Department of Information Systems
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Herschel Cleveland
Interim Director

Mike Beebe
Governor

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December 30, 2014

Senator Bill Sample
Representative John Charles Edwards
Arkansas Legislative Council, State Capitol, Room 315
Little Rock, Arkansas 72203

Dear Senator Sample and Representative Edwards,

Pursuant to Act 1168 of 2013, I am pleased to submit the Arkansas State Broadband Manager's Report for the July 1-December 31, 2014, reporting period.

A central focus of this Arkansas State Broadband Manager's Report is to compare the state's rankings with the baselines identified in the inaugural report submitted December 31, 2013, and to continually evaluate where Arkansas ranks in broadband speed, technology, providers, and demographics compared to other state and national averages. These rankings help track Arkansas's current overall broadband standing and serve as a guide for how we can work collaboratively and maximize available resources to ensure that broadband becomes 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 adoption by our citizens and barriers to broadband expansion on behalf of the provider community. 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.
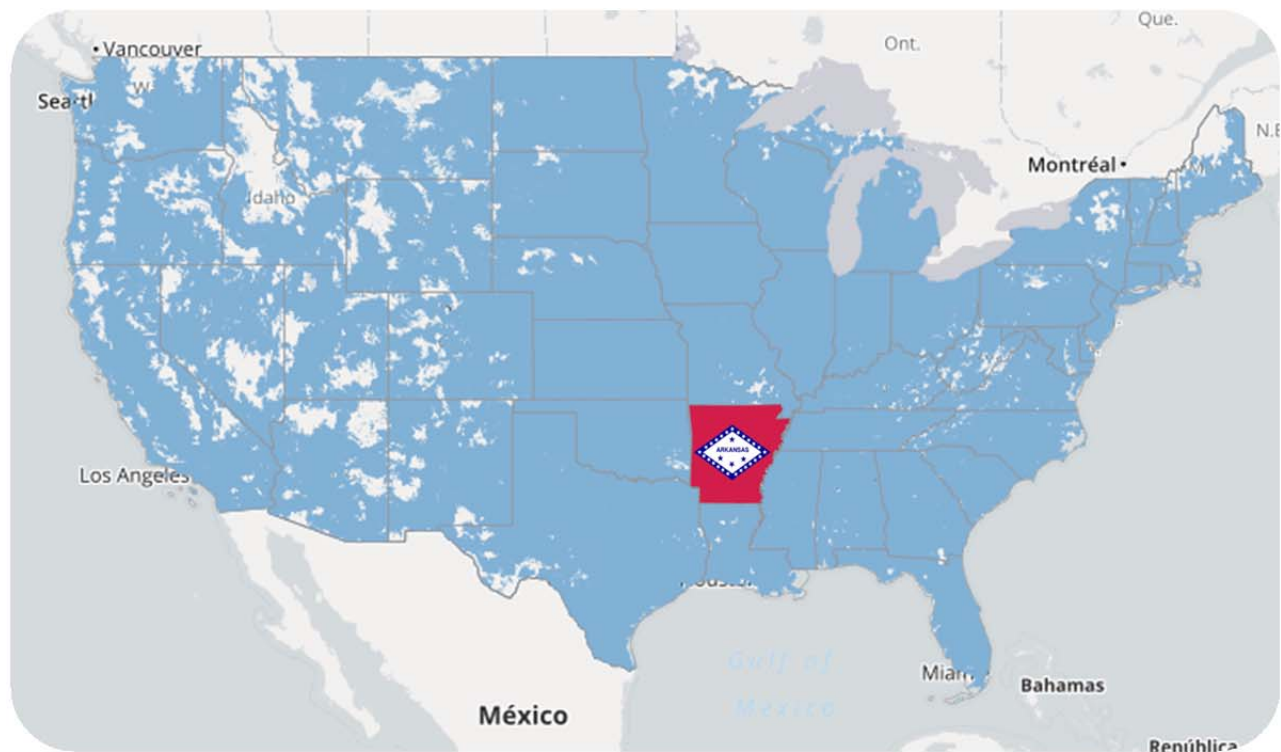
Please contact me personally by email at herschel.cleveland@arkansas.gov or by phone at 501-683-1620 with any questions or additional information about this report.

Sincerely,

Herschel Cleveland
State Broadband Manager
State Chief Technology Officer
Interim Director, Arkansas Department of Information Systems

ARKANSAS STATE BROADBAND MANAGER'S REPORT

PERIOD ENDING DECEMBER 31, 2014

Table of Contents

Executive Summary

Background

Act 1168 of 2013 designates the director of the Arkansas Department of Information Systems to serve as the state broadband manager to promote, develop, and coordinate broadband expansion and appropriate broadband infrastructure for all areas of the state. Requirements in the legislation are for the state broadband manager to submit a report on a semi-annual 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. The state broadband manager will also work with an existing strategic plan for broadband created by Connect Arkansas to formulate, update and maintain a state broadband plan.

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 4 megabits/second (Mbps) for downloading and at least 1 Mbps for uploading
- General Definition: High-speed Internet access that is always on (vs. dial-up)

Broadband speed requirements vary for personal use versus use by institutions

What are the Types of Broadband?
- Digital Subscriber Line (DSL)
- Cable Modem
- Fiber
- Wireless (Wi-Fi, Mobile, and Fixed Wireless)
- Satellite

Why is Broadband Important?
Broadband is fast becoming of primary importance for
- Citizens
- Education
- Public safety
- Health care
- Economic development
- Government
- Business
- 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. Depending on the application, the connection speed will often determine whether it is possible to run the application effectively and how quickly the information can be accessed. The table below shows how much speed is needed to run common applications. Performance issues occur when the service and speed cannot handle the application.

Applications that service different sectors	Speed requirement
Email, Web Browsing, VOIP	768K-1.5 Mbps
Telecommuting, Streaming Music and Video, Remote Surveillance	1.5-3 Mbps
File Sharing, Internet Protocol Television	3-6 Mbps
On-Demand Video, Gaming	6-10 Mbps
Telemedicine, Remote Education, IPTV High Definition	10-25 Mbps
HD Video Surveillance	25-50 Mbps
Video Conferencing, Remote Super Computing	50-100 Mbps
Real-Time Data Collection, Real-Time Medical Image Consultation	>100 Mbps

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). When broadband connectivity is available, it is irrelevant what technology is used to deliver it.

- **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.

How Does Arkansas Compare?

The following rankings for Arkansas were compiled from data on the National Broadband Map in December 2014. These maps analyze broadband availability across the United States based on speed, technology, number of providers, and age demographic. 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.

Technology
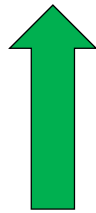
	Technology: DSL, Fiber, Cable, Wireless, Other		
Ranking	**As of December '14**	**Ranking**	**As of December '13**
#1	New Jersey	#1	New Jersey
#39	**Arkansas**	**#40**	**Arkansas**
#56	U.S. Virgin Islands	#56	Commonwealth of the Northern Mariana Islands

This chart indicates the percent of the state's population with Internet access by the type of technology compared to the percentage of the nation's population. The largest deficit is access to fiber. Only 5.4 percent of Arkansans have access to fiber compared to 24.3 percent of the nation.

Technology	Arkansas	Nation
DSL	86.4%	88.6%
Fiber	5.4%	24.3%
Cable	73.2%	88.1%
Wireless	99.0%	99.1%
Other	0.0%	0.0%

Source   API Call

Wireline Speed

Speed: Download Greater Than 3 Mbps Upload Greater Than 0.768 Mbps			
Ranking	As of December '14	Ranking	As of December '13
#1	New Jersey	#1	New Jersey
#41	Arkansas	#41	Arkansas
#56	U.S. Virgin Islands	#56	American Samoa
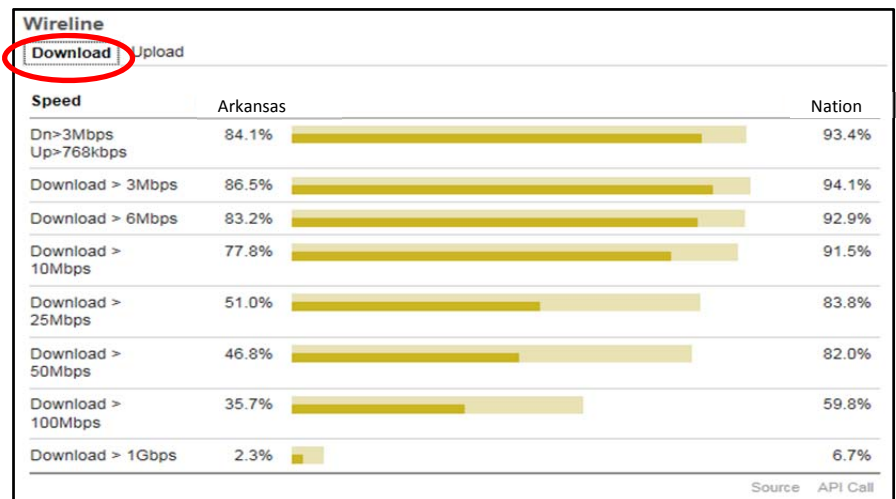
This chart indicates the percent of the state's population with access to the listed **wireline** download speeds compared to the percentage of the nation's population.

Wireline
Download Upload

Speed	Arkansas	Nation
Dn>3Mbps Up>768kbps	84.1%	93.4%
Download > 3Mbps	86.5%	94.1%
Download > 6Mbps	83.2%	92.9%
Download > 10Mbps	77.8%	91.5%
Download > 25Mbps	51.0%	83.8%
Download > 50Mbps	46.8%	82.0%
Download > 100Mbps	35.7%	59.8%
Download > 1Gbps	2.3%	6.7%

Source   API Call

This chart indicates the percent of the state's population with access to the listed **wireline** upload speeds compared to the percentage of the nation's population.

Wireline
Download Upload

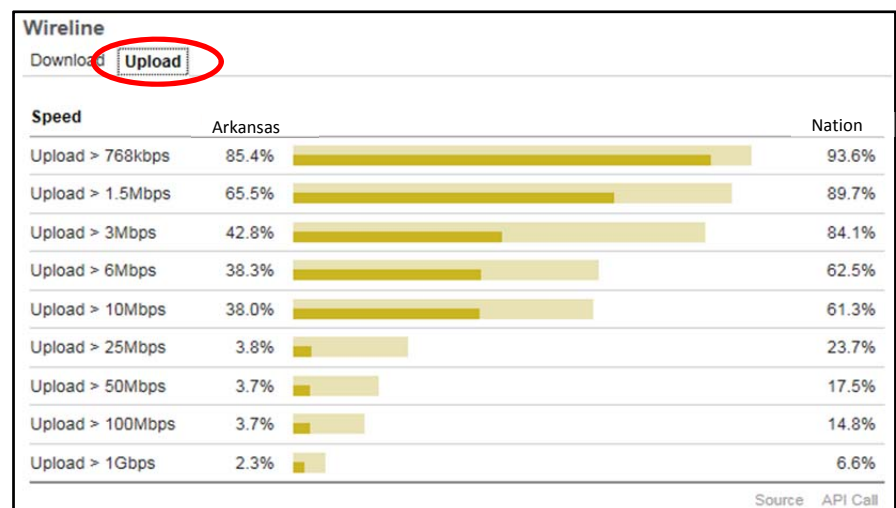| Speed	Arkansas	Nation
Upload > 768kbps	85.4%	93.6%
Upload > 1.5Mbps	65.5%	89.7%
Upload > 3Mbps	42.8%	84.1%
Upload > 6Mbps	38.3%	62.5%
Upload > 10Mbps	38.0%	61.3%
Upload > 25Mbps	3.8%	23.7%
Upload > 50Mbps	3.7%	17.5%
Upload > 100Mbps	3.7%	14.8%
Upload > 1Gbps	2.3%	6.6%

Source   API Call

Wireless Speed

This chart indicates the percent of the state's population with access to the listed **wireless** download speeds compared to the percentage of the nation's population.

Wireless

Download | Upload

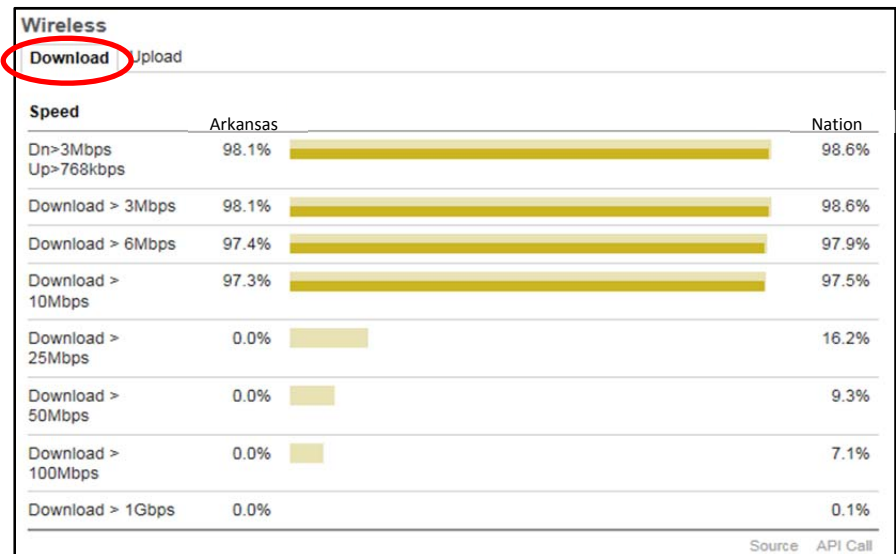| Speed	Arkansas		Nation
Dn>3Mbps Up>768kbps	98.1%		98.6%
Download > 3Mbps	98.1%		98.6%
Download > 6Mbps	97.4%		97.9%
Download > 10Mbps	97.3%		97.5%
Download > 25Mbps	0.0%		16.2%
Download > 50Mbps	0.0%		9.3%
Download > 100Mbps	0.0%		7.1%
Download > 1Gbps	0.0%		0.1%

Source API Call

This chart indicates the percent of the state's population with access to the listed **wireless** upload speeds compared to the percentage of the nation's population.
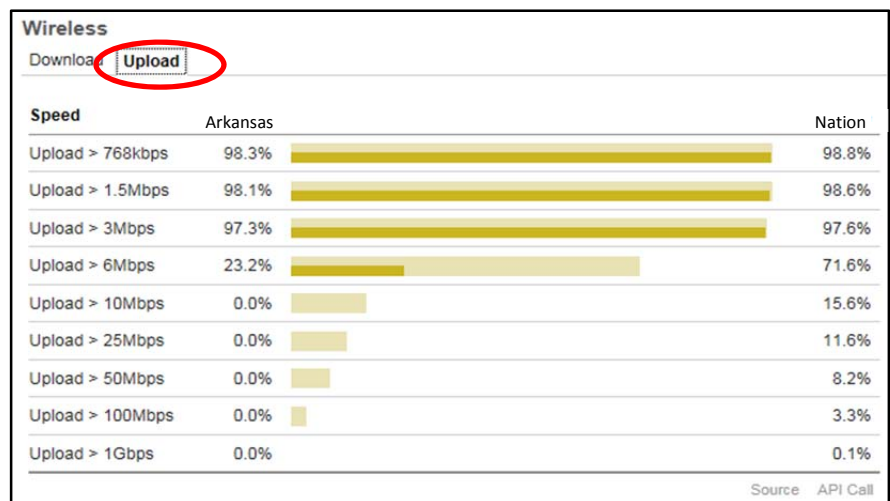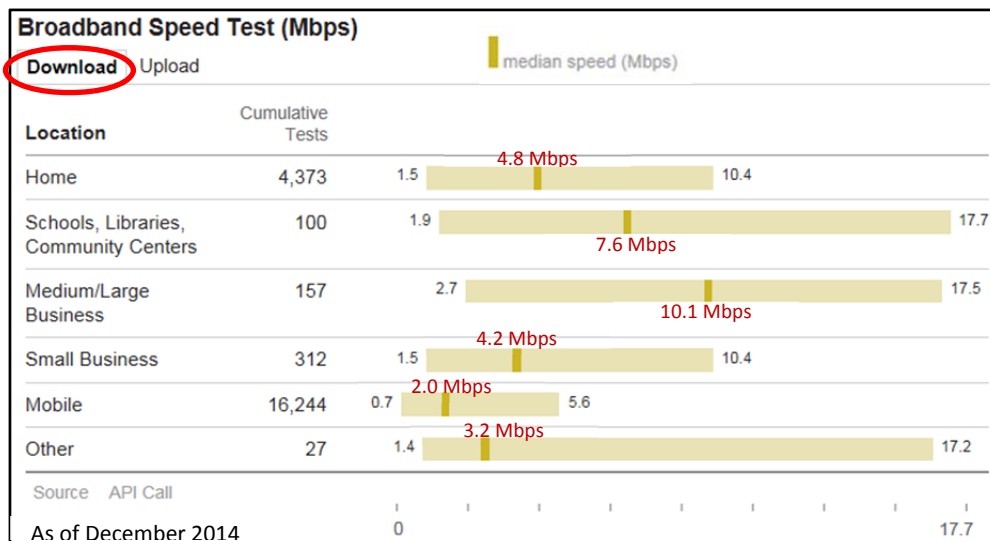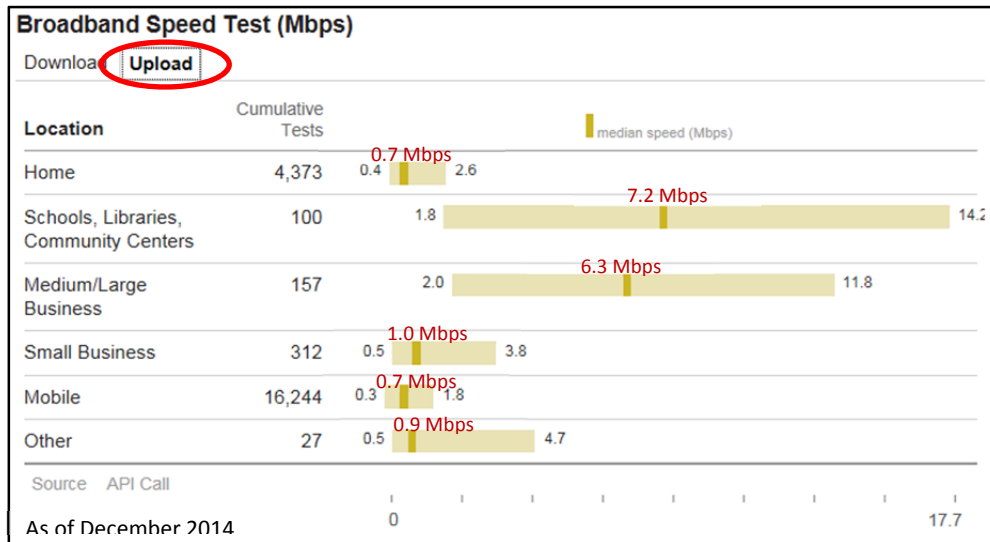
Wireless

Download | Upload

Speed	Arkansas		Nation
Upload > 768kbps	98.3%		98.8%
Upload > 1.5Mbps	98.1%		98.6%
Upload > 3Mbps	97.3%		97.6%
Upload > 6Mbps	23.2%		71.6%
Upload > 10Mbps	0.0%		15.6%
Upload > 25Mbps	0.0%		11.6%
Upload > 50Mbps	0.0%		8.2%
Upload > 100Mbps	0.0%		3.3%
Upload > 1Gbps	0.0%		0.1%

Source API Call

Median Download/Upload Broadband Speeds in Arkansas

Broadband Speed Test (Mbps)

Download | Upload   ▮ median speed (Mbps)

Location	Cumulative Tests			
Home	4,373	1.5	4.8 Mbps	10.4
Schools, Libraries, Community Centers	100	1.9		17.7
			7.6 Mbps	
Medium/Large Business	157	2.7	10.1 Mbps	17.5
Small Business	312	1.5	4.2 Mbps	10.4
Mobile	16,244	0.7	2.0 Mbps	5.6
Other	27	1.4	3.2 Mbps	17.2

Source API Call

0   17.7

As of December 2014

Broadband Speed Test (Mbps)

Download | **Upload**

Location	Cumulative Tests		median speed (Mbps)
Home	4,373	**0.7 Mbps** — 0.4 · 2.6	
Schools, Libraries, Community Centers	100	**7.2 Mbps** — 1.8 · 14.2	
Medium/Large Business	157	**6.3 Mbps** — 2.0 · 11.8	
Small Business	312	**1.0 Mbps** — 0.5 · 3.8	
Mobile	16,244	**0.7 Mbps** — 0.3 · 1.8	
Other	27	**0.9 Mbps** — 0.5 · 4.7	

Source   API Call

As of December 2014

Scale: 0 .... 17.7

Wireline Providers

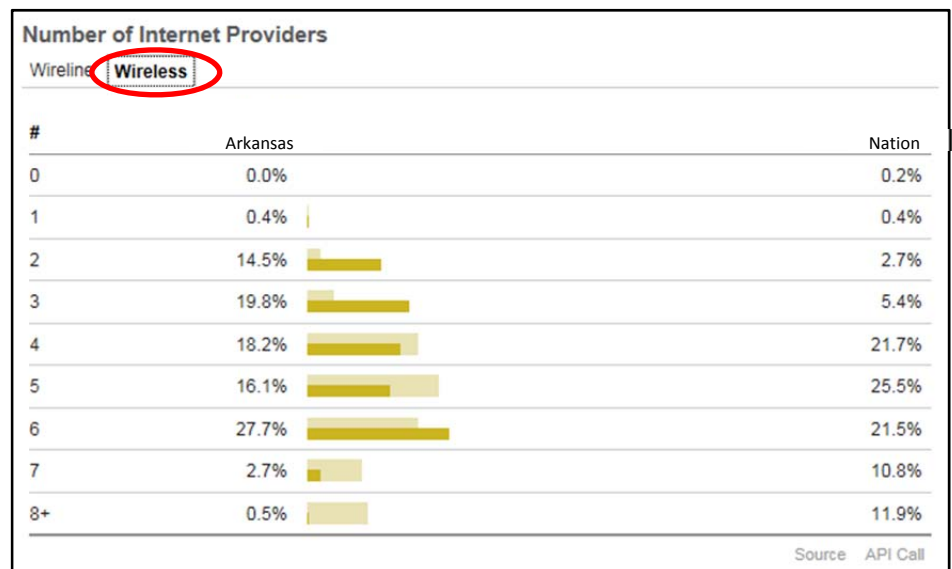|	Providers: # of Wireline Providers Greater Than 3			
	Ranking	**As of December '14**	**Ranking**	**As of December '13**
	#1	Rhode Island	#1	Rhode Island
⟷	**#50**	**Arkansas**	**#50**	**Arkansas**
	#56	Commonwealth of the Northern Mariana Islands	#56	Commonwealth of the Northern Mariana Islands

This chart shows how many **wireline** Internet service providers are available to the percentage of the state's population compared to the national percentages.
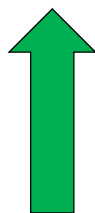
Number of Internet Providers

Wireline | Wireless

#	Arkansas	Nation
0	5.6%	3.3%
1	21.3%	9.0%
2	67.5%	32.5%
3	5.5%	37.0%
4	0.0%	13.1%
5	0.0%	3.4%
6	0.0%	1.2%
7	0.0%	0.4%
8+	0.0%	0.1%

Source   API Call
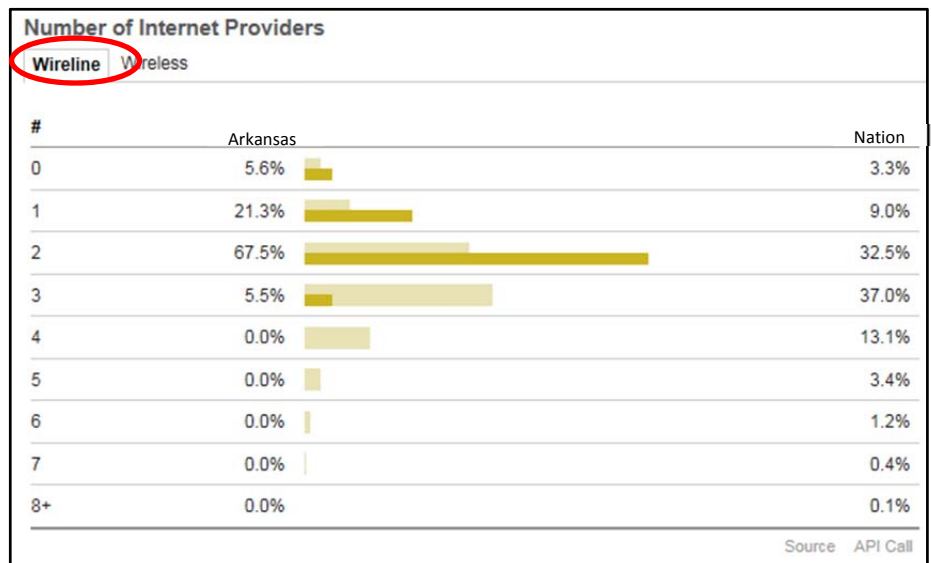
Wireless Providers

| Providers: # of Wireless Providers Greater Than 3	
Ranking	**As of December '14**
#1	District of Columbia
#46	**Arkansas**
#56	Commonwealth of the Northern Mariana Islands

This chart shows how many **wireless** Internet service providers are available to the percentage of the state's population compared to the national percentages.

Number of Internet Providers

Wireline **Wireless**

#	Arkansas	Nation
0	0.0%	0.2%
1	0.4%	0.4%
2	14.5%	2.7%
3	19.8%	5.4%
4	18.2%	21.7%
5	16.1%	25.5%
6	27.7%	21.5%
7	2.7%	10.8%
8+	0.5%	11.9%

Source   API Call

Age Demographics

Age: Under 5			
Ranking	**As of December '14**	**Ranking**	**As of December '13**
#1	American Samoa	#1	American Samoa
#19	**Arkansas**	**#21**	**Arkansas**
#56	Vermont	#56	Vermont
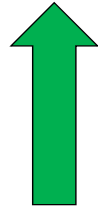
Age: 5-19			
Ranking	As of December '14	Ranking	As of December '13
#1	American Samoa	#1	American Samoa
#19	**Arkansas**	**#21**	**Arkansas**
#56	District of Columbia	#56	District of Columbia
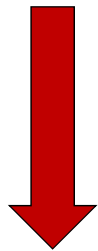
Age: 20-34			
Ranking	As of December '14	Ranking	As of December '13
#1	Commonwealth of the Northern Mariana Islands	#1	Commonwealth of the Northern Mariana Islands
#24	**Arkansas**	**#22**	**Arkansas**
#56	Florida	#56	Florida
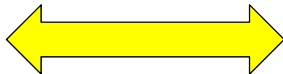
Age: 35-59			
Ranking	As of December '14	Ranking	As of December '13
#1	District of Columbia	#1	District of Columbia
#42	**Arkansas**	**#42**	**Arkansas**
#56	American Samoa	#56	American Samoa

| Age: 60+			
Ranking	As of December '14	Ranking	As of December '13
#1	Florida	#1	Florida
#31	**Arkansas**	**#28**	**Arkansas**
#56	Commonwealth of the Northern Mariana Islands	#56	Commonwealth of the Northern Mariana Islands

What is the State of Broadband in Arkansas?
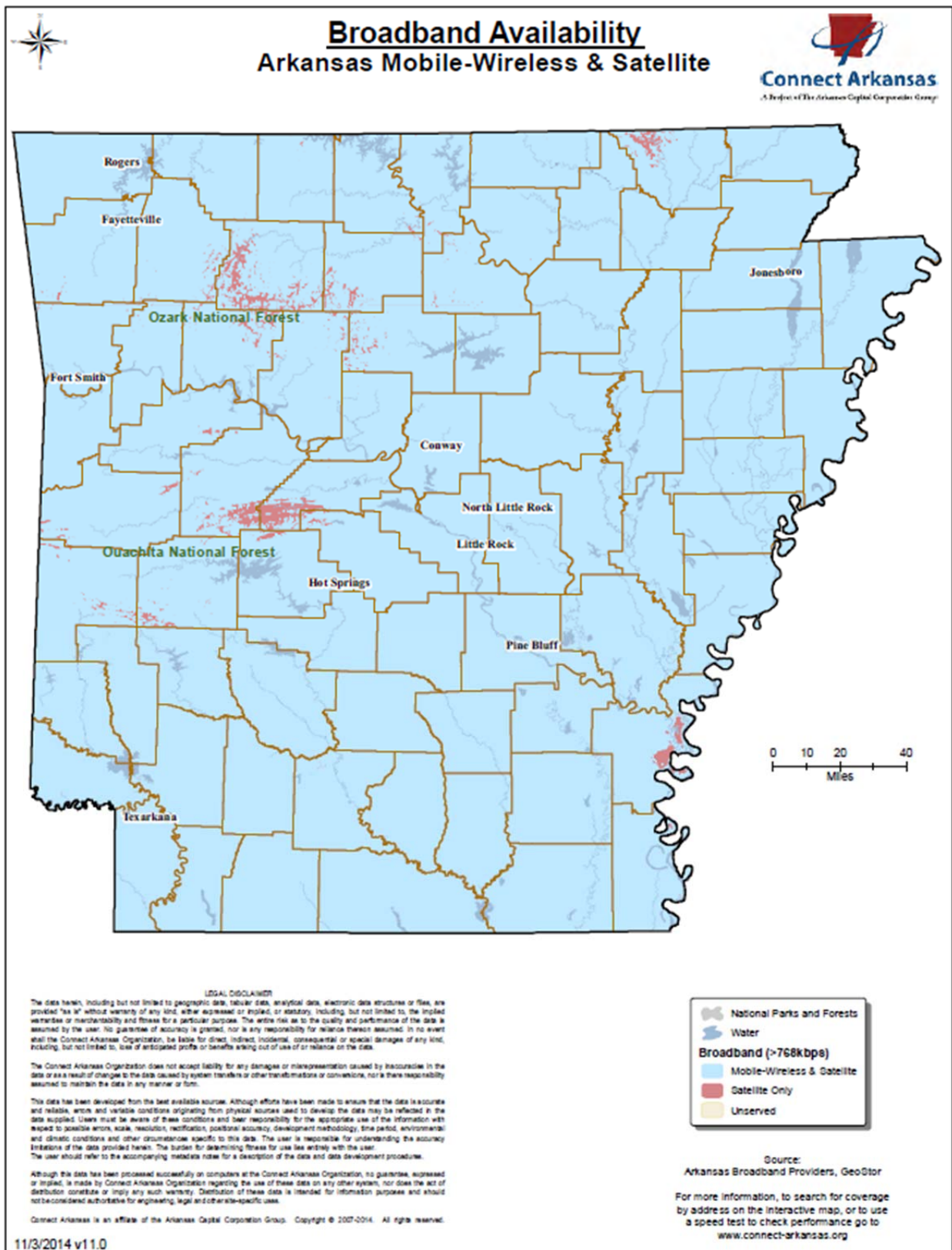
Source: Connect Arkansas, Arkansas broadband providers, GeoStor, Nov. 2014. To search for coverage by address on an interactive map or to conduct a speed test to check performance, visit the Connect Arkansas website, http://www.connect-arkansas.org/.

Broadband Availability
Arkansas Wireline & Fixed-Wireless

Connect Arkansas
A Project of The Arkansas Capital Corporation Group

Legend:

National Parks and Forests
Water

Broadband (> 768kbps)
- Wireline Only
- Wireline & Fixed-Wireless
- Fixed-Wireless Only
- Unserved

Source:
Arkansas Broadband Providers, GeoStor

For more information, to search for coverage by address on the interactive map, or to use a speed test to check performance go to www.connect-arkansas.org

11/3/2014 v11.0
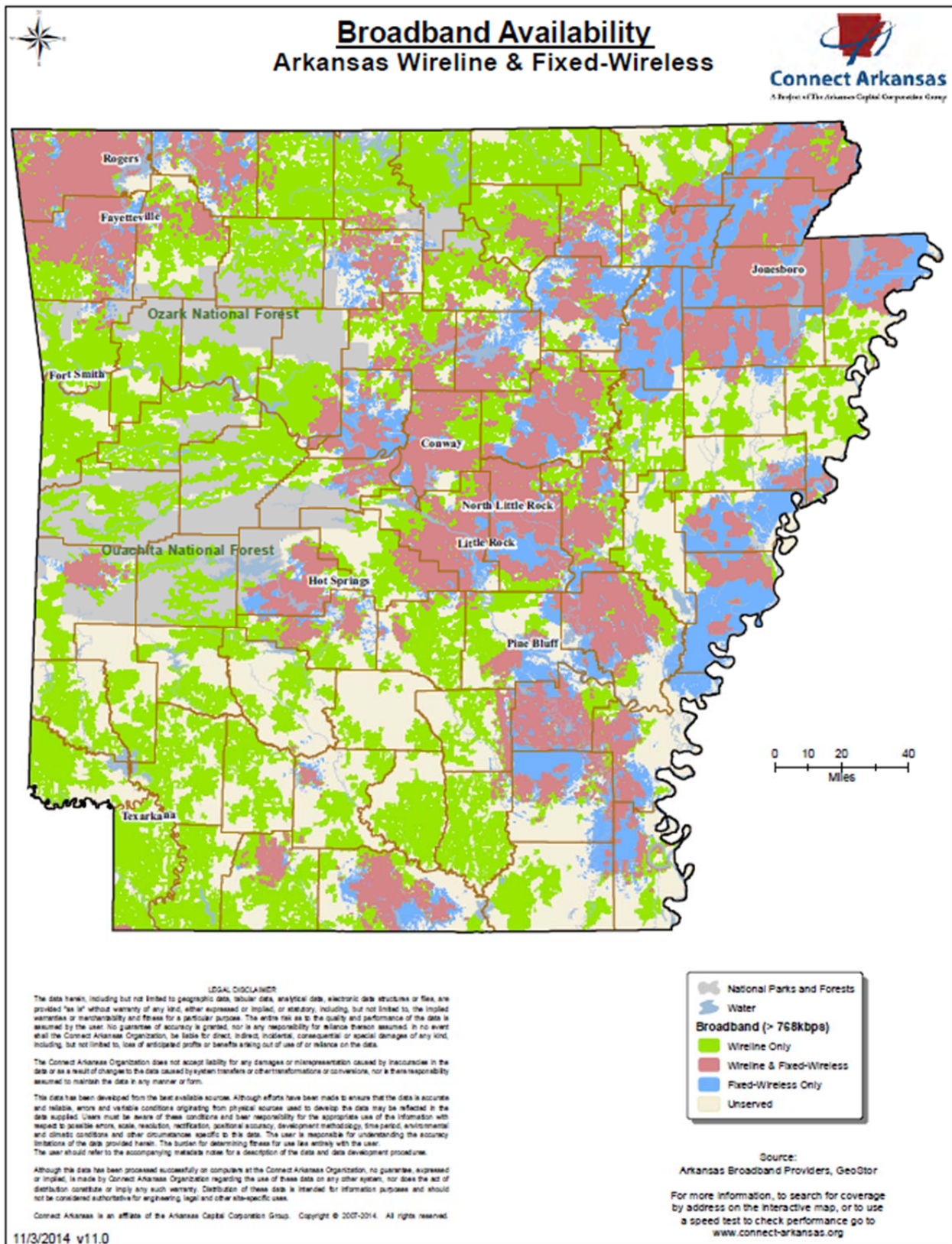
Source: Connect Arkansas, Arkansas broadband providers, GeoStor, November 2014. To search for coverage by address on an interactive map or to conduct a speed test to check performance, visit the Connect Arkansas website, http://www.connect-arkansas.org/.

Public Access Points in Academic and Public Library Locations

Libraries are often a valuable resource for online connectivity utilized by job seekers, retired individuals, and Internet users who lack home Internet access. Data from Connect Arkansas indicates 297 public access points at city and county libraries as well as libraries on university or college campuses.
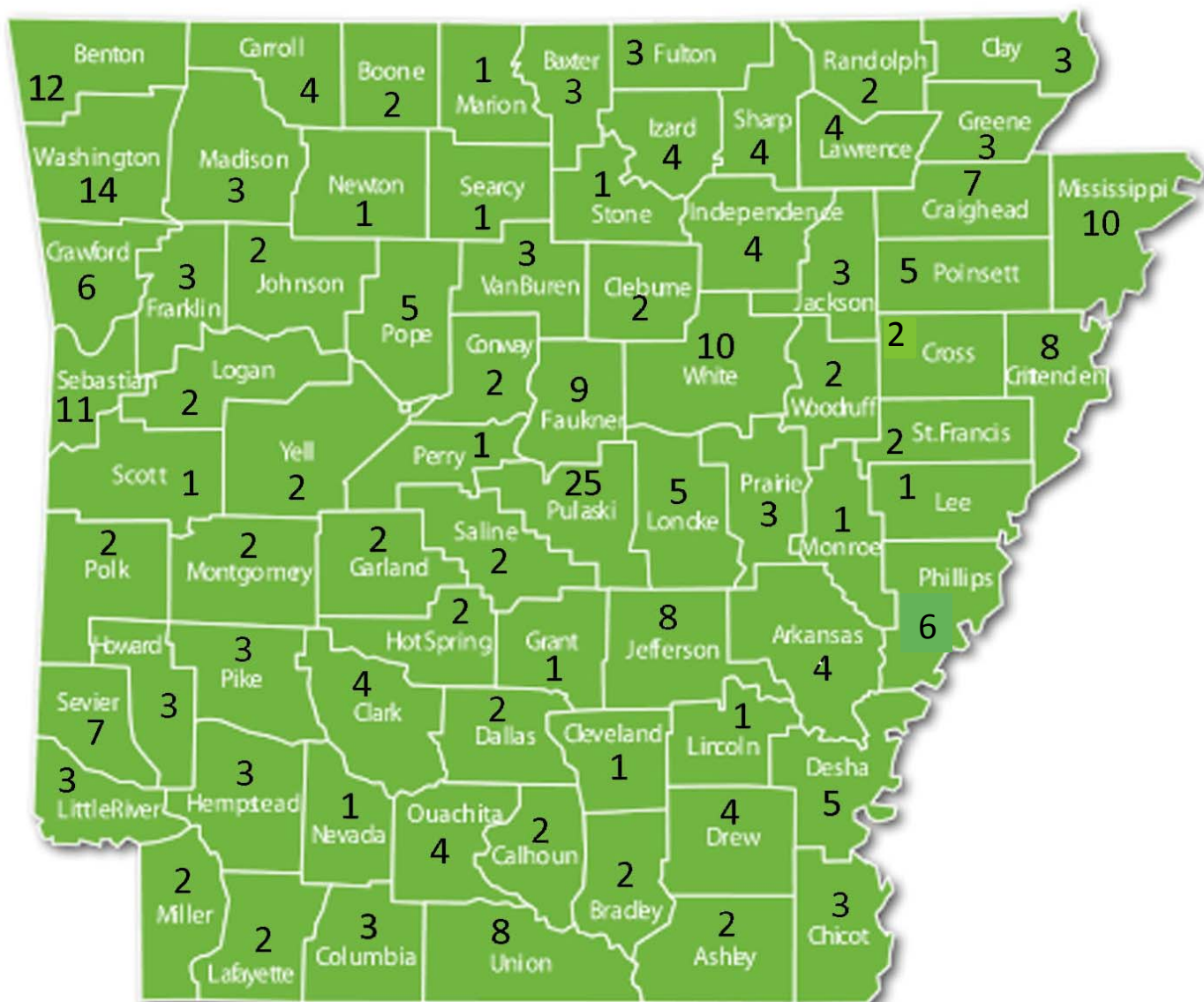
Numbers indicate the number of public access points in academic and public libraries within each county.

Number of public access points remained unchanged from previous report with two exceptions. One site was added in Pulaski County while one site was lost in in Phillips County.

	Arkansas		Nation
Use the Internet	80% (2013)	78% (2012)	71.7%*
Have broadband in their home	69% (2013)	71% (2012)	78%**

Results of Connect Arkansas's 2014 Broadband Survey had not been released as of the publication deadline for this report.
Source:
Connect Arkansas Broadband Survey, December 2013
http://www.connect-arkansas.org/sites/default/files/BroadbandSurveyResults2013.pdf

*U.S. Census Bureau: Computer and Internet Use in the United States, May 2013
http://www.census.gov/prod/2013pubs/p20-569.pdf

**Leichtman Research Group, Inc., third quarter 2013
http://www.leichtmanresearch.com/research/notes09_2013.pdf

## 2014 Broadband Findings from Leichtman Research Group, Inc.

As of the end of 2Q 2014, the top cable providers now have more broadband subscribers than cable TV subscribers

Overall, broadband additions in 2Q 2014 amounted to 130% of those in 2Q 2013

The top cable companies accounted for 99% of the net broadband additions for the quarter versus the top telephone companies.

What are the Common Barriers for Broadband?

Barriers for the Consumer
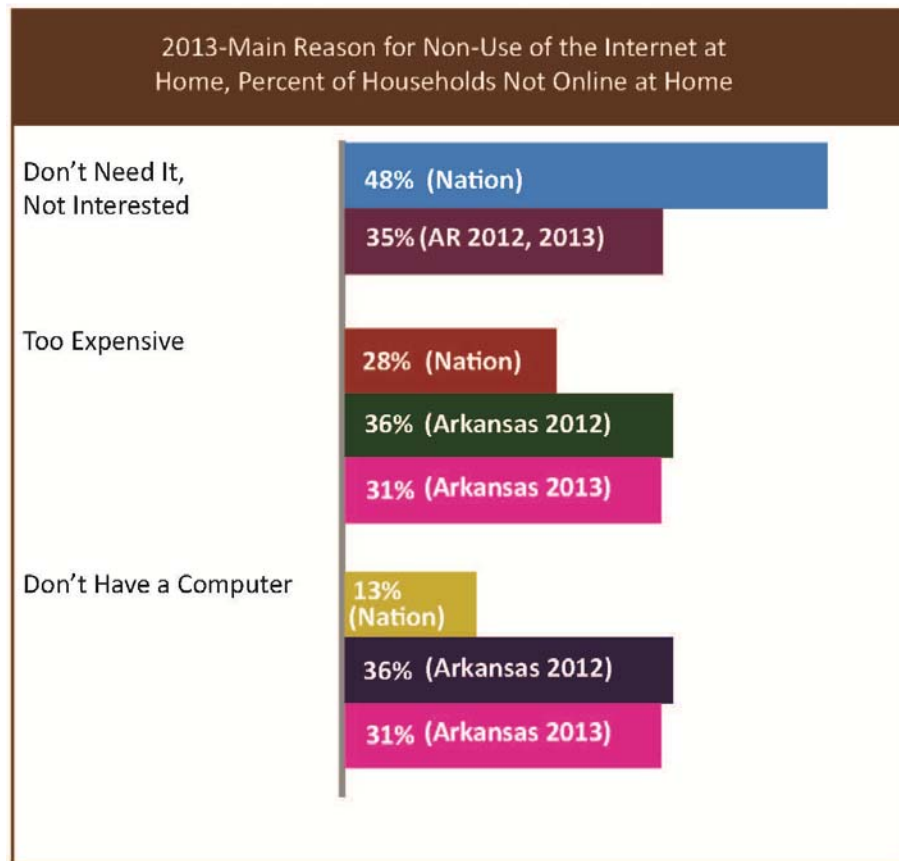
Results of Connect Arkansas's 2014 Broadband Survey had not been released as of the publication deadline for this report.

- **Lack of Interest or Need**
  Households whose members have never used the Internet and households without children under 18 living at home were most likely to say they had no interest in or need for such service. Households without school-aged children at home were twice as likely as to cite this reason.

- **Too Expensive**
  The percentage of households reporting that home Internet service was "too expensive" may reflect some consumers' concern about their personal financial circumstances during a period of slow economic recovery.

- **Don't Have a Computer**
  A majority of households citing this reason for not using the Internet in their homes earned less than $25,000 annually.

Source: Exploring the Digital Nation: America's Emerging Online Experience National Telecommunications and Information Administration (NTIA) and Economics and Statistics Administration U.S. Department of Commerce, June 2013
http://www.ntia.doc.gov/files/ntia/publications/exploring_the_digital_nation_-_americas_emerging_online_experience.pdf

Connect Arkansas Broadband Survey, December 2013http://www.connect-arkansas.org/sites/default/files/BroadbandSurveyResults2013.pdf

2014 Arkansas Telecommunications Provider Survey

Since the creation of the role of the state broadband manager, a primary activity has been to survey the state's provider community to identify the barriers to broadband expansion, to gauge the likelihood of expansion, reasons for a lack of broadband coverage in unserved areas, and to solicit provider suggestions for eliminating barriers to expansion. The following results compare the responses received on the 2013 and 2014 surveys.

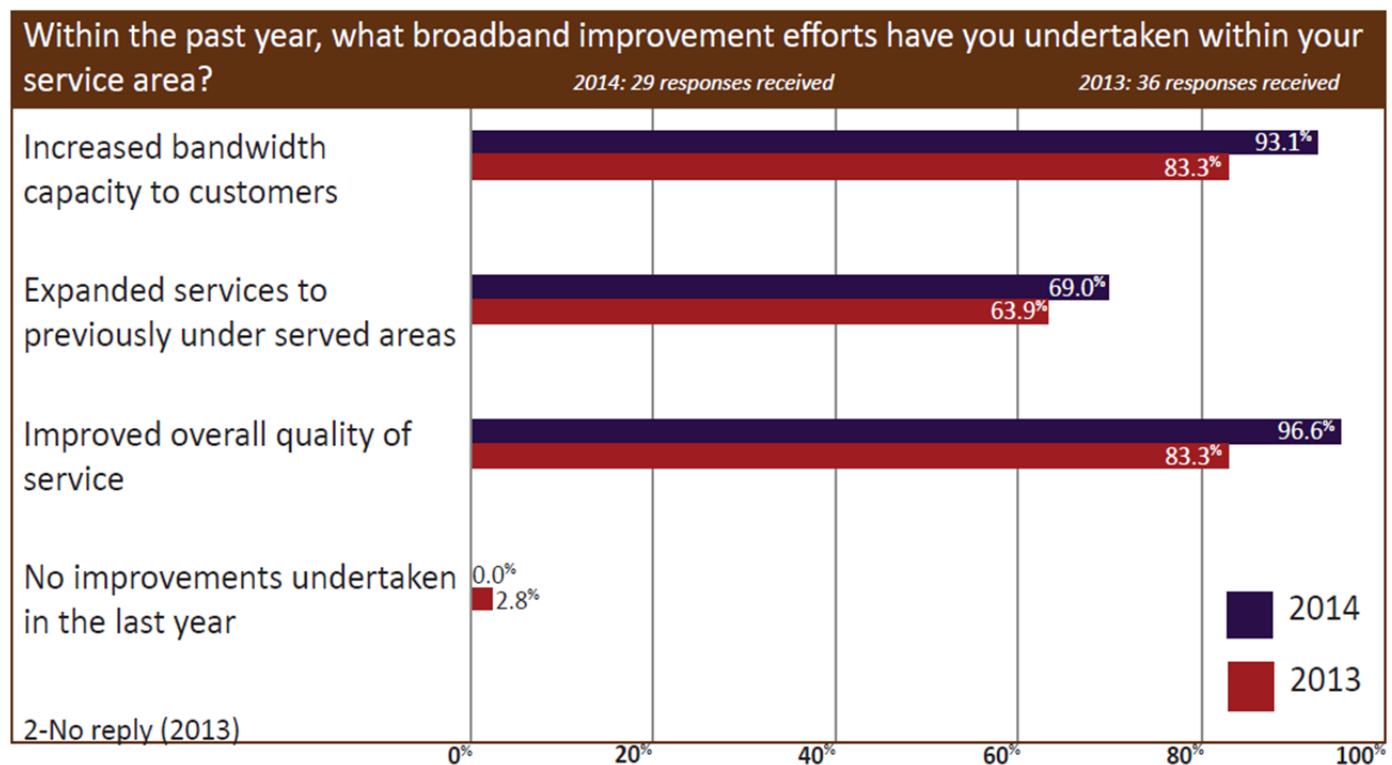### Provider Barriers for Expansion of Broadband Coverage
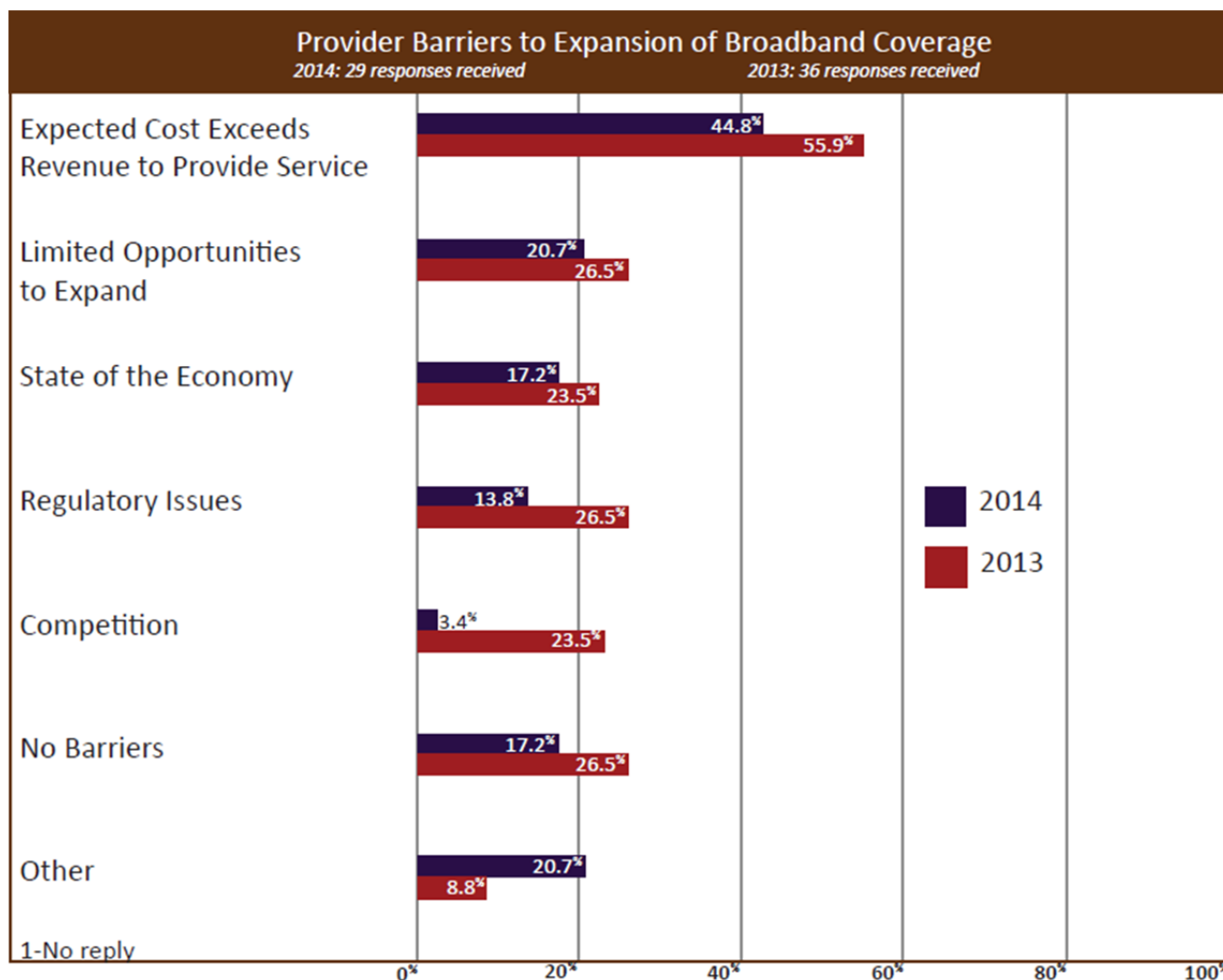
Other Barriers for Providers from 2013 survey (No comments in 2014 survey)

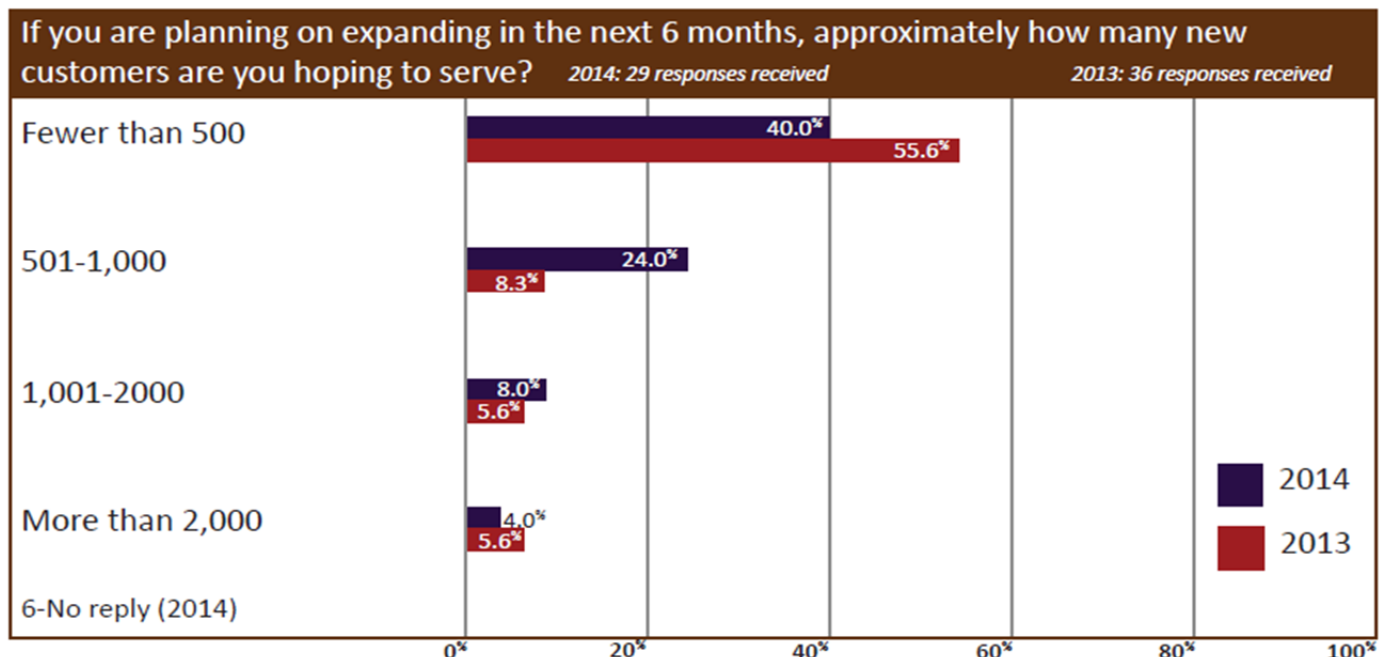| Broadband Service Provider	If Other, Please Describe
Cox Communications	Access to poles at reasonable cost, terms and conditions
Yelcot Telephone Company	Electrical co-ops attempting to charge excessive pole attachment fees (up to $29.40/pole).
The Computer Works	The only barrier is cash to buy equipment for new areas.
CenturyLink	Pole attachments

Source: Arkansas Telecommunications Provider Survey, December 2013

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

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

2014: 29 responses received   2013: 36 responses received

	2014	2013
Increased bandwidth capacity to customers	93.1%	83.3%
Expanded services to previously under served areas	69.0%	63.9%
Improved overall quality of service	96.6%	83.3%
No improvements undertaken in the last year	0.0%	2.8%

2-No reply (2013)

What is the likelihood of expanding your broadband coverage?

What is the Likelihood of Expanding Your Broadband Coverage?

2014: 29 responses received   2013: 36 responses received

	2014	2013
Definitely	48.3%	41.7%
Highly Likely	10.3%	27.8%
Likely	17.2%	13.9%
Not Likely	10.3%	16.7%
Highly Unlikely	3.4%	0.0%
Definitely Not	0.0%	0.0%

If you are planning on expanding in the next six months, approximately how many new customers are you hoping to serve?
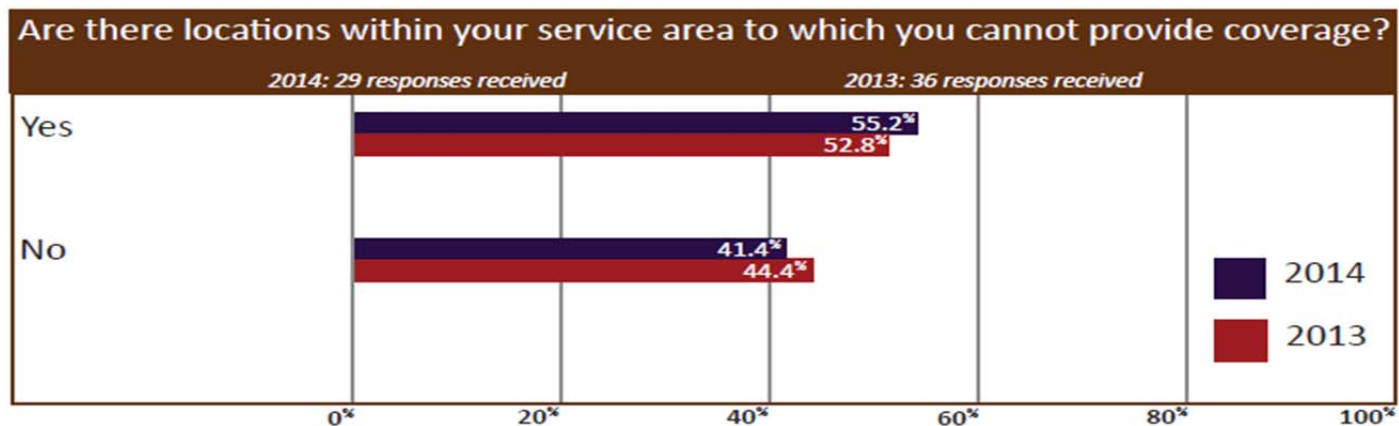
If you are planning on expanding in the next 6 months, approximately how many new customers are you hoping to serve? *2014: 29 responses received*   *2013: 36 responses received*
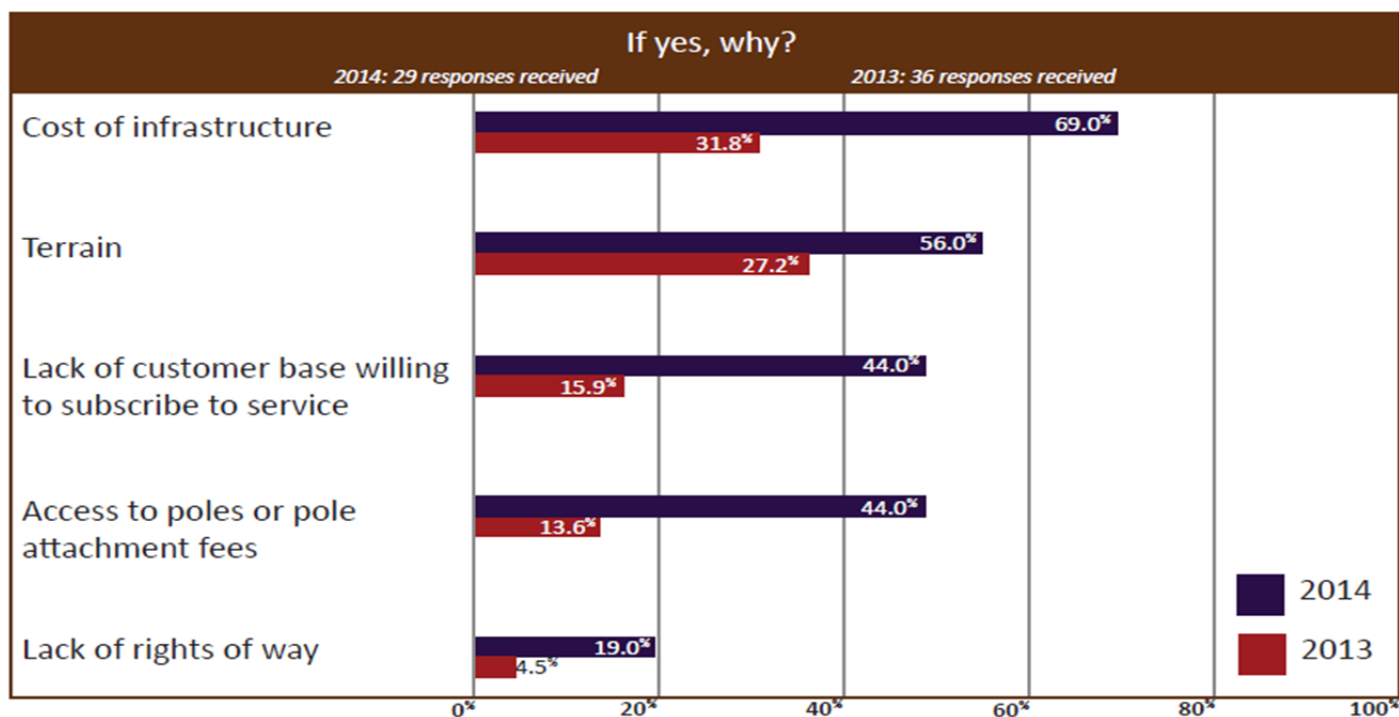
Category	2014	2013
Fewer than 500	40.0%	55.6%
501-1,000	24.0%	8.3%
1,001-2000	8.0%	5.6%
More than 2,000	4.0%	5.6%
6-No reply (2014)		

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

Are you focusing more in improving and expanding wired broadband or utilizing wireless? *2014: 29 responses received*   *2013: 36 responses received*

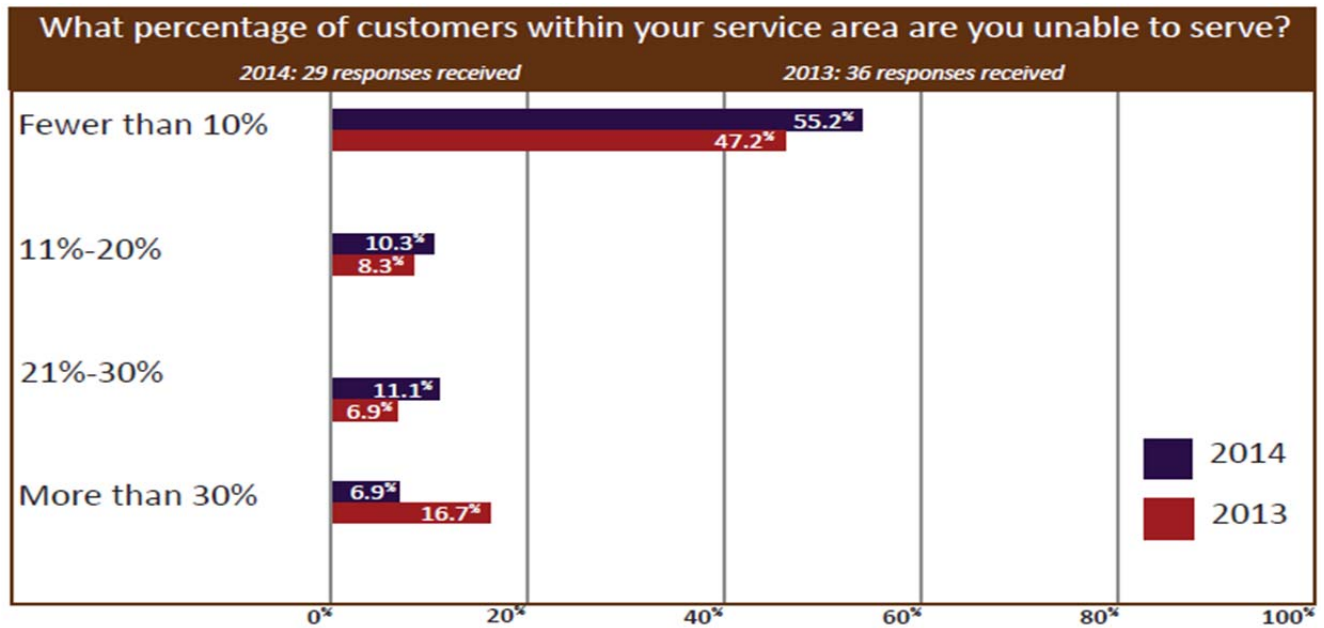| Category	2014	2013
Improving/expanding wired line service	69.0%	61.1%
Improving/expanding fixed wireless service	51.7%	41.7%
Through emerging technology	27.6%	11.1%
Improving/expanding mobile wireless service	6.9%	2.8%

Are there locations within your service area to which you cannot provide coverage?

Are there locations within your service area to which you cannot provide coverage?

2014: 29 responses received *2013: 36 responses received*

Yes — 2014: 55.2%, 2013: 52.8%

No — 2014: 41.4%, 2013: 44.4%

Legend: 2014, 2013

If yes, why?

If yes, why?

2014: 29 responses received *2013: 36 responses received*

Cost of infrastructure — 2014: 69.0%, 2013: 31.8%

Terrain — 2014: 56.0%, 2013: 27.2%

Lack of customer base willing to subscribe to service — 2014: 44.0%, 2013: 15.9%

Access to poles or pole attachment fees — 2014: 44.0%, 2013: 13.6%

Lack of rights of way — 2014: 19.0%, 2013: 4.5%

Legend: 2014, 2013

What percentage of customers within your service area are you unable to serve?

What percentage of customers within your service area are you unable to serve?

	2014: 29 responses received	2013: 36 responses received
Fewer than 10%	55.2% (2014)	47.2% (2013)
11%-20%	10.3% (2014)	8.3% (2013)
21%-30%	11.1% (2014)	6.9% (2013)
More than 30%	6.9% (2014)	16.7% (2013)

Provider Suggestions for Broadband Expansion to Unserved/Underserved Areas

2014 Provider Survey	2013 Provider Survey
1. Plow fiber optic cable to a central area, set a broadband loop carrier system, then connect existing copper loops to it	1. Plow fiber optic cable to a central area, set a broadband loop carrier system, then connect existing copper loops to it
2. Internet can be deployed to a community or neighborhood with up to 12Mb within a day using wireless technology	2. Allow access to city water department towers to mount equipment in exchange for free broadband access to the city
3. The state of Arkansas should adopt/maintain pro-growth policies to encourage providers to deploy/expand broadband offerings. Suggestions include 1) streamlining local government permitting/approval process that restrict/delay the placement of wireline facilities in the right-of-way as well as building/augmenting wireless facilities 2) maintain long-standing policy implementing reasonable restrictions on government-owned networks that discourage private investment (ACA 23-17-409) 3) reform current tax structure which burdens providers and customers with additional property tax, franchise and other taxes/fees not assessed on any other business in Arkansas	3. Use existing Arkansas Extension of Facilities fund for broadband 4. Government grants to expand into rural areas of service foot print 5. State should focus upon 1) high-cost areas where it is economically unfeasible for a broadband provider to offer robust services at reasonable rates 2) inability of end users to purchase available broadband due to affordability concerns 3) rights-of-way fees/restrictions that inhibit broadband deployment
4. Pole attachments at a reasonable rate allowing the creation of smaller cells to reach difficult to serve households. Ensure that government funding is not used to allow overbuild of existing networks	
5. Fiber to tower to customer	

Public Initiatives

Arkansas Department of Education

Arkansas Department of Education (ADE) issued a request for proposals (RFP), on December 5, for a backbone and fiber network, to every school, aggregate for bulk Internet purchasing, based upon a three to five-year phased implementation focused upon network construction.

Activities for Current Reporting Period (July 1-December 31, 2014)

1. Meeting Regarding K-12 Connectivity (November 24, 2014)
   A meeting between ADE leadership, legislative leadership, and leadership from the Department of Information Systems took place in which an overview of the plan was communicated. The plan addressed the following key subjects:
   - K-Rate Issues and Progress
   - Adequacy Concerns
   - Network Management
   - District Communication
   - Overall Strategy
   - Four Categories of Service (Regional WANs, Backbone, Bulk Internet, By Address)
   - Outside Questions
   - Timeline
   - Consultant Feedback
   - REN Backbone

2. RFP for Telecommunications Services Issued (December 5, 2014)
   This Request for Proposals (RFP) is issued by the Office of State Procurement (OSP) for the Arkansas Department of Education (ADE) to solicit high capacity, high performance telecommunications services for Arkansas public schools, school districts, charter schools, and educational service cooperatives.
   Source: http://www.arkansas.gov/dfa/procurement/bids/bid_info.php?bid_number=SP-15-0050

Arkansas Research Education Optical Network (ARE-ON)

ARE-ON provides a high-speed fiber optic backbone network throughout the state with 1Gb and 10Gb Ethernet connections to its members, affiliates, national research and education networks, regional education networks, and commercial service providers. The network consists of approximately 2,200 miles of long-haul fiber optic cable and about 85 miles of metro fiber in 24 cities in Arkansas and four neighboring states. ARE-ON's core router network consists of nine major nodes connected via 20Gb backbone links with full

Network Map

route diversity to all nodes. ARE-ON's extensive reach allows institutions to connect, collaborate, and innovate within the organization's core agendas: education, research, telemedicine, and emergency preparedness. In addition, the ARE-ON backbone provides optical transport between regions for the Arkansas e-Link Network, a network of over 450 healthcare institutions statewide.

<div style="border:1px solid #1a3a6b; color:#c00; text-align:center; font-weight:bold;">Activities for Current Reporting Period (July 1-December 31, 2014)</div>

1. <u>Project to extend network</u>
   In July 2014 ARE-ON launched a project to extend its network into the Equinix Internet Exchange in Dallas, TX. Through the acquisition and lighting of a new span of dark fiber in the Dallas metro area, ARE-ON completed the process of extending its backbone network to Equinix in October with 30Gbps capacity from Arkansas and 10Gbps through the ARE-ON node in Tulsa, Oklahoma. In addition, ARE-ON completed a number of direct peering opportunities with service and content providers at the exchange, including companies such as Google, Microsoft, Apple, and Netflix, all of which help lower ARE-ON's costs as well as provide a higher level of service.

   The University of Arkansas and ARE-ON were recipients of grant funding through the National Science Foundation to enable super high-capacity broadband and software defined networking in support of high performance computing and research. Technology trials of 100Gb optical waves and 100Gb Ethernet over the ARE-ON optical network have begun and will continue through early 2015.

Arkansas Broadband Advisory Council

The Arkansas Broadband Advisory Council was created to monitor the broadband-based development efforts of other states and nations in areas such as business, education and health. The council also advises the governor and the General Assembly on policies related to making affordable broadband available to every Arkansas home and business.

Source: Connect Arkansas: http://www.connect-arkansas.org/about-us/arkansas-broadband-advisory-council

<div style="border:1px solid #1a3a6b; color:#c00; text-align:center; font-weight:bold;">Activities for Current Reporting Period (July 1-December 31, 2014)</div>

The council met four times during the current reporting period. Topics addressed included:
• General discussions about recent legislation

• Discussion on QDLS and FASTER recommendations

• Planning of proposed ABC broadband summit for after the 2015 legislative session

• Redevelopment of ABC website

• ABC role vis-à-vis other broadband efforts in state

• Appointment of a drafting committee for the biannual report

In addition, the drafting committee met twice to outline and review the initial draft of the biannual report.

Arkansas State Broadband Manager

The role of the Arkansas state broadband manager is to promote, develop, and coordinate broadband expansion and appropriate broadband infrastructure for all areas of the state.

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Activities for Current Reporting Period (July 1-December 31, 2014)

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1. Telecommunications Provider Survey (September 2014)
   A survey, initiated by the state broadband manager, was sent to broadband providers in October giving them an opportunity to showcase any progress or advances in the company's efforts in support of broadband expansion across Arkansas and to provide their recommendations for expanding broadband to unserved and underserved areas of the state. The survey results are reflected in this broadband reporting period.

2. Broadband Plan Meeting (September 25, 2014)
   The broadband manager organized a planning meeting to initiate the development of a state broadband plan. Representatives were present from Arkansas Department of Information Systems, University of Arkansas at Little Rock, Arkansas Economic Development Commission, and Connect Arkansas. The group reviewed the possible approaches to a broadband plan with action steps to help make broadband affordable, available and adequate to all areas of the state.

3. Broadband Plan Meeting (October 15, 2014)
   The broadband manager organized discussion with Dr. John Ahlen to continue gathering input about the formulation of a state broadband plan. A shell document modeled after the state of Arizona broadband plan was sent to Ahlen for review.

4. Broadband Report Meeting (November 24, 2014)
   The broadband manager and broadband report team conducted an overview of the support services the Department of Information Systems provides to K-12 schools related to the Arkansas Public School Computer Network (APSCN). The services were outlined as follows:
   1. Telephone support for a wide range of local area network-related problems.
   2. Local area network (LAN) design and expansion.
   3. Onsite LAN maintenance, troubleshooting and repair.
   4. File server configuration, installation, upgrade and support.
   5. Email server installation, configuration and support.
   6. Network and server-related training for co-op technology coordinators and district technology support personnel.
   7. Assist school personnel with soliciting and evaluating network-related bids.
   8. Support of APSCN GUI and APSCN PLUS Client: including process assistance, configuration and connectivity issues.
   9. Support of APSCN printing, including print servers purchased from DIS.
   10. Support of eSchoolPLUS, browser configuration, connectivity and slowness.

This map depicts the 14 geographical regions of the state in which K-12 schools are provided onsite assistance by DIS field support technicians

11. Add, delete and modify domain name service (DNS) entries.
12. Server and network training for school technology support personnel coordinated through the educational service cooperatives and the Hot Springs Technology Institute.
13. PARCC readiness assessments.
14. BEE (Bandwidth for Educational Enhancement) installation, configuration and troubleshooting.

## Connect America Fund-Federal Communications Commission (FCC)

The Connect America Fund aims to connect seven million unserved rural Americans to broadband in six years, and puts the nation on a path to connect all 19 million unserved rural residents by 2020. The FCC launched this unprecedented broadband expansion last year when it reformed and modernized the Universal Service Fund, which connected rural America to the telephone network in the 20th century. In the first phase, about $115 million of public funding will be coupled with tens of millions more in private investment to quickly expand broadband infrastructure to rural communities in every region of the nation.

Activities for Current Reporting Period (July 1-December 31, 2014)

1. Deadlines for Phase I, Round Two Announced (September 25, 2014)
   Recipients of Phase I Round Two support are required to identify certain location information, including latitude and longitude, for each location to be counted toward satisfaction of the recipient's deployment obligation. Recipient of Phase I Round Two support must complete deployment of broadband-capable infrastructure to two-thirds of the required number of locations within two years of providing notice of acceptance of funding, and must complete deployment to all required locations within three years.
   Source: http://www.fcc.gov/document/wcb-announces-deadlines-caf-phase-i-round-two
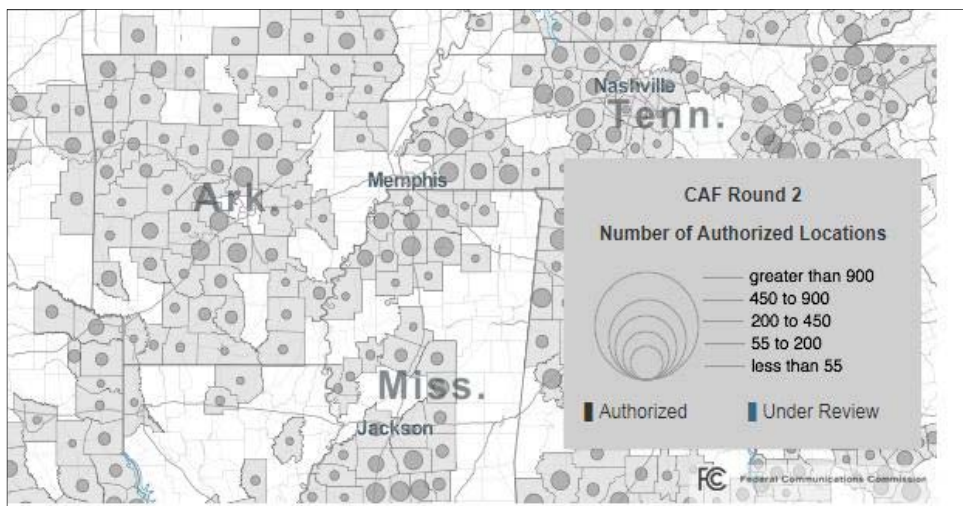
This map shows the areas where new broadband may be deployed as a result of the second round of Connect America Phase I. In their initial elections, price cap carriers requested over $385 million in Connect America Phase I incremental support, committing to bring broadband to over 600,000 locations that previously lacked access by 2016.

Source: Connect America Fund (CAF) Phase I Round Two, September 4, 2013

2. <u>FCC increases rural broadband speeds under Connect America Fund (December 11, 2014)</u>
    Broadband for rural consumers that is supported by the Connect America Fund must deliver the same speeds that 99 percent of urban Americans enjoy, the FCC said in an Order adopted December 11, 2014. The FCC will now require companies receiving Connect America funding for fixed broadband to serve consumers with speeds of at least 10 Mbps for downloads and 1 Mbps for uploads. That is an increase reflecting marketplace and technological changes that have occurred since the FCC set its previous requirement of 4 Mbps/1 Mbps speeds in 2011.
    Source: http://www.fcc.gov/document/fcc-releases-order-increase-connect-america-rural-broadband-speeds

Connect Arkansas

Connect Arkansas, a project of the Arkansas Capital Corporation Group (ACCG), is a private, nonprofit corporation dedicated to increasing high-speed Internet subscription and improving and sustaining Internet adoption throughout Arkansas. The Connect Arkansas Broadband Act was signed into law by Arkansas Governor Mike Beebe on March 28, 2007, with the goal of improving personal lives and creating economic opportunity for Arkansans. Connect Arkansas seeks to advance that goal through community-based initiatives. Act 604 of 2007 states that Connect Arkansas's mission is to "prepare the people and businesses of Arkansas to secure the economic, educational, health, social, and other benefits available via broadband use."

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Activities for Current Reporting Period (July 1-December 31, 2014)
</div>

1. <u>Small Business Growth Program (November 2014)</u>
    Connect Arkansas is partnering with Strategic Networks Group(SNG) to uncover how Arkansas businesses are using the Internet to compete in today's increasingly Internet-dependent economy. The findings of the study will result in strategies for Arkansas businesses to be more competitive and provide access to individual tools for each business' further growth. Connect and SNG will conduct a three phase study to address broadband utilization by businesses in the state. Phase 1 will consist of a statewide survey of over 3,000 small and medium sized businesses that will establish a baseline of how broadband is being utilized in conducting business on a daily basis. Phase 2 will provide a Digital Economy Index (DEI) scorecard to each participating business which give a clear picture on where that business stand in regards to broadband utilization amongst their industry sector. The DEI scorecard will also provide recommendations on improvements to broadband utilization that are estimated to provide the most improvement for each business' revenue. Phase 3 will involve working with each business in a one on one setting to implement the suggested improvements listed on the DEI scorecard.

    Implementation of the small business growth program began in November and will run through February 2015.

2. <u>Small Business Technology Training (July 1-December 31, 2014)</u>
    Connect Arkansas partnered with the Arkansas Small Business and Technology Development Center (ASBTDC) to host a series of website development and marketing workshops statewide. These workshops teach business owners, potential business owners, local and county governments, and employees how to quickly design and set up a five page website and how to market those businesses and entities through social media. This period marked the conclusion of

this program.

July 11 2014: Website in a Day: Chicot County serving 3 attendees

July 16, 2014: Facebook/Get Listed: Chicot County serving 2 attendees

August 28, 2014: 5 Small Business Strategies for Social Media serving 16 attendees

3. Arkansas SourceLink (July 1-December 31, 2014)

Arkansas SourceLink is a program that connects entrepreneurs and small business owners to the resources they need to be successful. Through the Arkansas SourceLink website, www.arksourcelink.com, entrepreneurs can find general information about all facets of business as well as a calendar of business and entrepreneurship related classes and events around the state. They can also use the Resource Navigator database to get connected to non-profit organizations around the state which can provide them with in-person assistance that is specific to their needs. The Arkansas SourceLink website content is constantly reviewed to ensure relevancy to the target audience.

During the most recent six months,

- 1,707 users visited the Arkansas SourceLink website
- For a total of 2,155 sessions
- With 4,221 page views
- 1.96 pages/session

4. Adult Digital Literacy Classes (July 1-December 31, 2014)

Free adult digital literacy classes are each one hour and are offered at multiple locations throughout the state, primarily in libraries. Classes are limited to three-five students for each one hour class, and each student is provided with a laptop computer to use during the class. Course offerings vary, from Computer Basics and FAQs to Setting Up and Using Email Effectively, Facebook, Pinterest, Excel and Word. The program averages 175 participants per month, with approximately 61 hours of classes each month.

July: Conducted 14 classes in the following locations and/or counties:

Cleveland County Public Library in Rison, Izard County Public Library, Grant County Public Library in Sheridan, Argenta Public Library in North Little Rock, Lonoke County Public Library in Cabot, Pope County Public Library in Dover, Nevada County Public Library in Prescott, Dallas County Public Library in Fordyce, Marvell Public Library, Cleburne Public Library in Waychoff, Fletcher Public Library in Pulaski County, McGehee Public Library in Desha County, Phillips County Public Library in Helena

August: Conducted 22 classes in the following locations and/or counties:

Polk County Public Library in Mena, Saline County Public Library in Benton, Sharp County Public Library in Williford, Monroe County Public Library in Clarendon, Bradley County Public Library in Warren, Montgomery County Public Library in Mt. Ida, Argenta Public Library in North Little Rock, Pope County Public Library, Little River County Public Library in Ashdown, Goff Memorial Public Library in White County, Star City Public Library in Lincoln County, Fletcher Public Library in Pulaski County, Vilonia Public Library in Faulkner County, McCrory Public Library in Woodruff County, Faulkner County Public Library in Conway, Sharp County Public Library, Ashley County Public Library in Lake Village, Union County Public Library in El Dorado, Jefferson County Public Library in Pine Bluff, Prairie County Public Library in Des Arc, Calhoun County Public Library in Hampton, Drew County Public Library in Monticello,

September: Conducted 24 classes in the following locations and/or counties:

Marvell Public Library in Phillips County, Nevada County Public Library in Prescott, Grant County Public Library in Sheridan, Phillips County Public Library in Helena, Sevier County Public Library in DeQueen, Faulkner County Public Library in Conway, White County Public Library in Beebe, Lincoln County Public Library in Star City, Craighead County Public Library in Jonesboro (Girl Scouts), Piggott Public Library in Clay County, Ashley County Public Library in Crossett, Greene County Public Library, Lonoke County Public Library in Cabot, Randolph County Public Library, Cleveland County Public Library in Rison, St. Paul Library in Madison County, Marion County Public Library, Yell County Public Library in Dardanelle, Gasville and Reynolds Public Libraries in Baxter County, Desha County Public Library in Dumas, Waychoff Senior Center in Cleburne County, Mulberry Public Library in Crawford County, Dallas County Public Library in Fordyce

October: Conducted 16 classes in the following locations and/or counties:
Charleston Public Library, Piggott Public Library, Des Arc Public Library, Mena Public Library, Warren Public Library, Independence County Library in Batesville, Hampton Public Library, Woodruff County Library in Augusta, Jefferson County Public Library in Pine Bluff, Newton County Library, Monroe County Library, Montgomery County Library, Mt. Ida, Pope County Library, Hempstead County Library, Hope, Atkins Library, Bradford Public Library

November: Conducted 18 classes in the following locations and/or counties:
Dover Library, Marvell Public Library, Pope County Library, Sevier County Library, DeQueen, Nevada County Library, Prescott, Helena Public Library, Monticello Public Library in Drew County, Forrest City Public Library, Woolfolk Library in Marion, Dumas Public Library, McGehee Public Library, Stone County Library in Mountain View, Rison Public Library in Cleveland County, Independence County Library in Batesville, UACCM (Morrilton)

December: Conducted 15 classes in the following locations and/or counties:
McCrory Library, Pope County Library in Russellville, Bradley County Public Library in Warren, Union County Public Library in El Dorado, Miller County Public Library in Texarkana, Prairie County Public Library in Des Arc, Logan County Library in Paris, Calhoun County Public Library in Hampton, Polk County Public Library in Mena, Newton County Library in Jasper, Little River County Public Library in Ashdown, Ashley County Public Library in Lake Village, Beebe Library,

5. Senior Digital Literacy (July 1-December 31, 2014)
The statewide Senior Digital Literacy program targets seniors, those citizens identified as more in need of computer training and Internet access than any other population in the state. Courses are led by instructors from the University of Arkansas at Monticello and were initiated Summer 2013. Classes in 2014 began in September, and were held in 42 locations, serving 196 individuals. Each class is three hours in length and may accommodate up to twelve students, utilizing laptops provided by instructors. Each session concludes with students locating their homes on Connect Arkansas' interactive map to determine local Internet service provider options.

September: Conducted five classes in Craighead, Lawrence, Poinsett, Calhoun, and Bradley Counties and served 31 seniors.

October: Conducted 12 classes in Clay, Drew, Calhoun, Bradley, Desha, Les, Ouachita, Jefferson, and Ashley Counties and served 47 seniors.

November: Conducted 13 classes in Cleveland, Calhoun, Dallas, Union, Crittenden, Columbia, Cleveland, and Independence Counties and served 65 seniors.

December: Conducted six classes in Woodruff, Union, Lafayette, Miller, Drew, Desha Counties and served 29 seniors.

6. <u>Discount Computer Program (July 1-December 31, 2014)</u>

Connect Arkansas' website features refurbished computers for sale directly from Microsoft approved recycling companies at a reduced rate and shipped directly to the consumer. The computers offered have been upgraded to include multiple levels of options on desktops and to include laptops, for a total of five options available to consumers at a discounted rate. Those purchasing computers use the Connect Arkansas discount code to receive the special rate. These discounts are also available for schools and nonprofits. With the promotion of the discount computers at the beginning of the school year and again at the holiday season, the distributor saw a marked increase in sales volume, bringing computer access into the hands of even more Arkansans.

7. <u>Computers 4 Kids (July 1-December 31, 2014)</u>

Computers for Kids is a program for families with students in kindergarten through 12th grade which provides donations of refurbished, Internet-ready computers to families completing three technology training classes. The program is open to students qualifying for free or reduced lunch, and has been expanded to cover all of Arkansas. By the end of December 2014, over 2,600 computers had been donated to families statewide. Pre and post class surveys indicate high satisfaction with the classes and a willingness to subscribe to Internet access as a result of the program, with 65 percent of program graduates currently using broadband in the home.

July: 36 computers donated to families in Sebastian County

August: 30 computers donated to families in Boone County

September: 24 computers donated to families in Faulkner County, 47 computers donated to families in Pulaski County, 35 computers donated to families in Craighead County, 21 computers donated to families in Pulaski County, 39 computers donated to families in Washington County

October: 27 computers donated to families in Clay County, 32 computers donated to families in Chicot County, 34 computers donated to families in Lee County

November: 14 computers donated to families in Cleveland County, 20 computers donated to families in Independence Co.

December: 43 computers donated to families in Woodruff County, 29 computers donated to families in Hempstead County, 34 computers donated to families in Little River County

8. <u>County Website Development (July 1-December 31, 2014)</u>

Connect Arkansas, working with the Information Network of Arkansas (INA), offers support to county governments desiring to establish an effective, interactive website. When complete, a full third of Arkansas' counties will have websites made possible through this program. INA provides not only website design and training of county administrators, but support of the websites for a two year period after launch. Counties have seen good traffic, business and tourism promotion, and through use of online payment processes, an increase in tax receipts.

Four new county websites launched in the six month period ending December 31, 2014:

- Crittenden County: http://crittendencounty.arkansas.gov/
- Howard County: http://howardcounty.arkansas.gov/
- Johnson County: http://johnsoncounty.arkansas.gov/
- Nevada County: http://nevadacounty.arkansas.gov/

County websites under development include:
Clark County, Clay County, Cleveland County, Dallas County, Hot Spring County, and Randolph County.

9. Broadband Awareness Campaign (July 1-December 31, 2014)
Connect Arkansas continues to promote broadband awareness through statewide advertising campaigns. The newest campaign is designed to increase awareness of the uses for high-speed Internet service through focusing on Connect Arkansas' core services, including discount computers, adult digital literacy, Computers 4 Kids, and Small Business Classes. The campaign appears in radio, television and newspapers, effectively reaching the entire state. A monthly e-newsletter, along with consistent and timely news media and social media outreach also promote the various classes and services offered by Connect Arkansas. Good response and increased traffic has been experienced on the http://connect-arkansas.org/ website. From January 1, 2014-November 30, 2014, the website reached more than 83,000 users, of which 87 percent were new visitors to the website. Connect Arkansas also has more than 3,000 followers on Twitter and more than 500 Facebook fans.

10. Broadband Mapping (July 1-December 31, 2014)
Broadband data has been submitted to the National Telecommunications and Information Administration (NTIA) for the fall data submission deadline. Data was submitted for 77 of 84 identified providers. The submission also included Community Anchor data including law enforcement, fire departments, and hospitals to determine connectivity. This data set included the latest data from the Arkansas State Library for libraries as well as the Arkansas DIS, via Arkansas Geographic Information Office (AGIO) for public schools.

The fall 2014 data set marks Connect Arkansas's tenth and final data collection under the NTIA's State Broadband Initiative (SBI) program. For the national broadband map, future data will be collected directly from providers by the FCC via the Form 477. Connect Arkansas plans to continue hosting and updating the interactive map for Arkansas as long as data is made available. Recent coverage information has shown that 92 percent of Arkansans are in areas where at least 768 Kbps download speeds are available via wireline technologies. Engineering assessments to determine existing wireline infrastructure in Arkansas as well as the cost involved to upgrade infrastructure to capacities of 1.5 Mbps and 4.0 Mbps have been completed in 19 counties.

Connect Arkansas also works with the Arkansas Geographic Information Office (AGIO) to compile Geographic Information System (GIS) data for analysis of broadband at the address level. The collection of data for 22 counties has been completed with the results published to Geostor which is accessible to all citizens.

E-Rate (Also see FCC)

The Universal Service Schools and Libraries Program, commonly known as "E-rate," provides discounts of up to 90 percent to help eligible schools and libraries in Arkansas and the United States obtain affordable telecommunications and Internet access. The program is intended to ensure that schools and libraries have access to affordable telecommunications and information services. Program participants may request funding in five categories of service: Telecommunications, telecommunications services, Internet access, internal connections, and basic maintenance of internal connections. Discounts for support depend on the level of poverty and the urban/rural status of the population served and range from 20 percent to 90 percent of the costs of eligible services.

Activities for Current Reporting Period (July 1-December 31, 2014)

1. Provide USAC Information (November 2014)
   Continue to provide USAC information for the ongoing E-rate Selective Review Request. This is a review for all competitive bidding documents for the contracts listed on the 2014/2015 state E-rate applications. The selective review is still in process.

2. Broadband Facilities Grant (January-October 2014)
   Worked with Arkansas Department of Education on the Broadband Facilities Grant.

FASTERArkansas

Fast Access for Students, Teachers and Economic Results (FASTER) Arkansas was tasked by Governor Beebe to explore potential solutions to accelerate broadband activation where it exists and finding alternatives in areas that lack infrastructure.

Activities for Current Reporting Period (July 1-December 31, 2014)

The Arkansas state broadband coordinator submitted a request to FASTERArkansas on November 24, 2014, for updated activities to include in this report. The initial request asked to receive updated information by the close of business Monday, December 15, 2014, to allow sufficient time to finalize the report in compliance with the submission deadline. A second communique was sent to FASTERArkansas on Wednesday, December 10, 2014, as a reminder about the approaching December 15, 2014, date to receive requested updates. A final request for information was sent Wednesday, December 17, 2014. No response to these requests for updated broadband activities was received from FASTERArkansas. In order to complete the report in compliance with the submission deadline, the activities listed below were obtained by the broadband report preparer from the FASTERArkansas website.

1. Announced Statewide Tour (July 9, 2014)
   FASTERArkansas announced a statewide tour with seven events throughout Arkansas cities the week of July 14th to promote the importance of a 21st century education to students.
   Source: https://fasterarkansas.com/fasterarkansas-tour-connecting-four-corners-state-arkansas-students/

2. Launched Advertising Campaign (September 11, 2014)
   Source: https://fasterarkansas.com/fasterarkansas-launches-statewide-commercial/

Federal Communications Commission (FCC) (Also see E-rate and Connect America Fund)

1. Report to Modernize E-Rate (July 1, 2014)
    The FCC released a report of the potential impact of a pending proposal to modernize the federal E-rate program to meet a pressing demand by the nation's schools and libraries: robust connectivity to the Internet through Wi-Fi networks. Three out of five schools in America lack the wireless high-speed Internet – or Wi-Fi – to carry data at today's broadband speeds. The report provides a state-by-state breakdown of the estimated number of additional students, schools and libraries that would gain E-rate funding needed for Wi-Fi upgrades over the next five years. Nationwide, the proposal would increase funding for Wi-Fi 75 percent for rural schools and 60 percent for urban schools, allowing an additional 44 million students and 16,000 libraries to have access to Wi-Fi services by 2019, all within existing program funding.
    Source: https://apps.fcc.gov/edocs_public/attachmatch/DOC-327993A1.pdf

Arkansas's Benefit of the Proposed E-Rate Modernization Order

Next 5 Years vs. Last 5 Years

State	Additional Students	% Change in Students Impact	Additional Schools	Additional Libraries	Additional Schools & Libraries	% Change in Schools & Libraries Funded
Arkansas	408,286	427%	982	221	1,203	463%

2. Rural Broadband Expansion Experiments (July 11, 2014)
    Experiments to explore how robust broadband can be expanded at lower cost in rural America were launched by the FCC. Up to $100 million was available for the experiments, which were divided into three groups:
    * $75 million to test construction of networks offering service plans providing 25 Mbps downloads and 5 Mbps uploads – far in excess of the current Connect America Fund standard of 4/1 – for the same or lower amounts of support than will be offered to carriers in Phase II of Connect America
    * $15 million to test interest in delivering service at 10/1 speeds in high cost areas
    * $10 million for 10/1 service in areas that are extremely costly to serve.

3. Application Process for Entities Interested in Participating in the Rural Broadband Experiments Announced (August 19, 2014)
    Source: https://apps.fcc.gov/edocs_public/attachmatch/DOC-328170A1.pdf
    https://apps.fcc.gov/edocs_public/attachmatch/DA-14-1203A1.pdf

4. FCC Boosts Wireless Broadband by Easing Infrastructure Burdens (October 17, 2014)
    The FCC adopted a Report and Order that takes critical steps to promote deployment of the wireless infrastructure necessary to provide the public with ubiquitous, advanced wireless broadband services.
    Source: http://www.fcc.gov/document/fcc-boosts-wireless-broadband-easing-infrastructure-burdens

5. Eligible Services List Released (October 28, 2014)
   The FCC released the Eligible Services List for funding year 2015/2016. Funding of equipment necessary for transmission of broadband remains eligible. All equipment not related to broadband transmission has been eliminated from the ESL. Caching was added to the Eligible Services List (ESL). The changes to the ESL ensure all applicants have access to funding for additional bandwidth and equipment.
   Source: https://apps.fcc.gov/edocs_public/attachmatch/DA-14-1556A1.pdf

6. State and local government webinar (December 2, 2014)
   The Consumer and Governmental Affairs Bureau's Office of Intergovernmental Affairs is hosting a special series of webinars designed to share vital information about commission actions and priorities with our state and local government partners. This webinar focused on the acceleration of broadband deployment and improving wireless facilities siting policies, E-rate modernization and technology transitions.

7. FCC open commissioners meeting (December 11, 2014)
   The FCC raised the E-rate cap by $1.5 billion.

FirstNet

FirstNet will provide emergency responders with the first nationwide, high-speed network dedicated to public safety. FirstNet will be a force multiplier, increasing collaboration to help emergency responders save more lives, solve more crimes and keep our communities safer.

The broadband data network fulfills a fundamental need of the public safety community and a key recommendation of the 9/11 Commission. Creating FirstNet will require an unprecedented level of public-private partnership, collaboration and shared commitment to the well-being of all Americans.

Source: National Telecommunications and Information Administration
http://www.ntia.doc.gov/page/about-firstnet

> ### Activities for Current Reporting Period (July 1-December 31, 2014)

1. Outreach and educational activities (July – Current 2014)
   Participated in 15 meetings/conferences briefing 527 state, city, and county public safety personnel on FirstNet activities.

2. Materials development(July – Current 2014)
   Continued elaboration of information that will be used by FirstNet to develop the public safety broadband plan for Arkansas. This includes the development of presentations, supporting materials and videos.

3. Submitted Consultation checklist documents to FirstNet. (July 2014)

4. Participant briefing (August 2014)
   Attended the Arkansas Emergency Management Association meeting to brief the participants on FirstNet.

5. Public safety broadband website development (August 2014)
   Established Web page for the public safety broadband effort in Arkansas
   www.apsbn.arkansas.gov

6. Social media presence (September 2014)
   Established social media presence for the public safety broadband effort.
   - LinkedIn Group - Arkansas Public Safety Broadband Network
   - Twitter - @APSBN_FIRSTNET
   - Facebook -- Arkansas Public Safety Broadband Network

7. Response to FirstNet Request for Comments (September 2014)
   Worked with Arkansas Interoperable Communications Committee, Rural Leadership Council and Public Safety Broadband Working Group to develop a response to FirstNet's request for comments (RFC) on the definitions of certain terms used in Title 6 of the Middle Class Tax Act of 2012. This RFC called for input on the definition of "public safety" and "rural"; both definitions are critical to Arkansas and how the plan for broadband will be developed for the state.

8. Review of Arkansas laws etc. (September – Current 2014)
   Ongoing activities with FirstNet team to review Arkansas laws and address questions leading up to state consultation activities. Ongoing effort to working to document potential users in order to share with FirstNet during the Initial Consultation. Developing videos to document the kinds of natural disasters and events that occur in Arkansas to share with FirstNet during the Initial Consultation.

9. Establish meeting dates (November 2014)
   Establish date for the state's Initial Consultation meeting with FirstNet along with dates for planning activities leading up to the face-to-face meeting.

10. Briefings on FirstNet activities (December 2014)
    Attended the National Statewide Interoperability Coordinator and SAFECOM briefings on FirstNet activities.

Next Generation State Network

To amplify the state's network performance, increase network capacity, and maximize efficiency, migration toward a high-speed network is in progress known as Next Generation State Network (NGN). NGN will ultimately provide a solution offering more cost effective bandwidth to the Arkansas public education system and state agencies. NGN will connect over 2,100 Arkansas public entity sites, including K-12 school districts.

Activities for Current Reporting Period (July 1-December 31, 2014)

1. NGN meetings with ARE-ON (August-December, 2014)
   A series of meetings between DIS enterprise network services engineers and the executive director of ARE-ON to discuss how DIS and ARE-ON can better collaborate and work together to provide increased connectivity and Internet bandwidth to the K12 schools in Arkansas at lower costs. Meeting dates were August 29, Sept. 29, Oct. 7, Nov. 5, Nov. 12, and Dec. 4.

UAMS Center for Distance Health and Arkansas e-Link

The UAMS Center for Distance Health exists to facilitate distance health implementation of educational, clinical, research, and outreach opportunities through interactive video throughout Arkansas. The Center for Distance Health works collaboratively with health leaders to identify and target health disparities impacting rural communities. Regardless of discipline or specialty area, the CDH directly offers telemedicine, continuing medical and health education, public health education, and evaluation research through interactive video in Arkansas. The CDH manages Arkansas e-Link, the statewide telemedicine network that securely connects broadband and increases bandwidth at over 450 healthcare, higher education, public safety, and research agencies across Arkansas, thus enabling each entity to transmit and receive real-time care and education. Arkansas e-Link represents the $102 million expansion of two existing networks: Arkansas Telehealth Network (ATN) managed by the Arkansas Telehealth Oversight and Management group (ATOM) and the Arkansas Research and Education Optical Network (ARE-ON). Aligning partners from across Arkansas, this project improves broadband resources within all of Arkansas's 75 counties.

<div style="text-align:center; color:#c00000; font-weight:bold; border:2px solid #1f4e96; padding:6px;">Activities for Current Reporting Period (July 1-December 31, 2014)</div>

1. Arkansas e-Link facilitated over 116,000 videoconference connections from July 1 – November 30, 2014, totaling 89,811 hours. The Center for Distance Health (CDH) and Arkansas e-Link continues to grow as health care needs change. Several new tele-health initiatives have been launched this year as well as providing continuing education to more health professionals across the state and country.

   Earlier this year, a new learning platform was launched that takes advantage of the robust tele-health video network enabling CDH to offer continuing education events through live interactive events as well as online recorded events. So far, approximately 10,000 hours of continuing education have been awarded since the program began in January. Since launching, the portal has been used by healthcare providers in all 75 Arkansas counties.

   Along with the other clinical based programs being offered via telemedicine, CDH LIVE (Language Interpreter Video Exchange) program has been providing services to 33 sites around the state with over 2500 patient encounters. This program was developed to meet the needs of patients with limited English skills to ensure they are receiving proper instruction and care from their medical provider.

   Southeast Arkansas Behavioral Health approached CDH about conducting a pilot program with the Jefferson Regional Detention Facility in November of 2013, in an effort to be able to provide mental health services to the facility without having to transport the inmates to the mental health offices. A tele-health unit was placed at the jail and is currently being utilized for mental health consults. As a result, almost all of the mental health visits are now conducted by use to telemedicine. From July – December 2014, there have been 113 interactive calls resulting in just less than 39 hours of video consultations, so far for the year, 271 calls and over 114 hours of video consultations have been utilized between the two facilities.

   Arkansas e-Link continues to work with facilities around the state. Since the completion of the Broadband Technologies Opportunity Program (BTOP) grant, we have been working with each eligible site to sign them up for broadband assistance through the FCC Health Care Connect Fund, creating the Arkansas e-Link Consortia. As a member of the consortia and a participant in

the Health Care Connect Fund, sites receive financial assistance for broadband connectivity and/or network equipment costs. Currently there are 411 member sites that participate in the Arkansas e-Link Consortia.

Below are some of the tele-health initiatives that are currently utilizing the Arkansas e-Link network along with number of locations and patients being served since July 2014 unless otherwise noted:

- ANGELS 30 Locations, 2994 Patient Encounters
- Angels Call Center (Numbers based on completed call records 7/1/14 – 11/30/14)
  - o OB Calls 8855
  - o Psych TLC 39
  - o Sickle Cell 129
  - o TRIUMPH 18
  - o CHF (Congestive Heart Failure) 100
- Physician Call Center – 4345 Calls
  - o PCC 3700
  - o ARSAVES 645
- Arkansas e-Link 411 Locations
- ARSAVES 46 Locations, 309 Consults, 107 TPA
- CDH LIVE 33 Locations, 2517 Patient Encounters
- FAIM 4 Location, 58 Patient Encounters
- Follow Baby Back Home 4 Locations, 58 Patient Encounters
- Learn on Demand 2706 Continuing Education Members
- Obstetrical Telepsychiatry 5 Locations, 37 Patient Encounters
- Postpartum Home Monitoring 17 Patients Monitored
- Prison OB/GYN 1 Location, 148 Patient Encounters
- RSPMI 139 Locations, 3762 Estimated Monthly Patient Encounters
- SCTRC 2507 Estimated outreach contacts, 2075 Web Members, 217 Module registrations, 2877 web hits.
- Sickle Cell 2 Locations, 41 Patient Encounters
- Telecoloposcopy 8 Locations, 449 Patient Encounters
- THRIUMPH 11 Locations, 25 Patient Encounters
- Telenursery 11 Locations, 4 Patient Encounters
- Teleretinal Screening (Newborn) 1 Location, 14 Patient Encounters
- Trauma Hand Program 80 Locations, 141 Patient Encounters
- Trauma Image Repository 80 Locations, 1645 Patient Encounters

Private Initiatives

Initiatives from 2014 Provider Survey

To gauge the progress of broadband expansion in Arkansas from January 1-June 30, 2014, a survey was distributed to approximately 70 telecommunications providers. Provider survey initiatives from 2013 can be found in Appendix IV.

Broadband Service Provider	Initiatives
South Arkansas Telephone Co.	Plowed eight miles of fiber to Hermitage High School with no additional cost to the school. 100 percent complete
Arkwest Communications**	Currently in an FTTH project for all of our exchanges. Approximately 60 percent complete.
NewWave Communications	Increase bandwidth up to 50Mg available in our entire footprint, commercial businesses/state/federal facilities scalable to specific needs
AT&T	Since 2007, AT&T has invested more than $1 billion in its wired and wireless networks in Arkansas. AT&T continues to invest by building fiber deeper into its network and closer to businesses, schools, and homes. However, due to the highly-competitive nature of the telecommunications marketplace, AT&T can't discuss any specific initiatives that are planned. Some examples of initiatives completed during 2014 are provided below: AT&T provided expanded mobile internet coverage at Bud Walton Arena by utilizing a Distributed Antenna System (DAS) to enhance the customer experience throughout the facility. A DAS installation consists of multiple strategically placed antennas that distribute AT&T's wireless network coverage throughout Bud Walton Arena, providing for more efficient management of wireless capacity in heavily trafficked areas. DAS has the ability to provide enhanced, consistent wireless coverage to customers in indoor or outdoor spaces where geographical limitations – terrain, building construction, etc. – or crowd density might otherwise prevent an optimal wireless experience. (This project was completed earlier this year and noted in the Survey Update Response submitted in June.) As part of its continuing network investment and ongoing 4G LTE rollout, AT&T has recently activated new mobile Internet cell sites in Hot Springs Village, El Dorado, Pine Bluff, Helena – West

	Helena, Mayflower / Maumelle area, and Batesville.
Windstream	Consistent with our commitment to ongoing improvements in broadband service availability and speeds, Windstream began two projects in 2014 to increase speeds up to 40MB in eight exchanges that serve several communities. Target completion is the end of the year with the possibility of adding additional exchanges in 2015. Additionally, Windstream has participated in both the first and second rounds of the Federal Communication Commission's Connect America Fund grants (CAF-I and CAF-II). CAF-I funded projects began in 2014 and will continue on into 2015. CAF-II funding is pending; the FCC has targeted the second quarter of 2015.
G5 Internet	We have added 5ghz service, which allows for speeds of up to 20Mbps to the end user. We have also expanded 5ghz service into the town of Griffithville, and expanded service availability in Antioch. More expansion is planned for the coming months.
Clinton Cablevision Services	Total rebuild of our system in 2015 with more fiber optic

USDA Rural Broadband and Telecommunications Infrastructure

**USDA Announces Funding for Rural Broadband and Telecommunications Infrastructure

WASHINGTON, Oct. 22, 2014 – Agriculture Secretary Tom Vilsack today announced $190.5 million in grants and loans to make broadband and other advanced communications infrastructure improvements in rural areas.

USDA Telecommunications Loans – October 22, 2014

Telecommunications Infrastructure Loans

State	Recipient	Amount	Purpose
AR	Arkwest Communications, Inc.	$24,015,000	To establish a fiber-to-the-home network that will provide nearly 4,000 customers with voice, broadband and internet television services, and make other system improvements.

Education Superhighway

Education SuperHighway is a non-profit with the mission of ensuring that every K-12 school in America has reliable, high-capacity Internet access so they can take advantage of the promise of digital learning. It is a team of former business executives, tech engineers, educators and philanthropists who work to help improve America's public schools.

<div style="border: 2px solid blue; text-align: center; color: red; font-weight: bold;">Activities for Current Reporting Period (July 1-December 31, 2014)</div>

1. Pilot Project (August 27, 2014)
   EducationSuperHighway selected Arkansas as one of two pilot partner states to collaborate on an in-depth project to improve broadband access and lower costs for public schools.
   Source: https://fasterarkansas.com/educationsuperhighway-data-arkansas/

2. Report Released (December 2014)
   The findings of the above mentioned project by EducationSuperHighway were released.
   Source: https://fasterarkansas.com/wp-content/uploads/2014/12/Smarter-Spending-for-Smarter-Students-Arkansas-Report-December-2014-1.pdf

Pinnacle Communications

<div style="border: 2px solid blue; text-align: center; color: red; font-weight: bold;">Activities for Current Reporting Period (July 1-December 31, 2014)</div>

1. Pinnacle Pushes Arkansas's Only Broad 1 Gigabit Internet Service (October 16, 2014)
   Through what have been more than $6.55 million in investments that began in 2006, Pinnacle Communications is now offering one gigabit Internet service to its about 1,000 customers in and around Lavaca. It's the only exchange in Arkansas to offer the speed to all customers.
   Source: http://www.thecitywire.com/node/35138

Legislative Initiatives

<div style="border:1px solid blue; text-align:center; color:red;">

Activities for Current Reporting Period (July 1-December 31, 2014)

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1. <u>Governor Holds Broadband-Related Press Conference (August 11, 2014)</u>
   Governor Mike Beebe announced that the Arkansas Department of Education has partnered with EducationSuperHighway, a national nonprofit dedicated to improving Internet access in schools. Together, they have conducted the first phase of a comprehensive study of digital-learning readiness and K-12 broadband spending in Arkansas.
   Source: http://governor.arkansas.gov/newsroom/index.php?do:newsDetail=1&news_id=4584

2. <u>Bureau of Legislative Research Request for Proposal (August 20, 2014)</u>
   The Bureau of Legislative Research hired CT&T to provide detailed and accurate information concerning the broadband and networking capabilities of every public school in the state of Arkansas for the use and information of the members of the Arkansas General Assembly.

3. <u>Joint Committee on Education Meetings</u>
   - September 8, 2014: Discussion of broadband implementation in a small school district presented by Julie Johnson, technology coordinator, Cave City School District.
     Source: http://www.arkleg.state.ar.us/assembly/2013/Lists/Meetings/Attachments/21507/I12699.PDF
   - September 9, 2014: Discussion of issues related to bandwidth presented by Dr. Scott Price, Picus Odden and Associates
     Source: http://www.arkleg.state.ar.us/assembly/2013/Lists/Meetings/Attachments/21509/I12240.PDF
   - October 13, 2014: Discussion of issues related to broadband access for school districts presented by:
     o Lydia Dobyns, president, New Tech Network
     o Cory Biggs, director of public affairs, Arkansas Education Association
     o Renee Carr, executive director, Arkansas Rural Community Alliance
     o Chad Williamson, Noble Impact instructor, eStem High Public Charter School
     Source: http://www.arkleg.state.ar.us/assembly/2013/Lists/Meetings/Attachments/21511/I12774.PDF
   - December 17, 2014: Presentation and discussion of the CT&T broadband study commissioned by the Arkansas Legislative Council
     Source: http://www.arkleg.state.ar.us/assembly/2015/Lists/Meetings/Attachments/22791/I12886.PDF
     Link to full CT&T Study:
     http://www.arkleg.state.ar.us/assembly/2015/Meeting%20Attachments/685/I12886/BLR%20K12%20Network%20Study%20Report%20Final.pdf

4. <u>Joint Committee on Judiciary Meeting (September 4, 2014)</u>
   Discussion of broadband in the state presented by:
   o Larry Frazier, Rural Telecom Solutions
   o Keith Gibson, Pinnacle Communications
   o William Vogt, Rural Utilities Services

5. <u>Executive Subcommittee of the Arkansas Legislative Council Meetings</u>
   - August 7, 2014: A proposal was made to contract the services of a consultant to provide a review of the statewide networking services for the K-12 school districts. (See Appendix VIII)
   - September 15, 2014: The committee approved a motion to proceed with a consulting contract proposal in response to an RFP to conduct a review of statewide networking services for K-12 school districts.

Appendix

Appendix I
Arkansas Telecommunications Provider Survey Respondents

A survey was sent to 77 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 29 providers.

Broadband service provider	Address	City	State	Zip	First Name	Last Name
PC Solutions Incorporated	P. O. Box 486	Harrisburg	AR	72432	Bill	Price
NewWave Communications	One Montgomery Plaza; 4th Floor	Sikeston	MO	63801	John	Brinker
Prairie Grove Telephone Company; Inc.	P. O. Box 1010	Prairie Grove	AR	72753	Rick	Reed
Cox Communications	117 Fox Pass Cutoff	Little Rock	AR	71901	Len	Pitcock
HillBilly Wireless	421 South Main Street	Cave City	AR	72521	Ed	Kegley
Dlux	502 West Emma Avenue	Springdale	AR	72764	Ron	Grigg
Arkwest Communications	P. O. Box 699	Danville	AR	72833	James	Gibson
The Computer Works	1180 Collier Drive	Conway	AR	72032	Patrick	Wilson
Lonoke Broadband (Pack Engineering)	425 West Capitol Avenue	Little Rock	AR	72201	Bob	Pack
Walnut Hill T						
Conway Corporation	P. O. Box 99	Conway	AR	72033	Richard	Arnold
Madison County%						
Magazine Telephone Company	P. O. Box 596	Magazine	AR	72943	Denny	Stone
Paragould Light Water	P. O. Box 9	Paragould	AR	72451	Darrell	Phillips
Yelcot Telephone Company	207 East 4th Street	Mountain Home	AR	72653	Lang	Zimmerman
AT	1111 West Capitol Ave.; Room 1070	Little Rock	AR	72201	Eddie	Drilling
Cable South Media3	P. O. Box 620	Milan	TN	38358	Alan	Taylor
Aristotle Internet Services	401 West Capitol Avenue	Little Rock	AR	72201	Elizabeth	Bowles
G5 Internet	449 Arthur Kirk Road	Beebe	AR	72012	Roger	Howard
Clinton Cablevision Services	P.O. Box 900	Clinton	AR	72301	John	Hastings
Arkansas Airwaves	116 D Albert Pike	Hot Springs	AR	71913	Lisa	Langston
Central Arkansa						
Arkwest Communications	P. O. Box 699	Danville	AR	72833	James	Gibson
Arkansas Telephone Company	P.O. Box 69	Clinton	AR	72031	Randy	McCaslin
Mid-South Communications						
South Arkansas Telephone Co.	P. O. Box 778	Hampton	AR	71744	Greg	Ashcraft
Southwest Arkansas Telephone Cooperative	2601 East Street	Texarkana	AR	71854	William	Hegmann
CenturyLink	2616 W. Main Steet	Jacksonville	AR	72076	Katie Burns	McClane
Windstream	1101 17th Street NW; Suite 802	Washington	DC	20036	David	Avery

Appendix II
Letter from Executive Subcommittee of the Arkansas Legislative Council

**REPORT OF THE
EXECUTIVE SUBCOMMITTEE
OF THE
ARKANSAS LEGISLATIVE COUNCIL**

August 8, 2014

Co-Chairs:

We, your Executive Subcommittee of the Arkansas Legislative Council, met at 10:00 a.m. on Thursday, August 7, 2014 in Room 205 of the State Capitol.

Director Marty Garrity updated the subcommittee on the security measures at the Big MAC Building and the State Capitol grounds.

Representative Jeremy Gillam proposed to the subcommittee the need for consultant contract services to provide a review of the statewide networking services for the K-12 school districts. Senator Jonathan Dismang made a motion to authorize Representative Gillam to proceed with the Request for Proposal to obtain pricing and services to support and manage the statewide K-12 networking. The motion was seconded and carried without objection.

Director Marty Garrity presented her Director's Report to the subcommittee. She briefed the subcommittee on the Legislative Council Rules for filing ISP's. Proposals must be filed with the Executive Secretary at least six (6) days before the meeting at which they are to be considered. New proposals shall not be accepted by the Legislative Council after the August meeting of the second year of the biennium.

There being no further business the meeting was adjourned.

Respectfully submitted,

_____
Senator Bill Sample
Senate Chair

_____
Representative Terry Rice
House Vice Co-Chair

Appendix III
Minutes from the Executive Subcommittee of the Arkansas Legislative Council

September 19, 2014

Co-Chairs:

We, your Executive Subcommittee of the Arkansas Legislative Council, met at 10:30 a.m. on Monday, September 15, 2014 in Room B of the Big MAC Building.

Representative John Edwards recognized Jill Thayer to discuss the Request for Proposals (RFP) for Network Technology Consulting Services regarding the K-12 public schools' broadband capabilities and needs. Ms. Thayer provided the Subcommittee a summary of the two responses to the RFP that were received by the Bureau.

Larry Clary, President, CT&T Inc., was recognized to present and answer questions regarding his company's response to the RFP. Mr. Clary and his associates made a presentation to the Subcommittee regarding their response to the RFP and their plan to provide the requested services and answered questions from the members of the Subcommittee. **Representative Jeremy Gillam made a motion to proceed with a contract proposal between CT&T, Inc. and the Bureau of Legislative Research to be submitted to the Policy Making Subcommittee for recommendation to the full Legislative Council for approval; and to authorize the ALC Co-Chairs to work with the Bureau and CT&T to finalize the terms of the Contract. The motion was seconded and carried without objection.**

Senator Jimmy Hickey was present to discuss a proposed Lottery Consultant Services Contract between Camelot Global Services (North America) Inc. and the Bureau of Legislative Research. **Senator Jonathan Dismang made a motion to submit the Contract to the Policy Making Subcommittee to recommend to Legislative Council for approval. The motion was seconded and carried without objection.**

Director Marty Garrity discussed the members-elect policy on receiving per diem and mileage to attend committee meetings after the November election. **Representative Edwards made a motion that a member-elect of the General Assembly may receive mileage and per diem for attending interim committee meetings of the General Assembly or a legislative task force meeting for which members of the General Assembly are entitled to mileage and per diem, in the same manner as members of the General Assembly receive these payments. A person is not considered a member-elect until after the general election or special election in which that person successfully ran for office.**

Director Marty Garrity presented the Director's Report to the Subcommittee. She announced the selection of Tim Carlock as the new Chief Information Officer.