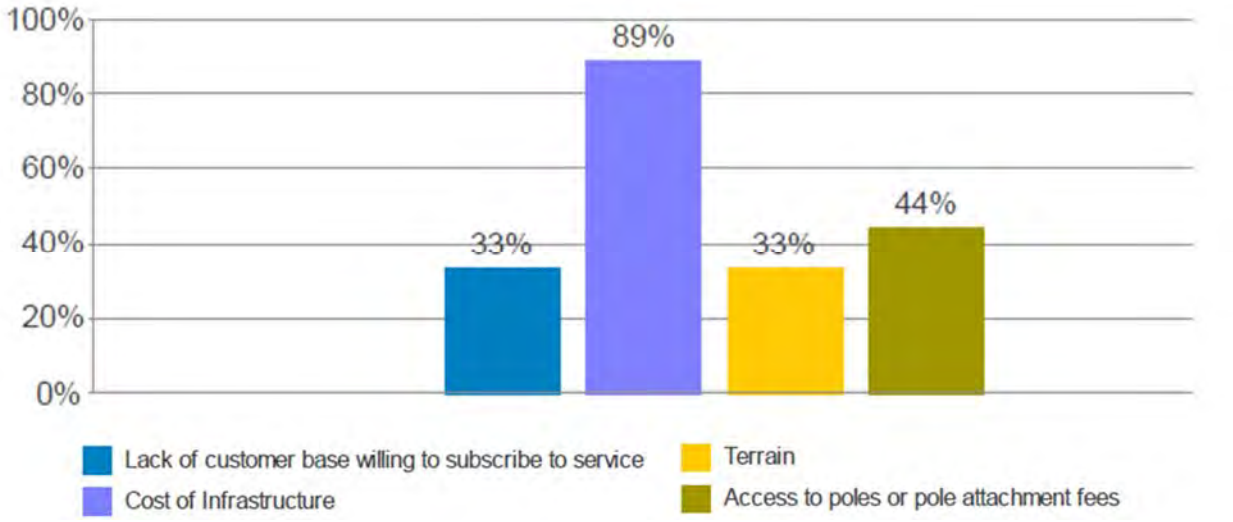
Q. What is your subscriber base?



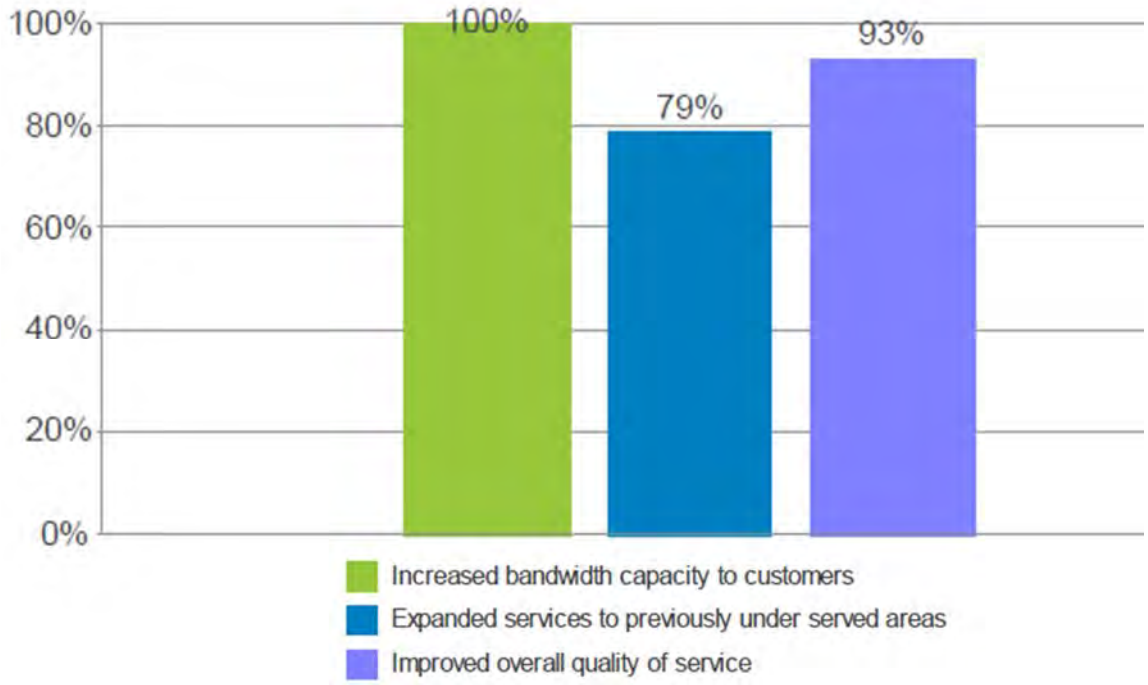
Q. What percentage of your customers are unserved?



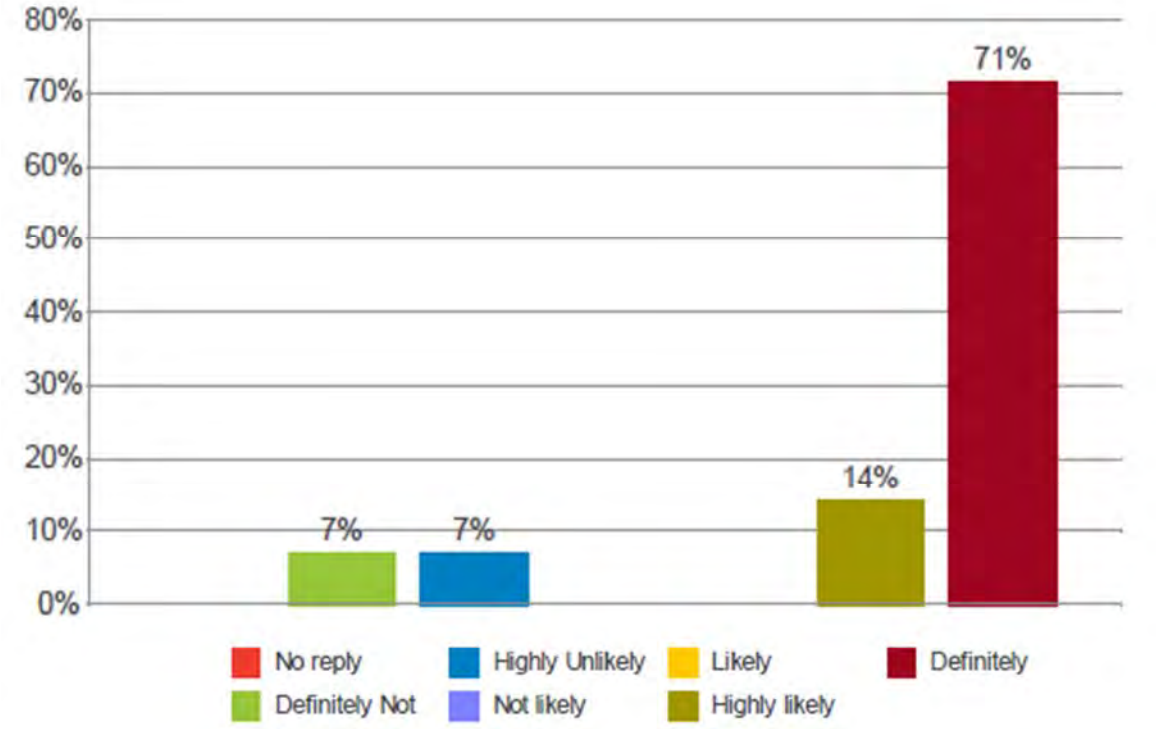
Q. What are the reasons for unserved areas?



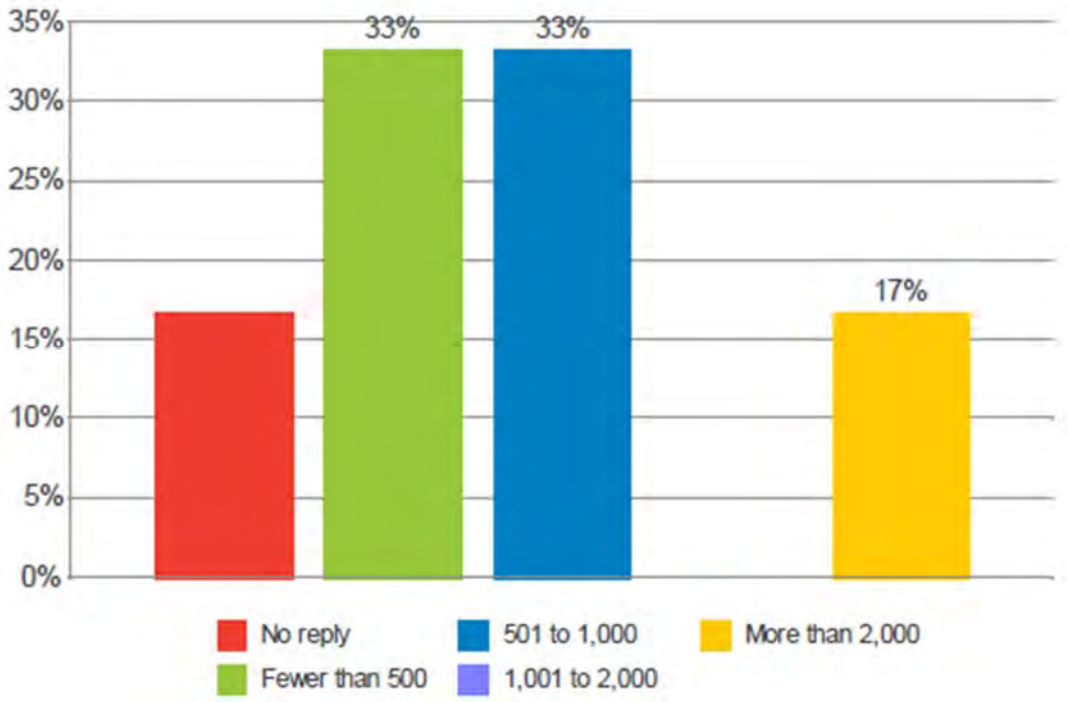
Q. Within the past year, what broadband improvement efforts have you undertaken within your service area?



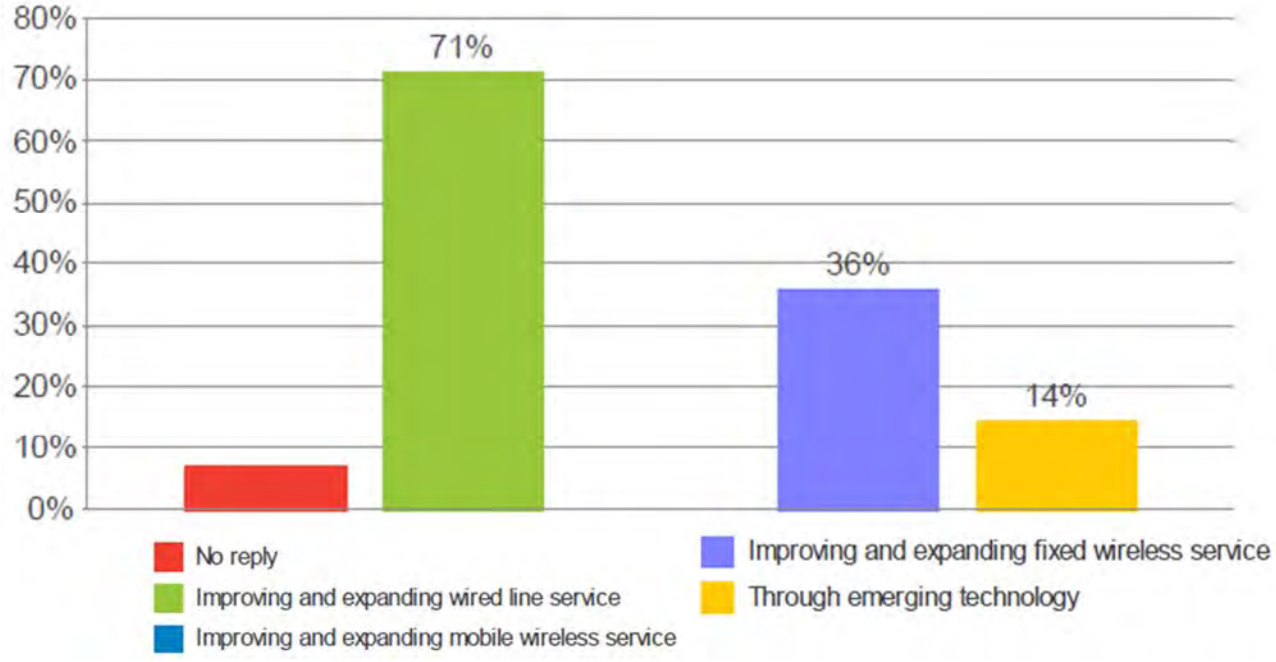
Q. How likely are you to expand broadband coverage in your service area in the next six months?



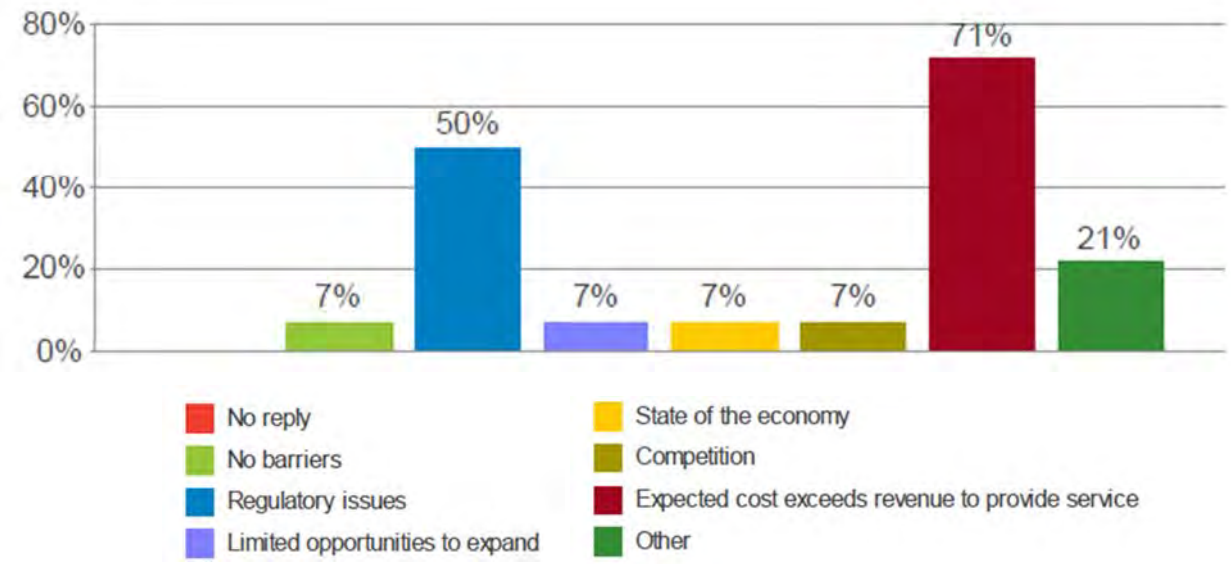
Q. If you are planning on expanding in the next six months, approximately how many new customers are you hoping to serve?



Q. Are you focusing more on improving and expanding wired broadband or utilizing wireless?



Q. Do you have barriers to expansion?



If other, please describe.

- Affordable access to attach utility poles
- Funds and wireless spectrum
- The state competing for our customers

Q. What can the state do from a policy or regulatory perspective to incentivize broadband expansion in rural areas?

Regulate attachment rates on Electric Co-Op poles similar to the federal regulation on public utiltiy companies.
Listen and respond to our concerns
Allow WISP's to apply for grants or funding for expansion. Mandate cities and rural water departments to allow WISPs to lease (at a reasonable rate) the use of Water Towers to provide service to the area.
I have applied for FCC grant opportunities, but they go to big businesses like at&t. Also the high cost of leasing 2.5 ghz frequency from educational band.
We are a municipal utility.
Enhance support mechanisms such as state USF for fiber deployments already made and for future deployments and enhancements.
We rely heavily on the Arkansas High Cost Fund to help support the roll out of broadband service in our area as well as maintain the service after construction of facilities is complete. A more stable fund with cost of living increases to the cap would help our confidence that the fund will be there to help pay back debt incurred and maintenance cost in the future. As you can see form my answers to the above questions, we are constructing fiber to the home as fast as current support will allow. You have to remember we are serving areas where their is not a business case that will support the cost of building a fiber network.
Economic incentives limited to areas not currently served by an unsubsidized provider.
whatever incentives should compliment existing efforts at the federal level and not work counter to federal funding or plans.
Tax incentives through property tax relief and sales tax exemptions would help to free up capital and to reduce overall project costs. State grant funds for broadband would be welcome, as long as they are separate and apart from any support available for voice service in rural areas. Additionally, a reduced emphasis on the narrow definition of broadband as 25/3 and recognition that 10/1, as required by the FCC for CAF2 purposes, qualifies as broadband.

Appendix I

Americans without Access to FCC Defined Telecommunications Capability by State and U.S. Territory

	All Areas		Urban Areas		Rural Areas	
	Pop. Without Access	% of Pop.	Pop. Without Access	% of Pop.	Pop. Without Access	% of Pop.
United States	33,981,660	10%	10,551,623	4%	23,430,037	39%
States and District of Columbia	31,353,263	10%	9,001,161	3%	22,352,102	38%
Alabama	985,263	20%	169,154	6%	816,109	41%
Alaska	194,375	26%	26,389	5%	167,986	67%
Arizona	898,724	13%	487,930	8%	410,794	63%
Arkansas	744,572	25%	128,125	7%	616,447	48%
California	2,017,166	5%	920,182	2%	1,096,984	61%
Colorado	539,327	10%	180,754	4%	358,573	53%
Connecticut	47,464	1%	42,220	1%	5,244	1%
Delaware	29,789	3%	13,355	2%	16,434	10%
District of Columbia	10,539	2%	10,539	2%	.	.
Florida	1,297,648	7%	795,839	4%	501,809	29%
Georgia	932,484	9%	306,414	4%	626,070	25%
Hawaii	26,201	2%	2,001	0%	24,200	22%
Idaho	301,118	18%	47,922	4%	253,196	55%
Illinois	1,188,012	9%	419,780	4%	768,232	56%
Indiana	1,131,373	17%	220,696	5%	910,677	52%
Iowa	451,148	15%	76,830	4%	374,318	37%
Kansas	436,249	15%	123,315	5%	312,934	49%
Kentucky	699,360	16%	73,542	3%	625,818	34%
Louisiana	881,763	19%	282,361	8%	599,402	50%
Maine	162,563	12%	20,362	4%	142,201	17%
Maryland	262,002	4%	166,879	3%	95,123	13%
Massachusetts	183,103	3%	129,783	2%	53,320	10%
Michigan	1,153,387	12%	245,299	3%	908,088	37%
Minnesota	641,787	12%	59,140	1%	582,647	43%
Mississippi	1,034,047	34%	129,674	9%	904,373	60%
Missouri	1,257,622	20%	204,409	5%	1,053,213	61%
Montana	317,581	31%	54,888	9%	262,693	61%
Nebraska	304,018	16%	94,847	6%	209,171	51%
Nevada	249,722	8%	151,168	5%	98,554	65%
New Hampshire	99,129	7%	22,094	3%	77,035	15%

	All Areas		Urban Areas		Rural Areas	
	Pop. Without Access	% of Pop.	Pop. Without Access	% of Pop.	Pop. Without Access	% of Pop.
New Jersey	285,478	3%	188,462	2%	97,016	21%
New Mexico	431,125	20%	156,432	9%	274,693	61%
New York	430,202	2%	40,455	0%	389,747	17%
North Carolina	738,306	7%	77,082	1%	661,224	20%
North Dakota	97,315	14%	11,294	2%	86,021	37%
Ohio	983,927	8%	202,958	2%	780,969	31%
Oklahoma	1,066,854	27%	247,333	9%	819,521	66%
Oregon	416,102	10%	150,759	5%	265,343	37%
Pennsylvania	803,645	6%	270,708	3%	532,937	20%
Rhode Island	17,996	2%	15,757	2%	2,239	2%
South Carolina	852,483	18%	247,842	8%	604,641	38%
South Dakota	92,406	11%	9,962	2%	82,444	26%
Tennessee	834,545	13%	106,128	2%	728,417	34%
Texas	2,976,879	11%	1,216,234	5%	1,760,645	46%
Utah	180,004	6%	77,530	3%	102,474	39%
Vermont	106,615	17%	5,223	2%	101,392	27%
Virginia	925,477	11%	186,349	3%	739,128	38%
Washington	200,320	3%	48,339	1%	151,981	14%
West Virginia	554,124	30%	92,104	10%	462,020	48%
Wisconsin	744,002	13%	33,517	1%	710,485	43%
Wyoming	137,922	23%	10,802	3%	127,120	63%
U.S. Territories	2,628,397	66%	1,550,462	54%	1,077,935	98%
American Samoa	54,504	100%	41,307	100%	13,197	100%
Guam	159,377	99%	107,044	99%	52,333	100%
Northern Mariana Islands	51,455	100%	33,906	100%	17,549	100%
Puerto Rico	2,259,097	62%	1,325,683	50%	933,414	98%
U.S. Virgin Islands	103,964	100%	42,522	100%	61,442	100%

Appendix II

Percentage of County Population with Access to FCC Defined Broadband

County Name	Total Population	25Mbps	25Mbps %
Arkansas	19019	14431	76
Ashley	21853	8122	37
Baxter	41513	35282	85
Benton	221339	199822	90
Boone	36903	31212	85
Bradley	11508	7095	62
Calhoun	5368	267	5
Carroll	27446	16511	60
Chicot	11800	3014	26
Clark	22995	16627	72
Clay	16083	11361	71
Cleburne	25970	25758	99
Cleveland	8689	100	1
Columbia	24552	15986	65
Conway	21273	21273	100
Craighead	96443	82966	86
Crawford	61948	52958	85
Crittenden	50902	40308	79
Cross	17870	11378	64
Dallas	8116	3959	49
Desha	13008	9012	69
Drew	18509	13086	71
Faulkner	113237	112704	100
Franklin	18125	8648	48
Fulton	12245	7180	59
Garland	96024	92894	97
Grant	17853	9588	54
Greene	42090	30696	73
Hempstead	22609	14100	62
Hot Spring	32923	16688	51
Howard	13789	969	7
Independence	36647	25667	70
Izard	13696	8980	66
Jackson	17997	13777	77
Jefferson	77435	46019	59
Johnson	25540	17272	68

County Name	Total Population	25Mbps	25Mbps %
Lafayette	7645	967	13
Lawrence	17415	9833	56
Lee	10424	3399	33
Lincoln	14134	3891	28
Little River	13171	3693	28
Logan	22353	13331	60
Lonoke	68356	50784	74
Madison	15717	2835	18
Marion	16653	6990	42
Miller	43462	38007	87
Mississippi	46480	36194	78
Monroe	8149	3204	39
Montgomery	9487	4428	47
Nevada	8997	4125	46
Newton	8330	5111	61
Ouachita	26120	13069	50
Perry	10445	10074	96
Phillips	21757	17112	79
Pike	11291	5557	49
Poinsett	24583	18225	74
Polk	20662	1969	10
Pope	61754	57853	94
Prairie	8715	620	7
Pulaski	382748	369212	96
Randolph	17969	12272	68
St. Francis	28258	10245	36
Saline	107118	98010	91
Scott	11233	6522	58
Searcy	8195	8070	98
Sebastian	125744	119178	95
Sevier	17058	12851	75
Sharp	17264	13098	76
Stone	12394	10964	88
Union	41639	30020	72
Van Buren	17295	17235	100
Washington	203065	186885	92
White	77076	53657	70
Woodruff	7260	4610	63
Yell	22185	17830	80

Appendix III

Percentage of County Population with Access to Broadband at any Speed

County Name	Total Population	Any bandwidth	Any %
Arkansas	19019	17548	92
Ashley	21853	17962	82
Baxter	41513	39628	95
Benton	221339	214582	97
Boone	36903	36543	99
Bradley	11508	10689	93
Calhoun	5368	4083	76
Carroll	27446	23694	86
Chicot	11800	10131	86
Clark	22995	19818	86
Clay	16083	15678	97
Cleburne	25970	25870	100
Cleveland	8689	6951	80
Columbia	24552	19595	80
Conway	21273	21273	100
Craighead	96443	96386	100
Crawford	61948	57330	93
Crittenden	50902	46530	91
Cross	17870	14849	83
Dallas	8116	6849	84
Desha	13008	11278	87
Drew	18509	14170	77
Faulkner	113237	113141	100
Franklin	18125	16288	90
Fulton	12245	10874	89
Garland	96024	93862	98
Grant	17853	16435	92
Greene	42090	42090	100
Hempstead	22609	19175	85
Hot Spring	32923	29471	90
Howard	13789	10188	74
Independence	36647	35593	97
Izard	13696	12768	93
Jackson	17997	16966	94
Jefferson	77435	67482	87
Johnson	25540	22495	88

County Name	Total Population	Any bandwidth	Any %
Lafayette	7645	6282	82
Lawrence	17415	16755	96
Lee	10424	5621	54
Lincoln	14134	8003	57
Little River	13171	10923	83
Logan	22353	20111	90
Lonoke	68356	65758	96
Madison	15717	12954	82
Marion	16653	16331	98
Miller	43462	43180	99
Mississippi	46480	45366	98
Monroe	8149	6604	81
Montgomery	9487	8098	85
Nevada	8997	6902	77
Newton	8330	5405	65
Ouachita	26120	21426	82
Perry	10445	10271	98
Phillips	21757	18904	87
Pike	11291	9345	83
Poinsett	24583	21127	86
Polk	20662	15639	76
Pope	61754	60653	98
Prairie	8715	6620	76
Pulaski	382748	378373	99
Randolph	17969	16665	93
St. Francis	28258	20062	71
Saline	107118	101928	95
Scott	11233	9009	80
Searcy	8195	8182	100
Sebastian	125744	124292	99
Sevier	17058	16054	94
Sharp	17264	16662	97
Stone	12394	12317	99
Union	41639	36785	88
Van Buren	17295	17295	100
Washington	203065	197863	97
White	77076	72050	93
Woodruff	7260	6507	90
Yell	22185	20692	93

Appendix IV

Percentage of County Population with Access to 10Mbps Broadband

County Name	Total Population	10Mbps	10Mbps %
Arkansas	19019	16815	88
Ashley	21853	12656	58
Baxter	41513	38730	93
Benton	221339	206270	93
Boone	36903	35591	96
Bradley	11508	10339	90
Calhoun	5368	3954	74
Carroll	27446	19394	71
Chicot	11800	7266	62
Clark	22995	17797	77
Clay	16083	14812	92
Cleburne	25970	25773	99
Cleveland	8689	4093	47
Columbia	24552	16469	67
Conway	21273	21273	100
Craighead	96443	96314	100
Crawford	61948	54614	88
Crittenden	50902	42671	84
Cross	17870	12443	70
Dallas	8116	5581	69
Desha	13008	10544	81
Drew	18509	13446	73
Faulkner	113237	112757	100
Franklin	18125	13355	74
Fulton	12245	9414	77
Garland	96024	93046	97
Grant	17853	14042	79
Greene	42090	42085	100
Hempstead	22609	15571	69
Hot Spring	32923	25915	79
Howard	13789	4401	32
Independence	36647	31556	86
Izard	13696	12577	92
Jackson	17997	16624	92
Jefferson	77435	48478	63
Johnson	25540	20114	79

County Name	Total Population	10Mbps	10Mbps %
Lafayette	7645	3398	44
Lawrence	17415	16349	94
Lee	10424	3954	38
Lincoln	14134	6254	44
Little River	13171	6872	52
Logan	22353	18174	81
Lonoke	68356	60649	89
Madison	15717	9697	62
Marion	16653	14906	90
Miller	43462	41159	95
Mississippi	46480	44523	96
Monroe	8149	3983	49
Montgomery	9487	5906	62
Nevada	8997	5657	63
Newton	8330	5355	64
Ouachita	26120	15479	59
Perry	10445	10074	96
Phillips	21757	18191	84
Pike	11291	6717	59
Poinsett	24583	20357	83
Polk	20662	13482	65
Pope	61754	58924	95
Prairie	8715	5862	67
Pulaski	382748	372779	97
Randolph	17969	15426	86
St. Francis	28258	11144	39
Saline	107118	98780	92
Scott	11233	7501	67
Searcy	8195	8179	100
Sebastian	125744	121572	97
Sevier	17058	14919	87
Sharp	17264	15888	92
Stone	12394	11998	97
Union	41639	32234	77
Van Buren	17295	17235	100
Washington	203065	191734	94
White	77076	63882	83
Woodruff	7260	5889	81
Yell	22185	18672	84

Appendix V

County Populations with Projected Access to 10Mbps of Fixed Broadband upon Completion of CAF II Funded Projects

County Name	Total Population	Projected 10Mbps	Projected %
Arkansas	19019	18956	100
Ashley	21853	19287	88
Baxter	41513	39367	95
Benton	221339	217615	98
Boone	36903	36675	99
Bradley	11508	11414	99
Calhoun	5368	4960	92
Carroll	27446	26817	98
Chicot	11800	10953	93
Clark	22995	22491	98
Clay	16083	15928	99
Cleburne	25970	25970	100
Cleveland	8689	8506	98
Columbia	24552	23385	95
Conway	21273	21273	100
Craighead	96443	96316	100
Crawford	61948	60846	98
Crittenden	50902	47883	94
Cross	17870	16467	92
Dallas	8116	7858	97
Desha	13008	12508	96
Drew	18509	18202	98
Faulkner	113237	113237	100
Franklin	18125	17826	98
Fulton	12245	9971	81
Garland	96024	95098	99
Grant	17853	17629	99
Greene	42090	42090	100
Hempstead	22609	20109	89
Hot Spring	32923	32714	99
Howard	13789	11531	84
Independence	36647	35978	98
Izard	13696	13011	95
Jackson	17997	17699	98
Jefferson	77435	62005	80
Johnson	25540	25248	99

County Name	Total Population	Projected 10Mbps	Projected %
Lafayette	7645	7034	92
Lawrence	17415	17407	100
Lee	10424	9399	90
Lincoln	14134	13786	98
Little River	13171	11996	91
Logan	22353	22241	99
Lonoke	68356	65423	96
Madison	15717	11326	72
Marion	16653	16413	99
Miller	43462	42671	98
Mississippi	46480	45596	98
Monroe	8149	5652	69
Montgomery	9487	9401	99
Nevada	8997	8982	100
Newton	8330	8330	100
Ouachita	26120	22732	87
Perry	10445	10432	100
Phillips	21757	20742	95
Pike	11291	11145	99
Poinsett	24583	23312	95
Polk	20662	20226	98
Pope	61754	61270	99
Prairie	8715	8546	98
Pulaski	382748	375776	98
Randolph	17969	17811	99
St. Francis	28258	20364	72
Saline	107118	105981	99
Scott	11233	11193	100
Searcy	8195	8195	100
Sebastian	125744	124587	99
Sevier	17058	16953	99
Sharp	17264	16560	96
Stone	12394	12375	100
Union	41639	39938	96
Van Buren	17295	17295	100
Washington	203065	192120	95
White	77076	74456	97
Woodruff	7260	7068	97
Yell	22185	21807	98

Appendix VI

Percentage of U.S. households with a broadband internet subscription: 2015*

*Released in September 2017: Note: A broadband subscription refers to households who said "Yes" to one or more of the following types of subscriptions: DSL, cable, fiber optic, mobile broadband, satellite, or fixed wireless .

Geographical area	Percent	Margin of error (±)[1]
New Hampshire	84 .5	0 .7
Washington	83 .9	0 .4
Utah	83 .1	0 .7
Colorado	83 .0	0 .4
Massachusetts	82 .6	0 .4
Hawaii	82 .2	0 .9
Connecticut	82 .0	0 .6
Alaska	81 .7	1 .3
New Jersey	81 .6	0 .3
Maryland	81 .4	0 .4
California	81 .3	0 .2
Oregon	80 .8	0 .4
Minnesota	79 .5	0 .4
Nevada	79 .0	0 .6
Vermont	78 .7	1 .1
Virginia	78 .6	0 .4
Rhode Island	78 .2	1 .1
Arizona	78 .1	0 .4
Nebraska	78 .1	0 .5
New York	77 .8	0 .2
Wyoming	77 .8	1 .3
Florida	77 .5	0 .2
Delaware	77 .4	1 .1
Maine	77 .1	0 .7
Illinois	76 .9	0 .3
Wisconsin	76 .9	0 .4
District of Columbia	76 .8	1 .4
UNITED STATES	**76 .7**	**0 .1**
Idaho	76 .7	0 .9
North Dakota	76 .3	1 .0
Kansas	76 .2	0 .5
Ohio	76 .1	0 .2
Pennsylvania	75 .7	0 .3
South Dakota	75 .3	1 .2
Iowa	75 .0	0 .5
Montana	75 .0	1 .0
Georgia	74 .8	0 .4
Michigan	74 .4	0 .3
Texas	74 .3	0 .2
North Carolina	74 .1	0 .4
Indiana	73 .3	0 .4
Missouri	73 .3	0 .4
Kentucky	70 .9	0 .6
Oklahoma	70 .8	0 .5
Tennessee	70 .2	0 .4
South Carolina	69 .9	0 .5
West Virginia	69 .8	0 .8
Louisiana	68 .7	0 .6
Alabama	68 .3	0 .5
New Mexico	67 .2	0 .9
Arkansas	64 .2	0 .5
Mississippi	61 .0	0 .8

Appendix VII

Project Concept and Buildings with State Entities Impacted

The Department of Information Systems (DIS) seeks to obtain dark fiber transport that will be configured in a ring and star topologies consisting of two (2) dark fiber network rings and fourteen (14) point to point dark fiber connections back to the state's primary data center (SDC-MAC) or the state's backup data center (SDC-West). Each connection will require one *pair* of fiber (two fiber strands) with the option for additional *pairs* as needed by the state. For rings 1 and 2 the vendor is asked to provide the cost for optional diverse routing of the fiber *pairs* between the two point sections of each ring.

Ring 1 (Table 1) is planned to connect all of the state agencies listed below:

- The State Primary Data Center – MAC (SDC-M)
- The State Backup Data Center - West (SDC-W)
- The State Ledbetter Building (LED) Data Center

Ring 2 (Table 2) is planned to connect all of the State agencies listed below:

- The State Primary Data Center (SDC-M)
- The State Backup Data Center - West (SDC-W)
- Donaghey Plaza North (Waldon Building) is located at: 108 East 7th St., Little Rock, AR 72201
- Mann on Main is located at: 324 South Main St., Little Rock, AR 72201
- Arkansas Department of Health (ADH) is located at: 4815 West Markham St., Little Rock, AR 72205
- Arkansas State Police (ASP) is located at: 1 State Police Plaza Dr., Little Rock, AR 72209

The following locations will connect to either the state's primary data center (SDC-M) or to the state's backup data center - west (SDC-W) via point to point connections in the most effective topology.

- Union Plaza 1 Building is located at: 124 West Capitol Av., Little Rock, AR 72201
- Department of Arkansas Heritage (DAH) is located at: 1100 North St., Little Rock, AR 72201
- City of Little Rock is located at: 718 West Markham St., Little Rock, AR 72201
- 5 Main Place is located at: 413 South Main St., Little Rock, AR 72201
- 1515 Building is located at: 1515 West 7th St Little Rock, AR 72201
- Arkansas Teacher Retirement is located at: 1400 W 3rd St. #200, Little Rock, AR 72201
- Arkansas Public Service Commission (PSC) is located at: 1000 Center St., Little Rock, AR 72201
- Arkansas Workers Compensation Commission (AWCC) is located at: 324 South Spring St., Little Rock, AR 72201

• Arkansas State Hospital (ASH) is located at: 305 South Palm St., Little Rock, AR 72205

• Little Rock School District (LRSD) Technical Center is located at: 7701 Scott Hamilton, Little Rock, AR 72209

• Arkansas State Highway and Transportation Department (AHTD) is located at: 10324 Interstate 30, Little Rock, AR 72209

• Arkansas Game and Fish Commission (AGFC) is located at: 2 National Resources Dr., Little Rock, AR 72205

• Arkansas State Crime Lab is located at: 3 Natural Resources Dr., Little Rock, AR 72205

• Arkansas Department of Environmental Quality (ADEQ) is located at: 5301 Northshore Dr. North Little Rock, AR 72118

• Arkansas National Guard (ANG) is located at: @Building 6200 Camp Robinson, North Little Rock, AR 72118

• AREON North Little Rock Hut is located at 2809 Eanes Road, North Little Rock, AR 72117

Appendix VIII

FCC TAKES NEXT STEP TOWARD $2 BILLION RURAL BROADBAND EXPANSION

Innovative Connect America Fund Phase II Reverse Auction Planned for 2018

WASHINGTON, August 3, 2017 – The Federal Communications Commission today took the next step toward launching an auction that will provide nearly $2 billion over ten years to expand high-speed Internet access to consumers and businesses in rural areas that are currently unserved by fixed broadband.

This proceeding represents the first use of an auction by the FCC to allocate ongoing Connect America Fund support for fixed broadband and voice services in rural areas. Use of this market-based "reverse auction" mechanism will enable the FCC to expand and support high-quality rural fixed broadband and voice services at a lower cost and to maximize the value of its investment.

The auction will commence in 2018. The Public Notice adopted today by the FCC seeks comment on the proposed application and bidding procedures for the auction, including how interested parties can qualify to participate in the auction, how bidders will submit their bids, and how the FCC will process bids to determine the winners and support amounts.

This first-of-its-kind auction of support for fixed broadband and voice service is expected to attract parties that have never participated in an FCC auction. Recognizing that, the FCC's Rural Broadband Auctions Task Force, along with the Wireline Competition Bureau and Wireless Telecommunications Bureau, plan to provide detailed educational materials and hands-on practice opportunities in advance of the auction.

For more information about the auction, visit https://www.fcc.gov/connect-america-fund-phase-ii-auction or e-mail RBATF@fcc.gov.

Action by the Commission August 3, 2017 by Public Notice (FCC 17-101). Chairman Pai, Commissioners Clyburn and O'Rielly approving and issuing separate statements.

AU Docket No. 17-182

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Appendix IX

Southeast Arkansas Economic Development District and Aristotle Unified Communications Announce Broadband Initiative

Little Rock, AR, 9/21/2017 - The Southeast Arkansas Economic Development District (SEAEDD) and Little Rock-based internet service provider, Aristotle Unified Communications, announced today that the two organizations will be working together to develop a long-range plan for deploying broadband internet service in the District's ten county region.

"SEAEDD's mission includes ensuring the infrastructure that supports business activity as well as developing quality communities in which to live, work, invest and do business," said Gene Higginbotham, Executive Director of SEAEDD. "It makes sense to combine what Aristotle does well with what SEAEDD does well in order to bring broadband to Southeast Arkansas."

According to Elizabeth Bowles, Aristotle President and Chair of the Board, Aristotle will initially conduct pilot network engineering studies in selected locations in the region and will ultimately be responsible for designing broadband network solutions for the district.

"In my capacity as Chair of the FCC's Broadband Deployment Advisory Committee, I am working with business and community leaders from across the nation to develop recommendations for accelerating broadband deployment and closing the digital divide," Bowles said. "I'm excited about the opportunity to apply that knowledge here at home and to collaborate with SEAEDD and other Arkansas internet access providers to bring broadband connectivity to Southeast Arkansas communities."

About SEAEDD

Aristotle The Southeast Arkansas Economic Development District, Inc. serves ten counties in Southeast Arkansas: Arkansas, Ashley, Bradley, Chicot, Cleveland, Desha, Drew, Grant, Jefferson and Lincoln. SEAEDD assists communities with securing funding and developing initiatives in the areas of economic development, community development, workforce training and waste management.

About Aristotle

A fixed-wireless internet service provider (WISP), Aristotle Unified Communications provides broadband connectivity to homes and businesses in Central Arkansas and Voice-Over IP (VoIP) phone solutions to area businesses. Aristotle's Labs division encourages the promotion of smart city initiatives with BeaconSage, an award-winning content management system for creating and delivering content to mobile users via beacon technology.

Appendix X

OzarksGo Becomes First Electric Cooperative to Deploy NG-PON2 with Calix

Arkansas-based electric cooperative sets the bar for rural fiber broadband service delivery, preparing to offer speeds of up to 40 Gbps

October 11, 2017 08:25 ET

FAYETTEVILLE, Ark., Oct. 11, 2017 (GLOBE NEWSWIRE) -- Calix, Inc. (NYSE:CALX), the world leader in Subscriber Driven Intelligent Access, announced OzarksGo, a telecommunications subsidiary of Ozarks Electric Cooperative, has selected the Calix AXOS E7-2 Intelligent Modular System and GigaCenters to become the first electric cooperative in the country to deploy NG-PON2. After launching the subsidiary in June of 2016 to bring broadband to its members in Northwest Arkansas and Northeast Oklahoma, OzarksGo has seen great success with its service offering, including all-fiber gigabit Internet, premium television, and telephone services. Now, with NG-PON2, OzarksGo is further surpassing their competition by preparing to offer speeds of up to 40 Gbps in the future and delivering a superior subscriber experience to both residents and businesses.

“Rural America has long suffered from sub-par broadband service due to a lack of investment and commitment, but at OzarksGo, we have a completely different approach focused on delivering reliable and affordable broadband along with an unmatched service experience for our subscribers,” said Randy Klindt, general manager of OzarksGo. “We want to be on the leading edge of broadband technology, as seen by our choice of Calix Cloud, the addition of 804Mesh satellites to our GigaCenter deployments, and now NG- PON2 with the Calix AXOS E7-2. These solutions will ensure that our subscribers will be able to enjoy a superior quality of service to every device in their homes. The sky is the limit for both the OzarksGo network and our subscribers’ experience. We are looking forward to assuring that our rural community has broadband that is unparalleled not only in our market but competitive with any service offered in the world.”

OzarksGo is in the middle of a multi-year project to bring fiber-based broadband services to all of the Ozarks Electric Cooperative service area, which encompasses 7000 miles of electric line and approximately 74,000 meters. Upon the launch of construction, OzarksGo started building a GPON network powered by the Calix E7-20. Now with the game-changing AXOS E7-2 and next generation PON coming to market, OzarksGo will be able to leverage its investment in its existing fiber infrastructure to deliver services over NG-PON2 and GPON. With OzarksGo industry-leading network that supports coexistence of both technologies on a single fiber network, OzarksGo can take advantage of all of the benefits of NG-PON2. For example, features like separating different services on different wavelengths allow OzarksGo to keep smart grid applications on one wavelength and residential services on another,

maximizing security and reliability. Other features like NG-PON2 channel bonding will further differentiate OzarksGO services by enabling symmetrical broadband speeds of up to 40Gbps per subscriber, keeping their subscribers well ahead of their competition.

“As next generation fiber standards like NG-PON2 mature, we are seeing that these transformational technologies are not just for large incumbent service providers, they also bring benefits to fiber innovators of all sizes in both suburban and rural communities,” said Skip Hirvela, Calix vice president of regional sales at Calix. “For service providers like OzarksGo, Calix AXOS systems with NG- PON2 allow them to use one network to cost-effectively deliver the services their subscribers are craving while streamlining their operations. The end result is a win-win for all involved. OzarksGo finds new efficiencies in managing their network, while their subscribers get an unmatched broadband experience.”